

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 210



12

DESIGN DESIGNATION

A.A.D.T.	2024	=	4,500
A.A.D.T.	2044	=	7,400
D.H.V.		=	455
D.D.		=	50/50
T.		=	13.6%
DESIGN SPEED		=	50 MPH
ESALS		=	1,500,000 HMA

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

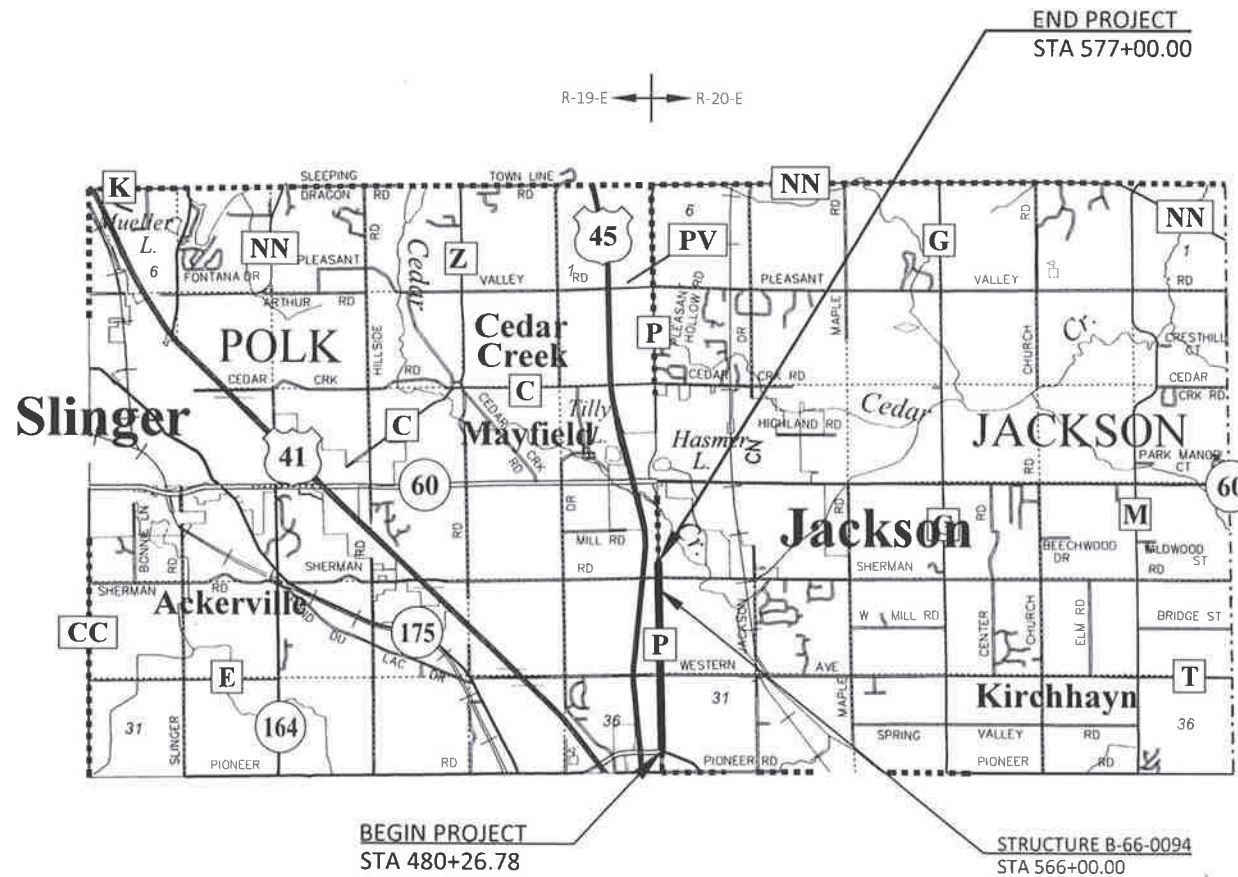
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

POLK - JACKSON

STH 145 TO SHERMAN ROAD
CTH P
WASHINGTON COUNTY

STATE PROJECT NUMBER
2711-06-70



TOTAL NET LENGTH OF CENTERLINE = 1,832

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM (WSPCS), SOUTH ZONE.

ELEVATIONS ON THIS PLAN ARE REFERENCED TO NAVD88 (2012).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2711-06-70	WISC 2024224	1

ACCEPTED FOR
WASHINGTON COUNTY

Date: 10/24/23 *Scott Schmidt*
SCOTT SCHMIDT
CHIEF PUBLIC WORKS OFFICER

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
93 South Pioneer Road, Suite 300
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(920) 924-5720

WISCONSIN
JEFFREY A. CHVOSTA
E-39047
SLINGER, WI
PROFESSIONAL ENGINEER

DATE: 10/24/23
JEFFREY A. CHVOSTA, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GREMMER & ASSOCIATES, INC.
Designer	GREMMER & ASSOCIATES, INC.
Project Manager	JOSEPH JELACIC
Regional Examiner	SOUTHEAST REGION
Regional Supervisor	BRIAN BOOTHBY

APPROVED FOR THE DEPARTMENT

DATE: 10/25/23 *Joseph Jelacic*
Joseph Jelacic
(Signature)

E

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

A VERTICAL SAW CUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS, SIDEWALKS AND PAVEMENTS AT THE REMOVAL LIMITS.

SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE DENSE, HMA PAVEMENT OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE MATERIAL SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATION AND LAYOUT OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

SALVAGED TOPSOIL, FERTILIZER, SEED AND MULCH OR EROSION MAT AS SHOWN IN PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE PLACED ON ALL DISTURBED AREAS, EXCLUSIVE OF THE AREA OCCUPIED BY THE NEW PAVEMENTS, SIDEWALKS, ENTRANCES, AND RELATED STRUCTURES.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED.

CURB AND GUTTER RADII ARE SHOWN TO THE FLANGE OF CURB.

ROTATE MANHOLE COVERS TO MATCH LANE LINES OR CENTER OF LANE AS DIRECTED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC PAVEMENT SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER AND SCOTT SCHMIDT, WASHINGTON COUNTY CHIEF PUBLIC WORKS OFFICER, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL PLAN
STORM SEWER LAYOUT
SIGNING & PAVEMENT MARKING PLAN
DETOUR
ALIGNMENT DIAGRAM

ABBREVIATIONS

- AEW APRON ENDWALL
AGG AGGREGATE
AH AHEAD
ASP ASPHALT
BK BACK
BAD BASE AGGREGATE DENSE
BM BENCH MARK
CC CENTER OF CURVATURE
CE COMMERCIAL ENTRANCE
C&G CURB AND GUTTER
C/L CENTER OR CONSTRUCTION LINE
CONC CONCRETE
CPCM CULVERT PIPE CORRUGATED METAL
CPCS CULVERT PIPE CORRUGATED STEEL
CPRC CULVERT PIPE REINFORCED CONCRETE
CSD CONCRETE SURFACE DRAIN
CY CUBIC YARD
D DEGREE OF CURVE
Δ DELTA
DISCH DISCHARGE
E EXTERNAL DISTANCE FROM MIDPOINT OF CIRCULAR CURVE FROM ANGLE INTERSECTION
ELEV ELEVATION
FE FIELD ENTRANCE
HMA HOT MIX ASPHALT
HP HIGH POINT
HT HEIGHT
INV INVERT
L LENGTH OF CURVE
LHF LEFT HAND FORWARD
LP LOW POINT
LT LEFT
MAX MAXIMUM
MIN MINIMUM
M/L MATCHLINE
NC NORMAL CROWN
NOM NOMINAL
NORM NORMAL
PAVT PAVEMENT
PC POINT OF CURVE
PCC POINT OF COMPOUND CURVE
PE PRIVATE ENTRANCE
PI POINT OF INTERSECTION
PLE PERMANENT LIMITED EASEMENT
PT POINT OF TANGENT
R RADIUS OF CURVE
R/L REFERENCE LINE
R/W RIGHT OF WAY
RC REVERSE CROWN
RCAEW APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
RCP REINFORCED CONCRETE PIPE
REQ'D REQUIRED
RHF RIGHT HAND FORWARD
RO RUN OFF LENGTH
RT RIGHT
SALV SALVAGED
SDD STANDARD DETAIL DRAWING
SE SUPER ELEVATION
SEG SEGMENT
SF SQUARE FOOT
SS STORM SEWER
STA STATION
SY SQUARE YARD
T TANGENT LENGTH
TLE TEMPORARY LIMITED EASEMENT
TYP TYPICAL
V VELOCITY OR DESIGN SPEED
VC VERTICAL CURVE
VCL VERTICAL CURVE LENGTH
VPC POINT OF VERTICAL CURVE
VPI POINT OF VERTICAL INTERSECTION
VPRC POINT OF VERTICAL REVERSE CURVE
VPT POINT OF VERTICAL TANGENT

UTILITIES

COMMUNICATIONS

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SANITARY SEWER

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DNR AREA LIAISON

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ATTN: BENTON STELZEL
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ELECTRIC

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GAS

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EMAIL: robert.sweigart@we-energies.com



RUNOFF COEFFICIENT TABLE

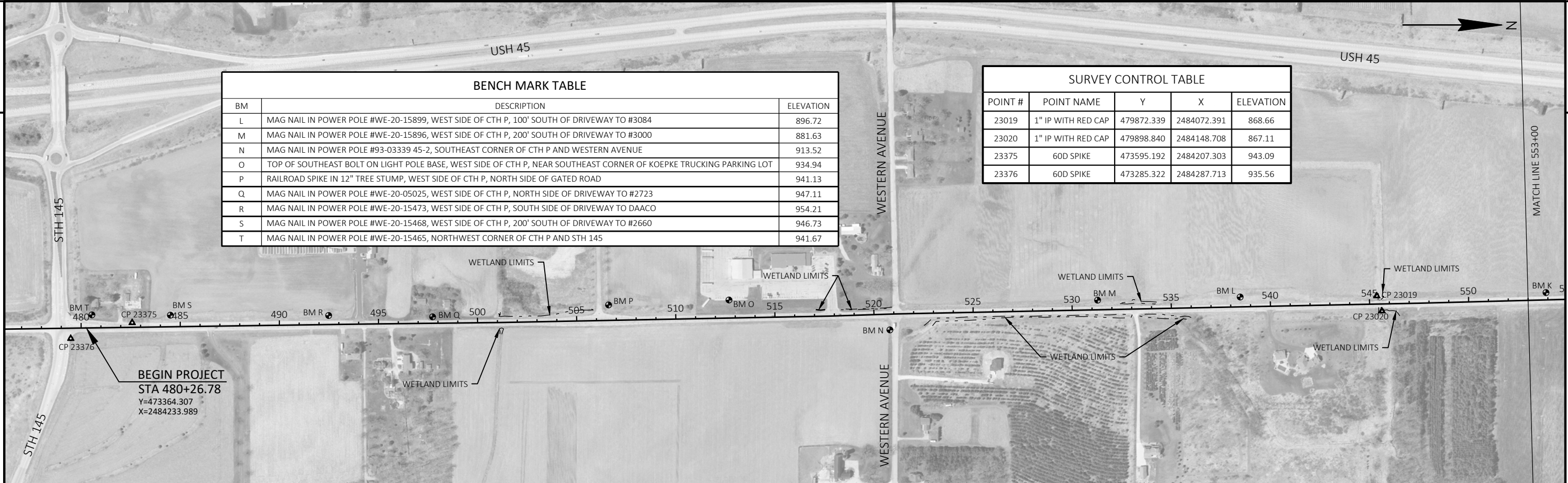
Table with columns for Land Use, Row Crops, Median Strip-Turf, Side Slope-Turf, Pavement, and Hydrologic Soil Group (A, B, C, D) with sub-columns for Slope Range (Percent).

TOTAL PROJECT AREA = 28.088 ACRES

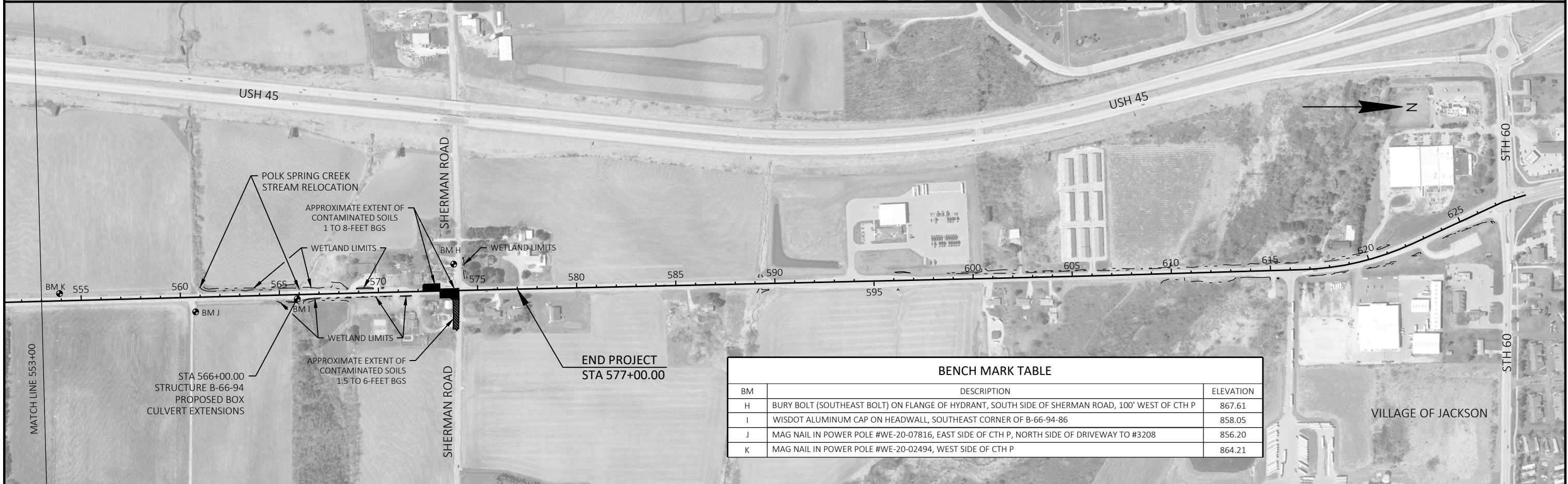
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 23.554 ACRES

BENCH MARK TABLE		
BM	DESCRIPTION	ELEVATION
L	MAG NAIL IN POWER POLE #WE-20-15899, WEST SIDE OF CTH P, 100' SOUTH OF DRIVEWAY TO #3084	896.72
M	MAG NAIL IN POWER POLE #WE-20-15896, WEST SIDE OF CTH P, 200' SOUTH OF DRIVEWAY TO #3000	881.63
N	MAG NAIL IN POWER POLE #93-03339 45-2, SOUTHEAST CORNER OF CTH P AND WESTERN AVENUE	913.52
O	TOP OF SOUTHEAST BOLT ON LIGHT POLE BASE, WEST SIDE OF CTH P, NEAR SOUTHEAST CORNER OF KOEPKE TRUCKING PARKING LOT	934.94
P	RAILROAD SPIKE IN 12" TREE STUMP, WEST SIDE OF CTH P, NORTH SIDE OF GATED ROAD	941.13
Q	MAG NAIL IN POWER POLE #WE-20-05025, WEST SIDE OF CTH P, NORTH SIDE OF DRIVEWAY TO #2723	947.11
R	MAG NAIL IN POWER POLE #WE-20-15473, WEST SIDE OF CTH P, SOUTH SIDE OF DRIVEWAY TO DAACO	954.21
S	MAG NAIL IN POWER POLE #WE-20-15468, WEST SIDE OF CTH P, 200' SOUTH OF DRIVEWAY TO #2660	946.73
T	MAG NAIL IN POWER POLE #WE-20-15465, NORTHWEST CORNER OF CTH P AND STH 145	941.67

SURVEY CONTROL TABLE				
POINT #	POINT NAME	Y	X	ELEVATION
23019	1" IP WITH RED CAP	479872.339	2484072.391	868.66
23020	1" IP WITH RED CAP	479898.840	2484148.708	867.11
23375	60D SPIKE	473595.192	2484207.303	943.09
23376	60D SPIKE	473285.322	2484287.713	935.56

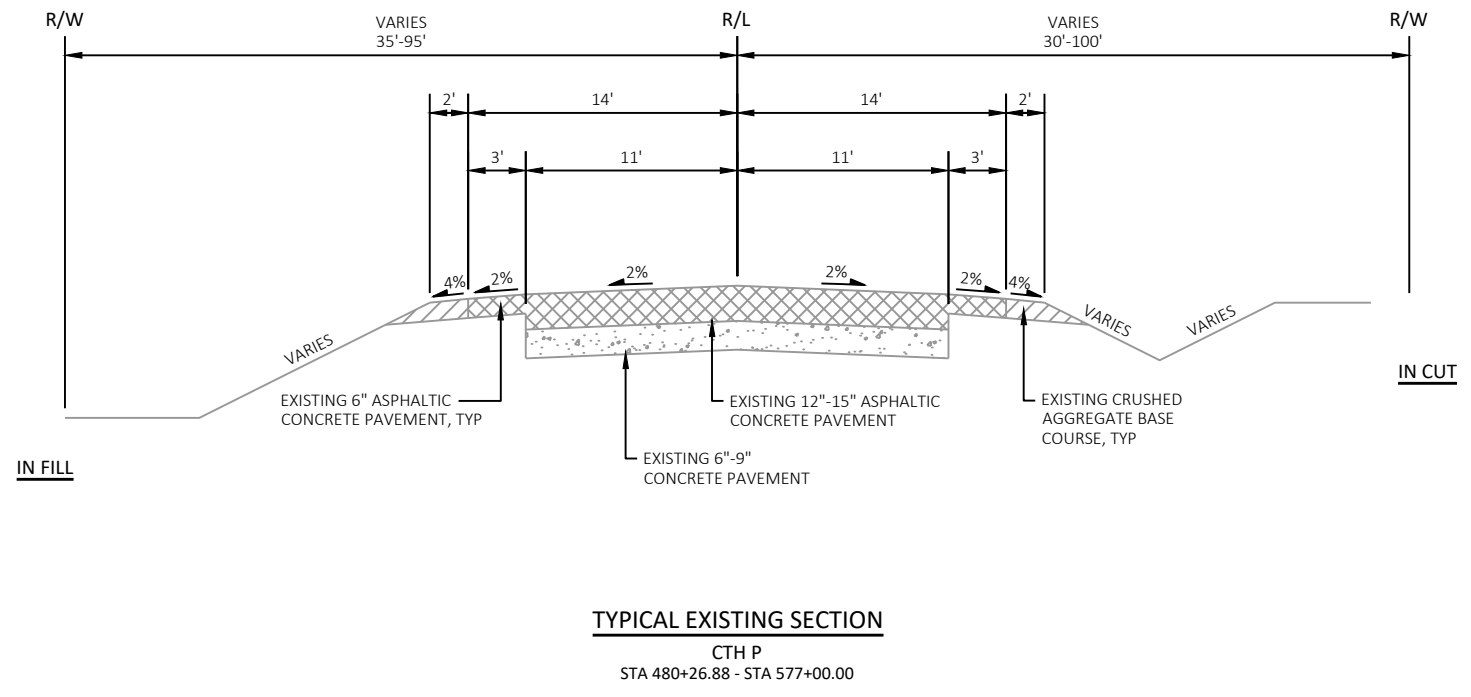
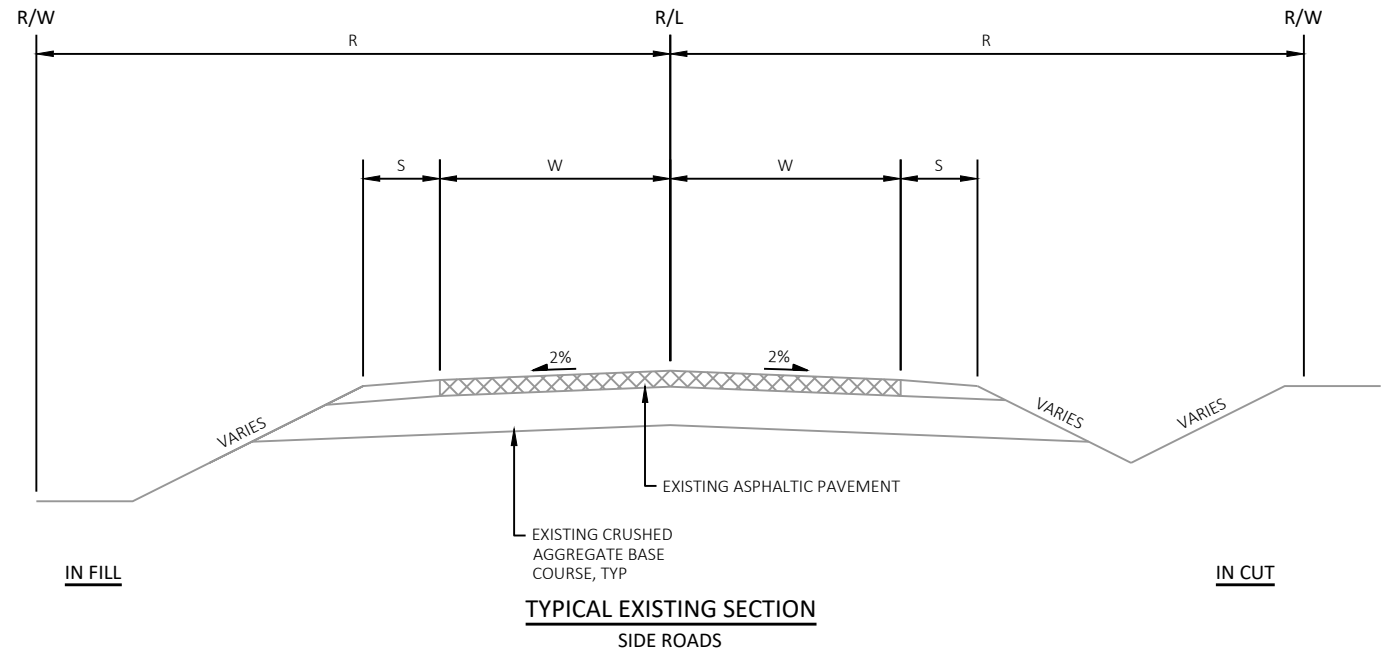


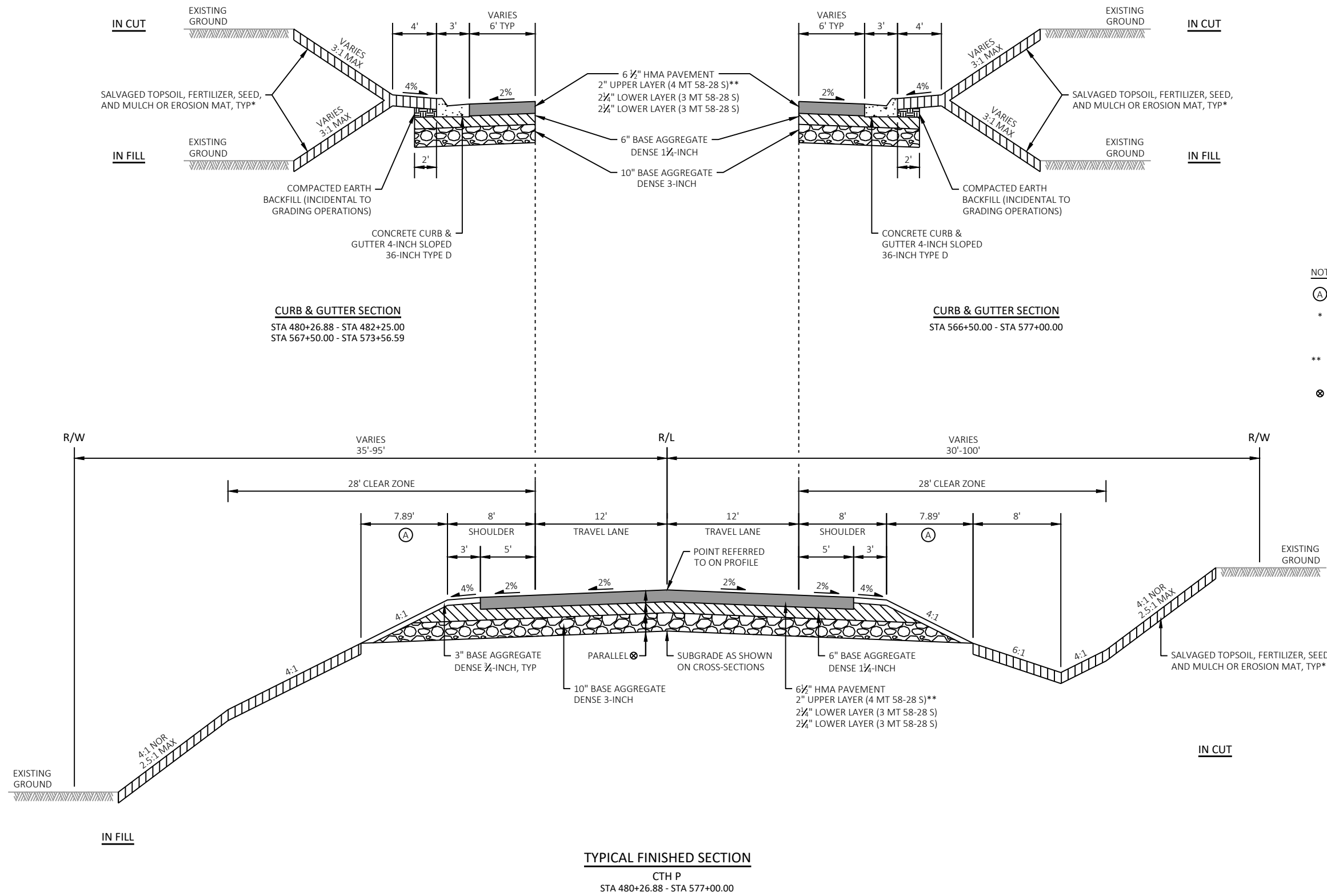
BEGIN PROJECT
 STA 480+26.78
 Y=473364.307
 X=2484233.989



BENCH MARK TABLE		
BM	DESCRIPTION	ELEVATION
H	BURY BOLT (SOUTHEAST BOLT) ON FLANGE OF HYDRANT, SOUTH SIDE OF SHERMAN ROAD, 100' WEST OF CTH P	867.61
I	WISDOT ALUMINUM CAP ON HEADWALL, SOUTHEAST CORNER OF B-66-94-86	858.05
J	MAG NAIL IN POWER POLE #WE-20-07816, EAST SIDE OF CTH P, NORTH SIDE OF DRIVEWAY TO #3208	856.20
K	MAG NAIL IN POWER POLE #WE-20-02494, WEST SIDE OF CTH P	864.21

SIDE ROADS - EXISTING						
STREET	LEFT SIDE			RIGHT SIDE		
	ROW (R)	SHOULDER (S)	OVERALL WIDTH (W)	OVERALL WIDTH (W)	SHOULDER (S)	ROW (R)
PRIVATE ROAD	N/A	N/A	12'	12'	N/A	N/A
WESTERN AVENUE (WEST)	33'	VARIES 3'-4'	VARIES 11'-12.5'	VARIES 11'-12.5'	VARIES 1'-2'	33'
WESTERN AVENUE (EAST)	33'	VARIES 1'-4'	VARIES 12'-12.5'	VARIES 12'-12.5'	VARIES 3' TYP	33'
SHERMAN ROAD (WEST)	33'	VARIES 1'-4'	VARIES 12'-13'	VARIES 12'-13'	VARIES 1' TYP	33'
SHERMAN ROAD (EAST)	33'	VARIES 2'-4'	VARIES 12'-12.5'	VARIES 12'-12.5'	VARIES 2' TYP	33'





- NOTES:**
- (A) SEEDING & FERTILIZER
 - * SEE EROSION CONTROL PLANS AND MISCELLANEOUS QUANTITIES FOR LOCATIONS AND TYPES.
 - ** USE 4 MT 58-28 H FOR THE UPPER LAYER FROM STA 480+26.88 TO STA 482+56.09
 - ⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

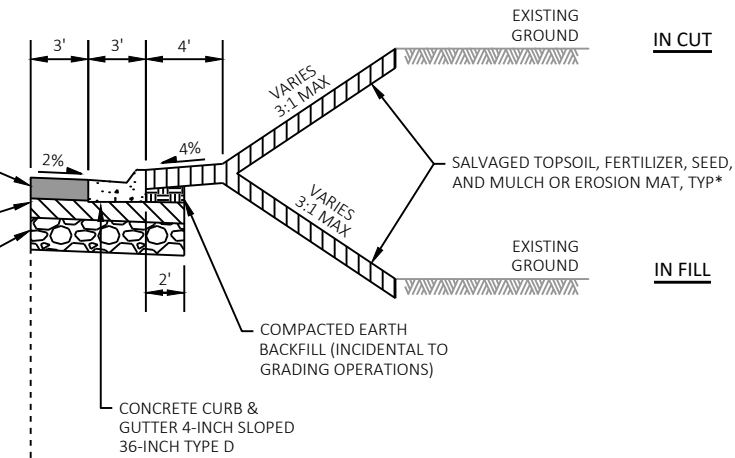
NOTES:

- Ⓐ SEEDING & FERTILIZER
- * SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.
- ⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

6 1/2" HMA PAVEMENT
 2" UPPER LAYER (4 MT 58-28 S)
 2 1/4" LOWER LAYER (3 MT 58-28 S)
 2 1/4" LOWER LAYER (3 MT 58-28 S)

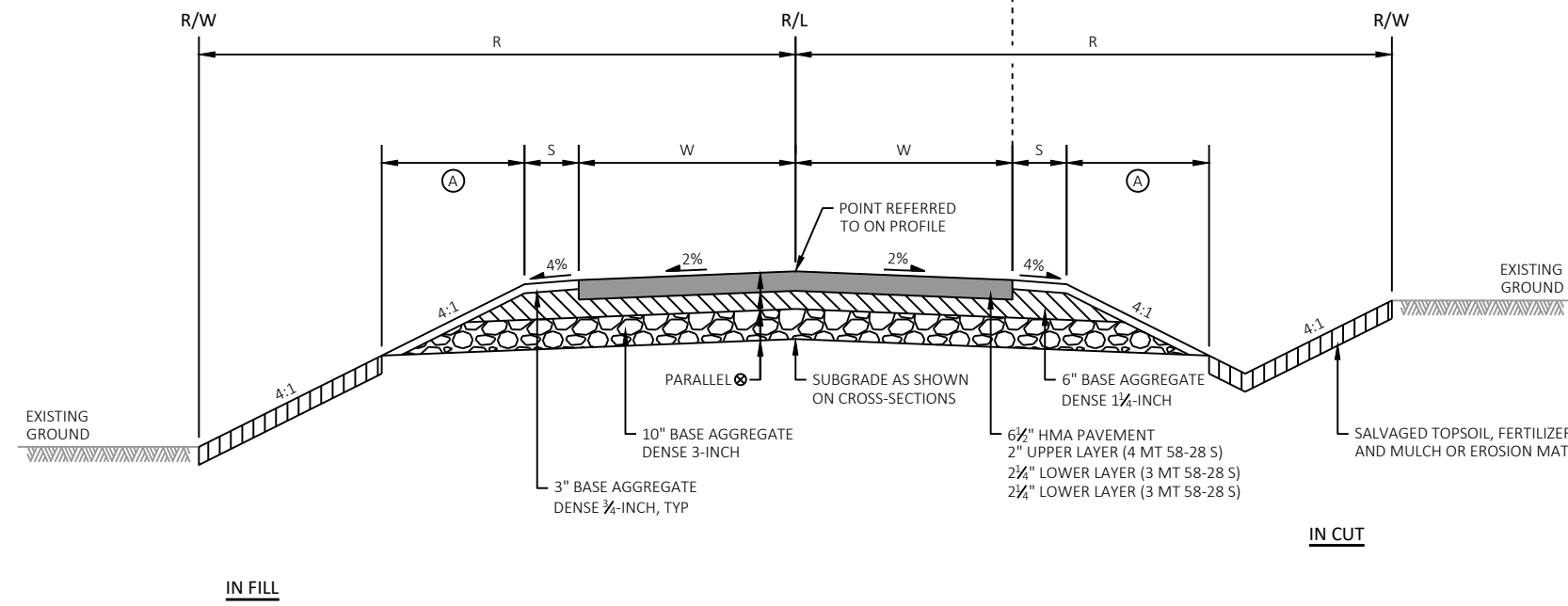
6" BASE AGGREGATE
 DENSE 1 1/4-INCH

10" BASE AGGREGATE
 DENSE 3-INCH

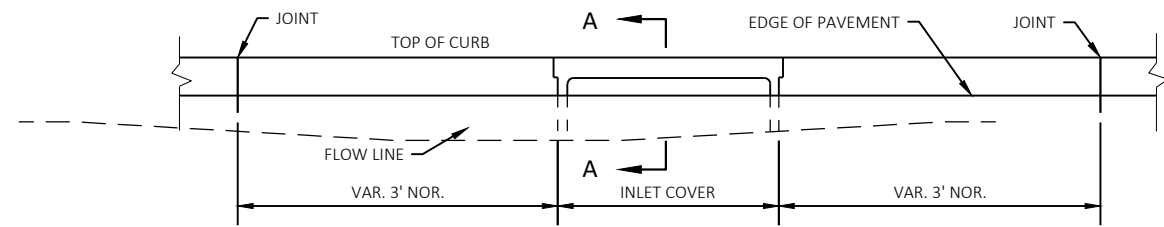
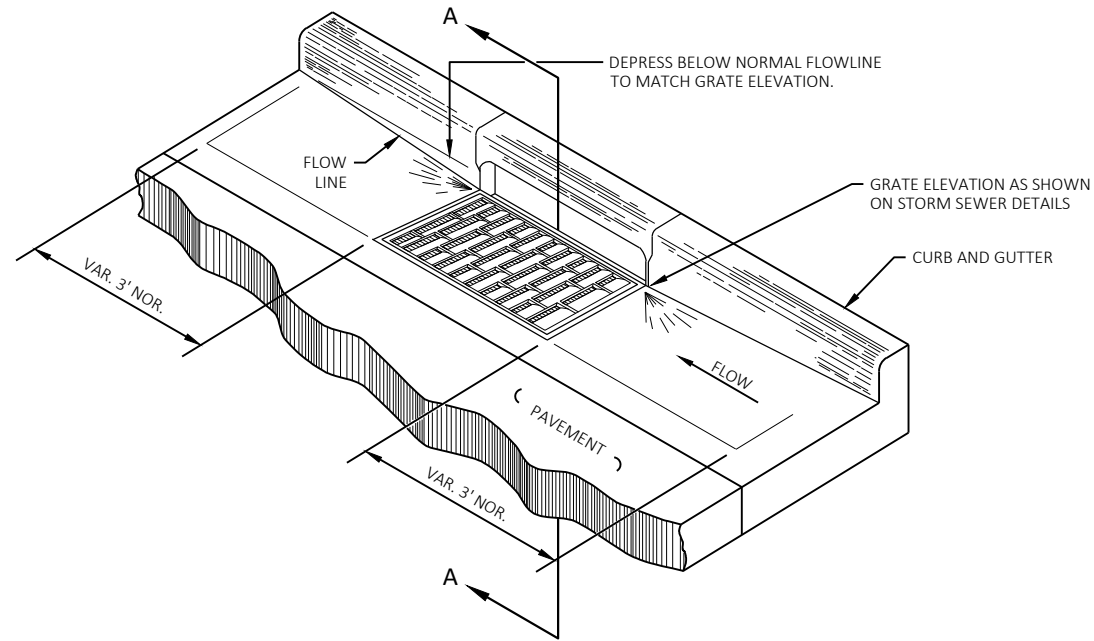


CURB & GUTTER SECTION
 SHERMAN ROAD
 STA 28+15.00 - STA 31+19.00, RT

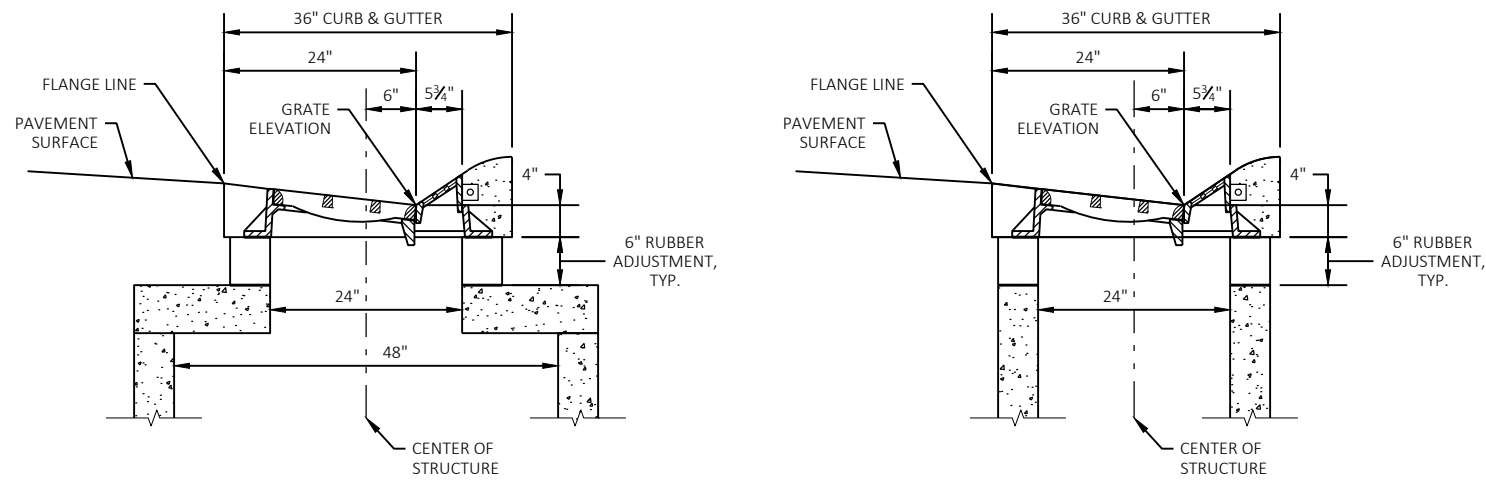
SIDE ROADS - PROPOSED						
STREET	LEFT SIDE			RIGHT SIDE		
	ROW (R)	SHOULDER (S)	OVERALL WIDTH (W)	OVERALL WIDTH (W)	SHOULDER (S)	ROW (R)
PRIVATE ROAD	N/A	3'	VARIES 12'-15'	VARIES 12'-15'	3'	N/A
WESTERN AVENUE (WEST)	33'	VARIES 3'-4'	VARIES 13'-15'	VARIES 9.5'-15'	3'	33'
WESTERN AVENUE (EAST)	33'	VARIES 3'-4'	VARIES 12'-15'	VARIES 12'-15'	3'	33'
SHERMAN ROAD (WEST)	33'	3'	VARIES 9.5'-15'	15'	CURB & GUTTER	33'
SHERMAN ROAD (EAST)	33'	3'	VARIES 9.5'-15'	VARIES 13.5'-15'	3'	33'



TYPICAL FINISHED SECTION
 SIDE ROADS



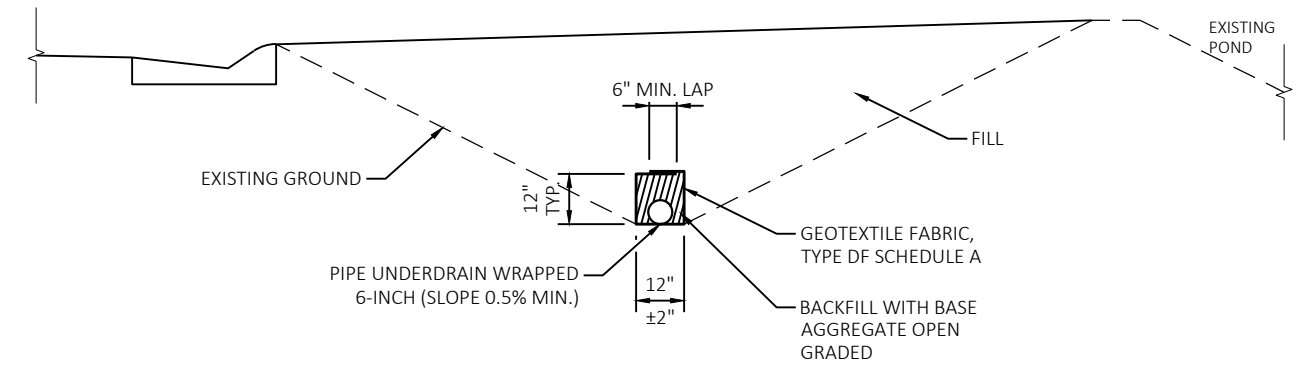
ELEVATION



SECTION A-A

SECTION A-A

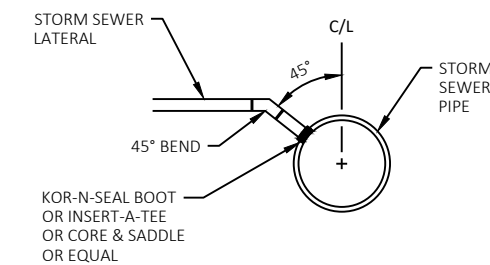
CURB AND GUTTER DETAIL AT INLETS



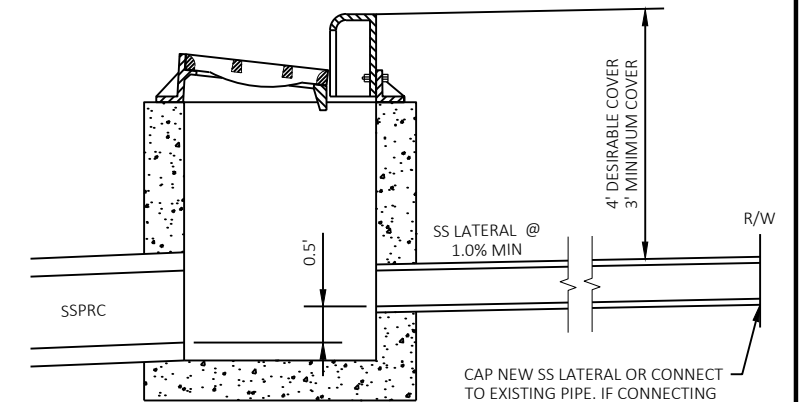
PIPE UNDERDRAIN DETAIL

NOTES:

- STORM SEWER LATERALS SHALL BE INSTALLED WITH 4- FEET OF DESIRABLE COVER AND 3- FEET OF MINIMUM COVER.
- STORM SEWER LATERALS WHEN CONNECTED DIRECTLY TO THE STORM SEWER PIPE SHALL BE AT AN ELEVATION NO LOWER THAN THE SPRING LINE.
- STORM SEWER LATERAL DEPTHS SHALL BE ADJUSTED TO AVOID UTILITY CONFLICTS.
- STORM SEWER LATERALS SHALL BE CAPPED AT A POINT BEYOND THE RIGHT-OF-WAY LINE OR SHALL BE CONNECTED TO AN EXISTING PIPE.
- STORM SEWER LATERAL LOCATIONS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.



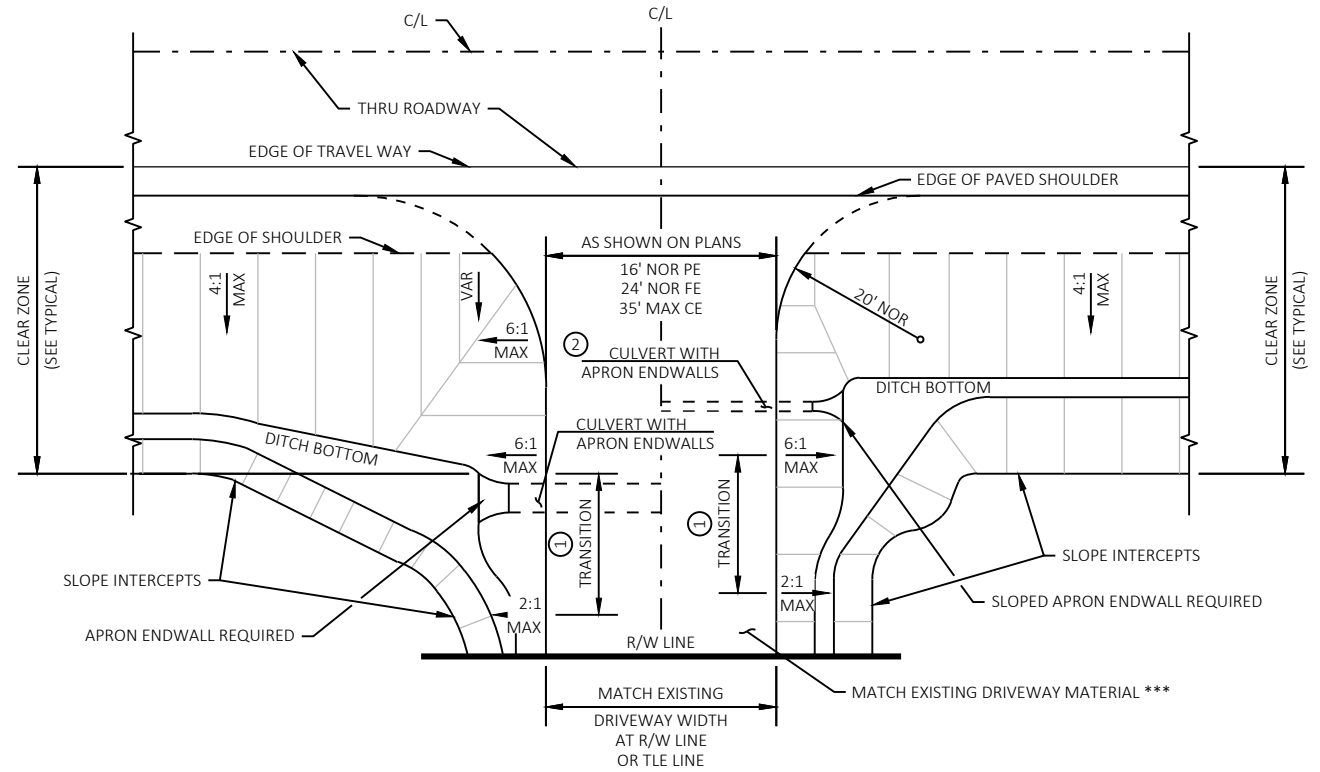
STORM SEWER PIPE CONNECTION



INLET CONNECTION

STORM SEWER LATERAL CONNECTION

(INCIDENTAL TO STORM LATERAL BID ITEM)

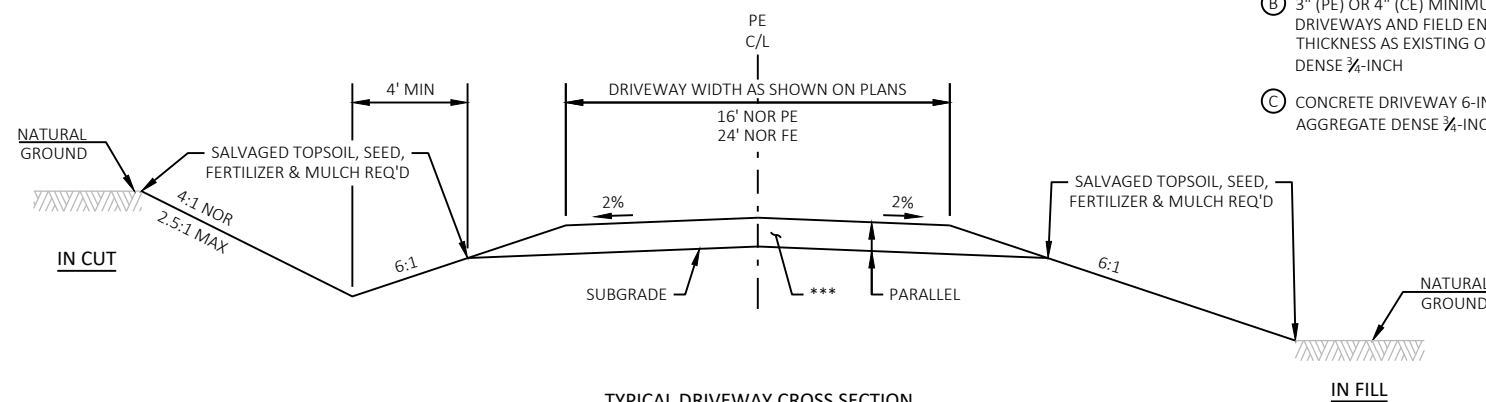


- ① TRANSITION TO BE ACCOMPLISHED WITHIN THE RIGHT OF WAY
- ② BLEND 6 : 1 SLOPES TO MATCH APRON ENDWALLS

FOR CULVERTS OUTSIDE CLEAR ZONE

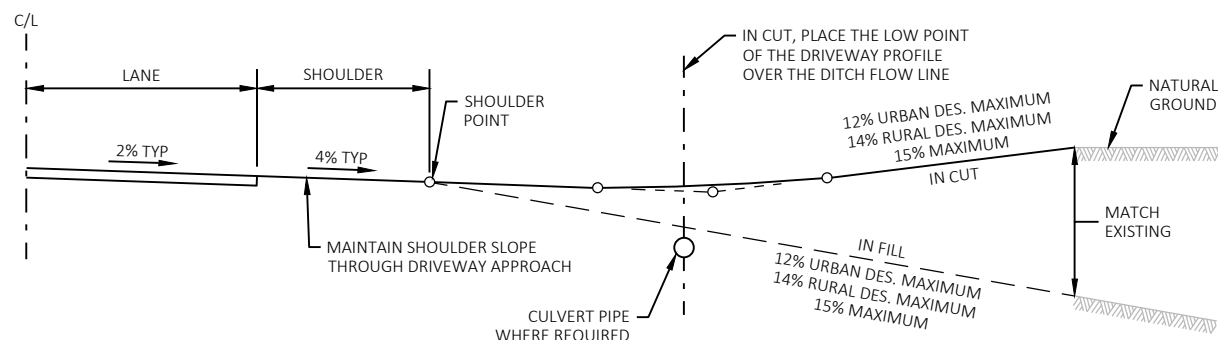
FOR CULVERTS WITHIN CLEAR ZONE

RURAL DRIVEWAY PLAN VIEW



- *** (A) 6" BASE AGGREGATE DENSE 3/4-INCH
- (B) 3" (PE) OR 4" (CE) MINIMUM ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES OR SAME THICKNESS AS EXISTING OVER 6" BASE AGGREGATE DENSE 3/4-INCH
- (C) CONCRETE DRIVEWAY 6-INCH OVER 6" BASE AGGREGATE DENSE 3/4-INCH

TYPICAL DRIVEWAY CROSS SECTION



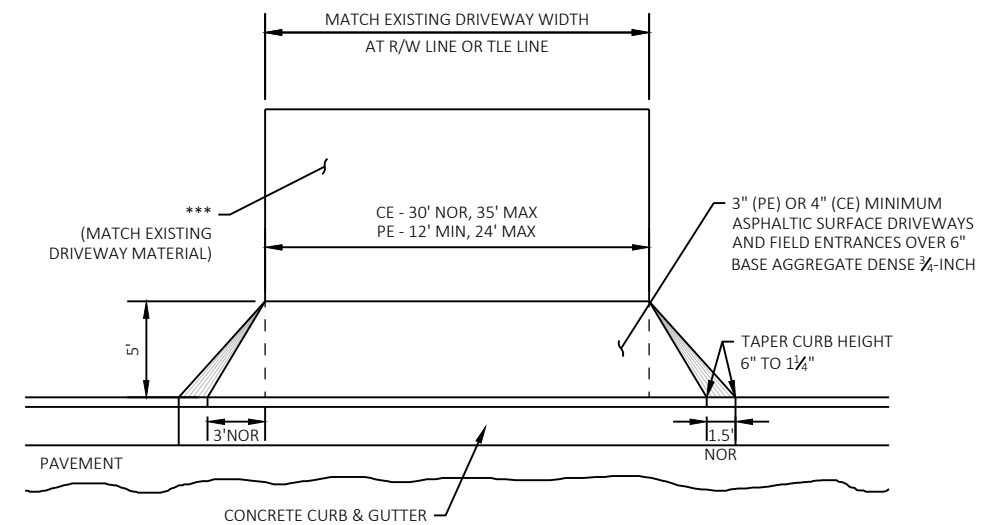
TYPICAL DRIVEWAY PROFILE

RURAL ENTRANCE DETAIL

*** 6" BASE AGGREGATE DENSE 3/4-INCH

3" (PE) OR 4" (CE) ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES OR SAME THICKNESS AS EXISTING OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH

CONCRETE DRIVEWAY 6-INCH OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH

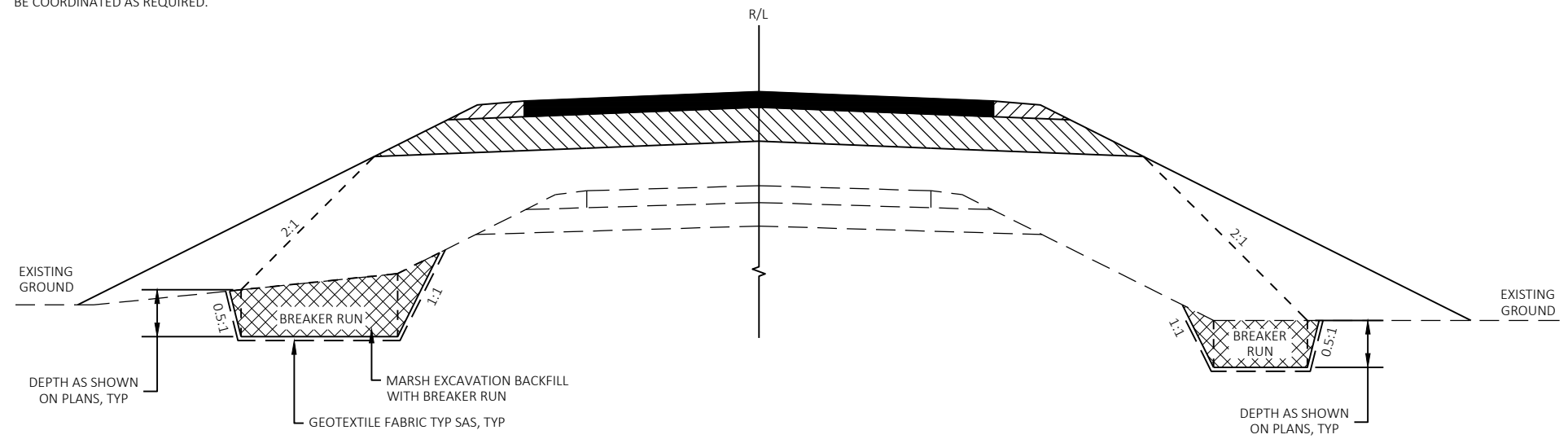


RURAL ENTRANCE DETAIL WITH CURB & GUTTER

SCHEDULE OF PARTIAL MARSH EXCAVATION CONSTRUCTION OPERATIONS:

1. EXCAVATE TO MARSH EXCAVATION ELEVATIONS SHOWN.
2. IF ENGINEER DEEMS SUBGRADE ACCEPTABLE, PLACE GEOTEXTILE FABRIC TYPE SAS AND BACKFILL WITH BREAKER RUN TO EXISTING GROUND. REMAINDER OF VOID TO BE BACKFILLED WITH FILL TO SUBGRADE. CONSTRUCT ROADWAY PER TYPICAL SECTIONS. ADDITIONAL CONSTRUCTION OPERATIONS FOR MARSH EXCAVATION DEEMED UNACCEPTABLE WILL BE COORDINATED AS REQUIRED.

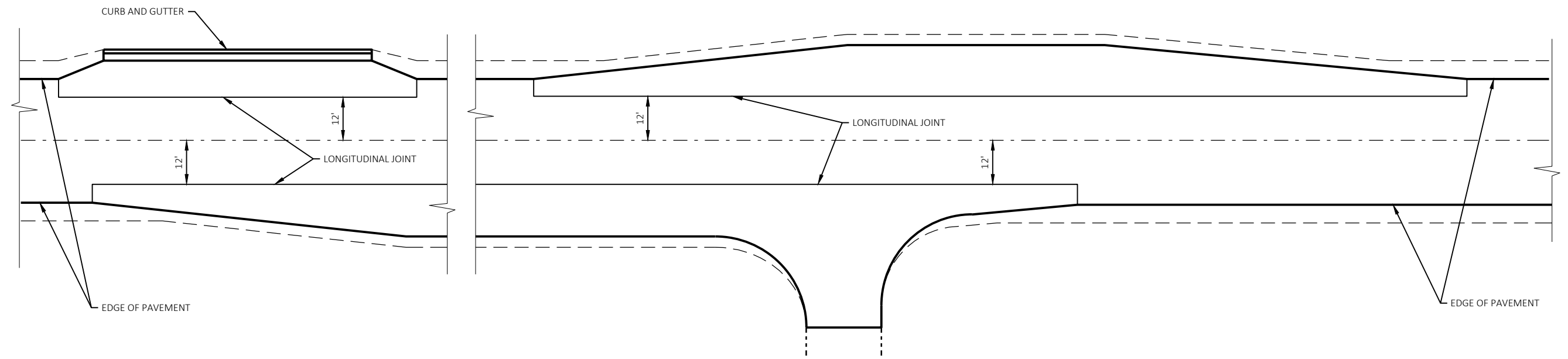
☒ MARSH EXCAVATION



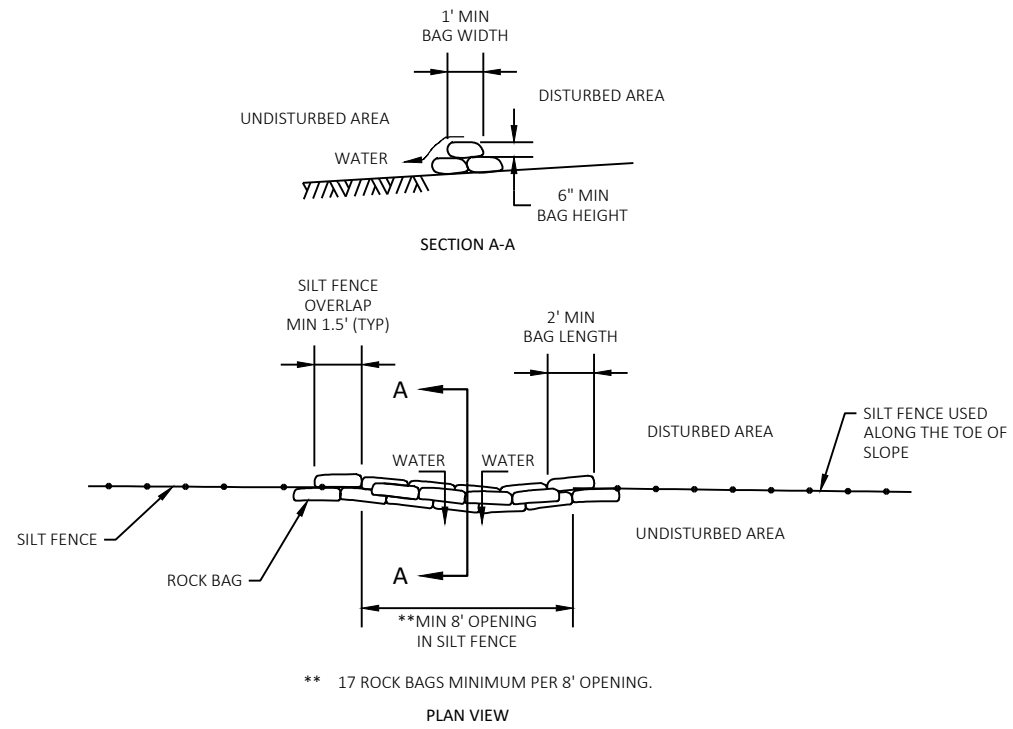
PARTIAL MARSH EXCAVATION DETAIL

STA 501+00 - STA 503+25 LT
 STA 533+50 - STA 534+75 RT
 STA 545+50 - STA 546+25 RT
 STA 564+75 - STA 566+25 LT
 STA 566+00 - STA 566+25 RT

* TO BE USED AT ALL INTERSECTIONS, BYPASS LANES, PASSING LANES, AND RURAL CURB SECTIONS



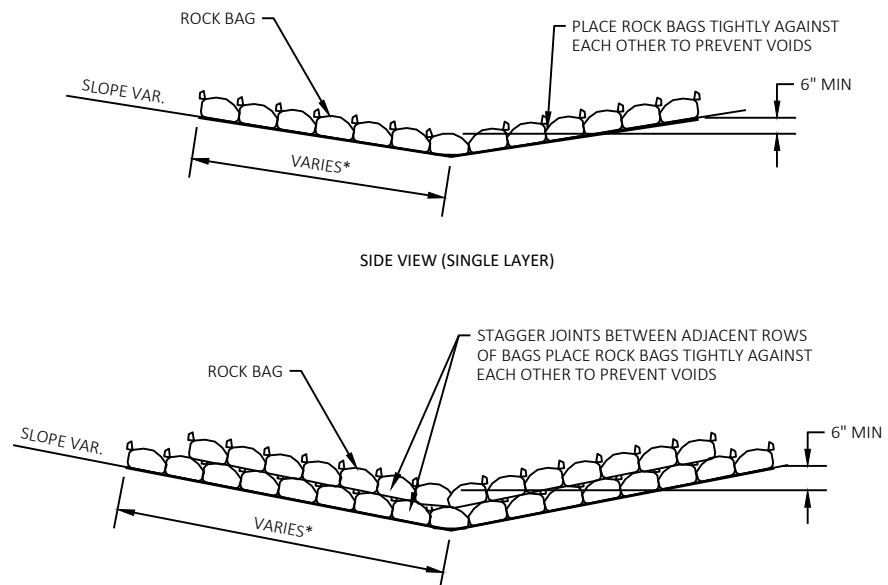
HMA LONGITUDINAL JOINT DETAIL



** 17 ROCK BAGS MINIMUM PER 8' OPENING.

PLAN VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF POINT

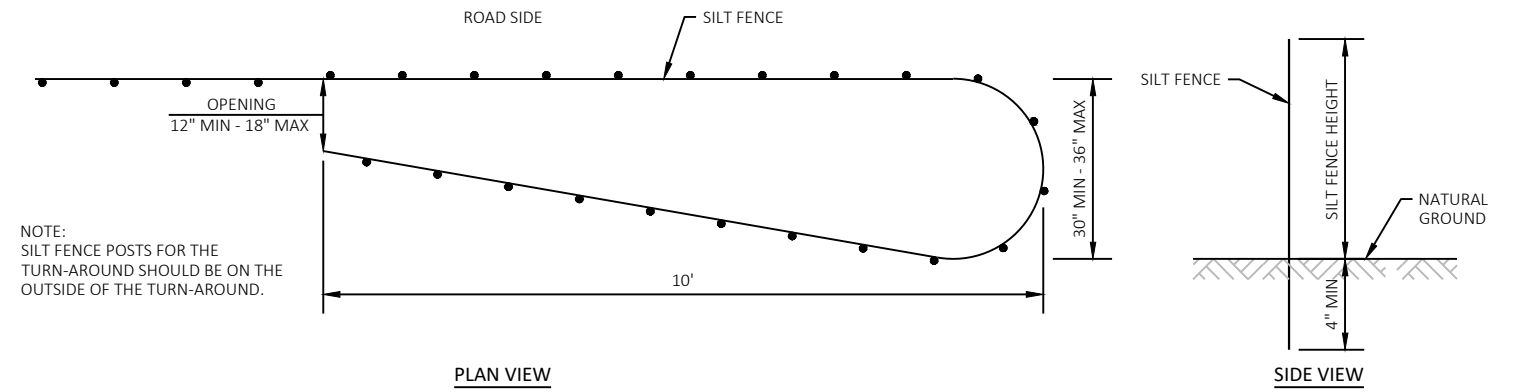


* LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

ROCK BAGS USED FOR DITCH CHECKS

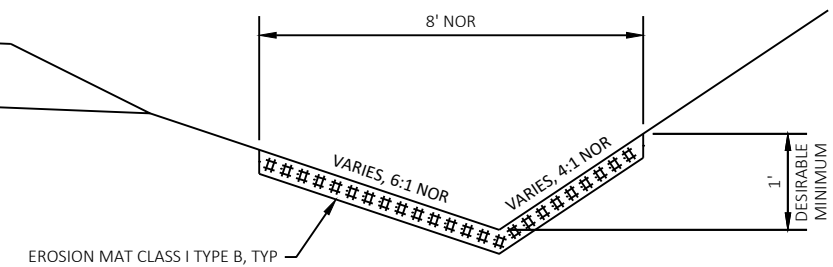
ROCK BAGS DETAIL



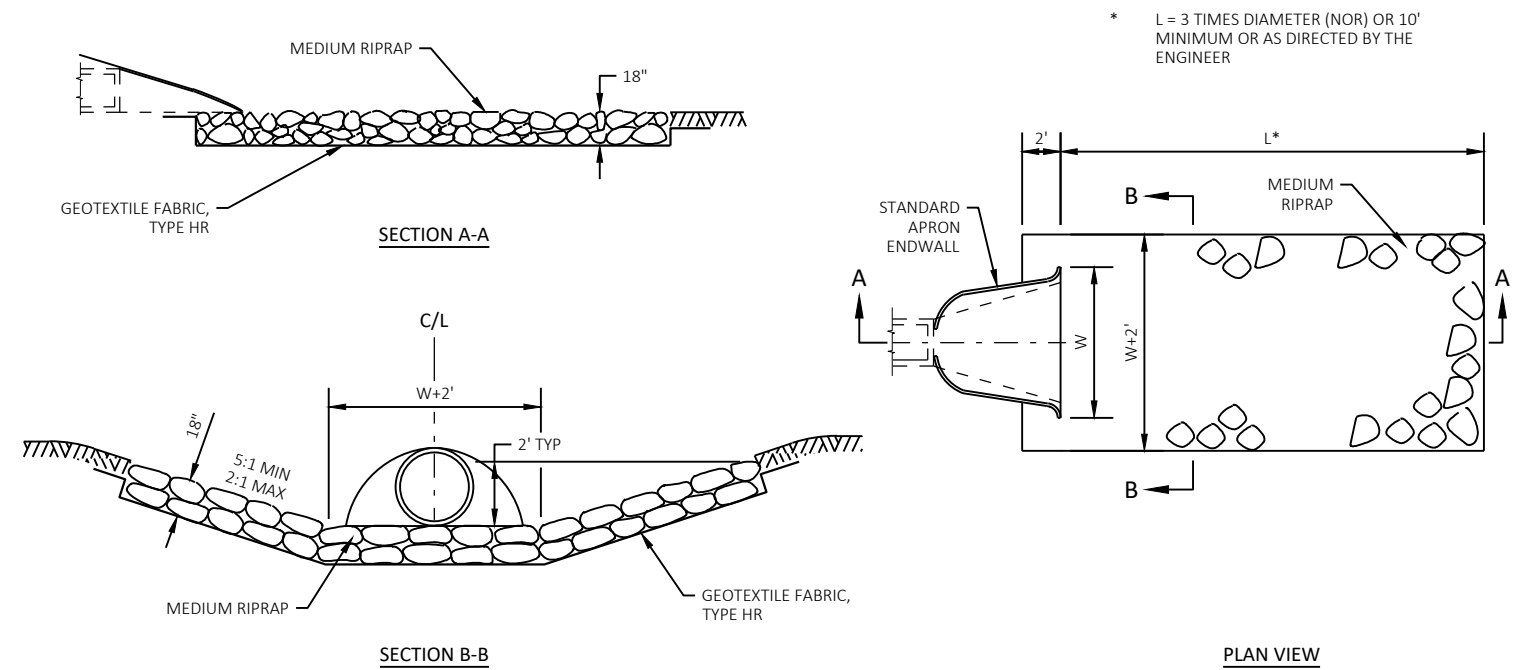
PLAN VIEW

SIDE VIEW

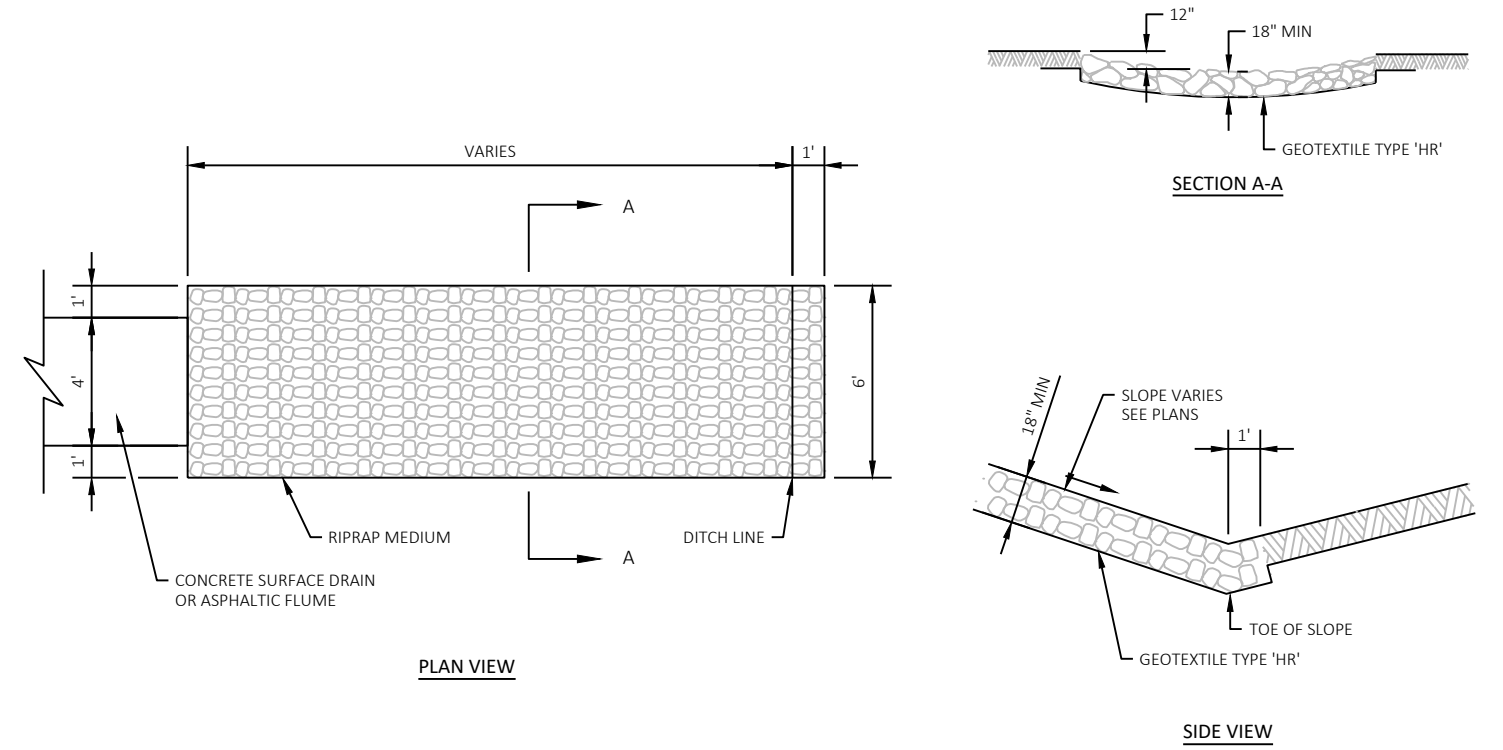
SILT FENCE TURN-AROUND DETAIL



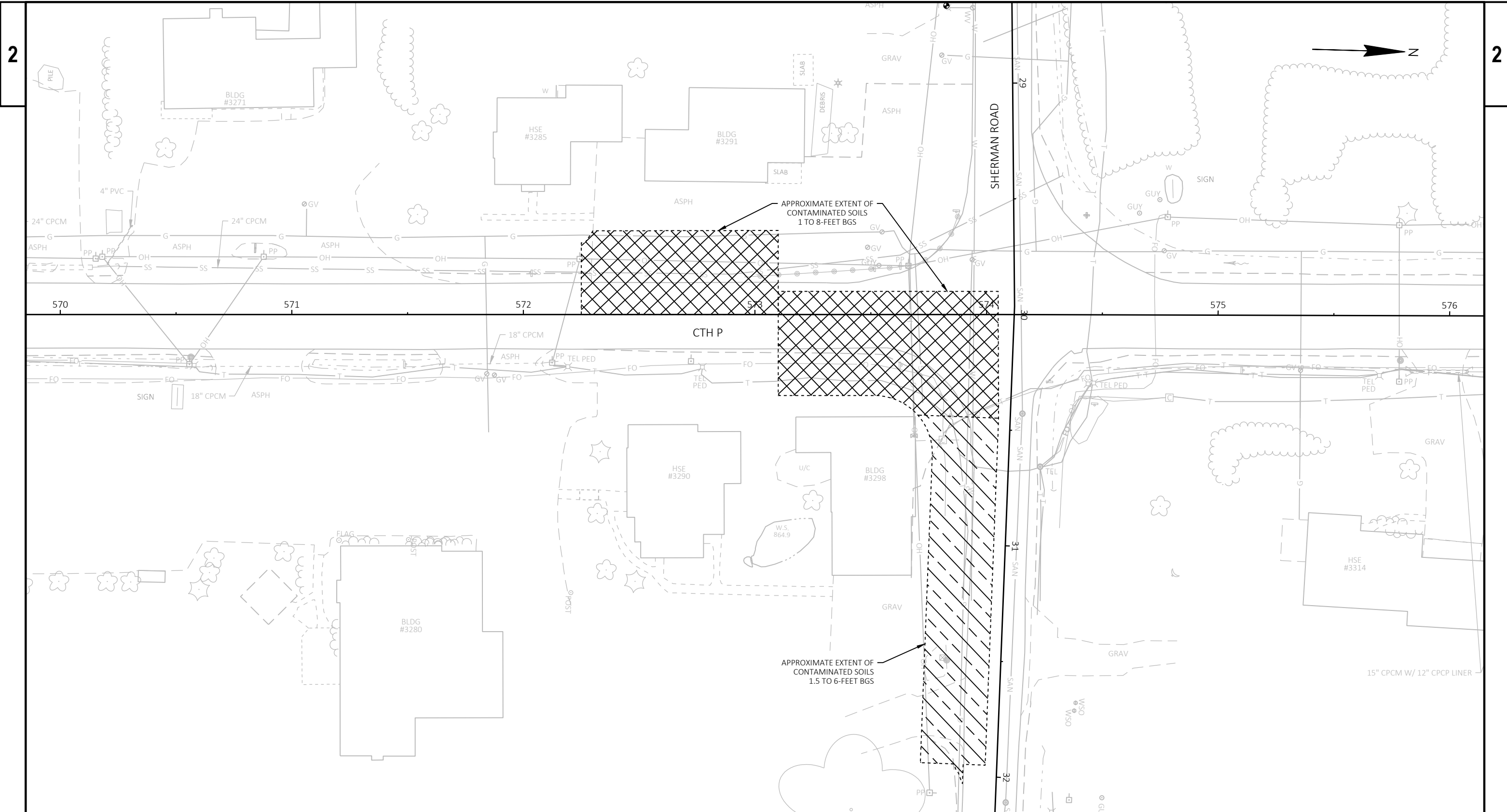
EROSION MAT DETAIL FOR DITCHES



MEDIUM RIPRAP AND GEOTEXTILE FABRIC
DETAIL AT APRON ENDWALLS



MEDIUM RIPRAP AND GEOTEXTILE DETAIL AT FLUME



CONTAMINATED SOIL SITE LOCATION

STATION 572+25 - STATION 573+10, LT (DAVE'S AUTO REPAIR / FORMER OLLINGER'S GARAGE, INC. 3291 CTY HWY P)
 STATION 573+10 - STATION 574+05, RT (ALLAN & LORI BAUMGARTNER / FORMER GASOLINE/AUTO SERVICE STATION 3298 CTY HWY P)
 STATION 30+45 - STATION 31+95, RT (ALLAN & LORI BAUMGARTNER / FORMER GASOLINE/AUTO SERVICE STATION 3298 CTY HWY P)

PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	CONSTRUCTION DETAILS	SHEET	E
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STH 145

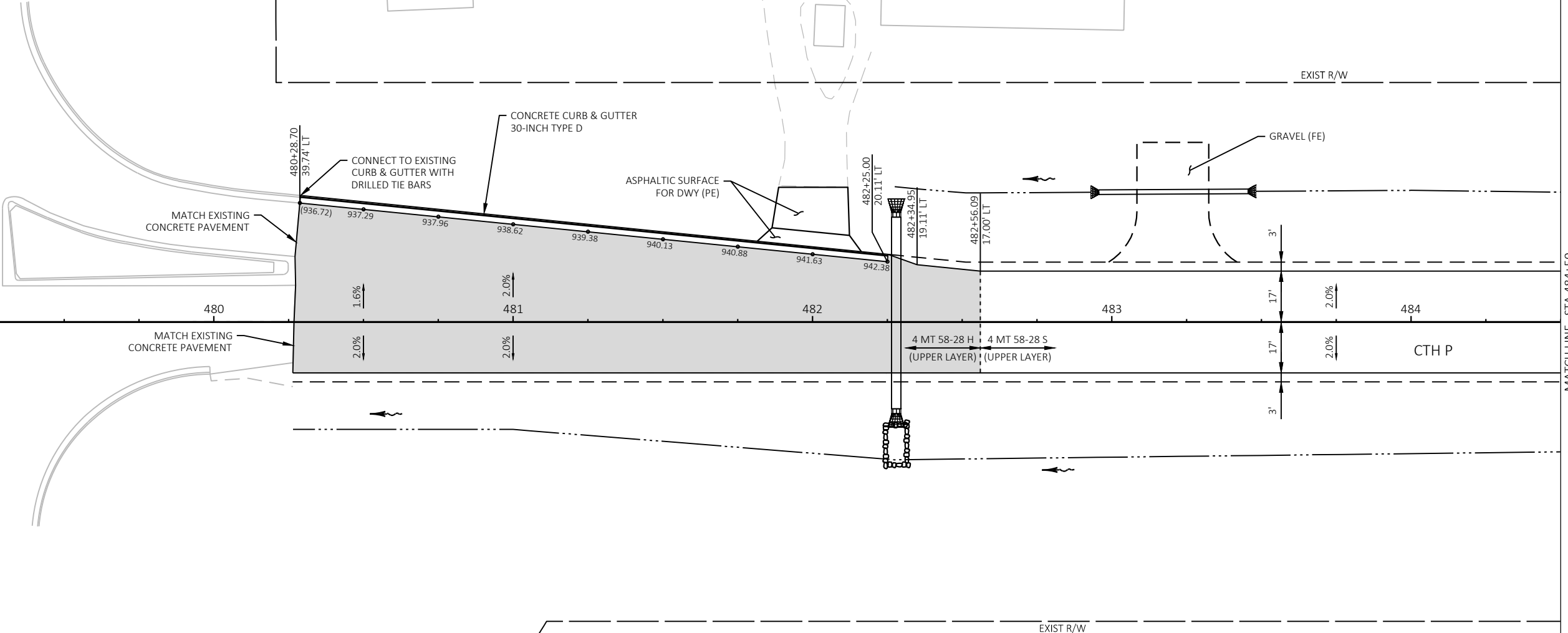
EXIST R/W

HSE #2595

GRAV

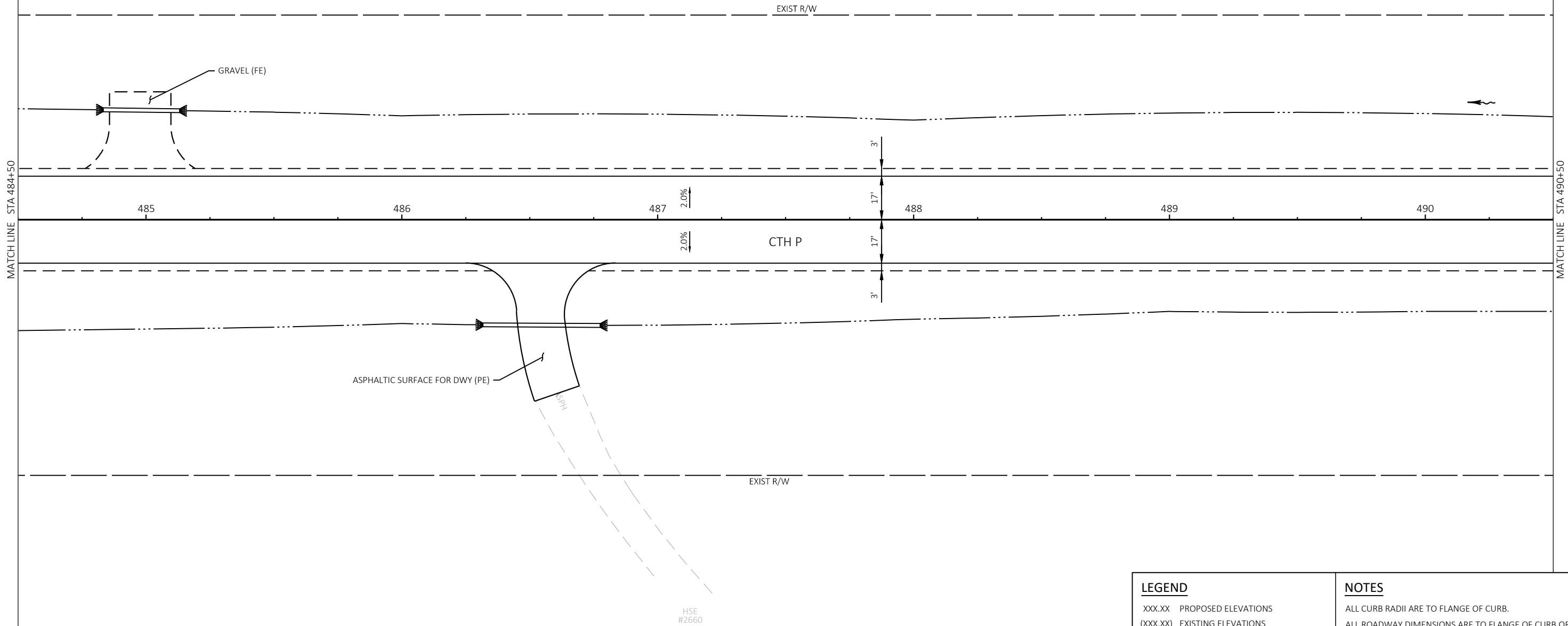
BARN

EXIST R/W



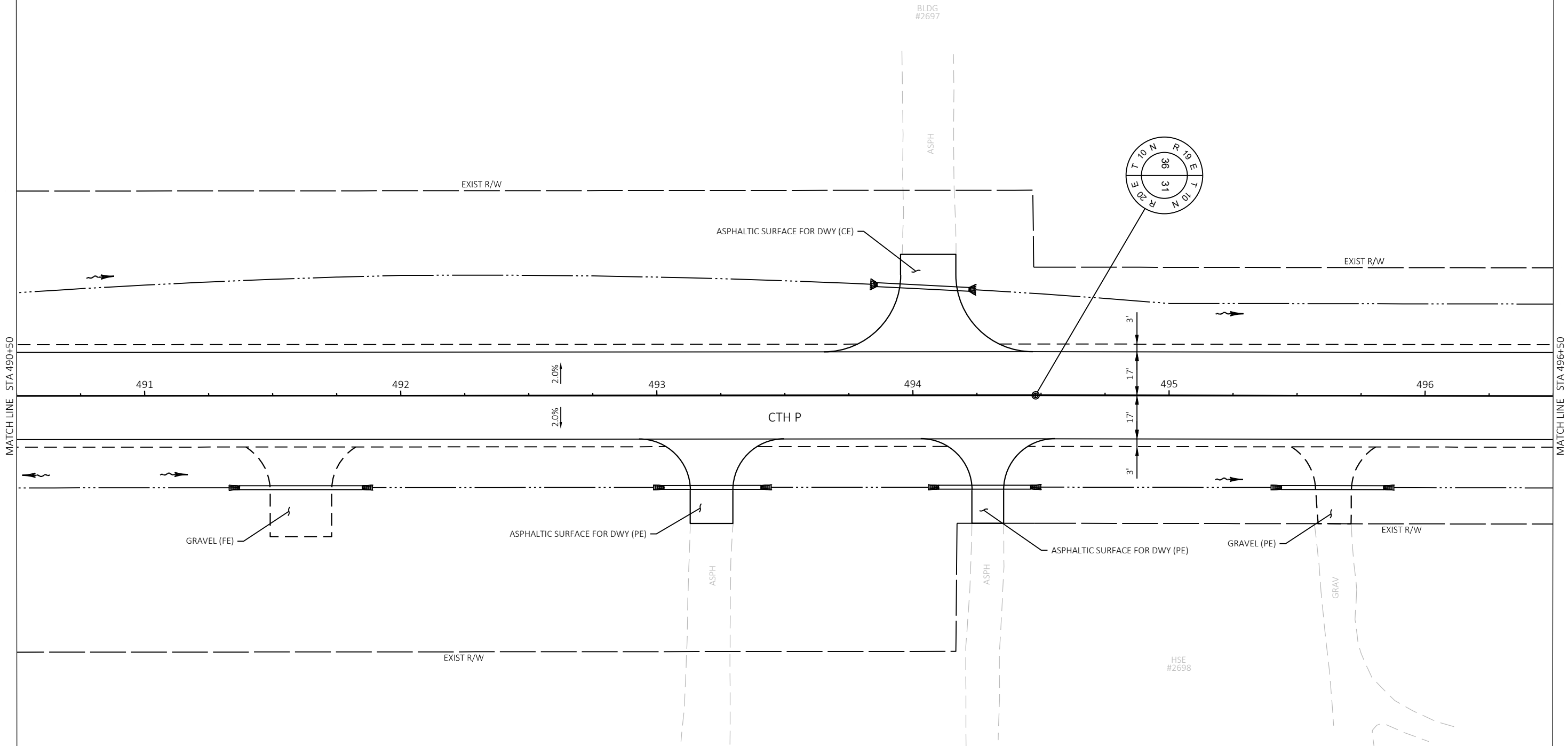
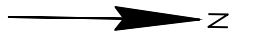
MATCH LINE STA 484+50

LEGEND		NOTES
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.
(XXX.XX)	EXISTING ELEVATIONS	
■	PROPOSED INLET	
⊙	PROPOSED STORM SEWER MANHOLE	
◁	PROPOSED ENDWALL	



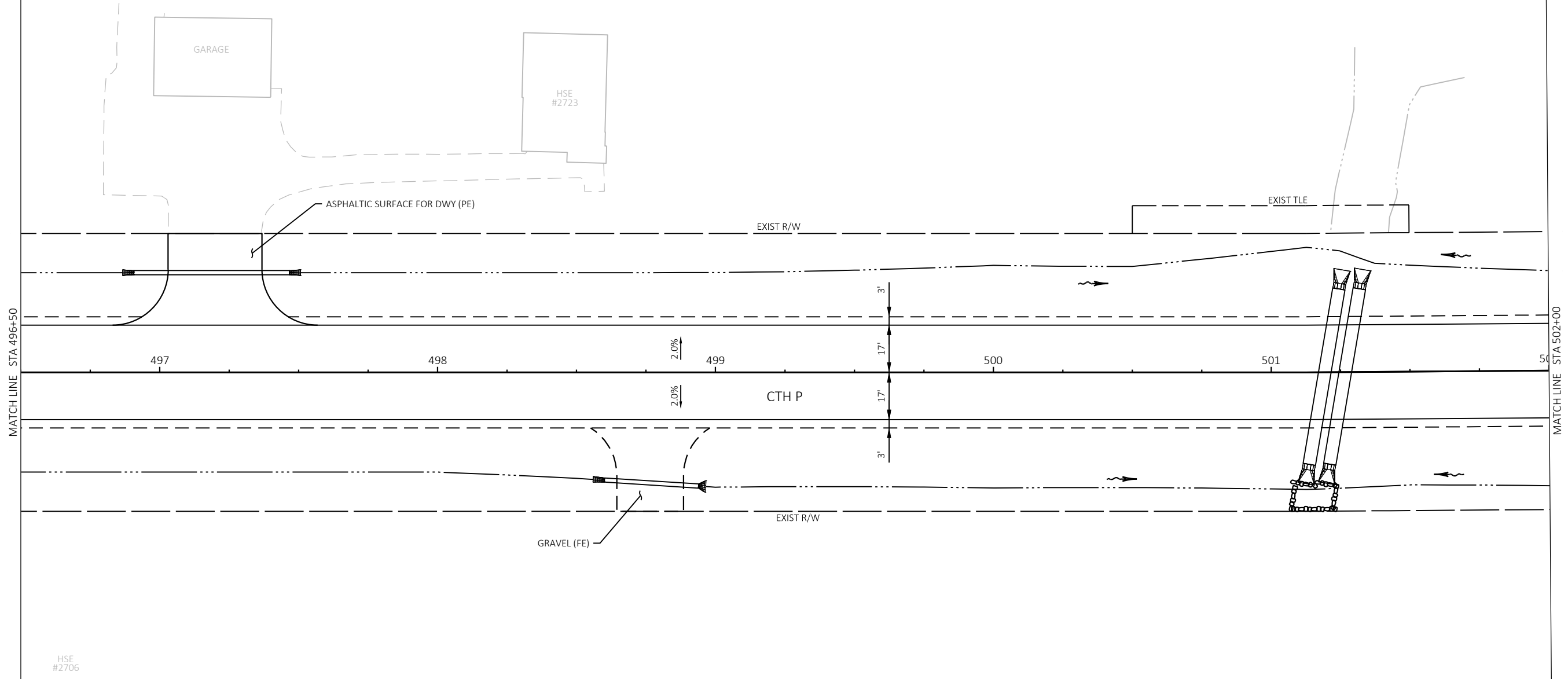
LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
■	PROPOSED INLET		
⊙	PROPOSED STORM SEWER MANHOLE		
◁	PROPOSED ENDWALL		

PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN DETAILS	SHEET	E
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LEGEND	
XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
■	PROPOSED INLET
⊙	PROPOSED STORM SEWER MANHOLE
◁	PROPOSED ENDWALL

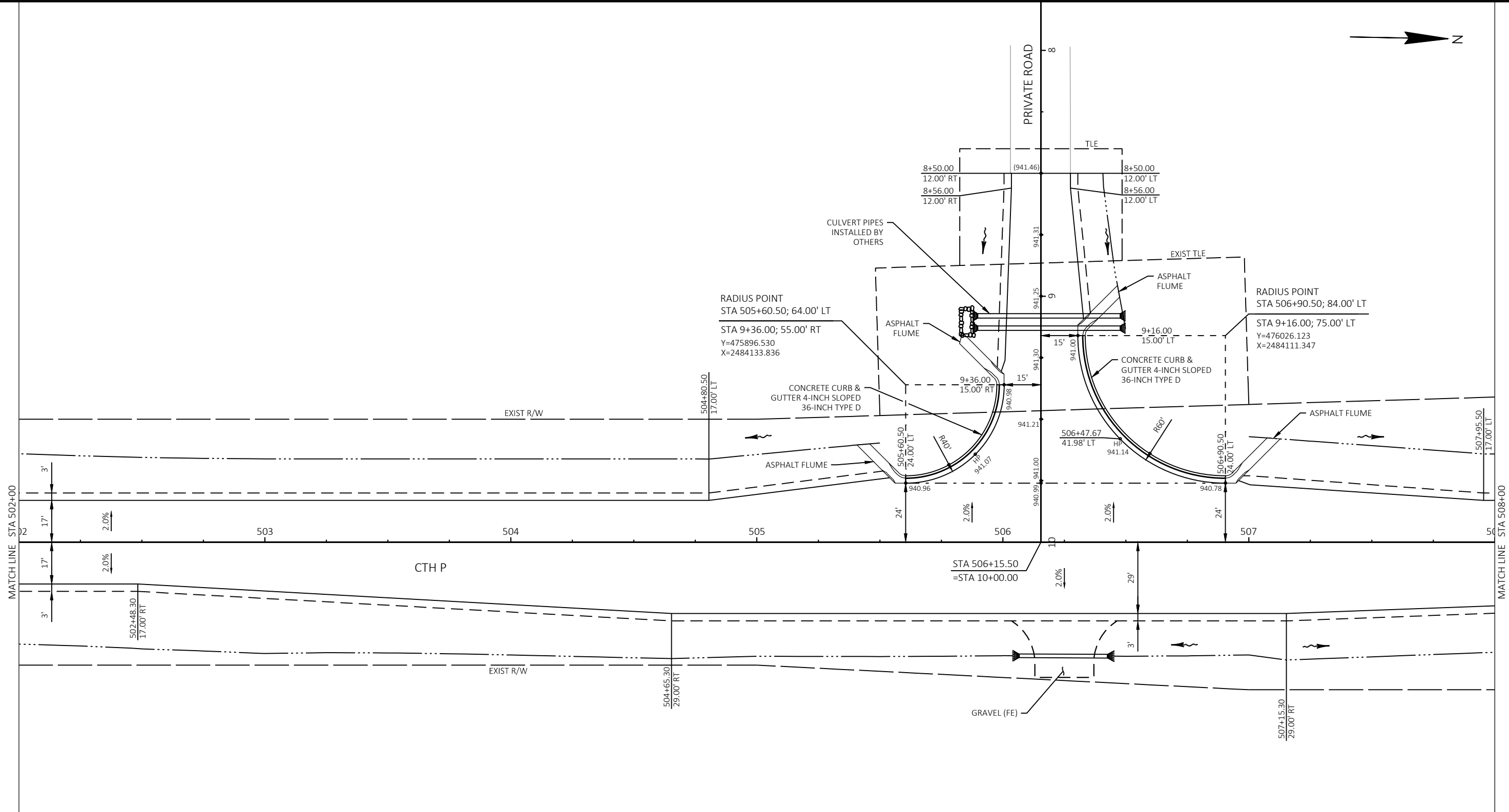
NOTES
ALL CURB RADII ARE TO FLANGE OF CURB.
ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.
ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.
PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.
PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.



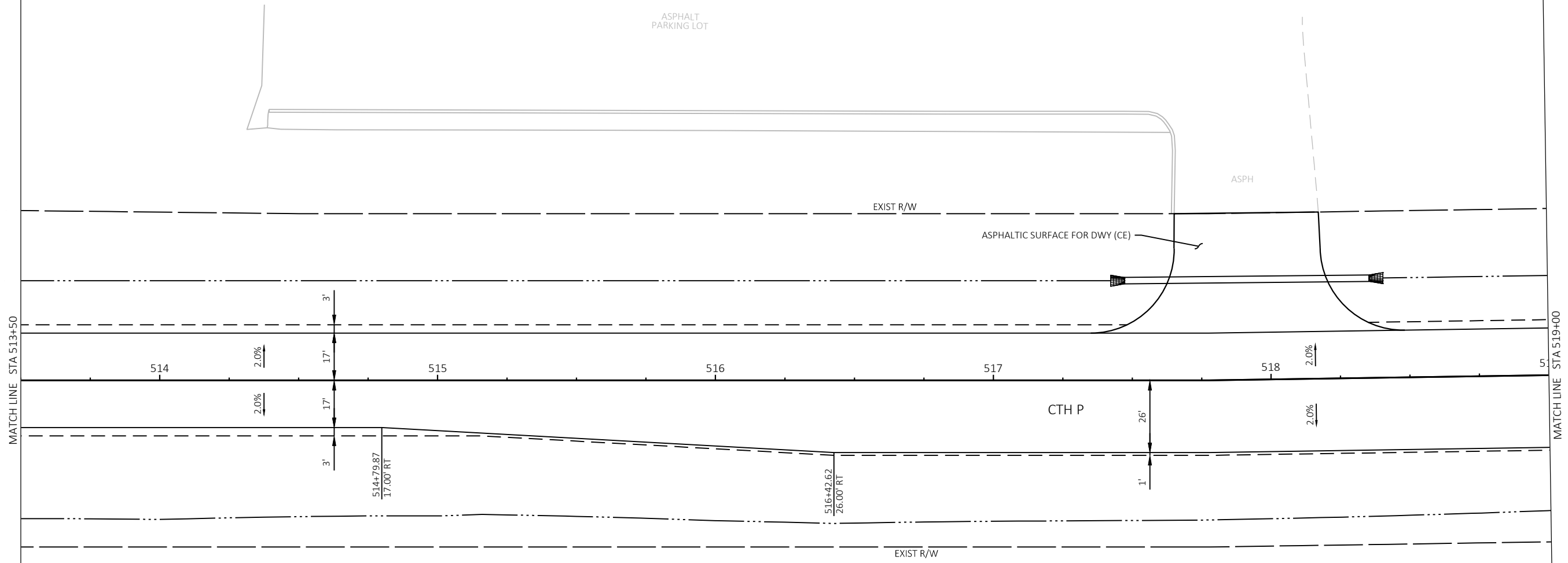
MATCH LINE STA 496+50

MATCH LINE STA 502+00

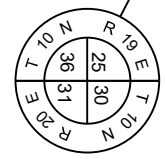
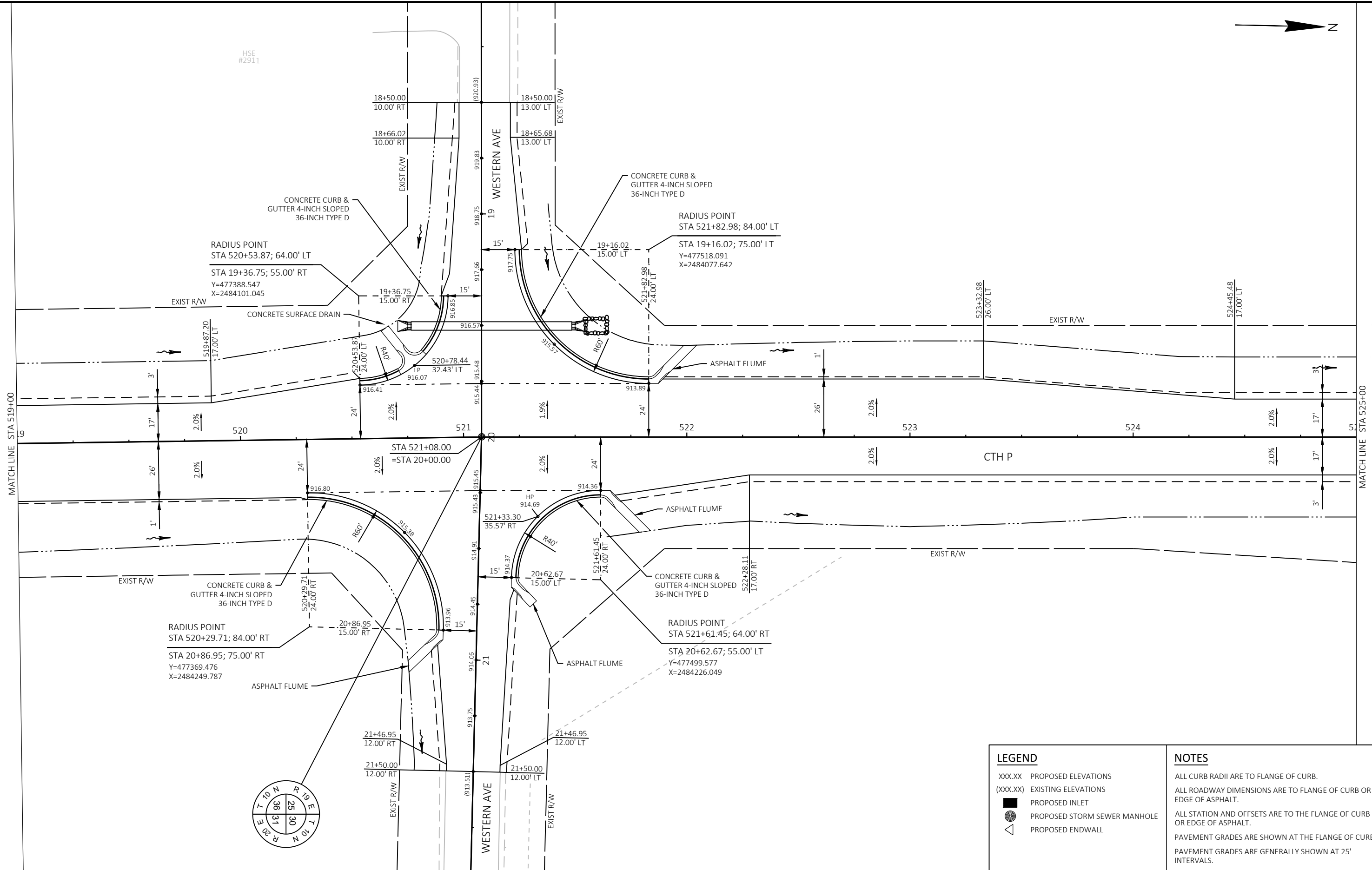
LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
■	PROPOSED INLET		
⊙	PROPOSED STORM SEWER MANHOLE		
◁	PROPOSED ENDWALL		



LEGEND		NOTES
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.
(XXX.XX)	EXISTING ELEVATIONS	
■	PROPOSED INLET	
⊙	PROPOSED STORM SEWER MANHOLE	
◁	PROPOSED ENDWALL	



LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
■	PROPOSED INLET		
⊙	PROPOSED STORM SEWER MANHOLE		
◁	PROPOSED ENDWALL		



LEGEND	
XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
	PROPOSED INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED ENDWALL

NOTES

ALL CURB RADII ARE TO FLANGE OF CURB.

ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.

ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.

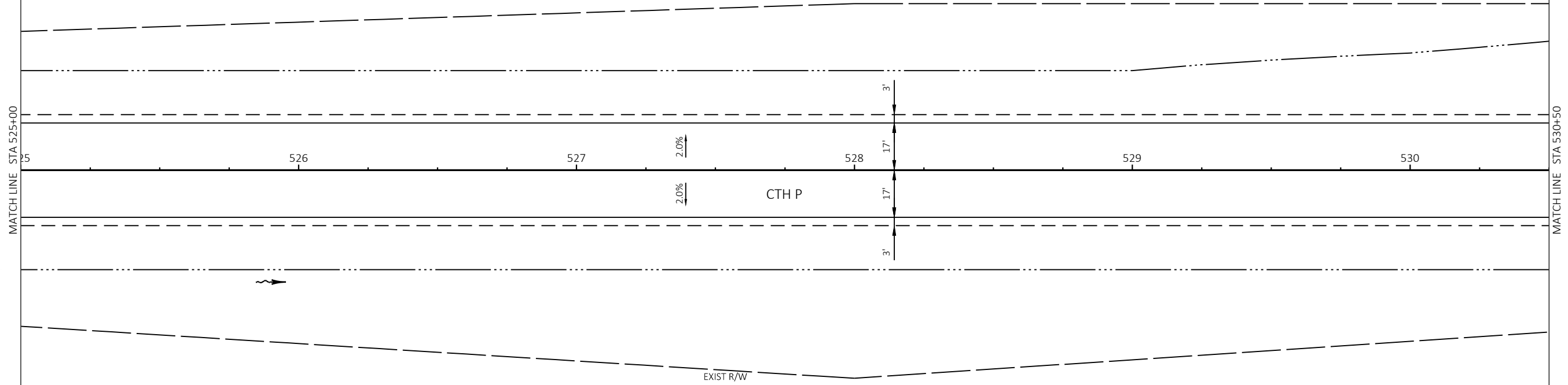
PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.

PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.



MATCH LINE STA 525+00

MATCH LINE STA 530+50

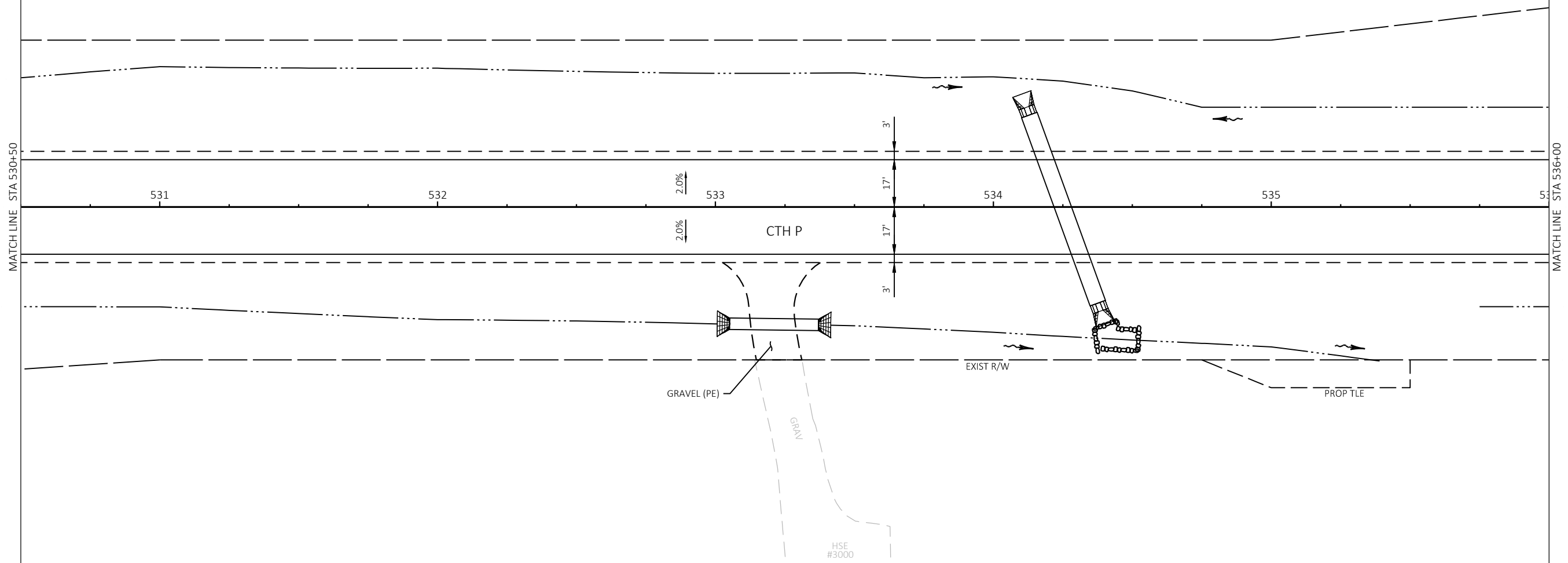


LEGEND		NOTES
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.
(XXX.XX)	EXISTING ELEVATIONS	
■	PROPOSED INLET	
⊙	PROPOSED STORM SEWER MANHOLE	
◁	PROPOSED ENDWALL	



MATCH LINE STA 530+50

MATCH LINE STA 536+00

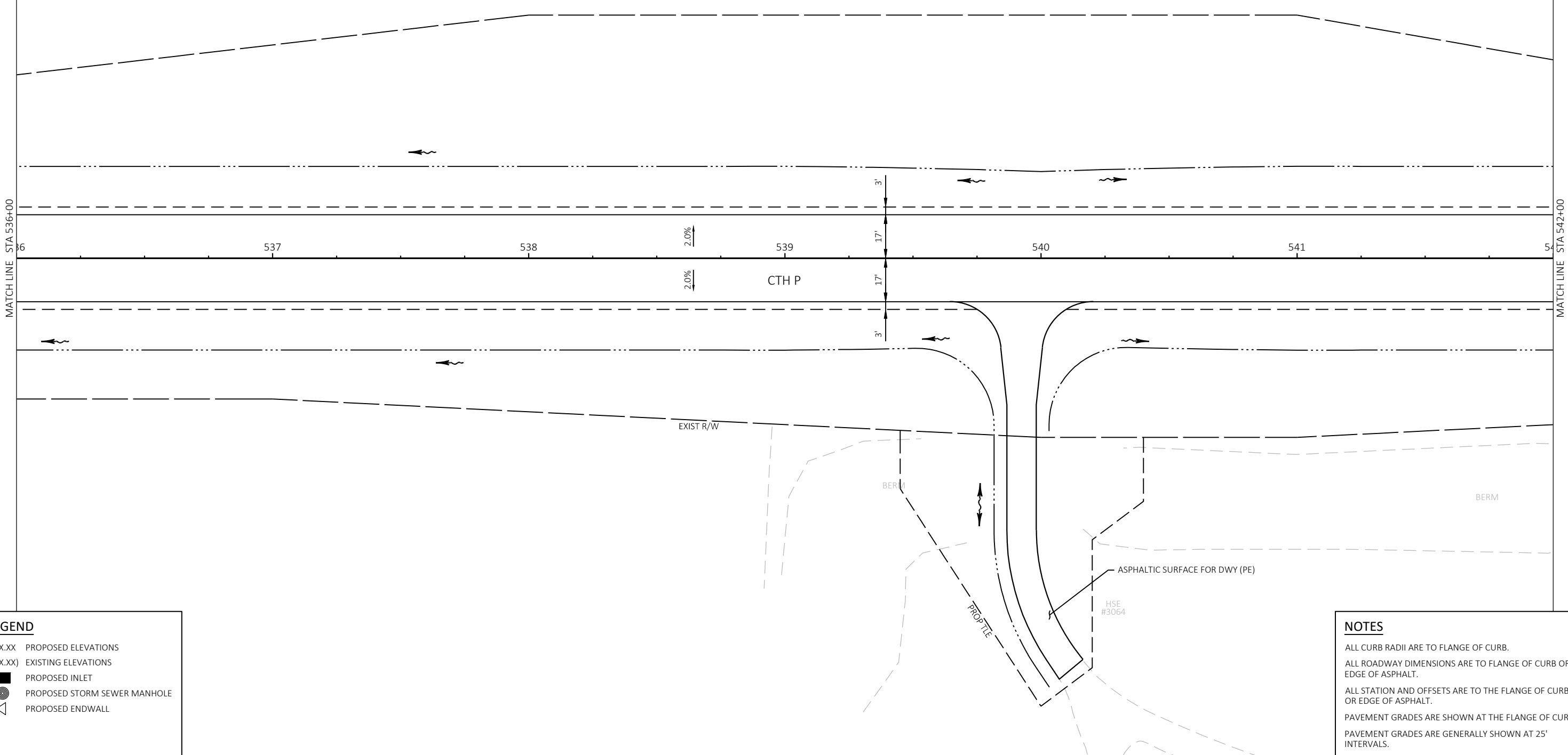


LEGEND	NOTES
XXX.XX PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.
(XXX.XX) EXISTING ELEVATIONS	
■ PROPOSED INLET	
⊙ PROPOSED STORM SEWER MANHOLE	
◁ PROPOSED ENDWALL	



MATCH LINE STA 536+00

MATCH LINE STA 542+00



LEGEND

- XXX.XX PROPOSED ELEVATIONS
- (XXX.XX) EXISTING ELEVATIONS
- PROPOSED INLET
- ⊙ PROPOSED STORM SEWER MANHOLE
- △ PROPOSED ENDWALL

NOTES

- ALL CURB RADII ARE TO FLANGE OF CURB.
- ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.
- ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.
- PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.
- PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.

PROJECT NO: 2711-06-70

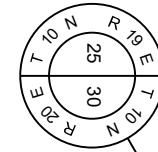
HWY: CTH P

COUNTY: WASHINGTON

PLAN DETAILS

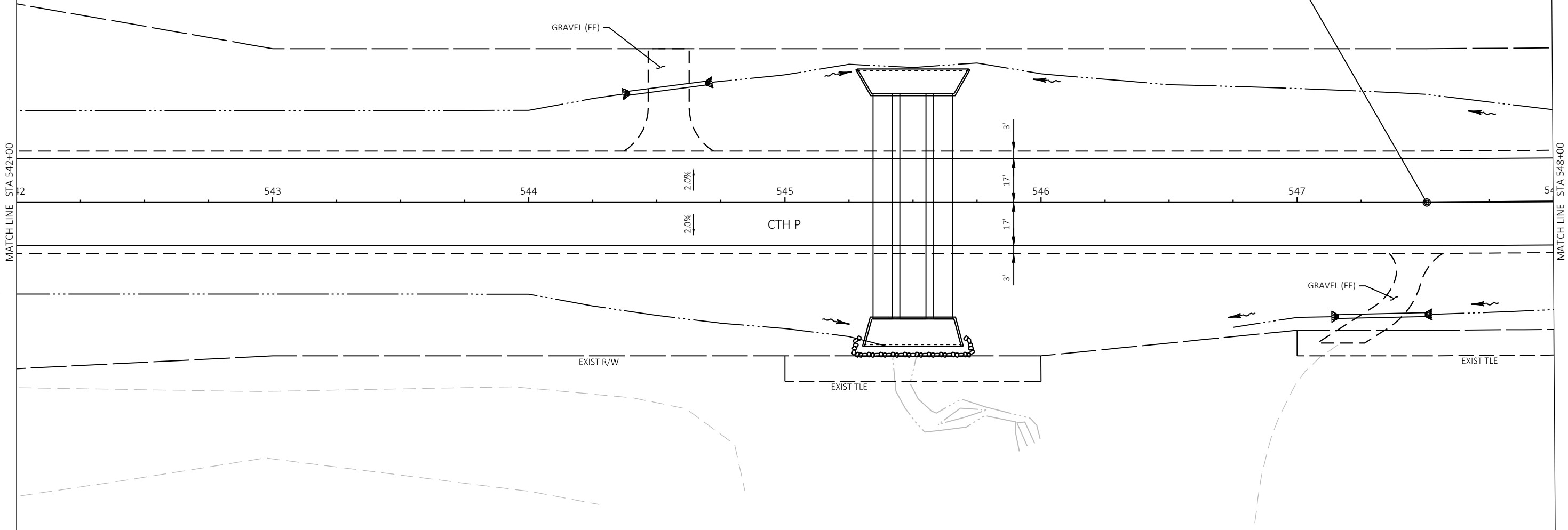
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E

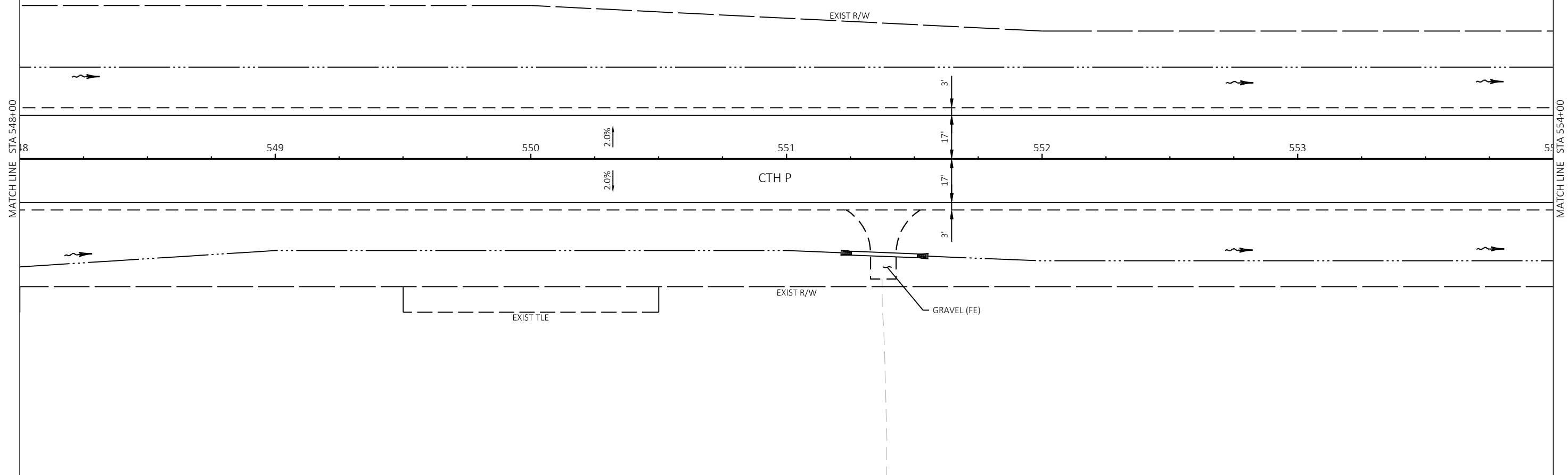


MATCH LINE STA 542+00

MATCH LINE STA 548+00



LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
■	PROPOSED INLET		
⊙	PROPOSED STORM SEWER MANHOLE		
◁	PROPOSED ENDWALL		



LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
■	PROPOSED INLET		
⊙	PROPOSED STORM SEWER MANHOLE		
◁	PROPOSED ENDWALL		



MATCH LINE STA 554+00

MATCH LINE STA 560+00

EXIST R/W

EXIST R/W

CTH P

GRAVEL (FE)

555

556

557

558

559

2.0%

2.0%

3'

17'

17'

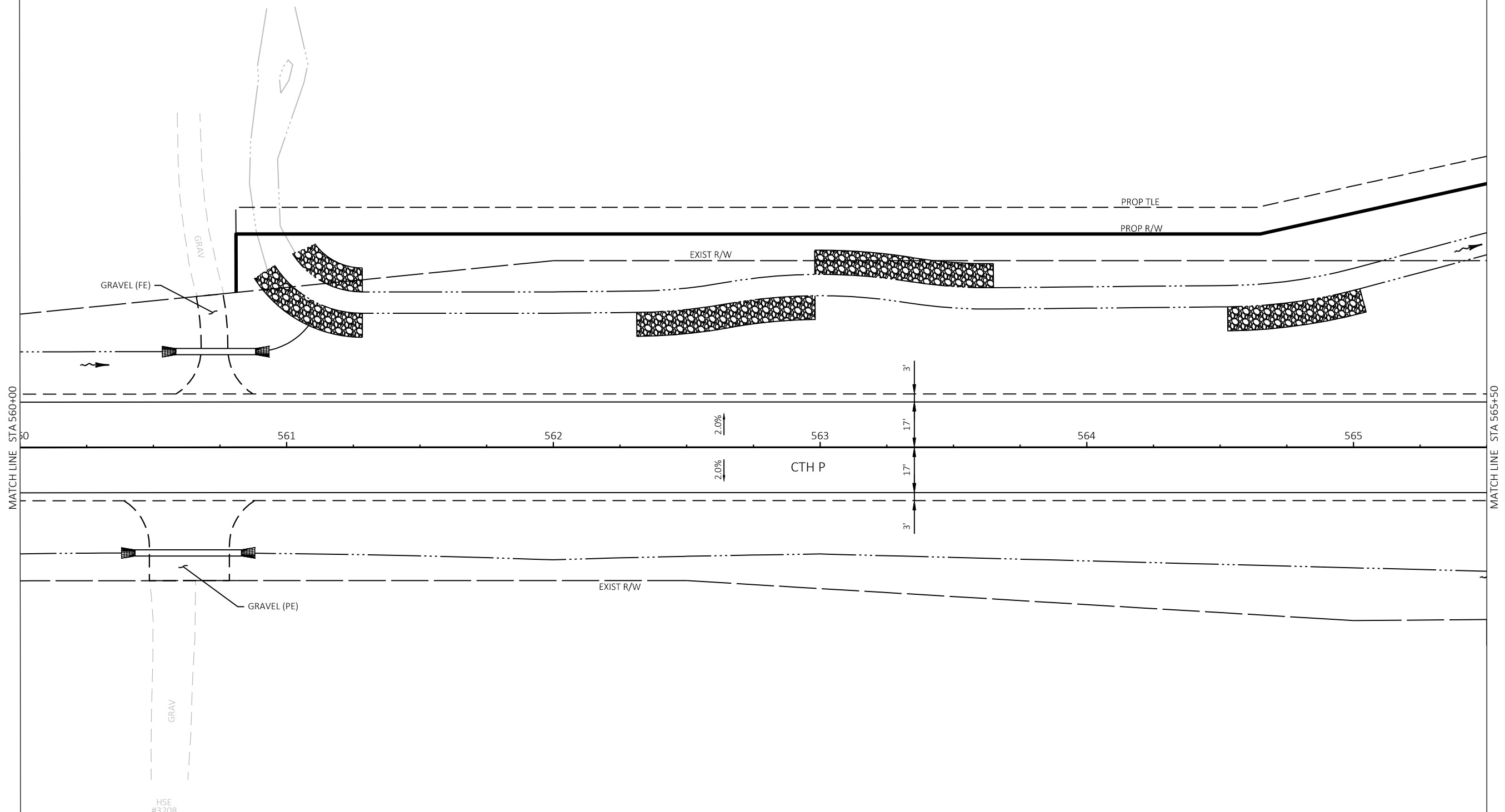
3'

LEGEND

- XXX.XX PROPOSED ELEVATIONS
- (XXX.XX) EXISTING ELEVATIONS
- PROPOSED INLET
- ⊙ PROPOSED STORM SEWER MANHOLE
- ◁ PROPOSED ENDWALL

NOTES

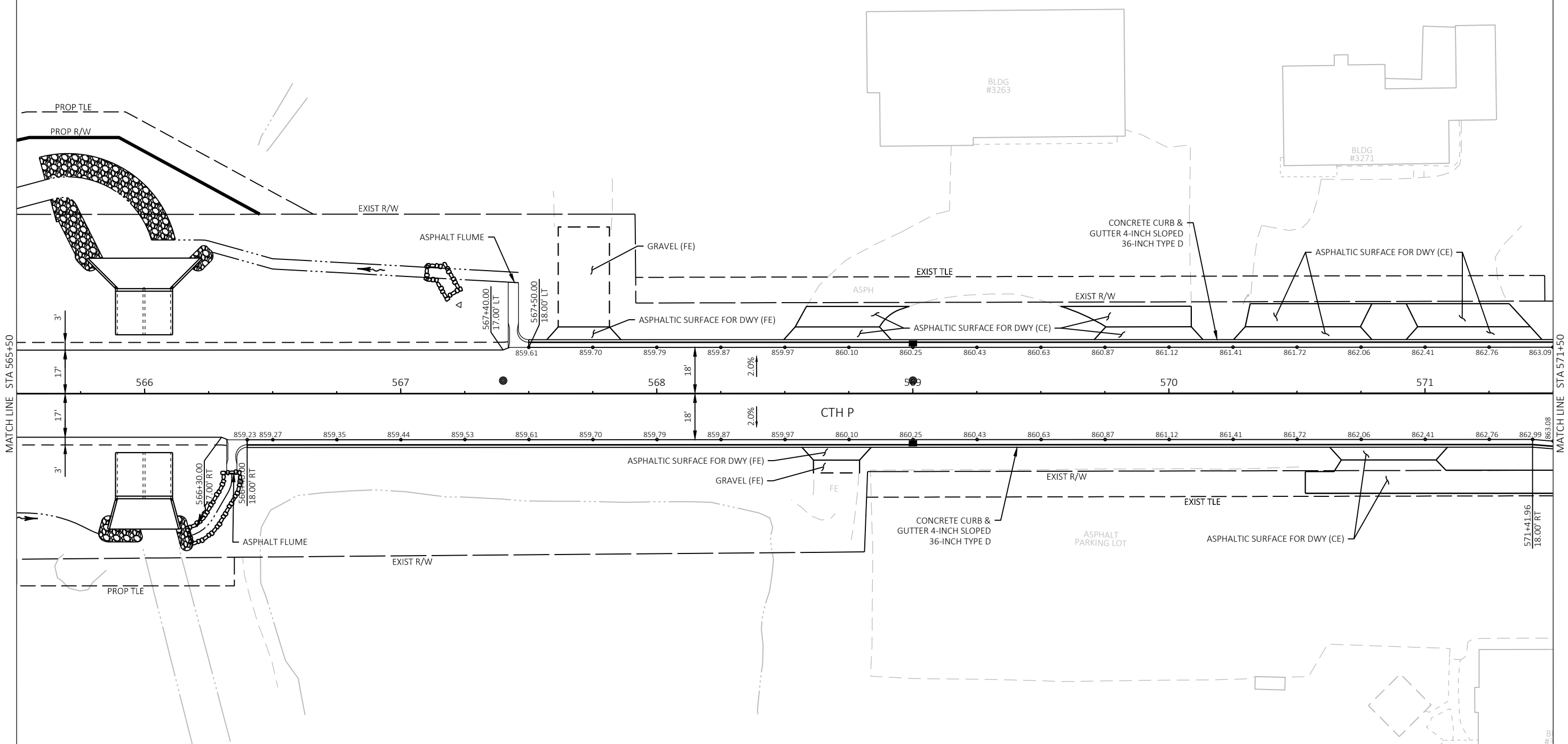
ALL CURB RADII ARE TO FLANGE OF CURB.
 ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.
 ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.
 PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.
 PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.



MATCH LINE STA 560+00

MATCH LINE STA 565+50

LEGEND		NOTES	
XXX.XX	PROPOSED ELEVATIONS	ALL CURB RADII ARE TO FLANGE OF CURB. ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT. ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT. PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB. PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.	
(XXX.XX)	EXISTING ELEVATIONS		
	PROPOSED INLET		
	PROPOSED STORM SEWER MANHOLE		
	PROPOSED ENDWALL		



MATCH LINE STA 565+50

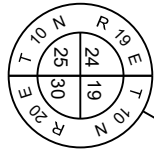
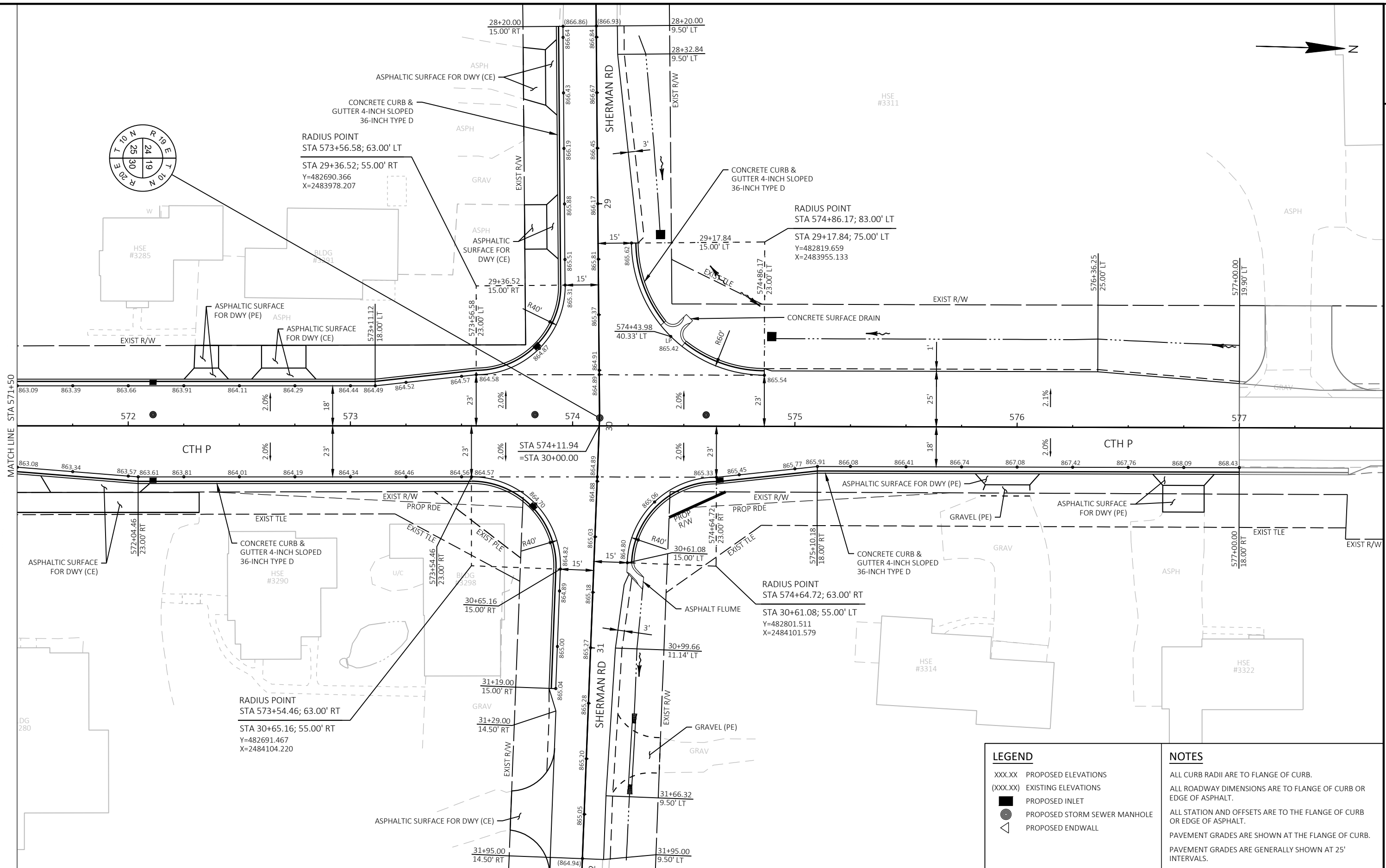
MATCH LINE STA 571+50

LEGEND

- XXX.XX PROPOSED ELEVATIONS
- (XXX.XX) EXISTING ELEVATIONS
- PROPOSED INLET
- ⊙ PROPOSED STORM SEWER MANHOLE
- ◁ PROPOSED ENDWALL

NOTES

ALL CURB RADII ARE TO FLANGE OF CURB.
 ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.
 ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.
 PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.
 PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.



RADIUS POINT
 STA 573+56.58; 63.00' LT
 STA 29+36.52; 55.00' RT
 Y=482690.366
 X=2483978.207

RADIUS POINT
 STA 574+86.17; 83.00' LT
 STA 29+17.84; 75.00' LT
 Y=482819.659
 X=2483955.133

RADIUS POINT
 STA 573+54.46; 63.00' RT
 STA 30+65.16; 55.00' RT
 Y=482691.467
 X=2484104.220

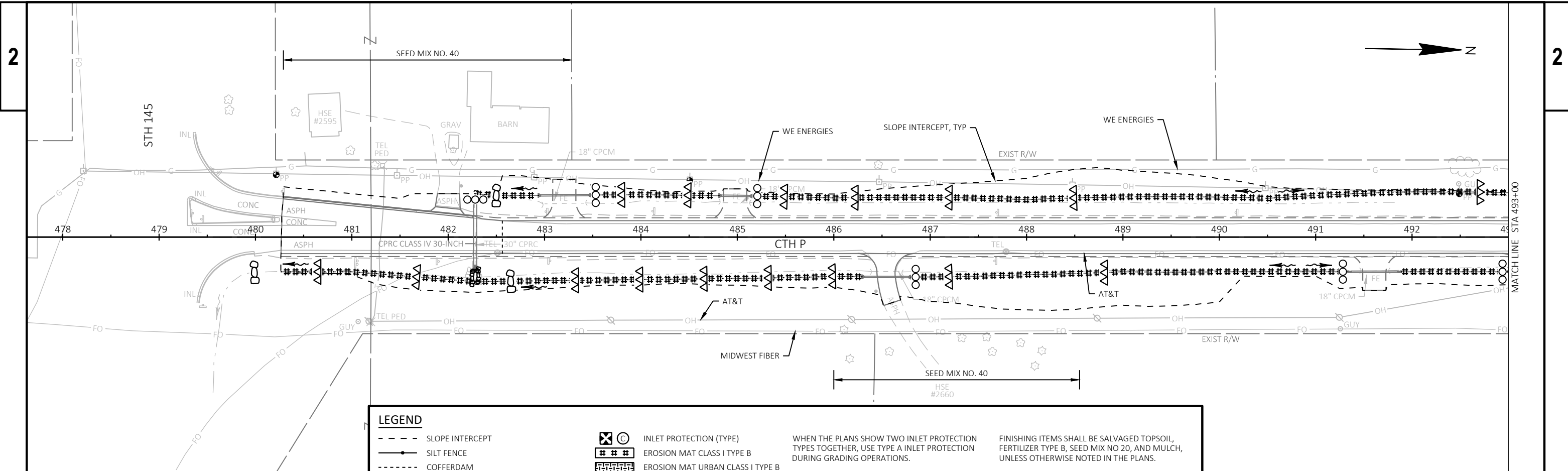
RADIUS POINT
 STA 574+64.72; 63.00' RT
 STA 30+61.08; 55.00' LT
 Y=482801.511
 X=2484101.579

LEGEND

- XXX.XX PROPOSED ELEVATIONS
- (XXX.XX) EXISTING ELEVATIONS
- PROPOSED INLET
- ⊙ PROPOSED STORM SEWER MANHOLE
- ◁ PROPOSED ENDWALL

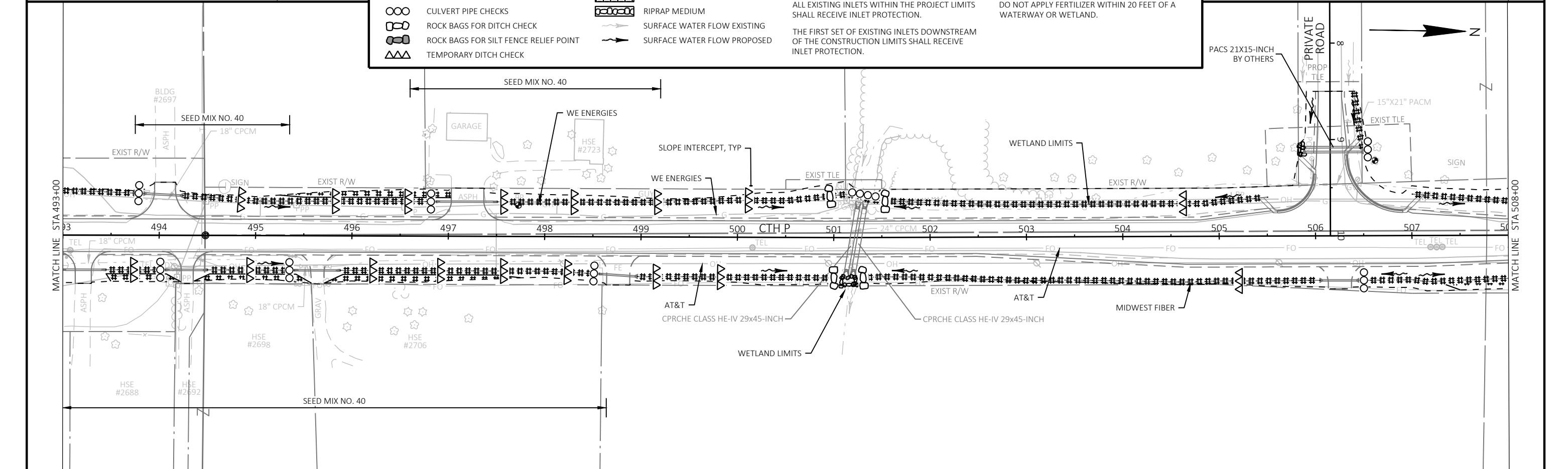
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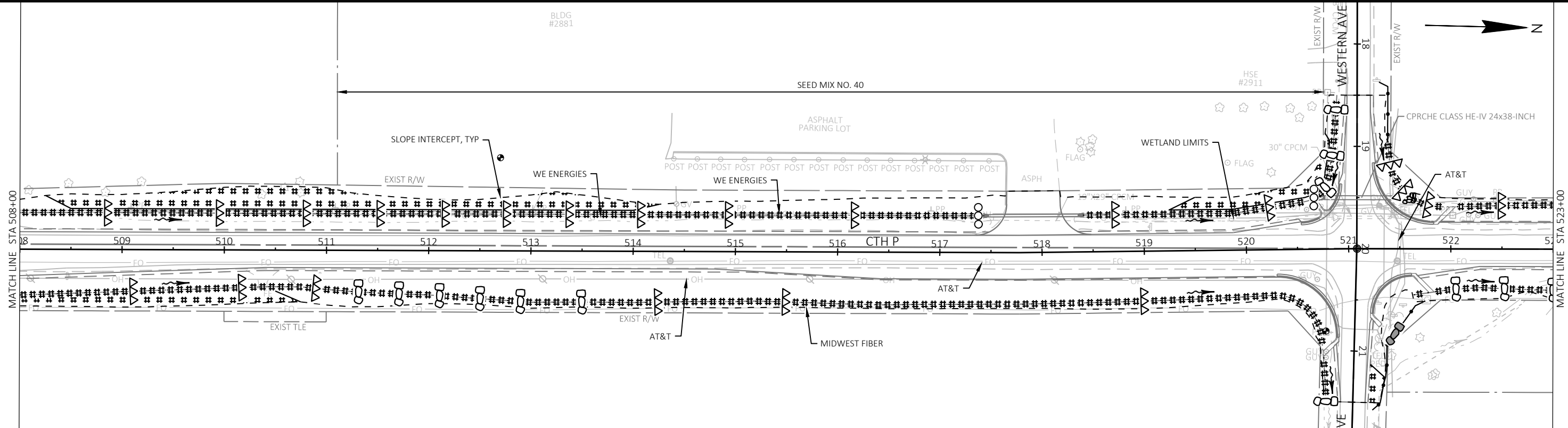
ALL CURB RADII ARE TO FLANGE OF CURB.
 ALL ROADWAY DIMENSIONS ARE TO FLANGE OF CURB OR EDGE OF ASPHALT.
 ALL STATION AND OFFSETS ARE TO THE FLANGE OF CURB OR EDGE OF ASPHALT.
 PAVEMENT GRADES ARE SHOWN AT THE FLANGE OF CURB.
 PAVEMENT GRADES ARE GENERALLY SHOWN AT 25' INTERVALS.



LEGEND

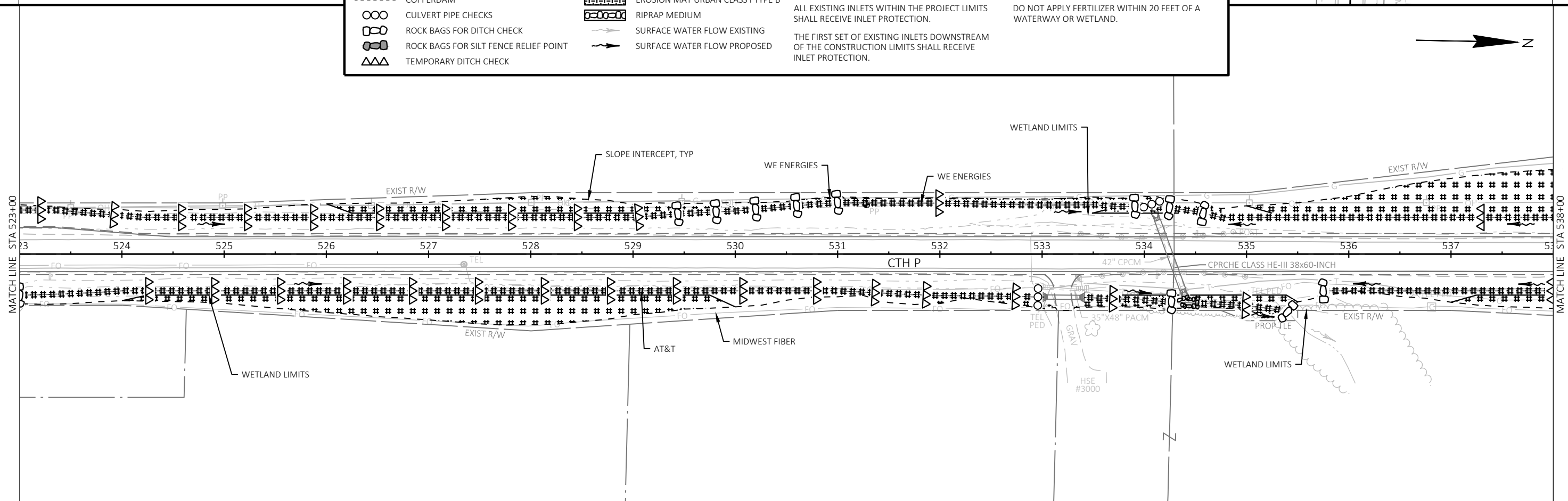
---	SLOPE INTERCEPT	⊗	INLET PROTECTION (TYPE)	WHEN THE PLANS SHOW TWO INLET PROTECTION TYPES TOGETHER, USE TYPE A INLET PROTECTION DURING GRADING OPERATIONS.	FINISHING ITEMS SHALL BE SALVAGED TOPSOIL, FERTILIZER TYPE B, SEED MIX NO 20, AND MULCH, UNLESS OTHERWISE NOTED IN THE PLANS.
— —	SILT FENCE	##	EROSION MAT CLASS I TYPE B		
- - -	COFFERDAM		EROSION MAT URBAN CLASS I TYPE B	ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE INLET PROTECTION.	DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.
⊗	CULVERT PIPE CHECKS	⊗	RIPRAP MEDIUM		
⊗	ROCK BAGS FOR DITCH CHECK	→	SURFACE WATER FLOW EXISTING	THE FIRST SET OF EXISTING INLETS DOWNSTREAM OF THE CONSTRUCTION LIMITS SHALL RECEIVE INLET PROTECTION.	
⊗	ROCK BAGS FOR SILT FENCE RELIEF POINT	→	SURFACE WATER FLOW PROPOSED		
△	TEMPORARY DITCH CHECK				

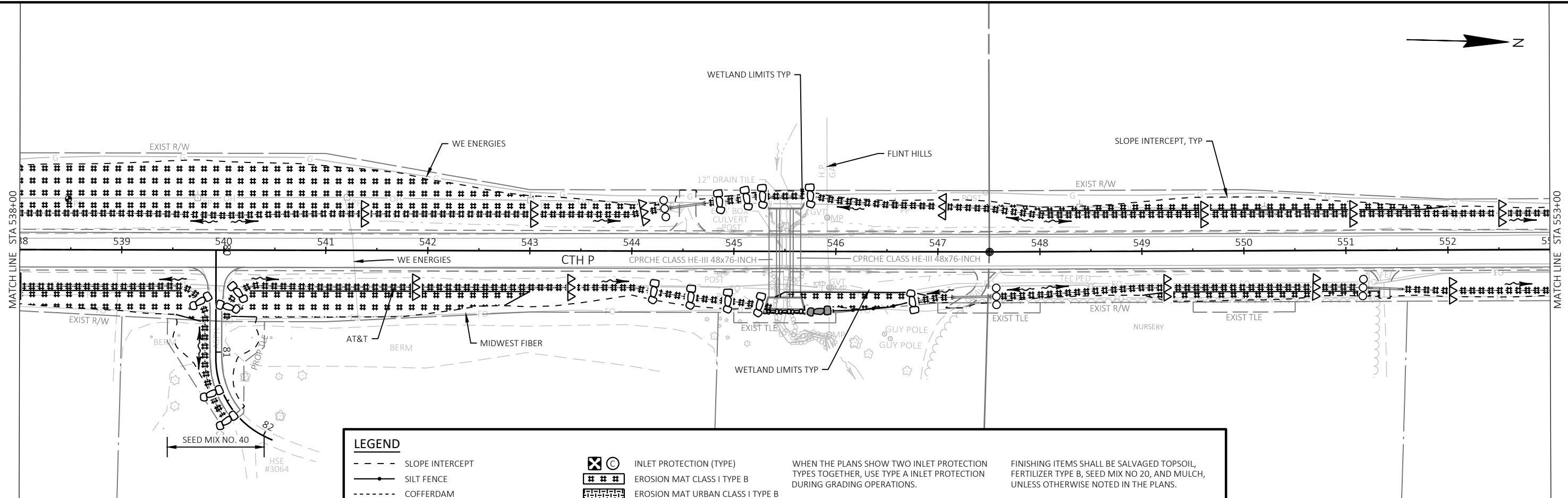




LEGEND

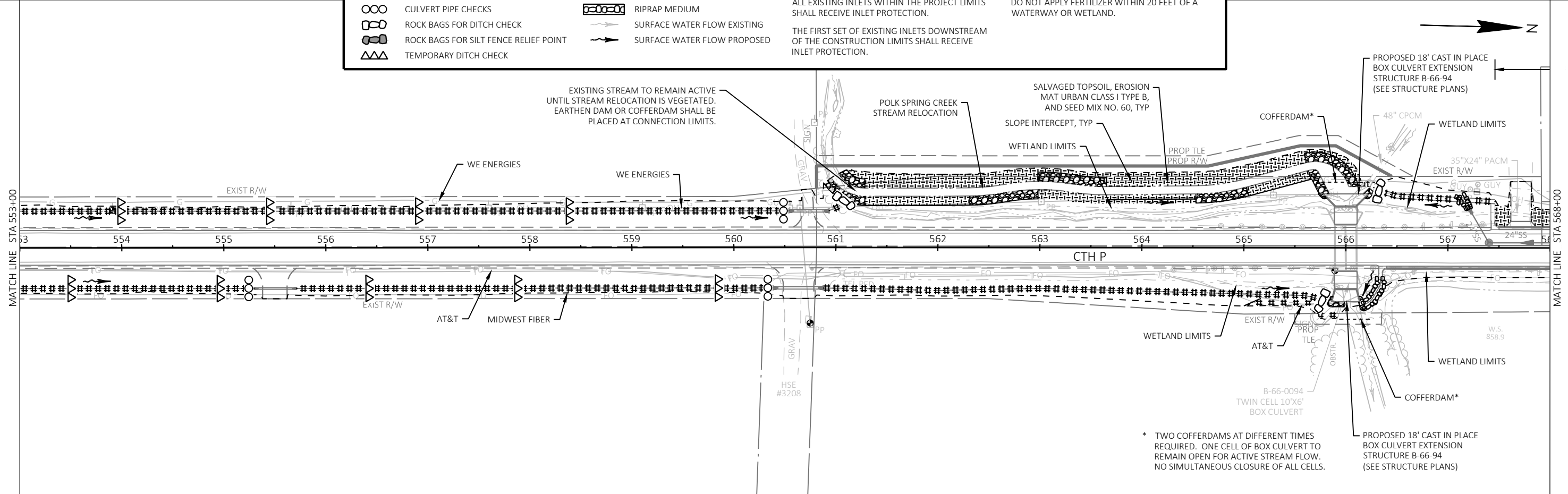
- - -	SLOPE INTERCEPT	⊗	INLET PROTECTION (TYPE)	WHEN THE PLANS SHOW TWO INLET PROTECTION TYPES TOGETHER, USE TYPE A INLET PROTECTION DURING GRADING OPERATIONS.	FINISHING ITEMS SHALL BE SALVAGED TOPSOIL, FERTILIZER TYPE B, SEED MIX NO 20, AND MULCH, UNLESS OTHERWISE NOTED IN THE PLANS.
—●—	SILT FENCE	##	EROSION MAT CLASS I TYPE B		
- - - -	COFFERDAM		EROSION MAT URBAN CLASS I TYPE B	ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE INLET PROTECTION.	DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.
⊗	CULVERT PIPE CHECKS	⊗	RIPRAP MEDIUM		
⊗	ROCK BAGS FOR DITCH CHECK	→	SURFACE WATER FLOW EXISTING	THE FIRST SET OF EXISTING INLETS DOWNSTREAM OF THE CONSTRUCTION LIMITS SHALL RECEIVE INLET PROTECTION.	
⊗	ROCK BAGS FOR SILT FENCE RELIEF POINT	→	SURFACE WATER FLOW PROPOSED		
△	TEMPORARY DITCH CHECK				

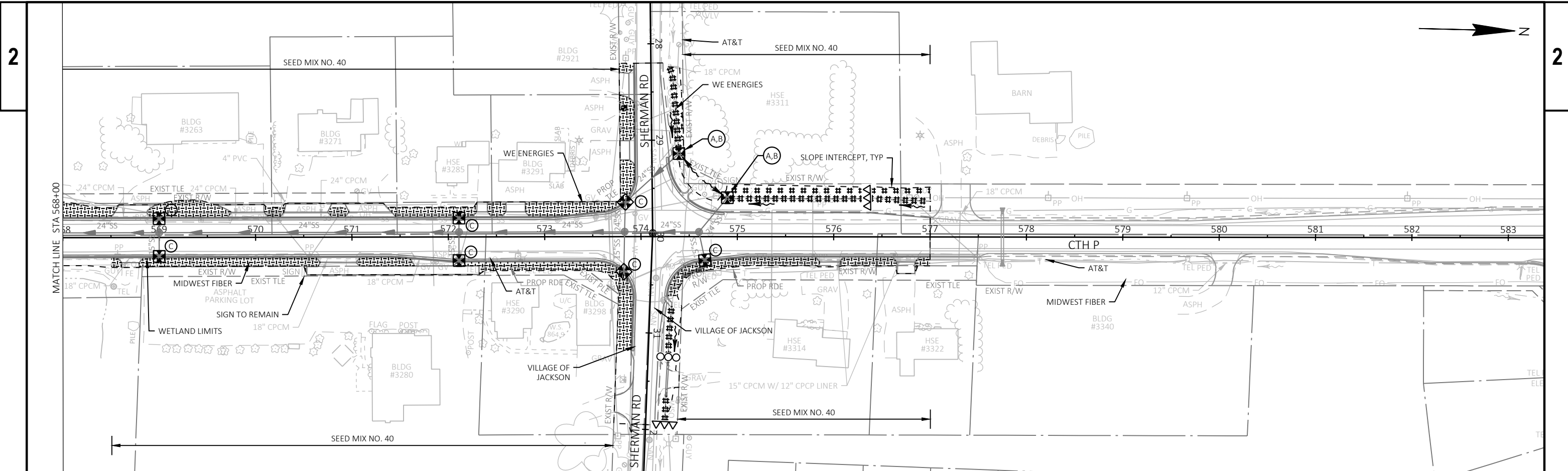




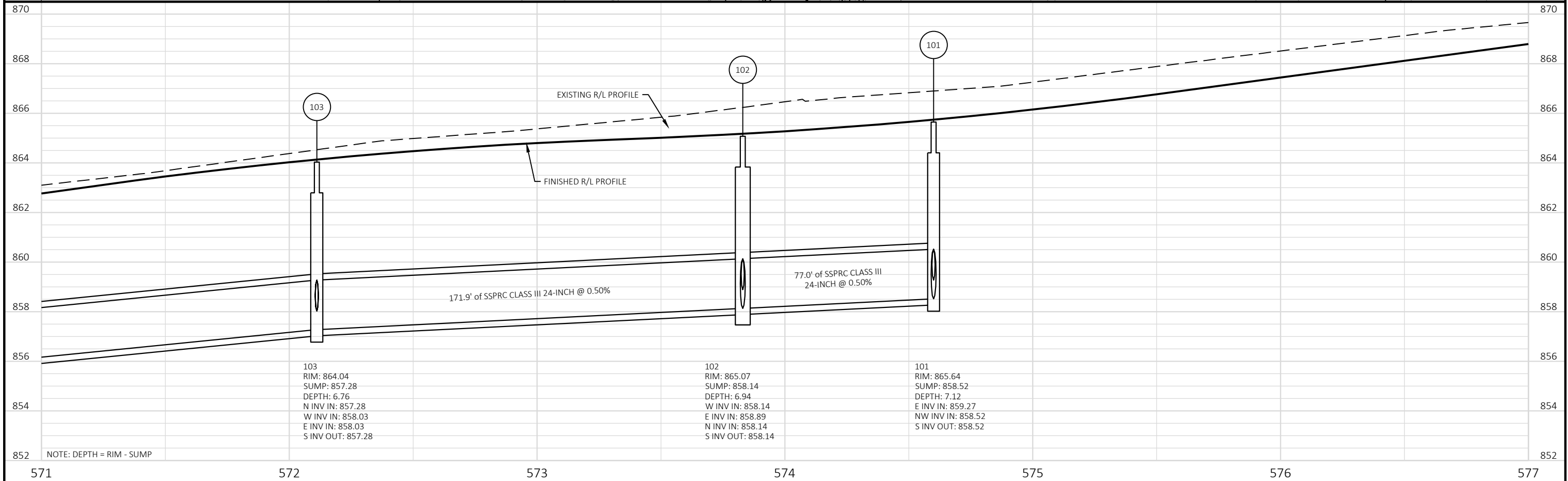
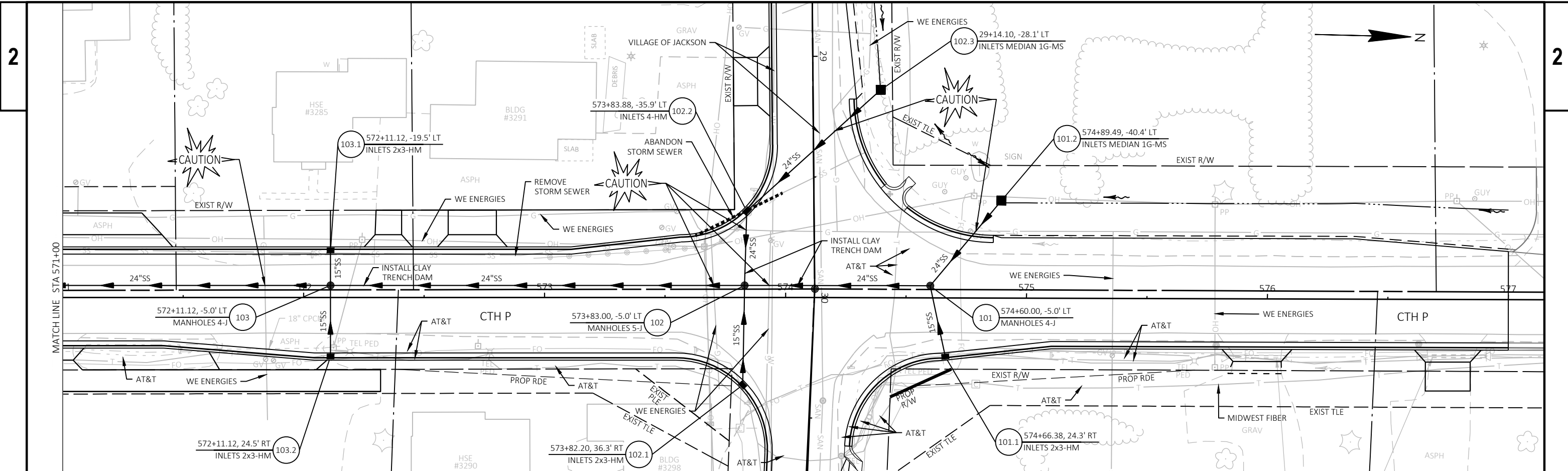
LEGEND

---	SLOPE INTERCEPT	⊗	INLET PROTECTION (TYPE)	WHEN THE PLANS SHOW TWO INLET PROTECTION TYPES TOGETHER, USE TYPE A INLET PROTECTION DURING GRADING OPERATIONS.	FINISHING ITEMS SHALL BE SALVAGED TOPSOIL, FERTILIZER TYPE B, SEED MIX NO 20, AND MULCH, UNLESS OTHERWISE NOTED IN THE PLANS.
—●—	SILT FENCE	⊗	EROSION MAT CLASS I TYPE B		
- - - -	COFFERDAM	⊗	EROSION MAT URBAN CLASS I TYPE B	ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE INLET PROTECTION.	DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.
⊗	CULVERT PIPE CHECKS	⊗	RIPRAP MEDIUM		
⊗	ROCK BAGS FOR DITCH CHECK	→	SURFACE WATER FLOW EXISTING	THE FIRST SET OF EXISTING INLETS DOWNSTREAM OF THE CONSTRUCTION LIMITS SHALL RECEIVE INLET PROTECTION.	
⊗	ROCK BAGS FOR SILT FENCE RELIEF POINT	→	SURFACE WATER FLOW PROPOSED		
⊗	TEMPORARY DITCH CHECK				

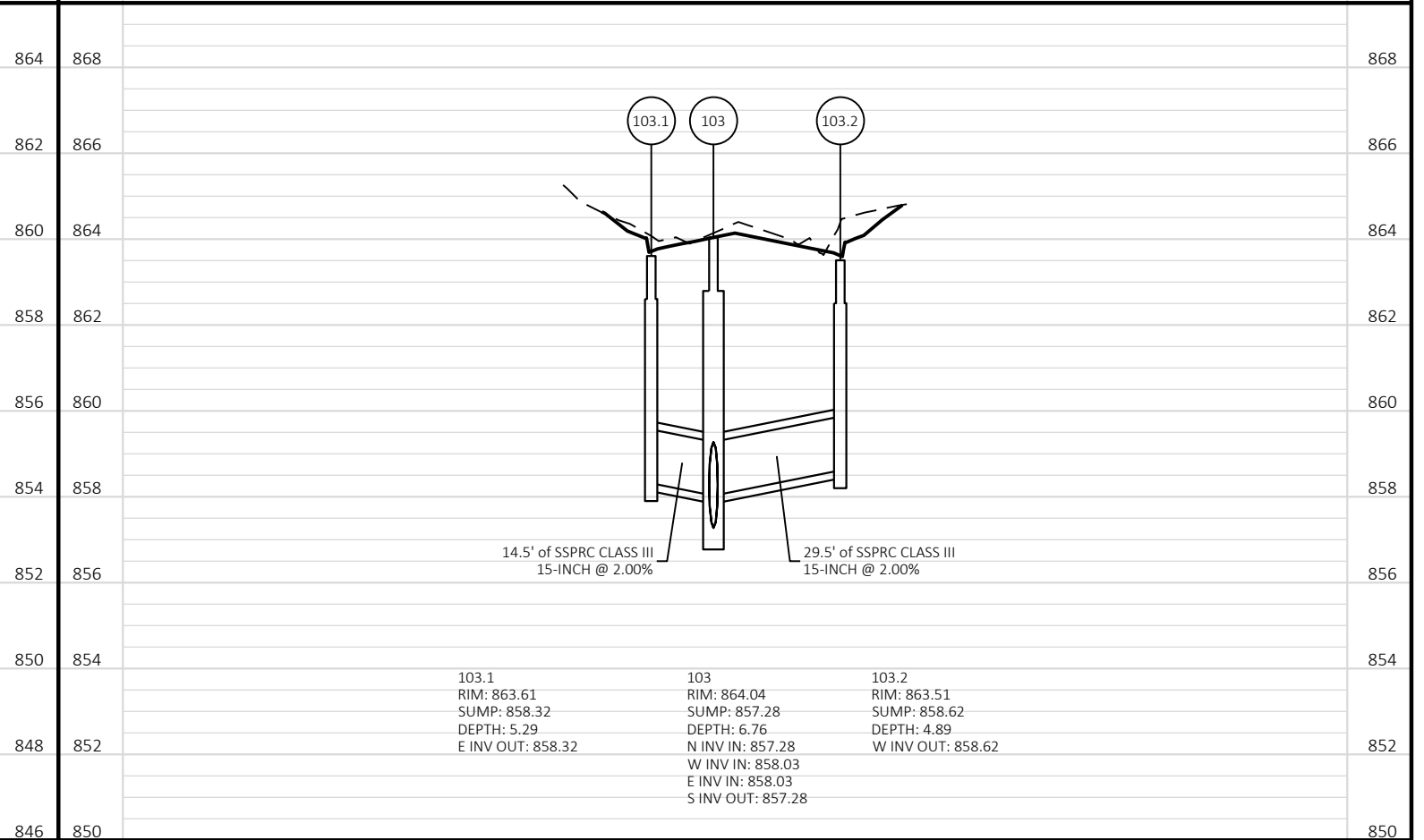
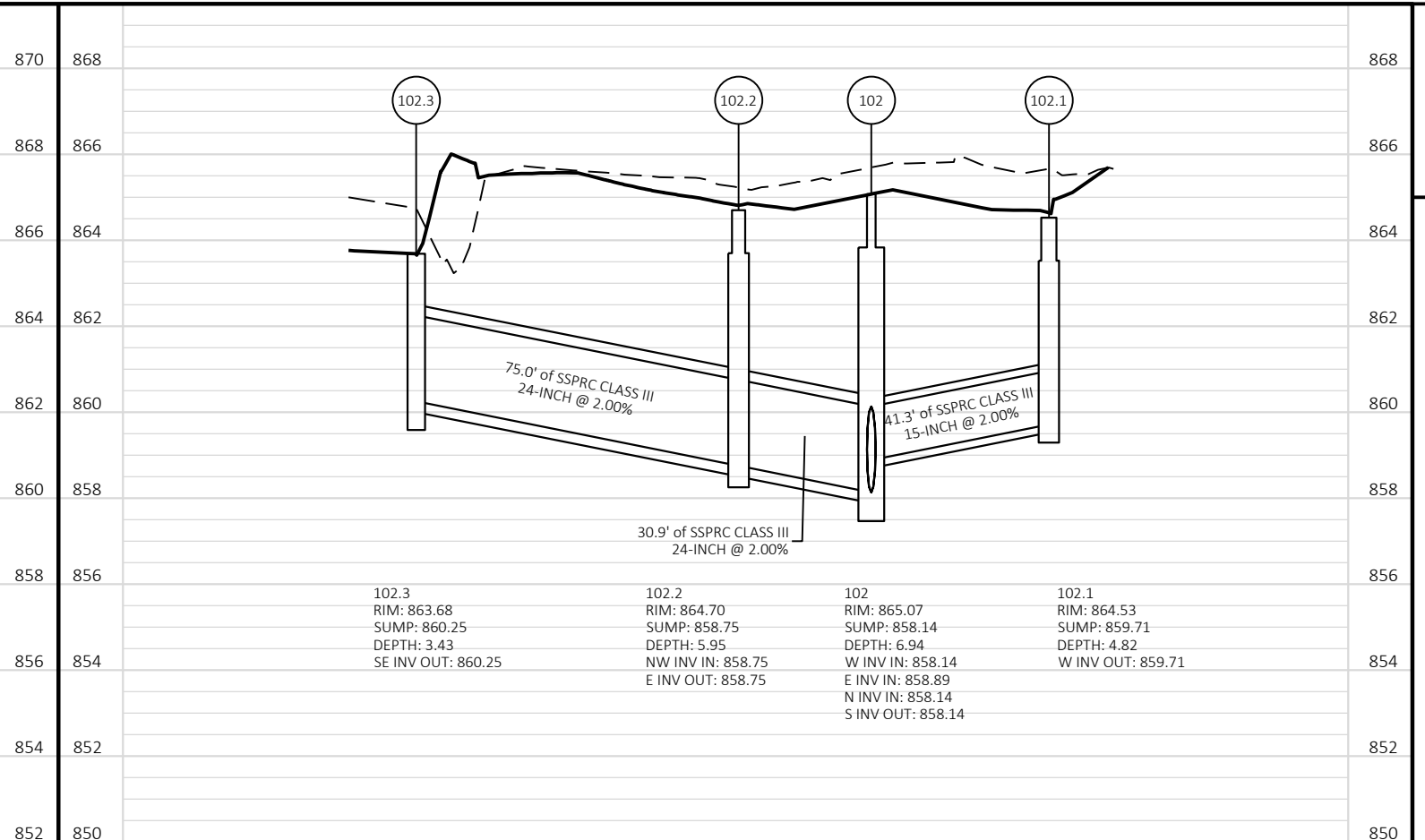
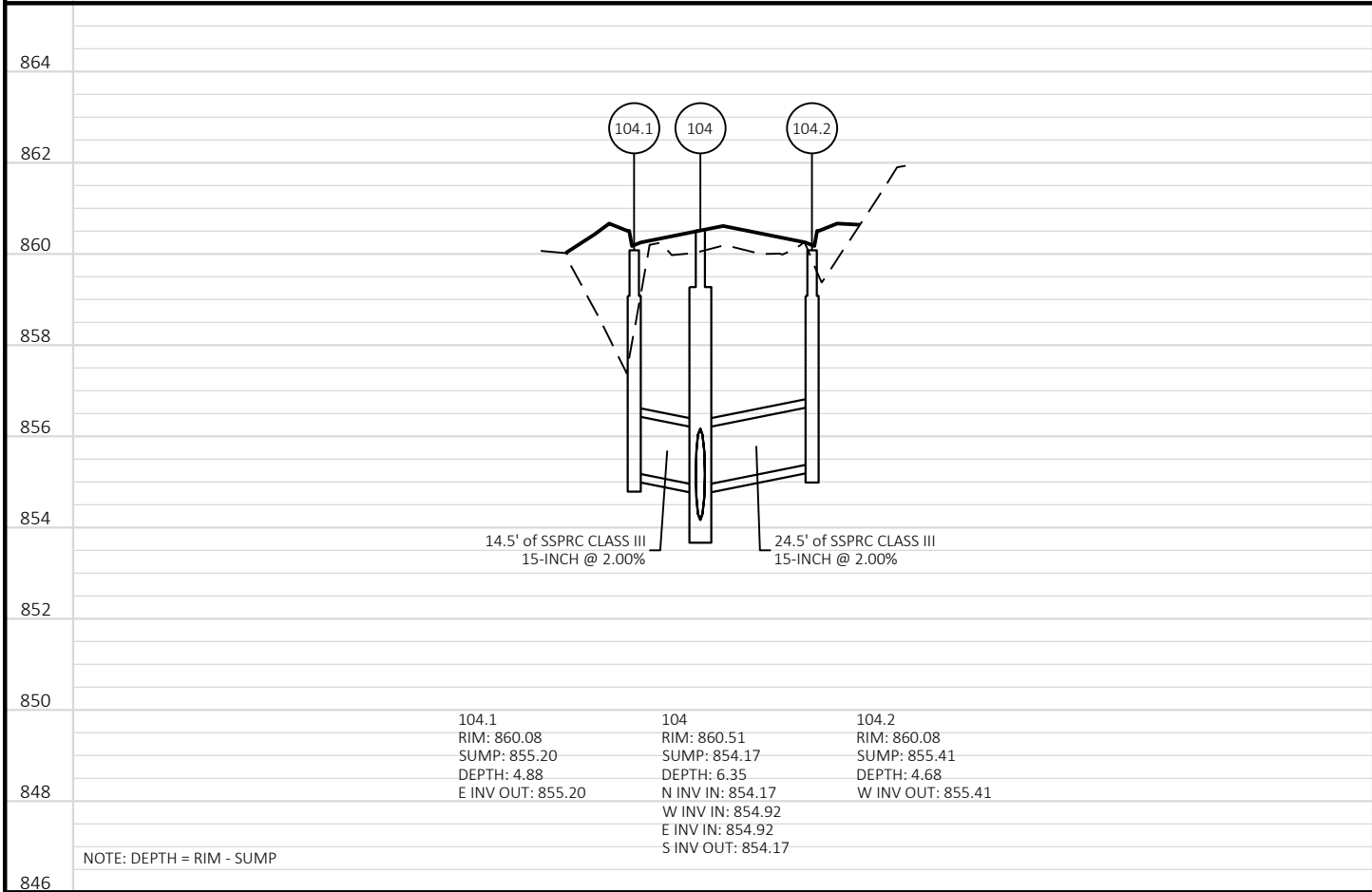
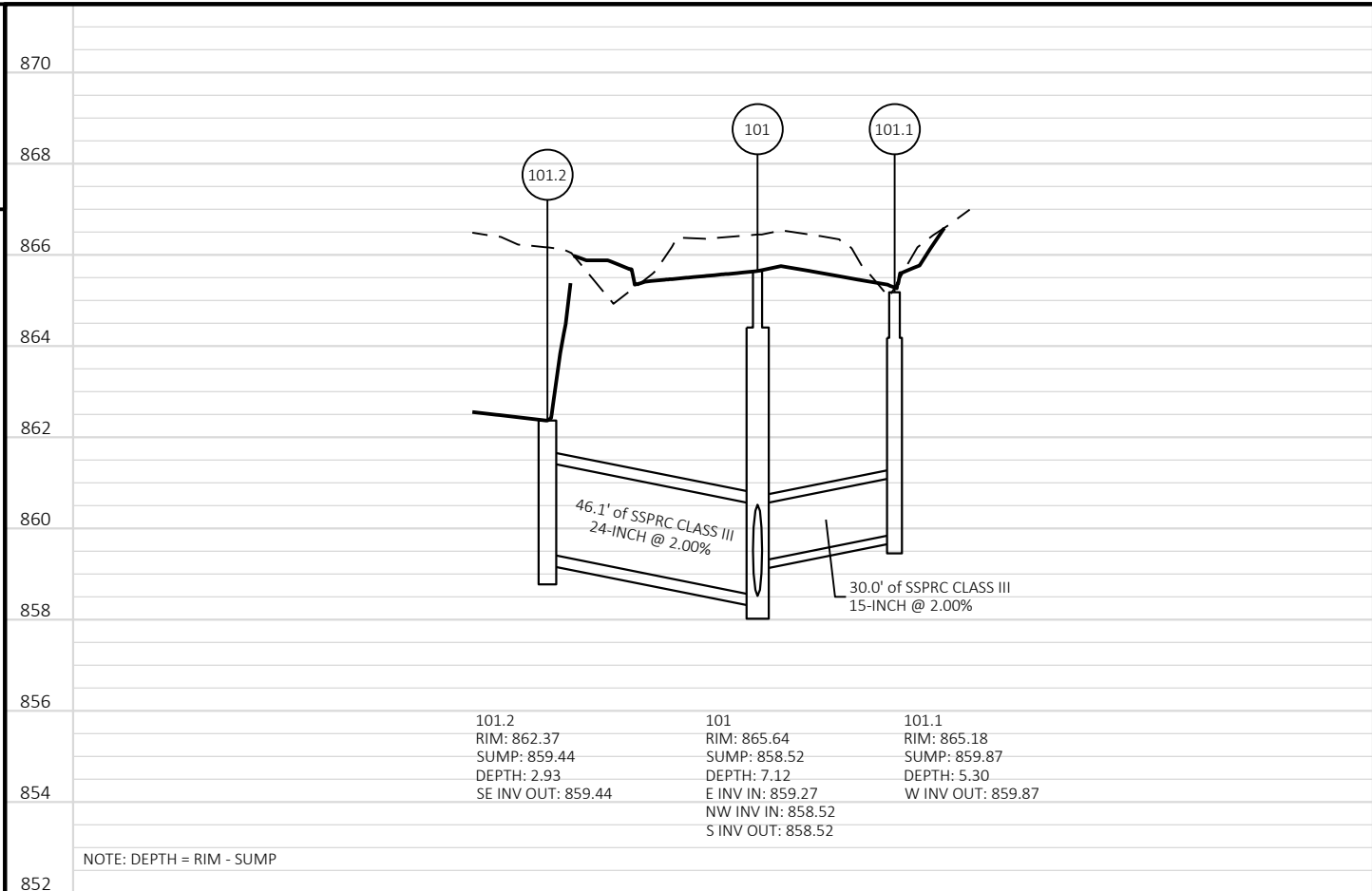




LEGEND			
---	SLOPE INTERCEPT	⊗	INLET PROTECTION (TYPE)
— —	SILT FENCE	###	EROSION MAT CLASS I TYPE B
- - - -	COFFERDAM	▨▨▨	EROSION MAT URBAN CLASS I TYPE B
⊗	CULVERT PIPE CHECKS	▨▨▨▨▨	RIPRAP MEDIUM
⊗	ROCK BAGS FOR DITCH CHECK	~	SURFACE WATER FLOW EXISTING
⊗	ROCK BAGS FOR SILT FENCE RELIEF POINT	~	SURFACE WATER FLOW PROPOSED
⊗	TEMPORARY DITCH CHECK		
			WHEN THE PLANS SHOW TWO INLET PROTECTION TYPES TOGETHER, USE TYPE A INLET PROTECTION DURING GRADING OPERATIONS.
			ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE INLET PROTECTION.
			THE FIRST SET OF EXISTING INLETS DOWNSTREAM OF THE CONSTRUCTION LIMITS SHALL RECEIVE INLET PROTECTION.
			FINISHING ITEMS SHALL BE SALVAGED TOPSOIL, FERTILIZER TYPE B, SEED MIX NO 20, AND MULCH, UNLESS OTHERWISE NOTED IN THE PLANS.
			DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.



PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	STORM SEWER	SHEET E
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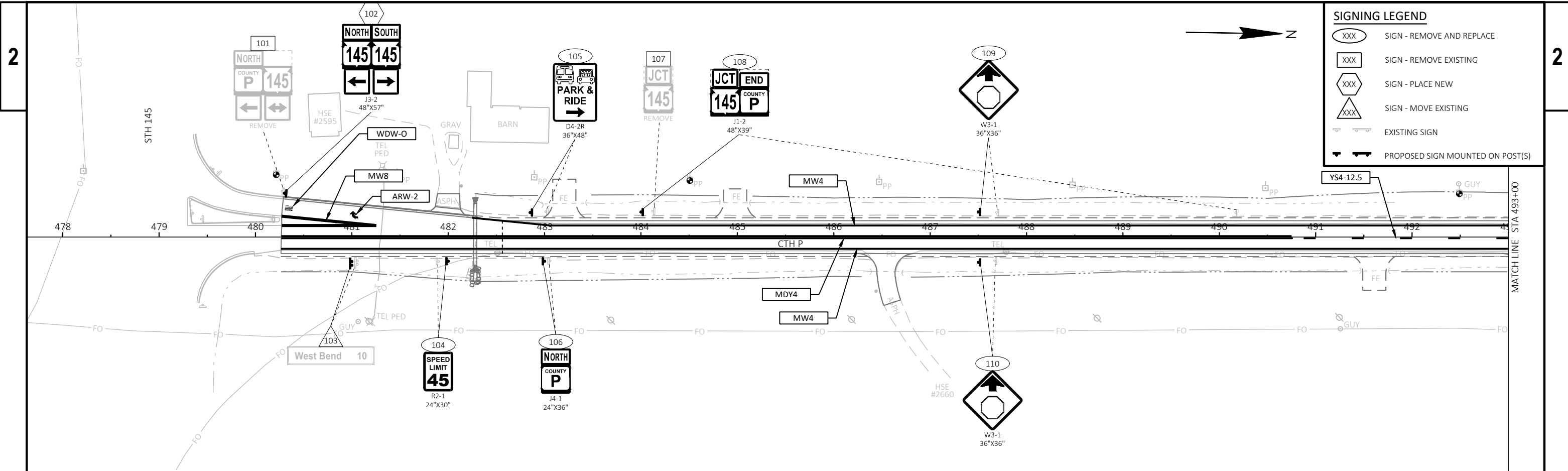


STORM SEWER STRUCTURE DATA

STRUCTURE NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION	TYPE	RIM/GRATE ELEVATION	STRUCTURE INV ELEV	TOTAL DEPTH	SUMP DEPTH	CONNECTING PIPES	PIPE DIRECTION	PIPE SIZE & TYPE	PIPE INVERT	PIPE ROUTE	PIPE LENGTH	PIPE SLOPE	REMARKS
101	CTH P	574+60.00	-5.00	LT	MANHOLES 4-J	865.64	858.52	7.12	0.00	101.1-101 IN 101.3-101.2 IN 101-102 OUT	E NW S	SSPRC CLASS III 15-INCH SSPRC CLASS III 24-INCH SSPRC CLASS III 24-INCH	859.27 858.52 858.52	FROM STR: 101.1 FROM STR: 101.2 TO STR: 102	-- -- 77.02'	-- -- 0.50%	
101.1	CTH P	574+66.38	24.33	RT	INLETS 2X3-HM	865.18	859.87	5.30	0.00	101.1-101 OUT	W	SSPRC CLASS III 15-INCH	859.87	TO STR: 101	30.01'	2.00%	
101.2	CTH P	574+89.49	-40.43	LT	INLETS MEDIAN 1G-MS	862.37	859.44	2.93	0.00	101.3-101.2 OUT	SE	SSPRC CLASS III 24-INCH	859.44	TO STR: 101	46.10'	2.00%	
102	CTH P	573+83.00	-5.00	LT	MANHOLES 5-J	865.07	858.14	6.94	0.00	102.2-102 IN 102.1-102 IN 101-102 IN 102-103 OUT	W E N S	SSPRC CLASS III 24-INCH SSPRC CLASS III 15-INCH SSPRC CLASS III 24-INCH SSPRC CLASS III 24-INCH	858.14 858.89 858.14 858.14	FROM STR: 102.2 FROM STR: 102.1 FROM STR: 101 TO STR: 103	-- -- -- 171.88'	-- -- -- 0.50%	
102.1	CTH P	573+82.20	36.31	RT	INLETS 2X3-HM	864.53	859.71	4.82	0.00	102.1-102 OUT	W	SSPRC CLASS III 15-INCH	859.71	TO STR: 102	41.32'	2.00%	
102.2	CTH P	573+83.88	-35.85	LT	INLETS 4-HM	864.70	858.75	5.95	0.00	101.4-101.2 IN 102.2-102 OUT	NW E	SSPRC CLASS III 24-INCH SSPRC CLASS III 24-INCH	858.75 858.75	FROM STR: 102.3 TO STR: 102	-- 30.86'	-- 2.00%	
102.3	SHERMAN	29+14.10	-28.12	LT	INLETS MEDIAN 1G-MS	863.68	860.25	3.43	0.00	101.4-101.2 OUT	SE	SSPRC CLASS III 24-INCH	860.25	TO STR: 102.2	74.97'	2.00%	
103	CTH P	572+11.12	-5.00	LT	MANHOLES 4-J	864.04	857.28	6.76	0.00	102-103 IN 103.1-103 IN 103.2-103 IN 103-104 OUT	N W E S	SSPRC CLASS III 24-INCH SSPRC CLASS III 15-INCH SSPRC CLASS III 15-INCH SSPRC CLASS III 24-INCH	857.28 858.03 858.03 857.28	FROM STR: 102 FROM STR: 103.1 FROM STR: 103.2 TO STR: 104	-- -- -- 311.12'	-- -- -- 1.00%	
103.1	CTH P	572+11.12	-19.50	LT	INLETS 2X3-HM	863.61	858.32	5.29	0.00	103.1-103 OUT	E	SSPRC CLASS III 15-INCH	858.32	TO STR: 103	14.50'	2.00%	
103.2	CTH P	572+11.12	24.50	RT	INLETS 2X3-HM	863.51	858.62	4.89	0.00	103.2-103 OUT	W	SSPRC CLASS III 15-INCH	858.62	TO STR: 103	29.50'	2.00%	
104	CTH P	569+00.00	-5.00	LT	MANHOLES 4-J	860.51	854.17	6.35	0.00	103-104 IN 104.1-104 IN 104.2-104 IN 104-105 OUT	N W E S	SSPRC CLASS III 24-INCH SSPRC CLASS III 15-INCH SSPRC CLASS III 15-INCH SSPRC CLASS III 24-INCH	854.17 854.92 854.92 854.17	FROM STR: 103 FROM STR: 104.1 FROM STR: 104.2 TO STR: 105	-- -- -- 160.00'	-- -- -- 0.50%	
104.1	CTH P	569+00.00	-19.50	LT	INLETS 2X3-HM	860.08	855.20	4.88	0.00	104.1-104 OUT	E	SSPRC CLASS III 15-INCH	855.20	TO STR: 104	14.50'	2.00%	
104.2	CTH P	569+00.00	19.50	RT	INLETS 2X3-HM	860.08	855.41	4.68	0.00	104.2-104 OUT	W	SSPRC CLASS III 15-INCH	855.41	TO STR: 104	24.50'	2.00%	
105	CTH P	567+40.00	-5.00	LT	MANHOLES 4-J	859.84	853.37	6.47	0.00	104-105 IN 105-106 OUT	N SW	SSPRC CLASS III 24-INCH SSPRC CLASS III 24-INCH	853.37 853.37	FROM STR: 104 TO STR: 106	-- 33.00'	-- 0.50%	
106	CTH P	567+23.50	-33.58	LT	APRON ENDWALLS FOR CPRC 24-INCH					105-106 IN	NE	SSPRC CLASS III 24-INCH	853.20	FROM STR: 105	--	--	PIPE GRATE REQUIRED

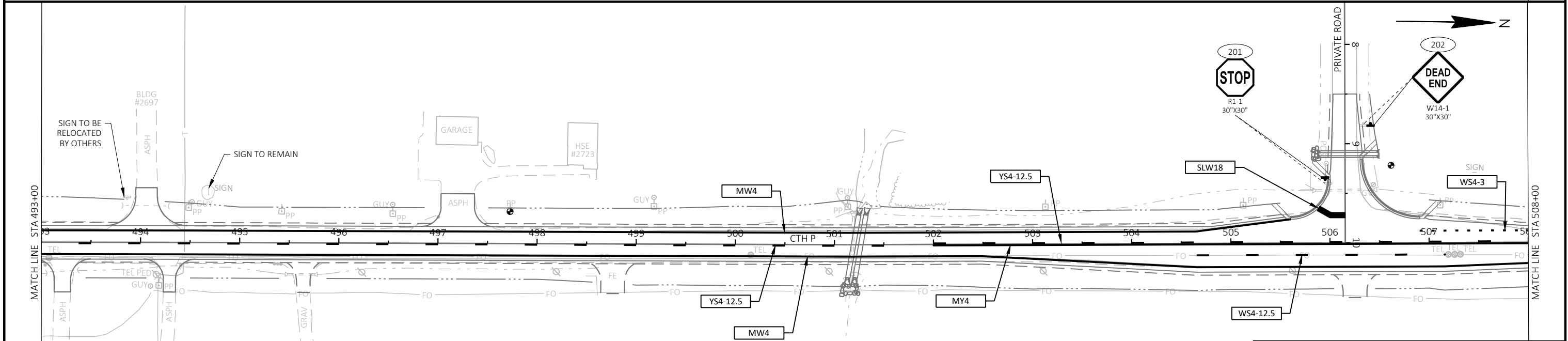
NOTES:

- TOTAL DEPTH = RIM/GRATE ELEVATION - STRUCTURE INVERT ELEVATION.
- MANHOLES SHALL BE CONSTRUCTED IN A WAY THAT WILL ALLOW THE CASTING TO BE ALIGNED IN THE MIDDLE OF A LANE OR ON A JOINT LINE.
- CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATION WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO MANUFACTURING INLETS AND MANHOLES.
- STATION/ OFFSET OF STORM SEWER STRUCTURES ARE TO THE CENTER OF STRUCTURE EXCEPT FOR CONCRETE APRON ENDWALLS WHICH ARE TO PIPE END.



SIGNING LEGEND

- XXX SIGN - REMOVE AND REPLACE
- XXX SIGN - REMOVE EXISTING
- XXX SIGN - PLACE NEW
- XXX SIGN - MOVE EXISTING
- EXISTING SIGN
- PROPOSED SIGN MOUNTED ON POST(S)









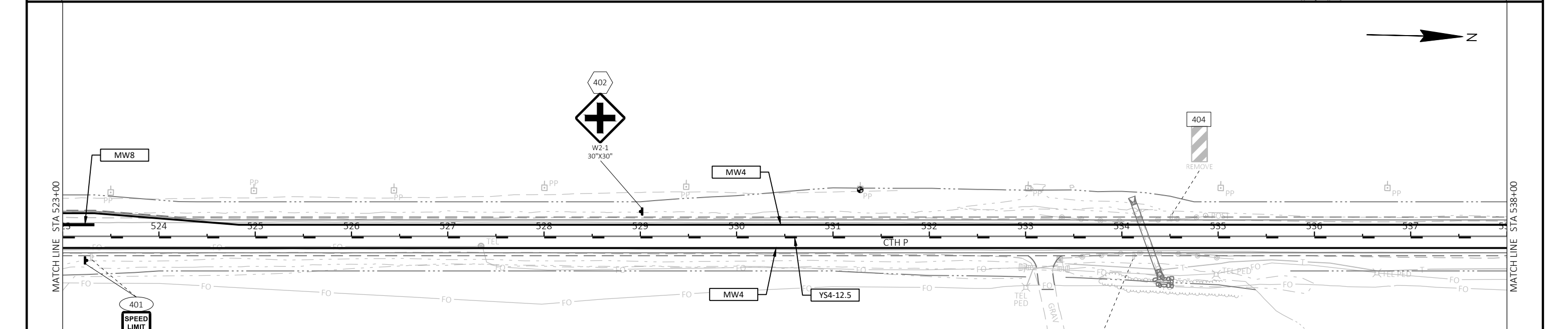
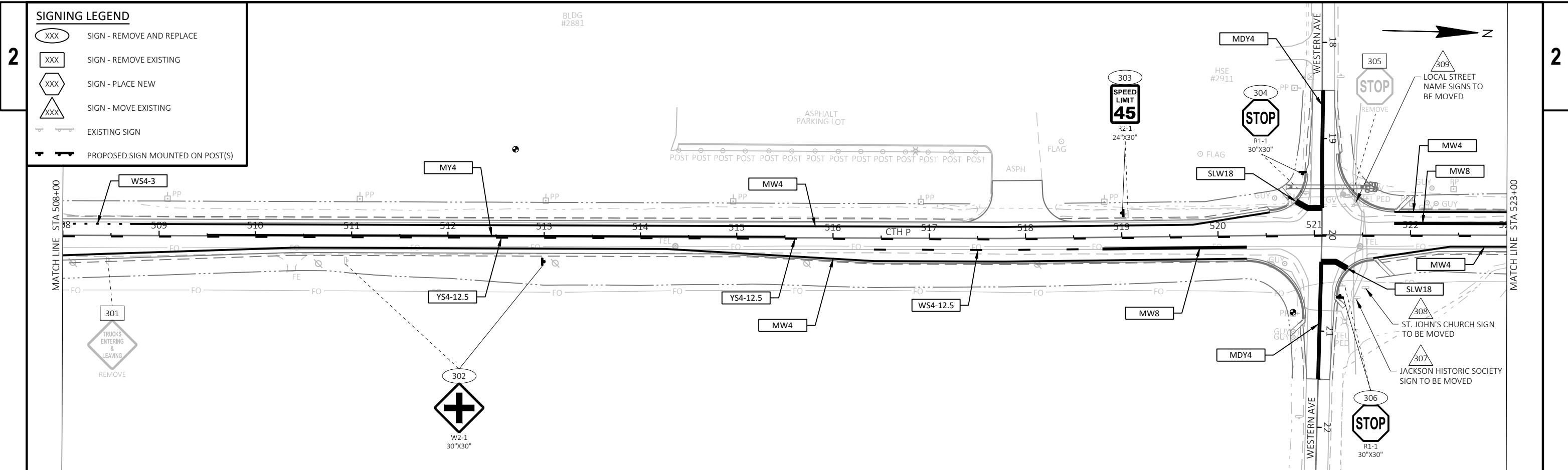
PAVEMENT MARKING LEGEND

ARW-2	MARKING ARROW EPOXY (WHITE) (TYPE 2)
MDY4	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
MW4	MARKING LINE EPOXY 4-INCH (WHITE)
MW8	MARKING LINE EPOXY 8-INCH (WHITE)
MY4	MARKING LINE EPOXY 4-INCH (YELLOW)
SLW18	MARKING STOP LINE EPOXY 18-INCH (WHITE)
WDW-O	MARKING WORD EPOXY (WHITE) ("ONLY")
WS4-12.5	MARKING LINE EPOXY 4-INCH (WHITE SKIP) (12.5' SEG, 37.5' GAP)
WS4-3	MARKING LINE EPOXY 4-INCH (WHITE SKIP) (3' SEG, 9' GAP)
YS4-12.5	MARKING LINE EPOXY 4-INCH (YELLOW SKIP) (12.5' SEG, 37.5' GAP)

PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON SIGNING & PAVEMENT MARKING PLAN SHEET E

SIGNING LEGEND







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-  EXISTING SIGN
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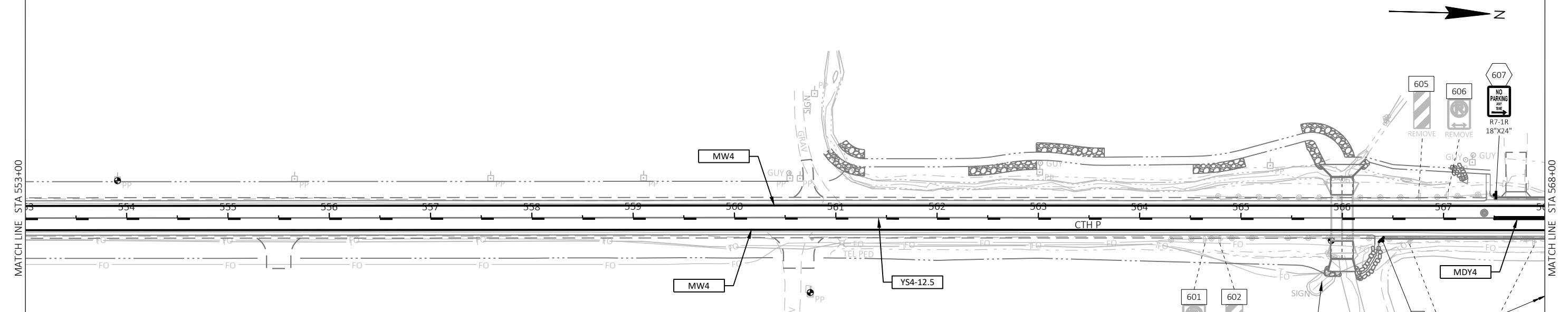
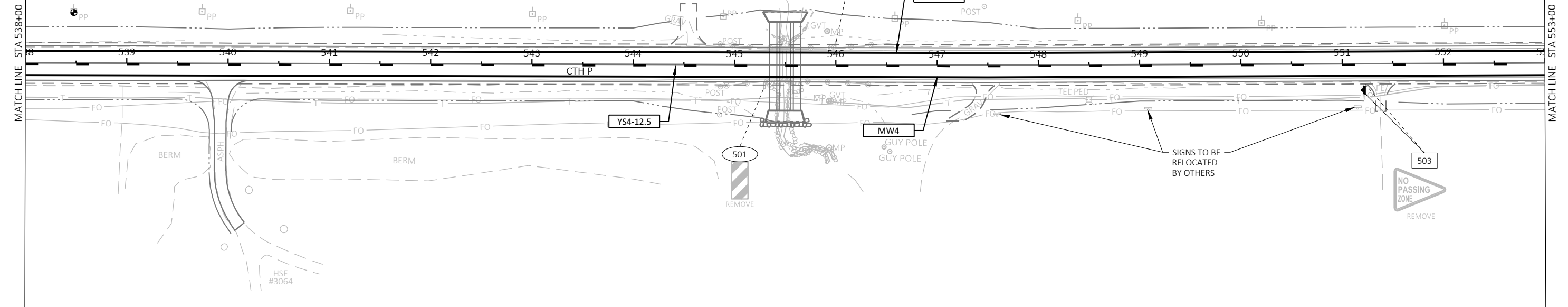
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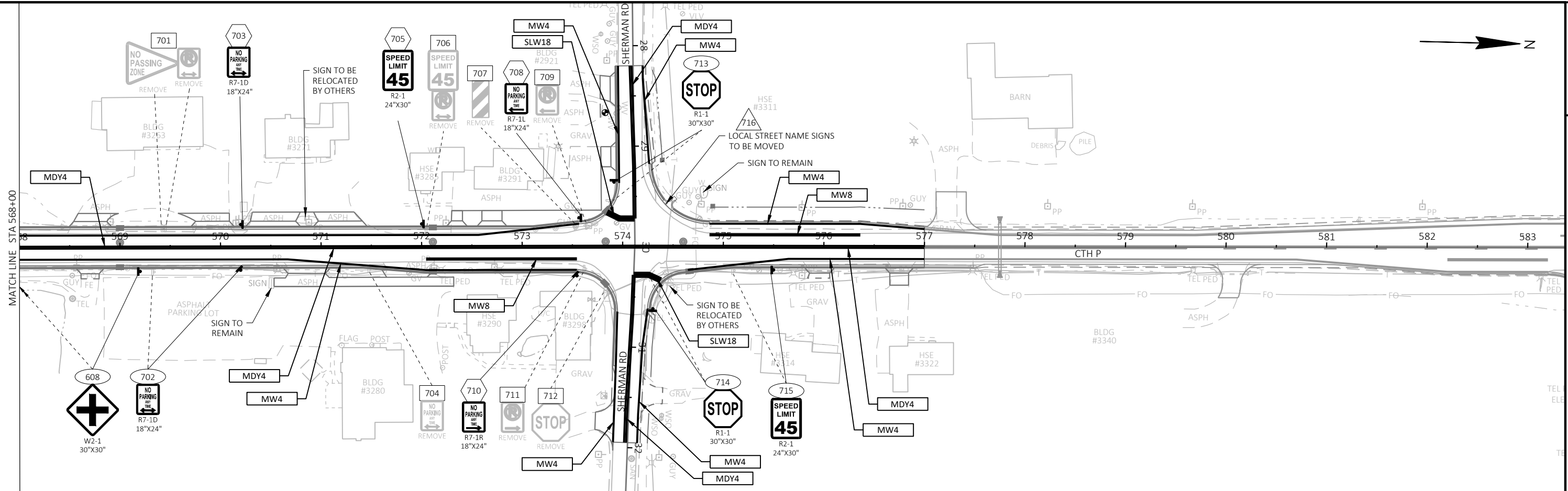
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2



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SIGNING LEGEND





(XXX)	SIGN - REMOVE AND REPLACE
[XXX]	SIGN - REMOVE EXISTING
{XXX}	SIGN - PLACE NEW
△XXX	SIGN - MOVE EXISTING
—	EXISTING SIGN
—	PROPOSED SIGN MOUNTED ON POST(S)

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LEGEND

-  SIGN LOCATION
-  TYPE III BARRICADE WITH SIGN
-  PORTABLE CHANGEABLE MESSAGE BOARD
-  PROPOSED DETOUR ROUTE
-  WORK AREA
-  WORK AREA (COUNTY PROJECT)

-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL B" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL E" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 3" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" TO BE USED WHEN SIDEROAD IS OPEN TO THRU TRAFFIC
-  PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 4" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" TO BE USED WHEN SIDEROAD IS CLOSED TO THRU TRAFFIC

GENERAL NOTES - DETOUR

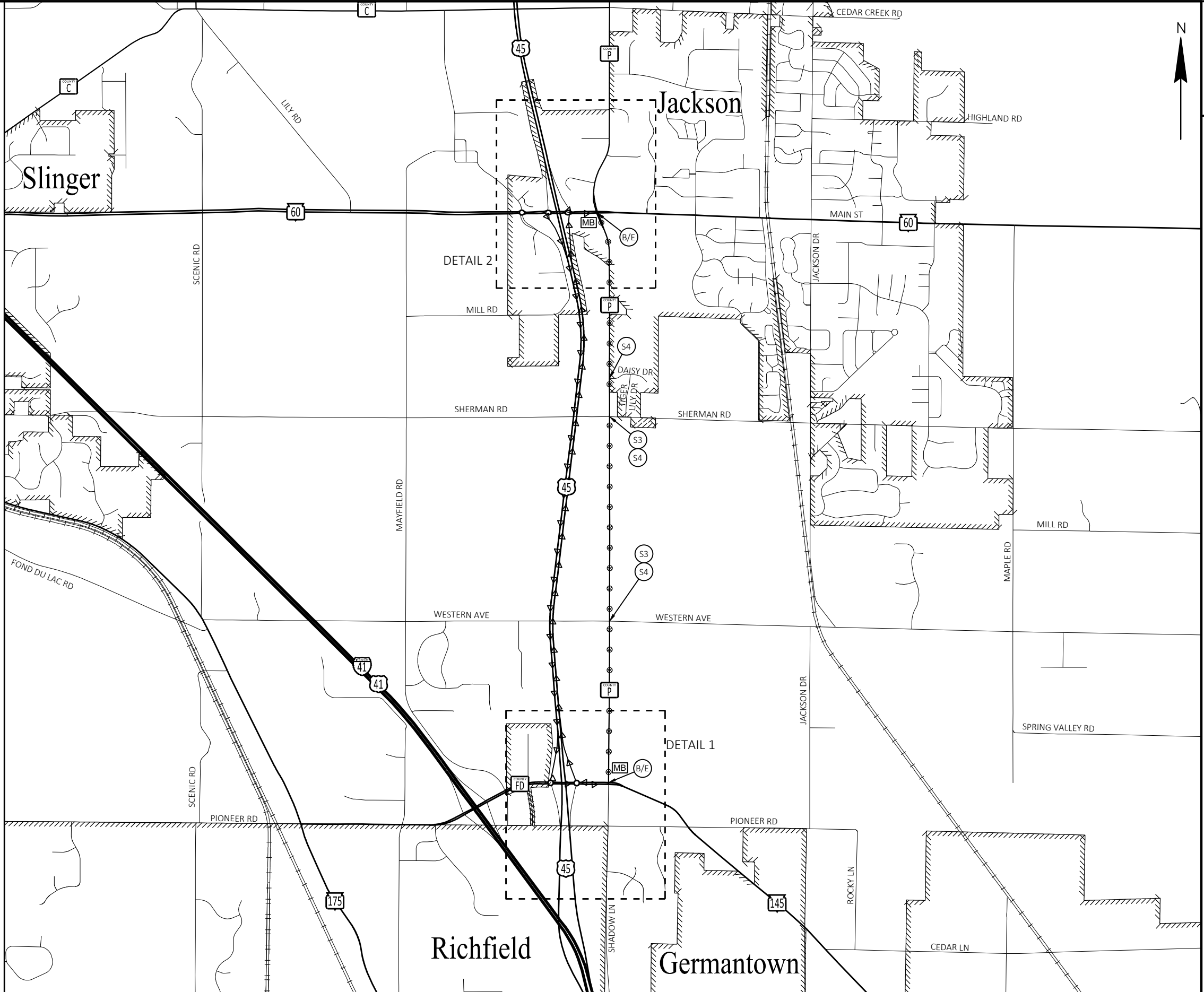
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DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

ALL EXISTING OR TEMPORARY SIGN MESSAGES THAT CONFLICT WITH THE DETOUR SHALL BE COVERED OR REMOVED.

MAP SHOWN IS NOT TO SCALE.

PCMS MESSAGES		
	7 DAYS PRIOR TO DETOUR	
LOCATION	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)
CTH P NB	ROAD CLOSED BEGINS	{DAY} {DATE XX}
CTH P SB	ROAD CLOSED BEGINS	{DAY} {DATE XX}



LEGEND

- SIGN LOCATION
- TYPE III BARRICADE WITH SIGN
- PORTABLE CHANGEABLE MESSAGE BOARD
- PROPOSED DETOUR ROUTE
- WORK AREA
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL B" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL C" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL E" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

GENERAL NOTES - DETOUR

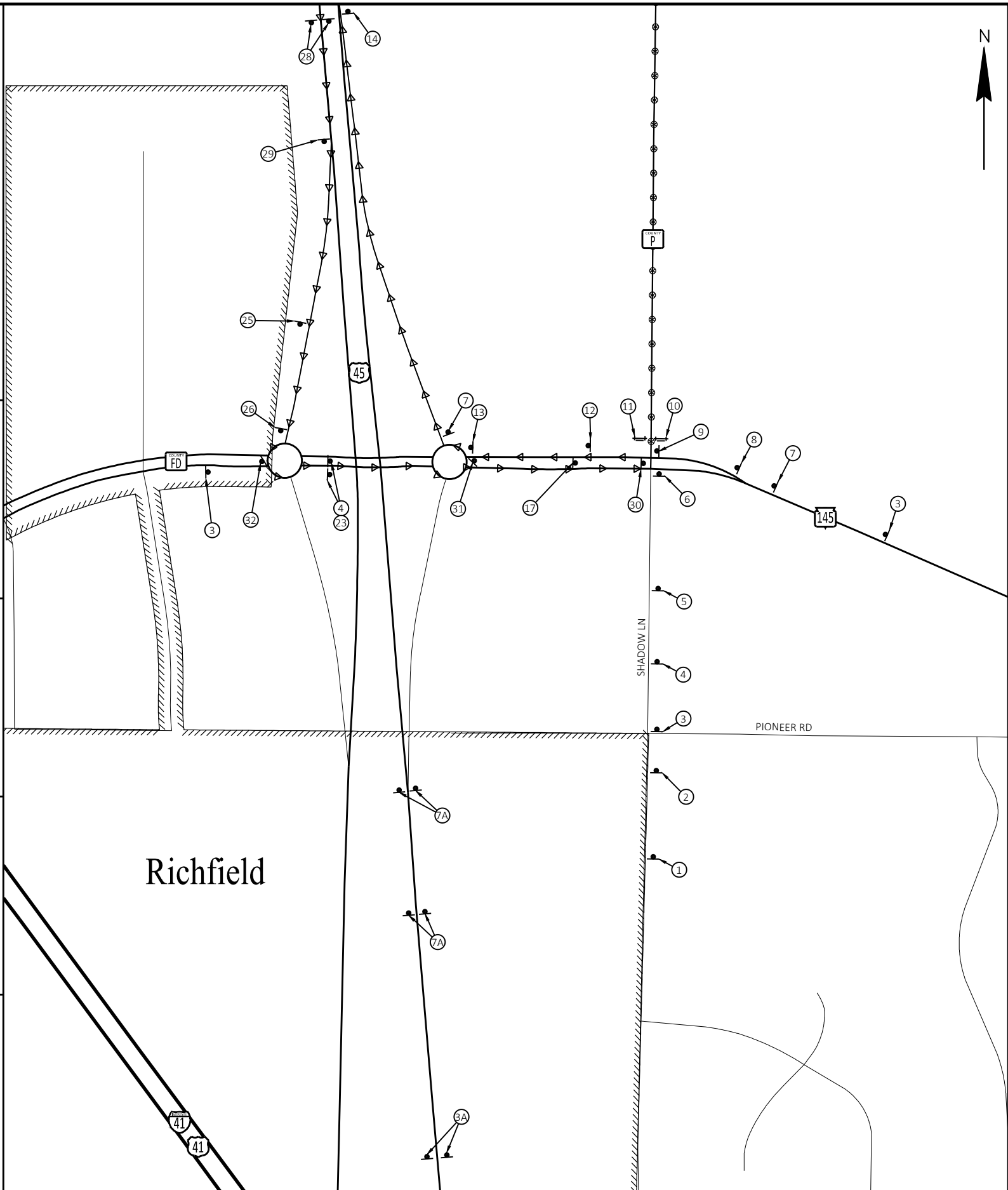
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<p>1</p> <p>W20-3A 48"x48"</p>	<p>2</p> <p>COVER</p>	<p>3</p> <p>M3-1 24"x12" M1-5A 24"x24"</p> <p>NORTH COUNTY P</p> <p>M3-1 36"x18" M1-5A 36"x36"</p> <p>W20-2A 48"x48"</p> <p>3A</p>	<p>4</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO5-1L 21"x21"</p>	<p>5</p> <p>W20-3D 48"x48"</p>		
<p>6</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	<p>7</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	<p>7A</p> <p>COVER</p>	<p>8</p> <p>COVER</p>	<p>9</p> <p>MODIFY EXISTING SIGNS TO</p> <p>FROM</p> <p>TO</p> <p>M4-8 24"x12"</p> <p>NORTH COUNTY P</p> <p>MO6-1 21"x21"</p>	<p>10</p> <p>M4-9L 30"x24"</p> <p>TYPE III BARRICADE</p>	
<p>11</p> <p>R11-4 60" X 30"</p> <p>ROAD CLOSED TO THRU TRAFFIC</p> <p>TYPE III BARRICADE</p>	<p>12</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO5-1R 21"x21"</p>	<p>13</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	<p>14</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	<p>17</p> <p>M4-8A 24"x18"</p> <p>END COUNTY P</p> <p>M1-5A 24"x24"</p>	<p>23</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	
<p>25</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO5-1L 21"x21"</p>	<p>26</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-1 21"x21"</p>	<p>28</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>M5-2R 30"x30"</p>	<p>29</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-2 30"x30"</p>	<p>30</p> <p>COVER</p>	<p>31</p> <p>M4-8 24"x12" M3-1 24"x12"</p> <p>NORTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-2 21"x21"</p>	<p>32</p> <p>M4-8 24"x12" M3-3 24"x12"</p> <p>SOUTH COUNTY P</p> <p>M1-5A 24"x24"</p> <p>MO6-2 21"x21"</p>



LEGEND

- SIGN LOCATION
- TYPE III BARRICADE WITH SIGN
- PORTABLE CHANGEABLE MESSAGE BOARD
- PROPOSED DETOUR ROUTE
- WORK AREA
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL B" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL C" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
- PLACE TRAFFIC CONTROL SIGNS PER "DETAIL E" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

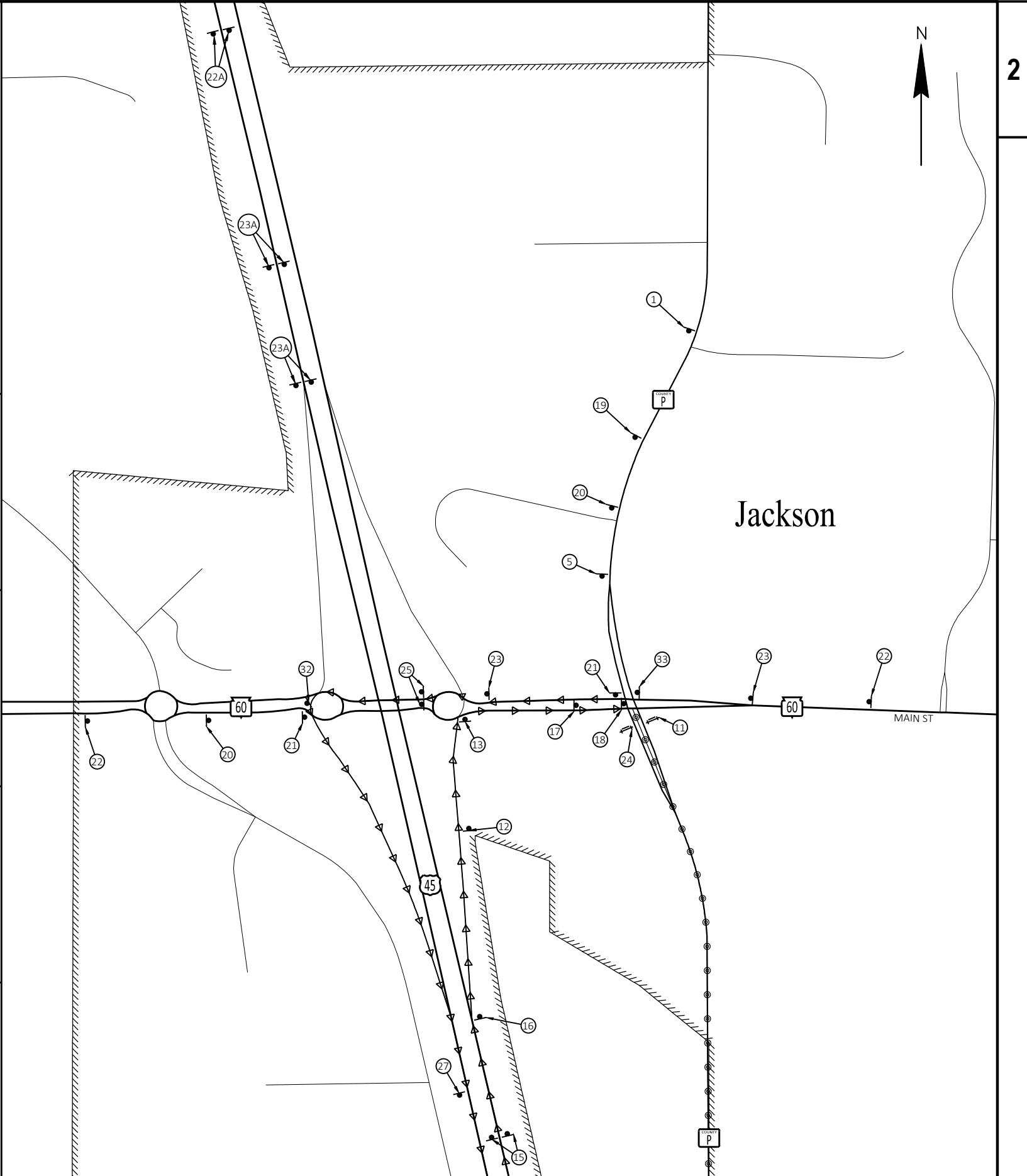
GENERAL NOTES - DETOUR

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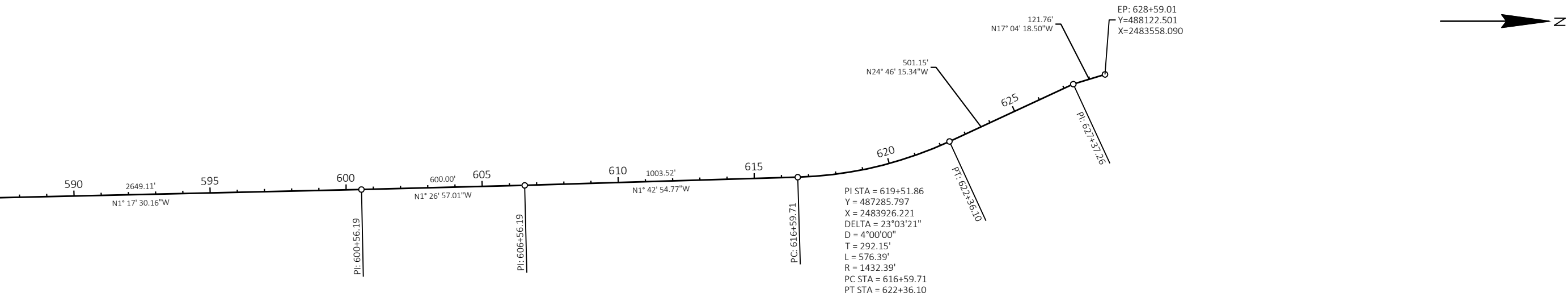
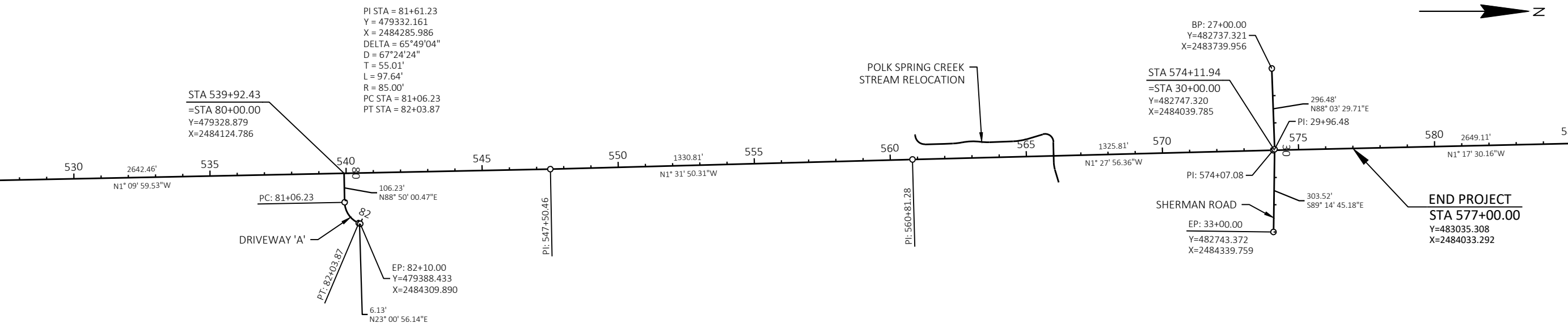
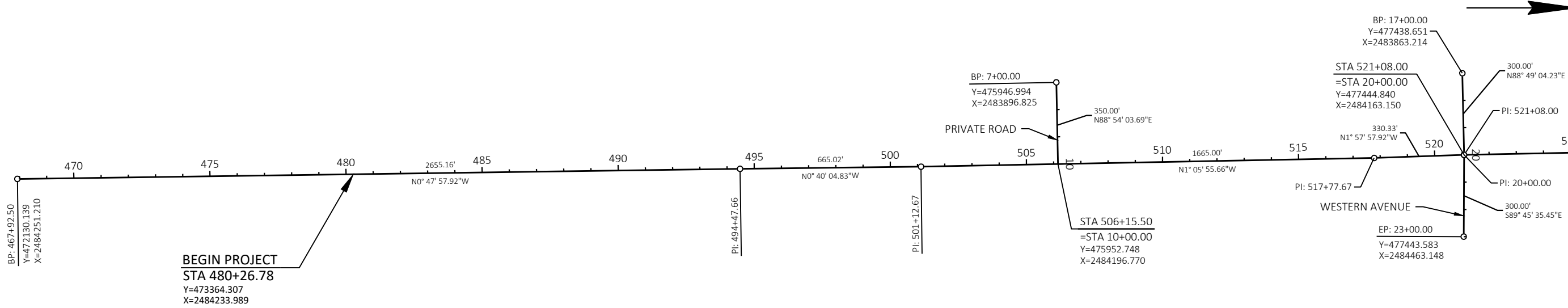
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ALL EXISTING OR TEMPORARY SIGN MESSAGES THAT CONFLICT WITH THE DETOUR SHALL BE COVERED OR REMOVED.

MAP SHOWN IS NOT TO SCALE.



<p>1</p> <p>W20-3A 48"x48"</p>	<p>5</p> <p>W20-3D 48"x48"</p>	<p>11</p> <p>R11-4 60" X 30"</p> <p>TYPE III BARRICADE</p>	<p>12</p> <p>M4-8 24"x12" M3-1 24"x12" M1-5A 24"x24" MO5-1R 21"x21"</p>	<p>13</p> <p>M4-8 24"x12" M3-1 24"x12" M1-5A 24"x24" MO6-1 21"x21"</p>
<p>15</p> <p>M4-8 36"x18" M3-1 36"x18" M1-5A 36"x36" M5-2R 30"x30"</p>	<p>16</p> <p>M4-8 36"x18" M3-1 36"x18" M1-5A 36"x36" MO6-2 30"x30"</p>	<p>17</p> <p>M4-8A 24"x18" M1-5A 24"x24"</p>	<p>18</p> <p>MODIFY EXISTING SIGNS</p> <p>FROM TO</p> <p>M3-1 24"x12" MO6-1 21"x21"</p>	<p>19</p> <p>W20-2A 48"x48"</p>
<p>20</p> <p>M4-8 24"x12" M3-3 24"x12" M1-5A 24"x24" MO5-1R 21"x21"</p>	<p>21</p> <p>M4-8 24"x12" M3-3 24"x12" M1-5A 24"x24" MO6-1 21"x21"</p>	<p>22</p> <p>M3-3 24"x12" M1-5A 24"x24" M3-1 36"x18" M1-5A 36"x36"</p> <p>W20-2A 48"x48"</p>	<p>23</p> <p>M4-8 24"x12" M3-3 24"x12" M1-5A 24"x24" MO6-1 21"x21"</p> <p>23A</p> <p>M4-8 36"x18" M3-1 36"x18" M1-5A 36"x36" MO6-1 30"x30"</p>	<p>24</p> <p>M4-9R 30"x24"</p> <p>TYPE III BARRICADE</p>
<p>25</p> <p>M4-8 24"x12" M3-3 24"x12" M1-5A 24"x24" MO5-1L 21"x21"</p>	<p>27</p> <p>M4-8 36"x18" M3-3 36"x18" M1-5A 36"x36"</p>	<p>32</p> <p>M4-8 24"x12" M3-3 24"x12" M1-5A 24"x24" MO6-2 21"x21"</p>	<p>33</p> <p>MODIFY EXISTING SIGNS</p> <p>FROM TO</p> <p>M3-1 24"x12" MO6-1 21"x21"</p>	





PI STA = 90+37.16
 Y = 481429.076
 X = 2484019.255
 DELTA = 87°48'22"
 D = 163'42'08"
 T = 33.68'
 L = 53.64'
 R = 35.00'
 PC STA = 90+03.48
 PT STA = 90+57.12

PI STA = 91+76.39
 Y = 481581.973
 X = 2484014.836
 DELTA = 9°38'22"
 D = 29°22'57"
 T = 16.44'
 L = 32.81'
 R = 195.00'
 PC STA = 91+59.95
 PT STA = 91+92.76

PI STA = 92+27.56
 Y = 481632.160
 X = 2484004.500
 DELTA = 19°16'04"
 D = 27°56'57"
 T = 34.80'
 L = 68.94'
 R = 205.00'
 PC STA = 91+92.76
 PT STA = 92+61.70

PI STA = 92+78.14
 Y = 481682.947
 X = 2484011.303
 DELTA = 9°38'23"
 D = 29°22'57"
 T = 16.44'
 L = 32.81'
 R = 195.00'
 PC STA = 92+61.70
 PT STA = 92+94.51

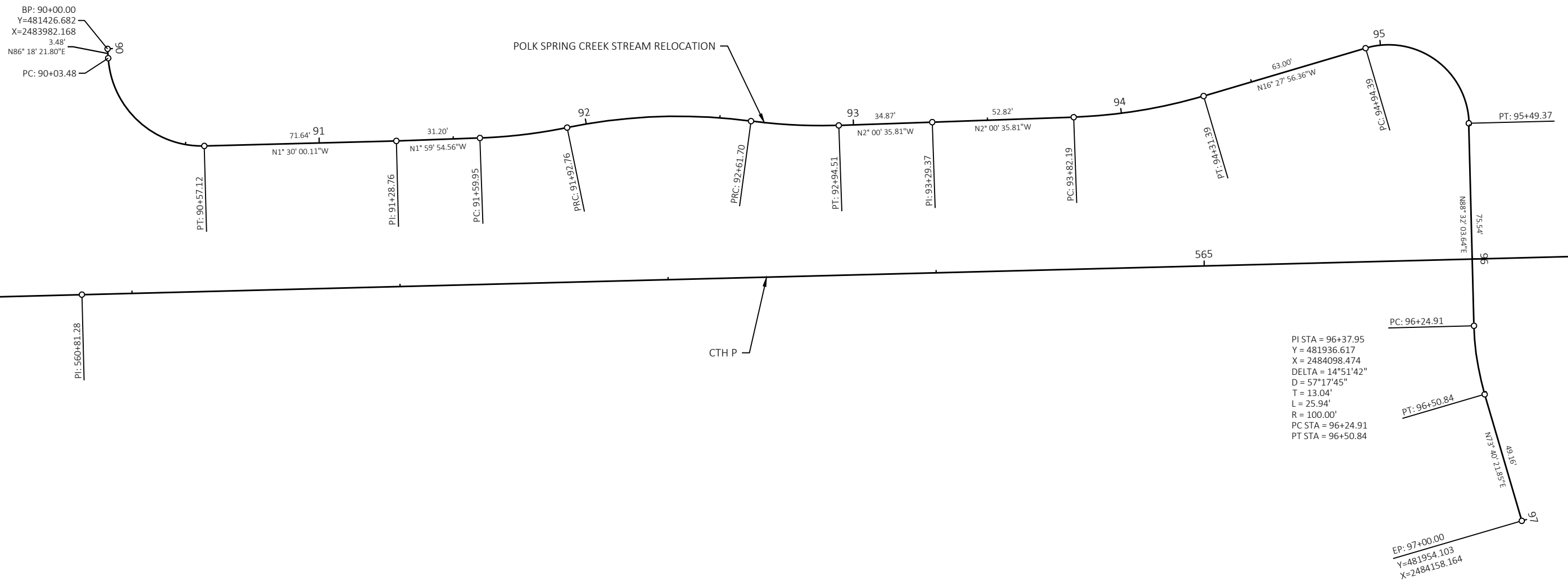
PI STA = 94+06.92
 Y = 481811.727
 X = 2484006.784
 DELTA = 14°27'21"
 D = 29°22'57"
 T = 24.73'
 L = 49.20'
 R = 195.00'
 PC STA = 93+82.19
 PT STA = 94+31.39

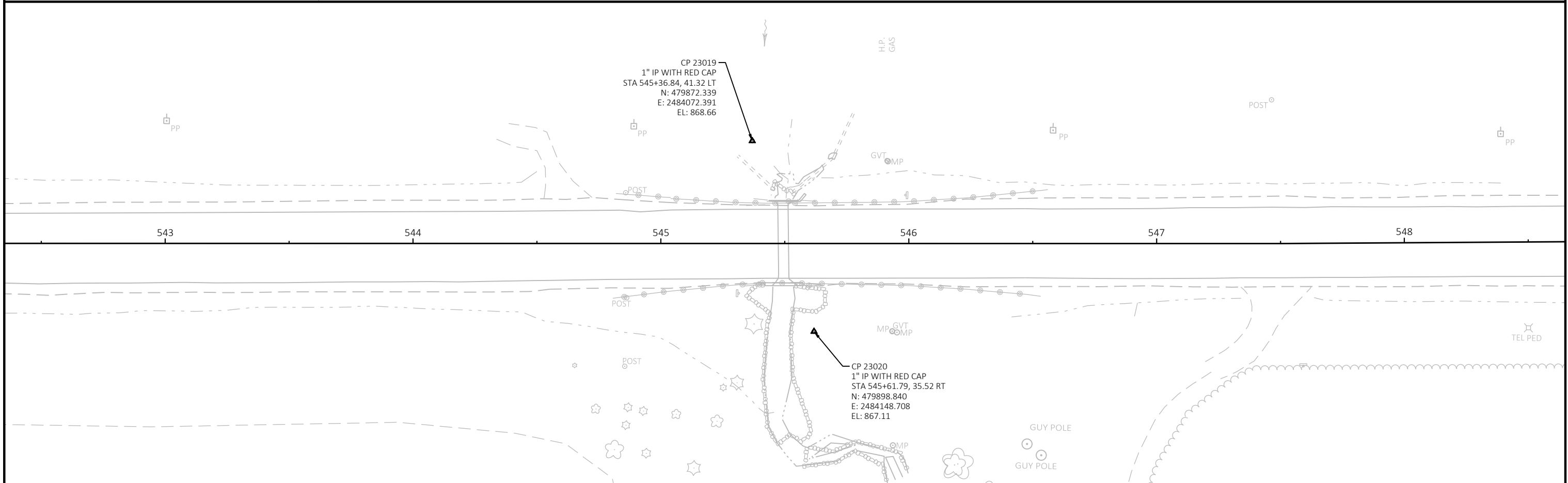
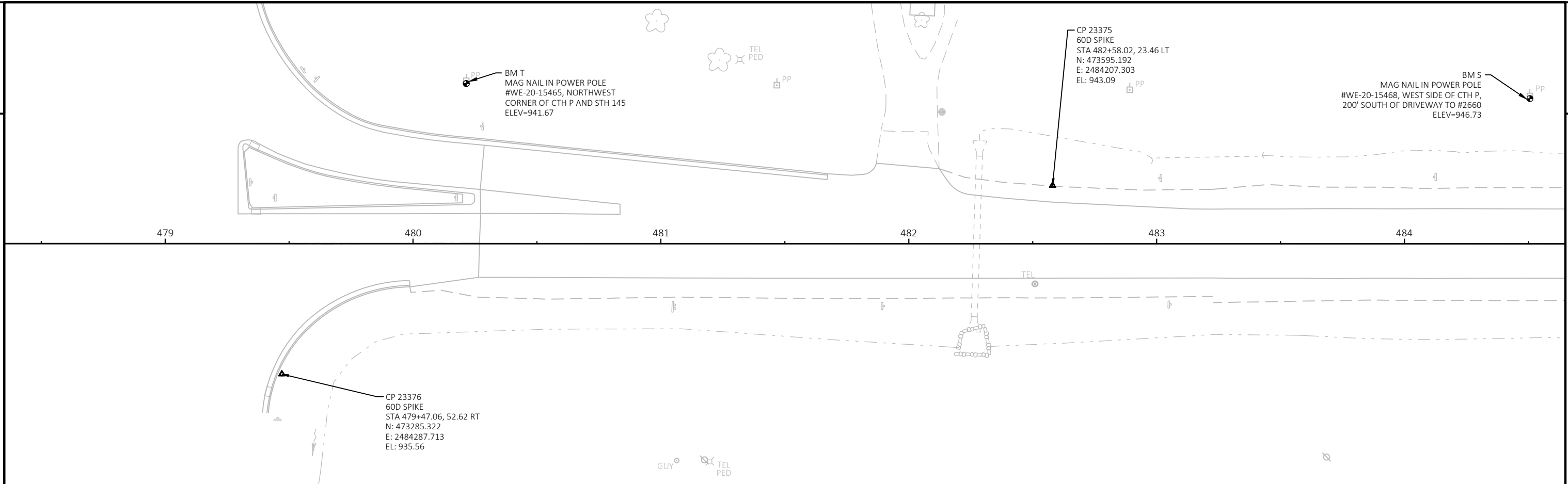
PI STA = 95+33.48
 Y = 481933.352
 X = 2483970.836
 DELTA = 105°00'00"
 D = 190°59'09"
 T = 39.10'
 L = 54.98'
 R = 30.00'
 PC STA = 94+94.39
 PT STA = 95+49.37

BP: 90+00.00
 Y=481426.682
 X=2483982.168
 3.48'
 N86° 18' 21.80"E
 PC: 90+03.48

POLK SPRING CREEK STREAM RELOCATION

CTH P





Estimate Of Quantities

2711-06-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	13.000	13.000
0004	203.0100	Removing Small Pipe Culverts	EACH	23.000	23.000
0006	203.0220	Removing Structure (structure) 01. B-66-0094	EACH	1.000	1.000
0008	203.0220	Removing Structure (structure) 02. STA 545+50	EACH	1.000	1.000
0010	204.0100	Removing Concrete Pavement	SY	21,770.000	21,770.000
0012	204.0150	Removing Curb & Gutter	LF	153.000	153.000
0014	204.0165	Removing Guardrail	LF	1,340.000	1,340.000
0016	204.0180	Removing Delineators and Markers	EACH	8.000	8.000
0018	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	376.000	376.000
0020	204.0291.S	Abandoning Sewer	CY	19.000	19.000
0022	204.9090.S	Removing (item description) 01. Drain Tile	LF	90.000	90.000
0024	205.0100	Excavation Common	CY	84,344.000	84,344.000
0026	205.0400	Excavation Marsh	CY	875.000	875.000
0028	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	1,040.000	1,040.000
0030	206.2001	Excavation for Structures Culverts (structure) 01. B-66-0094	EACH	1.000	1.000
0032	206.5001	Cofferdams (structure) 01. B-66-0094	EACH	3.000	3.000
0034	210.2500	Backfill Structure Type B	TON	530.000	530.000
0036	213.0100	Finishing Roadway (project) 01. 2711-06-70	EACH	1.000	1.000
0038	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,035.000	4,035.000
0040	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	20,610.000	20,610.000
0042	305.0130	Base Aggregate Dense 3-Inch	TON	37,670.000	37,670.000
0044	310.0110	Base Aggregate Open-Graded	TON	13.000	13.000
0046	311.0110	Breaker Run	TON	7,980.000	7,980.000
0048	416.0610	Drilled Tie Bars	EACH	3.000	3.000
0050	455.0605	Tack Coat	GAL	4,420.000	4,420.000
0052	460.2000	Incentive Density HMA Pavement	DOL	10,300.000	10,300.000
0054	460.6223	HMA Pavement 3 MT 58-28 S	TON	11,140.000	11,140.000
0056	460.6224	HMA Pavement 4 MT 58-28 S	TON	4,810.000	4,810.000
0058	460.6424	HMA Pavement 4 MT 58-28 H	TON	140.000	140.000
0060	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0062	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	379.000	379.000
0064	465.0315	Asphaltic Flumes	SY	106.000	106.000
0066	502.4205	Adhesive Anchors No. 5 Bar	EACH	128.000	128.000
0068	504.0100	Concrete Masonry Culverts	CY	101.000	101.000
0070	504.0900	Concrete Masonry Endwalls	CY	26.000	26.000
0072	505.0400	Bar Steel Reinforcement HS Structures	LB	21,630.000	21,630.000
0074	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,070.000	1,070.000
0076	505.0904	Bar Couplers No. 4	EACH	106.000	106.000
0078	505.0909	Bar Couplers No. 9	EACH	54.000	54.000
0080	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0082	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	15.000	15.000
0084	521.1249	Apron Endwalls for Pipe Arch Steel 49x33-Inch	EACH	2.000	2.000
0086	521.1518	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1	EACH	17.000	17.000
0088	521.1728	Apron Endwalls for Pipe Arch Sloped Side Drains Steel 28x20-Inch 6 to 1	EACH	6.000	6.000
0090	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	602.000	602.000
0092	521.3728	Pipe Arch Corrugated Steel 28x20-Inch	LF	158.000	158.000
0094	521.3749	Pipe Arch Corrugated Steel 49x33-Inch	LF	32.000	32.000
0096	522.0430	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	64.000	64.000
0098	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0100	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000

Estimate Of Quantities

2711-06-70

Line	Item	Item Description	Unit	Total	Qty
0102	522.2338	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 38x60-Inch	LF	72.000	72.000
0104	522.2348	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 48x76-Inch	LF	176.000	176.000
0106	522.2368	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 68x106-Inch	LF	88.000	88.000
0108	522.2424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	72.000	72.000
0110	522.2429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	128.000	128.000
0112	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	2.000	2.000
0114	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	4.000	4.000
0116	522.2638	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 38x60-Inch	EACH	2.000	2.000
0118	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	200.000	200.000
0120	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	2,455.000	2,455.000
0122	602.3010	Concrete Surface Drains	CY	3.000	3.000
0124	606.0200	Riprap Medium	CY	70.000	70.000
0126	606.0300	Riprap Heavy	CY	24.000	24.000
0128	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	156.000	156.000
0130	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	905.000	905.000
0132	611.0530	Manhole Covers Type J	EACH	5.000	5.000
0134	611.0627	Inlet Covers Type HM	EACH	7.000	7.000
0136	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0138	611.2004	Manholes 4-FT Diameter	EACH	4.000	4.000
0140	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
0142	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0144	611.3230	Inlets 2x3-FT	EACH	6.000	6.000
0146	611.3901	Inlets Median 1 Grate	EACH	2.000	2.000
0148	612.0106	Pipe Underdrain 6-Inch	LF	30.000	30.000
0150	612.0112	Pipe Underdrain 12-Inch	LF	20.000	20.000
0152	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0154	612.0700	Drain Tile Exploration	LF	400.000	400.000
0156	618.0100	Maintenance and Repair of Haul Roads (project) 01. 2711-06-70	EACH	1.000	1.000
0158	619.1000	Mobilization	EACH	1.000	1.000
0160	624.0100	Water	MGAL	870.000	870.000
0162	625.0500	Salvaged Topsoil	SY	59,600.000	59,600.000
0164	627.0200	Mulching	SY	27,750.000	27,750.000
0166	628.1504	Silt Fence	LF	370.000	370.000
0168	628.1520	Silt Fence Maintenance	LF	370.000	370.000
0170	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0172	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0174	628.2004	Erosion Mat Class I Type B	SY	28,550.000	28,550.000
0176	628.2008	Erosion Mat Urban Class I Type B	SY	3,250.000	3,250.000
0178	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0180	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0182	628.7015	Inlet Protection Type C	EACH	7.000	7.000
0184	628.7504	Temporary Ditch Checks	LF	1,605.000	1,605.000
0186	628.7555	Culvert Pipe Checks	EACH	125.000	125.000
0188	628.7560	Tracking Pads	EACH	4.000	4.000
0190	628.7570	Rock Bags	EACH	945.000	945.000
0192	629.0210	Fertilizer Type B	CWT	34.000	34.000
0194	630.0130	Seeding Mixture No. 30	LB	2,810.000	2,810.000
0196	630.0140	Seeding Mixture No. 40	LB	251.000	251.000
0198	630.0160	Seeding Mixture No. 60	LB	26.000	26.000
0200	630.0500	Seed Water	MGAL	1,760.000	1,760.000

Estimate Of Quantities

2711-06-70

Line	Item	Item Description	Unit	Total	Qty
0202	633.5200	Markers Culvert End	EACH	10.000	10.000
0204	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	18.000	18.000
0206	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	10.000	10.000
0208	637.2210	Signs Type II Reflective H	SF	114.400	114.400
0210	637.2230	Signs Type II Reflective F	SF	43.000	43.000
0212	638.2102	Moving Signs Type II	EACH	5.000	5.000
0214	638.2602	Removing Signs Type II	EACH	39.000	39.000
0216	638.3000	Removing Small Sign Supports	EACH	41.000	41.000
0218	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0220	642.5001	Field Office Type B	EACH	1.000	1.000
0222	643.0420	Traffic Control Barricades Type III	DAY	1,660.000	1,660.000
0224	643.0705	Traffic Control Warning Lights Type A	DAY	3,320.000	3,320.000
0226	643.0900	Traffic Control Signs	DAY	11,786.000	11,786.000
0228	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0230	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0232	643.5000	Traffic Control	EACH	1.000	1.000
0234	645.0105	Geotextile Type C	SY	206.000	206.000
0236	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0238	645.0120	Geotextile Type HR	SY	1,076.000	1,076.000
0240	645.0140	Geotextile Type SAS	SY	6,950.000	6,950.000
0242	646.1020	Marking Line Epoxy 4-Inch	LF	27,252.000	27,252.000
0244	646.3020	Marking Line Epoxy 8-Inch	LF	800.000	800.000
0246	646.5020	Marking Arrow Epoxy	EACH	1.000	1.000
0248	646.5120	Marking Word Epoxy	EACH	1.000	1.000
0250	646.6120	Marking Stop Line Epoxy 18-Inch	LF	116.000	116.000
0252	648.0100	Locating No-Passing Zones	MI	1.830	1.830
0254	650.4000	Construction Staking Storm Sewer	EACH	15.000	15.000
0256	650.4500	Construction Staking Subgrade	LF	10,498.000	10,498.000
0258	650.5000	Construction Staking Base	LF	10,498.000	10,498.000
0260	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,655.000	2,655.000
0262	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
0264	650.6501	Construction Staking Structure Layout (structure) 01. B-66-0094	EACH	1.000	1.000
0266	650.9911	Construction Staking Supplemental Control (project) 01. 2711-06-70	EACH	1.000	1.000
0268	650.9920	Construction Staking Slope Stakes	LF	10,498.000	10,498.000
0270	690.0150	Sawing Asphalt	LF	977.000	977.000
0272	690.0250	Sawing Concrete	LF	59.000	59.000
0274	715.0502	Incentive Strength Concrete Structures	DOL	606.000	606.000
0276	740.0440	Incentive IRI Ride	DOL	7,328.000	7,328.000
0278	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 566+00	EACH	1.000	1.000
0280	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,500.000	1,500.000
0282	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	6,300.000	6,300.000
0284	SPV.0035	Special 01. Rounded River Rock	CY	315.000	315.000
0286	SPV.0035	Special 02. Stream Natural Substrate	CY	156.000	156.000
0288	SPV.0060	Special 01. Relocate Gate	EACH	1.000	1.000
0290	SPV.0060	Special 02. Clay Trench Dams	EACH	3.000	3.000
0292	SPV.0090	Special 01. Storm Sewer Lateral 6-Inch	LF	48.000	48.000

3

GRUBBING

STATION - STATION	201.0205 GRUBBING STA
CATEGORY CODE 0010	
496+00 - 497+00	1
501+00 - 504+00	3
510+00 - 511+00	1
534+00 - 536+00	2
560+00 - 561+00	1
566+00 - 567+00	1
575+00 - 577+00	2
28+00 - 30+00	2
TOTAL	13

CLEARING TO BE DONE BY WASHINGTON COUNTY.

EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL

LOCATION	205.0501.S TON	COMMENTS
CATEGORY CODE 0010		
572+25 - 573+10	286	DAVE'S AUTOR REPAIR / FORMER OLLINGER'S GARAGE, INC. 3291 CTY HWY P
573+10 - 574+05	676	ALLAN & LORI BAUMGARTNER / FORMER GASOLINE/AUTO SERVICE STATION 3298 CTY HWY P
30+45 - 31+95	78	ALLAN & LORI BAUMGARTNER / FORMER GASOLINE/AUTO SERVICE STATION 3298 CTY HWY P
TOTAL	1,040	

WEIGHT CALCULATIONS BASED ON 1.7 TONS/CY.

BASE AGGREGATE DENSE AND WATER ITEMS

STATION - STATION	LOCATION	305.0110	305.0120	305.0130	624.0100
		BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	BASE AGGREGATE DENSE 3-INCH TON	WATER MGAL
CATEGORY CODE 0010					
480+27 - 522+00	LT & RT	1,820	9,290	16,975	392
522+00 - 567+00	LT & RT	2,055	8,540	16,125	373
567+00 - 577+00	LT & RT	160	2,780	4,570	105
TOTALS		4,035	20,610	37,670	870

BASE AGGREGATE DENSE 3/4-INCH WEIGHT CALCULATIONS BASED ON 2.1 TONS/CY.
 BASE AGGREGATE DENSE 1 1/4-INCH WEIGHT CALCULATIONS BASED ON 2.0 TONS/CY.
 BASE AGGREGATE DENSE 3-INCH WEIGHT CALCULATIONS BASED ON 2.2 TONS/CY.

3

REMOVING ITEMS

STATION - STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	203.0220 REMOVING STRUCTURE 02. STA 545+50 EACH	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0165 REMOVING GUARDRAIL LF	204.0180 REMOVING DELINEATORS AND MARKERS EACH	204.0245 REMOVING STORM SEWER 01. 24-INCH LF	204.0291.S ABANDONING SEWER CY	204.9090.S REMOVING 01. DRAIN TILE LF	COMMENTS
CATEGORY CODE 0010											
480+27 - 522+00	LT & RT	--	--	10,200	--	--	--	--	--	--	CTH P
480+27 - 480+83	LT	--	--	45	--	--	--	--	--	--	CORRUGATED MEDIAN
480+29 - 481+67	LT	--	--	--	139	--	--	--	--	--	--
482+27	LT & RT	1	--	--	--	--	2	--	--	--	--
483+20	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
484+98	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
486+54	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
493+21	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
494+05	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
494+28	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
495+62	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
501+19	LT & RT	1	--	--	--	--	1	--	--	--	--
517+91	LT	1	--	--	14	--	--	--	--	--	DRIVEWAY
522+00 - 567+00	LT & RT	--	--	9,080	--	--	--	--	--	--	CTH P
533+19	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
533+15 - 535+16	LT & RT	1	--	--	--	342	2	--	--	--	--
544+81 - 546+56	LT & RT	--	1	--	--	348	2	--	--	90	--
564+19 - 567+47	LT & RT	--	--	--	--	544	1	--	--	--	B-60-0094
567+00 - 577+00	LT & RT	--	--	2,445	--	--	--	--	--	--	CTH P
567+71	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
568+65	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
568+71	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
569+95	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
570+25 - 574+33	LT	--	--	--	--	--	--	376	--	--	--
570+86	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
571+85	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
572+95 - 573+89	LT	--	--	--	--	106	--	--	--	--	--
573+62 - 573+99	LT	--	--	--	--	--	--	--	19	--	--
575+96	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
576+77	RT	1	--	--	--	--	--	--	--	--	DRIVEWAY
9+47	LT & RT	1	--	--	--	--	--	--	--	--	PRIVATE ROAD
19+69	LT & RT	1	--	--	--	--	--	--	--	--	WESTERN AVENUE
31+31	LT	1	--	--	--	--	--	--	--	--	DRIVEWAY
TOTALS		23	1	21,770	153	1,340	8	376	19	90	

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	205.0400 MARSH EXCAVATION (6)	REDUCED MARSH IN FILL (8)	REDUCED EBS IN FILL (9)	EXPANDED MARSH BACKFILL (10)	EXPANDED EBS BACKFILL (11)	UNEXPANDED FILL (12)	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE (15)	COMMENT
			FACTOR 0.60	FACTOR 0.80				FACTOR 1.50	FACTOR 1.30	FACTOR 1.25						
DIVISION 1																
CTH P	480+00/522+00	CTH P	22,998	1,510	7,097	15,901	160	96	1,208	240	1,963	2,432	1,410	14,491	14,491	
CTH P	522+00/567+00	CTH P	48,942	1,620	7,244	41,698	715	429	1,296	1,073	2,106	5,768	5,054	36,644	36,644	
CTH P	567+00/577+00	CTH P	4,430	360	1,707	2,723	0	0	288	0	468	338	63	2,661	2,661	
PRIVATE ROAD	08+50/09+76	PRIVATE ROAD	438	0	85	353	0	0	0	0	0	39	49	304	304	
WESTERN AVENUE (WEST)	18+50/19+76	WESTERN AVENUE (WEST)	745	0	45	700	0	0	0	0	0	13	16	684	684	
WESTERN AVENUE (EAST)	20+24.018/21+50	WESTERN AVENUE (EAST)	314	0	49	265	0	0	0	0	0	52	65	200	200	
SHERMAN ROAD (WEST)	28+15/29+75.996	SHERMAN ROAD (WEST)	590	0	109	481	0	0	0	0	0	33	41	440	440	
SHERMAN ROAD (EAST)	30+24.015/31+95	SHERMAN ROAD (EAST)	725	0	83	642	0	0	0	0	0	9	11	631	631	
POLK SPRING CREEK	90+22/95+47	POLK SPRING CREEK	1,672	0	0	1,672	0	0	0	0	0	0	0	1,672	1,672	
DIVISION 1 SUBTOTAL			80,854	3,490	16,419	64,435	875	525	2,792	1,313	4,537	8,684	6,709	57,726	57,726	
GRAND TOTAL			80,854	3,490	16,419	64,435	875	525	2,792	1,313	4,537	8,684	6,709	57,726	57,726	
TOTAL COMMON EXC			84,344													

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
- (3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL = LENGTH * TYPICAL WIDTH * TYPICAL DEPTH
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (6) MARSH EXCAVATION - TO BE BACKFILLED WITH BREAKER RUN
- (7) NOT USED
- (8) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 0.60
- (9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.80
- (10) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH BREAKER RUN
- (11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH BREAKER RUN
- (12) NOT USED
- (13) EXPANDED FILL FACTOR = 1.25. EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH - REDUCED EBS) * FILL FACTOR
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BREAKER RUN & GEOSYNTHETICS

STATION	LOCATION	311.0110 BREAKER RUN TON	645.0140 GEOTEXTILE TYPE SAS SY
CATEGORY CODE 0010			
UNDISTRIBUTED EBS		6,284	5,550
501+00 - 503+25	LT	288	340
533+50 - 534+75	RT	465	360
545+50 - 546+25	RT	313	300
564+75 - 566+25	LT	510	400
TOTAL		7,860	6,950

BREAKER RUN WEIGHT CALCULATIONS BASED ON 1.8 TONS/CY.

ASPHALTIC ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT TON	460.6224 HMA PAVEMENT TON	460.6424 HMA PAVEMENT TON
CATEGORY CODE 0010					
480+27 - 522+00	LT & RT	2,024	5,100	2,130	140
522+00 - 567+00	LT & RT	1,806	4,553	2,020	--
567+00 - 577+00	LT & RT	590	1,487	660	--
TOTALS		4,420	11,140	4,810	140

HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.
TACK COAT CALCULATIONS BASED ON 0.050 GAL/SY

**ASPHALTIC SURFACE
DRIVEWAYS AND FIELD ENTRANCES**

STATION	LOCATION	465.0120 TON
CATEGORY CODE 0010		
481+99	LT	10
486+54	RT	22
493+21	RT	14
494+06	LT	32
494+29	RT	11
497+20	LT	25
517+92	LT	70
539+92	RT	29
567+72	LT	2
568+70	RT	2
568+71	LT	12
569+92	LT	14
570+25 - 571+46	LT	35
570+53 - 572+32	RT	58
572+35	LT	4
572+70	LT	9
575+96	RT	2
576+75	RT	7
28+43	RT	10
29+10	RT	8
31+75	RT	13
TOTAL		379

ASPHALTIC SURFACE WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

DRILLED TIE BARS

STATION	LOCATION	416.0610 EACH
CATEGORY CODE 0010		
480+29	LT	3
TOTAL		3

FLUME ITEMS

STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY	602.3010 CONCRETE SURFACE DRAINS CY
CATEGORY CODE 0010			
505+61	LT	9	--
506+91	LT	12	--
520+78	LT	--	2
521+61	RT	11	--
521+83	LT	11	--
566+40	RT	7	--
567+50	LT	15	--
574+46	LT	--	1
9+16	LT	10	--
9+36	RT	11	--
20+63	LT	6	--
20+87	RT	9	--
30+62	LT	5	--
TOTAL		106	3

CONCRETE MASONRY ENDWALLS

STATION - STATION	LOCATION	504.0900 CY	COMMENTS
CATEGORY CODE 0010			
545+50	LT	13.0	INLET
545+50	RT	13.0	OUTLET
TOTAL		26.0	

CROSS CULVERT PIPE SUMMARY

STATION	LOCATION	522.0430 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	522.2338 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 38X60-INCH	522.2348 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 48X76-INCH	522.2368 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 68X106-INCH	522.2424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	522.2429 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	522.2624 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	522.2629 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH	522.2638 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 38X60-INCH	633.5200 MARKERS CULVERT END	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	* JOINT TIES
		LF	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH
CATEGORY CODE 0010														
482+28.00	CTH P	64	2	--	--	--	--	--	--	--	--	2	1	12
501+19.04	CTH P	--	--	--	--	--	--	64	--	2	--	1	1	12
501+26.41	CTH P	--	--	--	--	--	--	64	--	2	--	1	1	12
534+25.28	CTH P	--	--	72	--	--	--	--	--	--	2	2	1	12
545+38.17	CTH P	--	--	--	88	--	--	--	--	--	--	1	1	12
545+50.00	CTH P	--	--	--	--	88	--	--	--	--	--	--	1	8
545+61.83	CTH P	--	--	--	88	--	--	--	--	--	--	1	1	8
19+50.23	WESTERN	--	--	--	--	--	72	--	2	--	--	2	1	12
TOTALS		64	2	72	176	88	72	128	2	4	2	10	8	

*NON-BID ITEM: FOR INFORMATION ONLY

CULVERT PIPE SUMMARY

STATION	LOCATION	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	521.1249 APRON ENDWALLS FOR PIPE ARCH STEEL 49X33-INCH	521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1	521.1728 APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS STEEL 28X20-INCH 6 TO 1	521.3118 CULVERT PIPE CORRUGATED STEEL 18-INCH	521.3728 PIPE ARCH CORRUGATED STEEL 28X20-INCH	521.3749 PIPE ARCH CORRUGATED STEEL 49X33-INCH	ALUMINUM THICKNESS (INCHES)	STEEL THICKNESS (INCHES)
		EACH	EACH	EACH	EACH	LF	LF	LF		
CATEGORY CODE 0010										
31+47.00' LT	SHERMAN	--	--	2	--	28	--	--	0.06	0.064
483+20.61' LT	CTH P	2	--	--	--	50	--	--	0.06	0.064
484+98.18' LT	CTH P	2	--	--	--	30	--	--	0.06	0.064
486+54.57' RT	CTH P	2	--	--	--	46	--	--	0.06	0.064
491+60.97' RT	CTH P	--	--	2	--	48	--	--	0.06	0.064
493+21.69' RT	CTH P	--	--	2	--	38	--	--	0.06	0.064
494+04.01' LT	CTH P	2	--	--	--	36	--	--	0.06	0.064
494+27.95' RT	CTH P	--	--	2	--	36	--	--	0.06	0.064
495+63.91' RT	CTH P	--	--	2	--	40	--	--	0.06	0.064
497+18.61' LT	CTH P	--	--	2	--	56	--	--	0.06	0.064
498+76.94' RT	CTH P	1	--	1	--	34	--	--	0.06	0.064
506+24.59' RT	CTH P	2	--	--	--	36	--	--	0.06	0.064
517+91.51' LT	CTH P	--	--	--	2	--	88	--	0.06	0.064
533+21.08' RT	CTH P	--	2	--	--	--	--	32	0.105	0.109
544+54.16' LT	CTH P	2	--	--	--	30	--	--	0.06	0.064
547+33.10' RT	CTH P	2	--	--	--	34	--	--	0.06	0.064
551+38.32' RT	CTH P	--	--	2	--	26	--	--	0.06	0.064
555+50.20' RT	CTH P	--	--	2	--	34	--	--	0.06	0.064
560+62.99' RT	CTH P	--	--	--	2	--	40	--	0.06	0.064
560+73.36' LT	CTH P	--	--	--	2	--	30	--	0.06	0.064
TOTALS		15	2	17	6	602	158	32		

*NON-BID ITEM: FOR INFORMATION ONLY

CONCRETE CURB AND GUTTER ITEMS

STATION - STATION	LOCATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0553 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
CATEGORY CODE 0010				
480+29 - 482+25	LT	200	--	200
505+61 - 505+99	LT	--	60	60
506+33 - 506+91	LT	--	91	91
520+30 - 520+88	RT	--	93	93
520+54 - 520+92	LT	--	59	59
521+23 - 521+61	RT	--	59	59
521+25 - 521+83	LT	--	91	91
566+40 - 567+00	RT	--	60	60
567+00 - 573+92	RT	--	770	770
567+50 - 573+95	LT	--	788	788
574+27 - 577+00	RT	--	294	294
574+28 - 574+86	LT	--	90	90
TOTALS		200	2,455	2,655

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	LOCATION	522.1024	608.0315	608.0324	611.0530	611.0627	611.0642	611.2004	611.2005	611.3004	611.3230	611.3901	650.4000	CONSTRUCTION	**
				APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	MANHOLE COVERS TYPE J	INLET COVERS TYPE HM	INLET COVERS TYPE MS	MANHOLES 4-FT DIAMETER	MANHOLES 5-FT DIAMETER	INLETS 4-FT DIAMETER	INLETS 2X3-FT DIAMETER	INLETS MEDIAN 1 GRATE	STAKING		
CATEGORY CODE 0010				EACH	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
101	574+60.00	5.00' LT	CTH P	--	--	77	1	--	--	1	--	--	--	--	--	1	--
101.1	574+66.38	24.33' RT	CTH P	--	30	--	--	1	--	--	--	--	1	--	--	1	--
101.2	574+89.49	40.43' LT	CTH P	--	--	46	--	--	1	--	--	--	--	1	--	1	--
102	573+83.00	5.00' LT	CTH P	--	--	172	1	--	--	--	1	--	--	--	--	1	--
102.1	573+82.20	36.31' RT	CTH P	--	41	--	--	1	--	--	--	--	1	--	--	1	--
102.2	573+83.88	35.85' LT	CTH P	--	--	31	--	1	--	--	--	1	--	--	--	1	--
102.3	29+14.10	28.12' LT	SHERMAN	--	--	75	--	--	1	--	--	--	--	1	--	1	--
103	572+11.12	5.00' LT	CTH P	--	--	311	1	--	--	1	--	--	--	--	--	1	--
103.1	572+11.12	19.50' LT	CTH P	--	15	--	--	1	--	--	--	--	1	--	--	1	--
103.2	572+11.12	24.50' RT	CTH P	--	30	--	--	1	--	--	--	--	1	--	--	1	--
104	569+00.00	5.00' LT	CTH P	--	--	160	1	--	--	1	--	--	--	--	--	1	--
104.1	569+00.00	19.50' LT	CTH P	--	15	--	--	1	--	--	--	--	1	--	--	1	--
104.2	569+00.00	19.50' RT	CTH P	--	25	--	--	1	--	--	--	--	1	--	--	1	--
105	567+40.00	5.00' LT	CTH P	--	--	33	1	--	--	1	--	--	--	--	--	1	--
106	567+23.50	33.58' LT	CTH P	1	--	--	--	--	--	--	--	--	--	--	--	1	6
TOTALS				1	156	905	5	7	2	4	1	1	6	2	15		

REMARKS:

*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE

**NON-BID ITEM: FOR INFORMATION ONLY

RIPRAP AND GEOTEXTILE ITEMS

STATION - STATION CATEGORY CODE 0010	LOCATION	606.0200	645.0120	SPV.0035.01	COMMENTS
		RIPRAP MEDIUM	GEOTEXTILE TYPE HR	ROUNDED RIVER ROCK	
		CY	SY	CY	
482+28	RT	6	19	--	CROSS CULVERT
501+18	RT	8	25	--	CROSS CULVERT
534+39	RT	8	24	--	CROSS CULVERT
545+50	RT	10	38	--	CROSS CULVERT
566+34	RT	10	33	--	FLUME
567+10 - 567+47	LT	5	18	--	SS OUTFALL
9+11	RT	3	11	--	CROSS CULVERT
19+50	LT	4	13	--	CROSS CULVERT
90+22 - 90+57	LT & RT	--	133	50	STREAM BEND
91+60 - 92+27	RT	--	129	51	STREAM BEND
92+27 - 92+95	LT	--	129	51	STREAM BEND
93+82 - 94+31	RT	--	98	38	STREAM BEND
94+94 - 95+41	LT & RT	--	164	63	STREAM BEND
UNDISTRIBUTED		16	206	62	
TOTALS		70	1,040	315	

RESTORATION ITEMS

STATION - STATION CATEGORY CODE 0010	LOCATION	625.0500	627.0200	628.2004	628.2008	629.0210	630.0130	630.0140	630.0160	630.0500
		SALVAGED TOPSOIL	MULCHING	EROSION MAT CLASS I TYPE B	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEED MIX NO. 30	SEED MIX NO. 40	SEED MIX NO. 60	SEED WATER
		SY	SY	SY	SY	CWT	LB	LB	LB	MGAL
480+27 - 486+00	RT	1,388	903	485	--	0.9	85	--	--	43
480+29 - 483+20	LT	496	441	55	--	0.3	--	10	--	13
483+20 - 493+75	LT	2,910	2,081	829	--	1.7	171	--	--	85
486+00 - 488+50	RT	1,024	848	176	--	0.6	--	22	--	28
488+50 - 493+00	RT	1,319	969	350	--	0.8	76	--	--	38
493+00 - 498+75	RT	1,065	423	642	--	0.7	--	27	--	34
493+75 - 495+35	LT	232	130	102	--	0.1	--	6	--	8
495+35 - 496+60	LT	255	56	199	--	0.2	16	--	--	8
496+60 - 499+20	LT	403	189	214	--	0.3	--	11	--	13
498+75 - 521+08	RT	4,896	2,667	2,229	--	3.1	306	--	--	153
499+20 - 506+16	LT	1,644	1,089	555	--	1.0	99	--	--	50
506+16 - 511+10	LT	1,476	1,052	424	--	0.8	83	--	--	41
511+10 - 521+08	LT	2,629	1,125	1,504	--	1.6	--	62	--	77
521+08 - 522+00	RT	234	156	78	--	0.1	12	--	--	6
521+08 - 522+00	LT	215	140	75	--	0.1	13	--	--	6
522+00 - 539+45	RT	4,684	1,466	3,218	--	2.8	278	--	--	139
522+00 - 567+50	LT	12,151	4,450	7,701	--	7.2	722	--	--	360
539+45 - 540+40	RT	732	383	349	--	0.4	--	14	--	18
540+40 - 568+50	RT	6,080	3,042	3,038	--	3.7	372	--	--	186
567+00 - 568+50	RT	136	136	--	--	0.1	6	--	--	3
567+00 - 567+50	LT	117	88	29	--	0.1	7	--	--	4
567+50 - 574+12	LT	745	--	--	745	0.3	--	13	--	17
568+50 - 574+12	RT	636	91	--	545	0.3	--	12	--	14
574+12 - 577+00	RT	424	104	72	248	0.2	--	8	--	10
574+12 - 577+00	LT	703	185	518	--	0.4	--	16	--	20
90+22 - 95+47	LT & RT	1,069	--	--	1,069	--	--	--	21.3	36
UNDISTRIBUTED		11,937	5,536	5,708	643	6.2	564	50	4.7	350
TOTALS		59,600	27,750	28,550	3,250	34.0	2,810	251	26.0	1,760

NOTES: DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A BODY OF WATER OR WETLAND

DRAIN TILE EXPLORATION ITEMS

LOCATION CATEGORY CODE 0010	612.0106	612.0112	612.0700
	PIPE UNDERDRAIN 6-INCH LF	PIPE UNDERDRAIN 12-INCH LF	DRAIN TILE EXPLORATION LF
UNDISTRIBUTED EXPLORATION	--	--	400
UNDISTRIBUTED RECONNECTIONS	30	20	--
TOTALS	30	20	400

PIPE UNDERDRAIN ITEMS

STATION CATEGORY CODE 0010	LOCATION	310.0110	612.0406	645.0111
		BASE AGGREGATE OPEN-GRADED TON	PIPE UNDERDRAIN WRAPPED 6-INCH LF	GEOTEXTILE TYPE DF SCHEDULE A SY
566+35 - 568+60	RT	13	220	110
TOTALS		13	220	110

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504	628.1520	628.1905	628.1910	628.7005	628.7010	628.7015	628.7504	628.7555	628.7560	628.7570
		SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	INLET PROTECTION TYPE A	INLET PROTECTION TYPE B	INLET PROTECTION TYPE C	TEMPORARY DITCH CHECKS	CULVERT PIPE CHECKS	TRACKING PADS	ROCK BAGS
		LF	LF	EACH	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH
CATEGORY CODE 0010												
PROJECT 2711-06-70		--	--	--	--	--	--	--	--	--	--	--
479+99 - 521+08	RT	--	--	--	--	--	--	--	288	14	--	165
482+28 - 506+16	LT	--	--	--	--	--	--	--	180	33	--	45
506+16 - 521+08	LT	--	--	--	--	--	--	--	144	15	--	45
521+08 - 522+00	RT	126	126	--	--	--	--	--	--	--	--	17
521+08 - 522+00	LT	64	64	--	--	--	--	--	36	--	--	--
522+00 - 566+00	RT	108	108	--	--	--	--	--	324	18	--	272
522+00 - 561+10	LT	--	--	--	--	--	--	--	288	17	--	195
566+30	LT	--	--	--	--	--	--	--	--	--	--	15
569+00	LT & RT	--	--	--	--	--	--	2	--	--	--	--
572+11	LT & RT	--	--	--	--	--	--	2	--	--	--	--
573+82	RT	--	--	--	--	--	--	1	--	--	--	--
573+84	LT	--	--	--	--	--	--	1	--	--	--	--
574+66	RT	--	--	--	--	--	--	1	--	--	--	--
574+89	LT	--	--	--	--	1	1	--	--	--	--	--
576+35	LT	--	--	--	--	--	--	--	12	--	--	--
29+14	LT	--	--	--	--	1	1	--	--	--	--	--
31+29 - 31+95	LT	--	--	--	--	--	--	--	12	2	--	--
UNDISTRIBUTED		72	72	10	6	--	--	--	321	26	4	191
TOTALS		370	370	10	6	2	2	7	1,605	125	4	945

SIGNING ITEMS

SIGN NUMBER	EXISTING STATION	EXISTING LOCATION	PROPOSED STATION	PROPOSED LOCATION	ROADWAY	SIGN CODE	SIZE	634.0614	634.0616	637.2210	637.2230	638.2102	638.2602	638.3000	638.4000	COMMENTS
								POSTS WOOD 4X6X14 EACH	POSTS WOOD 4X6X16 EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH	
CATEGORY CODE 0010																
101	480+27	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--
102	--	--	480+30	LT	CTH P	J3-2	48X57	--	1	19.00	--	--	--	--	--	M3-1; M1-6 [145]; M6-1 [LEFT] / M3-3; M1-6 [145]; M6-1 [RIGHT]
103	481+06	RT	481+00	RT	CTH P	D2-1	--	2	--	--	--	1	--	2	--	WEST BEND 10
104	481+90	RT	482+00	RT	CTH P	R2-1	24X30	1	--	5.00	--	--	1	1	--	45 MPH
105	483+01	LT	482+85	LT	CTH P	D4-2-R	30X36	--	1	7.50	--	--	1	1	--	--
106	483+06	RT	483+00	RT	CTH P	J4-1	24X36	--	1	6.00	--	--	1	1	--	M2-1; M1-6 [145] / M4-6; M1-5A [P]
107	484+12	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--
108	490+17	LT	484+00	LT	CTH P	J1-2	48X39	--	1	13.00	--	--	1	1	--	M3-1; M1-5A [P]
109	487+69	LT	487+50	LT	CTH P	W3-1	36X36	--	1	--	9.00	--	1	1	--	--
110	487+67	RT	487+50	RT	CTH P	W3-1	36X36	--	1	--	9.00	--	1	1	--	--
201	9+42	RT	9+36	RT	PRIVATE ROAD	R1-1	30X30	1	--	5.18	--	--	1	1	--	--
202	8+80	LT	8+80	LT	PRIVATE ROAD	W14-1	30X30	--	1	--	6.25	--	1	1	--	--
301	508+48	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--
302	510+95	RT	511+00	RT	CTH P	W2-1	30X30	--	1	--	6.25	--	1	1	--	--
303	519+05	LT	519+00	LT	CTH P	R2-1	24X30	1	--	5.00	--	--	1	1	--	45 MPH
304	19+58	RT	19+37	RT	WESTERN AVENUE	R1-1	30X30	1	--	5.18	--	--	1	1	--	--
305	19+59	LT	--	--	WESTERN AVENUE	--	--	--	--	--	--	--	1	1	--	--
306	20+51	LT	20+63	LT	WESTERN AVENUE	R1-1	30X30	1	--	5.18	--	--	1	1	--	--
307	521+44	RT	521+44	RT	CTH P	--	--	--	--	--	--	1	--	--	1	ST. JOHN'S CHURCH
308	521+53	RT	521+53	RT	CTH P	--	--	--	--	--	--	1	--	--	1	JACKSON HISTORIC SOCIETY
309	521+43	LT	521+49	LT	CTH P / WESTERN AVENUE	--	--	--	--	--	--	1	--	--	1	STREET NAME SIGNS
401	523+31	RT	523+25	RT	CTH P	R2-1	24X30	1	--	5.00	--	--	1	1	--	45 MPH
402	--	--	531+00	LT	CTH P	W2-1	30X30	--	1	--	6.25	--	--	--	--	--
403	534+14	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--
404	534+50	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--
SHEET SUBTOTALS								8	9	76.04	36.75	4	19	21	3	

SIGNING ITEMS CONTINUED

SIGN NUMBER	EXISTING STATION	EXISTING LOCATION	PROPOSED STATION	PROPOSED LOCATION	ROADWAY	SIGN CODE	SIZE	634.0614	634.0616	637.2210	637.2230	638.2102	638.2602	638.3000	638.4000	COMMENTS	
								POSTS WOOD 4X6X14 EACH	POSTS WOOD 4X6X16 EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH		
CATEGORY CODE 0010																	
501	545+31	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
502	545+99	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
503	551+20	RT	551+20	RT	CTH P	--	--	--	--	--	--	--	1	1	--	--	
601	564+65	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
602	564+81	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
603	--	--	566+40	RT	CTH P	R7-1L	18X24	1	--	3.00	--	--	--	--	--	--	
604	566+68	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
605	566+74	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
606	567+02	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
607	--	--	567+50	LT	CTH P	R7-1R	18X24	1	--	3.00	--	--	--	--	--	--	
608	567+91	RT	567+90	RT	CTH P	W2-1	30X30	--	1	--	6.25	--	1	1	--	--	
701	569+43	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
702	569+34	RT	570+20	RT	CTH P	R7-1D	18X24	1	--	3.00	--	--	1	1	--	--	
703	--	--	570+20	LT	CTH P	R7-1D	18X24	1	--	3.00	--	--	--	--	--	--	
704	571+49	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
705	--	--	572+00	LT	CTH P	R2-1	24X30	1	--	5.00	--	--	--	--	--	45 MPH	
706	572+03	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
707	573+51	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
708	--	--	573+56	LT	CTH P	R7-1L	18X24	1	--	3.00	--	--	--	--	--	--	
709	573+62	LT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
710	--	--	573+54	RT	CTH P	R7-1R	18X24	1	--	3.00	--	--	--	--	--	--	
711	573+63	RT	--	--	CTH P	--	--	--	--	--	--	--	1	1	--	--	
712	30+44	RT	--	--	SHERMAN ROAD	--	--	--	--	--	--	--	1	1	--	--	
713	29+56	RT	29+36	RT	SHERMAN ROAD	R1-1	30X30	1	--	5.18	--	--	1	1	--	--	
714	30+28	LT	30+62	LT	SHERMAN ROAD	R1-1	30X30	1	--	5.18	--	--	1	1	--	--	
715	575+11	RT	575+50	RT	CTH P	R2-1	24X30	1	--	5.00	--	--	1	1	--	45 MPH	
716	574+43	LT	574+55	LT	CTH P / SHERMAN ROAD	--	--	--	--	--	--	--	1	--	--	1 STREET NAME SIGNS	
SHEET SUBTOTALS								10	1	38.36	6.25	1	20	20	1		
TOTALS								18	10	114.40	43.00	5	39	41	4		

TRAFFIC CONTROL ITEMS

	NUMBER OF DAYS IN SERVICE	643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II			643.1050 TRAFFIC CONTROL SIGNS PCMS			643.5000 TRAFFIC CONTROL
		NO. REQ'D	TOTAL DAY	NO. REQ'D	TOTAL DAY	NO. REQ'D	TOTAL DAY	NO.	NO.	TOTAL EACH	NO.	NO.	TOTAL DAY	EACH
								CYCLES	SIGNS					
CATEGORY CODE 0010														
PROJECT 2711-06-70	166	--	--	--	--	--	--	--	--	--	--	--	--	1
SOUTH PROJECT LIMITS	166	2	332	4	664	2	332	--	--	--	1	7	7	--
NORTH PROJECT LIMITS	166	2	332	4	664	2	332	--	--	--	1	7	7	--
WESTERN AVENUE - CLOSED TO THRU TRAFFIC	83	2	166	4	332	6	498	--	--	--	--	--	--	--
WESTERN AVENUE - OPEN TO THRU TRAFFIC	83	4	332	8	664	4	332	--	--	--	--	--	--	--
SHERMAN ROAD - CLOSED TO THRU TRAFFIC	83	2	166	4	332	6	498	--	--	--	--	--	--	--
SHERMAN ROAD - OPEN TO THRU TRAFFIC DETOUR	83	4	332	8	664	4	332	--	--	--	--	--	--	--
166	--	--	--	--	--	205	9,462	1	3	1	--	--	--	--
TOTALS			1,660		3,320		11,786			1			14	1

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH		646.3020 MARKING LINE EPOXY 8-INCH		646.5020 MARKING ARROW EPOXY		646.5120 MARKING WORD EPOXY		646.6120 MARKING STOP LINE EPOXY 18-INCH		COMMENTS
		WHITE LF	YELLOW LF	WHITE LF	WHITE EACH	WHITE EACH	WHITE EACH	WHITE LF				
CATEGORY CODE 0010												
480+27 - 522+00	LT & RT	7,700	4,085	348	1	1	--	--	--	--	--	--
522+00 - 567+00	LT & RT	9,060	1,125	151	--	--	--	--	--	--	--	--
567+00 - 577+00	LT & RT	1,762	1,913	301	--	--	--	--	--	--	--	--
18+50 - 19+72	LT & RT	--	244	--	--	--	29	WESTERN AVENUE				
20+28 - 21+50	LT & RT	--	244	--	--	--	29	WESTERN AVENUE				
28+20 - 29+72	LT & RT	219	304	--	--	--	30	SHERMAN ROAD				
30+28 - 31+95	LT & RT	262	334	--	--	--	28	SHERMAN ROAD				
		19,003	8,249									
TOTALS		27,252		800	1	1	116					

LOCATING NO-PASSING ZONES

STATION - STATION	648.0100 MI
CATEGORY CODE 0010	
480+27 - 522+00	0.79
522+00 - 567+00	0.85
567+00 - 577+00	0.19
TOTALS	1.83

CLAY TRENCH DAMS

SPV.0060.02			
STATION	LOCATION	EACH	COMMENTS
CATEGORY CODE 0010			
572+25	LT	1	STORM SEWER TRENCH
573+83	LT	1	STORM SEWER TRENCH
574+05	LT	1	STORM SEWER TRENCH
TOTAL		3	

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

999.2000.S		
LOCATION	EACH	COMMENTS
CATEGORY CODE 0010		
566+00	1	BOX CULVERT CONSTRUCTION
TOTAL	1	

STREAM NATURAL SUBSTRATE

SPV.0035.02 STREAM NATURAL SUBSTRATE			
STATION	LOCATION	CY	COMMENTS
CATEGORY CODE 0010			
90+22 - 95+47	LT & RT	156	STREAM RELOCATION
TOTAL		156	

3

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.4500	650.5000	650.6501	650.9911	650.9920
		SUBGRADE	BASE	STRUCTURE LAYOUT	SUPPLEMENTAL CONTROL	SLOPE STAKES
		LF	LF	EACH	EACH	LF
CATEGORY CODE 0010						
PROJECT 2711-06-70		--	--	--	1	--
480+27 - 522+00	LT & RT	4,173	4,173	--	--	4,173
522+00 - 567+00	LT & RT	4,500	4,500	--	--	4,500
567+00 - 577+00	LT & RT	1,000	1,000	--	--	1,000
8+50 - 10+00	LT & RT	150	150	--	--	150
18+50 - 21+50	LT & RT	300	300	--	--	300
28+20 - 31+95	LT & RT	375	375	--	--	375
CATEGORY CODE 0010 SUBTOTALS		10,498	10,498	--	1	10,498
CATEGORY CODE 0020						
B-66-0094		--	--	1	--	--
CATEGORY CODE 0020 SUBTOTALS		--	--	1	--	--
TOTALS		10,498	10,498	1	1	10,498

STAKING ITEMS FOR STORM SEWER, CURB & GUTTER, AND PIPE CULVERTS SHOWN ELSEWHERE

SAWING PAVEMENT ITEMS

STATION - STATION	LOCATION	690.0150	690.0250	COMMENTS
		ASPHALT	CONCRETE	
		LF	LF	
CATEGORY CODE 0010				
480+27	LT & RT	--	56	CTH P
486+54	RT	19	--	DRIVEWAY
493+21	RT	17	--	DRIVEWAY
494+06	LT	22	--	DRIVEWAY
494+29	RT	12	--	DRIVEWAY
497+20	LT	34	--	DRIVEWAY
517+92	LT	49	3	DRIVEWAY
568+71	LT	40	--	DRIVEWAY
569+92	LT	51	--	DRIVEWAY
570+32 - 571+33	LT	101	--	DRIVEWAY
570+53 - 572+32	RT	187	--	DRIVEWAY
572+30 - 573+39	LT	226	--	DRIVEWAY
576+75	RT	19	--	DRIVEWAY
577+00	LT & RT	28	--	CTH P
8+50	LT & RT	24	--	PRIVATE ROAD
18+50	LT & RT	23	--	WESTERAN AVENUE
21+50	LT & RT	24	--	WESTERAN AVENUE
28+20	LT & RT	24	--	SHERMAN ROAD
28+43	RT	23	--	DRIVEWAY
31+75	RT	18	--	DRIVEWAY
31+95	LT & RT	24	--	SHERMAN ROAD
81+65	RT	12	--	DRIVEWAY
TOTALS		977	59	

3

STORM SEWER LATERAL ITEMS

STATION	LOCATION	SPV.0090.01
		LF
CATEGORY CODE 0010		
570+29	LT	31
572+11	LT	17
TOTAL		48

PROJECT ITEMS

PROJECT	213.0100	460.9000.S	618.0100	619.1000	642.5001
	FINISHING ROADWAY (PROJECT)	MATERIAL TRANSFER VEHICLE	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT)	MOBILIZATION	FIELD OFFICE TYPE B
	EACH	EACH	EACH	EACH	EACH
CATEGORY CODE 0010					
2711-06-70	1	1	--	1	1
CATEGORY CODE 0010 SUBTOTALS		1	1	--	1
CATEGORY CODE 0030					
2711-06-70	--	--	1	--	--
CATEGORY CODE 0030 SUBTOTALS		--	1	--	--
TOTALS		1	1	1	1

RELOCATE GATE

EXISTING		PROPOSED		SPV.0060.01	COMMENTS
STATION	LOCATION	STATION	LOCATION	EACH	
CATEGORY CODE 0010					
9+38	LT & RT	8+55	LT & RT	1	PRIVATE ROAD
TOTAL				1	

CONVENTIONAL SYMBOLS

SECTION LINE		PARCEL NUMBER	UTILITY NUMBER
QUARTER LINE		SECTION CORNER	R/W MONUMENT
SIXTEENTH LINE		NOTATION FOR COMBUSTIBLE FLUIDS	NON-MONUMENTED R/W POINT
NEW REFERENCE LINE		NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES	FOUND IRON PIN
NEW R/W LINE		CAUTION	VALVE (GAS, WATER, ETC.)
EXISTING R/W LINE		NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES	SIGN
PROPERTY LINE		CAUTION	OFF-PREMISE SIGN
LOT, TIE, AND OTHER MINOR LINES			
SLOPE INTERCEPT			
CORPORATE LIMITS			
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)			
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)			

TEMP. LIMITED EASEMENT AREA		ACCESS CONTROLLED BY ACQUISITION	
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)		NO ACCESS (BY STATUTORY AUTHORITY)	
TRANSMISSION STRUCTURES		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	
BUILDING		NO ACCESS (NEW HIGHWAY)	
BUILDING (TO BE REMOVED)		NATIONAL GEODETIC SURVEY MONUMENT	
BRIDGE		SIXTEENTH CORNER MONUMENT	
		PARALLEL OFFSETS	

CONVENTIONAL UTILITY SYMBOLS

WATER	
GAS	
TELEPHONE	
OVERHEAD TRANSMISSION LINES	
ELECTRIC	
CABLE TELEVISION	
FIBER OPTIC	
SANITARY SEWER	
STORM SEWER	
ELECTRIC TOWER	
POWER POLE	
TELEPHONE POLE	
TELEPHONE PEDESTAL	

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ / DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	OUTLOT	OL
ACRES	AC	PAGE	P
AHEAD	AH	POINT OF TANGENCY	PT
ALUMINUM	ALUM	PROPERTY LINE	PL
AND OTHERS	ET AL	RECORDED AS (100')	(100')
BACK	BK	REEL / IMAGE	R/I
BLOCK	BLK	REFERENCE LINE	R/L
CENTERLINE	C/L	PERMANENT LIMITED EASEMENT	PLE
CERTIFIED SURVEY MAP	CSM	POINT OF BEGINNING	POB
CONCRETE	CONC	POINT OF CURVATURE	PC
COUNTY	CO	POINT OF COMPOUND CURVE	PCC
COUNTY TRUNK HIGHWAY	CTH	POINT OF INTERSECTION	PI
DISTANCE	DIST	REMAINING	REM
CORNER	COR	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
DOCUMENT NUMBER	DOC	RIGHT	RT
EASEMENT	EASE	RIGHT OF WAY	R/W
EXISTING	EX	SECTION	SEC
GAS VALVE	GV	SEPTIC VENT	SEPV
GRID NORTH	GN	SQUARE FEET	SF
HIGHWAY EASEMENT	HE	STATE TRUNK HIGHWAY	STH
IDENTIFICATION	ID	STATION	STA
LAND CONTRACT	LC	TELEPHONE PEDESTAL	TP
LEFT	LT	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	TRANSPORTATION PROJECT PLAT	TPP
NATIONAL GEODETIC SURVEY	NGS	UNITED STATES HIGHWAY	USH
NUMBER	NO	VOLUME	V

R/W PROJECT NUMBER 2711-06-00	SHEET NUMBER 4.01	TOTAL SHEETS 7
R/W PROJECT NUMBER 2711-06-00		
PLAT OF RIGHT OF WAY REQUIRED FOR CTH P STH 145 - SHERMAN ROAD		
LOCAL STREET	WASHINGTON COUNTY	
CONSTRUCTION PROJECT NUMBER 2711-06-70		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM (WSPCS), SOUTH ZONE, NAD27 IN US SURVEY FEET. ALL COORDINATES AND DISTANCES SHOWN ON THIS PLAT ARE GROUND VALUES. TO CONVERT FROM NORTH GROUND COORDINATES TO EAST GROUND COORDINATES, MULTIPLY BY A FACTOR OF 0.999887663, TO CONVERT FROM EAST GROUND COORDINATES TO EAST GRID COORDINATES, SUBTRACT 2,000,000 AND MULTIPLY RESULT BY A FACTOR OF 0.99988511, AND THEN ADD 2,000,000.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 1" X 24" IRON PIPES), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A RESTRICTED DEVELOPMENT EASEMENT (RDE) IS AN EASEMENT FOR THE PURPOSE OF MAINTAINING A VISION CLEARANCE AREA. THE OWNERS, FOR THEMSELVES, HEIRS, EXECUTORS, SUCCESSORS, AND ASSIGNS, ARE HEREBY PROHIBITED FROM PLACING, ERECTING, CONSTRUCTING, OR MAINTAINING ANY OUTDOOR ADVERTISING SIGNS, STRUCTURES, BUILDINGS, OR APPURTENANCES OF A TEMPORARY OR PERMANENT NATURE. THE PARKING OF VEHICLES AND STORAGE OF EQUIPMENT IS LIKEWISE PROHIBITED. NO VEGETATION SHALL BE PLANTED, MAINTAINED, OR PERMITTED TO GROW BETWEEN A HEIGHT OF 2 FEET AND 12 FEET ABOVE THE CENTERLINE ELEVATION OF THE ADJACENT HIGHWAYS. THIS REGULATION SHALL NOT APPLY TO THE TRUNKS OF DECIDUOUS TREES, UTILITY POLES, POSTS NOT OVER 6 INCHES SQUARE OR IN DIAMETER, RETAINING WALLS USED TO SUPPORT GROUND AT OR BELOW ITS NATURAL LEVEL, OR WIRE FENCES. NOTHING SHALL BE PLANTED, PLACED, CONSTRUCTED, OR MAINTAINED SO AS TO CONSTITUTE A SUBSTANTIAL OBSTRUCTION TO THE VIEW OF MOTORISTS ACROSS THE VISION CLEARANCE OPENING BETWEEN THE ADJACENT HIGHWAYS. THE RESTRICTED DEVELOPMENT AREA REMAINS PRIVATE LAND SUBJECT TO THIS EASEMENT, AND DOES NOT, BY OPERATION OF THIS EASEMENT, BECOME SUBJECT TO PUBLIC USE. IN THE EVENT OF ANY VIOLATION OF THE ABOVE CONDITIONS, THE GRANTEE SHALL HAVE THE RIGHT TO ENTER SAID EASEMENT AREA AND TAKE WHATEVER REASONABLE ACTION AS MAY BE NECESSARY TO REMOVE SAID VIOLATION AND PREVENT A RECURRENCE OF THE SAME.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

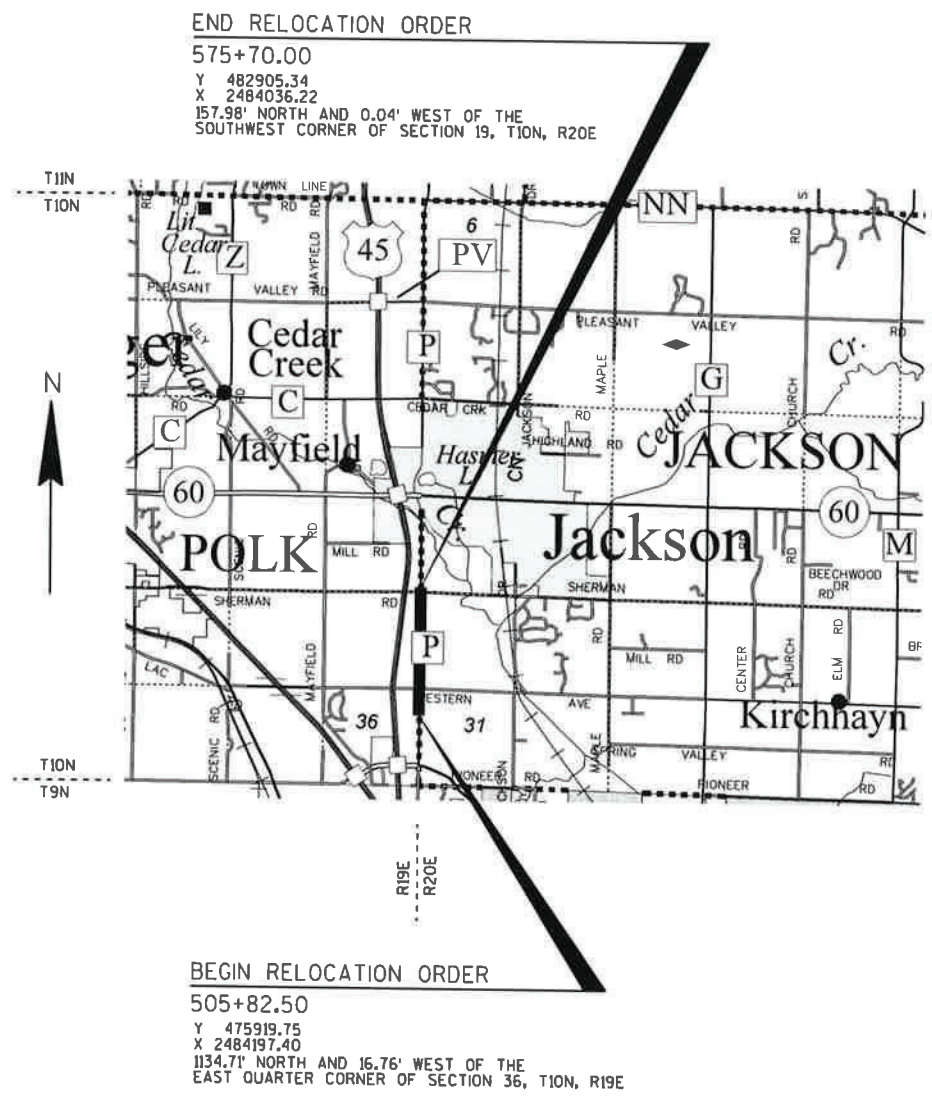
PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

CAUTION:
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.



END RELOCATION ORDER
575+70.00
Y 482905.34
X 2484036.22
157.98' NORTH AND 0.04' WEST OF THE
SOUTHWEST CORNER OF SECTION 19, T10N, R20E

BEGIN RELOCATION ORDER
505+82.50
Y 475919.75
X 2484197.40
1134.71' NORTH AND 16.76' WEST OF THE
EAST QUARTER CORNER OF SECTION 36, T10N, R19E



TOTAL NET LENGTH OF CENTERLINE = 1.323 MI.

ACCEPTED FOR
WASHINGTON COUNTY
Date 6/11/23
SCOTT SCHMIDT
CHIEF PUBLIC WORKS OFFICER

ORIGINAL PLAT PREPARED BY
G GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stovene Point • Fond du Lac
85 South Pioneer Road, Suite 300 • Fond du Lac, WI 54601
(920) 924-5720 • Fax (920) 924-5725

Date 12/6/22
JAY W. PANETTI, PLS

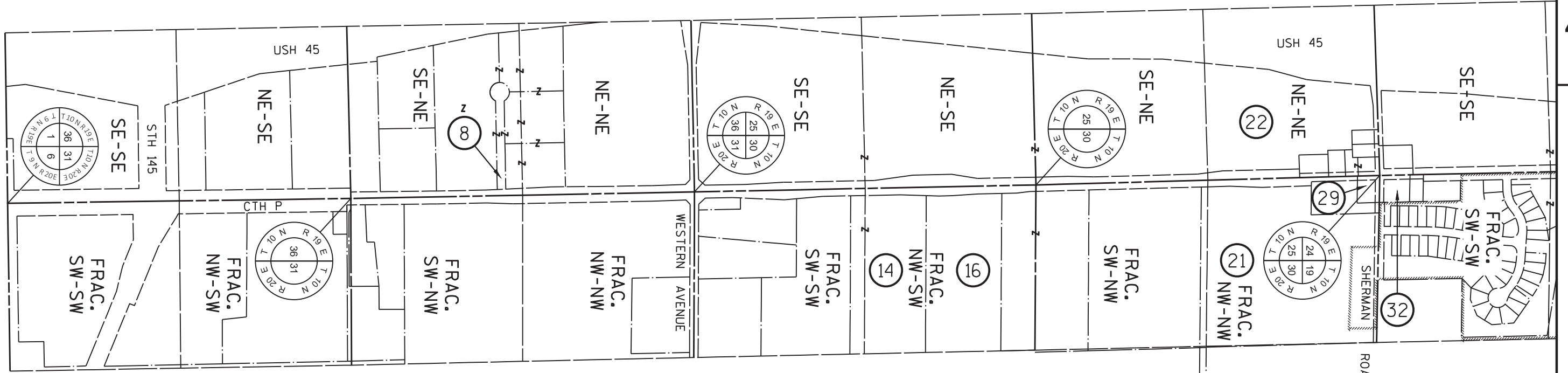


REVISION DATE

REVISED: 12/18/2022



TOWN OF POLK



TOWN OF JACKSON

4

4

SHEET 3 OF 7 SHEETS

REVISED: 12/8/2022

REVISION DATE	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

DATE	12/15/2022
GRID FACTOR	_____



HWY:	CTH P
COUNTY:	WASHINGTON

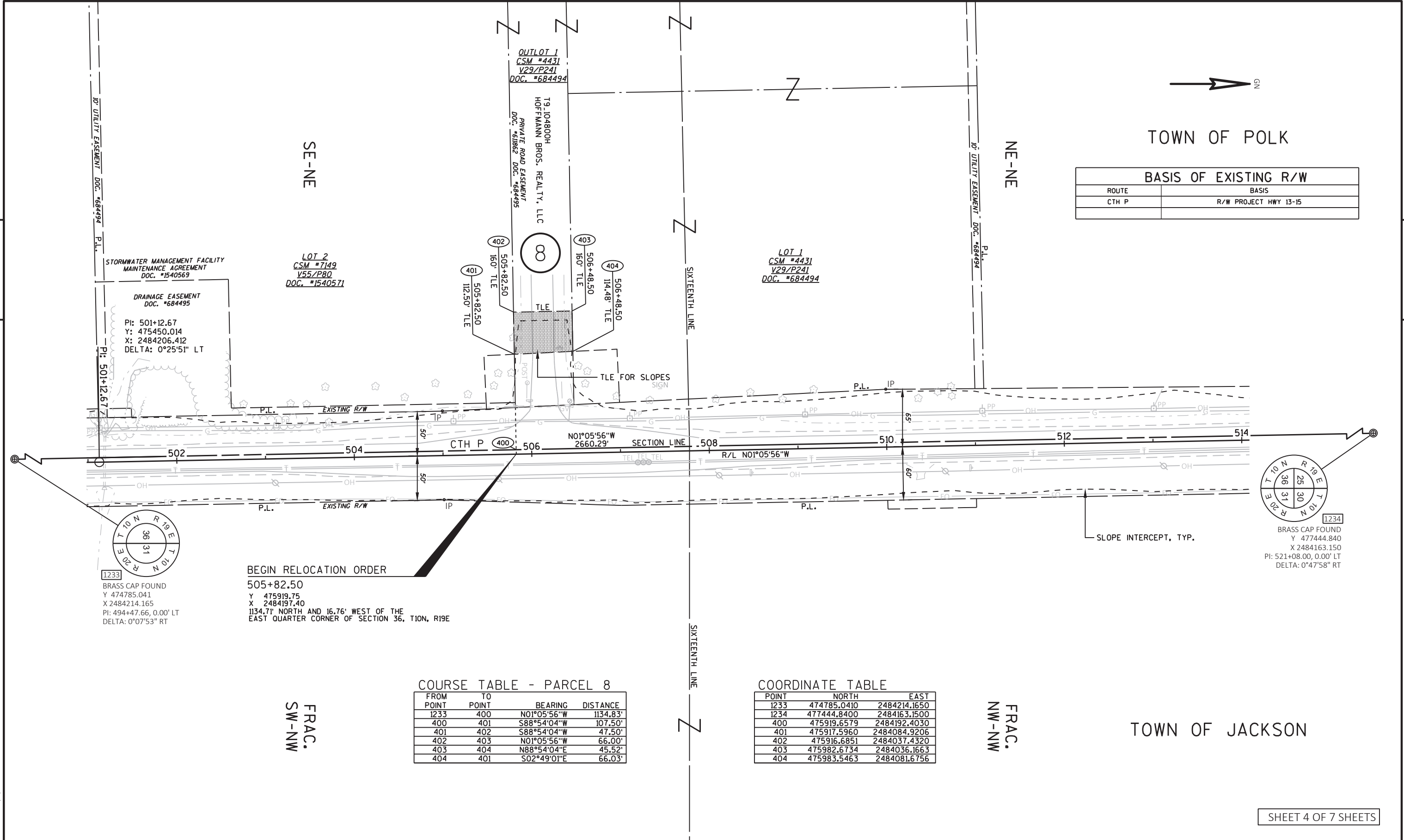
STATE R/W PROJECT NUMBER	2711-06-00
CONSTRUCTION PROJECT NUMBER	2711-06-70

PLAT SHEET	4.03
PS&E SHEET	_____

E

4

4



BASIS OF EXISTING R/W	
ROUTE	BASIS
CTH P	R/W PROJECT HWY 13-15

STORMWATER MANAGEMENT FACILITY
MAINTENANCE AGREEMENT
DOC. #1540569

DRAINAGE EASEMENT
DOC. #684495

PI: 501+12.67
Y: 475450.014
X: 2484206.412
DELTA: 0°25'51" LT

LOT 2
CSM #7149
V55/P80
DOC. #1540571

OUTLOT 1
CSM #4431
V29/P241
DOC. #684494

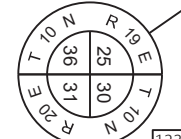
T9, JOABROOK
HOFFMANN BROS. REALTY, LLC
PRIVATE ROAD EASEMENT
DOC. #61862 DOC. #684495

LOT 1
CSM #4431
V29/P241
DOC. #684494



1233
BRASS CAP FOUND
Y 474785.041
X 2484214.165
PI: 494+47.66, 0.00' LT
DELTA: 0°07'53" RT

BEGIN RELOCATION ORDER
505+82.50
Y 475919.75
X 2484197.40
1134.71' NORTH AND 16.76' WEST OF THE
EAST QUARTER CORNER OF SECTION 36, T10N, R19E



1234
BRASS CAP FOUND
Y 477444.840
X 2484163.150
PI: 521+08.00, 0.00' LT
DELTA: 0°47'58" RT

COURSE TABLE - PARCEL 8

FROM POINT	TO POINT	BEARING	DISTANCE
1233	400	N01°05'56"W	1134.83'
400	401	S88°54'04"W	107.50'
401	402	S88°54'04"W	47.50'
402	403	N01°05'56"W	66.00'
403	404	N88°54'04"E	45.52'
404	401	S02°49'01"E	66.03'

COORDINATE TABLE

POINT	NORTH	EAST
1233	474785.0410	2484214.1650
1234	477444.8400	2484163.1500
400	475919.6579	2484192.4030
401	475917.5960	2484084.9206
402	475916.6851	2484037.4320
403	475982.6734	2484036.1663
404	475983.5463	2484081.6756

REVISED: 12/8/2022

REVISION DATE	DATE 12/15/2022	SCALE, FEET 0 50 100	HWY: CTH P	STATE R/W PROJECT NUMBER 2711-06-00	PLAT SHEET 4.04
	GRID FACTOR		COUNTY: WASHINGTON	CONSTRUCTION PROJECT NUMBER 2711-06-70	PS&E SHEET

SHEET 4 OF 7 SHEETS

COURSE TABLE - PARCEL 14

FROM POINT	TO POINT	BEARING	DISTANCE
1218	420	S01°10'00"E	1200.47'
420	421	N88°50'00"E	55.00'
421	422	N88°50'00"E	10.00'
422	423	S01°10'00"E	50.00'
423	424	S20°38'09"W	26.93'
424	421	N01°10'00"W	75.00'

COORDINATE TABLE

POINT	NORTH	EAST
1218	480086.7570	2484109.3530
1234	477444.8400	2484163.1500
410	479376.4386	2484123.8171
411	479377.8637	2484193.8027
412	479378.3727	2484218.7983
413	479358.6822	2484234.2023
414	479359.7001	2484284.1920
415	479340.0096	2484299.5960
416	479283.2906	2484215.7334
417	479282.8274	2484192.9873
418	479337.8730	2484194.6170
420	478886.5402	2484133.7929
421	478887.6599	2484188.7818
422	478887.8635	2484198.7802
423	478837.8738	2484199.7981
424	478812.6754	2484190.3086

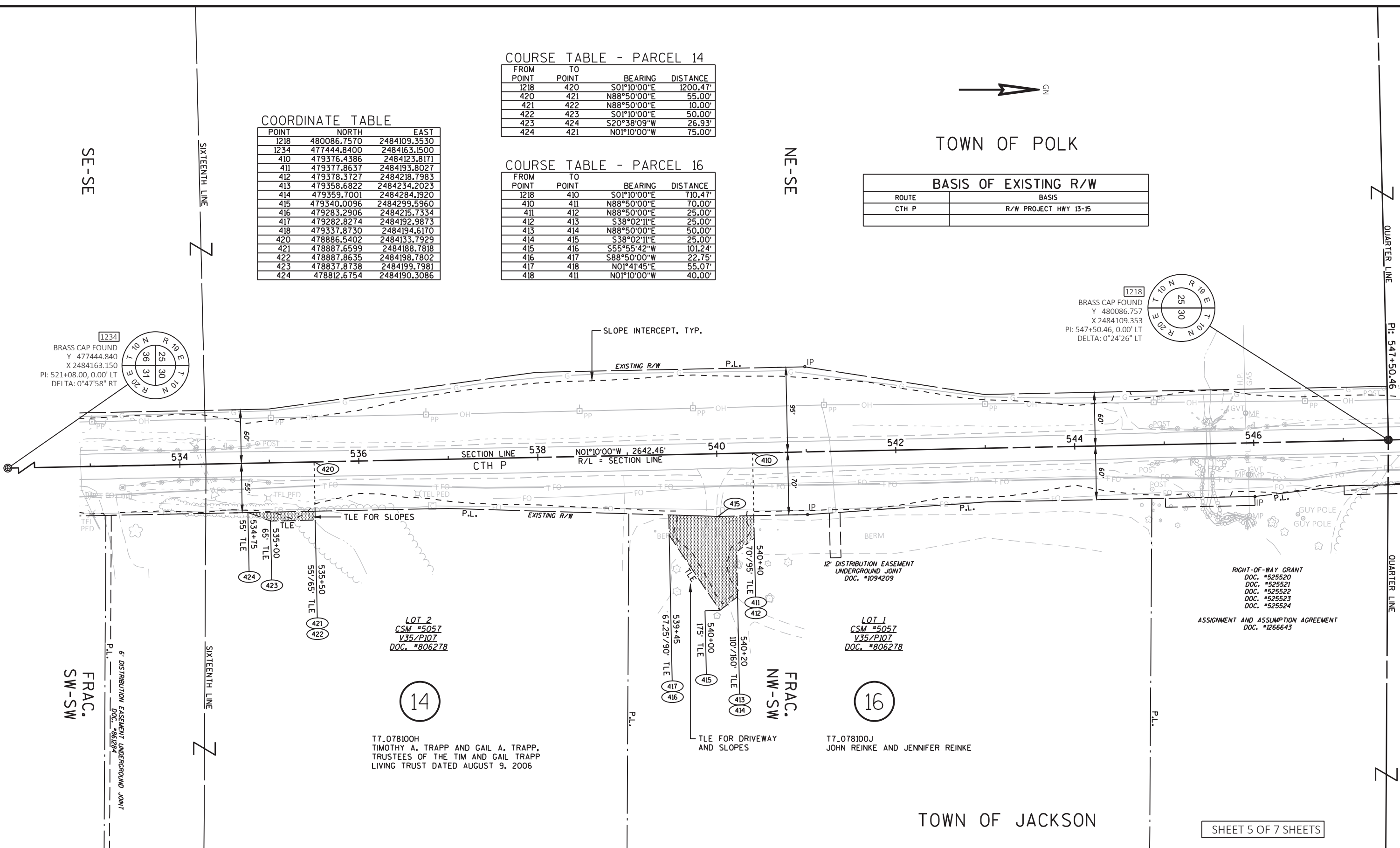
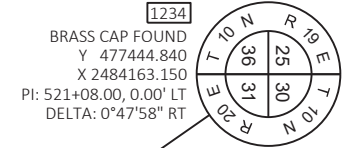
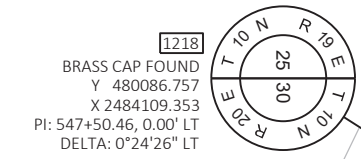
COURSE TABLE - PARCEL 16

FROM POINT	TO POINT	BEARING	DISTANCE
1218	410	S01°10'00"E	710.47'
410	411	N88°50'00"E	70.00'
411	412	N88°50'00"E	25.00'
412	413	S38°02'11"E	25.00'
413	414	N88°50'00"E	50.00'
414	415	S38°02'11"E	25.00'
415	416	S55°55'42"W	101.24'
416	417	S88°50'00"W	22.75'
417	418	N01°41'45"E	55.07'
418	411	N01°10'00"W	40.00'



TOWN OF POLK

BASIS OF EXISTING R/W	
ROUTE	BASIS
CTH P	R/W PROJECT HWY 13-15



LOT 2
 CSM #5057
 V35/P107
 DOC. #806278

LOT 1
 CSM #5057
 V35/P107
 DOC. #806278

RIGHT-OF-WAY GRANT
 DOC. #525520
 DOC. #525521
 DOC. #525522
 DOC. #525523
 DOC. #525524
 ASSIGNMENT AND ASSUMPTION AGREEMENT
 DOC. #1266643

T7-078100H
 TIMOTHY A. TRAPP AND GAIL A. TRAPP,
 TRUSTEES OF THE TIM AND GAIL TRAPP
 LIVING TRUST DATED AUGUST 9, 2006

T7-078100J
 JOHN REINKE AND JENNIFER REINKE

REVISED: 12/8/2022

REVISION DATE	DATE 12/15/2022	SCALE, FEET	HWY: CTH P	STATE R/W PROJECT NUMBER 2711-06-00	PLAT SHEET 4.05
	GRID FACTOR	0 50 100	COUNTY: WASHINGTON	CONSTRUCTION PROJECT NUMBER 2711-06-70	PS&E SHEET

COORDINATE TABLE

POINT	NORTH	EAST
1127	482747.3660	2484036.2580
1218	480086.7570	2484109.3530
300	481417.0615	2484072.8055
301	481415.3770	2484015.7773
302	481414.7290	2483993.8401
303	481798.6448	2483984.0173
304	481888.1038	2483961.7219
305	481923.0923	2483960.8267
306	481978.8415	2483989.4099
307	481533.9880	2484000.7920
430	481414.4338	2483983.8444
431	481797.2916	2483974.0486
432	481886.7506	2483951.7532
433	481925.3856	2483950.7647
434	481999.7178	2483988.8757
435	481970.7112	2484057.5951
436	481972.5214	2484123.4880
437	481972.5537	2484134.6184
438	481887.5815	2484136.7925
439	481887.3150	2484126.3787
440	482713.0729	2484037.2001
441	482713.9170	2484070.1900
442	482713.8228	2484077.3478
443	482574.2008	2484074.0283

COURSE TABLE - PARCEL 22 FEE

FROM POINT	TO POINT	BEARING	DISTANCE
1127	300	S01°34'25"E	1330.81'
300	301	S88°18'29"W	57.05'
301	302	S88°18'29"W	21.95'
302	303	N01°27'56"W	384.04'
303	304	N13°59'40"W	92.20'
304	305	N01°27'56"W	35.00'
305	306	N27°08'41"E	62.65'
306	307	S01°27'56"E	445.00'
307	301	S07°12'02"E	119.55'

COURSE TABLE - PARCEL 22 TLE

FROM POINT	TO POINT	BEARING	DISTANCE
1127	300	S01°34'25"E	1330.81'
300	302	S88°18'29"W	79.00'
302	430	S88°18'29"W	10.00'
430	431	N01°27'56"W	382.98'
431	432	N13°59'40"W	92.20'
432	433	N01°27'56"W	38.65'
433	434	N27°08'41"E	83.53'
434	306	S01°27'57"E	20.88'
306	305	S27°08'41"W	62.65'
305	304	S01°27'56"E	35.00'
304	303	S13°59'40"E	92.20'
303	302	S01°27'56"E	384.04'

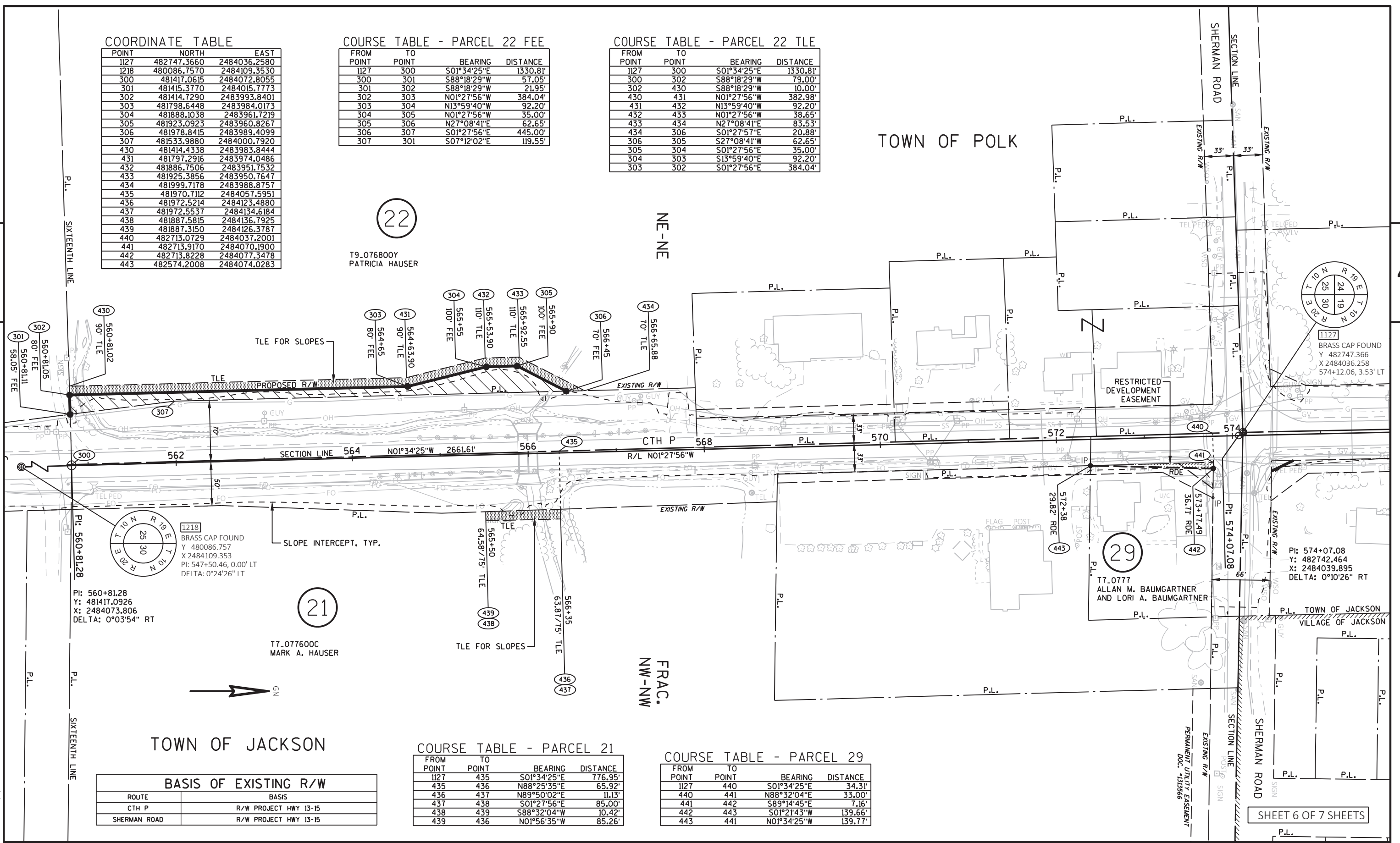
22

T9_076800Y
PATRICIA HAUSER

NE-NE

4

4



1218
BRASS CAP FOUND
Y 480086.757
X 2484109.353
PI: 547+50.46, 0.00' LT
DELTA: 0°24'26" LT

21

T7_077600C
MARK A. HAUSER

TOWN OF JACKSON

BASIS OF EXISTING R/W

ROUTE	BASIS
CTH P	R/W PROJECT HWY 13-15
SHERMAN ROAD	R/W PROJECT HWY 13-15

COURSE TABLE - PARCEL 21

FROM POINT	TO POINT	BEARING	DISTANCE
1127	435	S01°34'25"E	776.95'
435	436	N88°25'35"E	65.92'
436	437	N89°50'02"E	11.13'
437	438	S01°27'56"E	85.00'
438	439	S88°32'04"W	10.42'
439	436	N01°56'35"W	85.26'

COURSE TABLE - PARCEL 29

FROM POINT	TO POINT	BEARING	DISTANCE
1127	440	S01°34'25"E	34.31'
440	441	N88°32'04"E	33.00'
441	442	S89°14'45"E	7.16'
442	443	S01°21'43"W	139.66'
443	441	N01°34'25"W	139.77'

29

T7_0777
ALLAN M. BAUMGARTNER
AND LORI A. BAUMGARTNER

SHEET 6 OF 7 SHEETS

REVISED: 12/8/2022

REVISION DATE	DATE 12/15/2022	SCALE, FEET 0 50 100	HWY: CTH P	STATE R/W PROJECT NUMBER 2711-06-00	PLAT SHEET 4.06
	GRID FACTOR		COUNTY: WASHINGTON	CONSTRUCTION PROJECT NUMBER 2711-06-70	PS&E SHEET
					E

COORDINATE TABLE

POINT	NORTH	EAST
1125	485390.9000	2483980.1760
1127	482747.3660	2484036.2580
310	482804.2239	2484035.0518
311	482804.9238	2484068.0451
312	482779.7908	2484080.2163
313	482746.5250	2484079.5703
450	482906.0106	2484065.9005
451	482789.7170	2484075.4093

COURSE TABLE - PARCEL 32 FEE

FROM POINT	TO POINT	BEARING	DISTANCE
1127	310	N01°12'55"W	56.87'
310	311	N88°47'05"E	33.00'
311	312	S25°50'22"E	27.93'
312	313	S01°06'45"W	33.27'
313	1127	N88°53'15"W	43.32'

COURSE TABLE - PARCEL 32 RDE

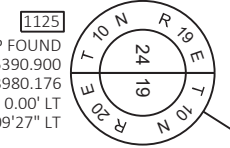
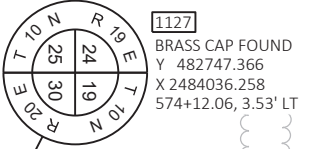
FROM POINT	TO POINT	BEARING	DISTANCE
1127	310	N01°12'55"W	56.87'
310	311	N88°47'05"E	33.00'
311	450	N01°12'55"W	101.11'
450	451	S04°40'28"E	116.68'
451	311	N25°50'22"W	16.90'



BASIS OF EXISTING R/W

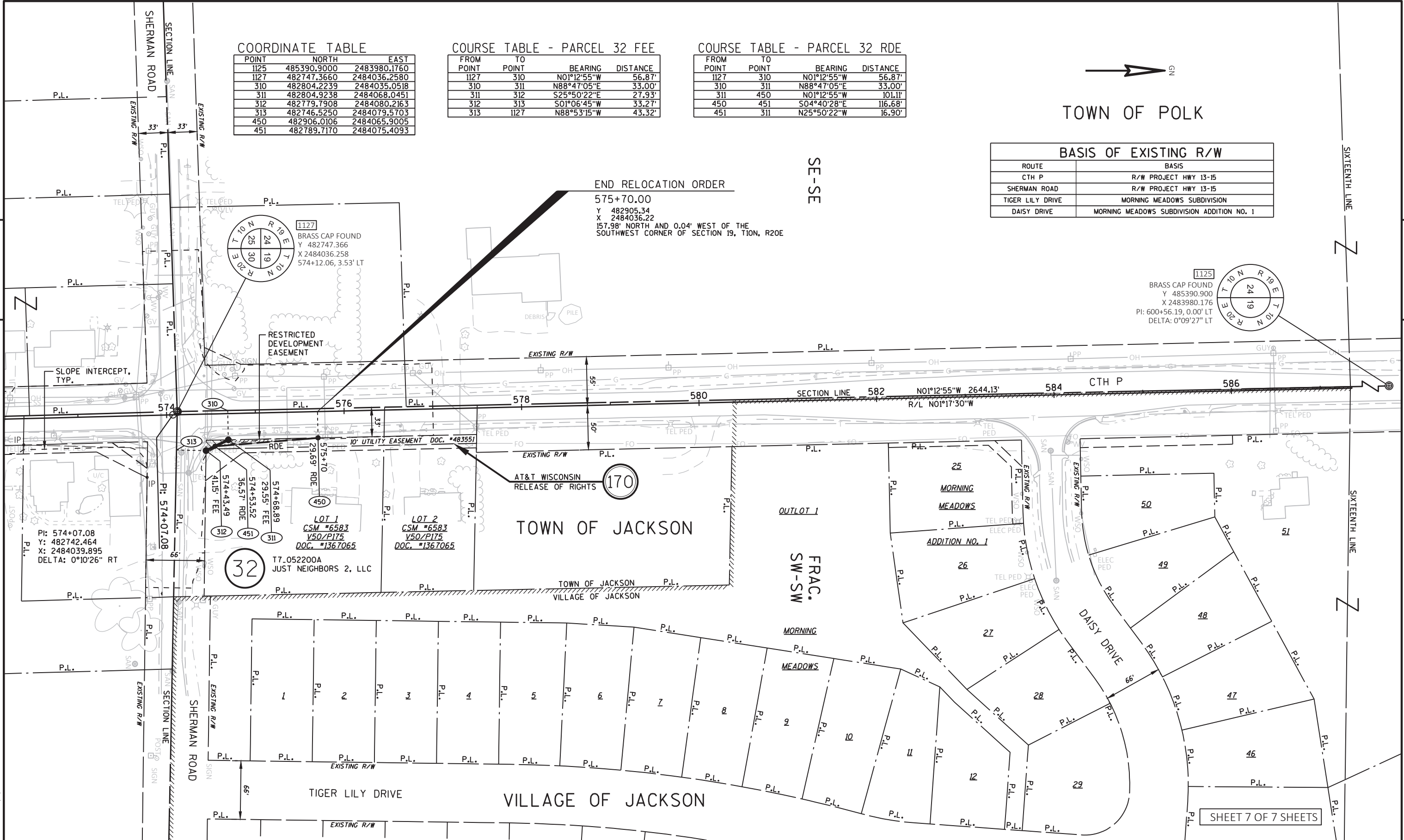
ROUTE	BASIS
CTH P	R/W PROJECT HWY 13-15
SHERMAN ROAD	R/W PROJECT HWY 13-15
TIGER LILY DRIVE	MORNING MEADOWS SUBDIVISION
DAISY DRIVE	MORNING MEADOWS SUBDIVISION ADDITION NO. 1

END RELOCATION ORDER
 575+70.00
 Y 482905.34
 X 2484036.22
 157.98' NORTH AND 0.04' WEST OF THE
 SOUTHWEST CORNER OF SECTION 19, TION, R20E



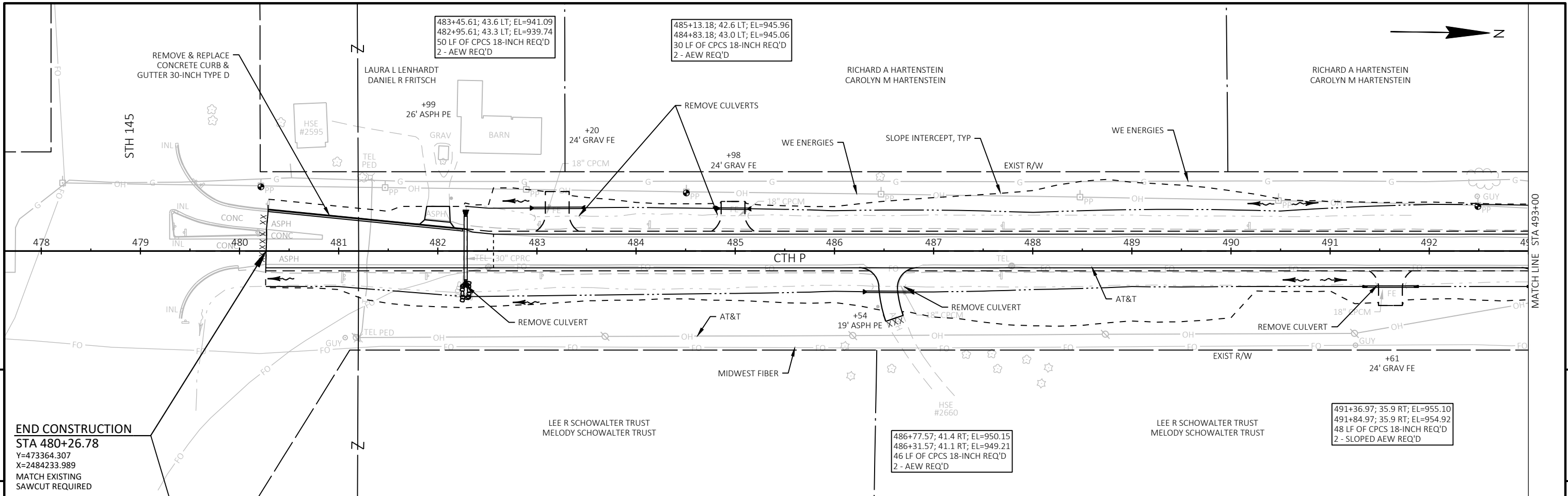
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4



REVISED: 12/8/2022

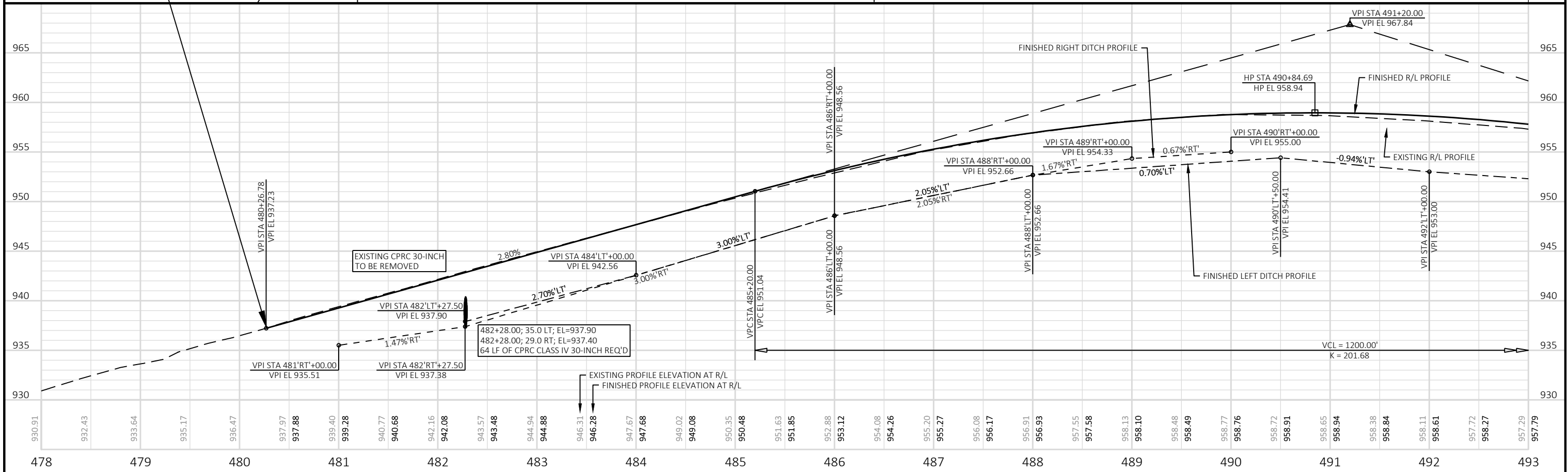
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	GRID FACTOR		COUNTY: WASHINGTON	CONSTRUCTION PROJECT NUMBER 2711-06-70	PS&E SHEET



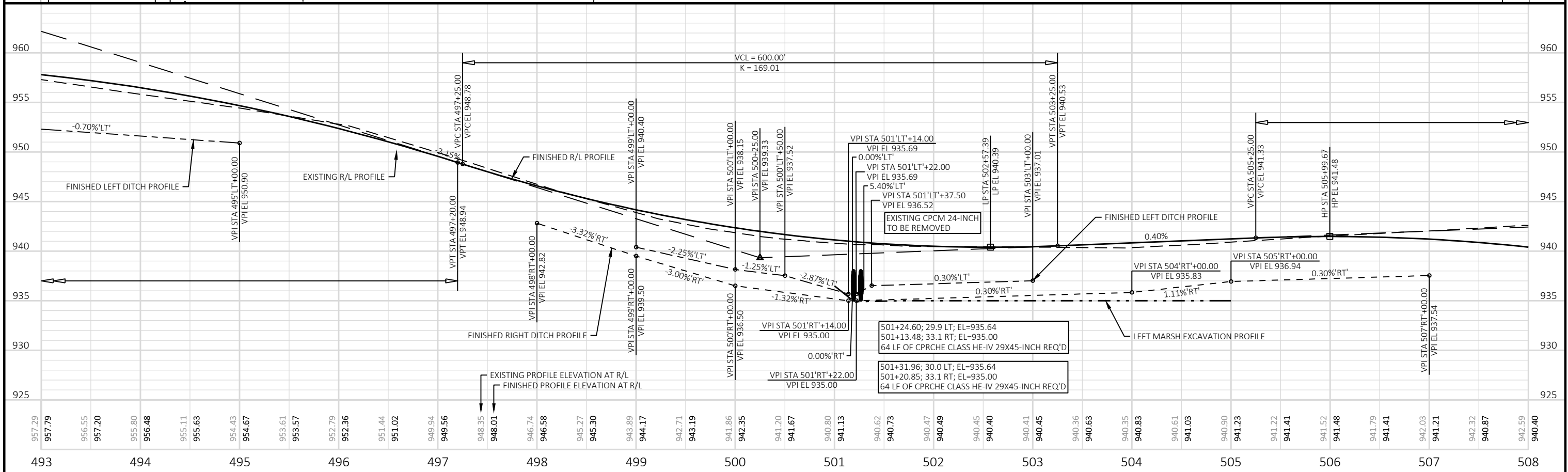
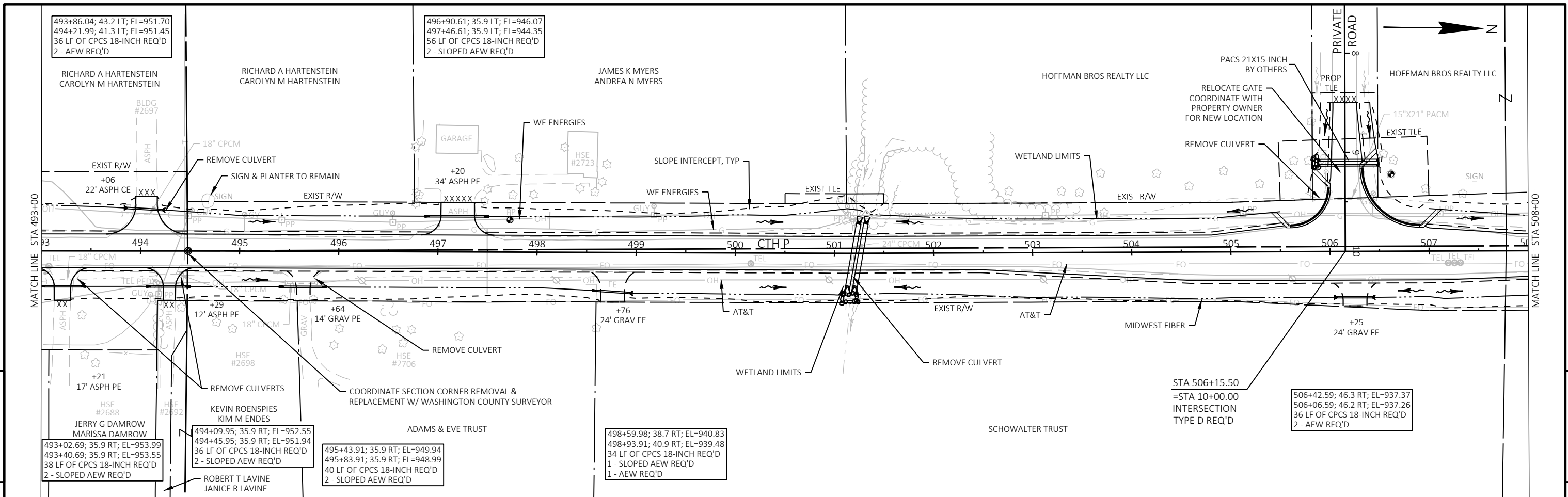
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END CONSTRUCTION
 STA 480+26.78
 Y=473364.307
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 MATCH EXISTING
 SAWCUT REQUIRED

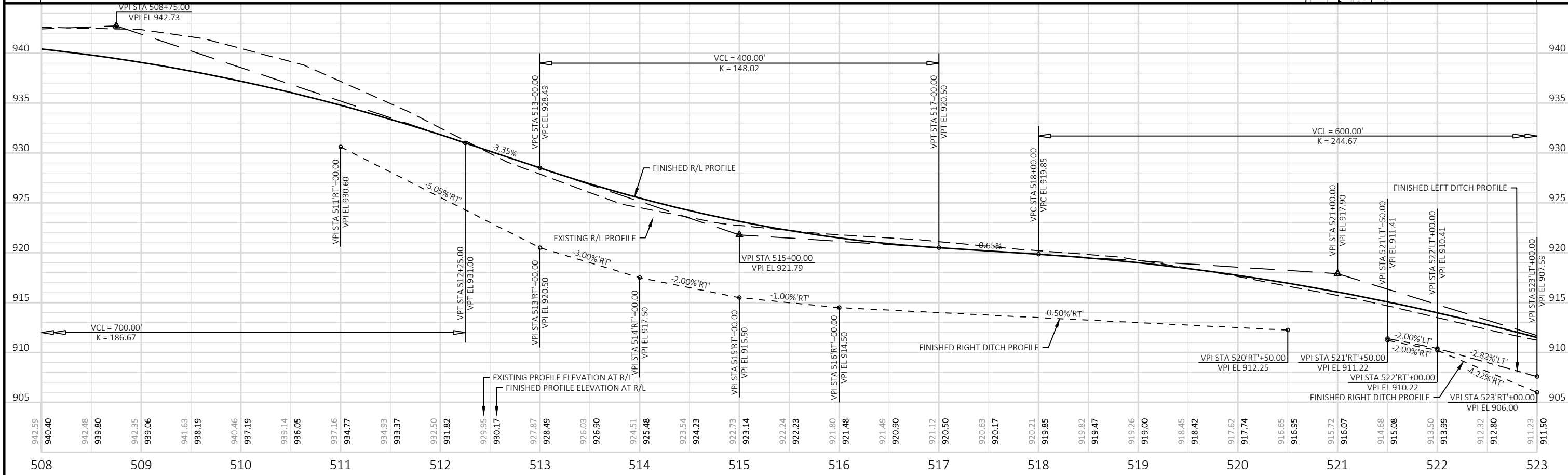
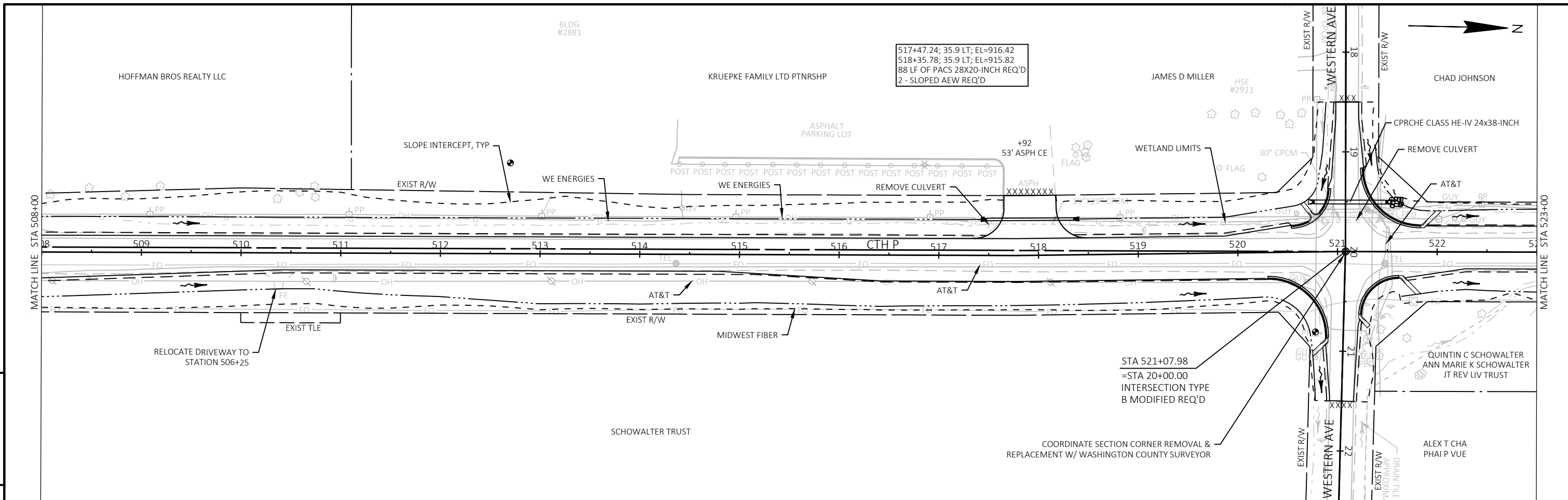
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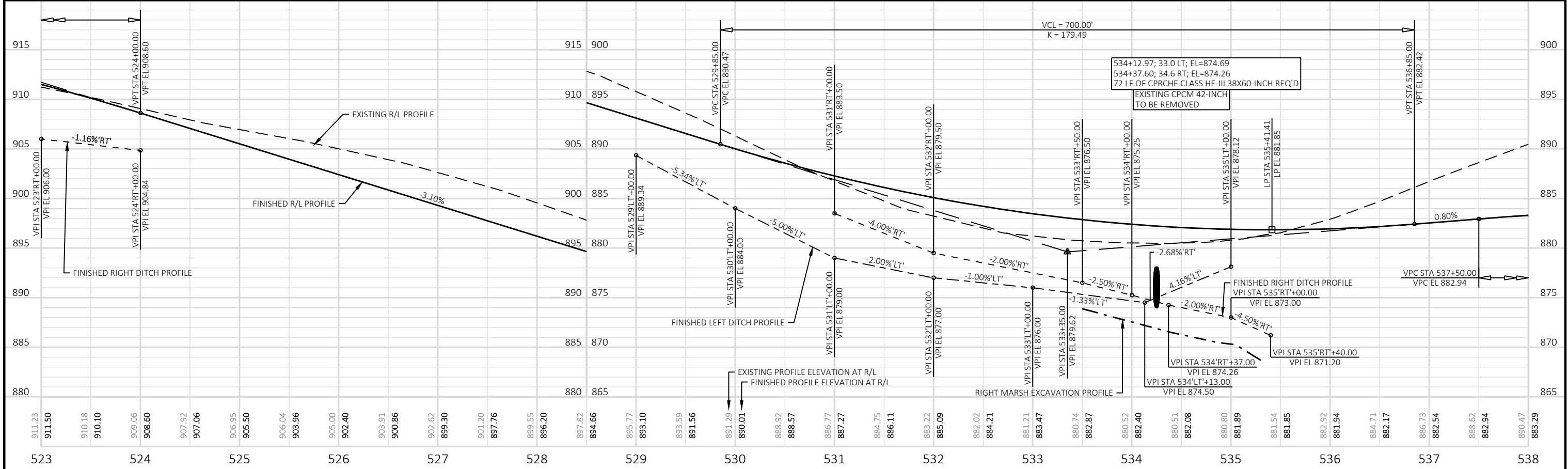
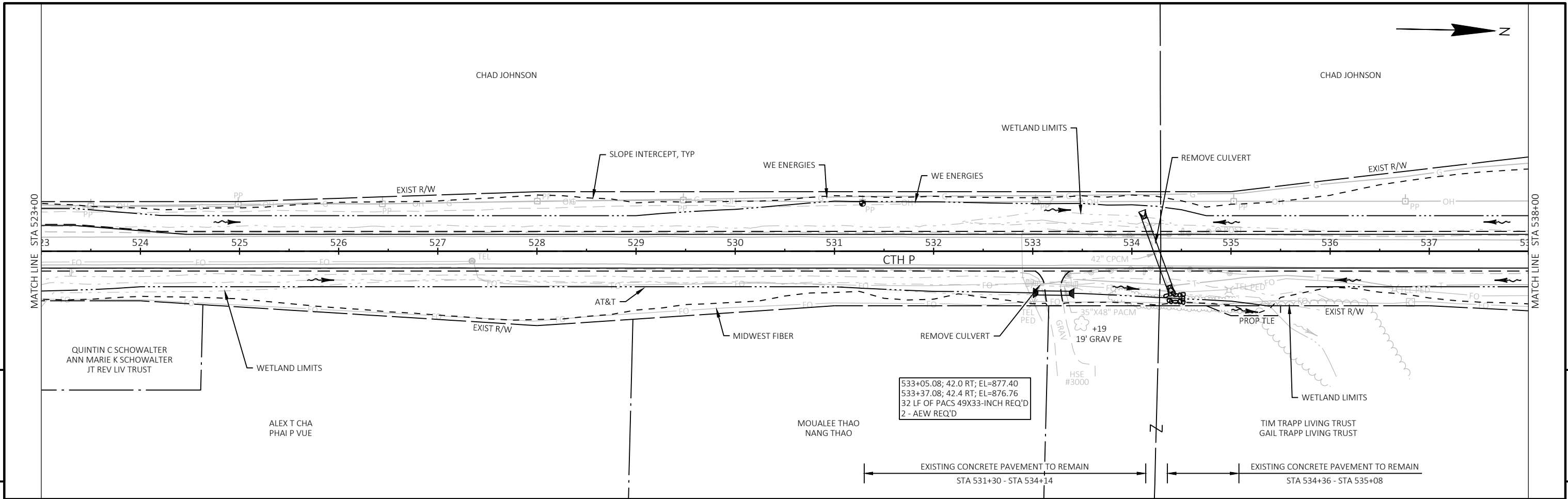
PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: CTH P	SHEET	E
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PROJECT NO:	2711-06-70	HWY:	CTH P	COUNTY:	WASHINGTON	PLAN AND PROFILE:	CTH P	SHEET	E
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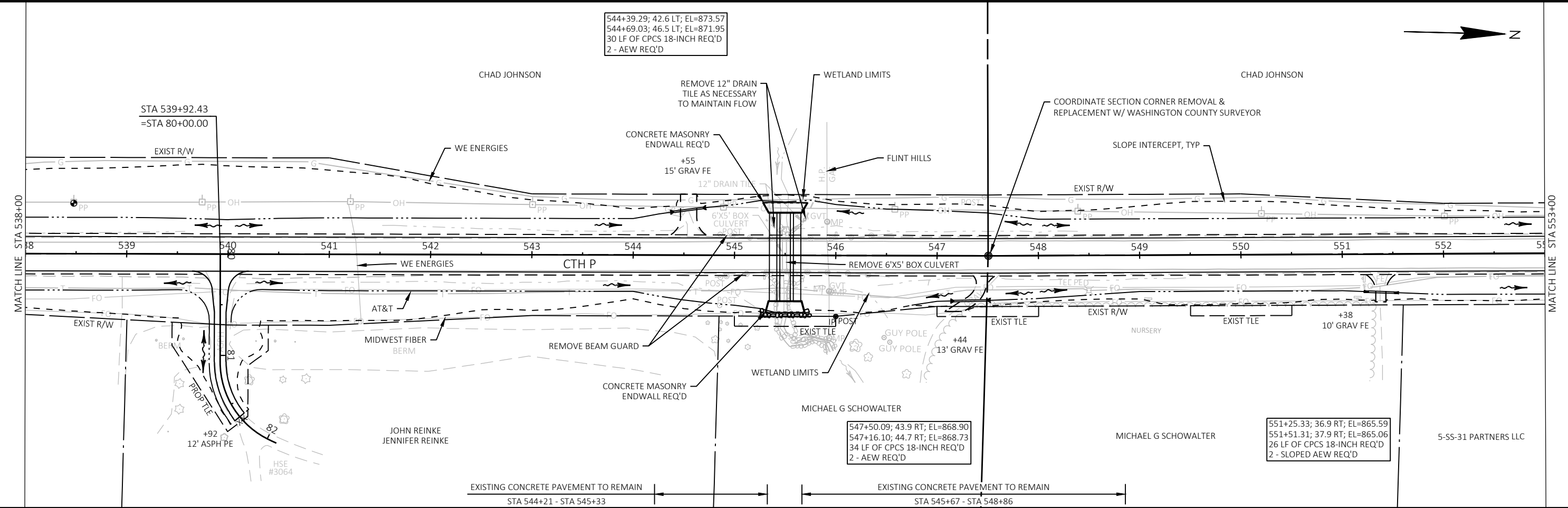


PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: CTH P	SHEET	E
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PROJECT NO:	2711-06-70	HWY:	CTH P	COUNTY:	WASHINGTON	PLAN AND PROFILE:	CTH P	SHEET	5
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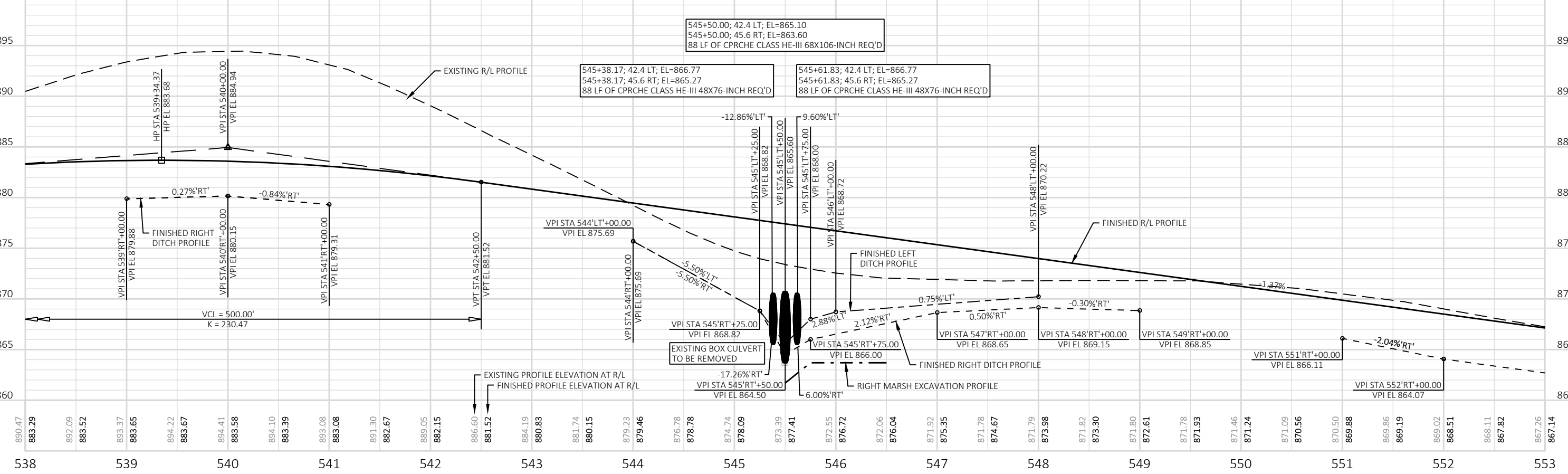
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 544+69.03; 46.5 LT; EL=871.95
 30 LF OF CPCS 18-INCH REQ'D
 2 - AEW REQ'D



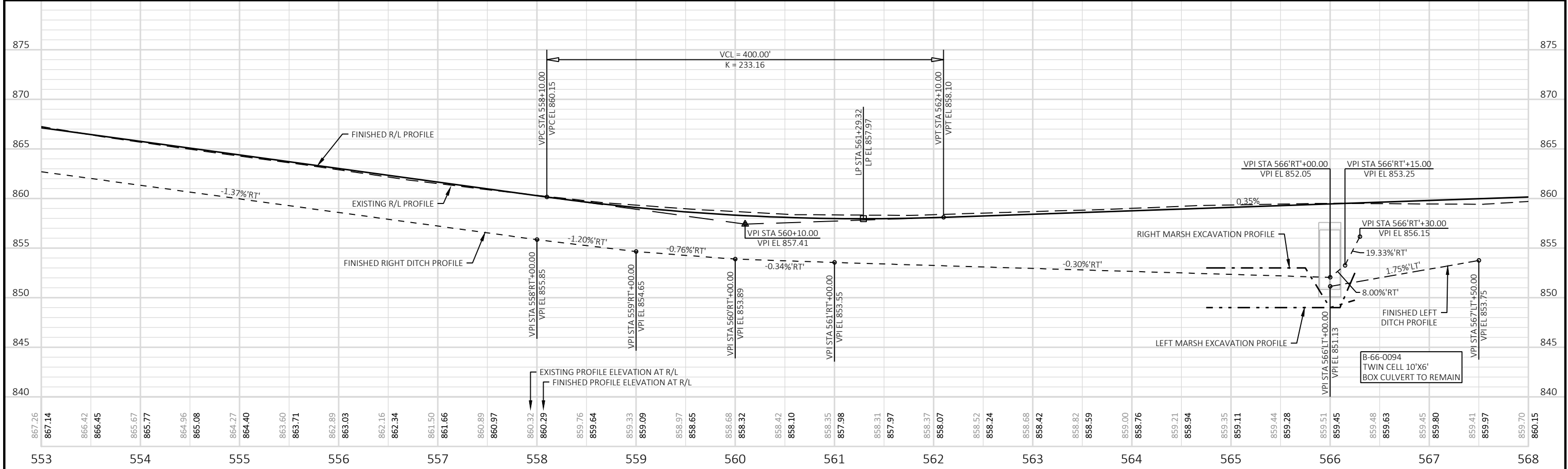
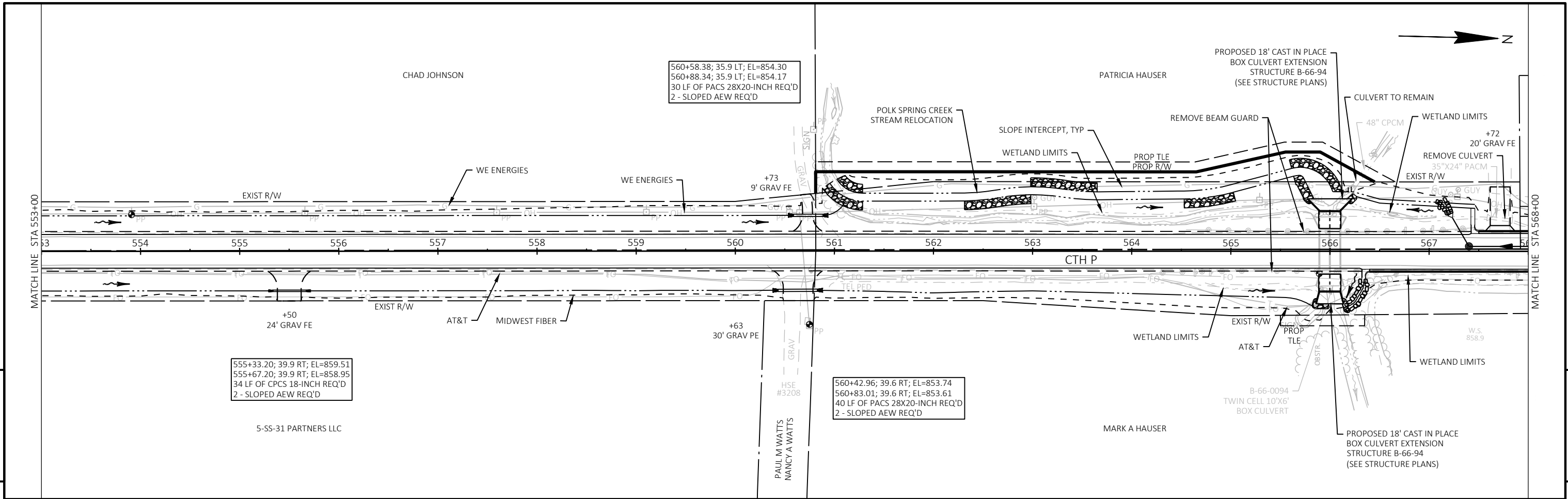
545+50.00; 42.4 LT; EL=865.10
 545+50.00; 45.6 RT; EL=863.60
 88 LF OF CPRCHE CLASS HE-III 68X106-INCH REQ'D

545+38.17; 42.4 LT; EL=866.77
 545+38.17; 45.6 RT; EL=865.27
 88 LF OF CPRCHE CLASS HE-III 48X76-INCH REQ'D

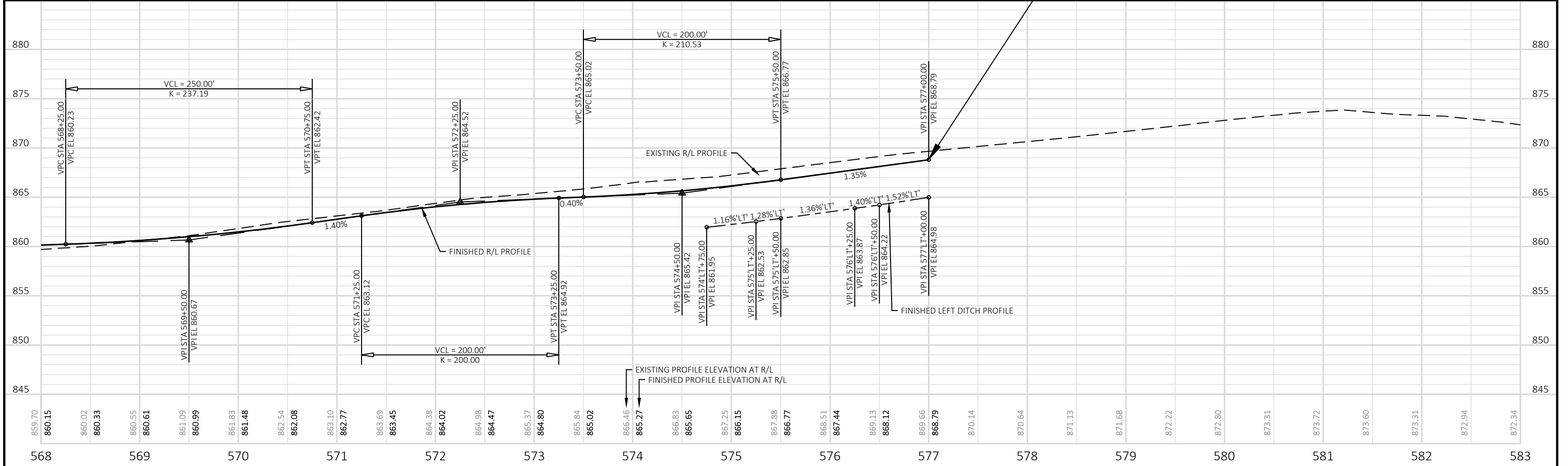
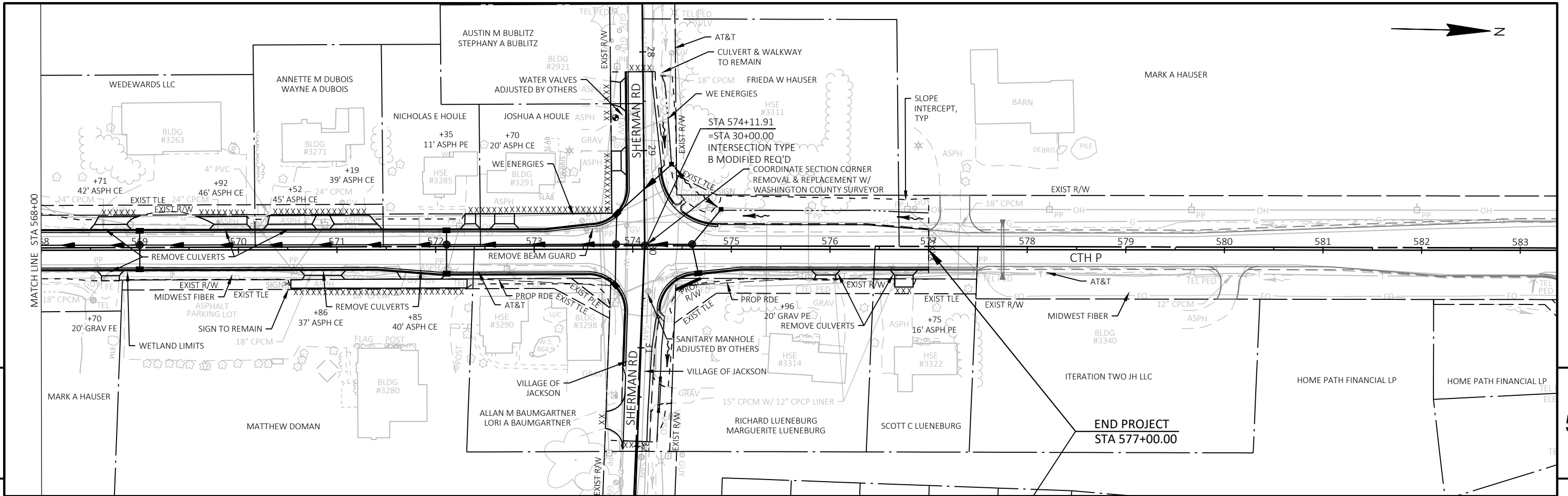
545+61.83; 42.4 LT; EL=866.77
 545+61.83; 45.6 RT; EL=865.27
 88 LF OF CPRCHE CLASS HE-III 48X76-INCH REQ'D



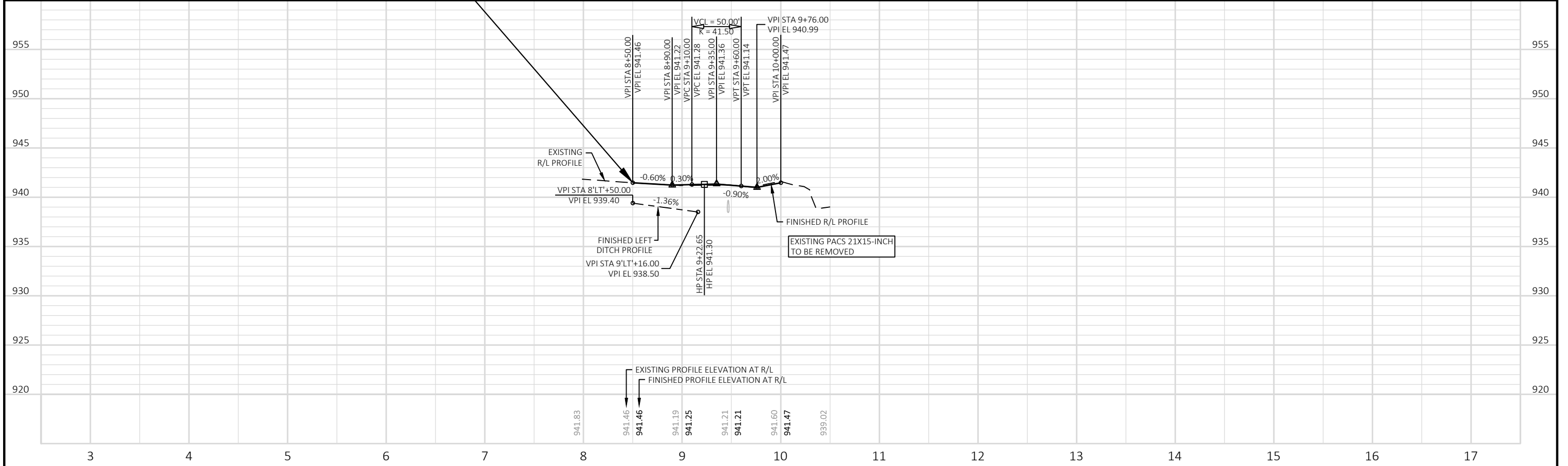
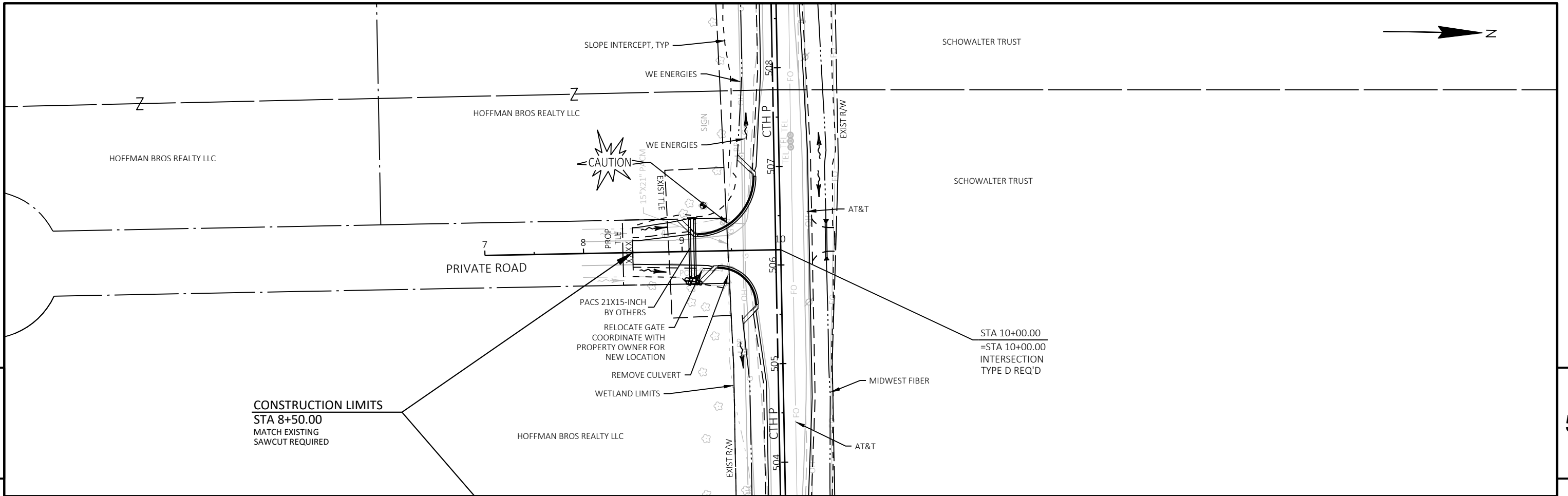
PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: CTH P	SHEET	E
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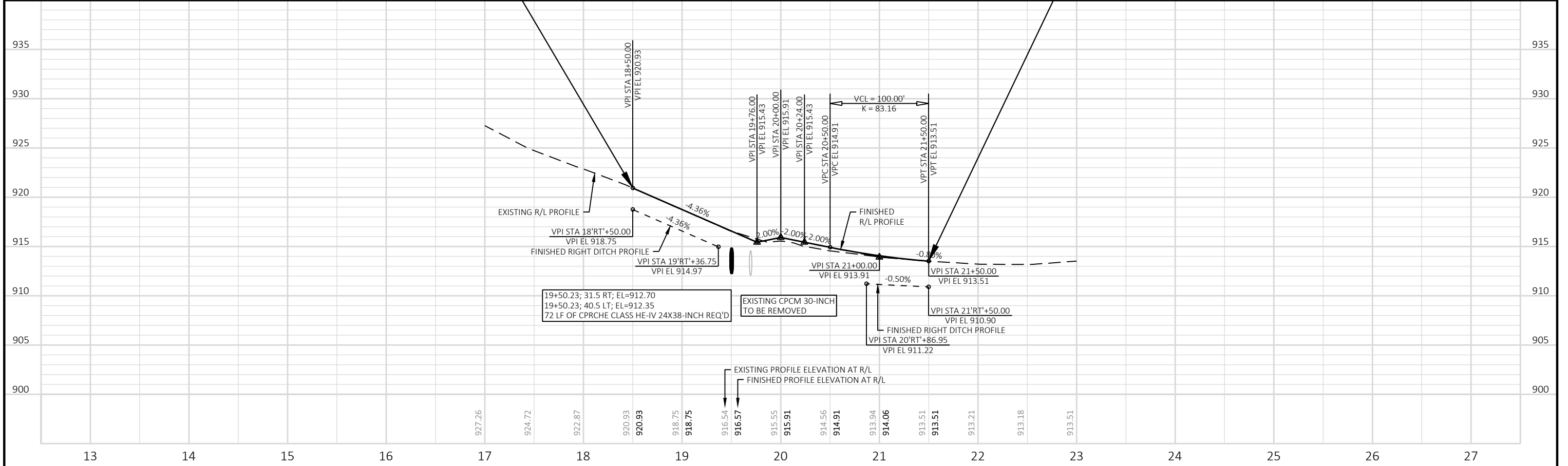
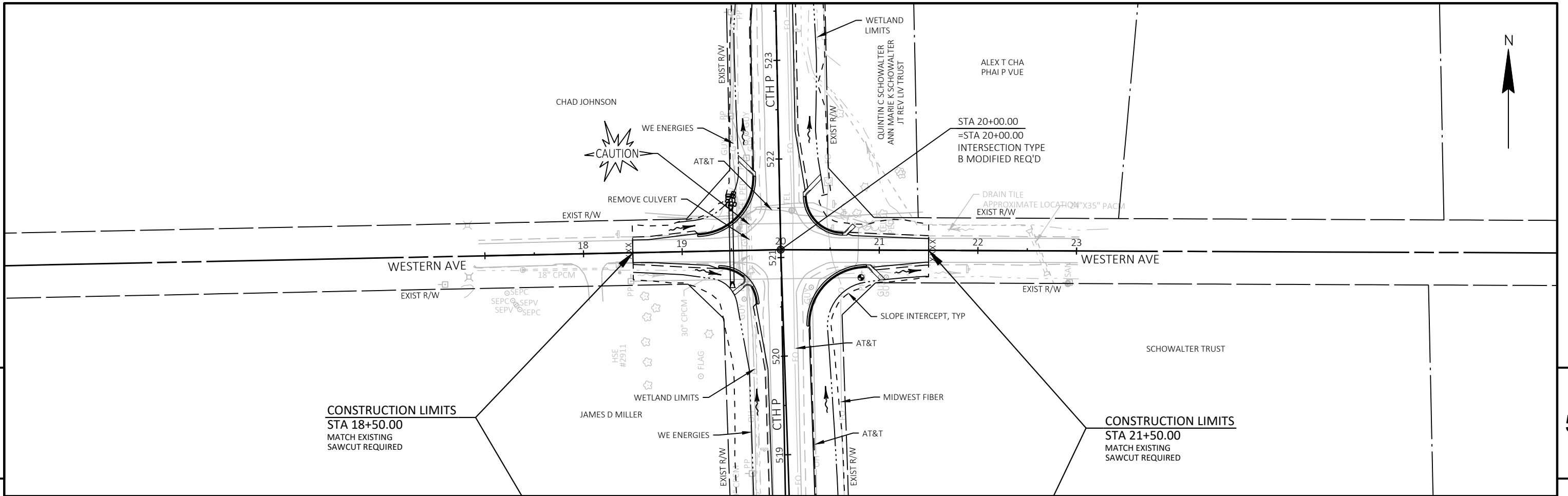
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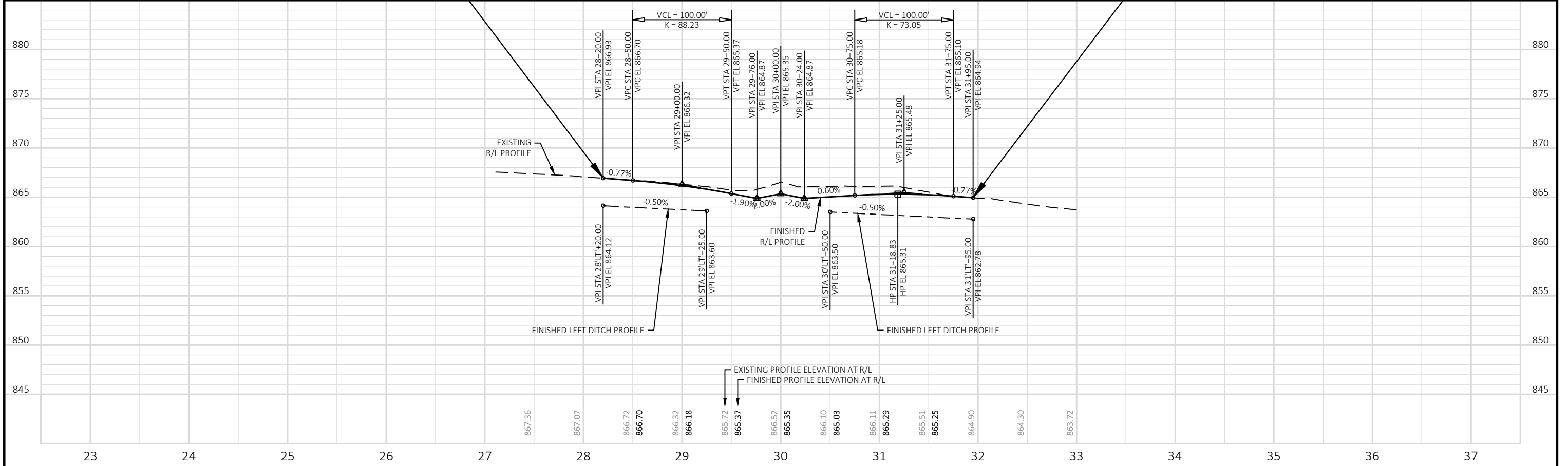
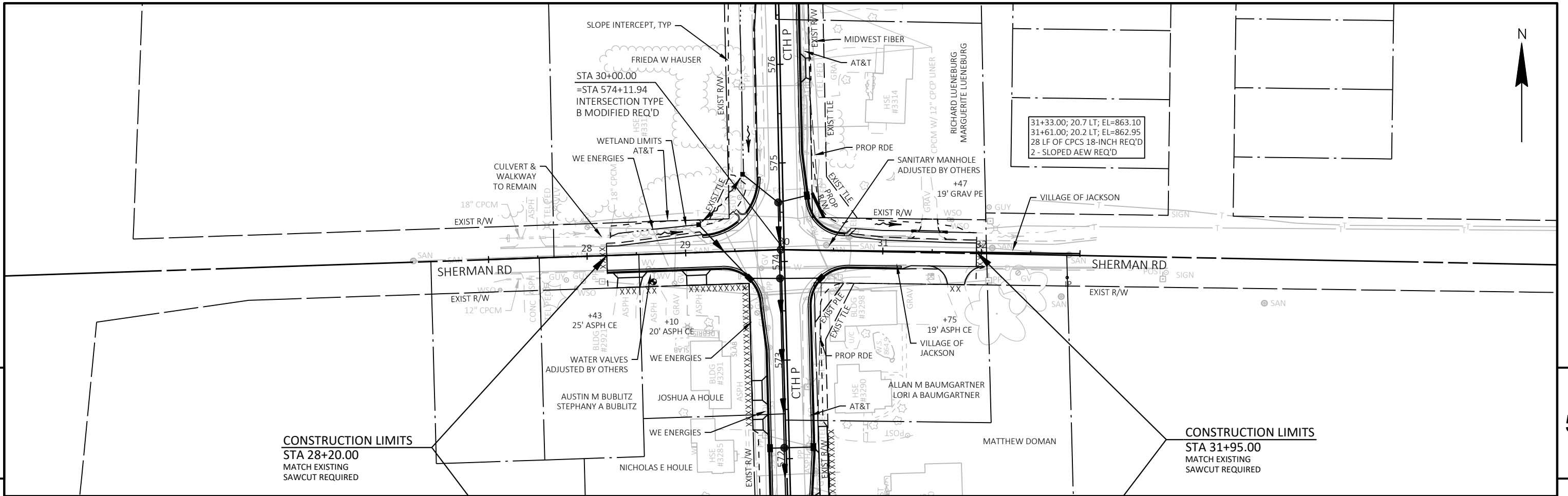
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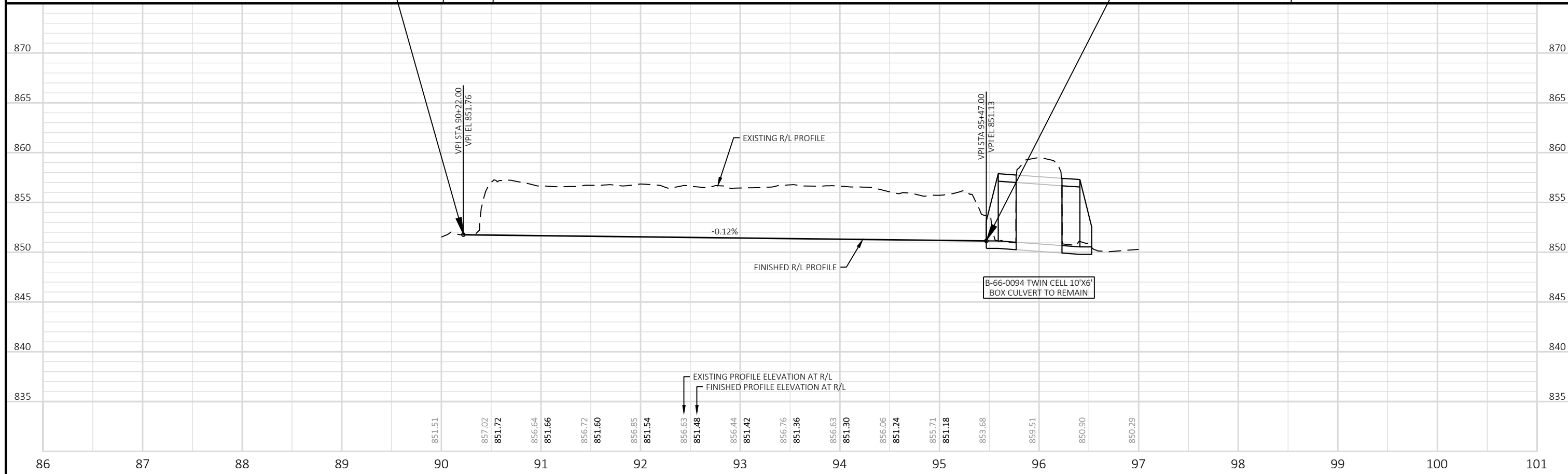
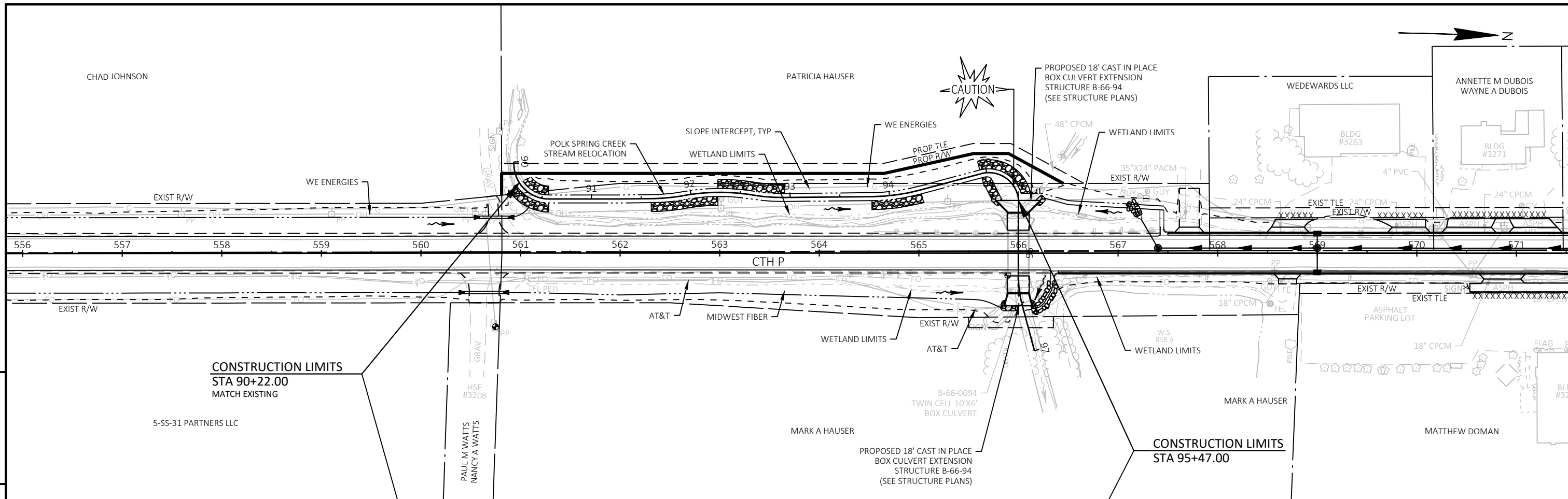
PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON PLAN AND PROFILE: PRIVATE ROAD SHEET: 5



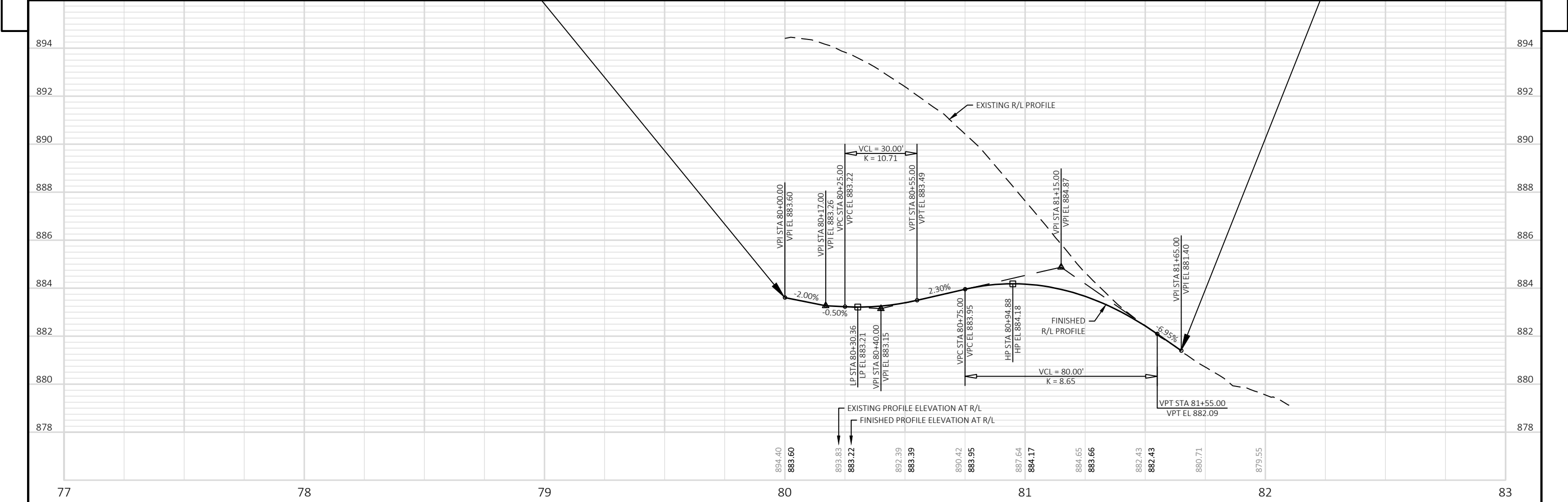
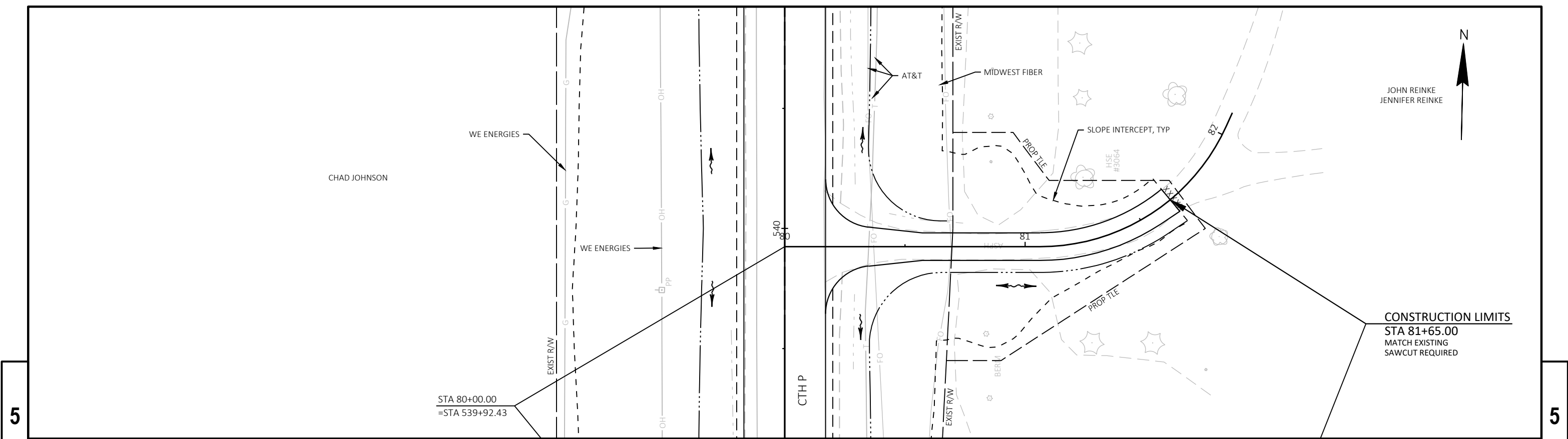
PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: WESTERN AVENUE	SHEET	E
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PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: SHERMAN ROAD	SHEET 5
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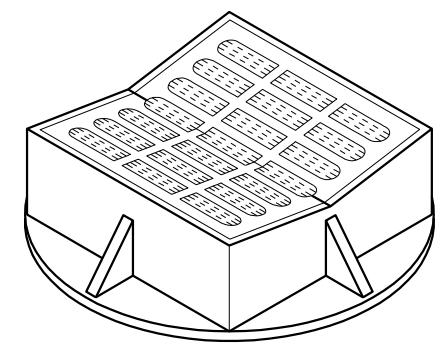
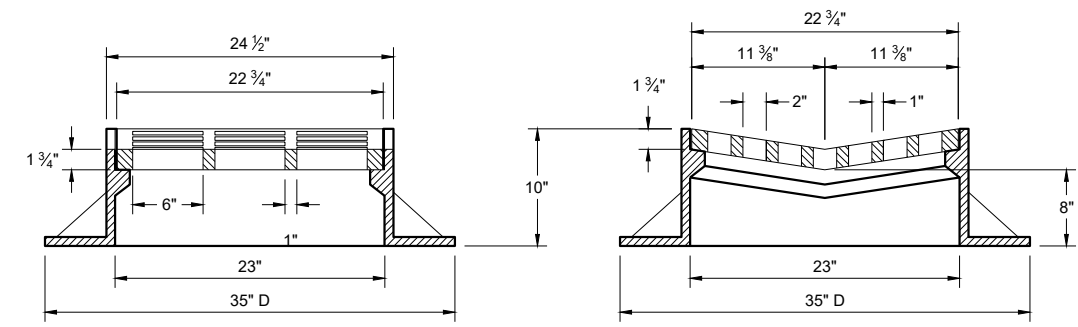


PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	PLAN AND PROFILE: POLK SPRING CREEK STREAM RELOCATION	SHEET	E
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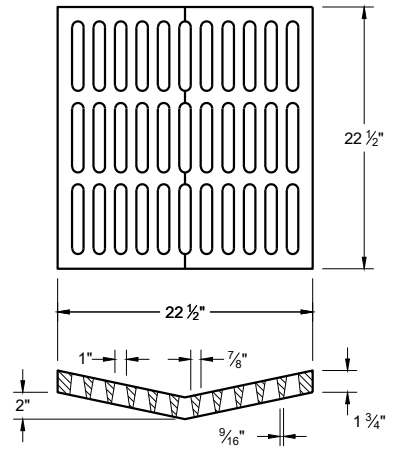
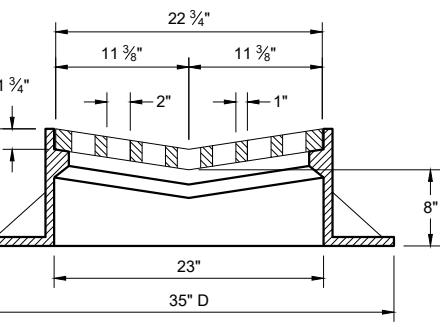


Standard Detail Drawing List

08A05-20B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-20C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-20D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
08F08-02	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS
08F10-02	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
12A03-10	NAME PLATE (STRUCTURES)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)

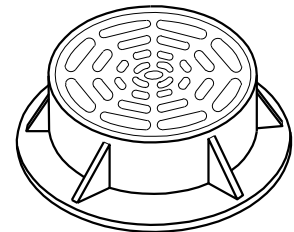
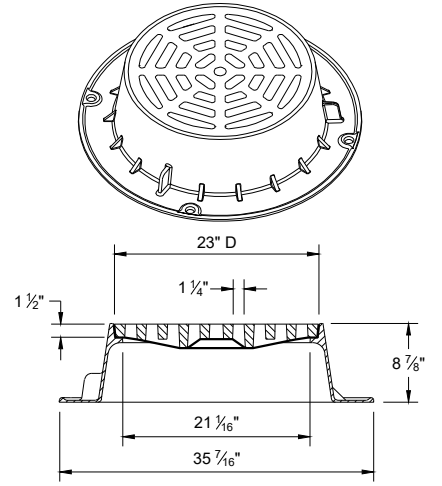


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE
NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

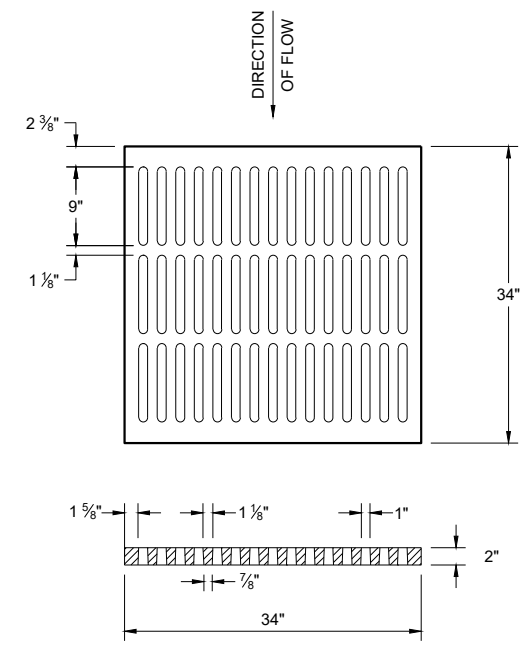
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

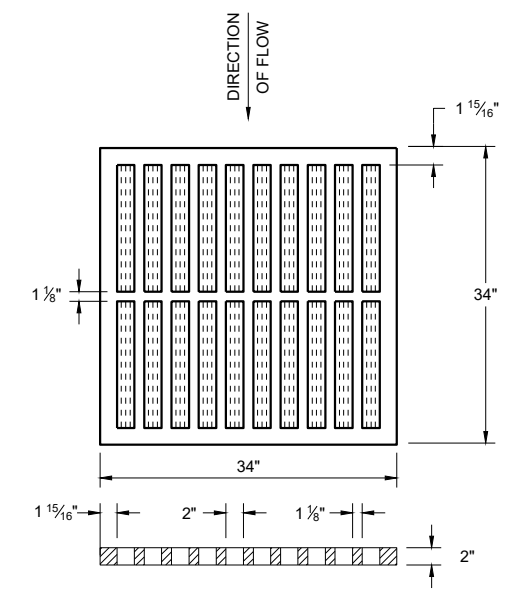
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



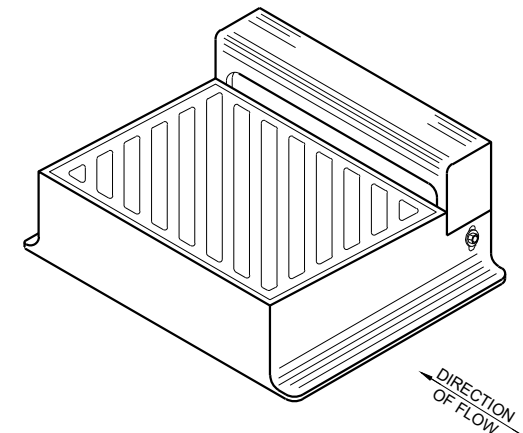
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



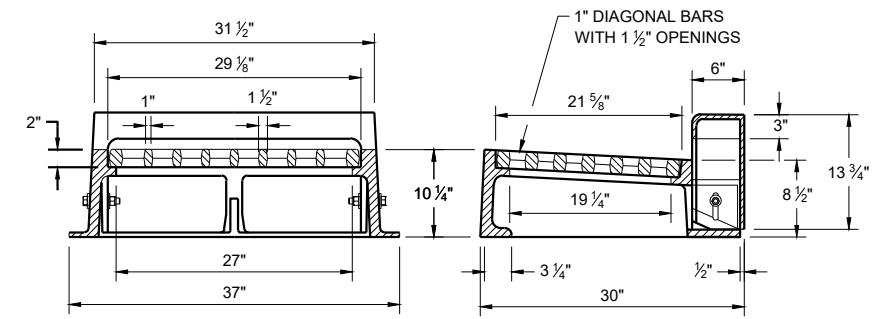
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON THE DRAINAGE TABLE



DIRECTION OF FLOW

DIAGONAL SLOTS SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

6

6

SDD 08A05-20b

SDD 08A05-20b

**INLET COVERS
 TYPES B, B-A, C,
 MS, MS-A AND WM**

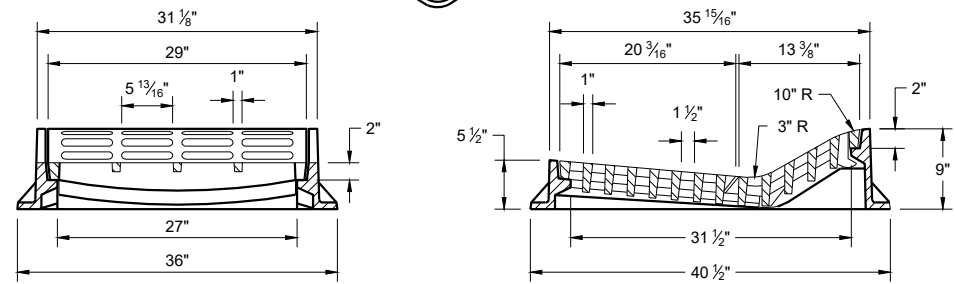
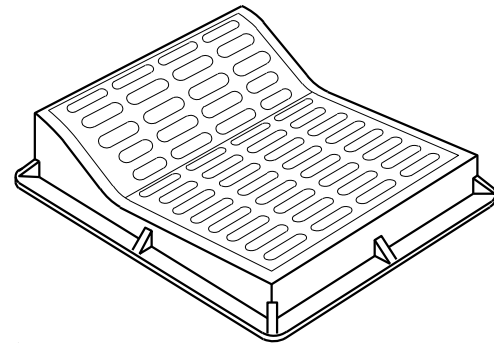
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 July 2023 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR

GENERAL NOTES

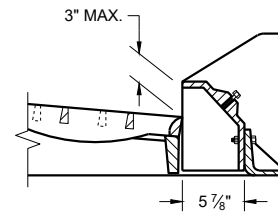
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "F"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

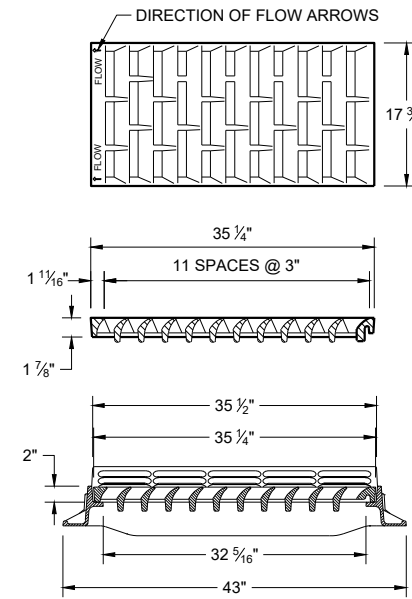


ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

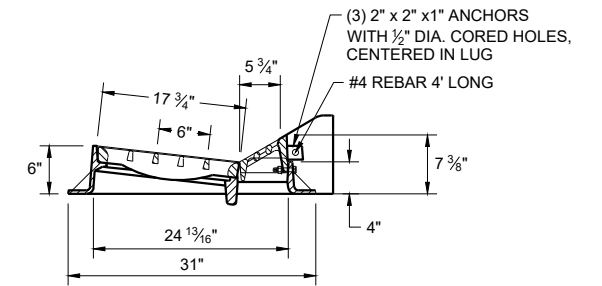
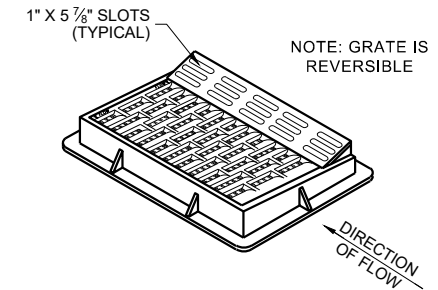
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



TYPE "HM"

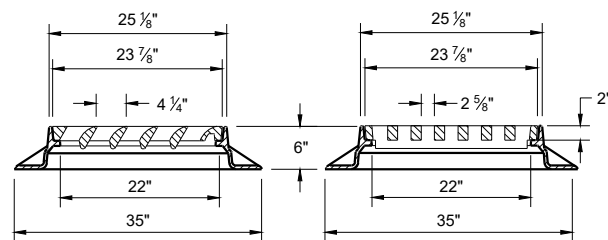
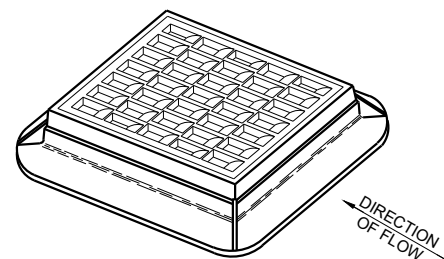
USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"



NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

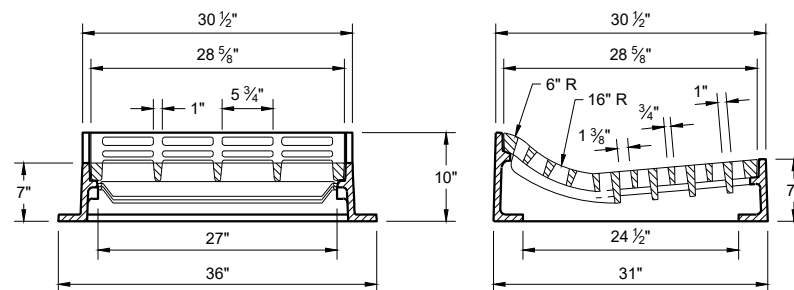
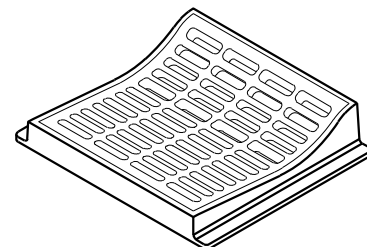
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.

6



TYPE "S"

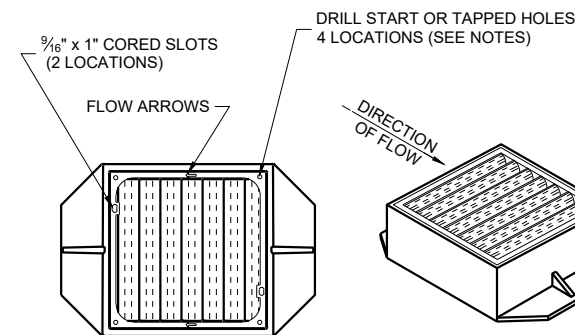
SDD 08A05-20C



TYPE "T"

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

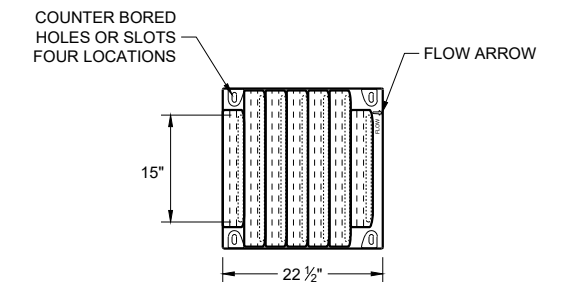
6



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
 FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
 3/8" DIA. X 1/16" DRILL START IN 4 LOCATIONS
 GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" ON DRAINAGE TABLE

TAP 1/2" -13 HOLES IN FOUR LOCATIONS IN FRAME TO BOLT GRATE FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD BOLTS - 1/2" -13 STAINLESS STEEL BOLTS WITH WASHERS TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

**INLET COVERS
 TYPES F, HM, HM-S, S, T, V,
 HM-GJ AND HM-GJ-S**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 July 2023 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 UNIT SUPERVISOR

FHWA

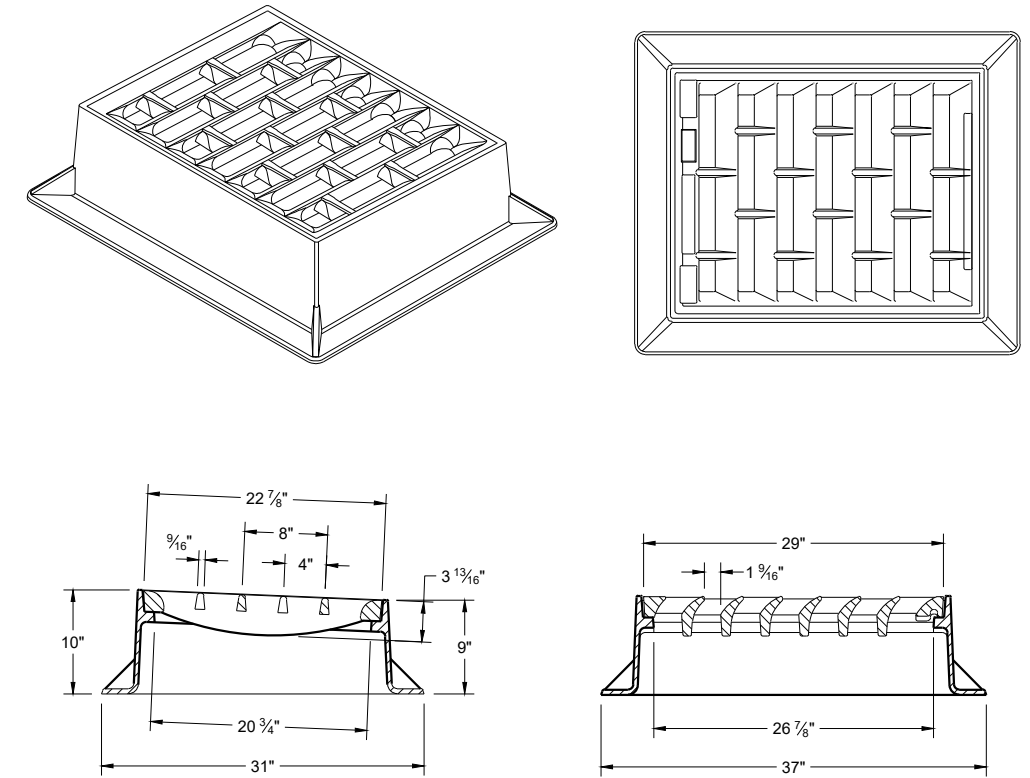
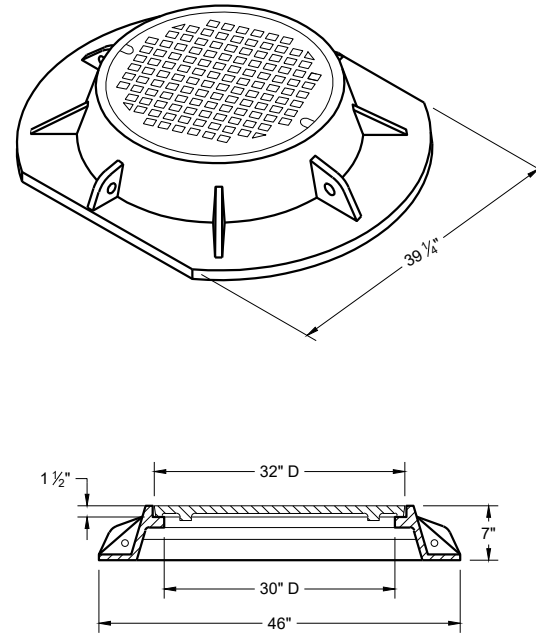
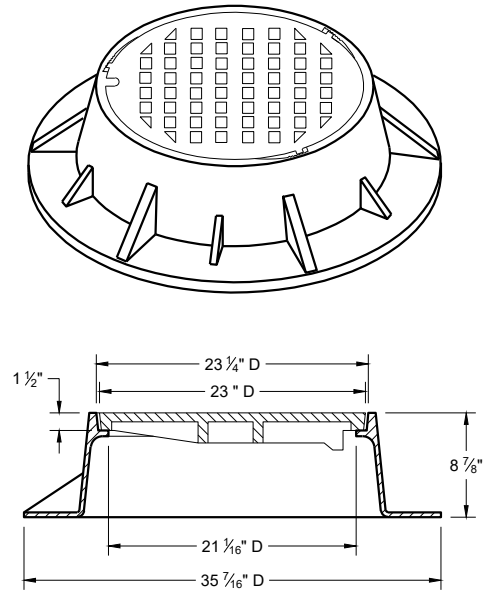
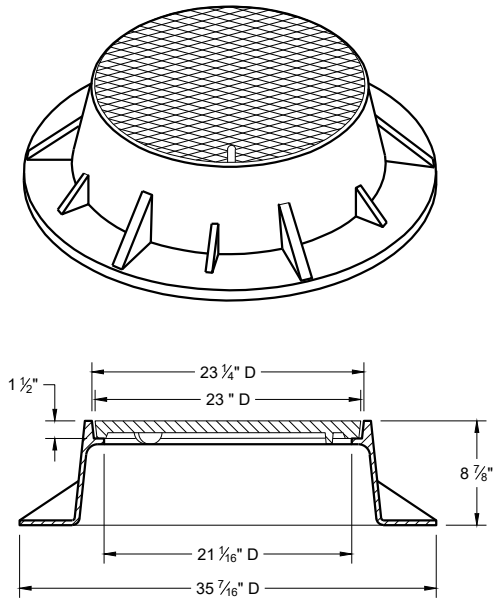
SDD 08A05-20C

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

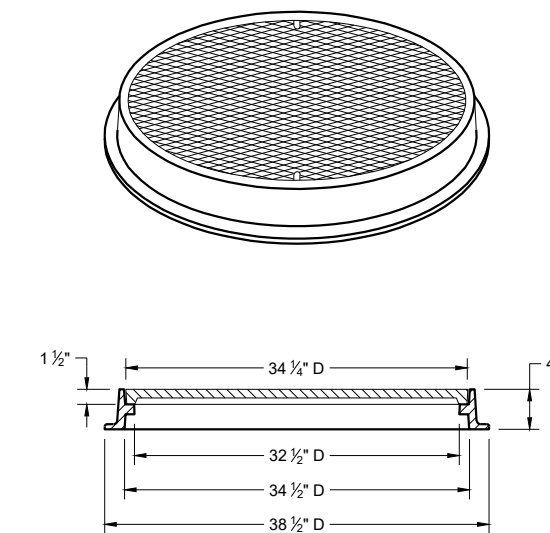
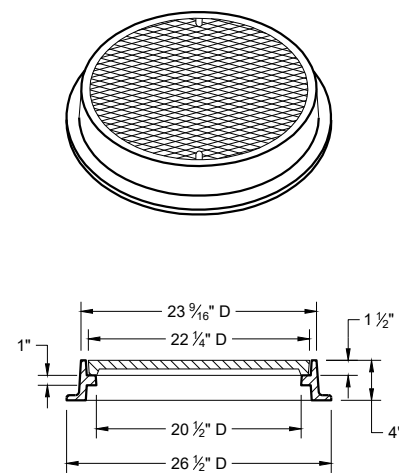
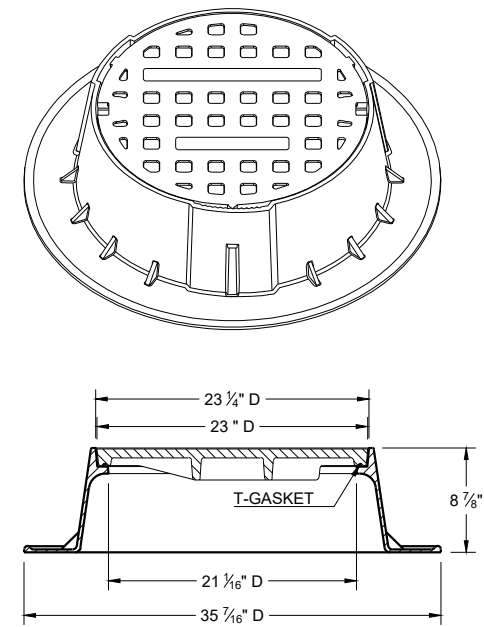
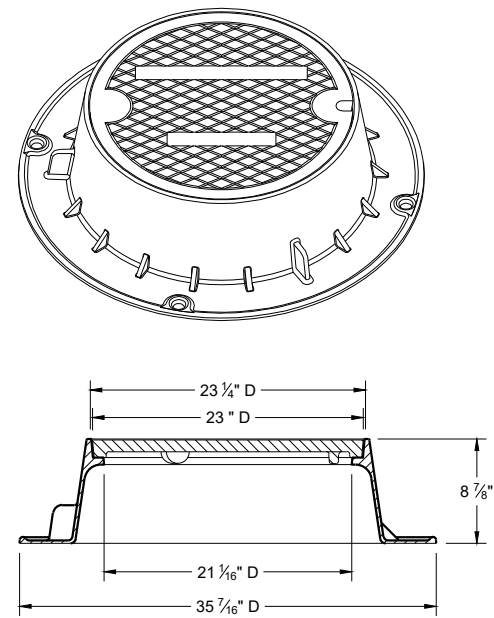


TYPE "K"

INLET COVER TYPE "BW"

6

6



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID (NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "L"

TYPE "M"

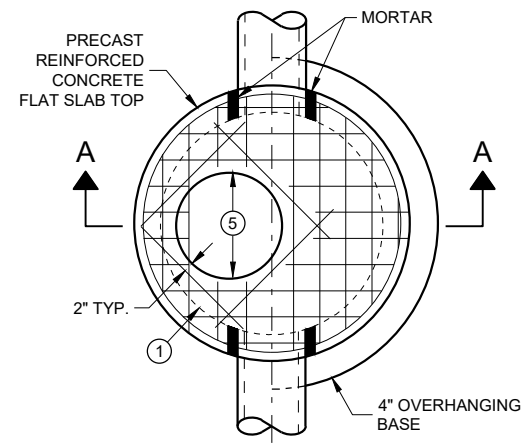
**INLET COVERS TYPES BW
MANHOLE COVERS TYPES K,
J, J-S, L, AND M**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

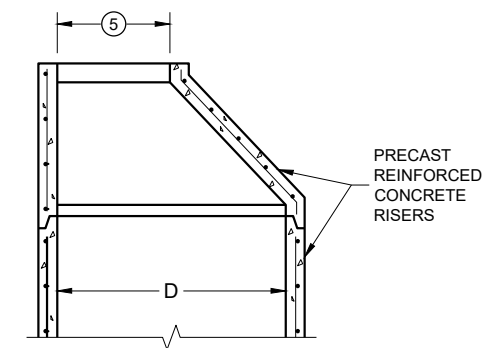
APPROVED
July 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

SDD 08A05-20d

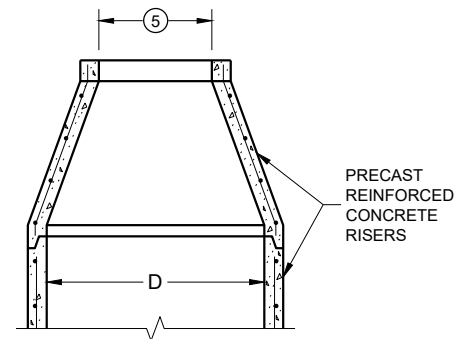
SDD 08A05-20d



PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

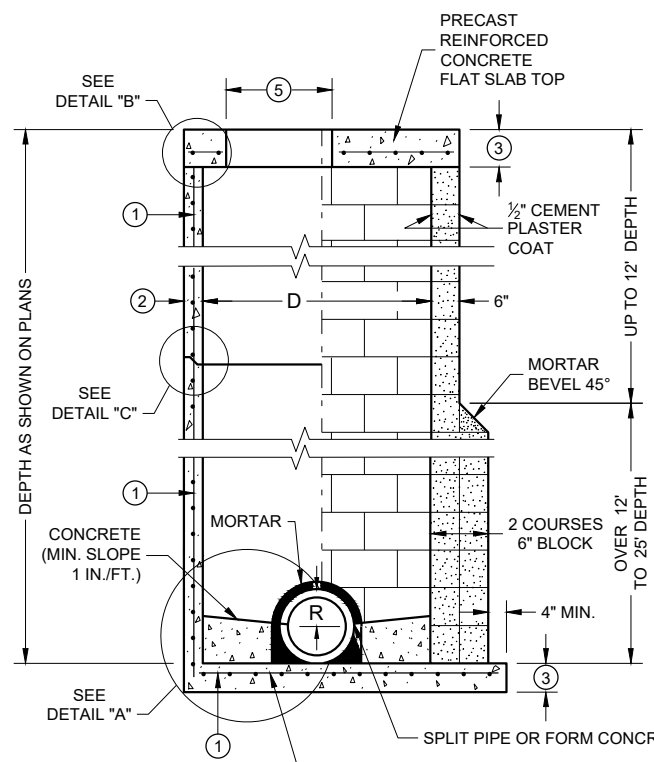
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE \ OPENING SIZE (FT.)	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42*	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

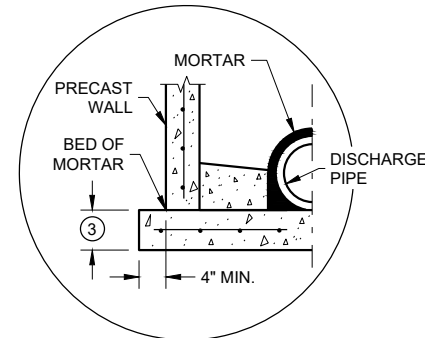
*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



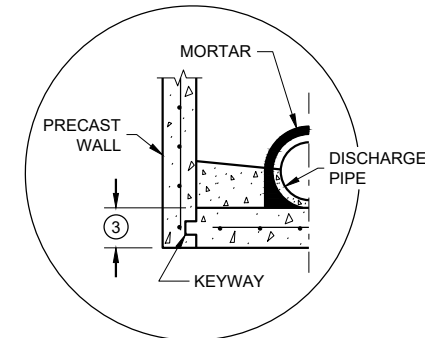
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

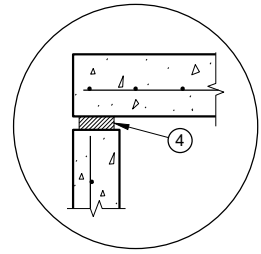


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

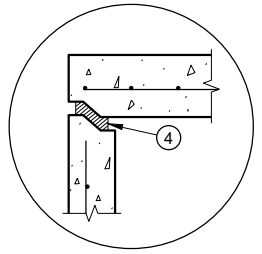


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

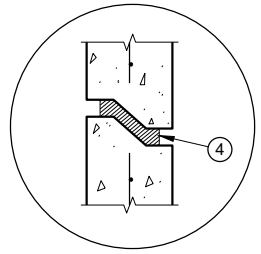
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

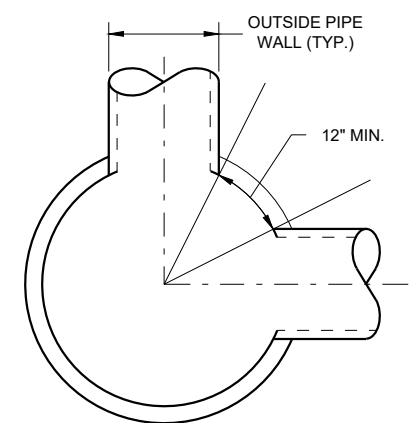
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



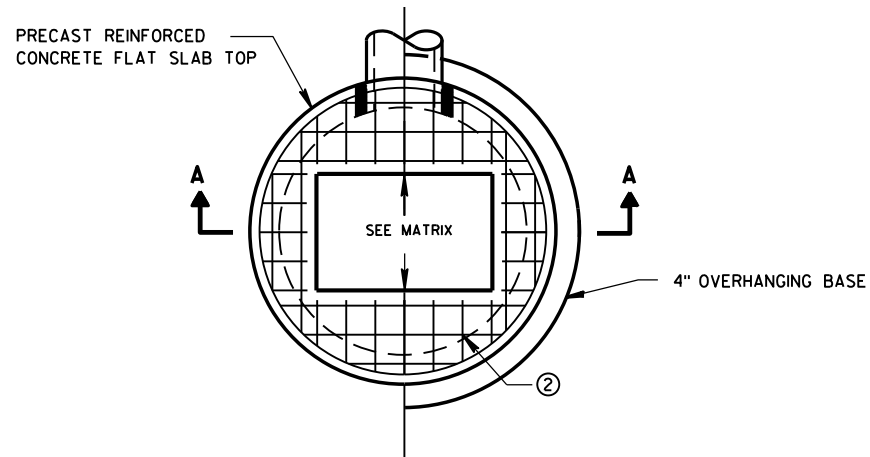
MINIMUM HORIZONTAL PIPE SEPARATION

MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

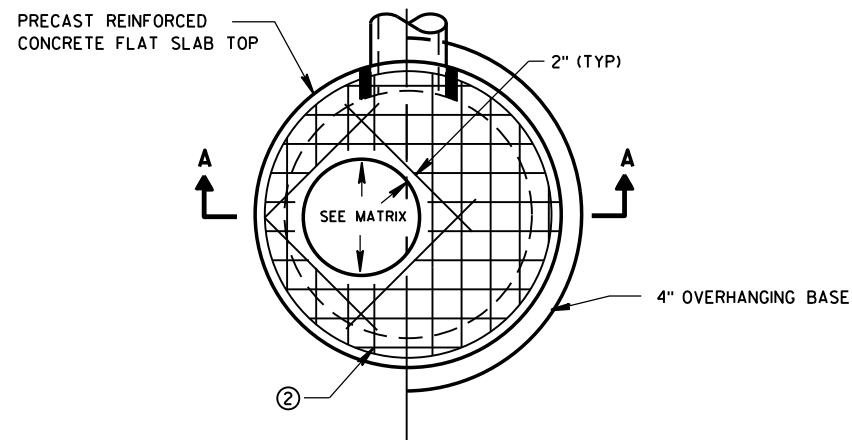
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED November 2021 DATE /S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

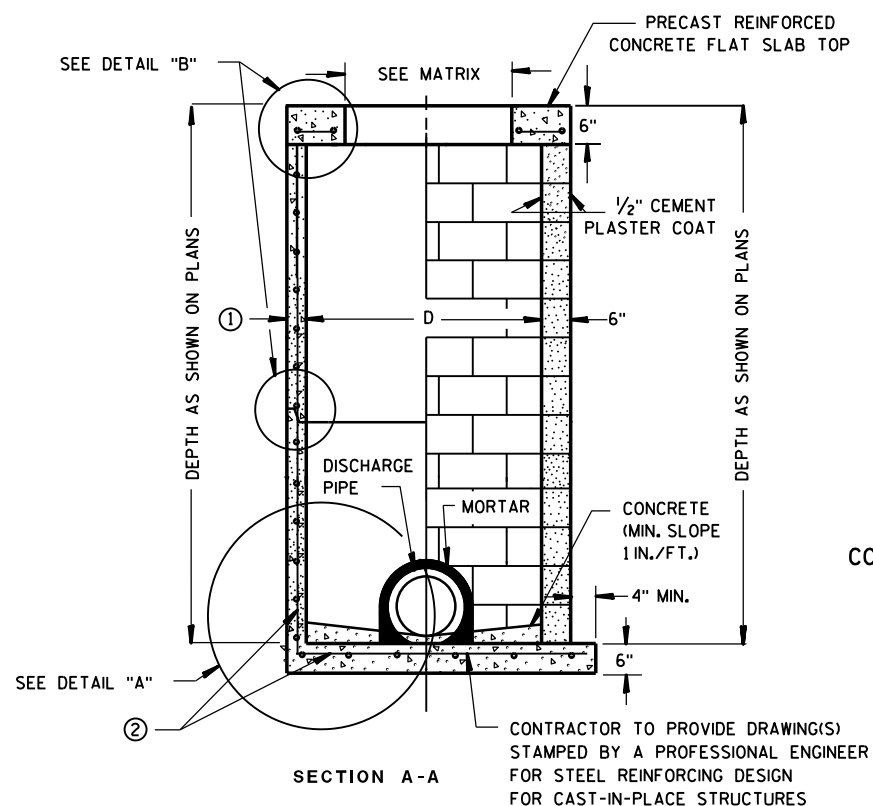
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						

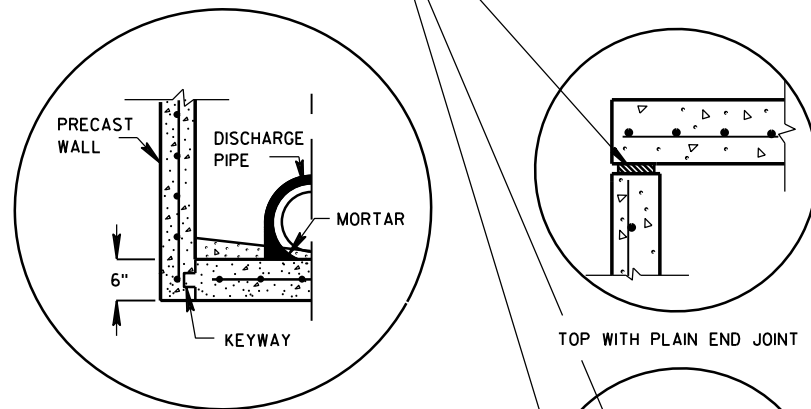


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

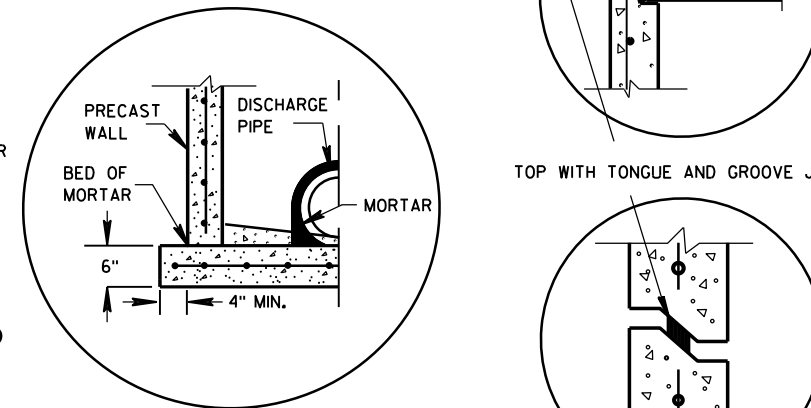
CIRCULAR INLETS W/ FLAT TOP

CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

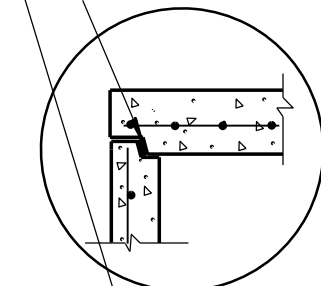
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



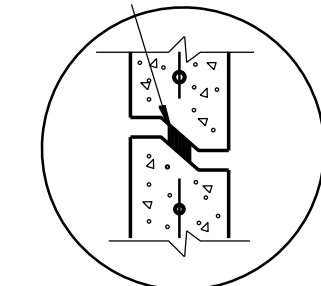
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



TOP WITH TONGUE AND GROOVE JOINT

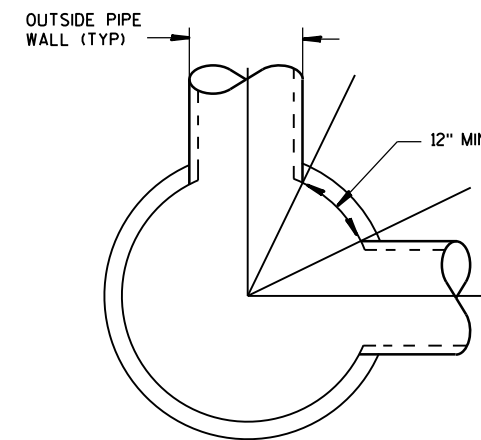


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER



DETAIL "C"

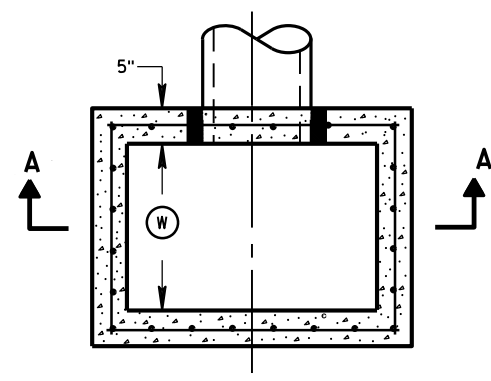
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

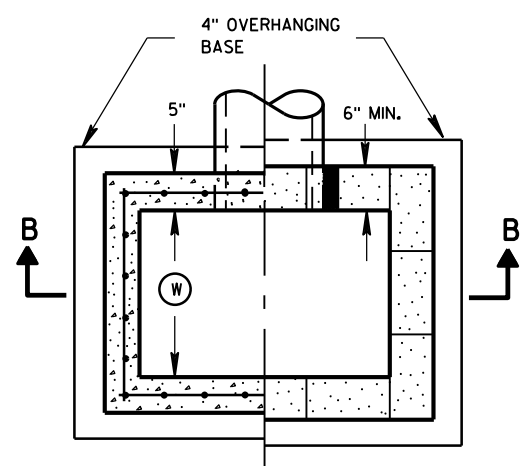
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

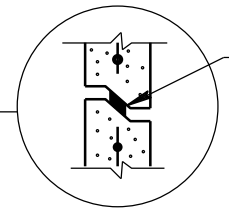
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
 FHWA



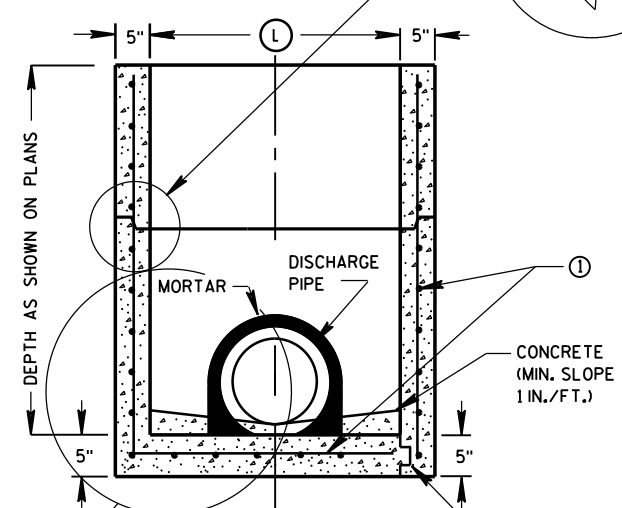
PLAN VIEW



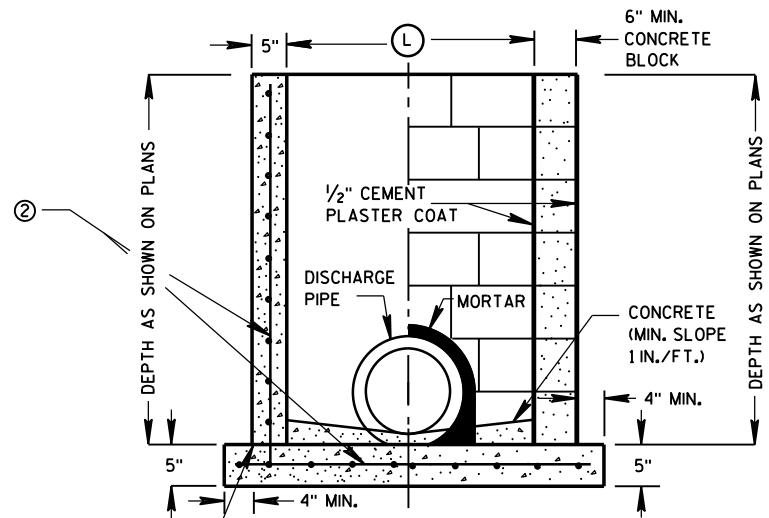
PLAN VIEW



RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



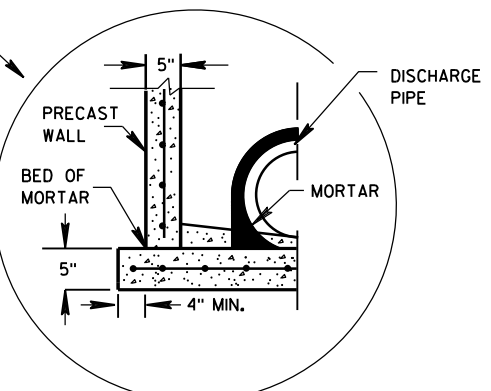
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE
 KEYWAY

CAST-IN-PLACE REINFORCED CONCRETE
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

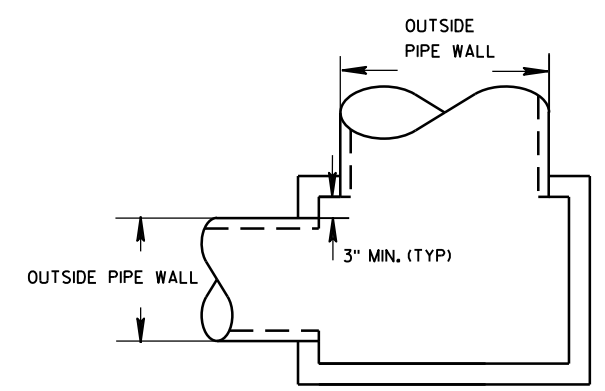
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	INLET COVER TYPE		ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



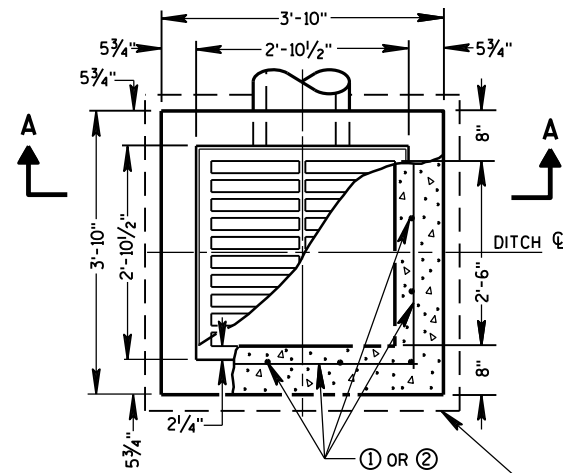
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

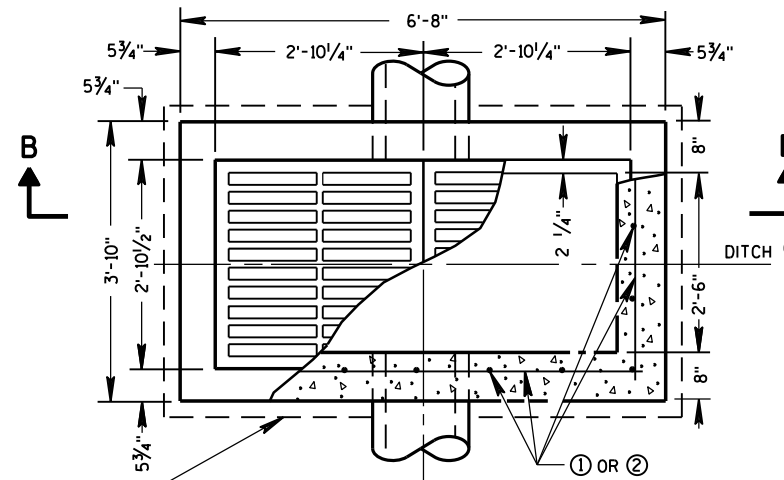
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR

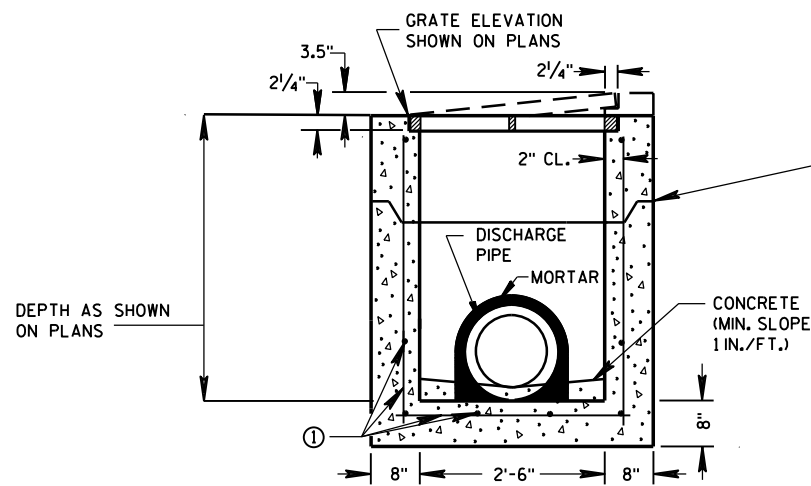


PLAN VIEW

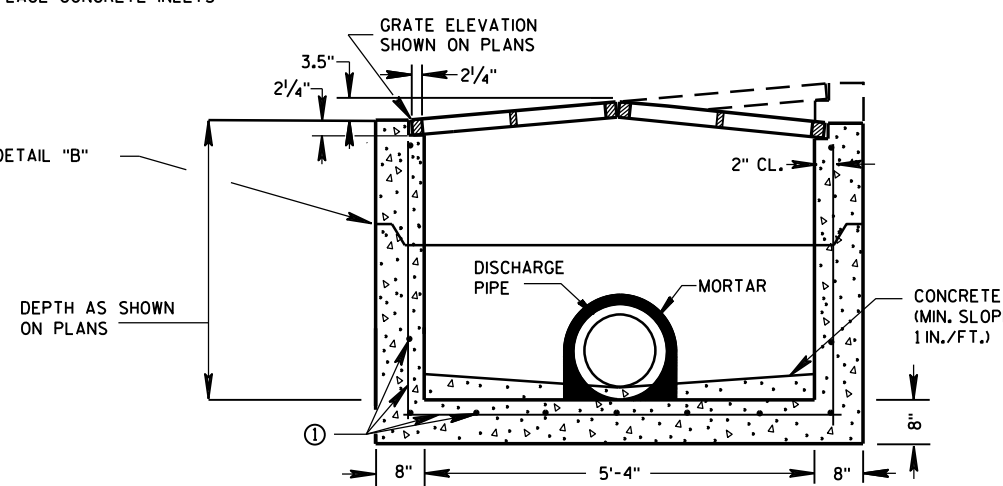


PLAN VIEW

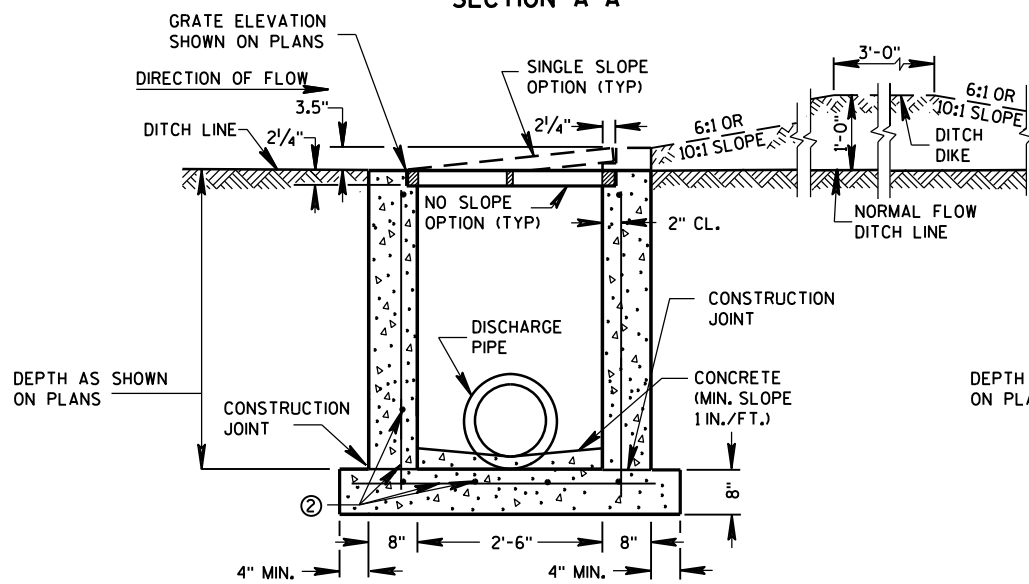
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



PRECAST REINFORCED CONCRETE SECTION A-A

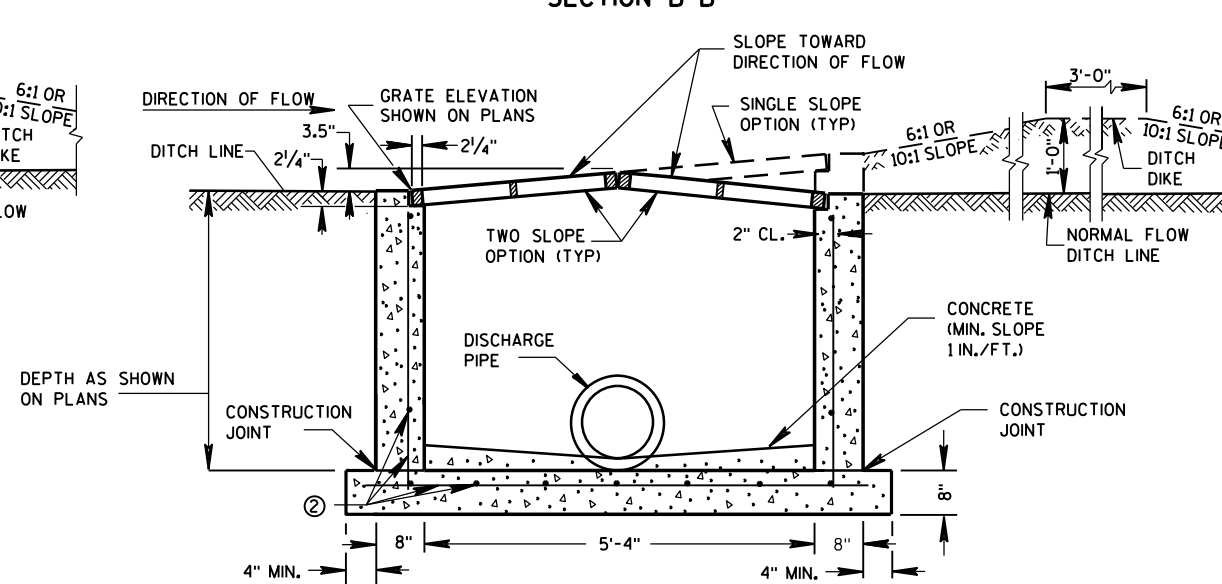


PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT. BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

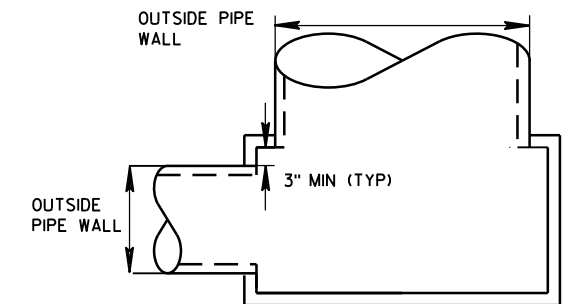
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

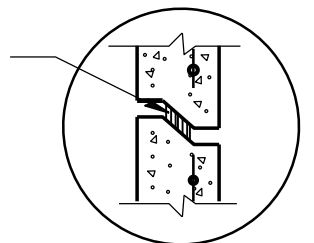
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

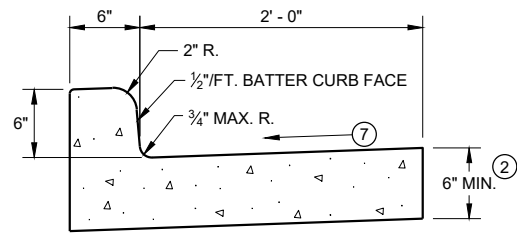


DETAIL "B"

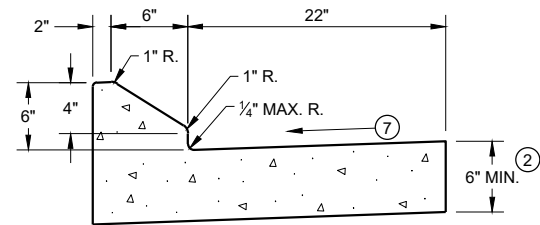
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
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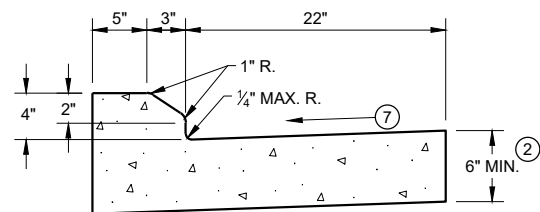
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FHWA UNIT SUPERVISOR



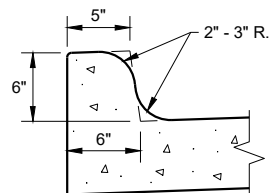
TYPES A^① & D



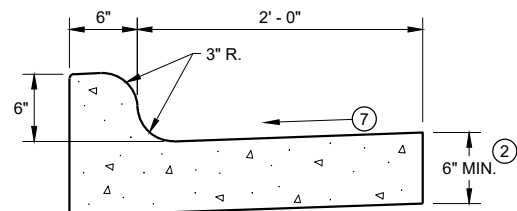
6" SLOPED CURB TYPES G^① & J



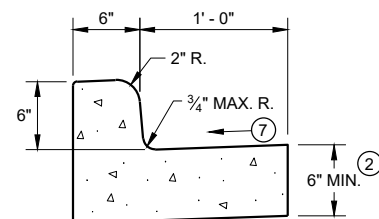
4" SLOPED CURB TYPES G^① & J



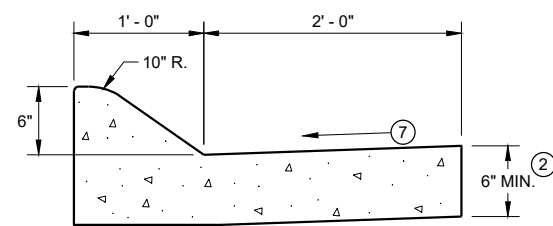
TYPES K^① & L
(OPTIONAL CURB SHAPE)



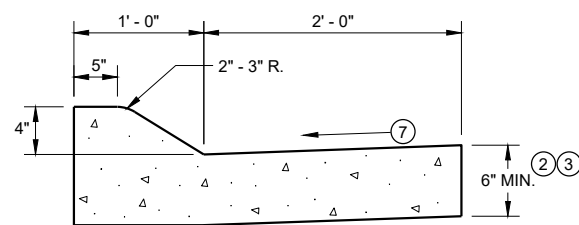
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



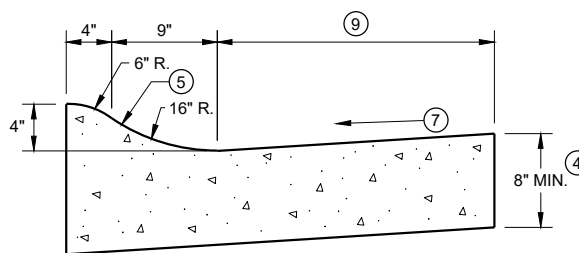
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

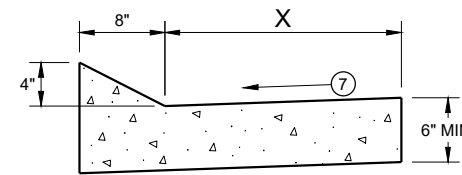


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

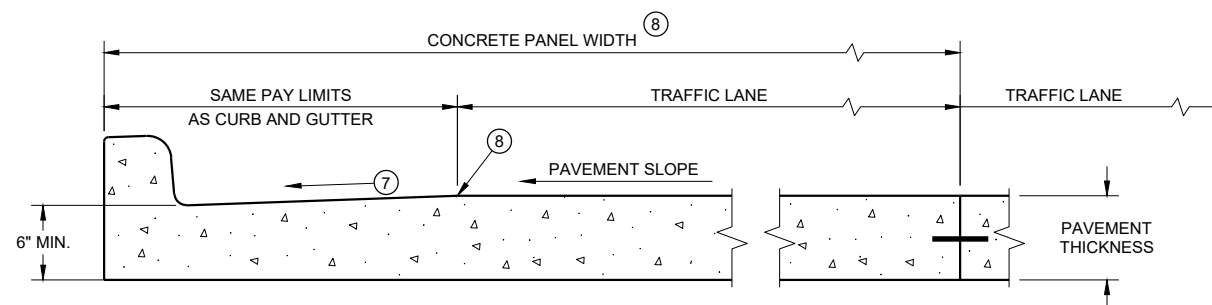
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

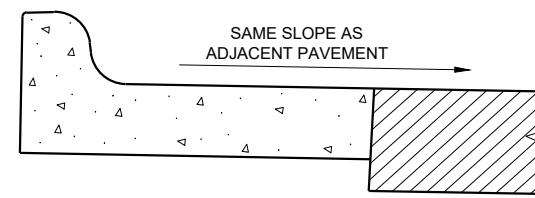
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT* WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

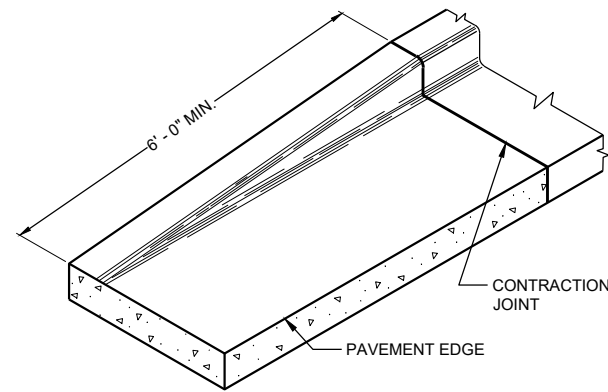
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

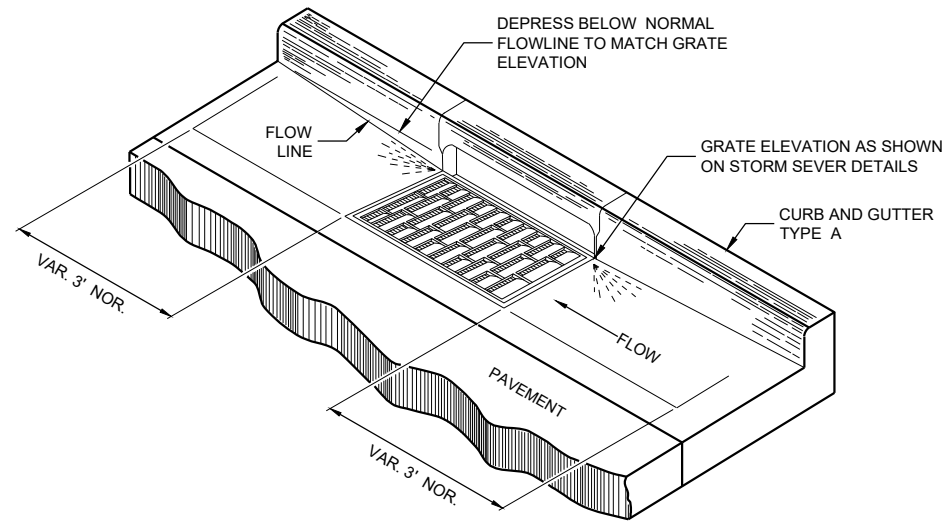
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

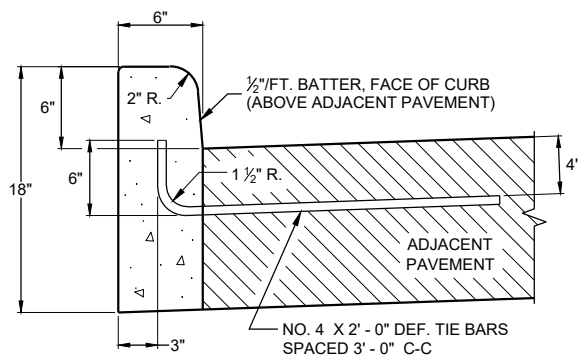
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

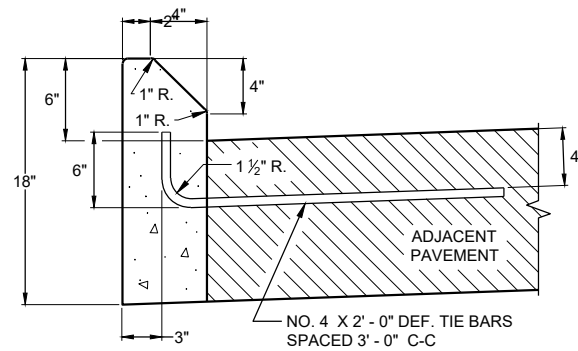
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

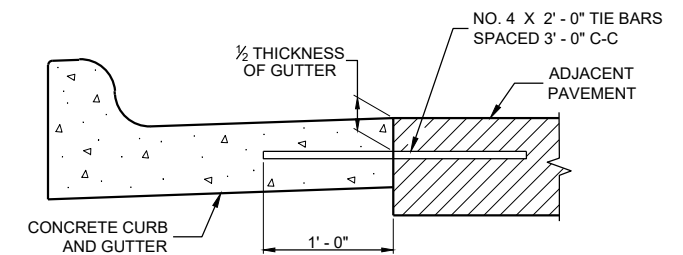
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



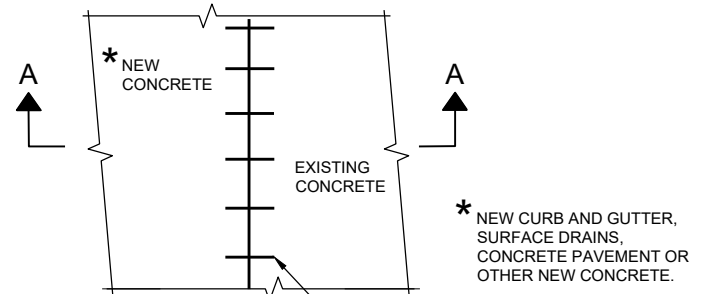
TYPES A^① & D



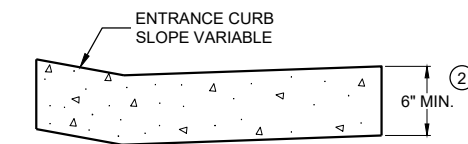
**TYPES G^① & J
CONCRETE CURB**



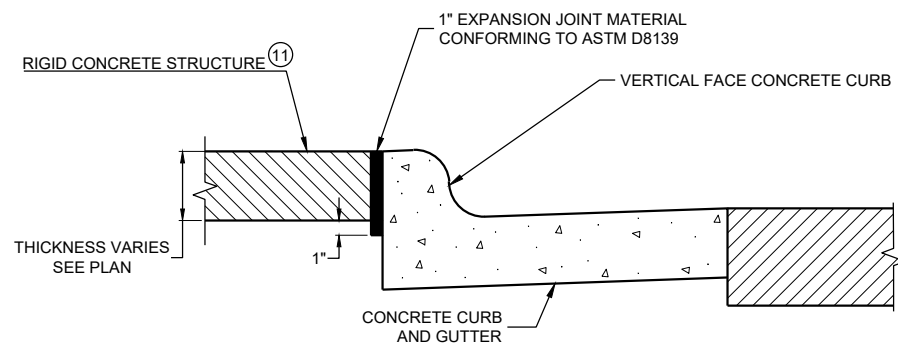
TYPICAL TIE BAR LOCATION^①



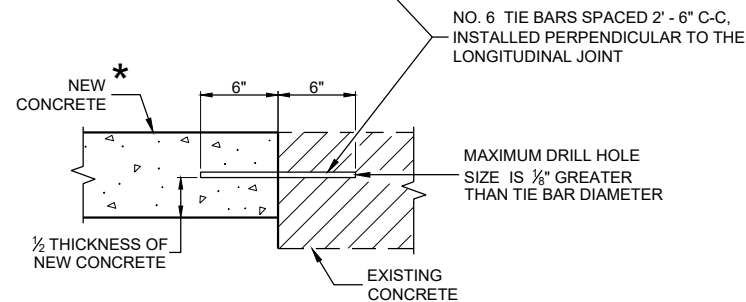
PLAN VIEW



**DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

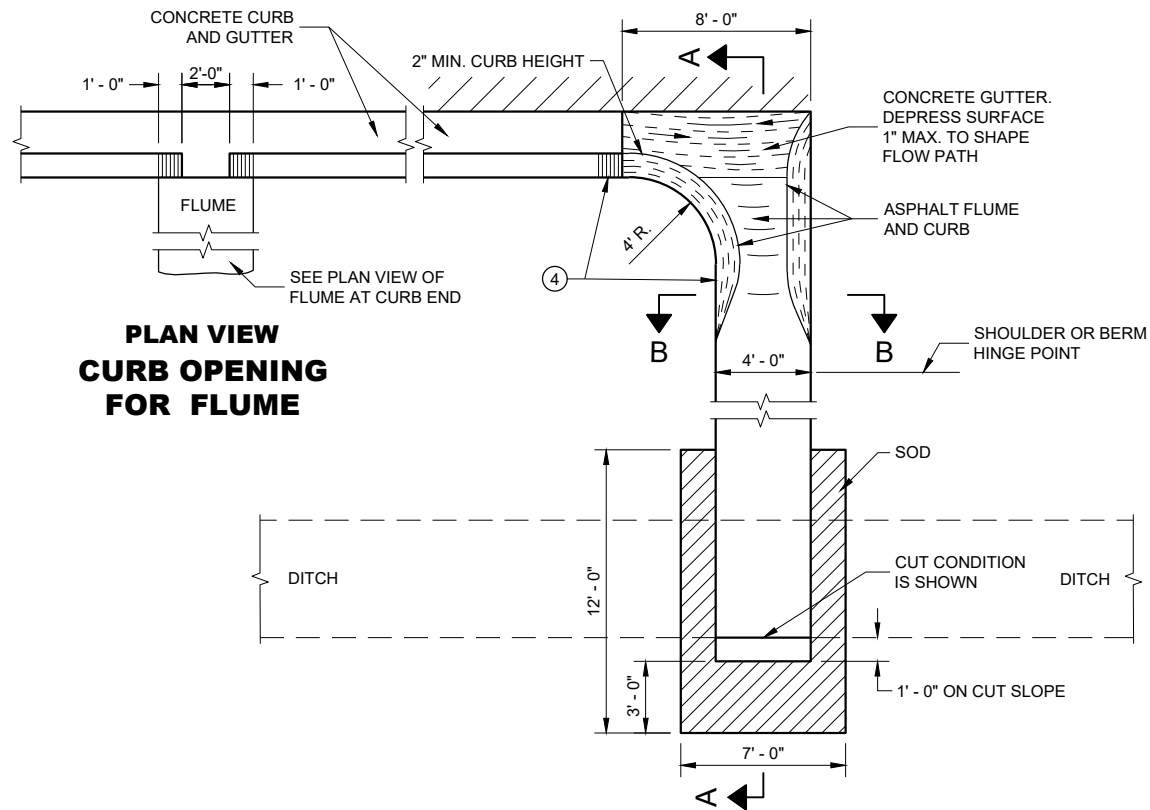
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



**PLAN VIEW
CURB OPENING
FOR FLUME**

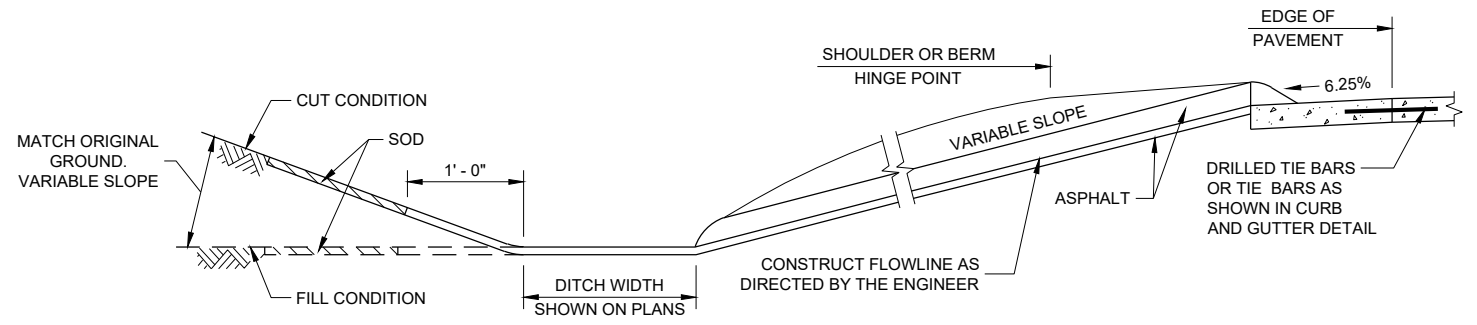
**PLAN VIEW
FLUME AT CURB END**

GENERAL NOTES

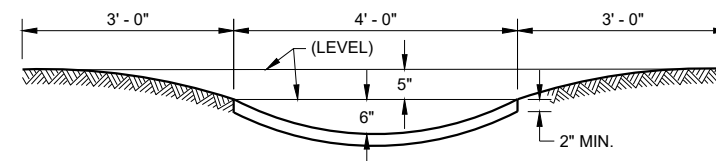
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

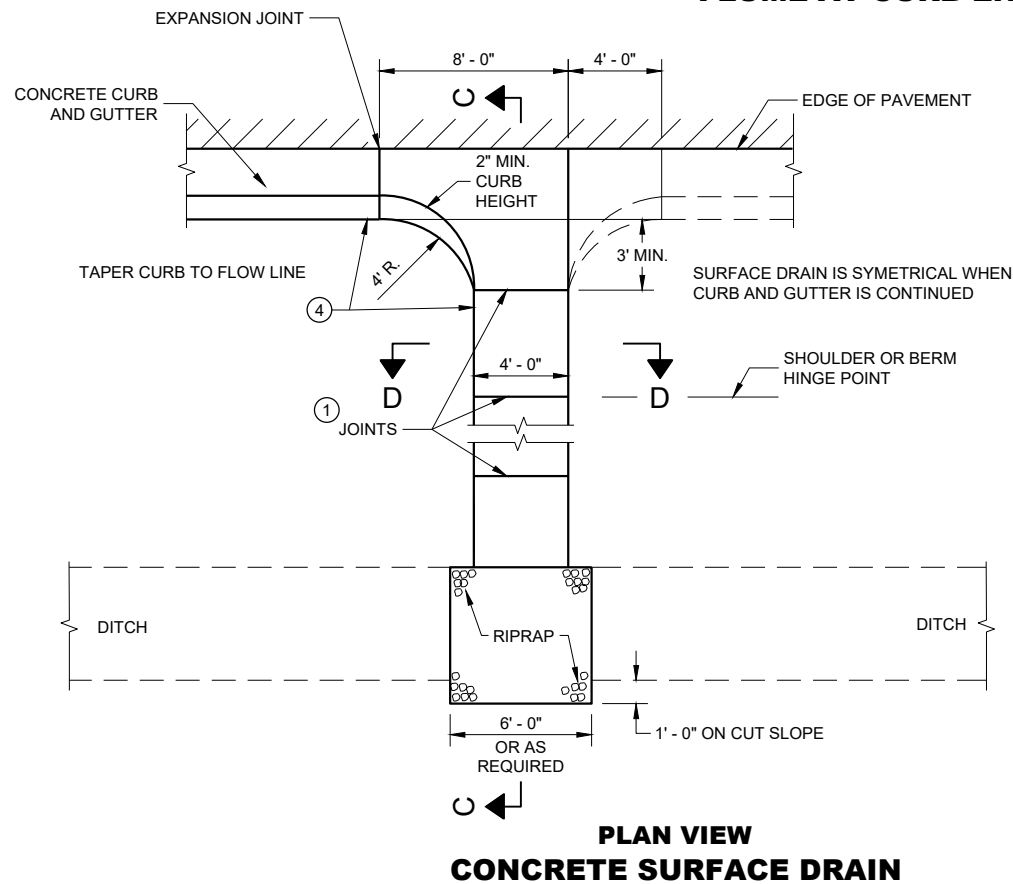
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



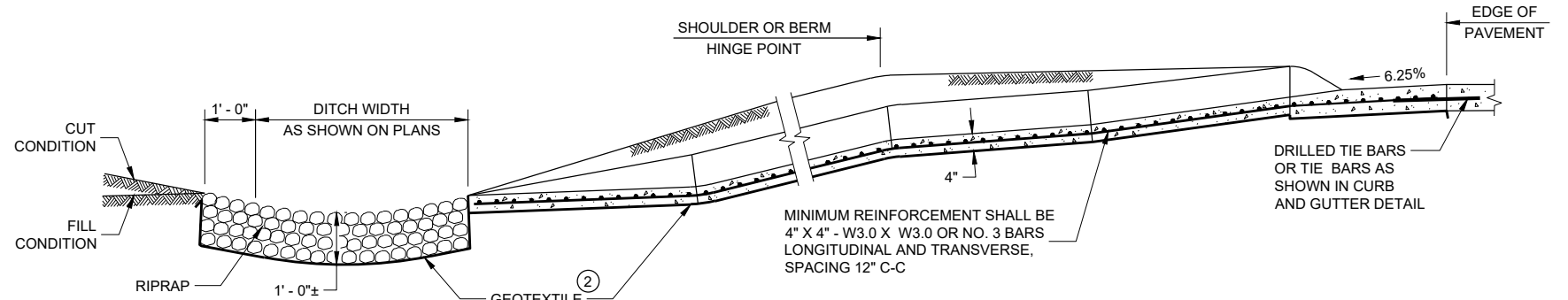
SECTION A - A



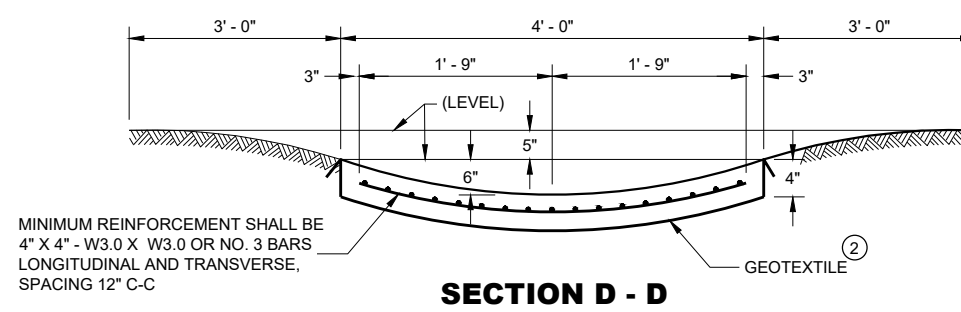
SECTION B - B



**PLAN VIEW
CONCRETE SURFACE DRAIN**



SECTION C - C



SECTION D - D

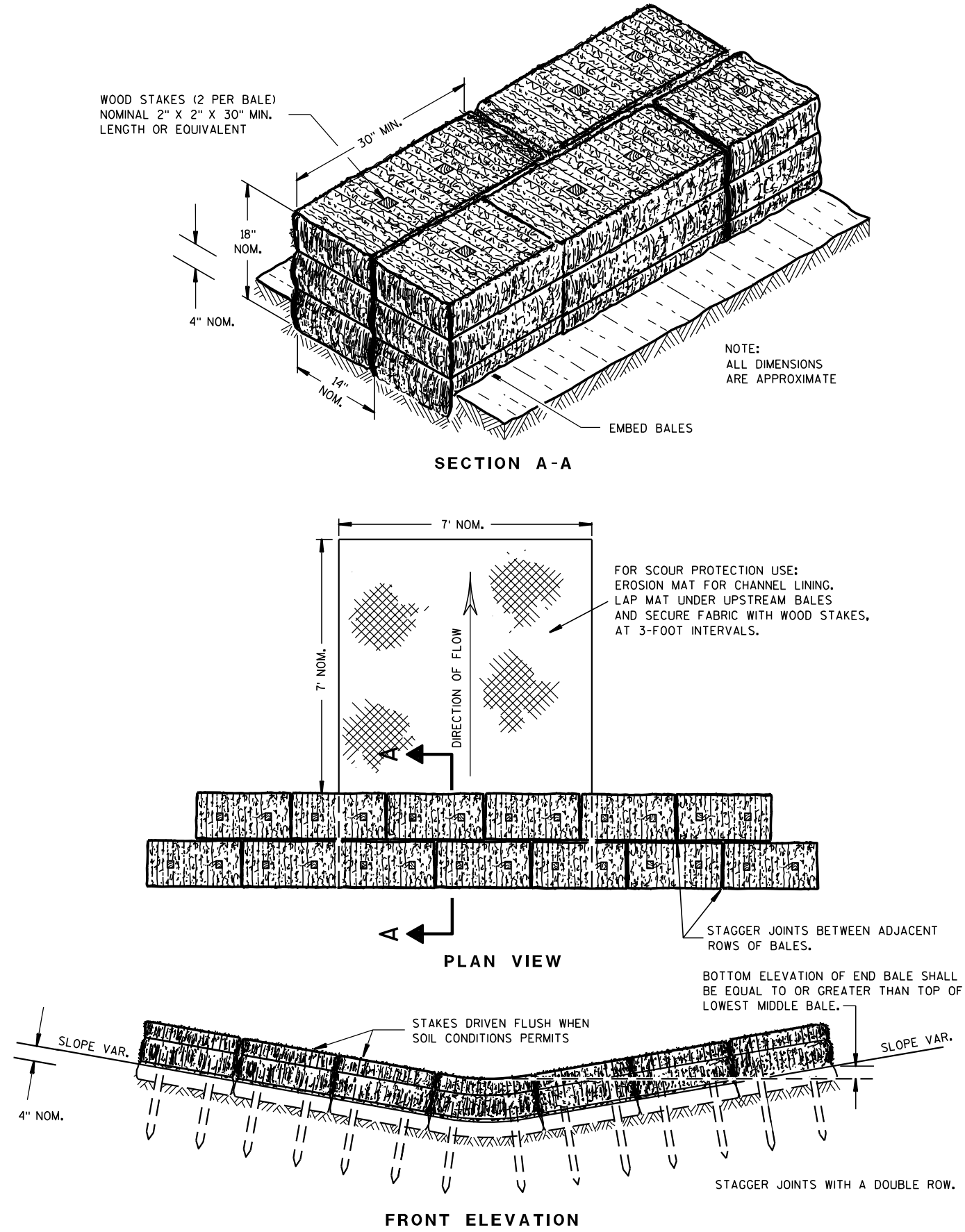
MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

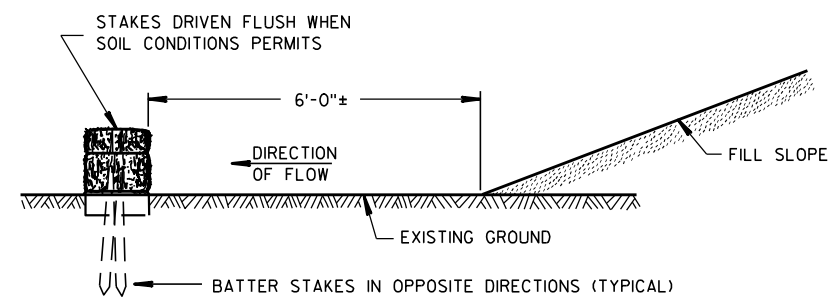
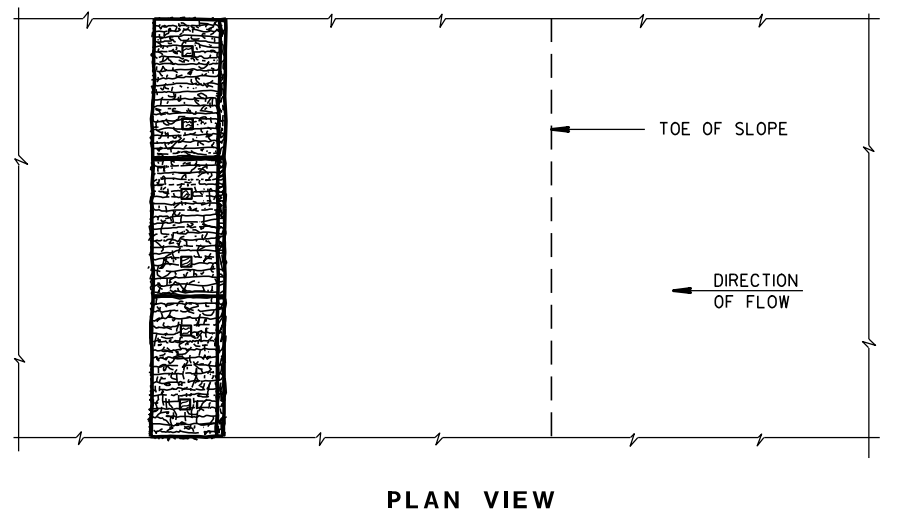
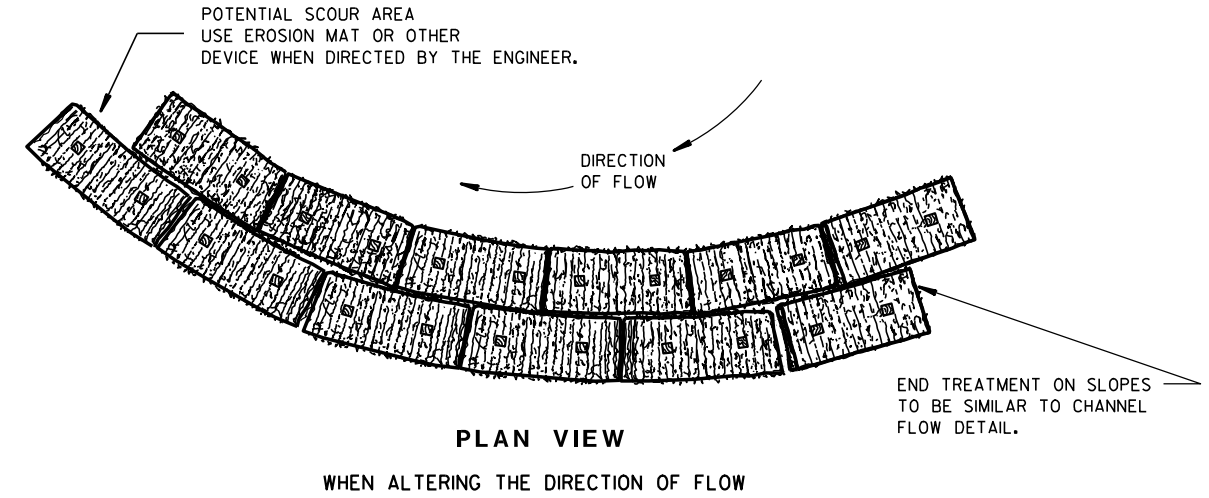


TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

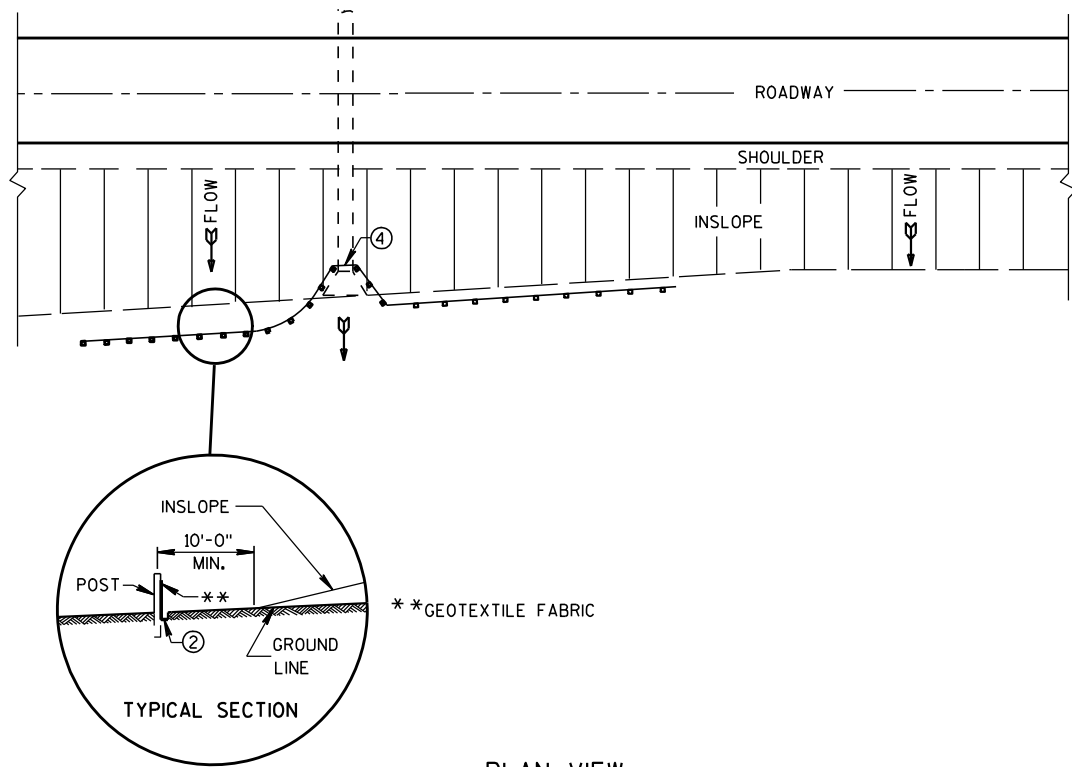


EROSION BALES FOR SHEET FLOW

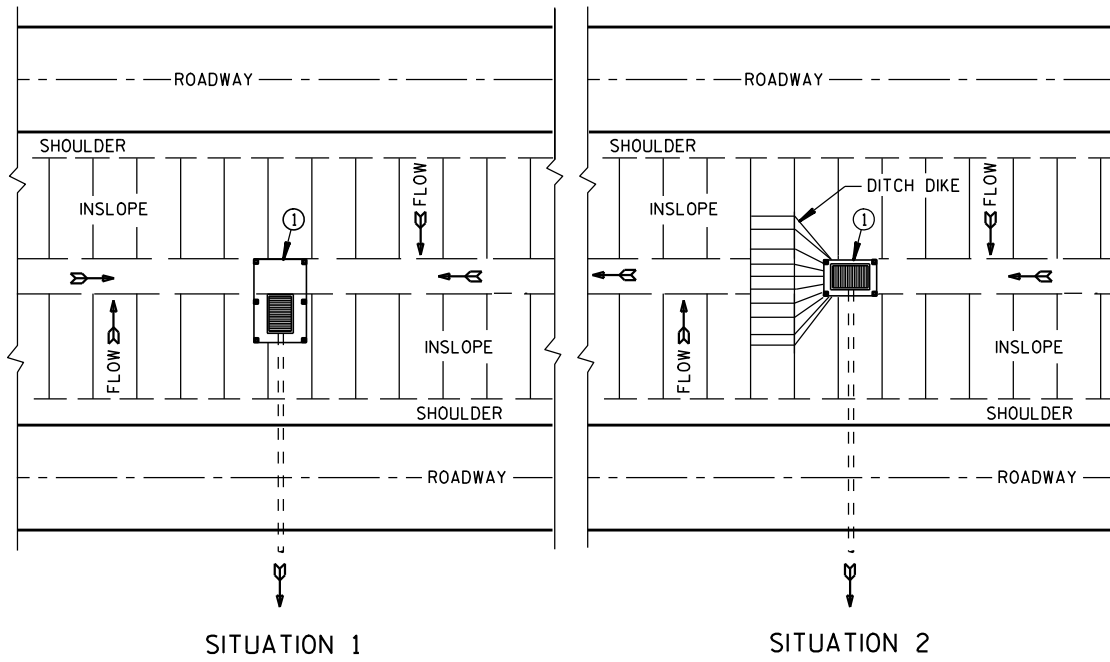
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED
 6/04/02 /S/ Beth Canestra
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
 FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

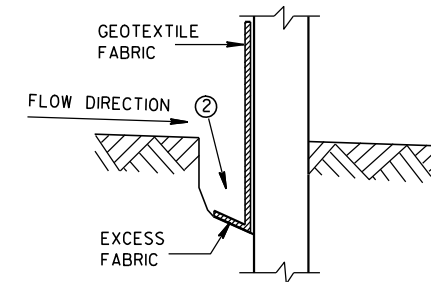


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

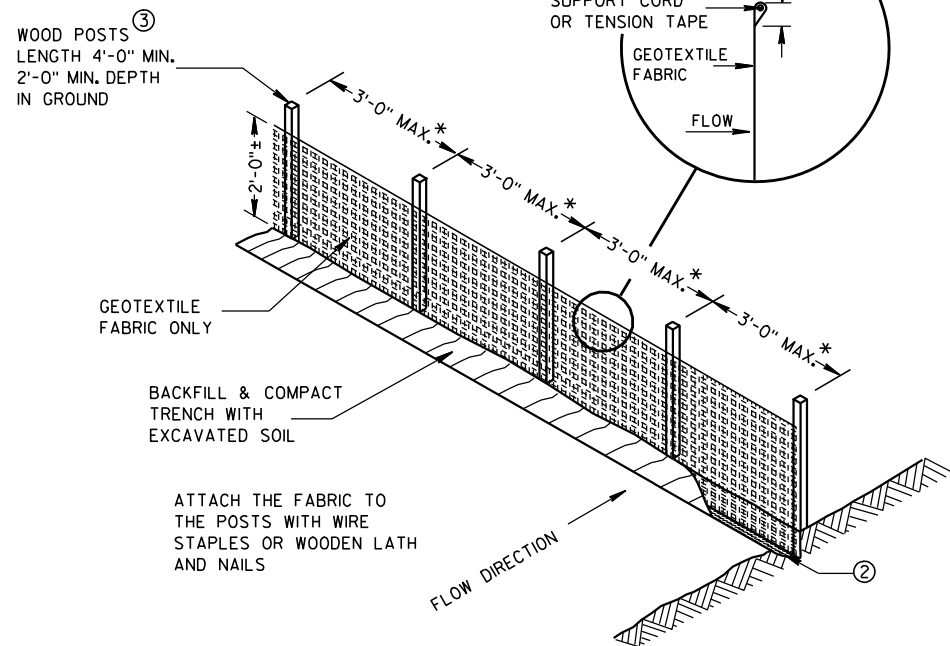
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



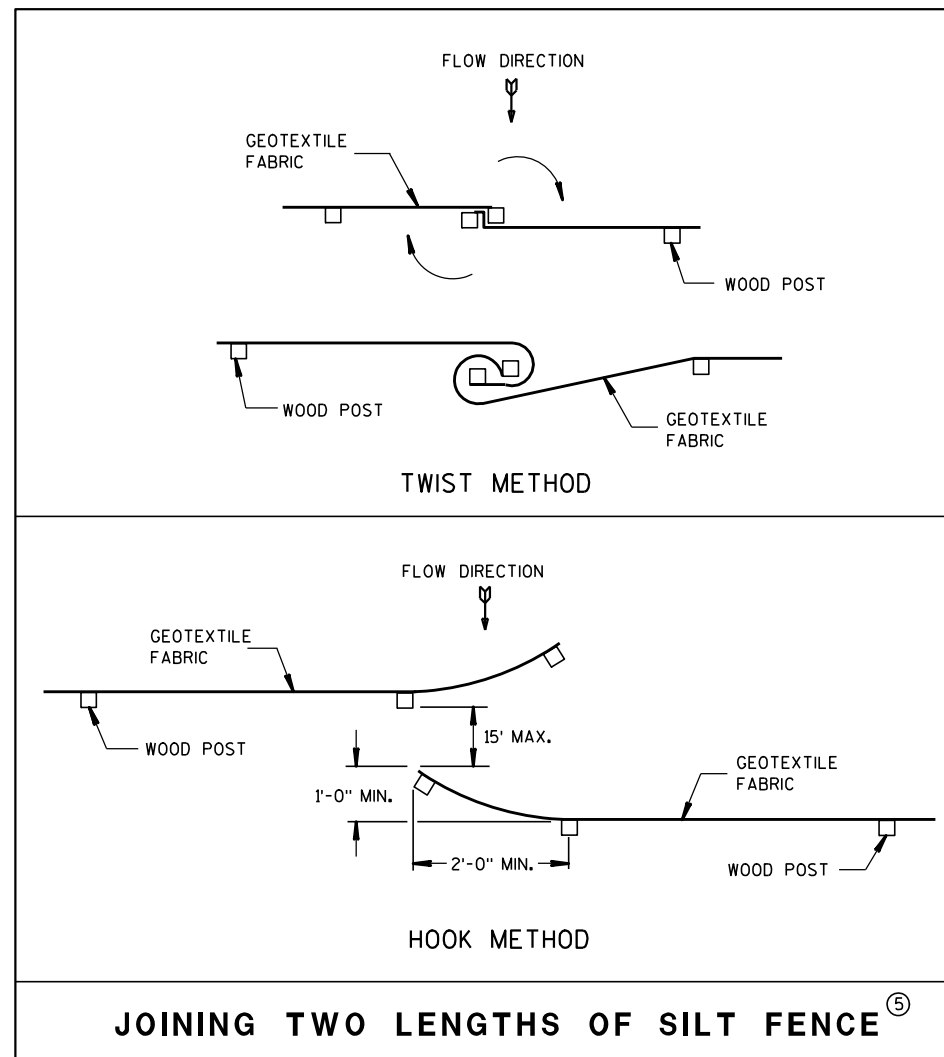
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

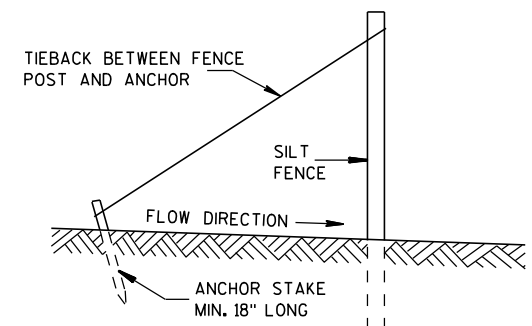


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE

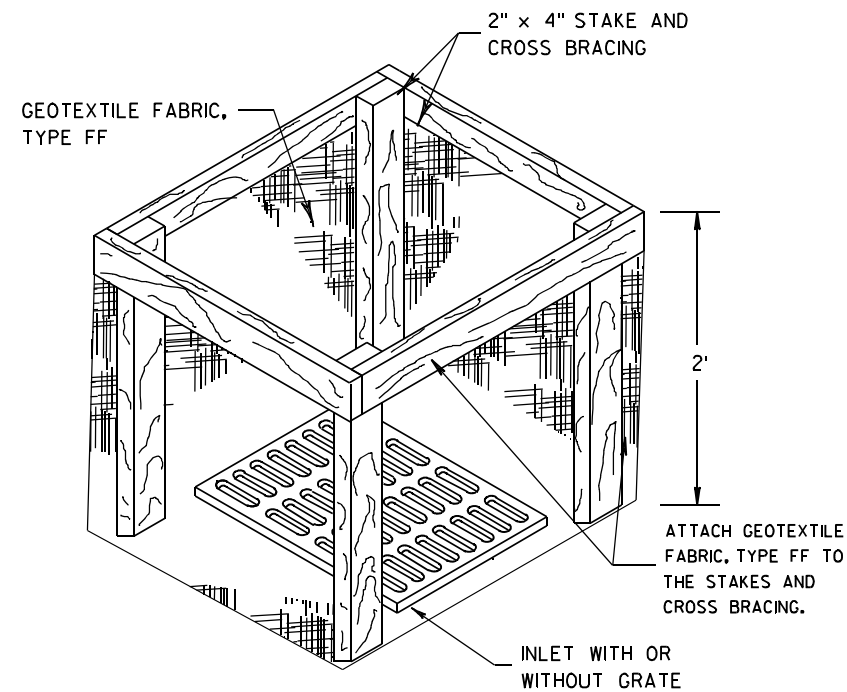
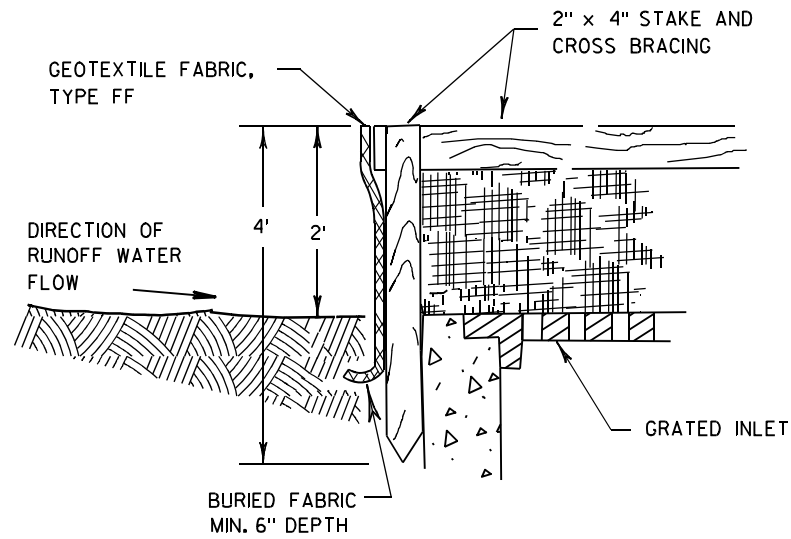


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



INLET PROTECTION, TYPE A

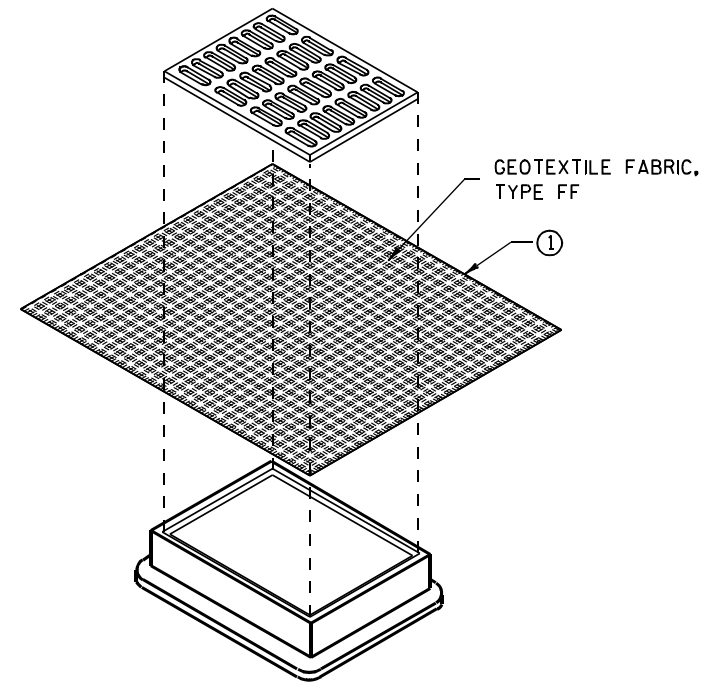
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

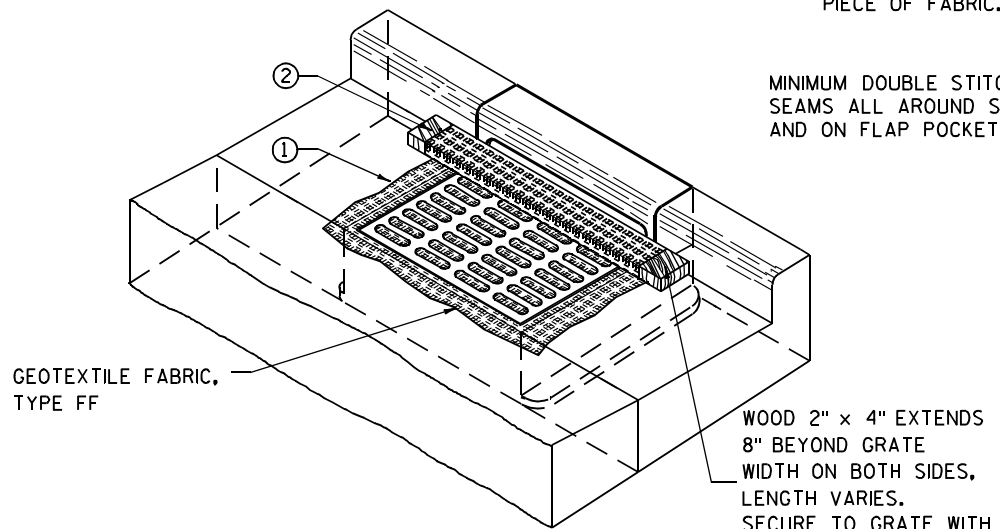
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

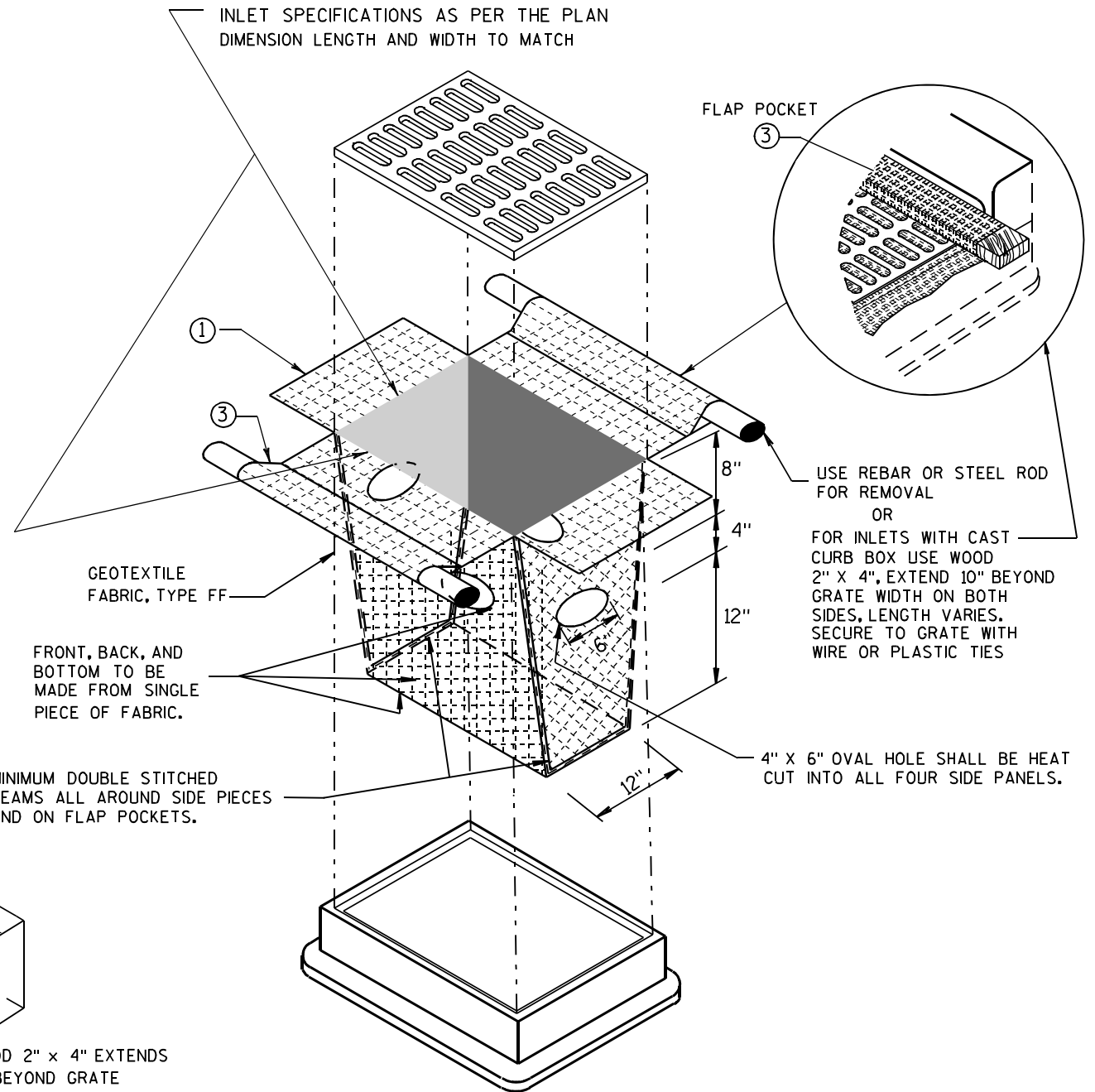
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

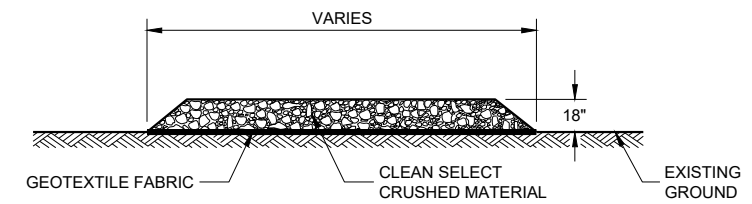
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

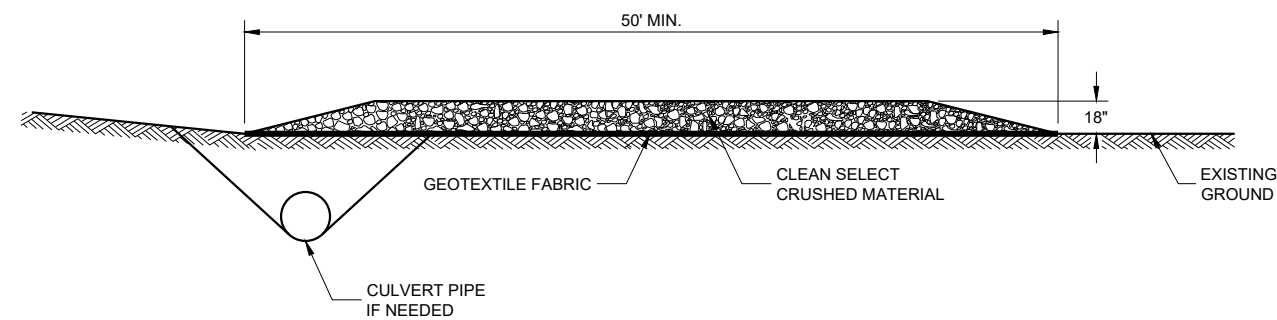
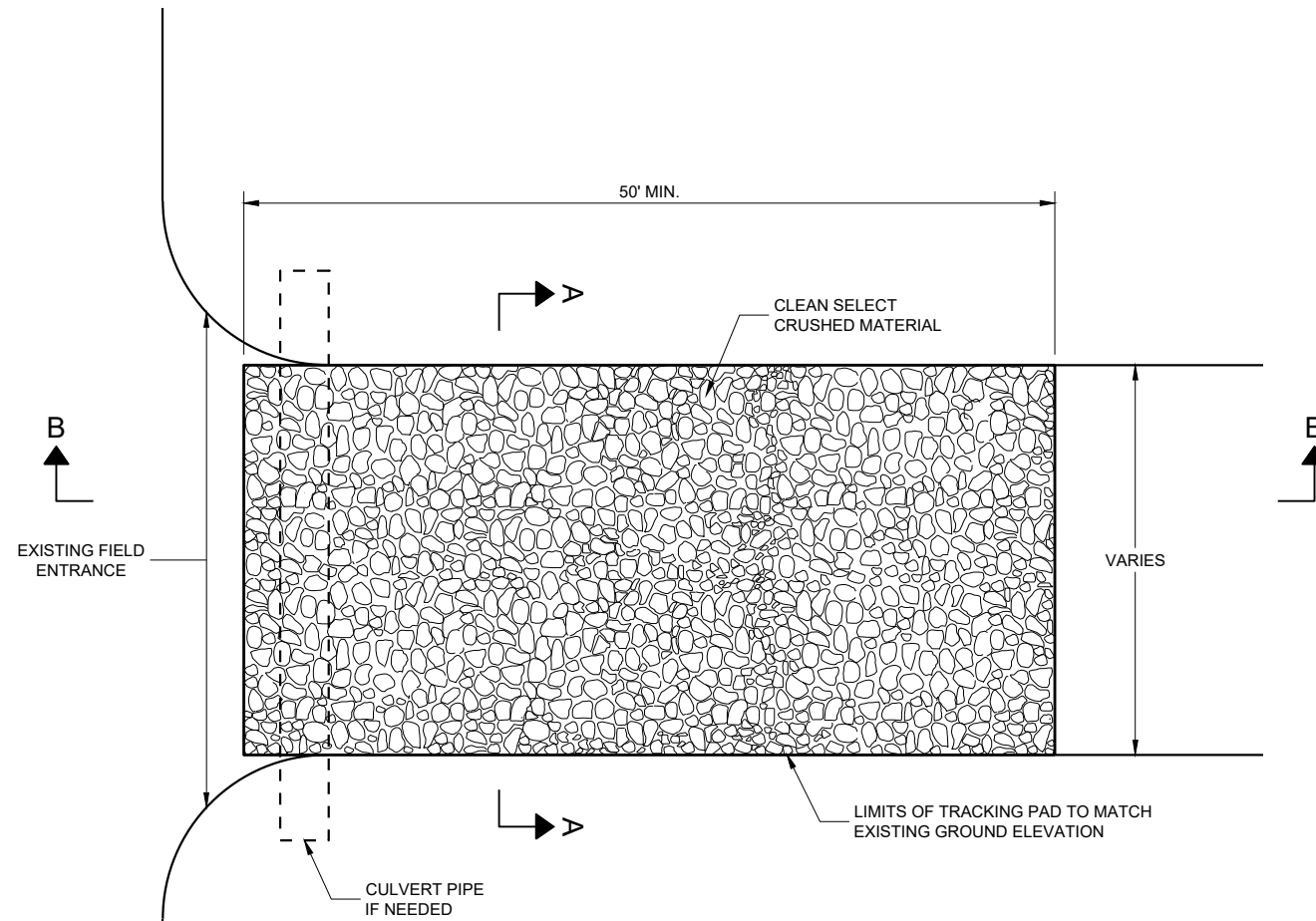
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A



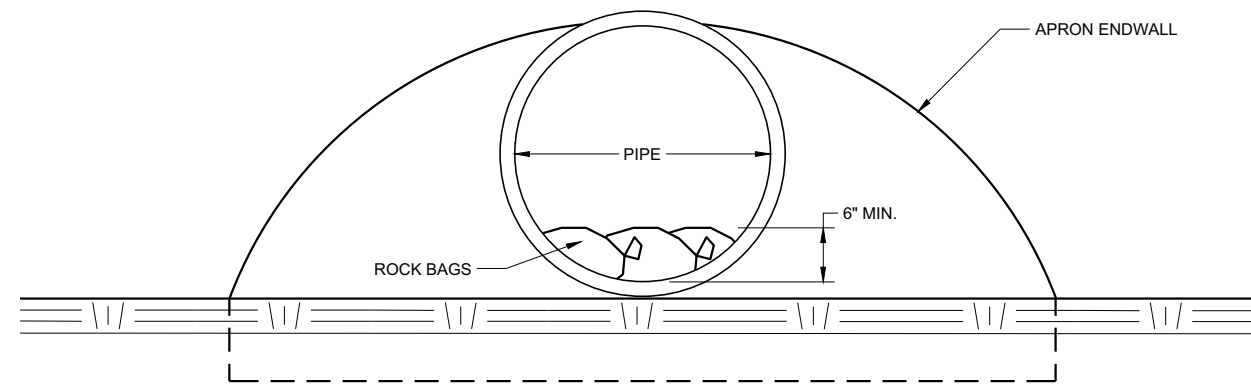
SECTION B - B

TRACKING PAD

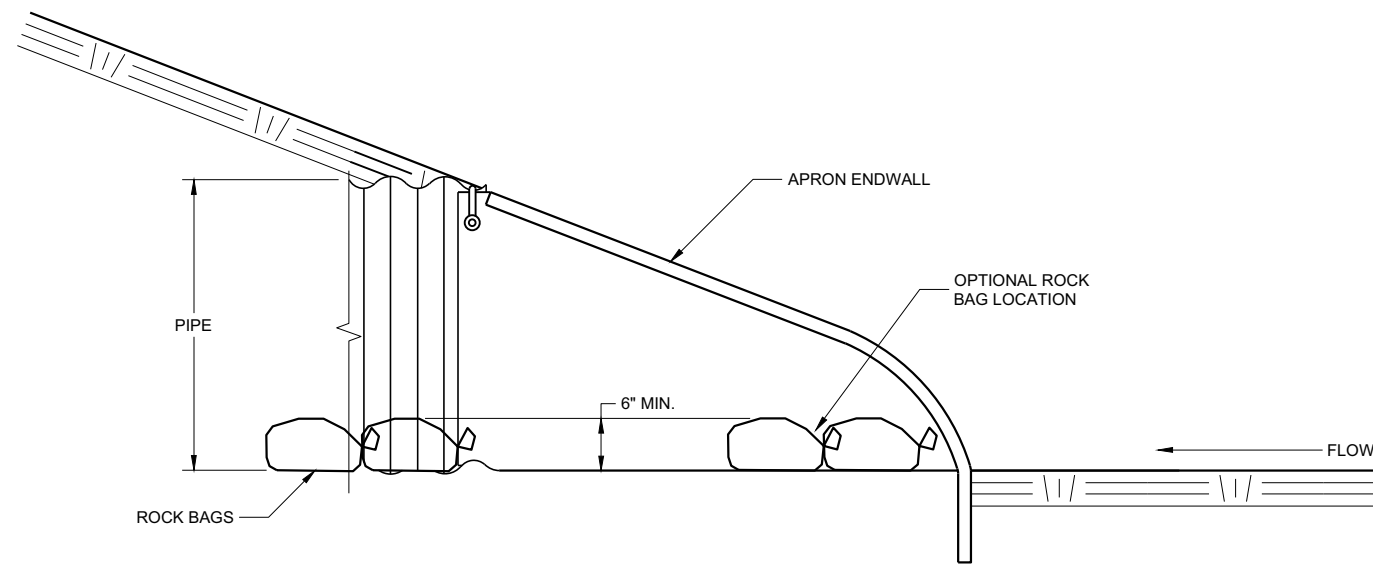
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE EROSION CONTROL ENGINEER

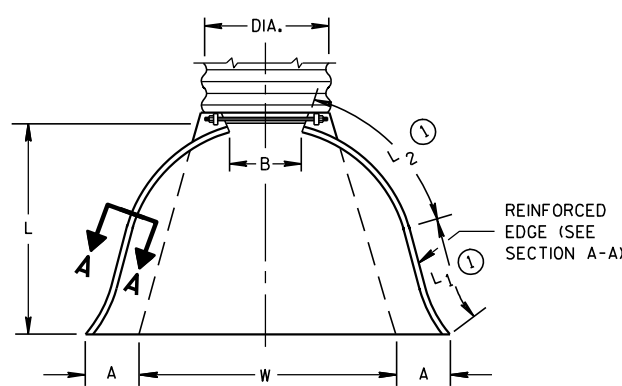
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

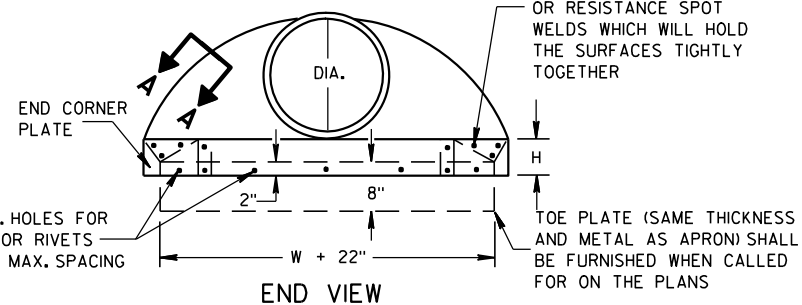
REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1	
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1	
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1	
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1	
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1	
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1	
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1	
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1	

* MINIMUM
** MAXIMUM

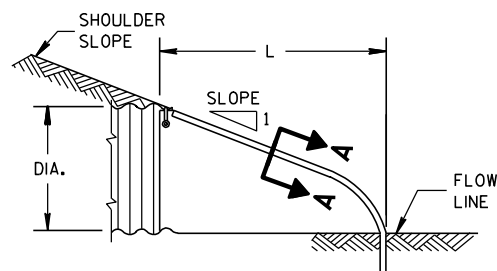


PLAN VIEW

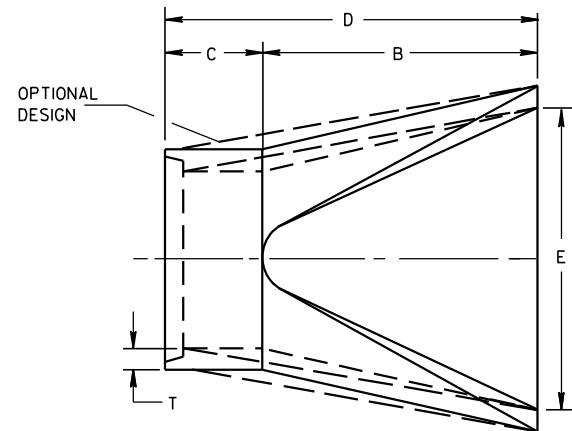
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



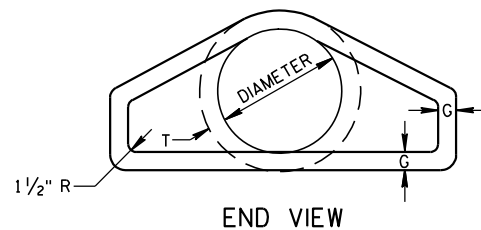
END VIEW



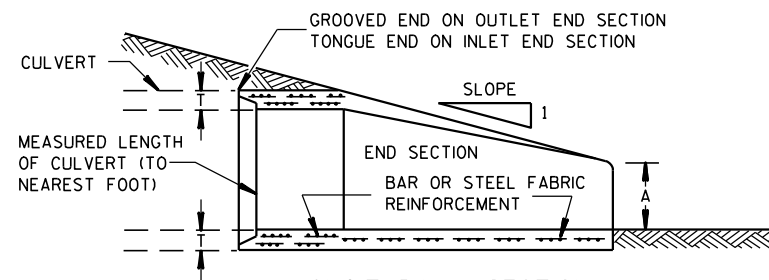
SIDE ELEVATION
METAL ENDWALLS



PLAN

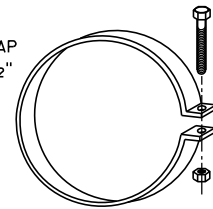


END VIEW



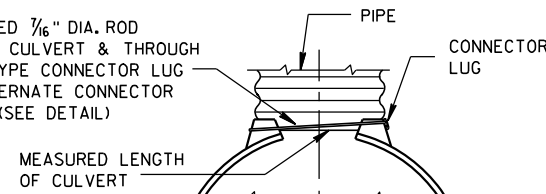
LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP

THREADED 3/16" DIA. ROD AROUND CULVERT & THROUGH TANK TYPE CONNECTOR LUG OR ALTERNATE CONNECTOR STRAP (SEE DETAIL)



TYPE 1
FOR 12" THRU 24" CORR. PIPE

THREADED 3/16" DIA. ROD OVER TOP OF APRON, SIDE LUGS TO BE RIVETED TO APRON



TYPE 2
FOR 30" THRU 96" CORR. PIPE

MEASURED LENGTH OF CULVERT

CONNECTOR SECTION TO BE PAID FOR AS PART OF END SECTION

COUPLING BAND REQUIRED

RIVETED OR BOLTED

TYPE 3
FOR 42" THRU 96" CORR. PIPE

DIMPLED OR CORRUGATED COUPLING BAND

RIVETED OR BOLTED AT DIMPLES (6" C-C FOR CORRUGATED BAND)

MEASURED LENGTH OF CULVERT

2 - 1/2" X 6" BAND BOLTS

TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

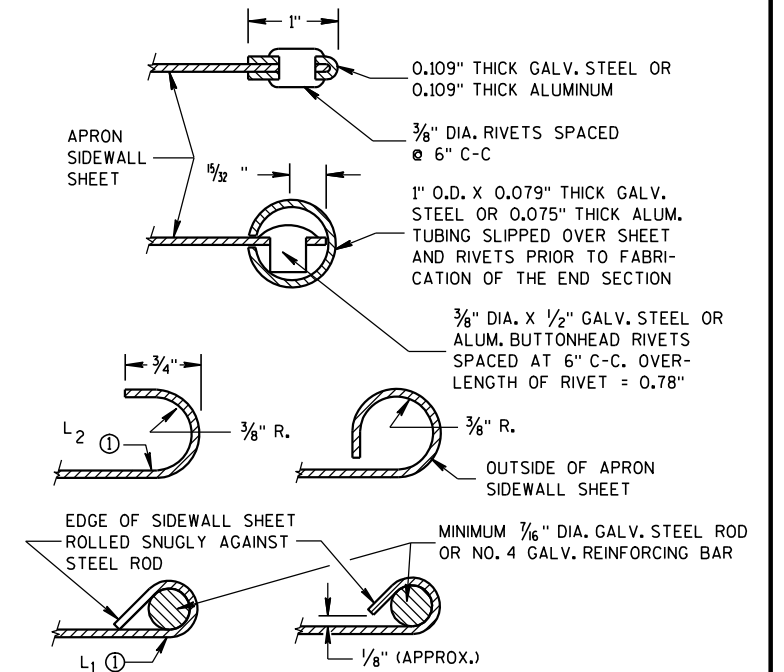
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

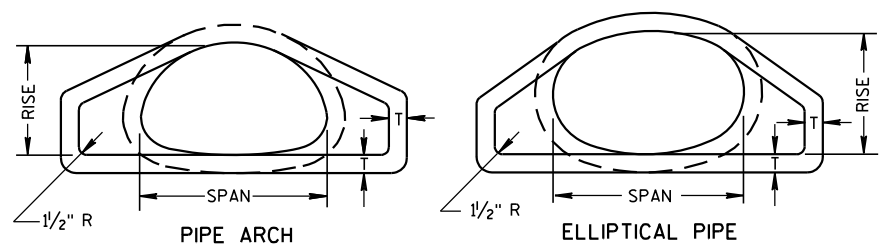
APPROVED

11/30/94

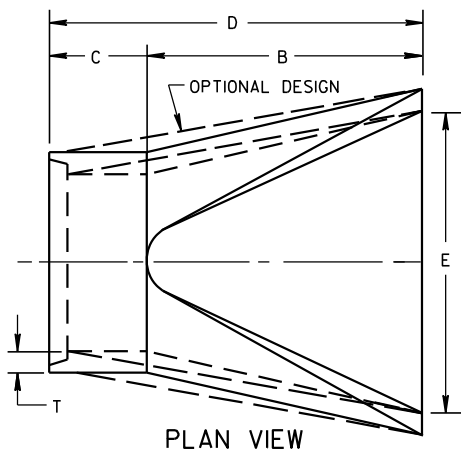
DATE

FHWA

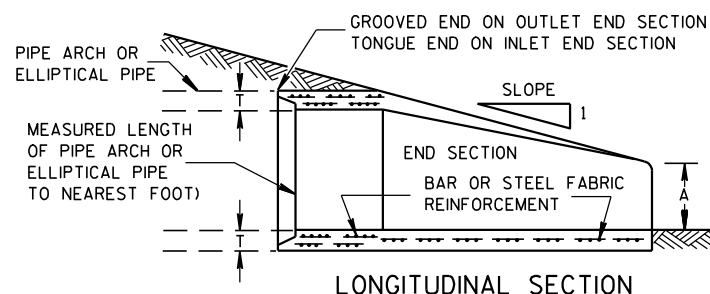
/s/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



PLAN VIEW



LONGITUDINAL SECTION

CONCRETE ENDWALLS

2- 2 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⓪)	L2 (⓪)	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⓪)	L2 (⓪)	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED. * EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/8	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 3/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

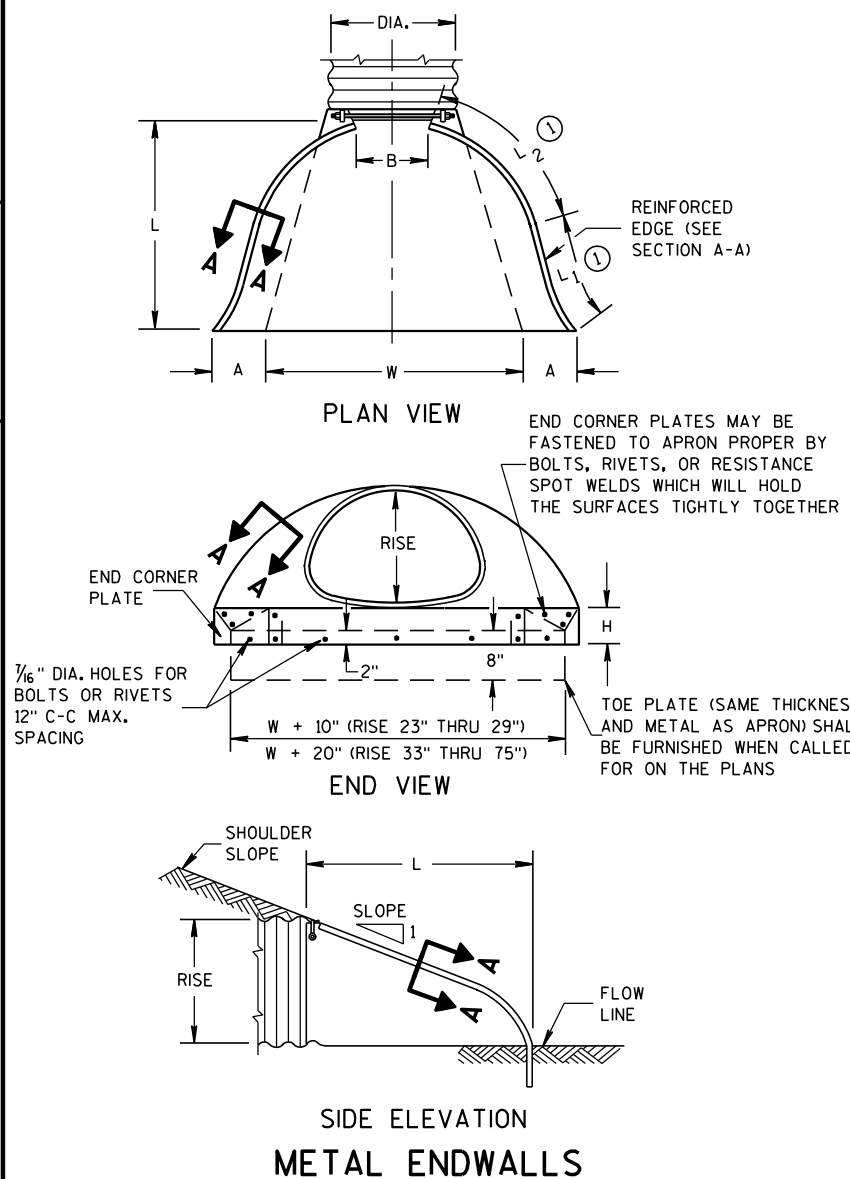
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

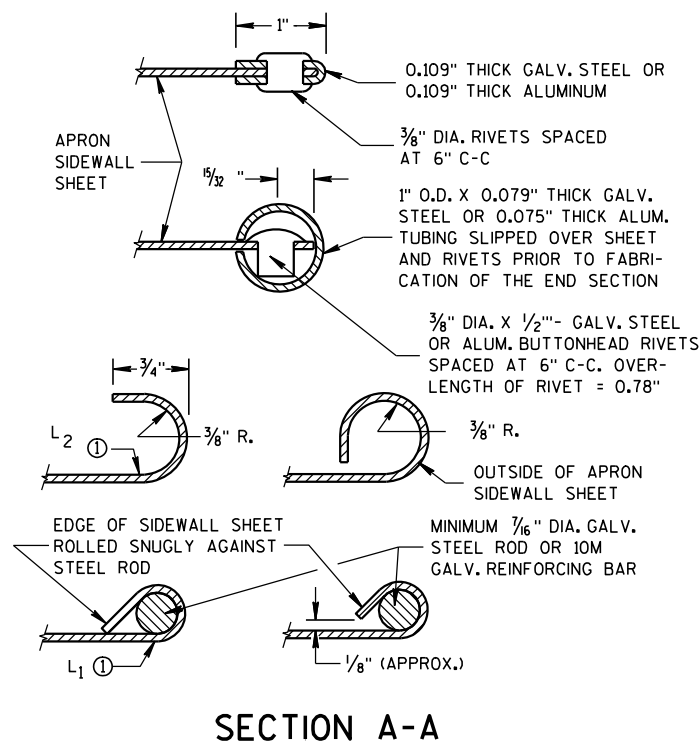
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

⓪ FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



METAL ENDWALLS

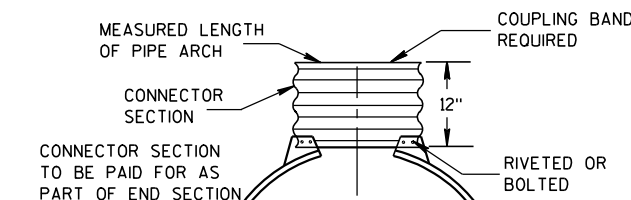


SECTION A-A



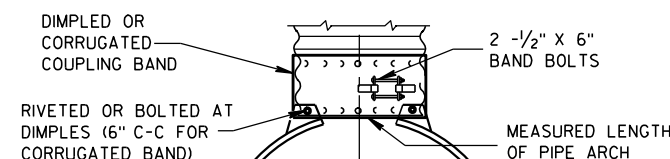
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR: ALL SIZES CORRUGATED PIPE ARCHES

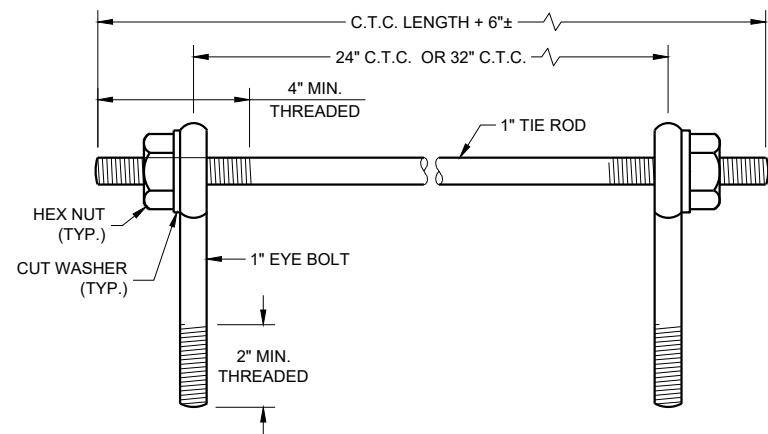
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

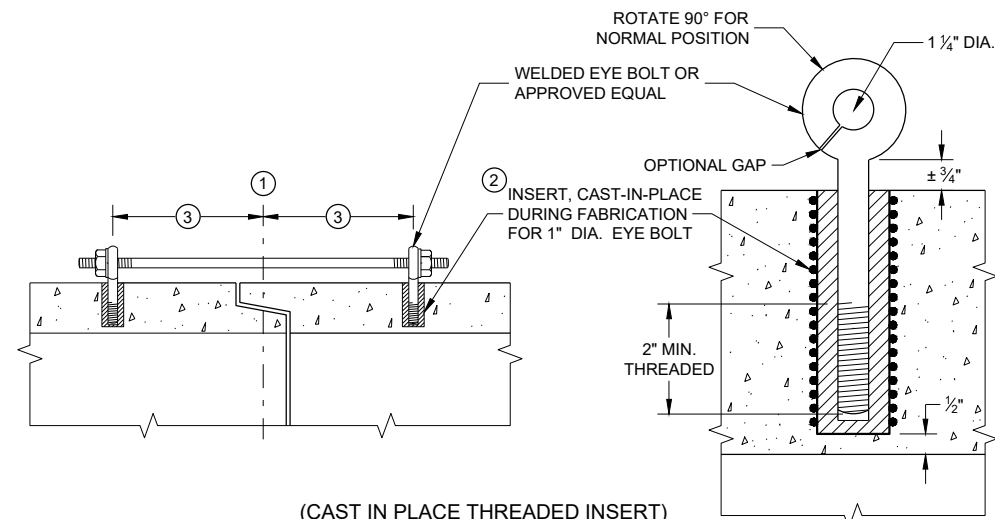
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

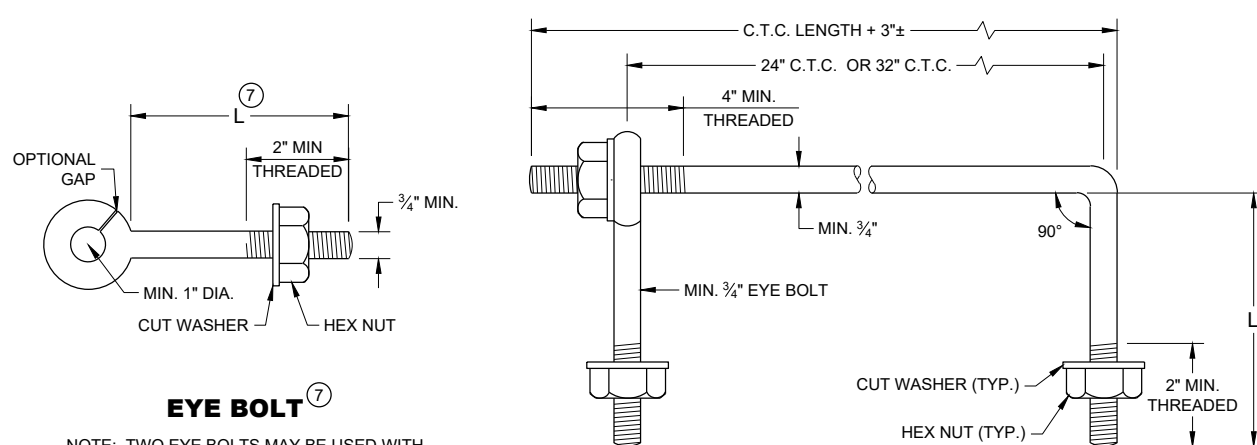
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

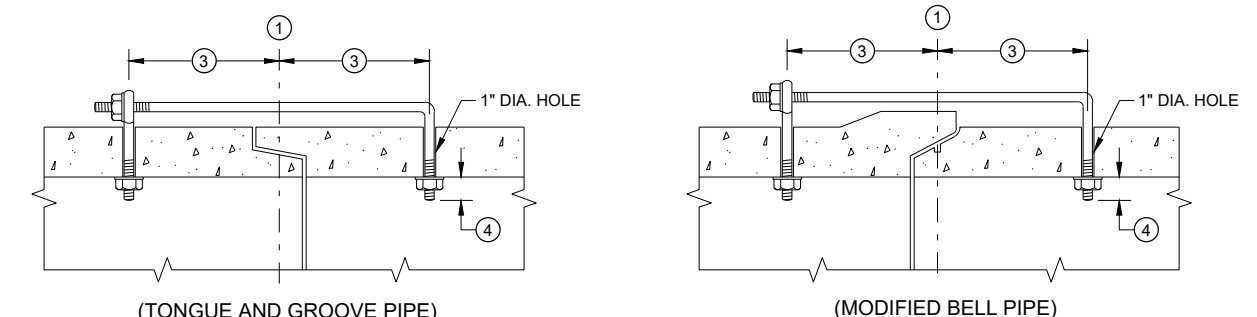
- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



EYE BOLT AND TIE ROD

EYE BOLT ⑦

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



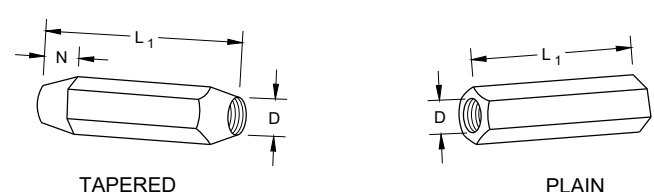
LONGITUDINAL SECTION
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

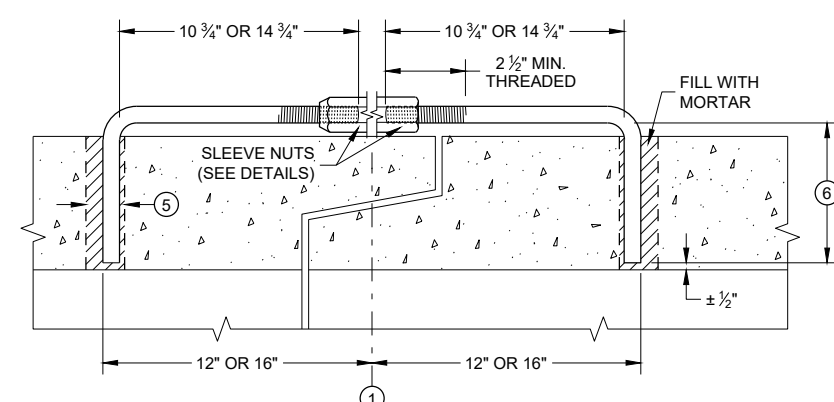
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES

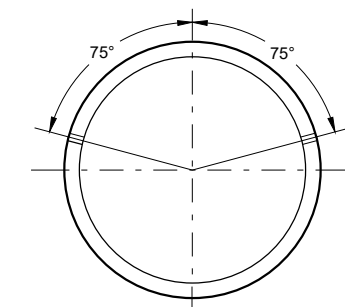


RIGHT AND LEFT THREADS SLEEVE NUTS



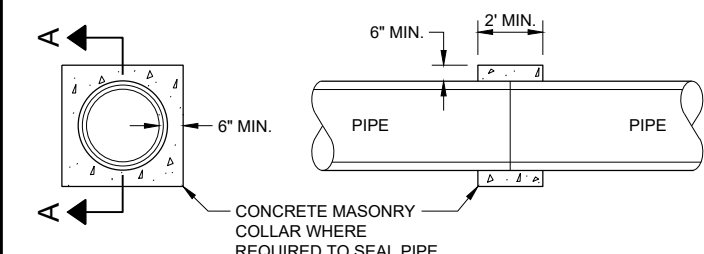
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION

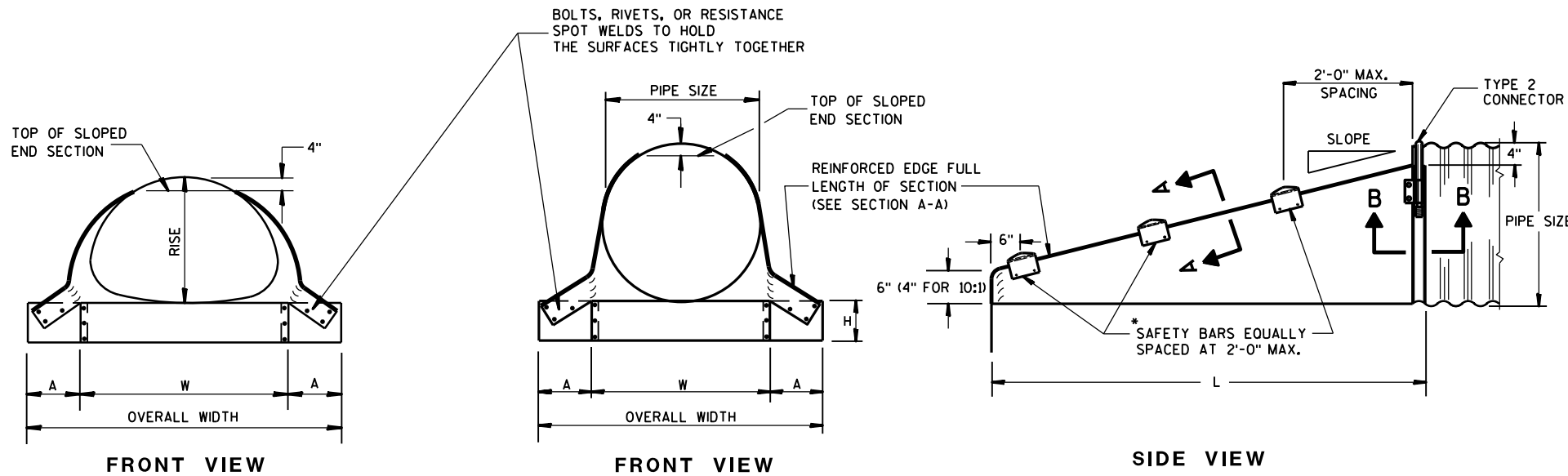


SECTION A - A
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER



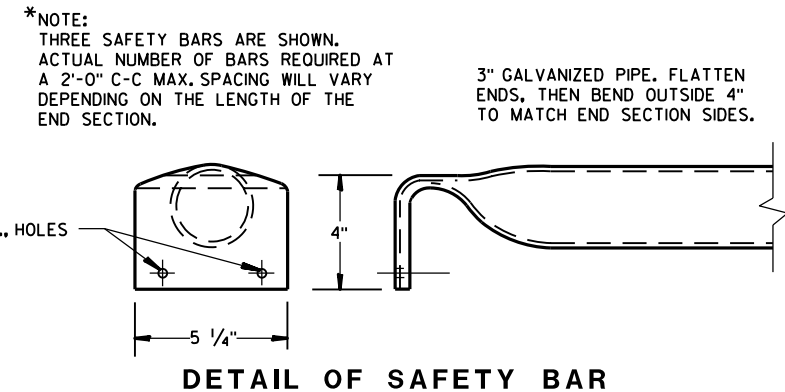
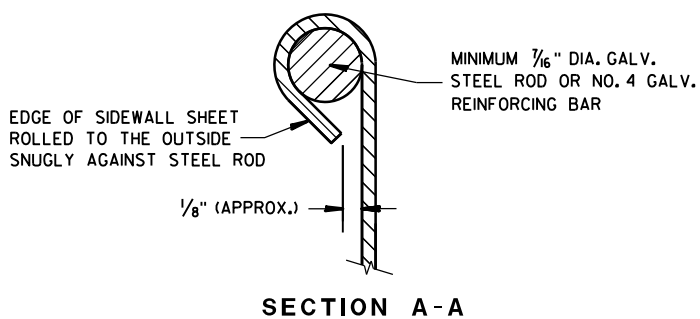
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

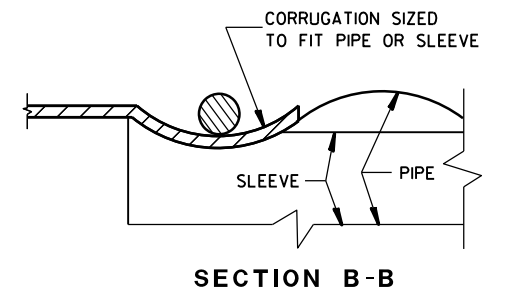
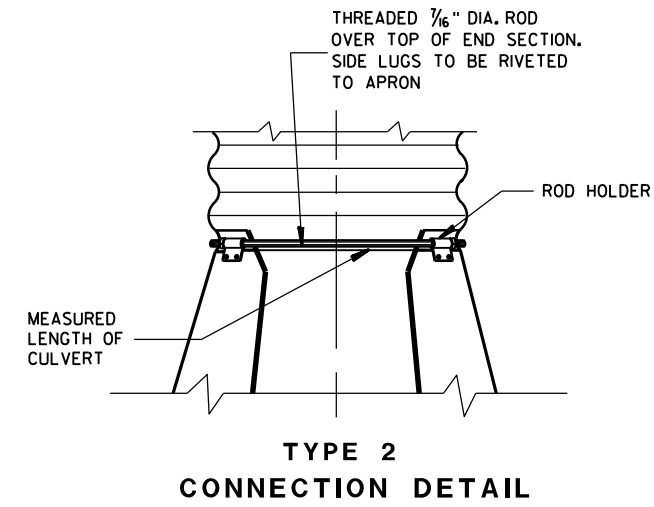
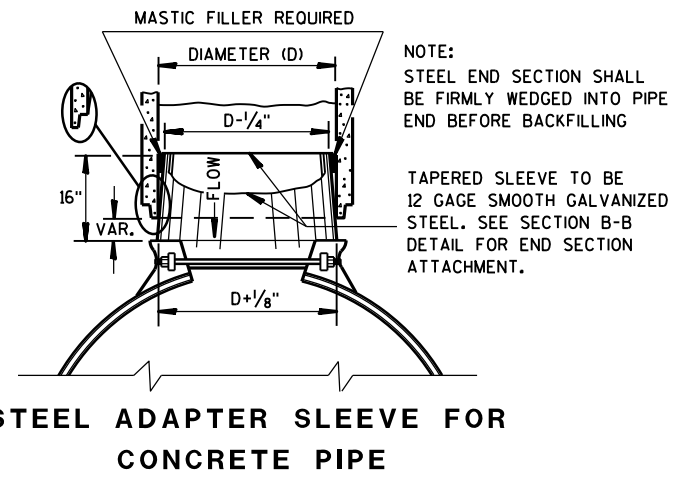
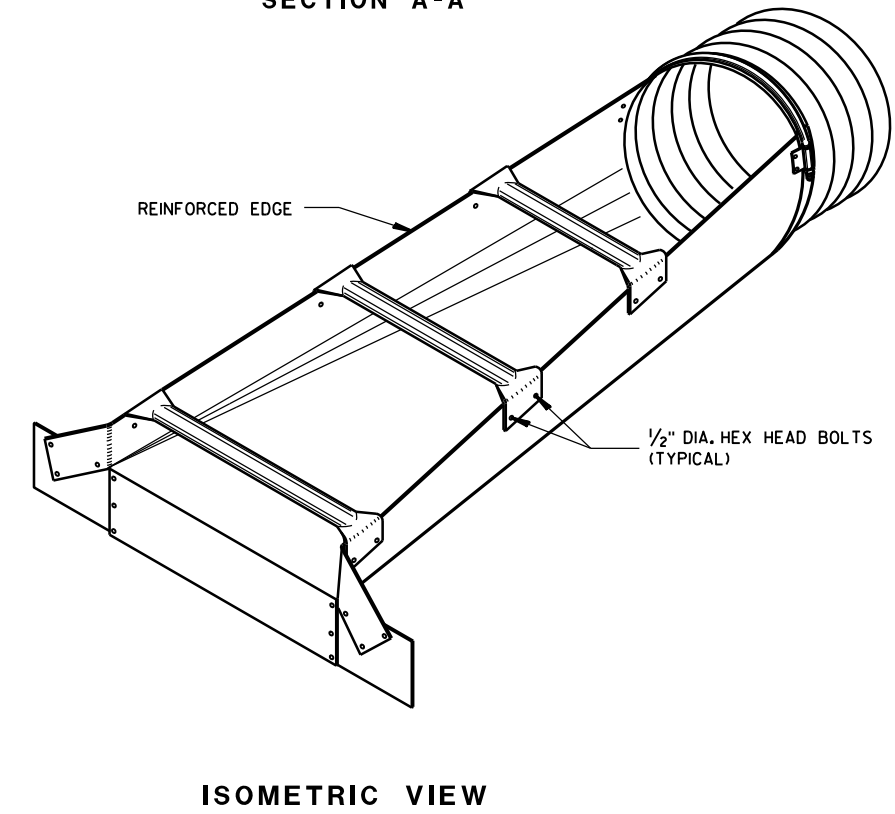
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS					
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	—	—
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	—	—
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	—	—

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
 ② ACTUAL SLOPE GREATER THAN 10:1.

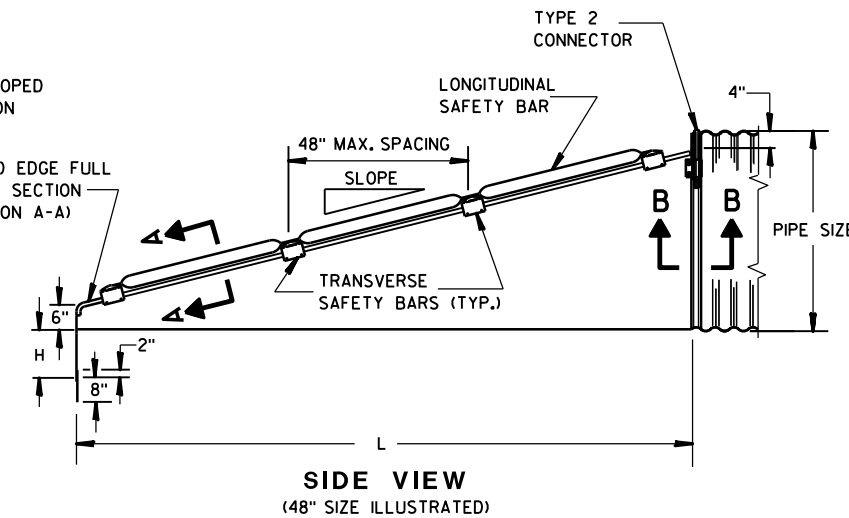
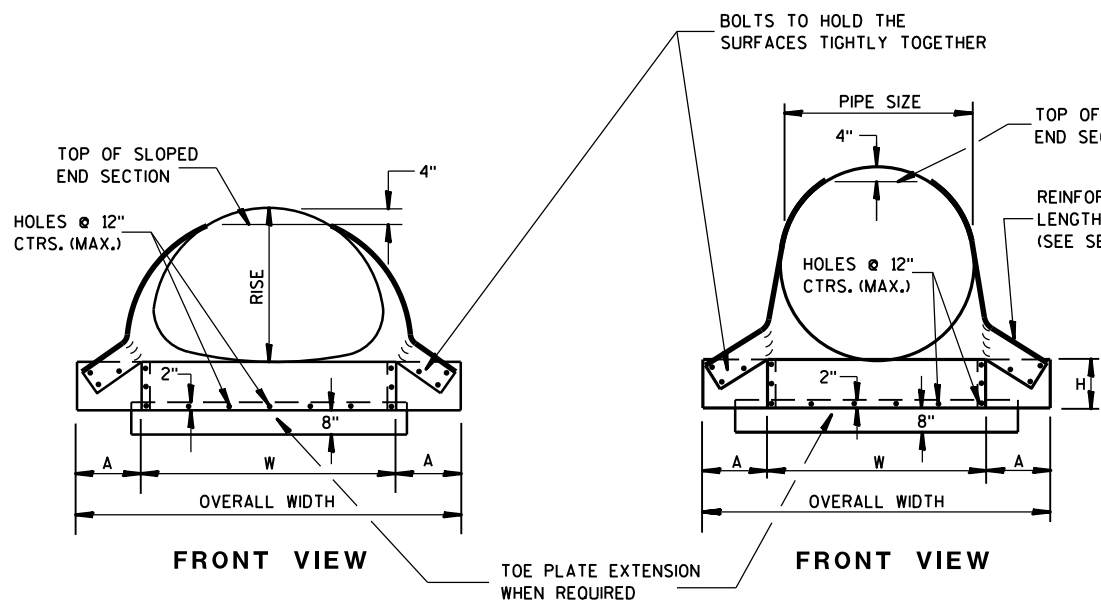


STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 9/14/2012 /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



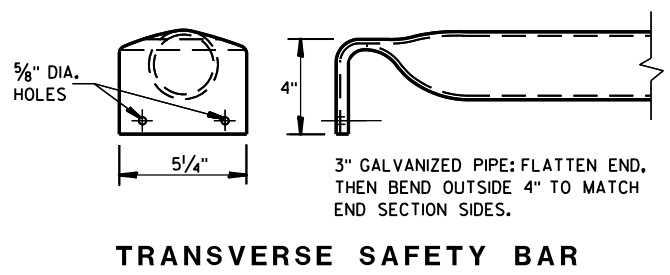
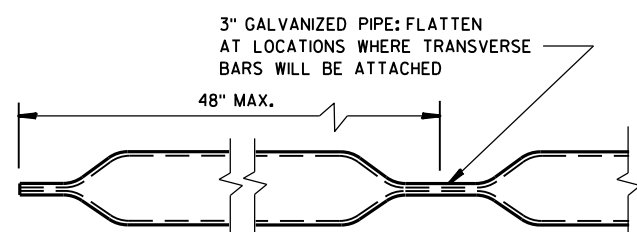
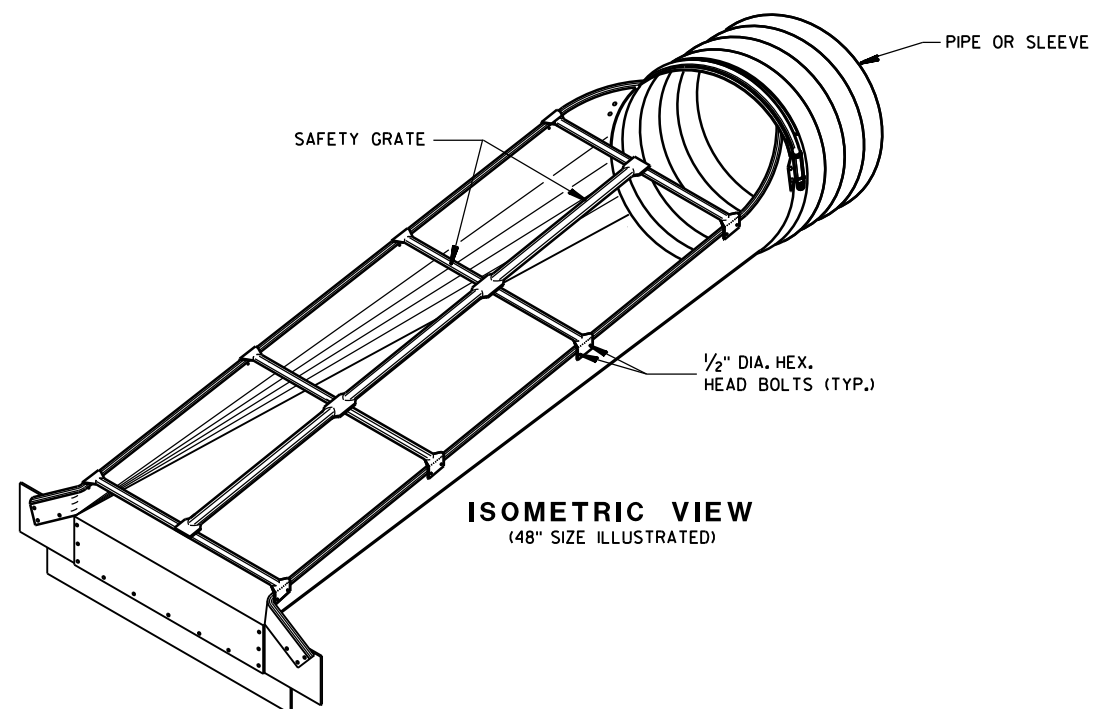
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

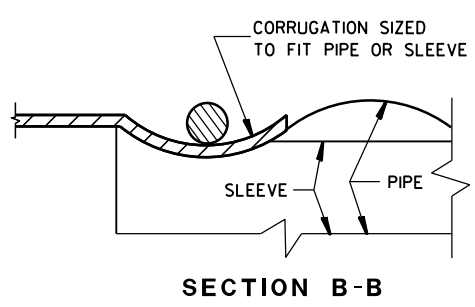
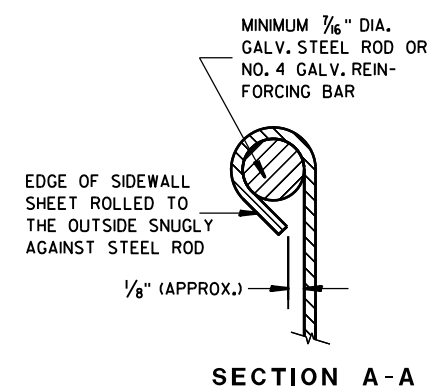
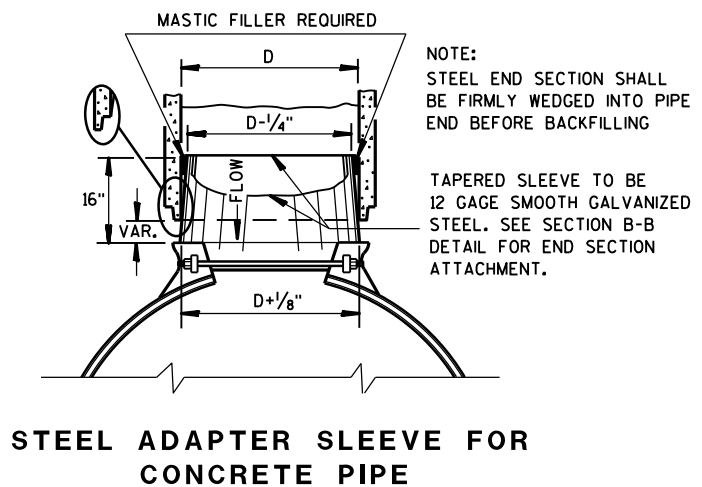
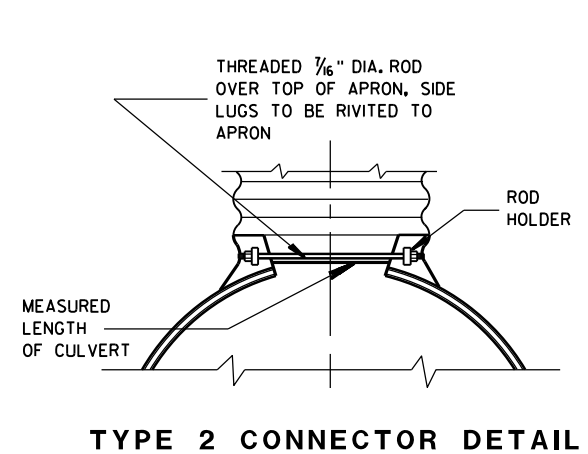
SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS										
PIPE DIA. (IN.)	MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
36	.109	12	12	9	42	66	4:1	104	6:1	156
42	.109	12	16	12	48	80	4:1	128	6:1	192
48	.109	12	16	12	54	86	4:1	152	6:1	228
54	.109	12	16	12	60	92	4:1	176	6:1	264
60	.109	12	16	12	66	98	4:1	200	6:1	300



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS												
EQUIV. DIA. (IN.)	INCHES		MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
	SPAN	RISE			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
30	35	24	.079	14	12	9	41	65	4:1	56	6:1	84
36	42	29	.109	12	12	9	48	72	4:1	76	6:1	114
42	49	33	.109	12	16	12	55	87	4:1	92	6:1	138
48	57	38	.109	12	16	12	63	95	4:1	112	6:1	168
54	64	43	.109	12	16	12	70	102	4:1	132	6:1	198
60	71	47	.109	12	16	12	77	109	4:1	148	6:1	222



STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 6/5/2012 /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

6

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

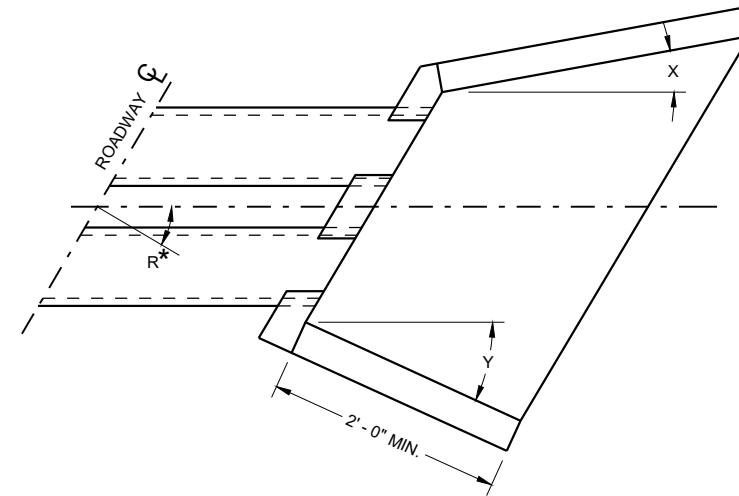
ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

① MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

② THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2' - 0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3' - 0"

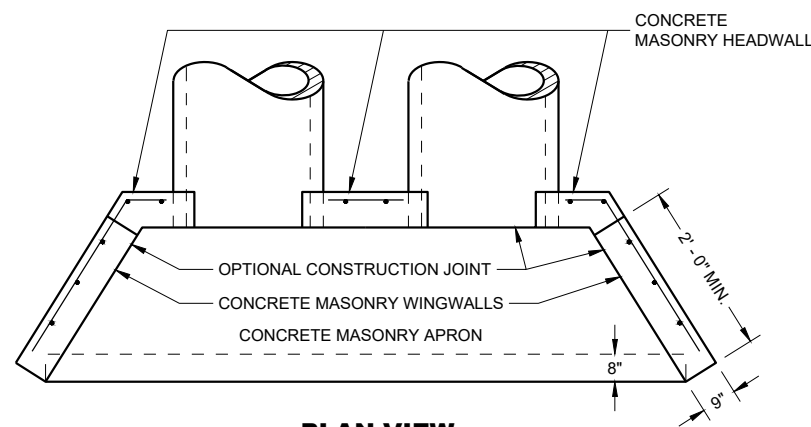
- ③ LIMITS OF TRENCH BACKFILL
- ④ LIMITS OF FOUNDATION BACKFILL
- ⑤ FOUNDATION AND TRENCH BACKFILL ARE MATERIALS INCLUDED IN PAYMENT FOR CULVERT PIPE, PIPE ARCH, CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPSE OR CONCRETE MASONRY ENDWALLS.
- ⑥ DO NOT PLACE FOUNDATION BACK FILL OR ANY OTHER GRANULAR BACKFILL AROUND OR BELOW CUT OFF WALL. POUR CUT OFF WALL AGAINST NATIVE SOIL.
- ⑦ MINIMUM HEIGHT SHALL BE THE GREATER OF 1'- 0" OR 1/4 HEIGHT OF CULVERT PIPE.



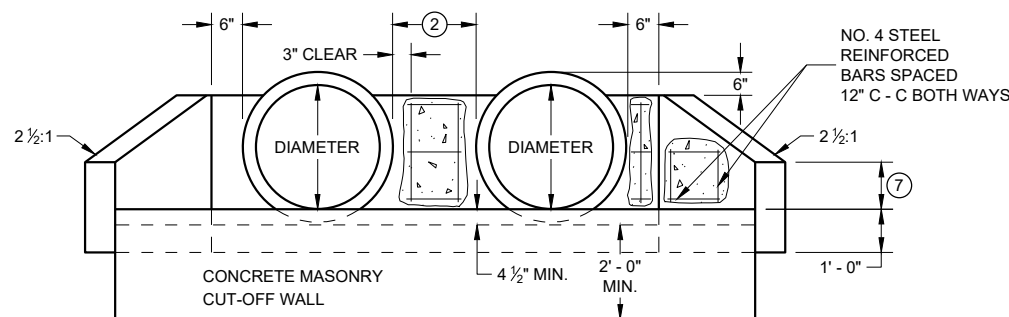
INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	30°	16 - 45°	10°	15°
23 - 37°	20°	30°	46 - 75°	5°	15°
38 - 52°	15°	30°	OVER 75°	0°	15°
53 - 67°	10°	30°			
68 - 82°	5°	30°			
OVER 82°	0°	30°			

R* = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

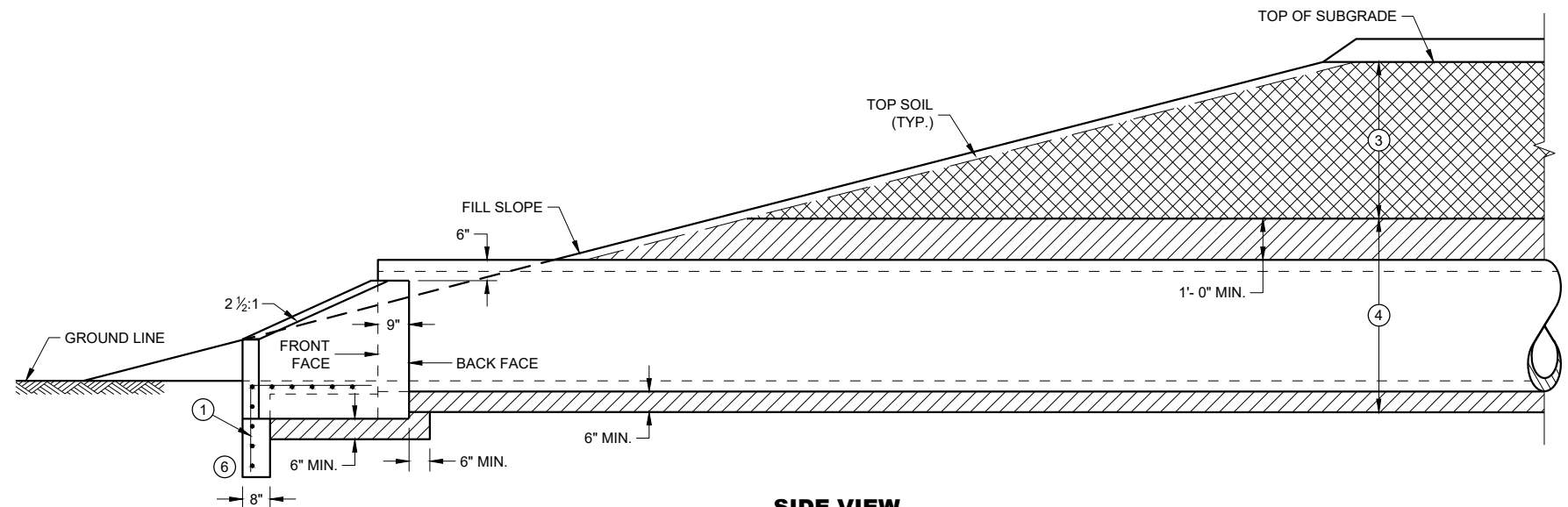
WINGWALL ANGLE DETAILS



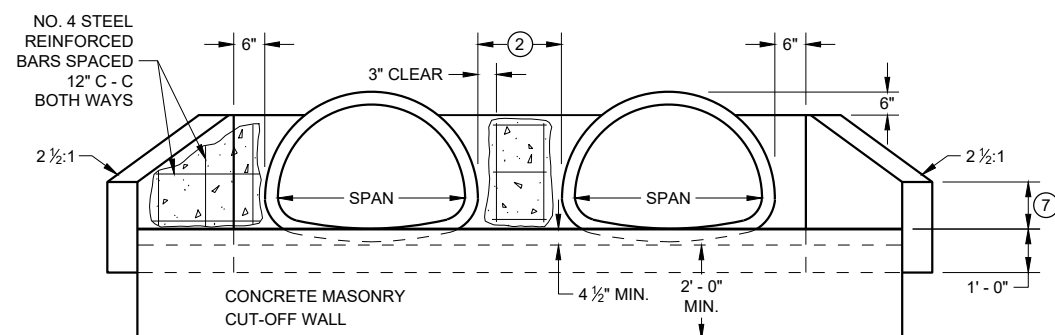
PLAN VIEW



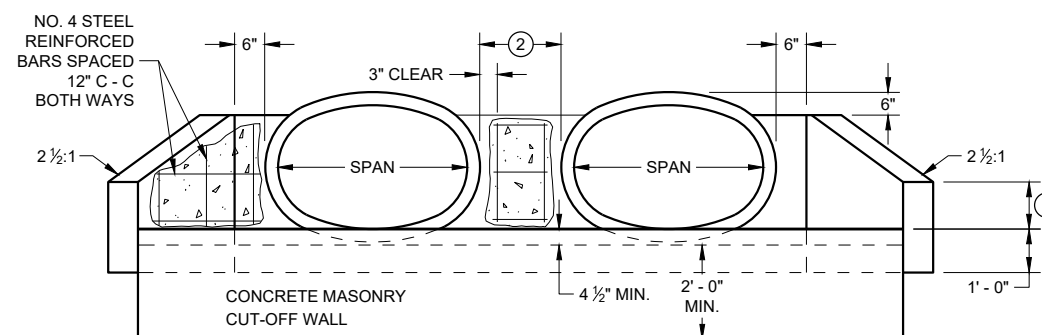
**END VIEW
CIRCULAR PIPE**



**SIDE VIEW
CIRCULAR PIPE, PIPE ARCH OR HORIZONTAL ELLIPSE**



**END VIEW
PIPE ARCH**



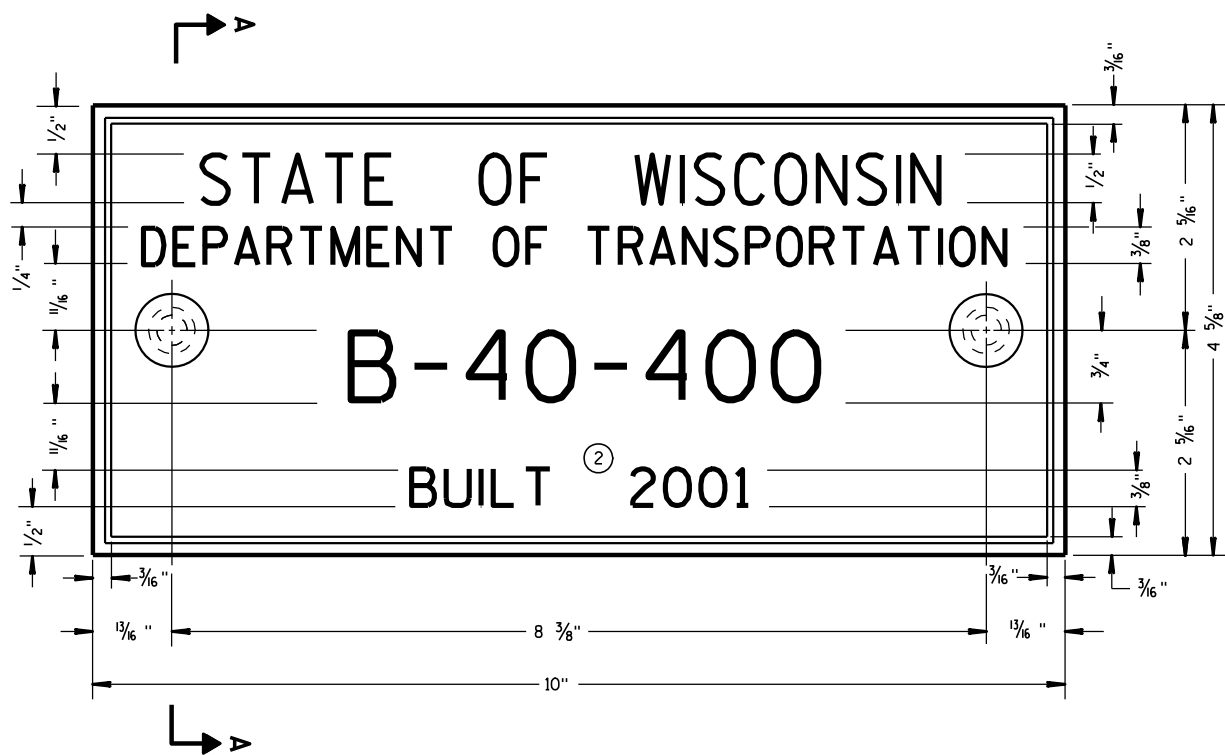
**END VIEW
HORIZONTAL ELLIPSE**

**CONCRETE MASONRY
ENDWALLS FOR CULVERT
PIPE AND PIPE ARCH**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



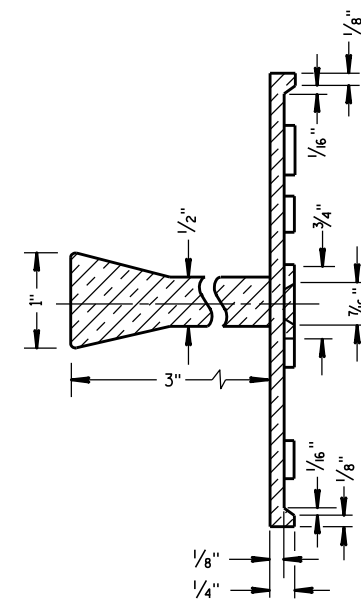
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

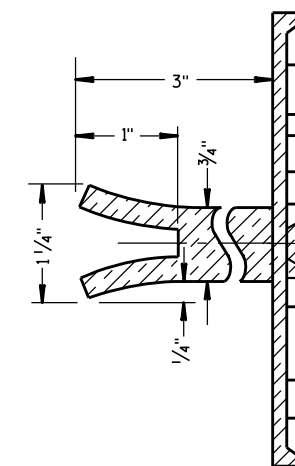
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

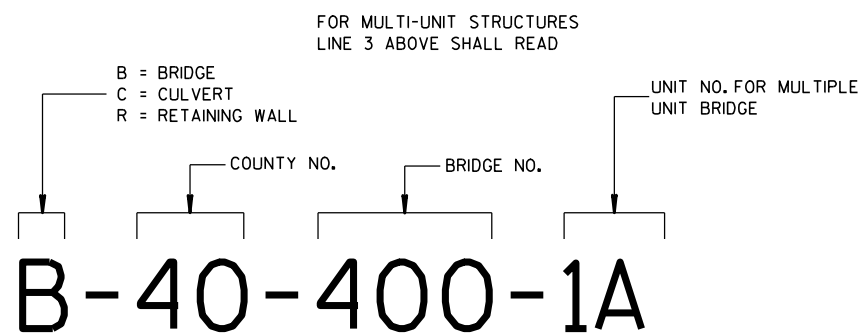


SECTION A-A

SPREAD OPEN SO THE TOP OF LUG IS 1 1/4" WIDE

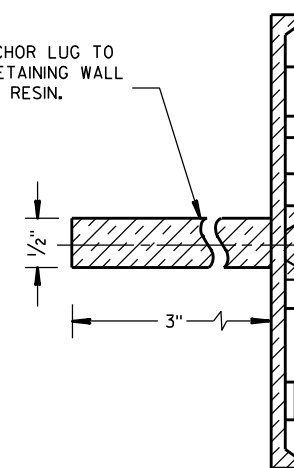


ALTERNATE LUG



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

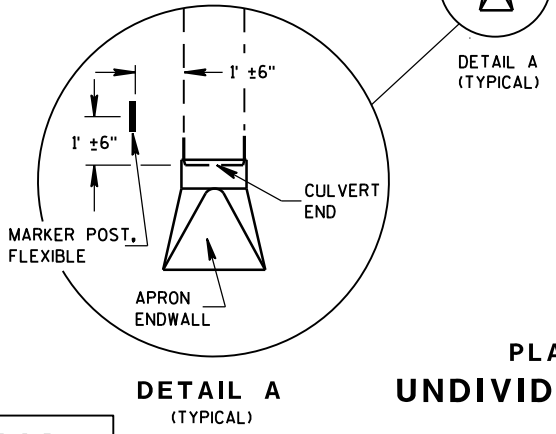
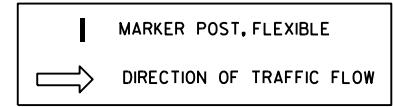
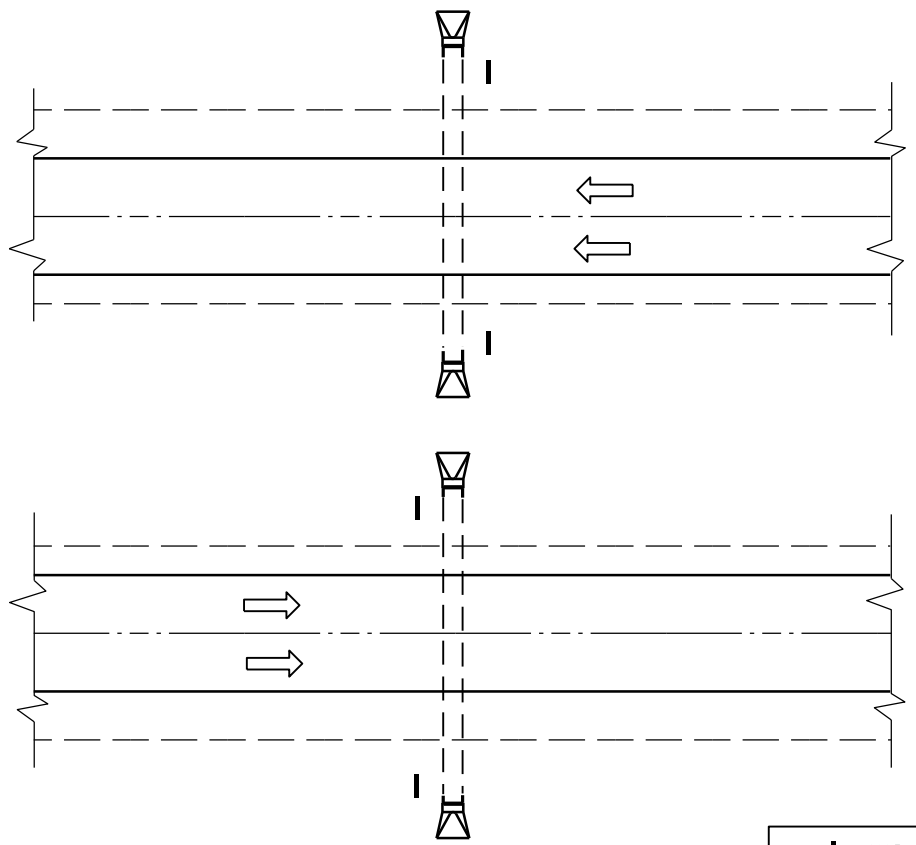


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 3/26/10 /S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA

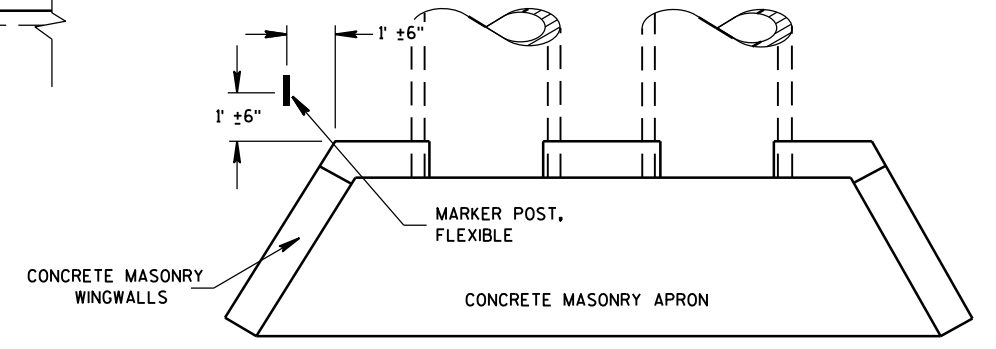


PLAN VIEW UNDIVIDED HIGHWAY

FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

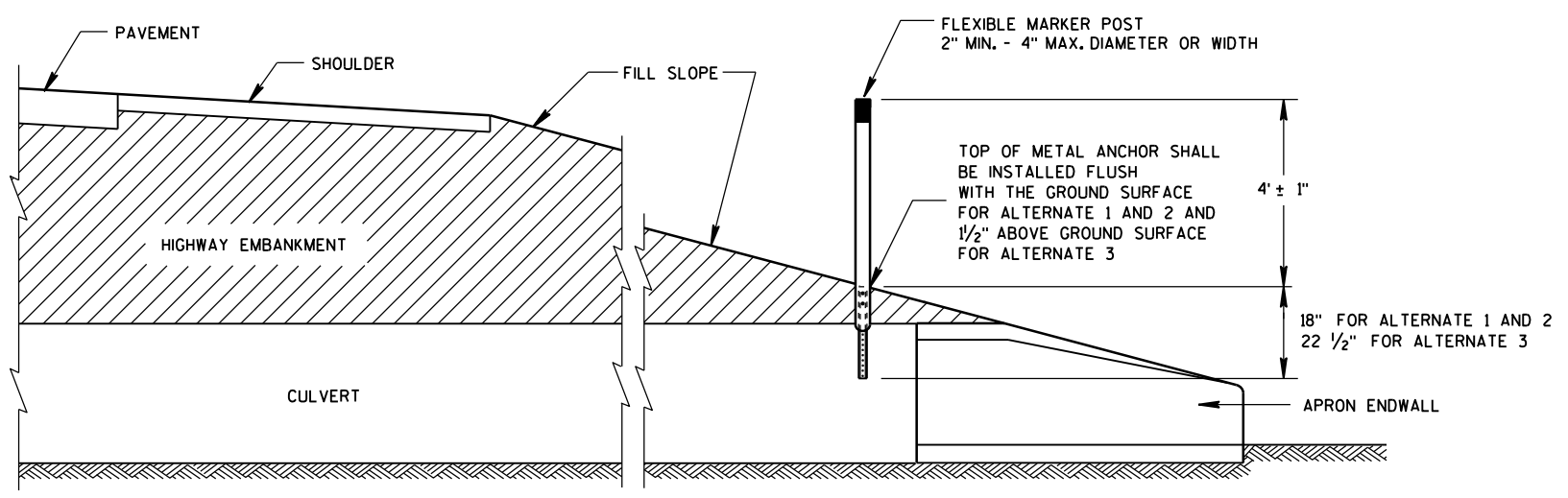
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

6

6



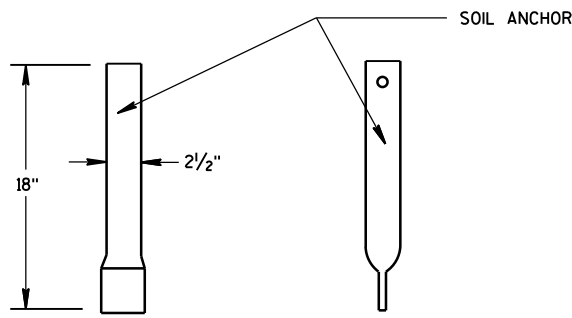
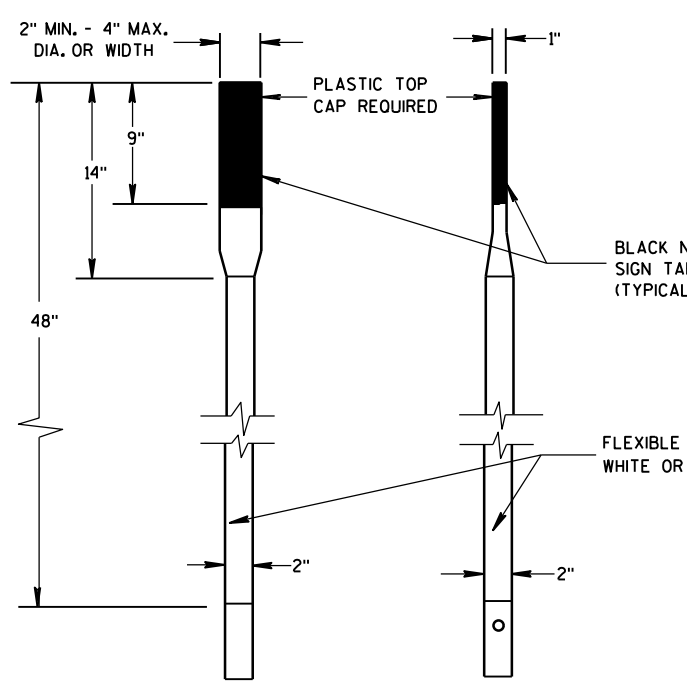
CROSS SECTION FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

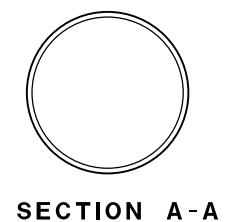
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

S.D.D. 15 A 3-2a

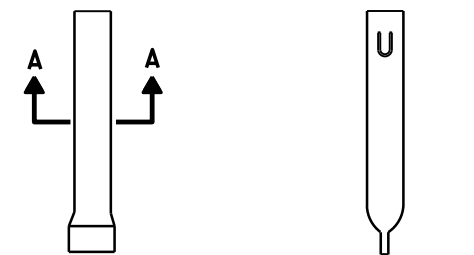
S.D.D. 15 A 3-2a



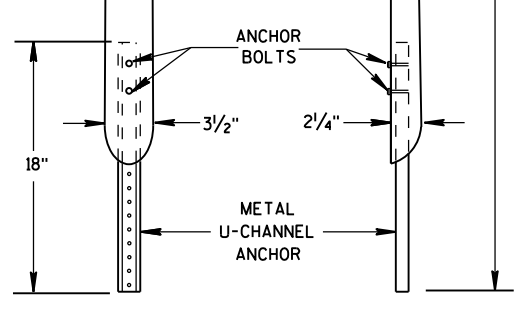
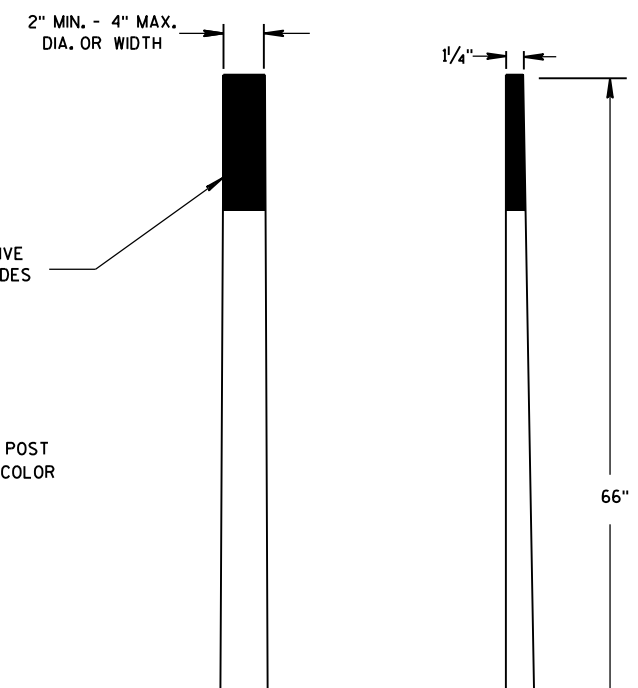
FRONT VIEW SIDE VIEW
ALTERNATE 1



SECTION A-A

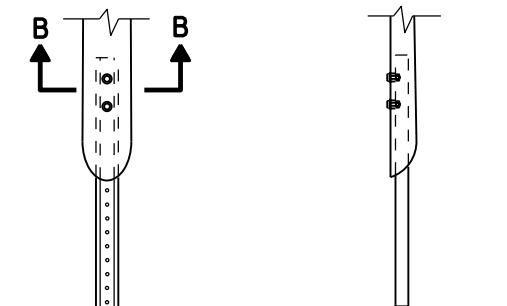
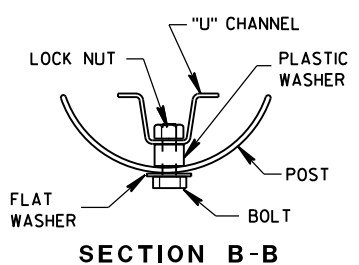


FRONT VIEW SIDE VIEW
ALTERNATE 1



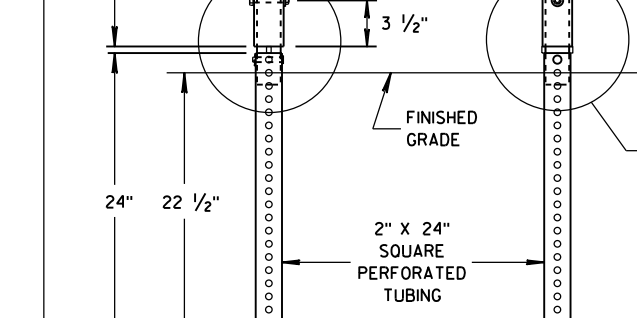
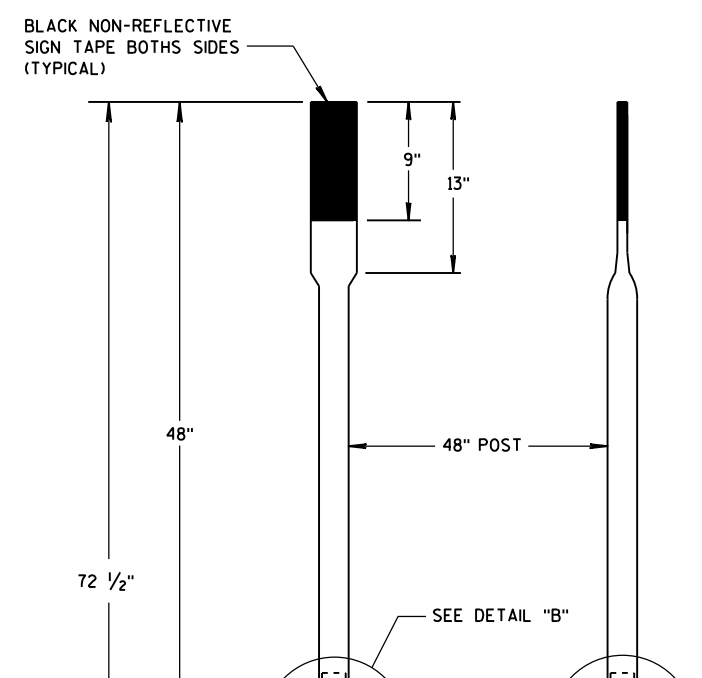
FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS

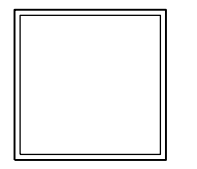


FRONT VIEW SIDE VIEW
ALTERNATE 2

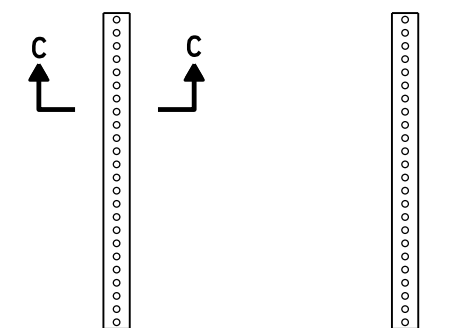
FLEXIBLE MARKER POST ANCHORS



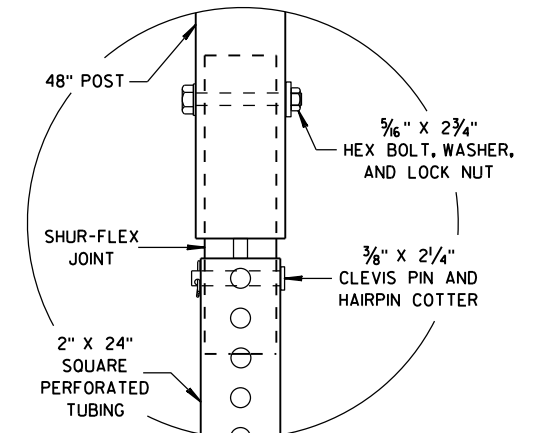
FRONT VIEW SIDE VIEW
ALTERNATE 3



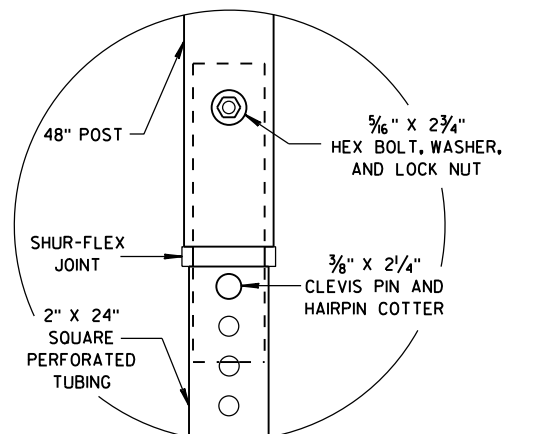
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 3



DETAIL B

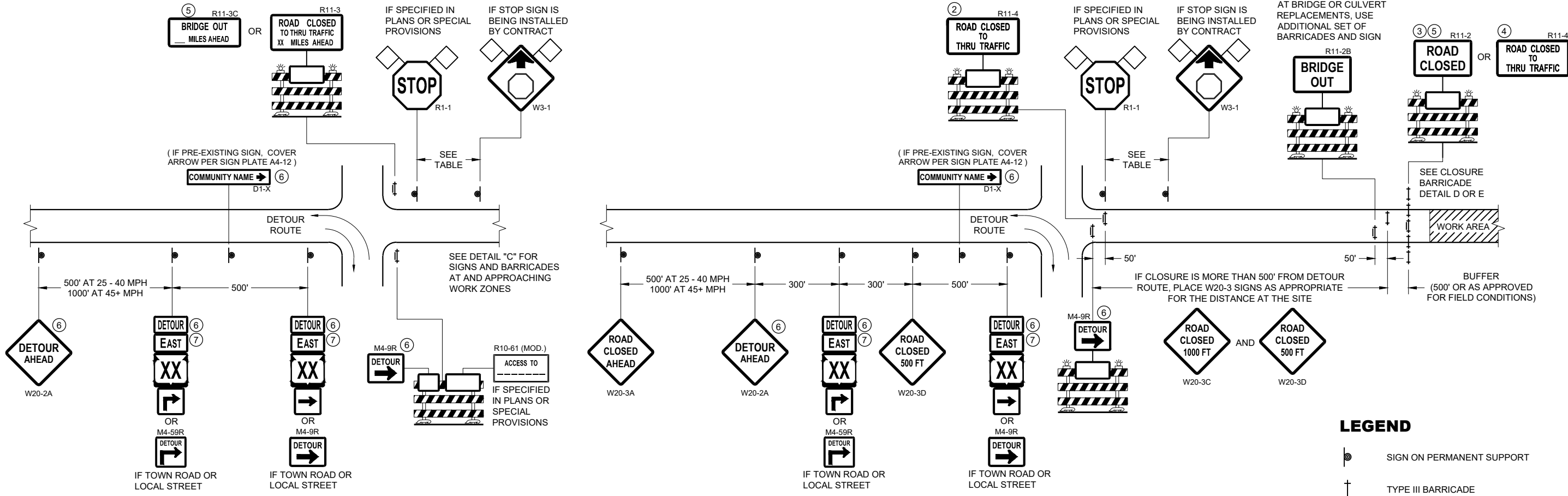


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

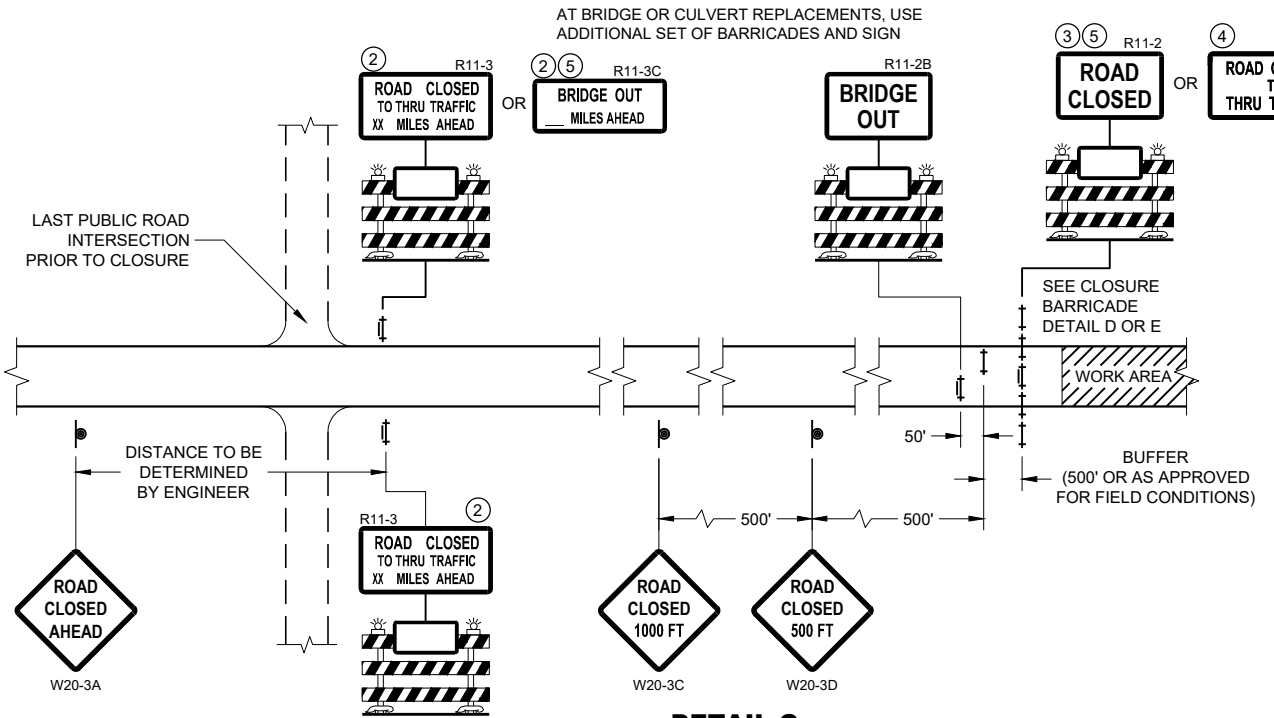
**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

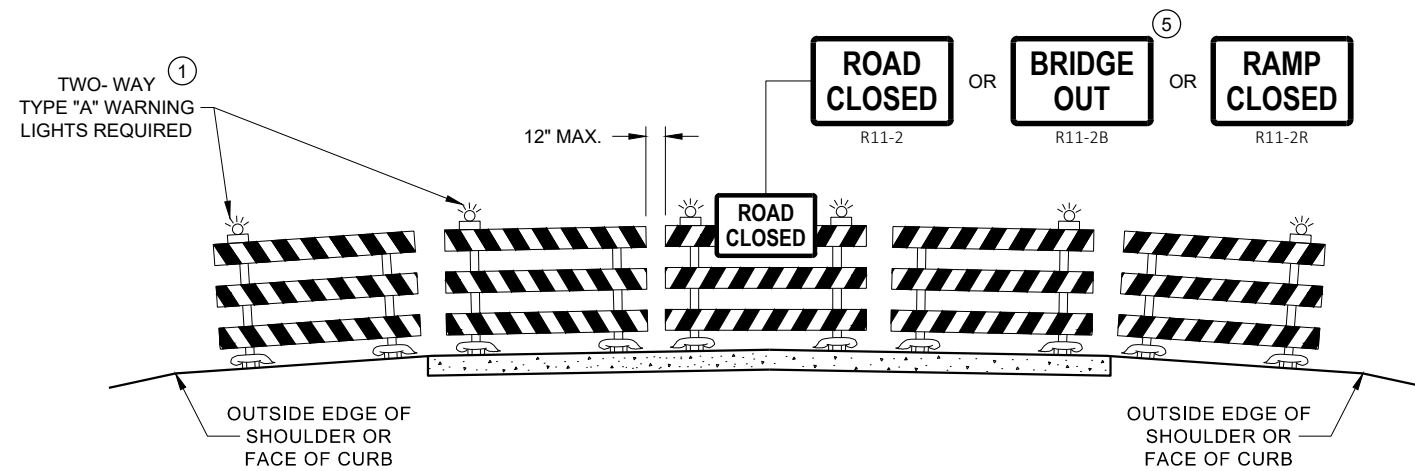
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

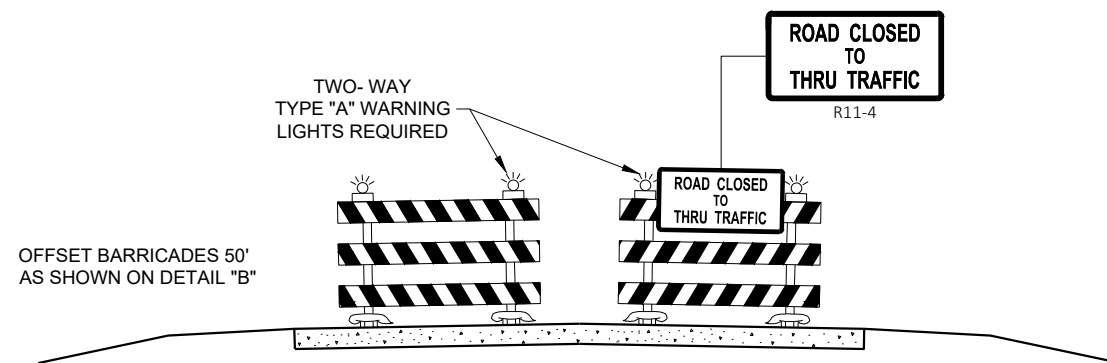
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE DATE WORK ZONE ENGINEER

FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

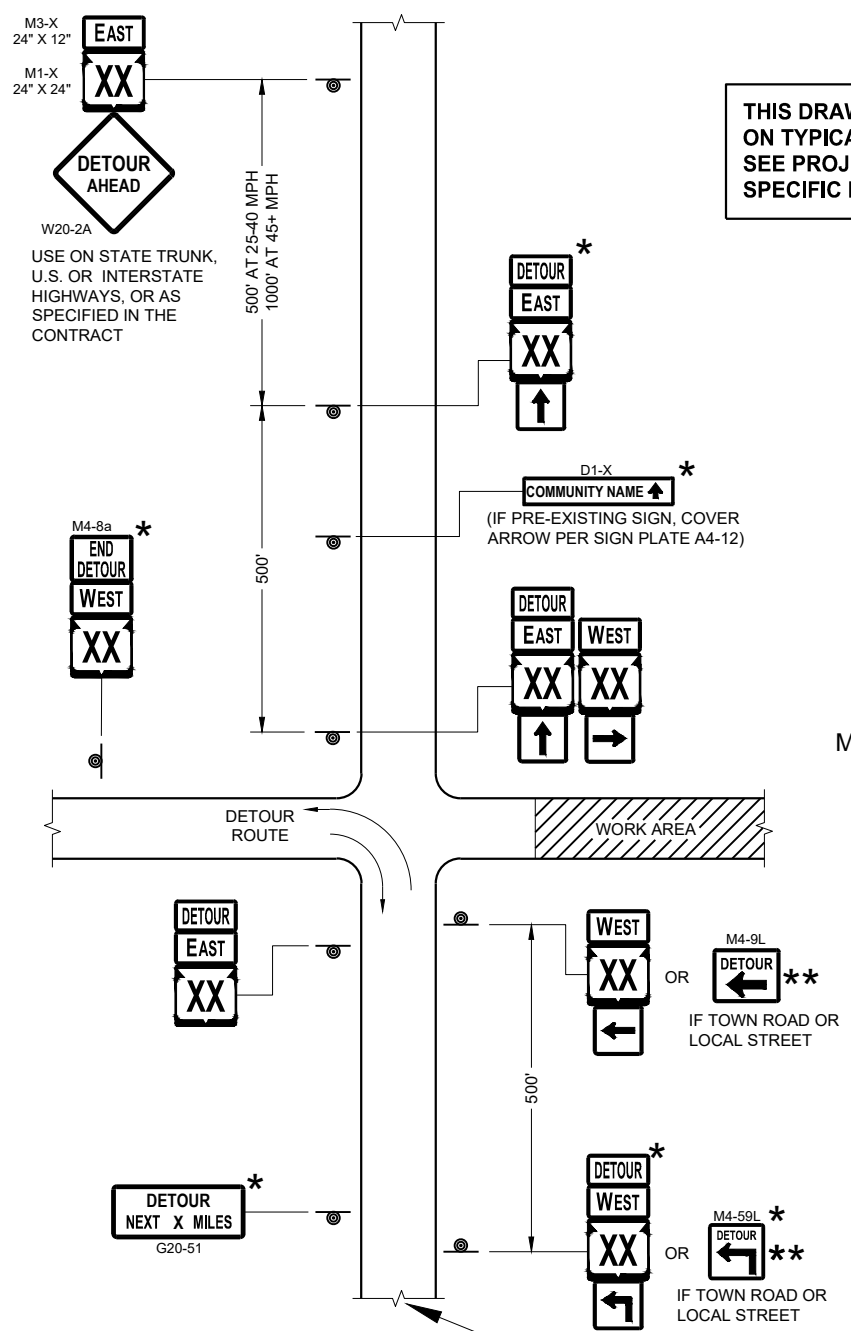
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

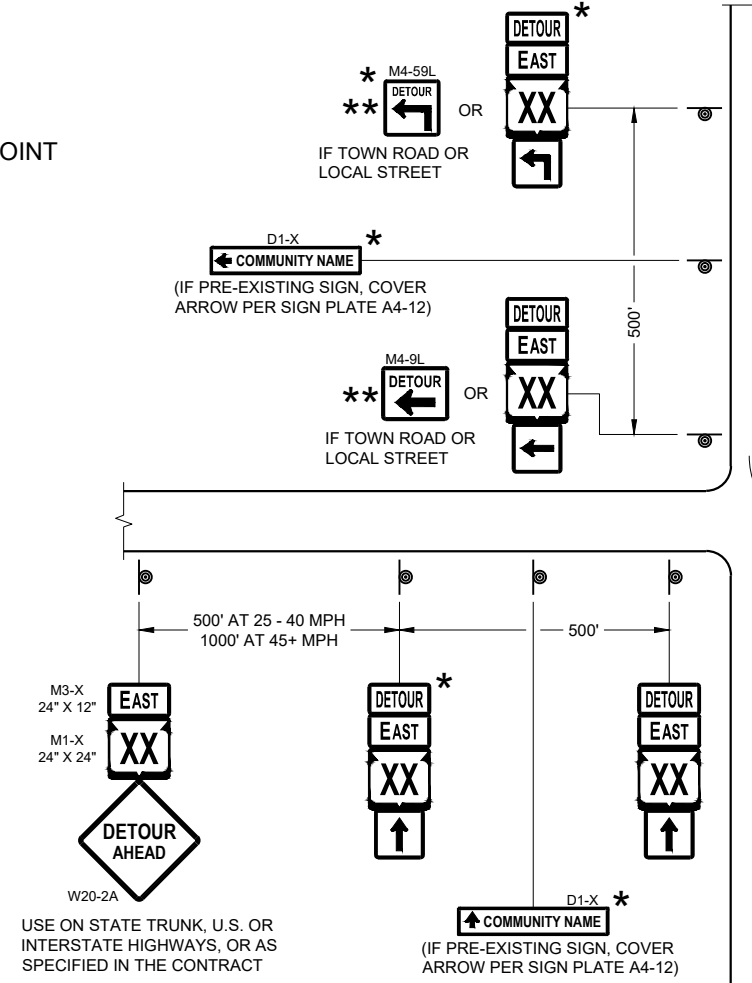
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

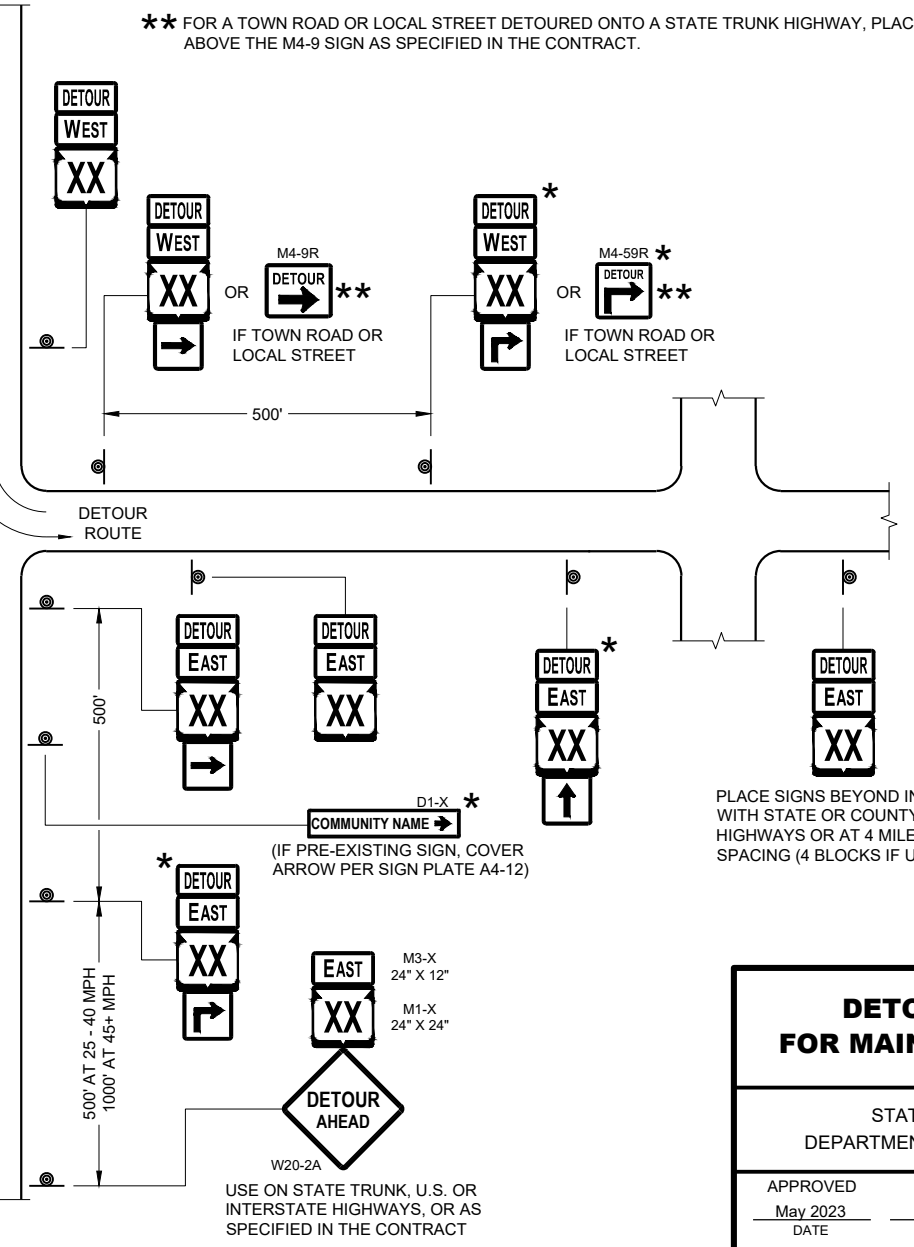
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



**DETAIL F
DETOUR SIGNING**



PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- TO MO4 - 5
- M1 - 4 OR M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

- SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOW:
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- ① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

SEE SDD 15D16 FOR RAMP CLOSURE

6

6

SDD 15C02 - 09e

SDD 15C02 - 09e

PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
 RAMP CLOSED
 USE EXIT XX

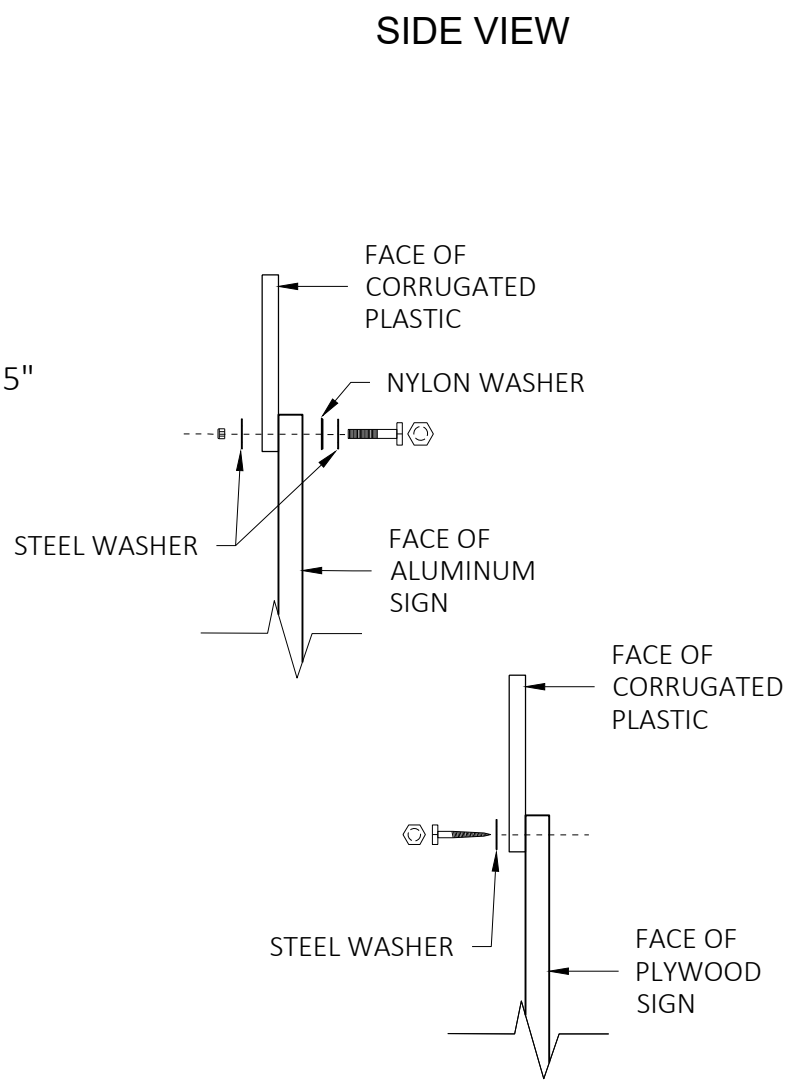
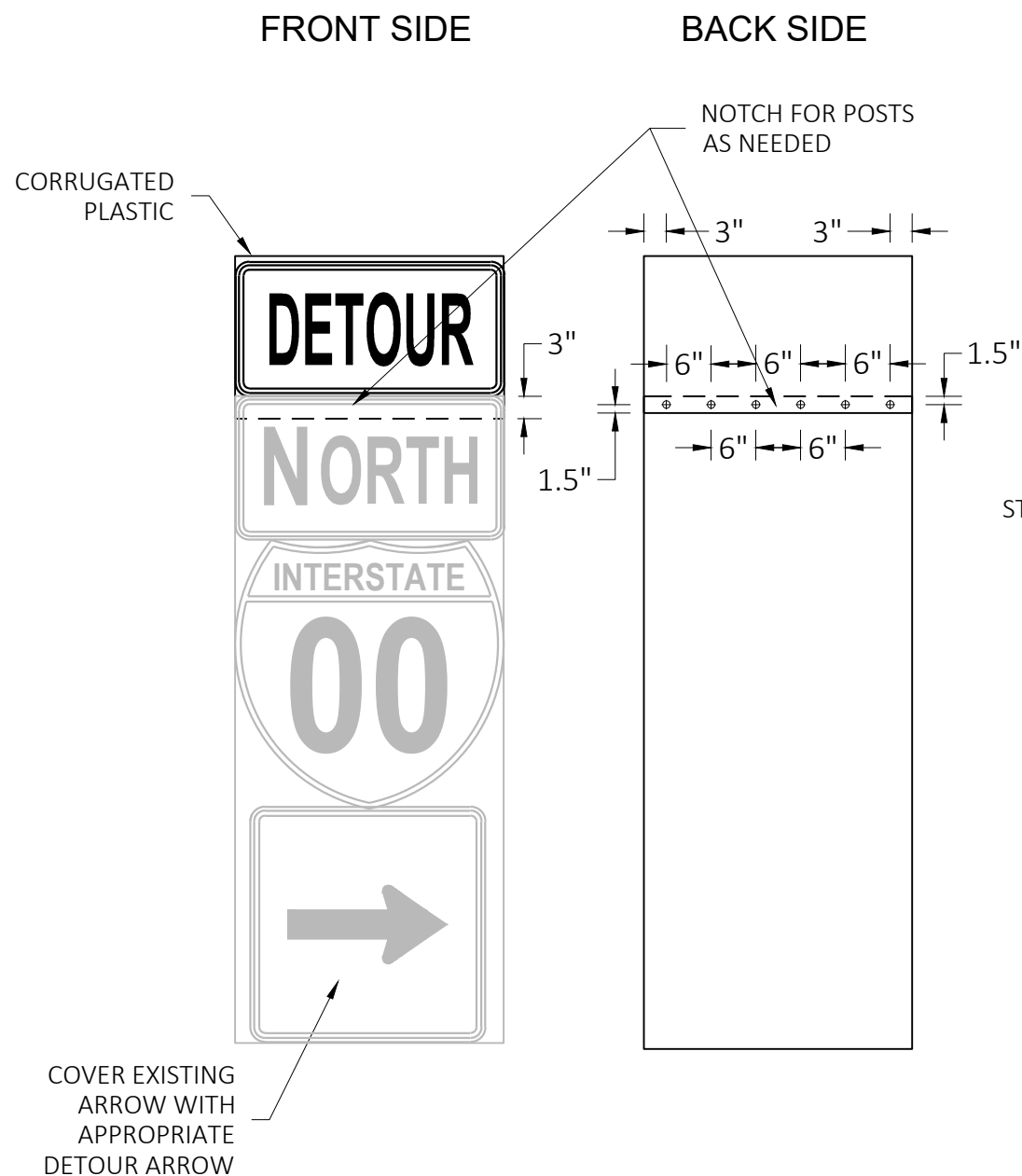
G20 - 56

**OFF RAMP
LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 May 2023 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER

FHWA



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

1-1/4" O.D. x 3/8" I.D. x .080 NYLON

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

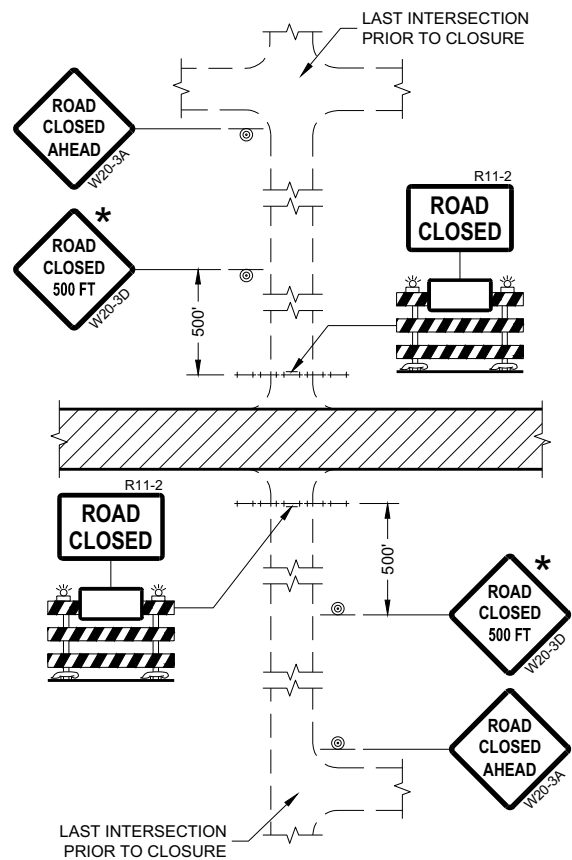
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

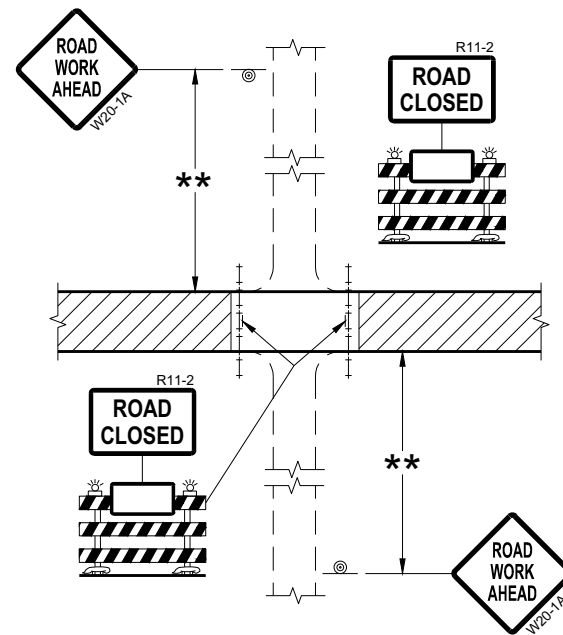
May 2023
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

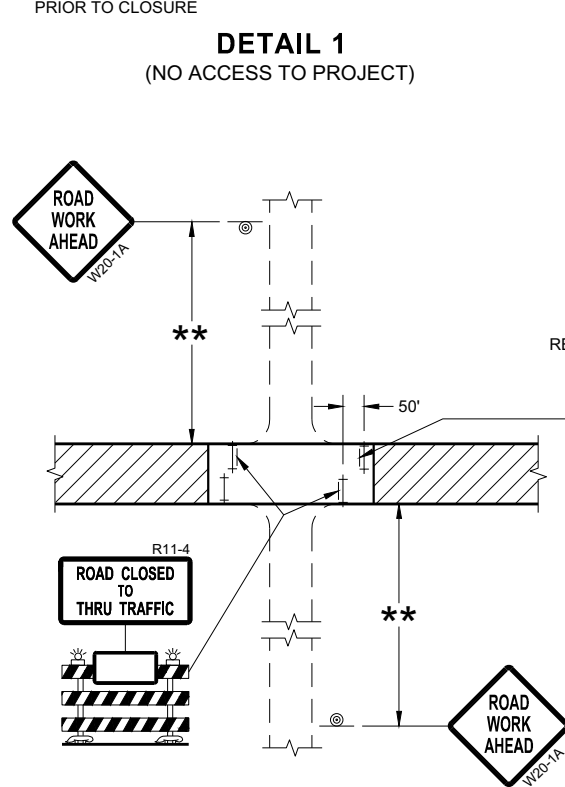
FHWA



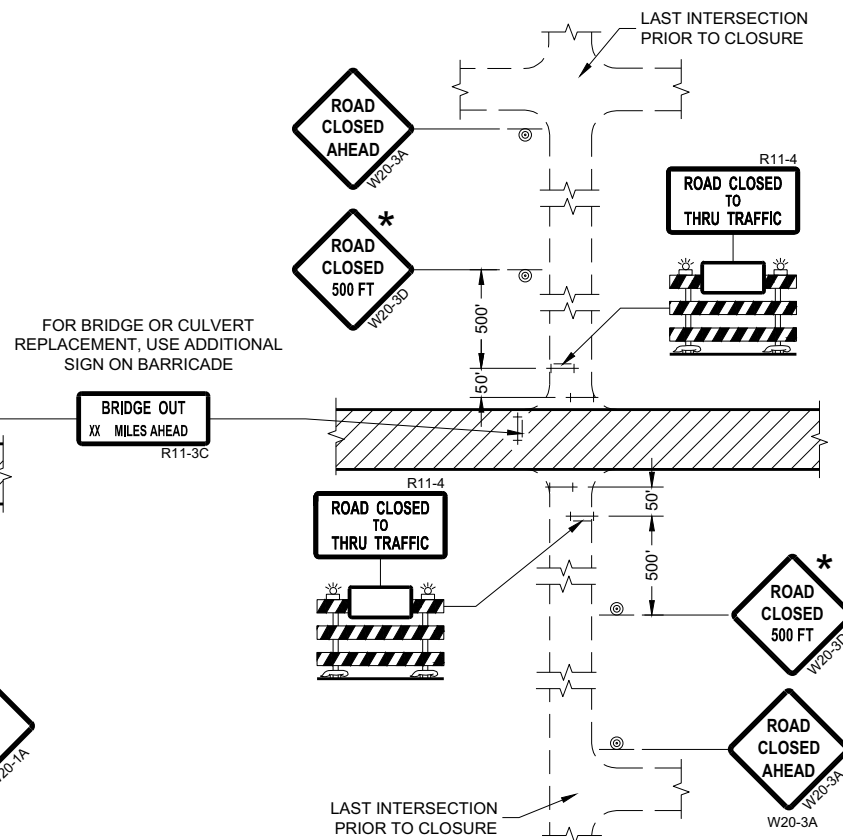
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

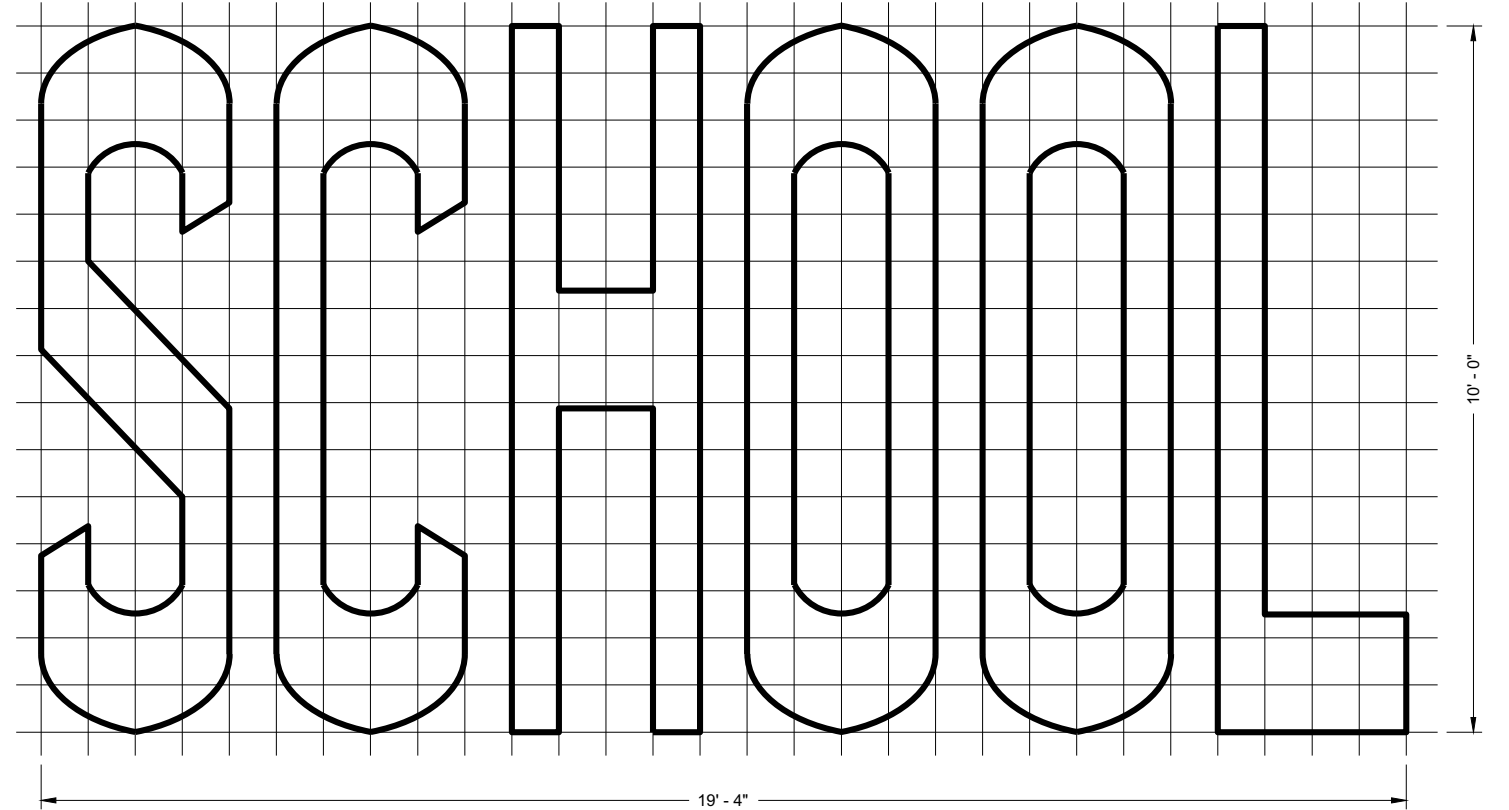
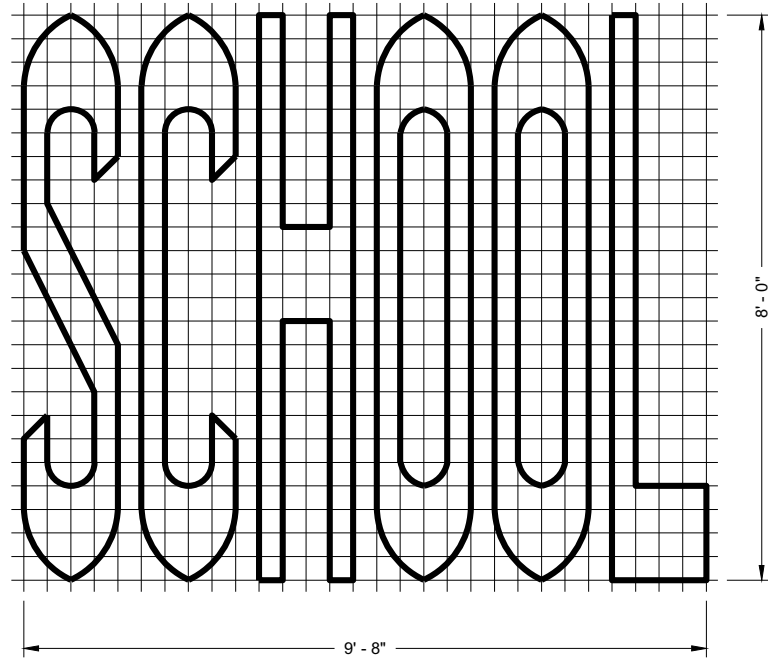
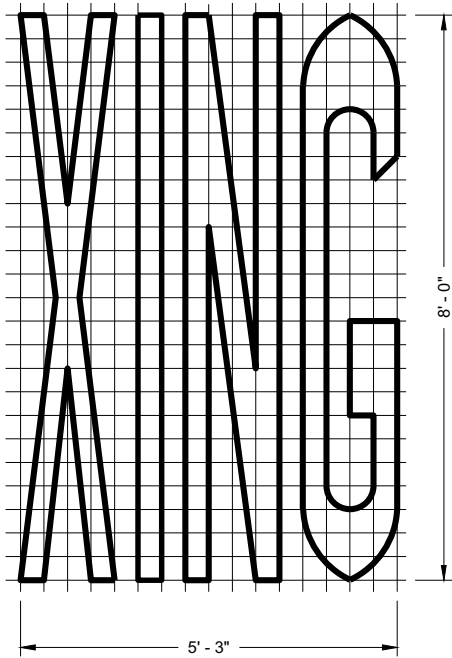
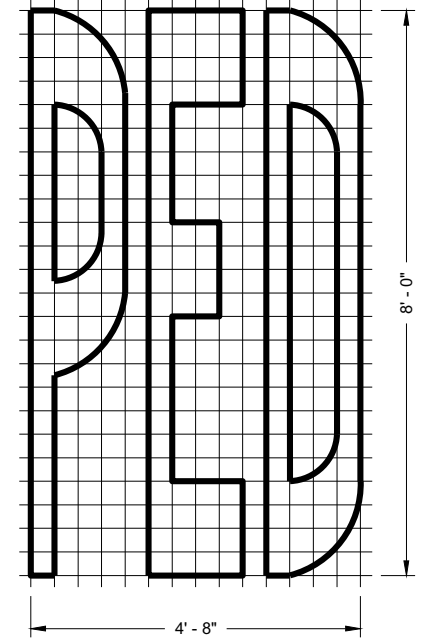
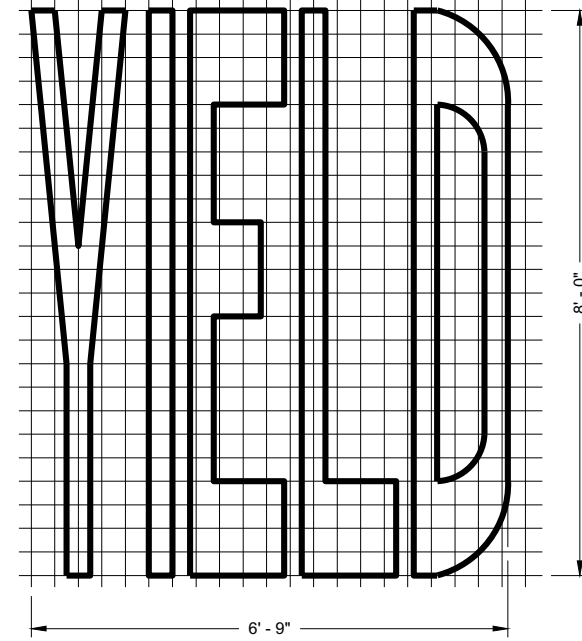
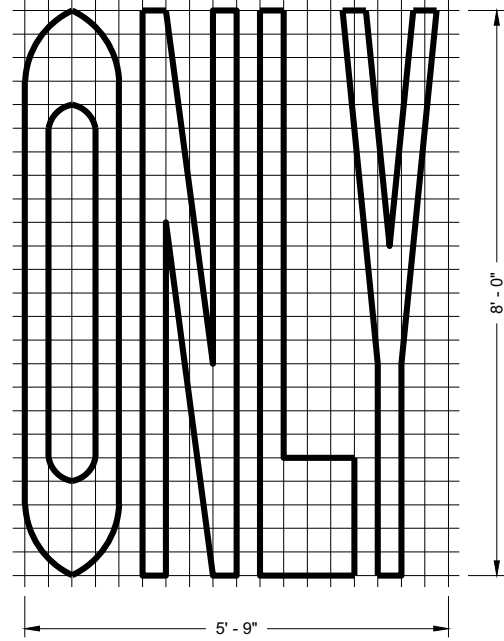
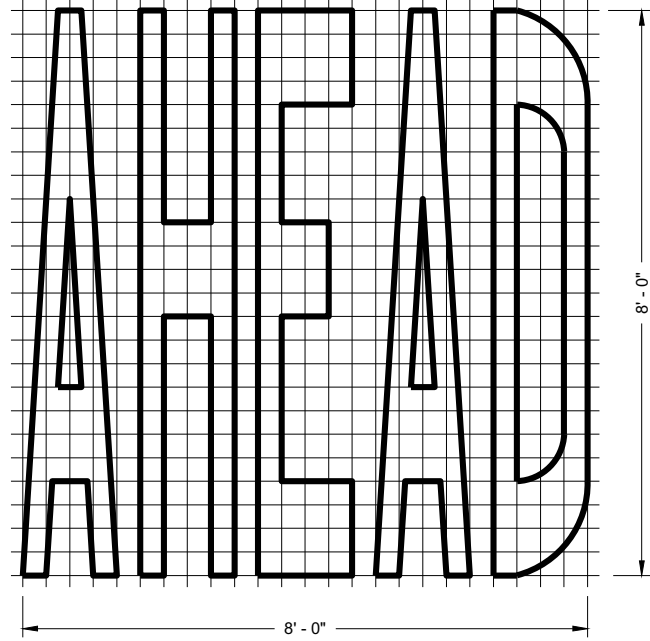
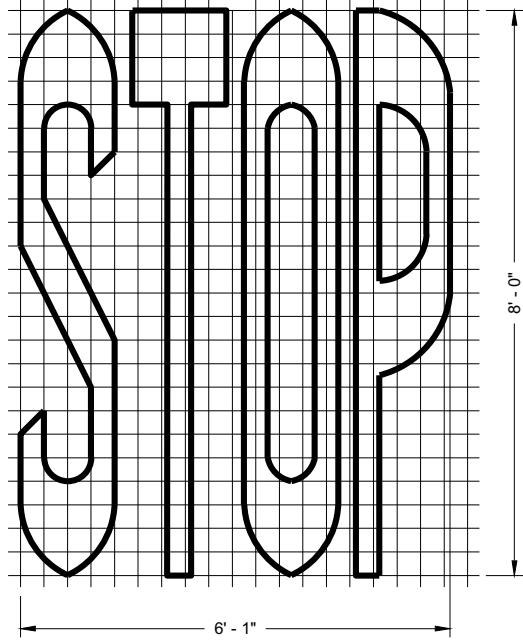
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



SINGLE LANE

TWO - LANE

GENERAL NOTES

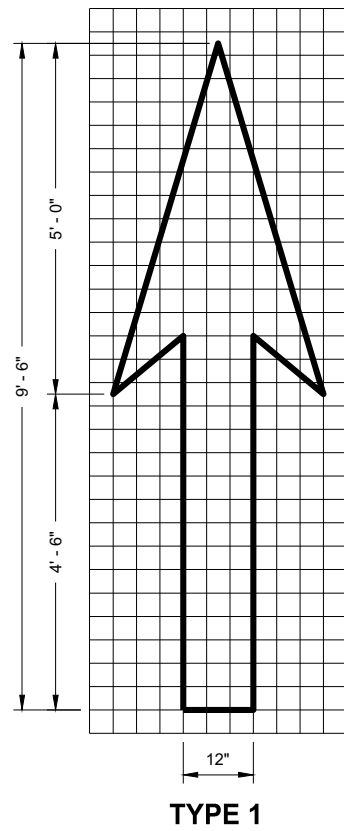
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS

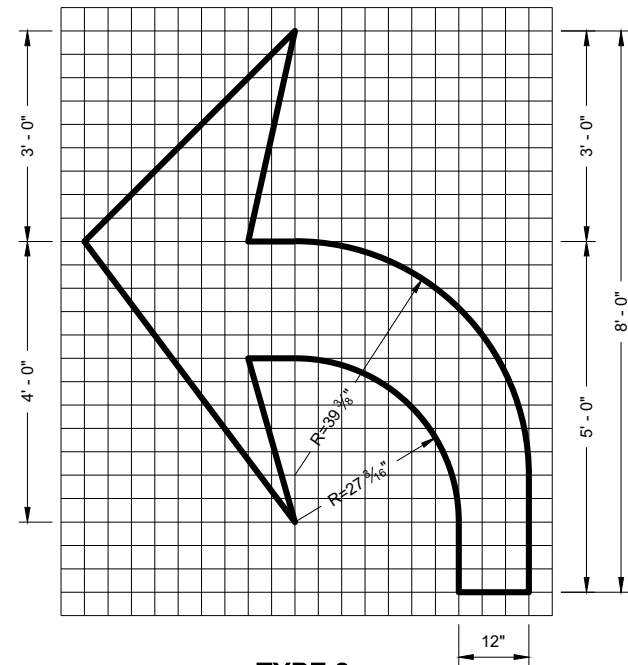
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER

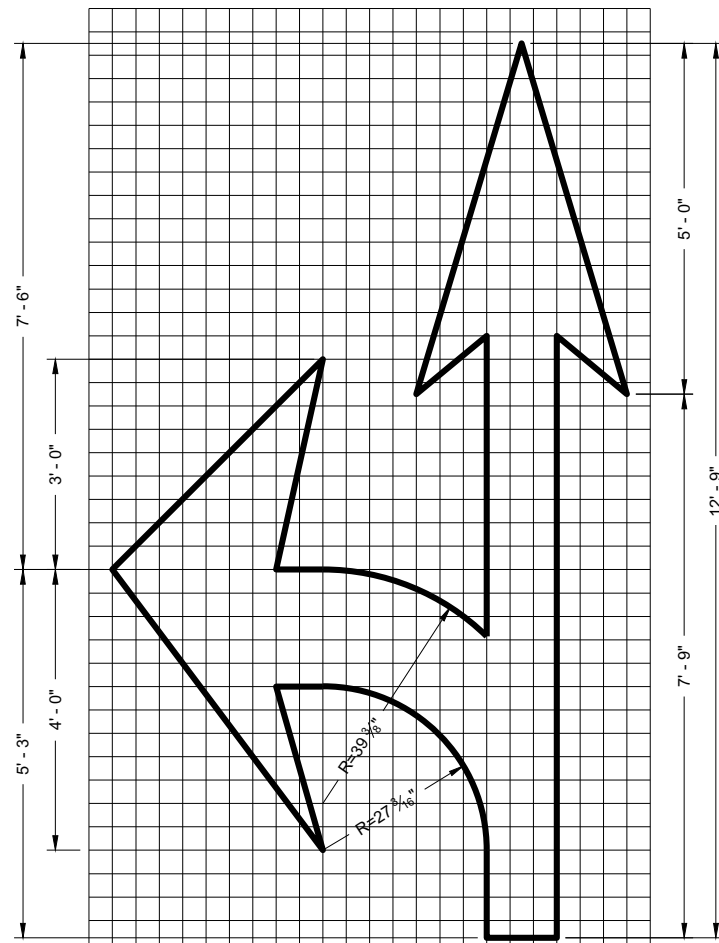
FHWA



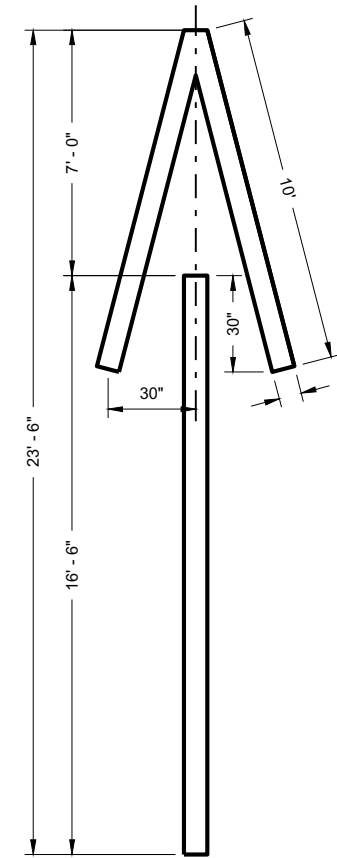
TYPE 1



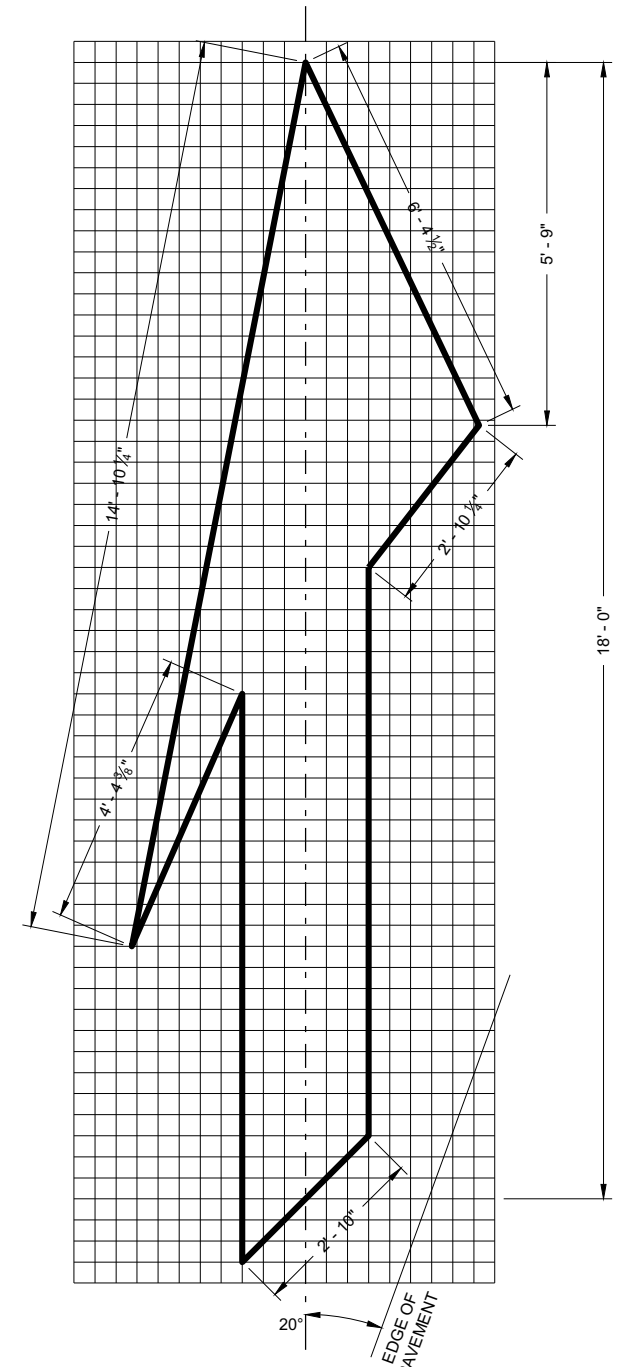
TYPE 2



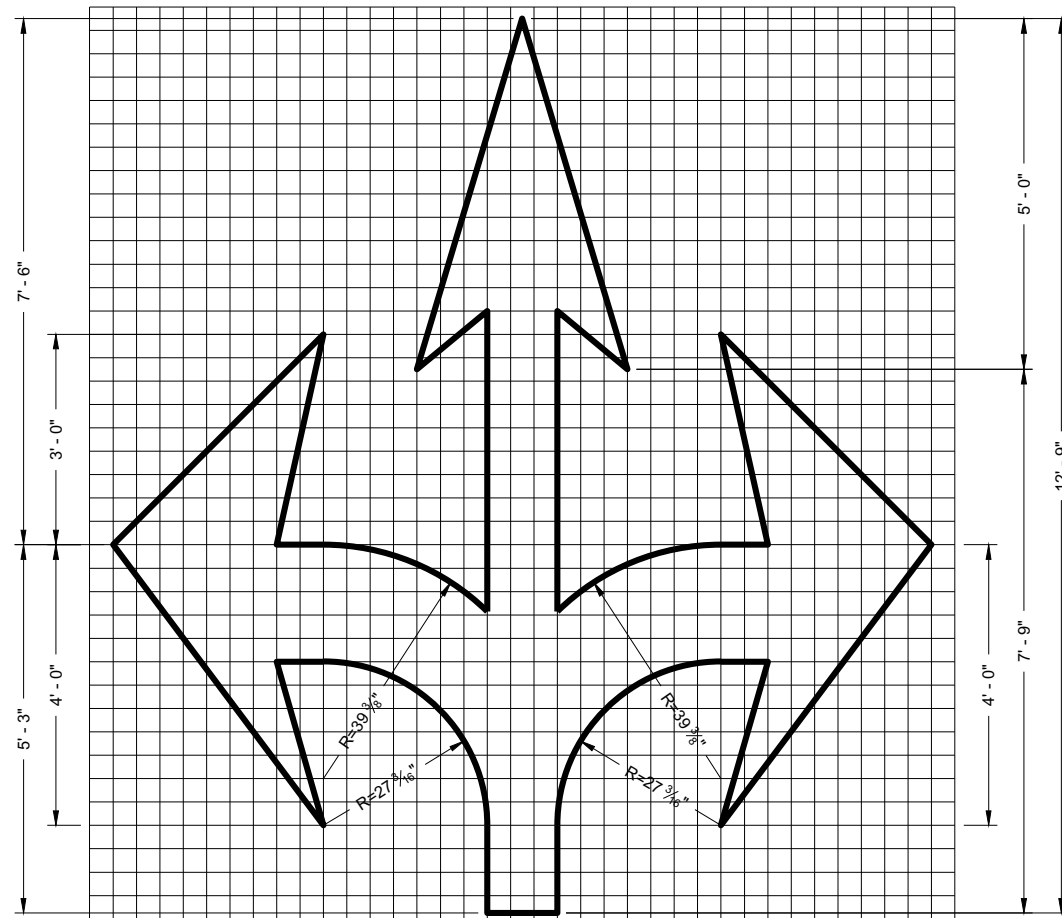
TYPE 3



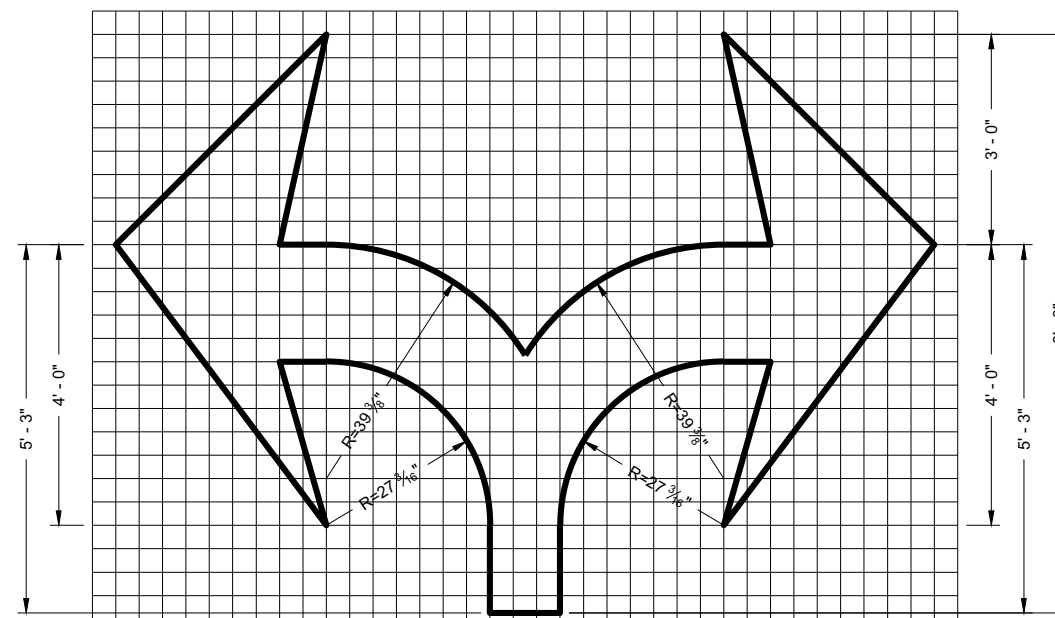
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019

DATE

FHWA




/s/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

GENERAL NOTES

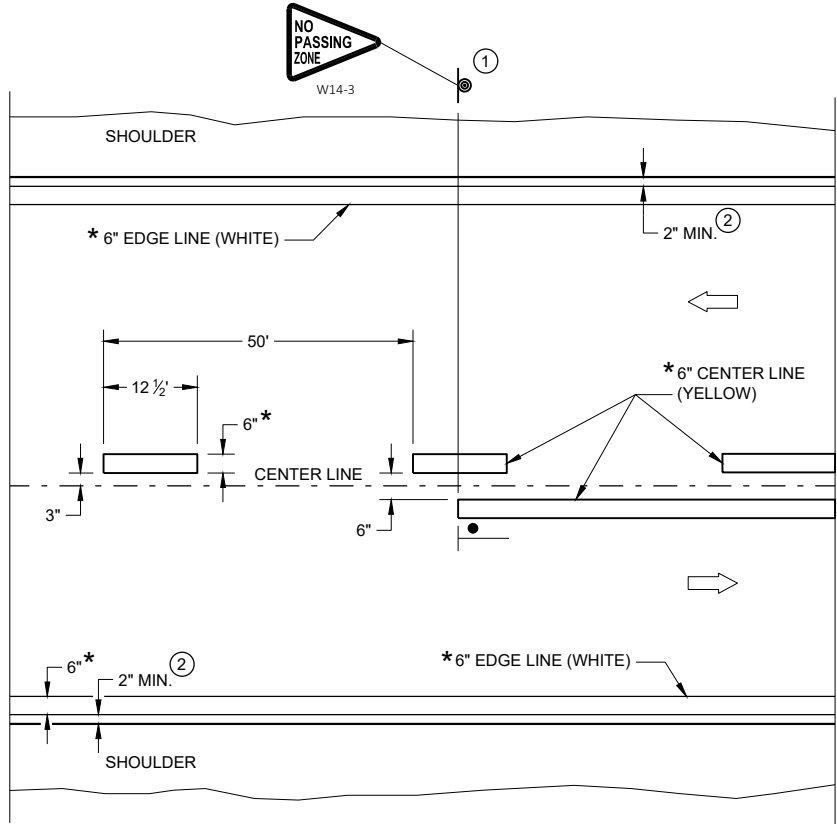
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

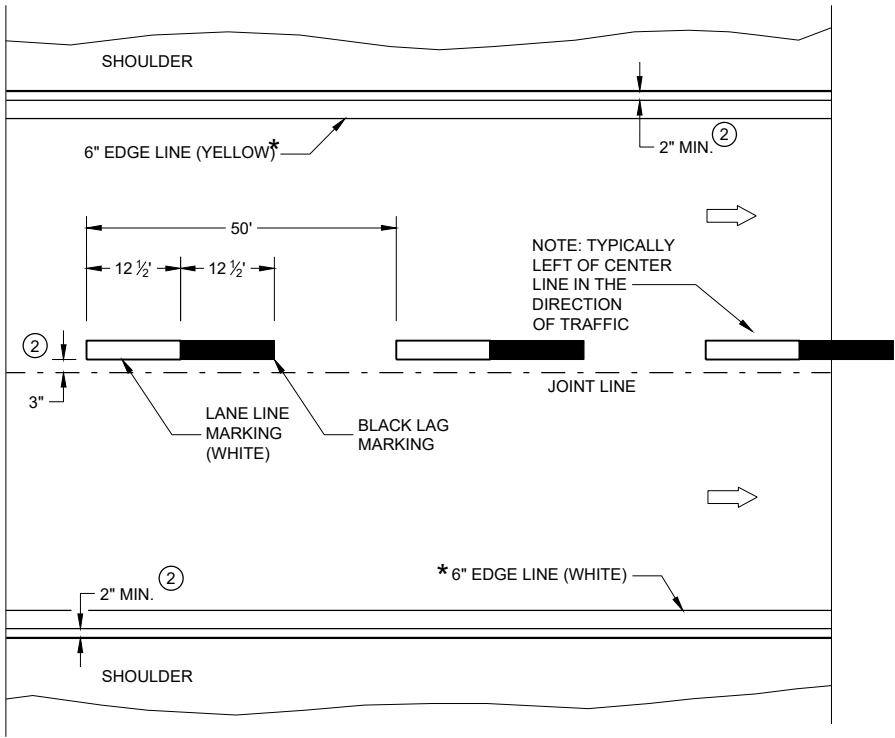
LEGEND

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

6

SDD 15C08-23a

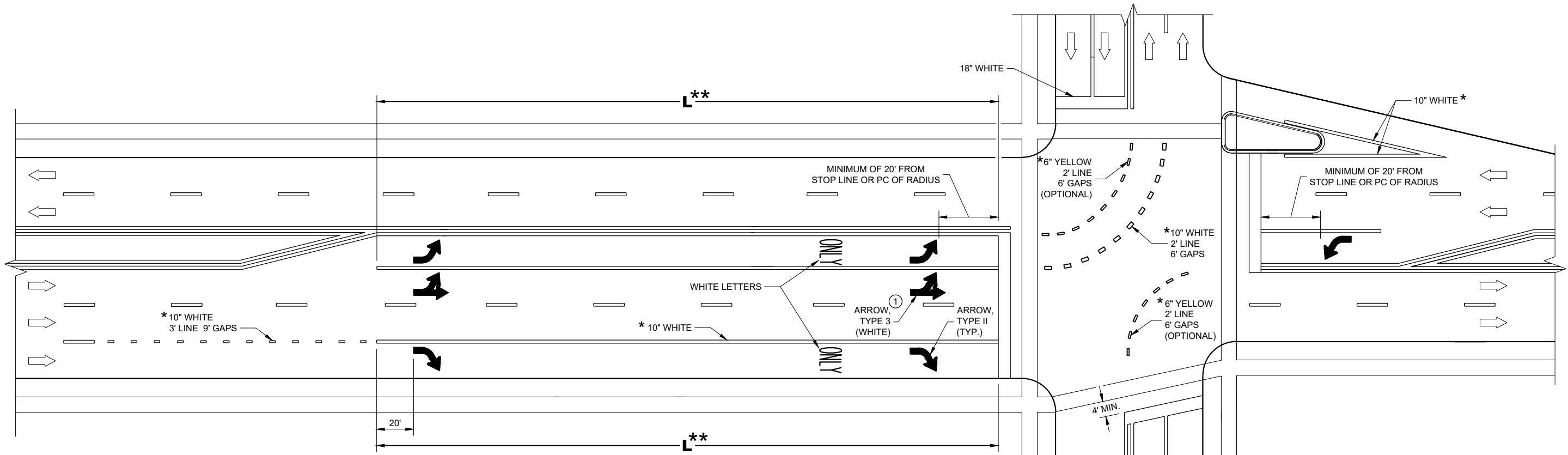
SDD 15C08-23a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

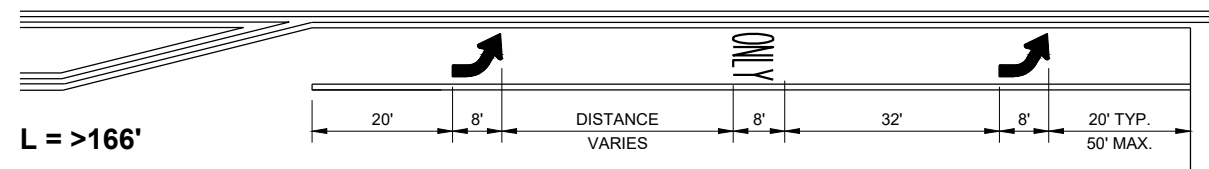
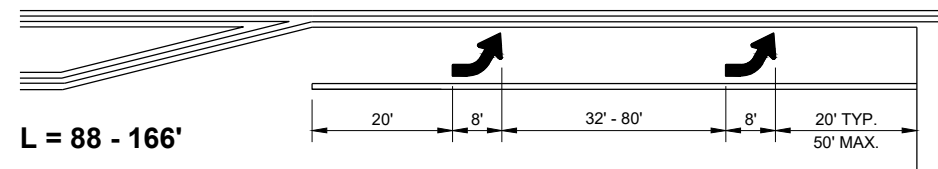
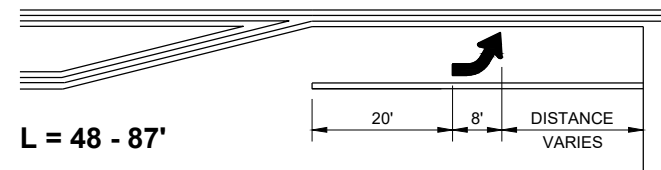
APPROVED
DATE: May 2023 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

GENERAL NOTES

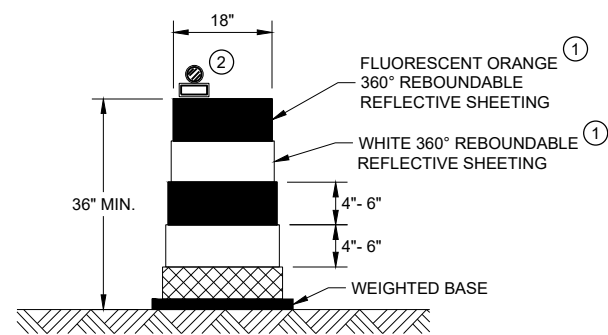
① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

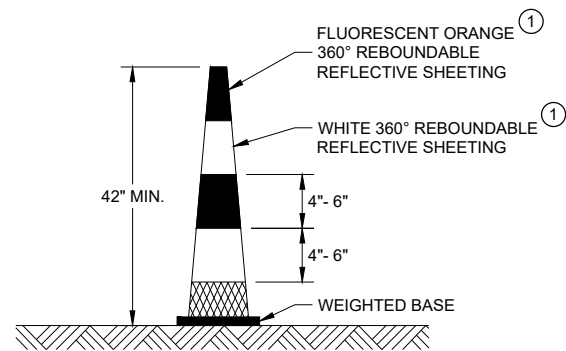
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING (TURN LANES)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



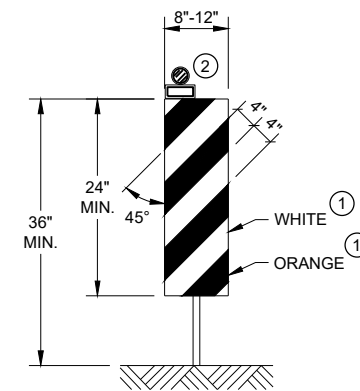
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

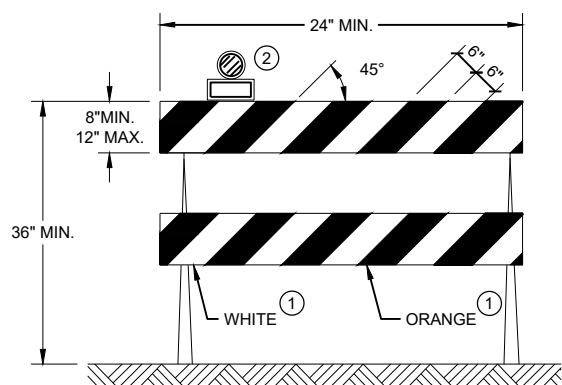


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

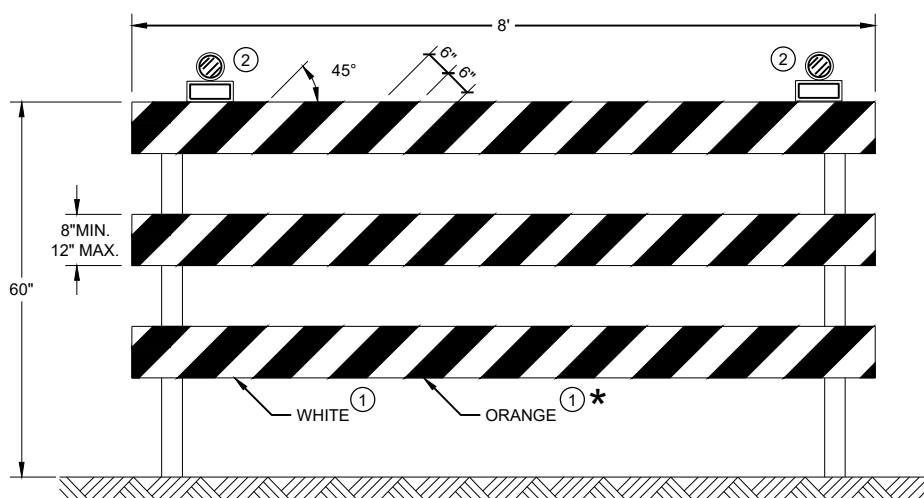
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

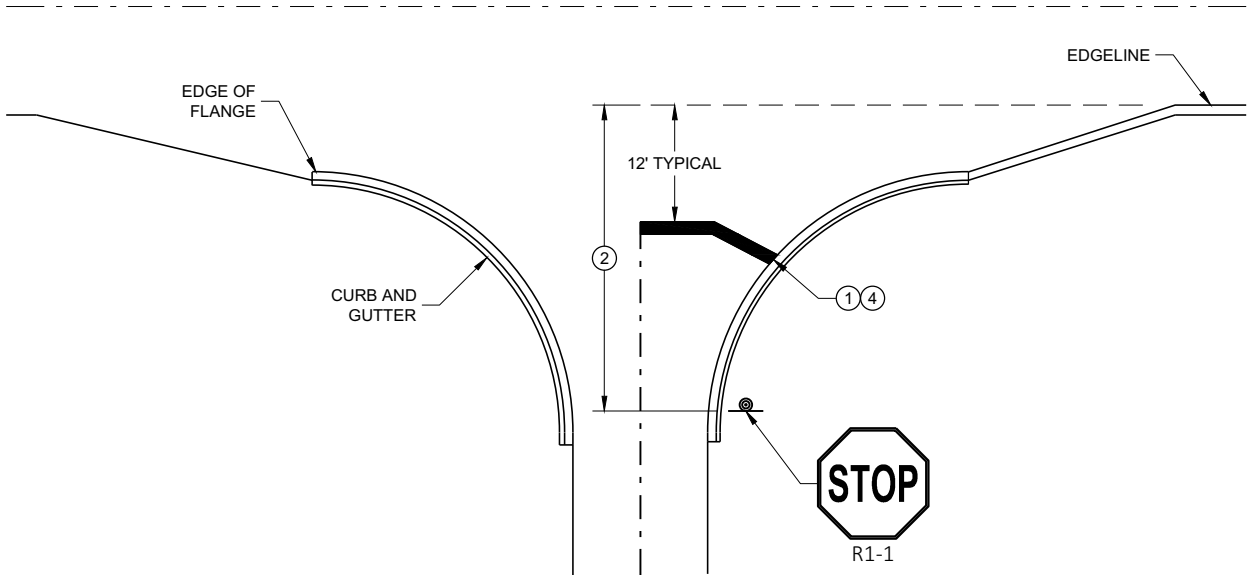
* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

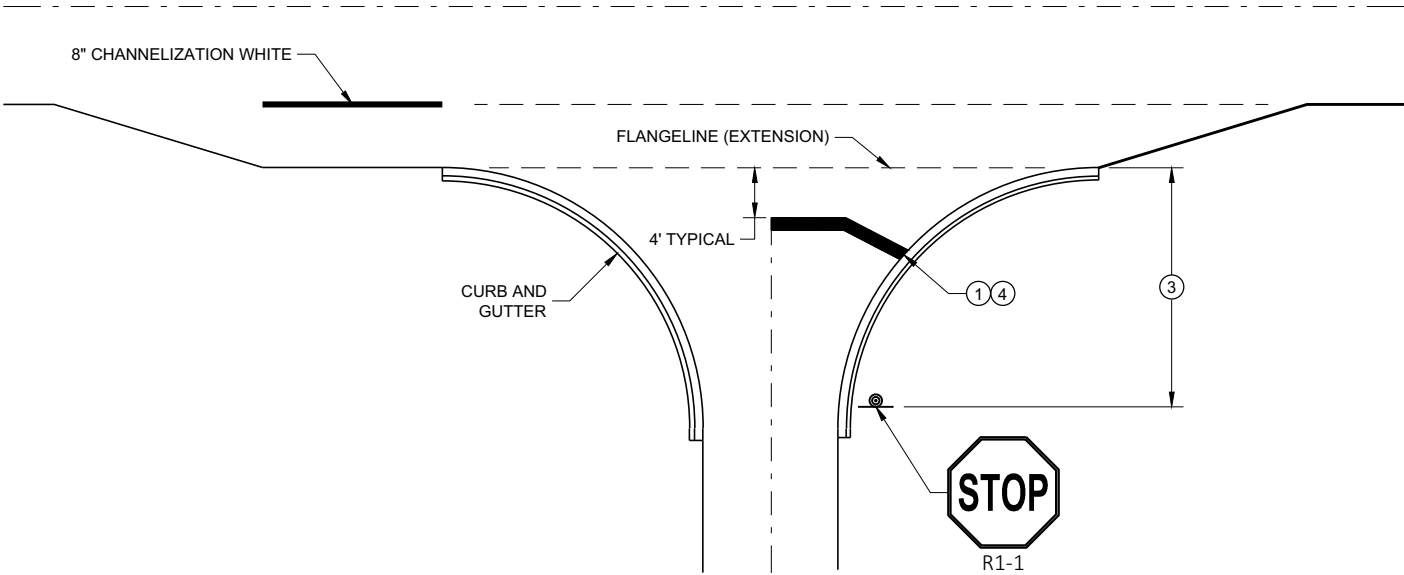
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

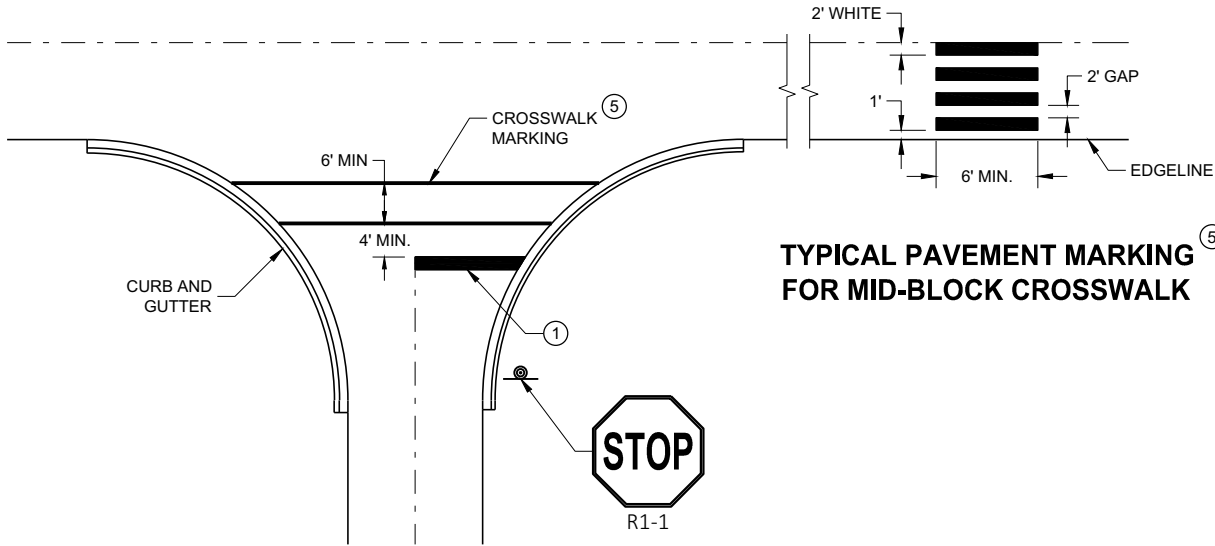
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

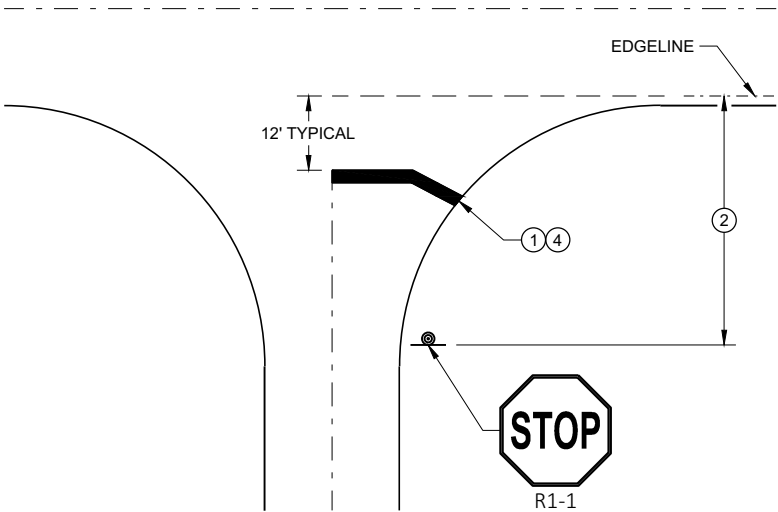


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK



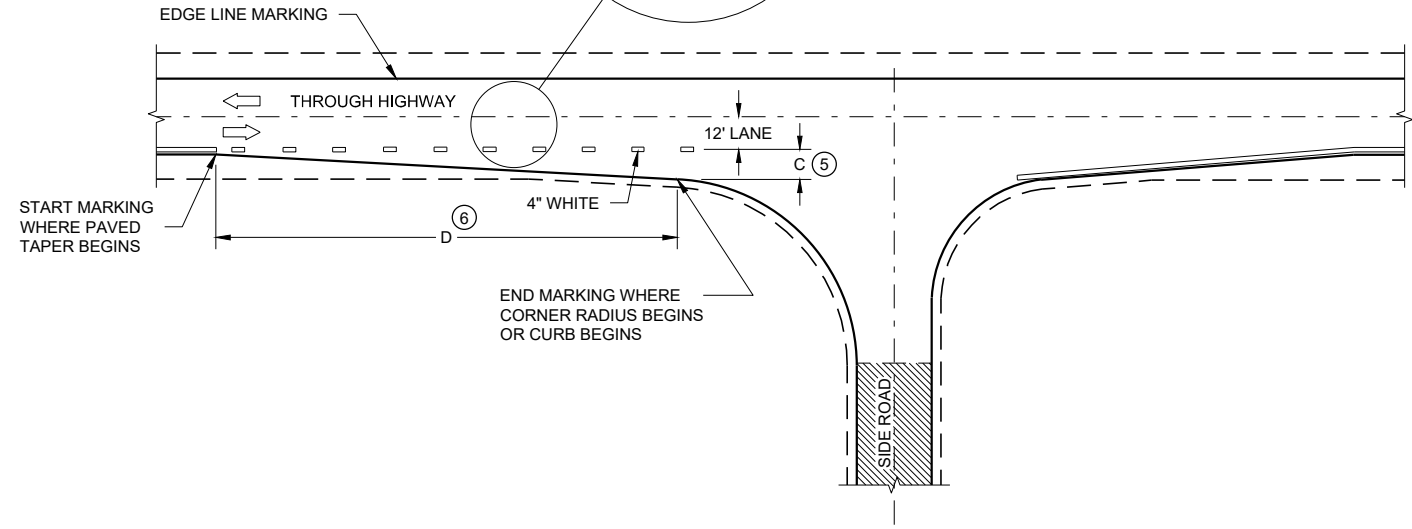
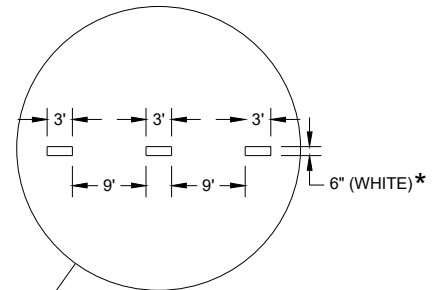
TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

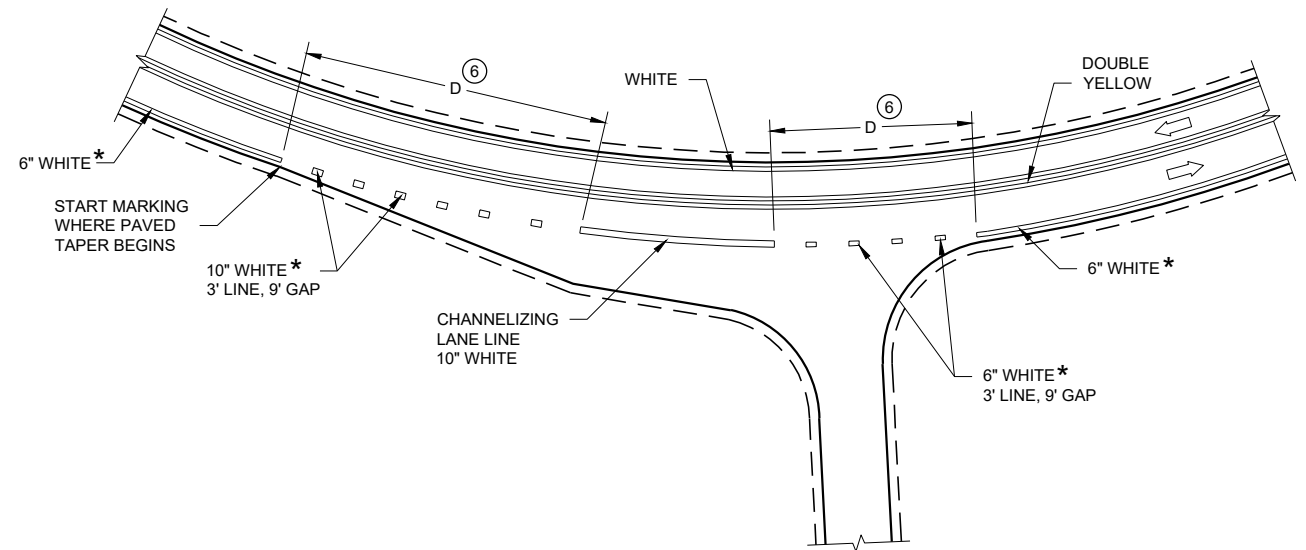
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

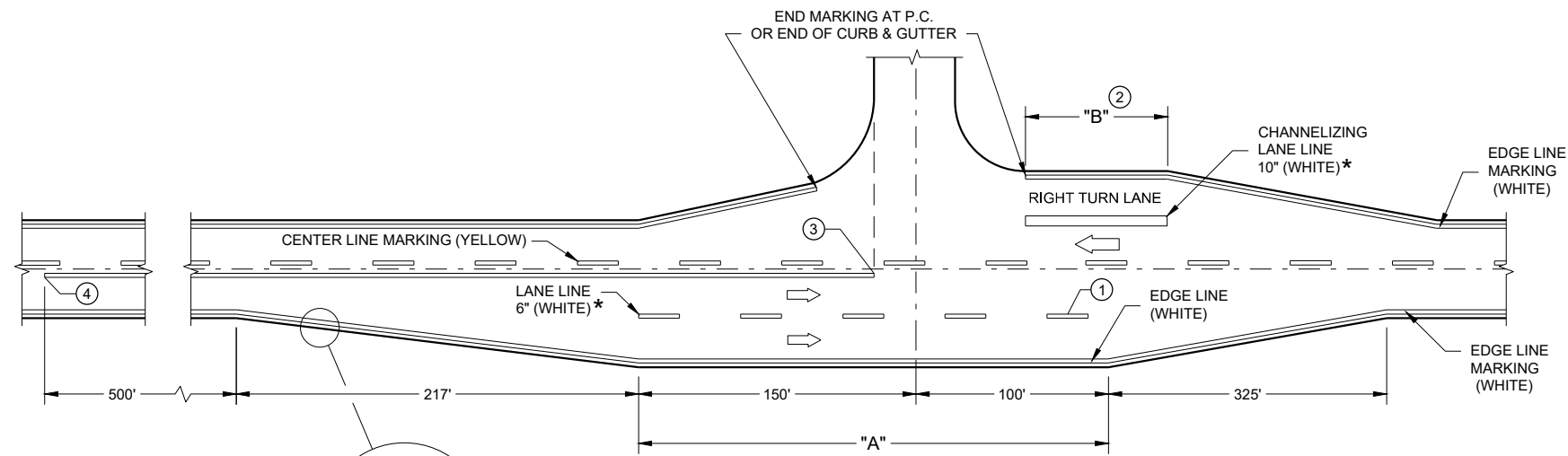
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

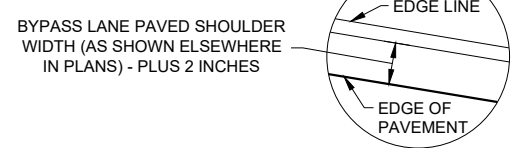
➔ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



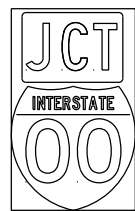
**MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**



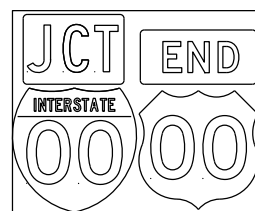
**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

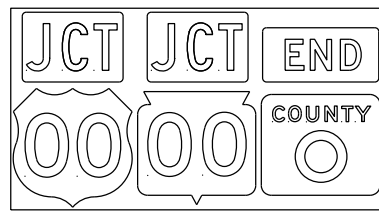
TYPICAL ASSEMBLIES



J1-1



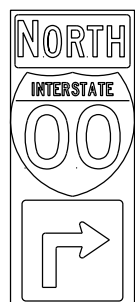
J1-2



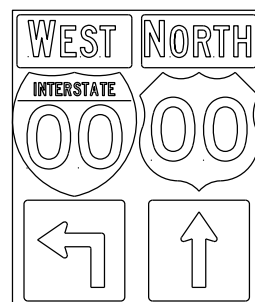
J1-3



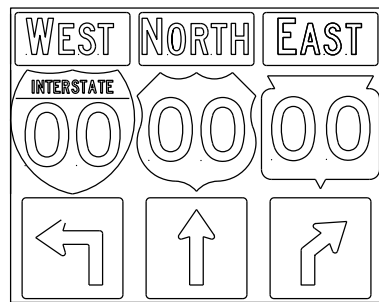
JR1-1



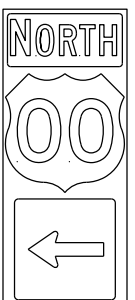
J2-1



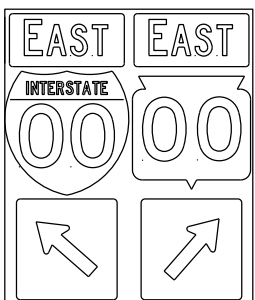
J2-2



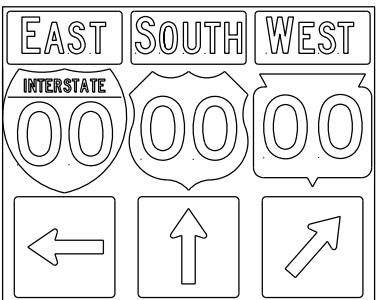
J2-3



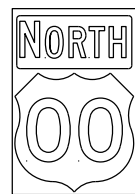
J3-1



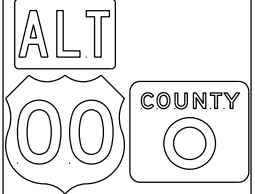
J3-2



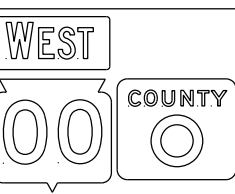
J3-3



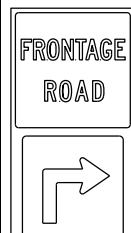
J4-1



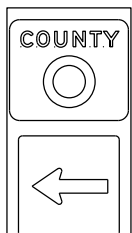
J4-2



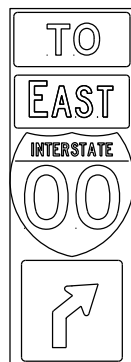
J4-2



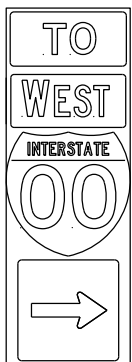
J12-1



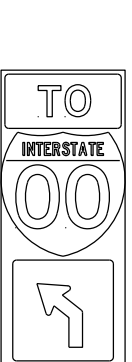
J13-1



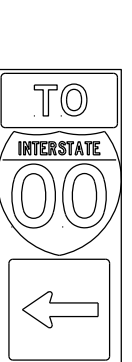
J32-1



J33-1



J22-1



J23-1



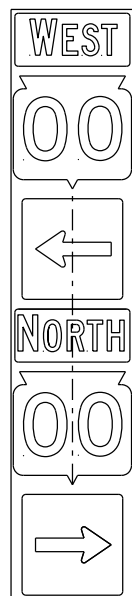
JR13-1



JR23-1

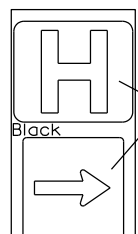


JR99-1



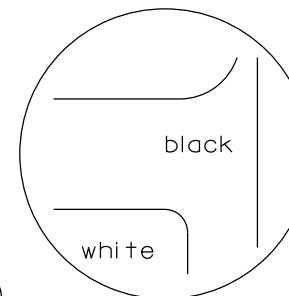
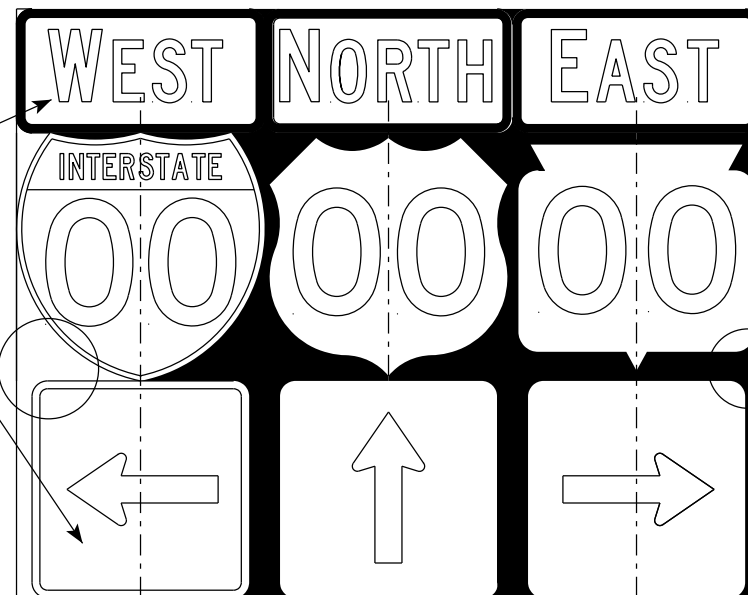
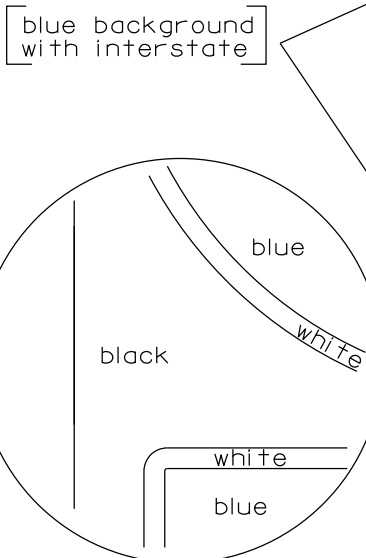
JV

(Typical Vertical J-Assembly See Note 10 and 11)



JH-1

Blue Background



black background

NOTES

- Signs are Type II - Type H Reflective
- Color:
 - Background - Black Non-reflective
 - Message - see Note 5
- Message Series - See Note 5
- Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an MI-1 Interstate marker shall be blue.
- Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
- Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- All Vertical J Assemblies are given a Sign Code of JV
- For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

7

7

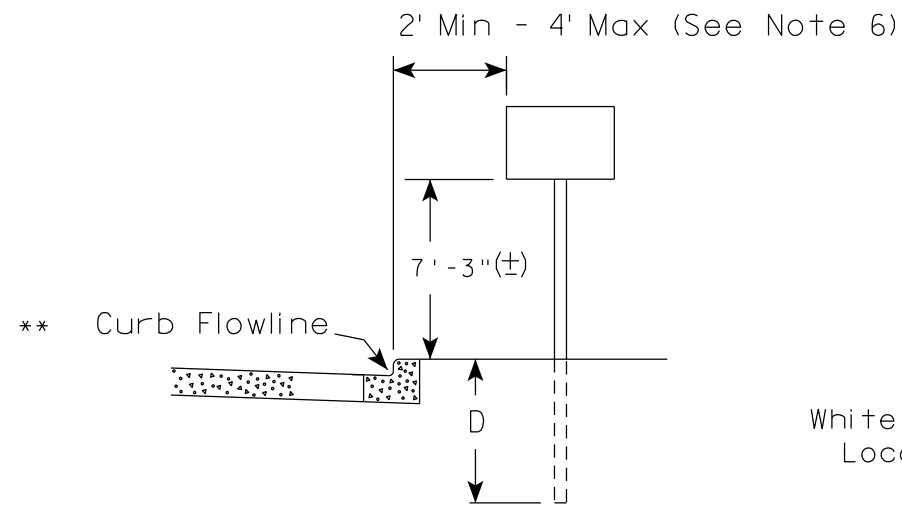
ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

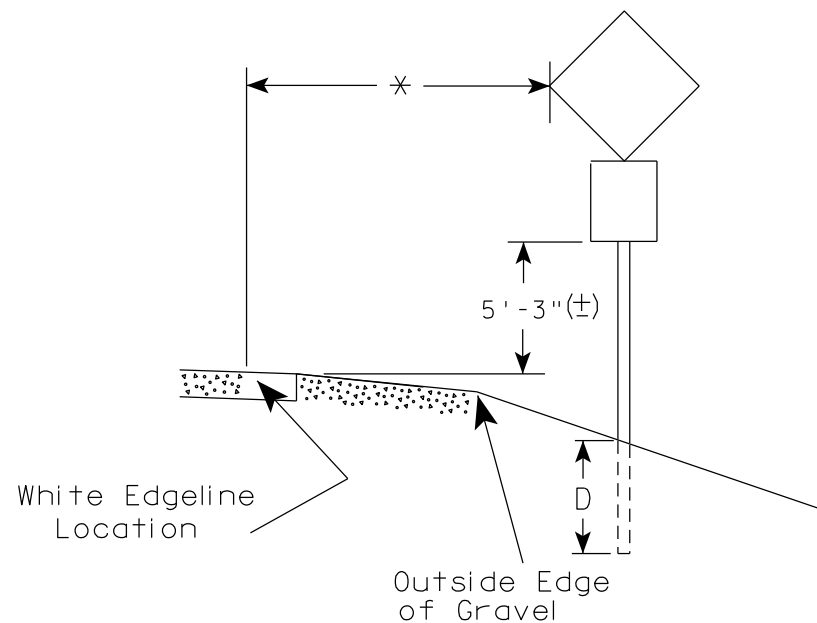
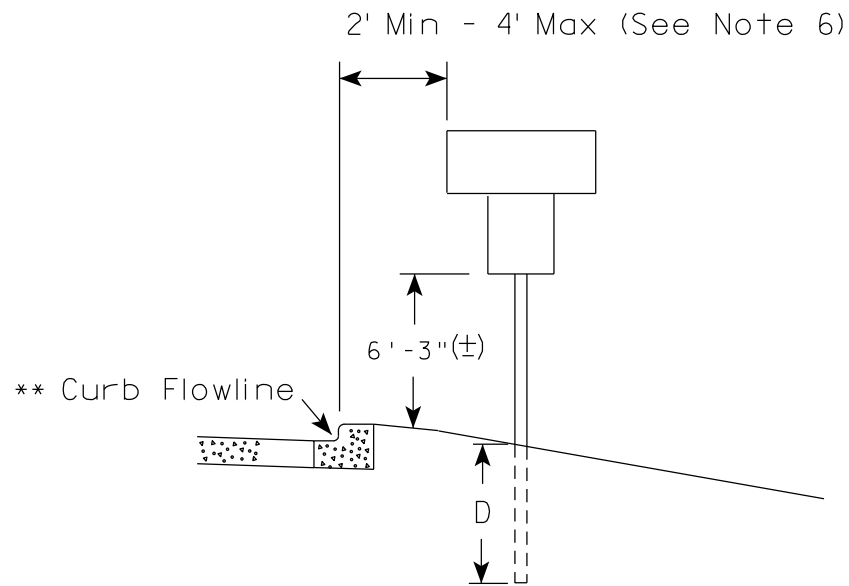
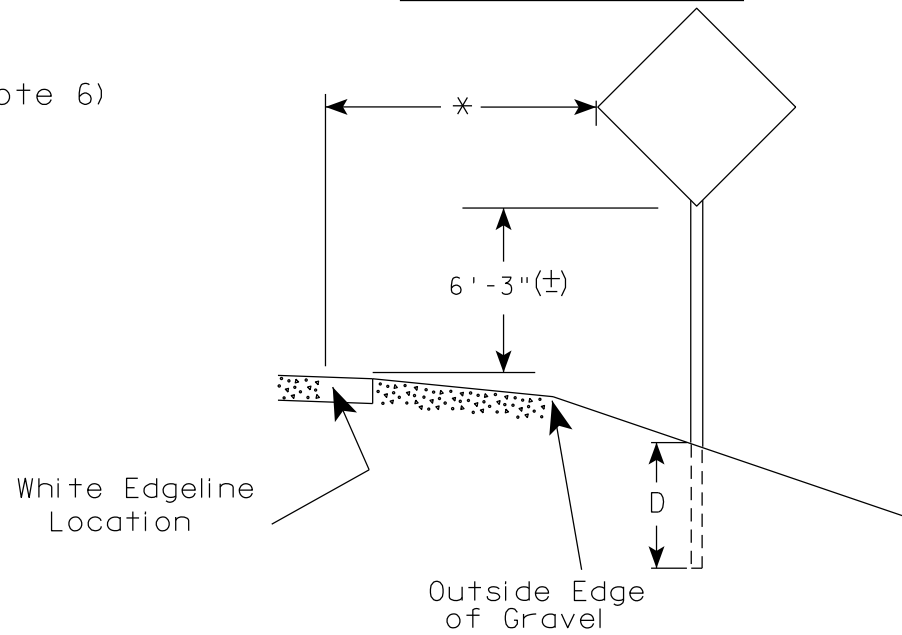
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/21 PLATE NO. A2-1S.9

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

- GENERAL NOTES**
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 6. The (±) tolerance for mounting height is 3 inches.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

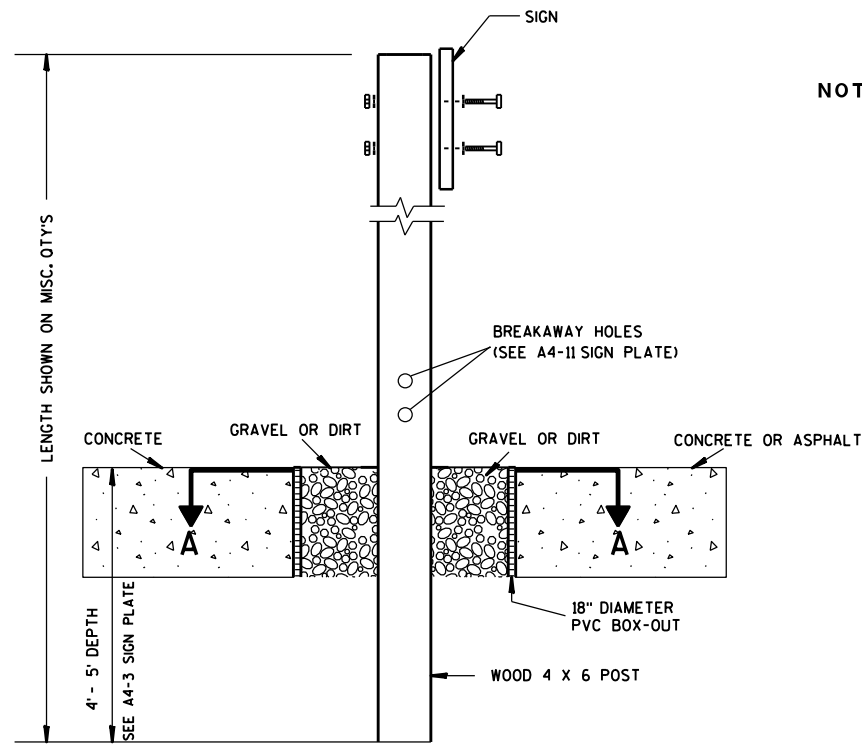
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

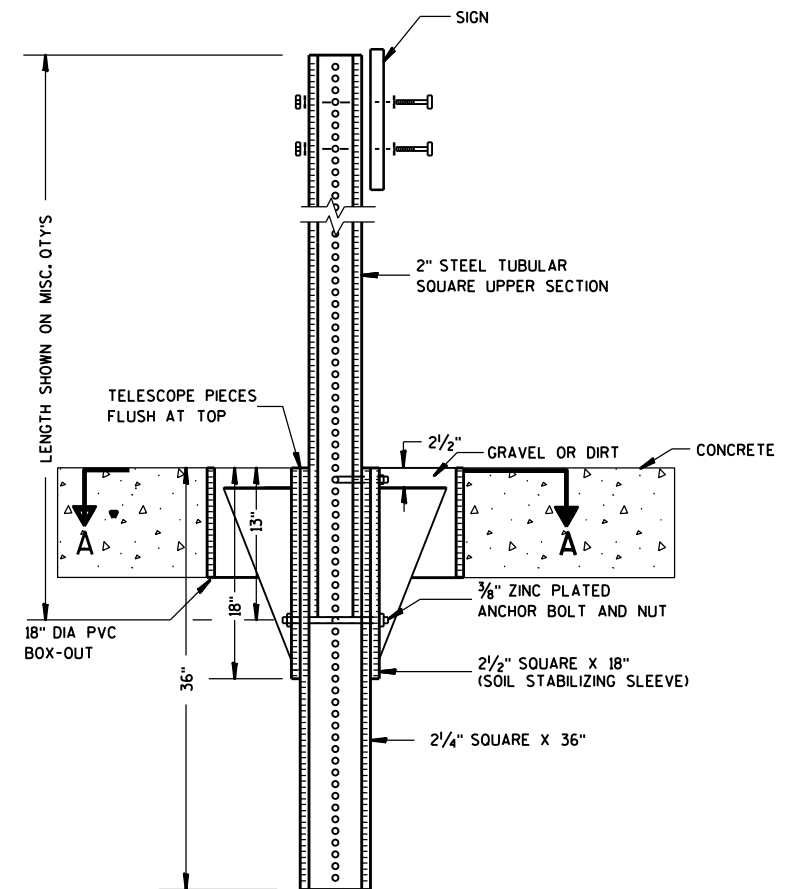
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

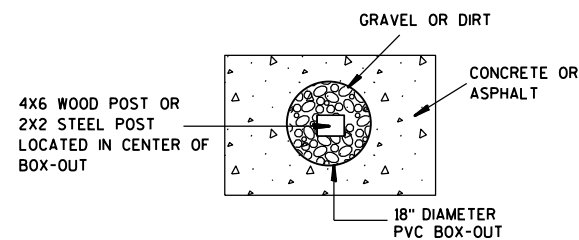
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

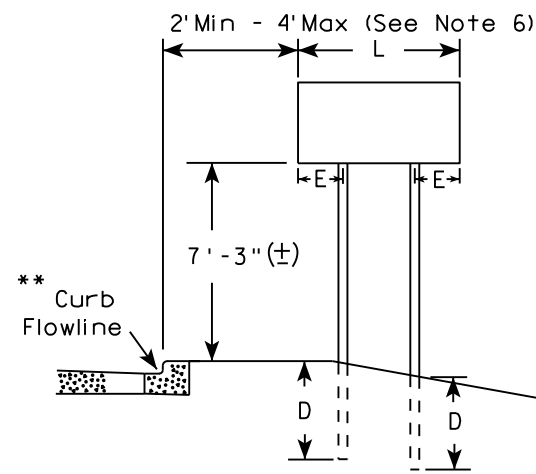
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

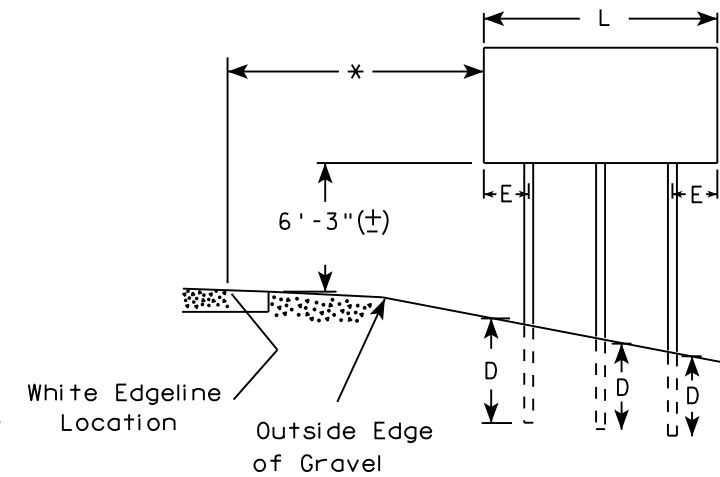
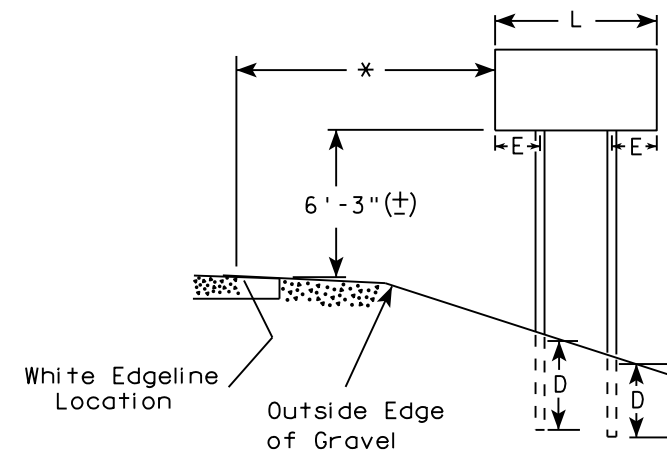
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

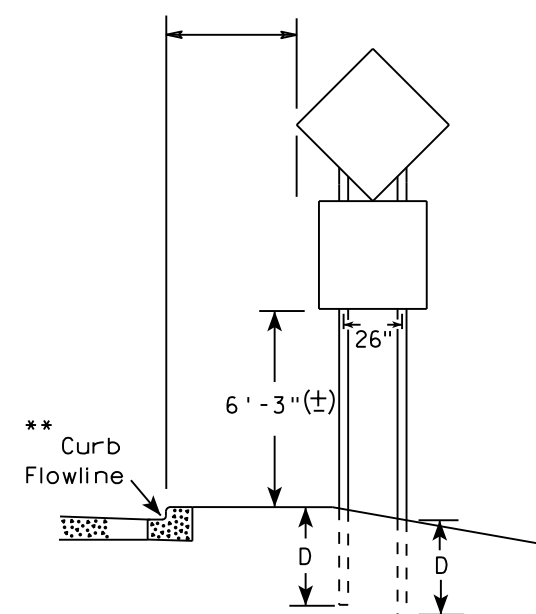
URBAN AREA



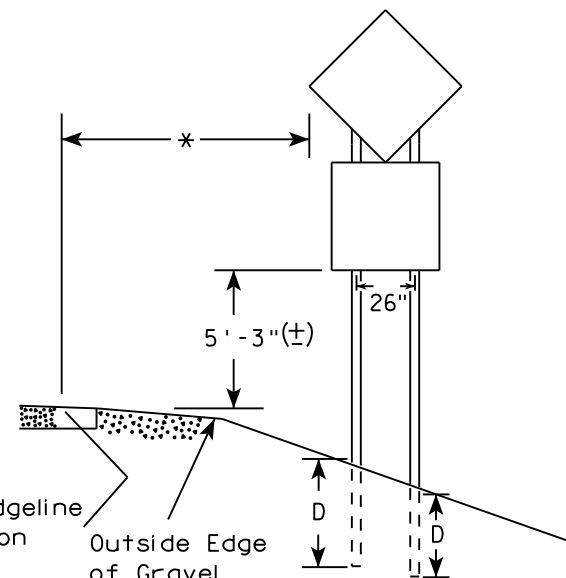
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

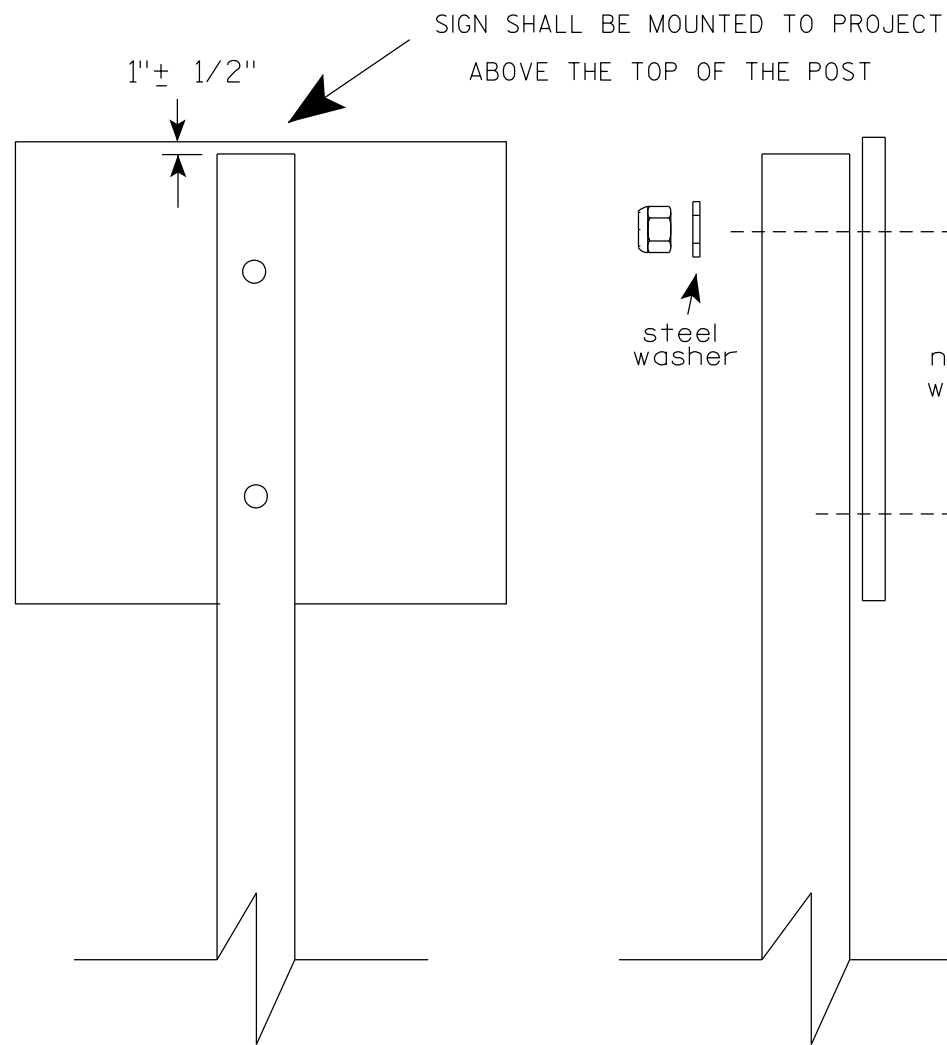
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 8/21/17 PLATE NO. A4-4.15



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

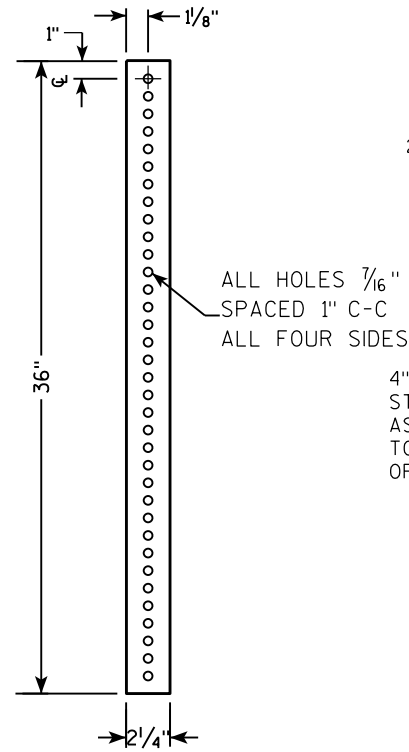
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

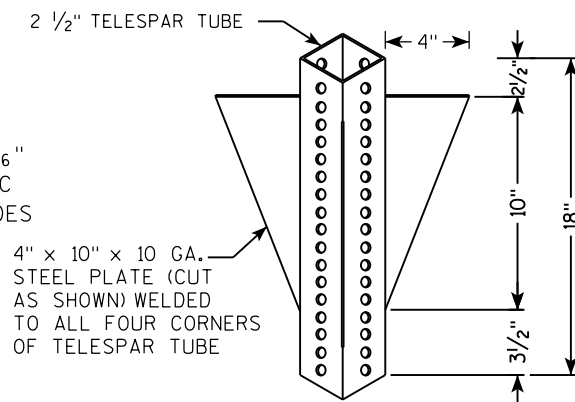
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

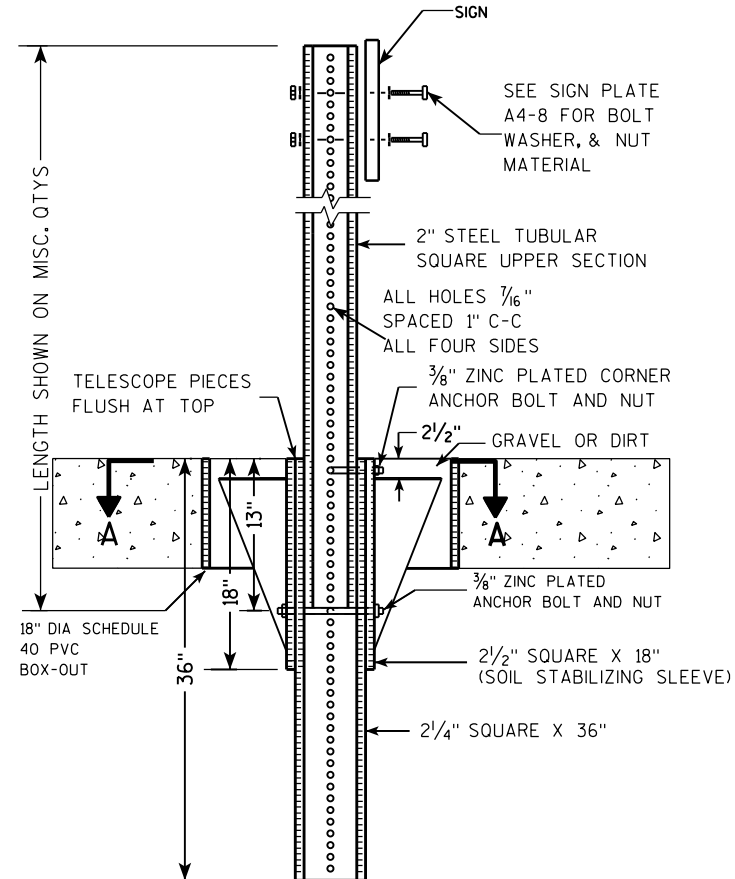
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



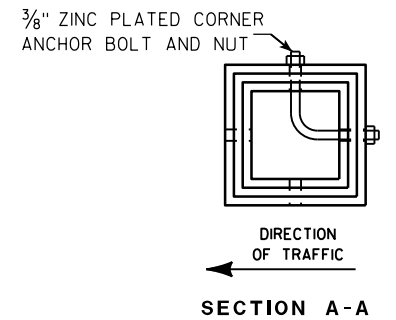
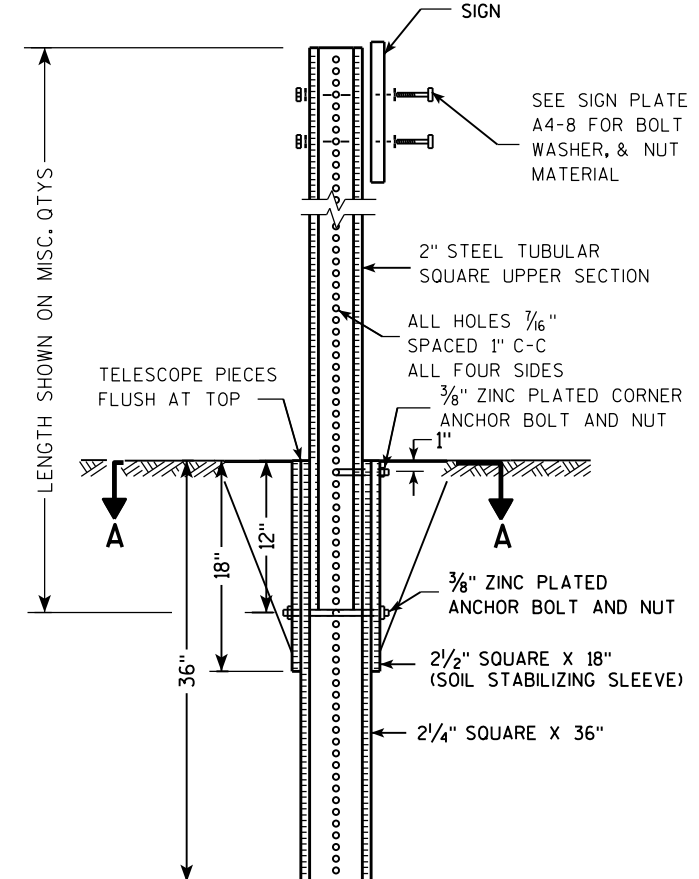
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

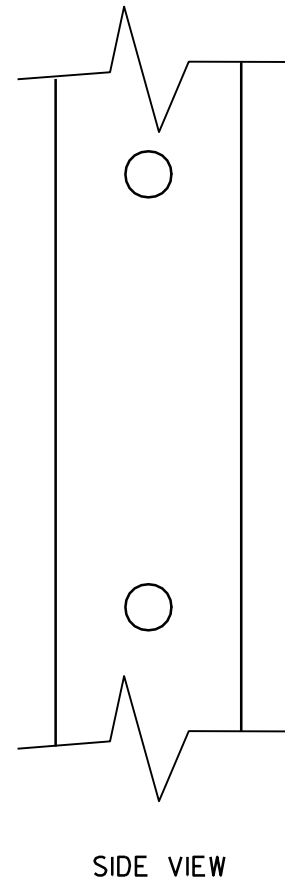
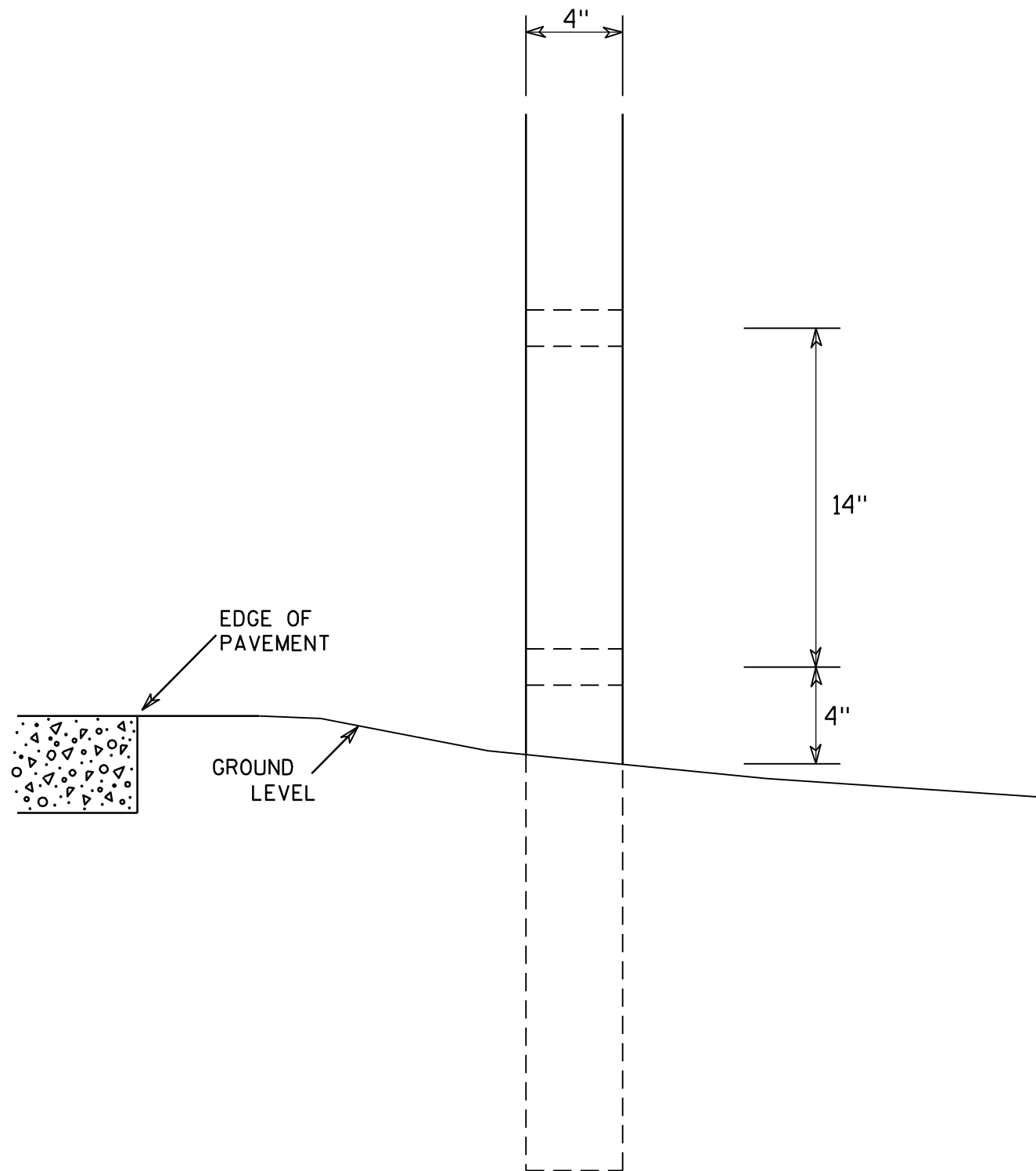
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

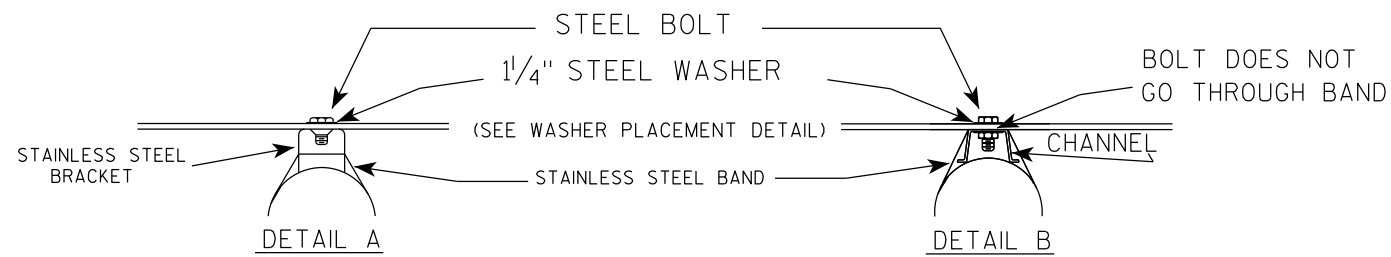
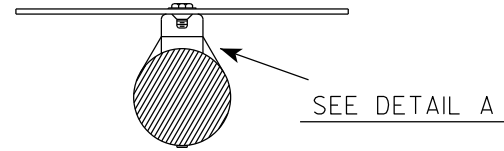
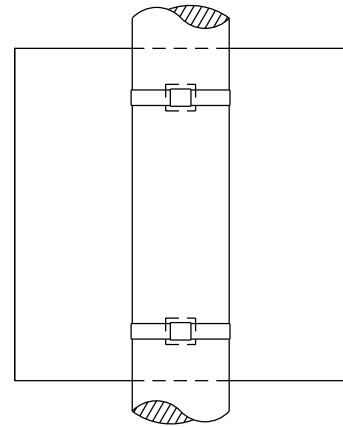
7

7

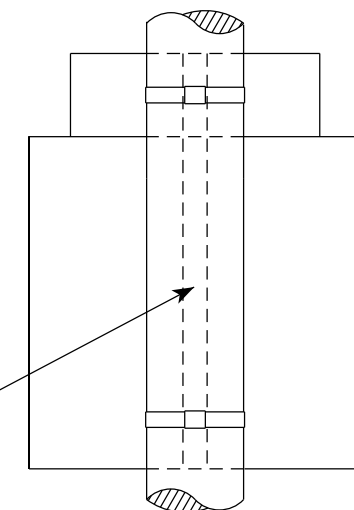
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2

BANDING

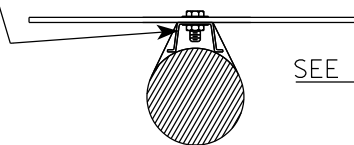
SINGLE SIGN



"J" ASSEMBLY

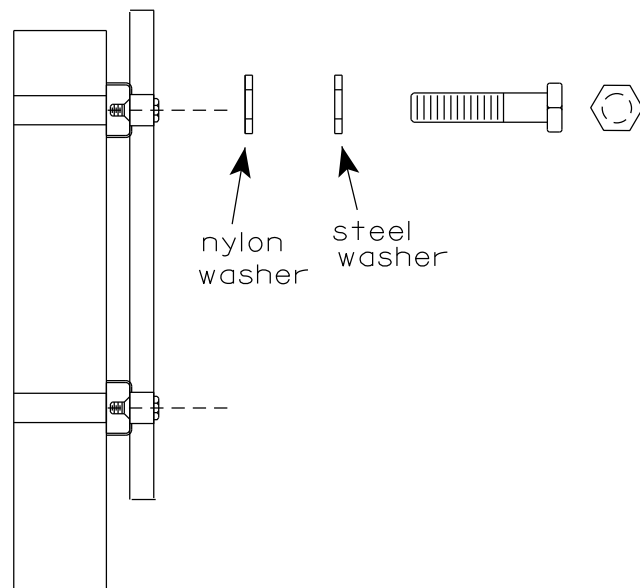


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



- GENERAL NOTES**
1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
 2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
 3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



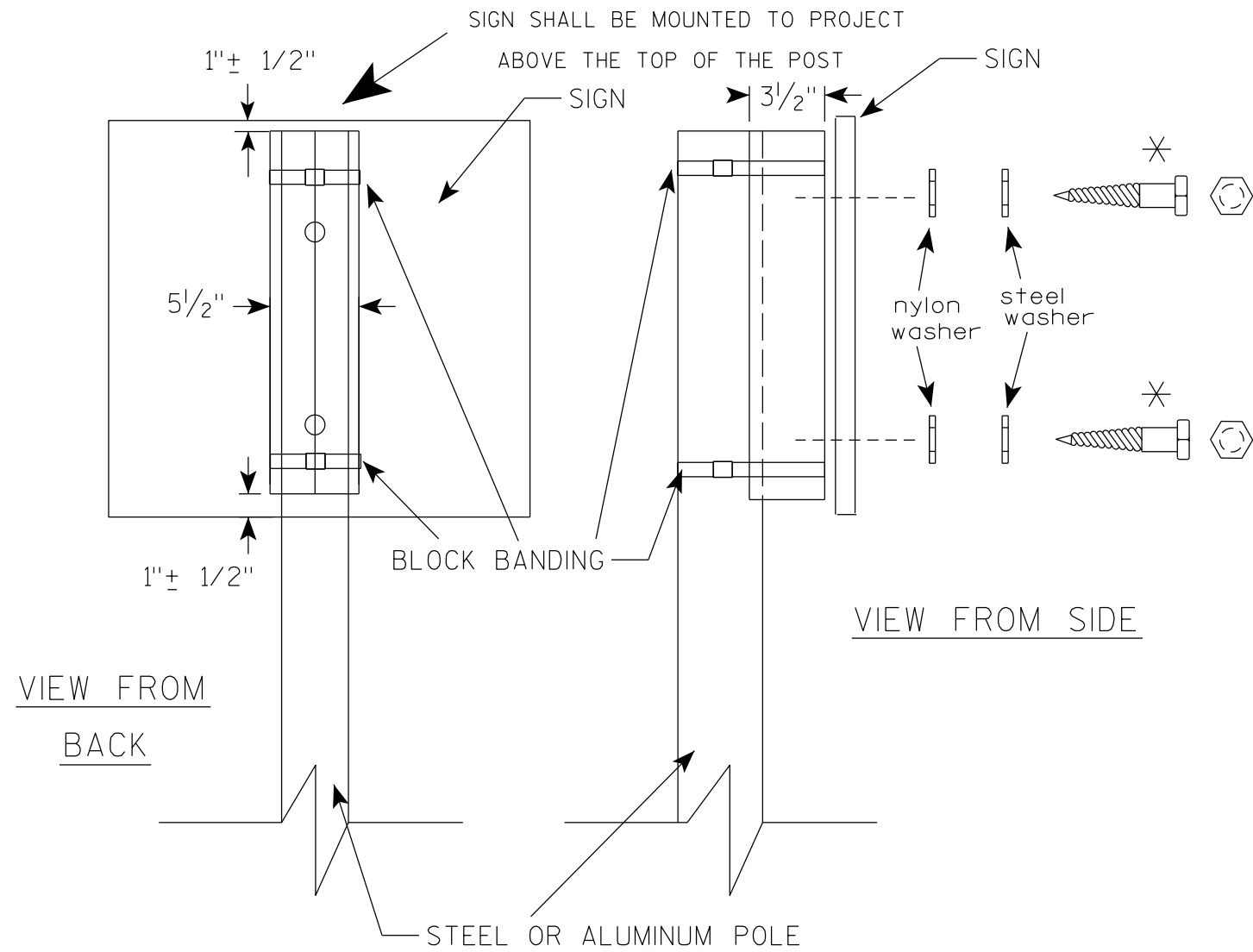
WASHERS (ALL POSTS) -
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

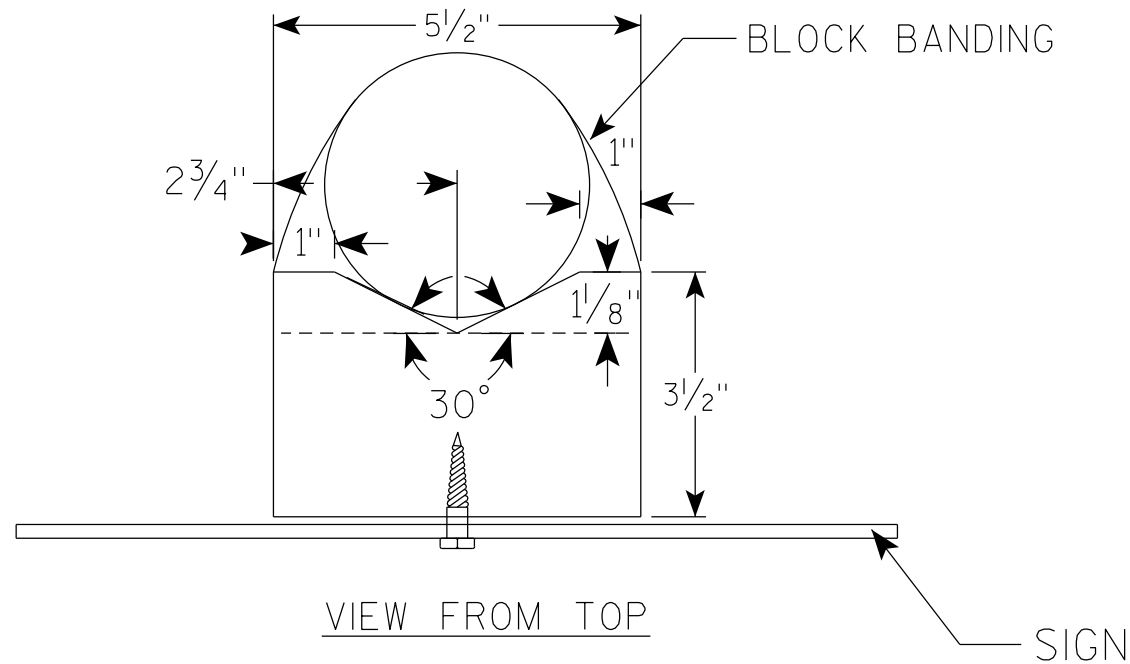


VIEW FROM
BACK

VIEW FROM SIDE

STEEL OR ALUMINUM POLE

7



VIEW FROM TOP

SIGN

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

7

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

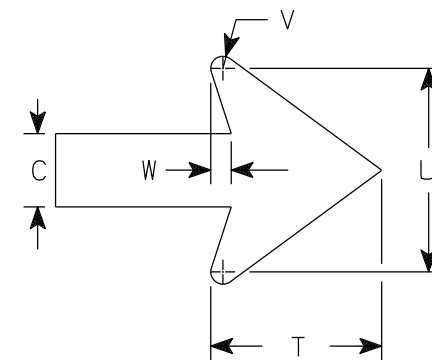
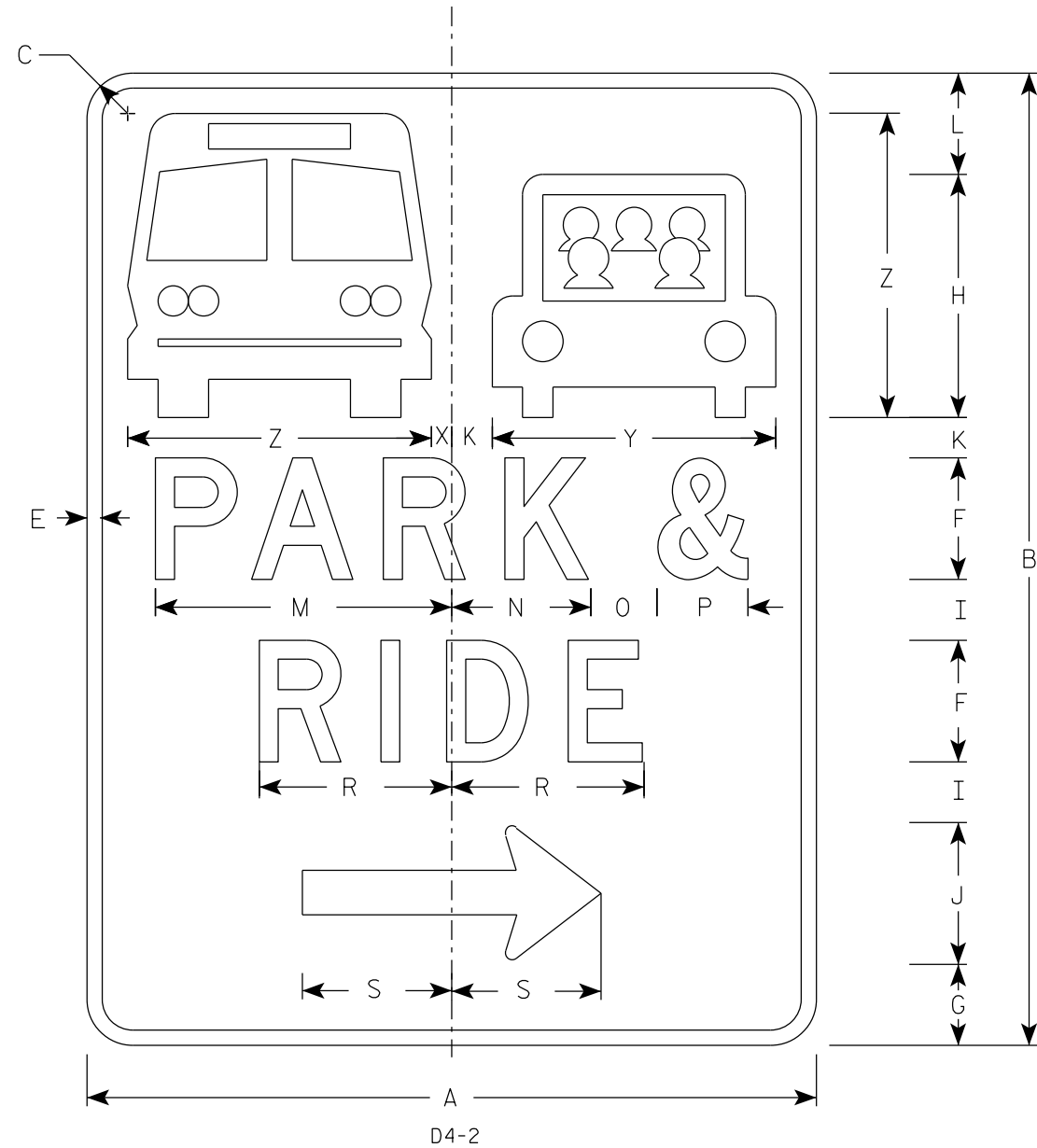
PROJECT NO:

SHEET NO:

E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - D
4. The D4-2L is the same as a D4-2R except the arrow is reversed.

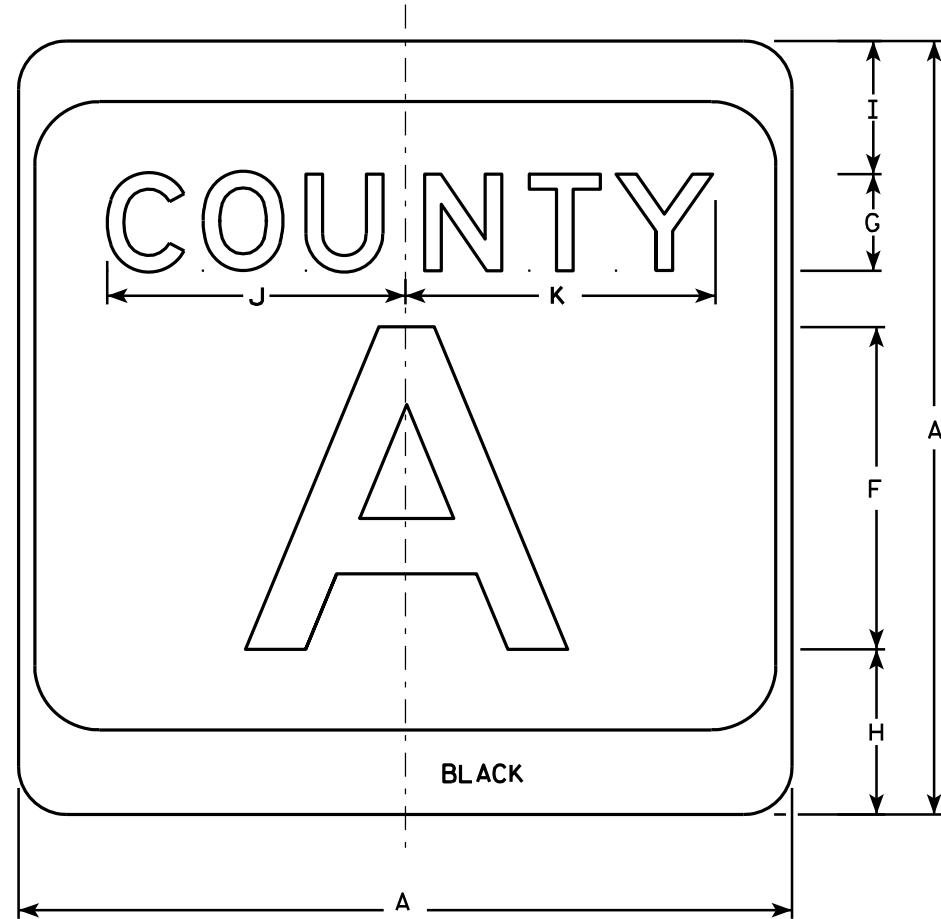


Arrow Detail

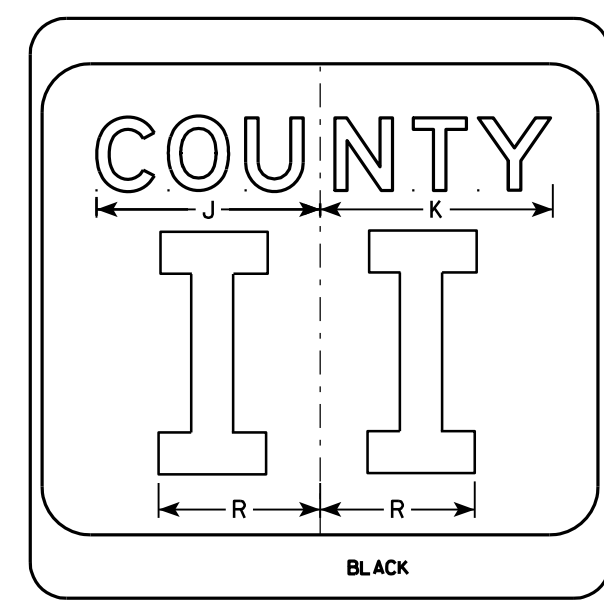
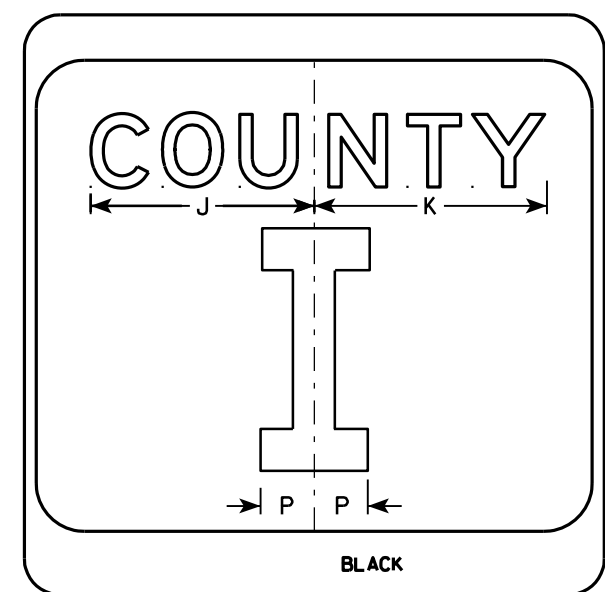
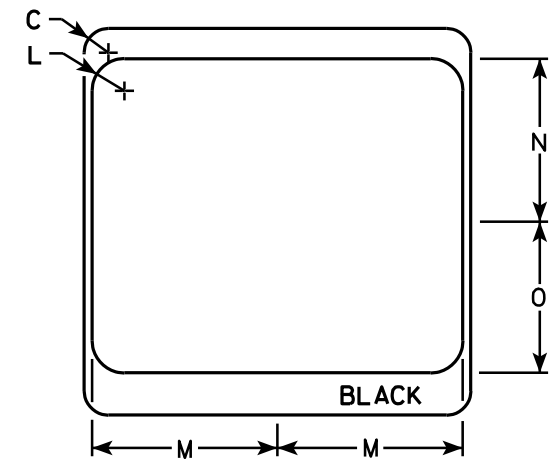
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8		1/2	4	1 5/8	7 1/2	1 1/2	4 5/8	1 3/8	3 7/8	9 3/4	4	2 3/4	3		6 3/8	4 7/8	3 1/2	4 1/8	1/4	3/8	5/8	9 3/8	10	5.0
2S	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
2M	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8	1	14	15	12.0
4																											
5																											

NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



M1-5A



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

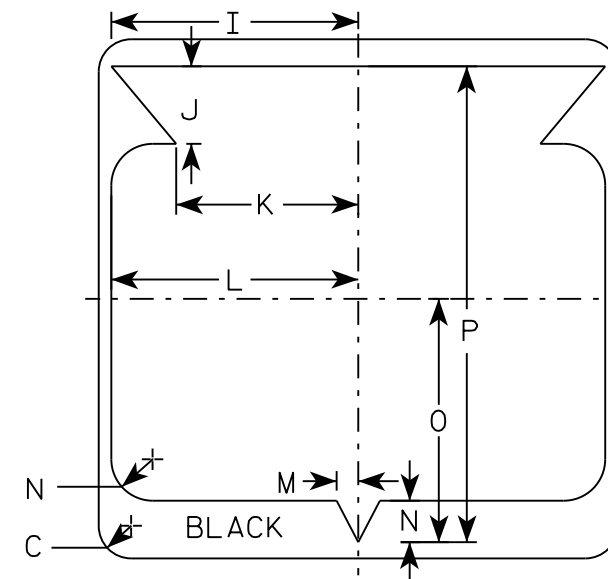
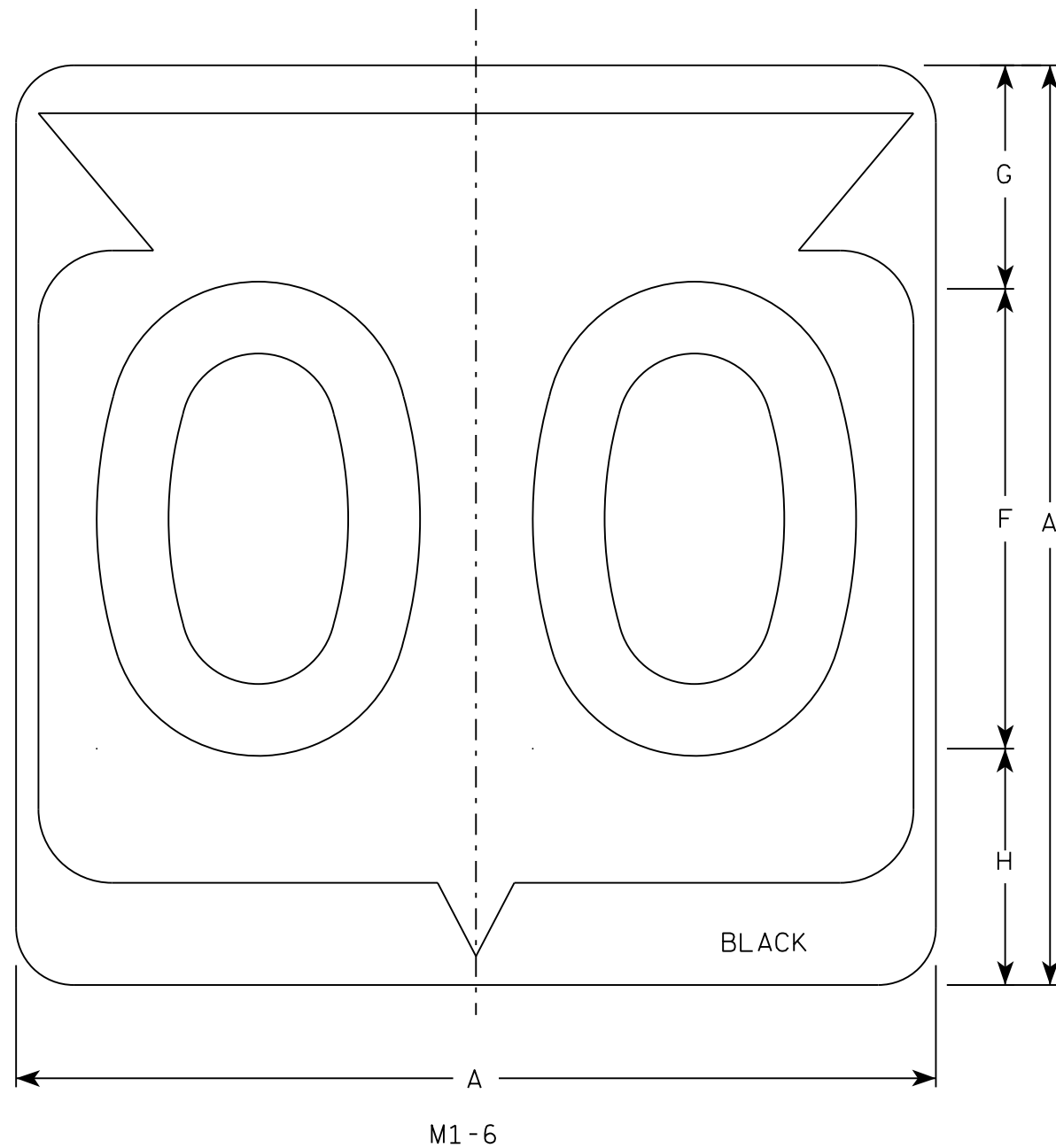
APPROVED *Matthew R. Raub*
For State Traffic Engineer

DATE 9/27/11 PLATE NO. MI-5A.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

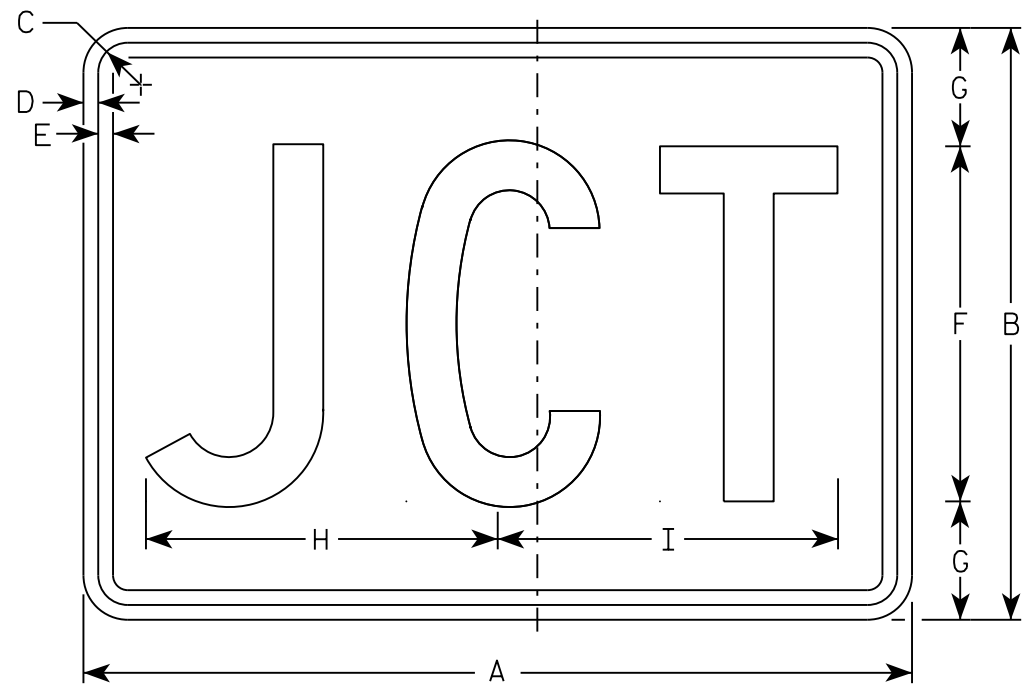
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

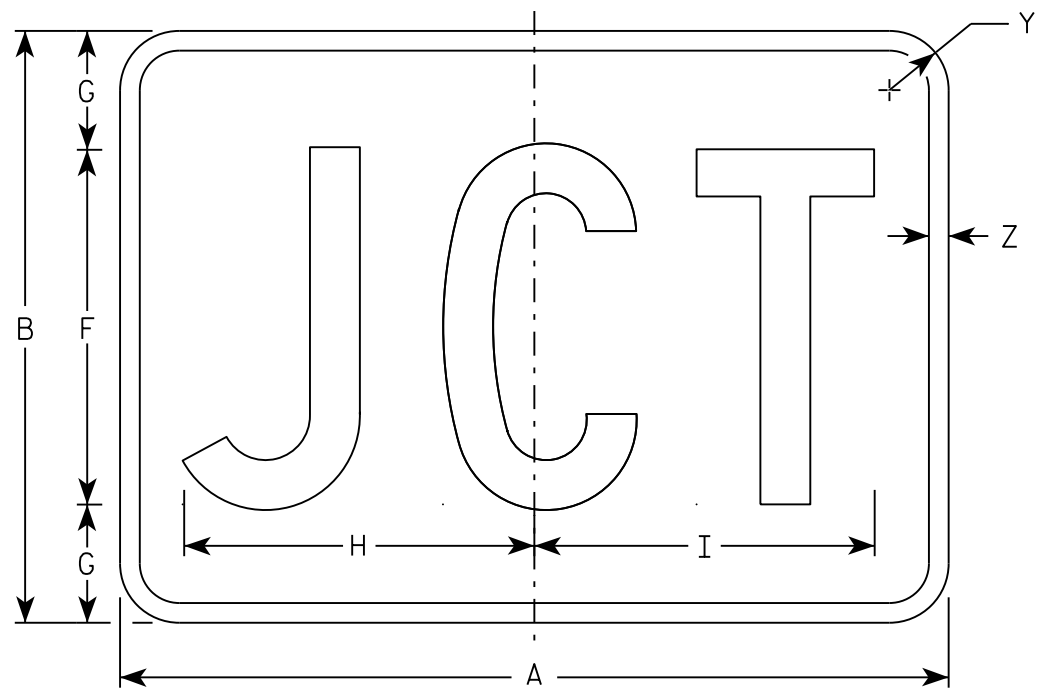
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

7

7



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
Message - Black
MB2-1 Background - Blue
Message - White
MK2-1 Background - Green
Message - White
MM2-1 Background - White
Message - Green
MN2-1 Background - Brown
Message - White
MP2-1 Background - White
Message - Blue
MR2-1 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

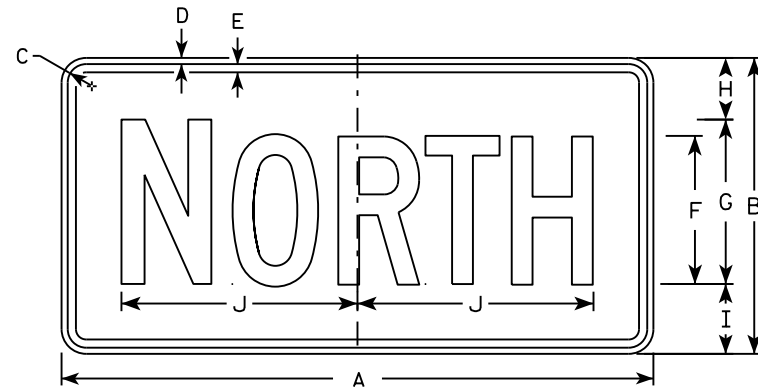
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

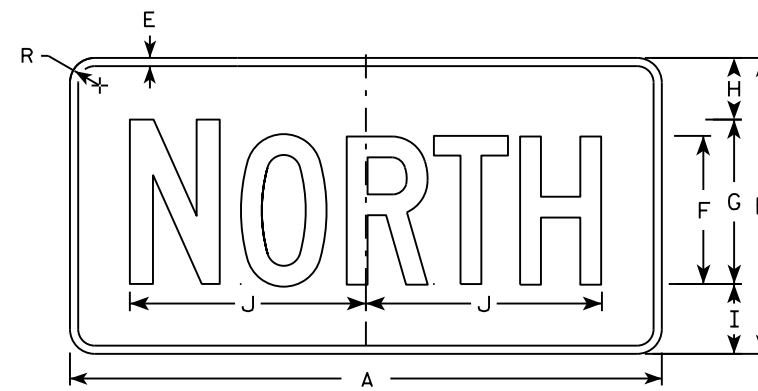
DATE 10/15/15 PLATE NO. M2-1.12

NOTES

- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 Background - White
 Message - Black
 MB3-1 thru MB3-4 Background - Blue
 Message - White
 MK3-1 thru MK3-4 Background - Green
 Message - White
 MM3-1 thru MM3-4 Background - White
 Message - Green
 MN3-1 thru MN3-4 Background - Brown
 Message - White
 MP3-1 thru MP3-4 Background - White
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.



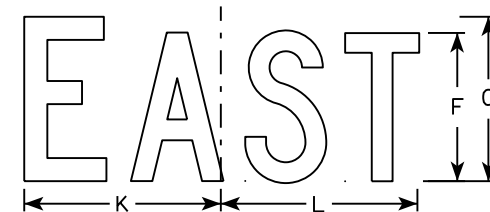
M3-1
MM3-1
MP3-1



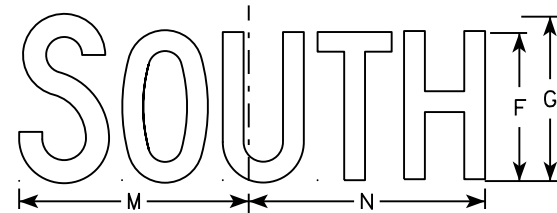
MB3-1
MK3-1
MN3-1



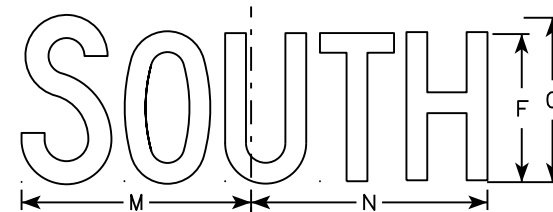
M3-2
MM3-2
MP3-2



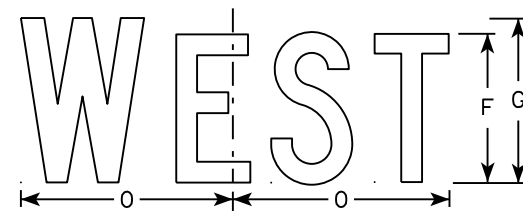
MB3-2
MK3-2
MN3-2



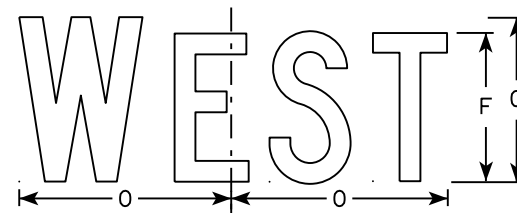
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

7

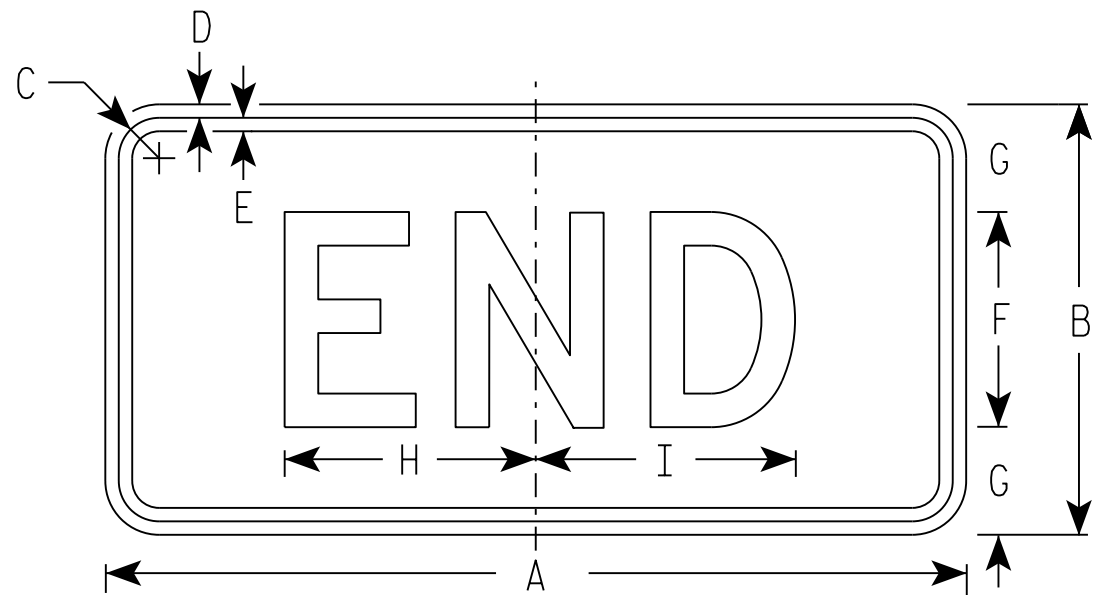
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

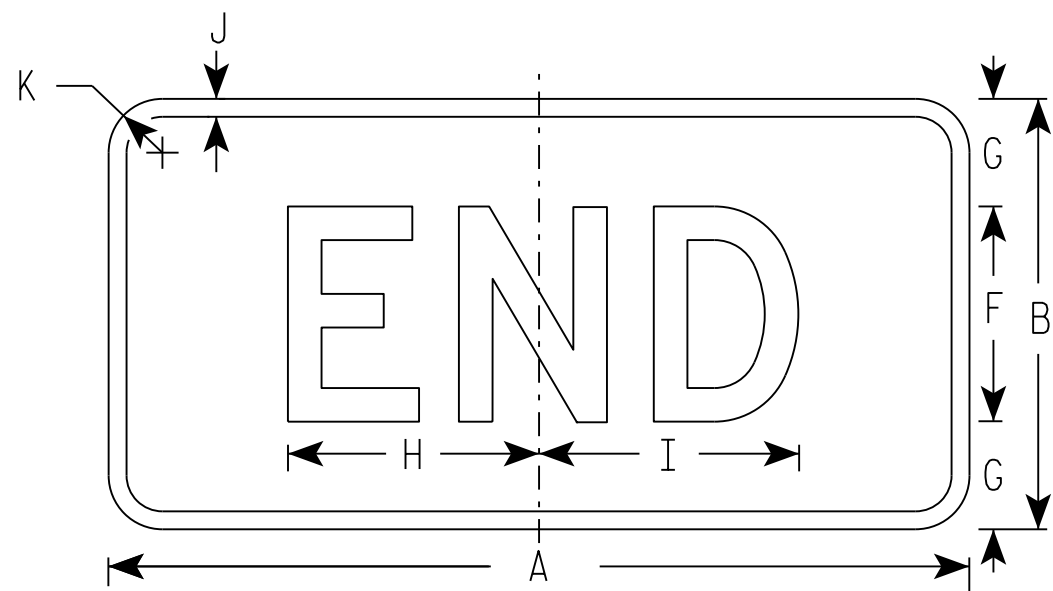
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-6 Background - White
Message - Black
- MB4-6 Background - Blue
Message - White
- MK4-6 Background - Green
Message - White
- MM4-6 Background - White
Message - Green
- MN4-6 Background - Brown
Message - White
- MP4-6 Background - White
Message - Blue
- MR4-6 Background - Brown
Message - Yellow

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-6

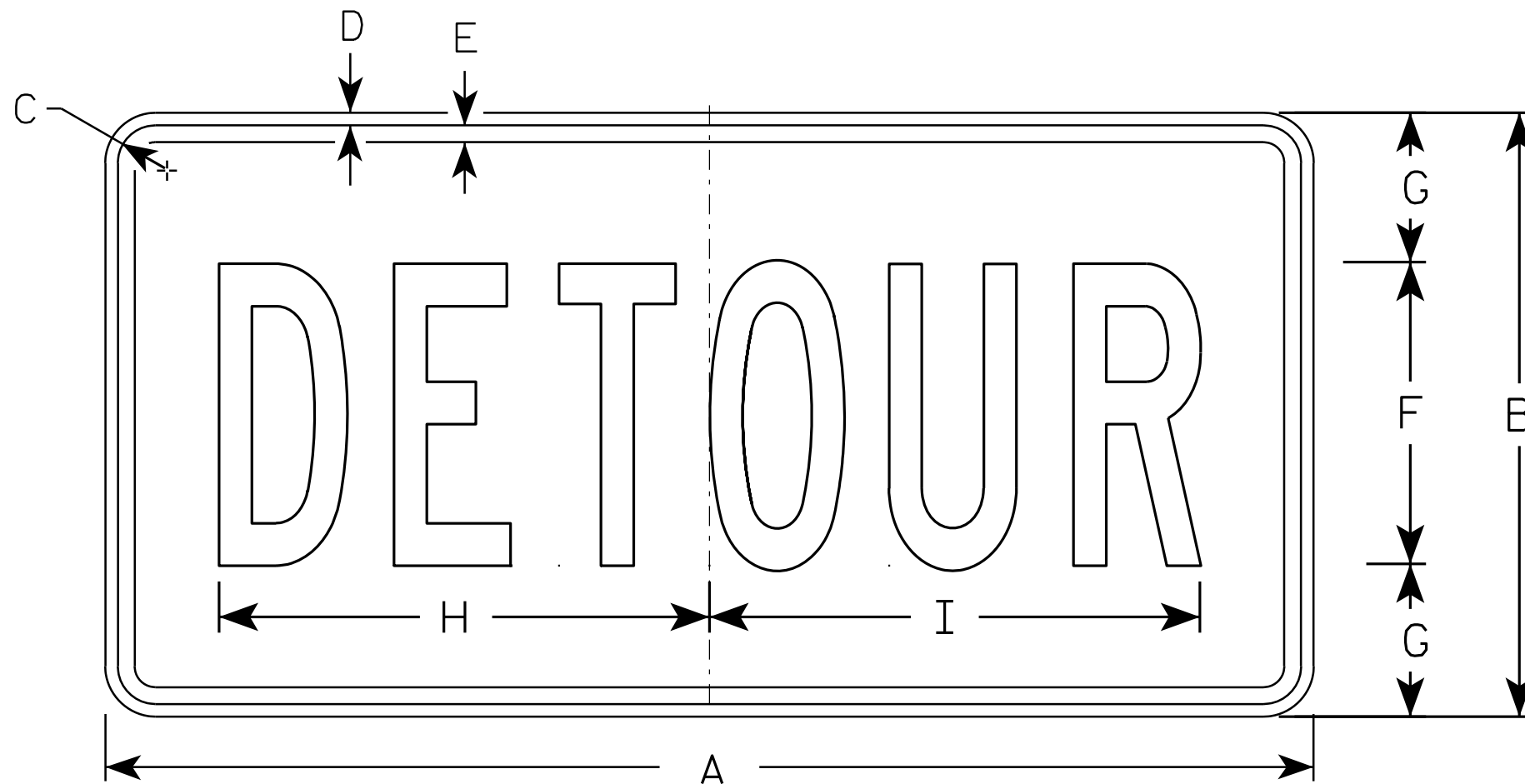
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M4-7.9

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

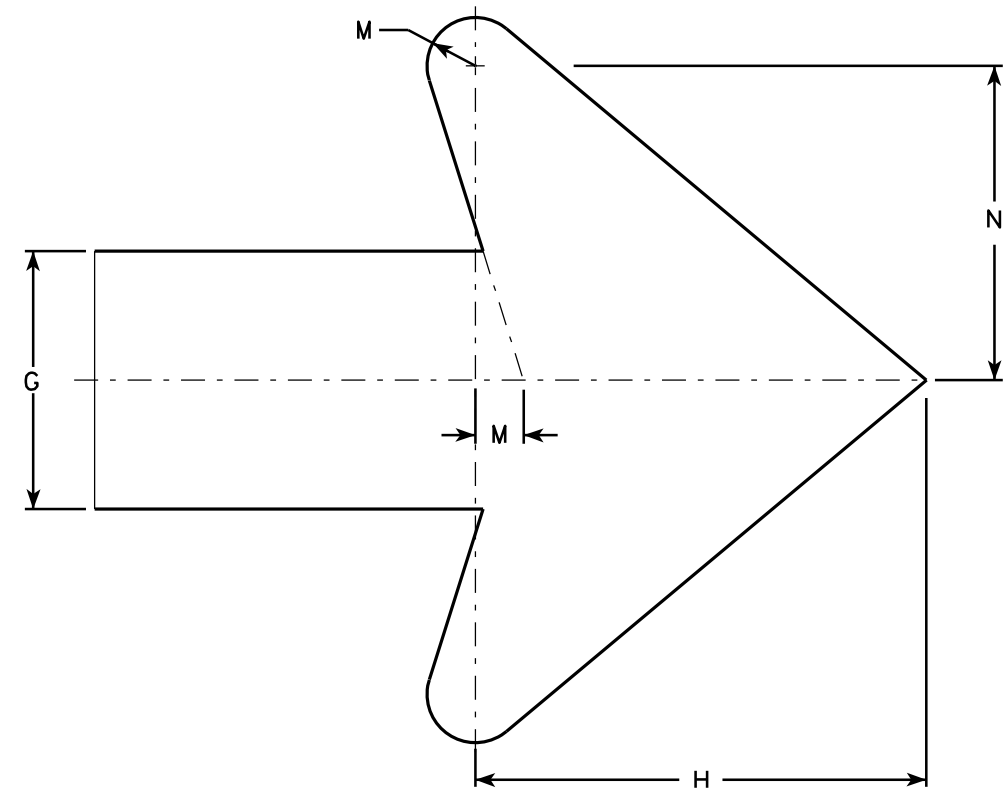
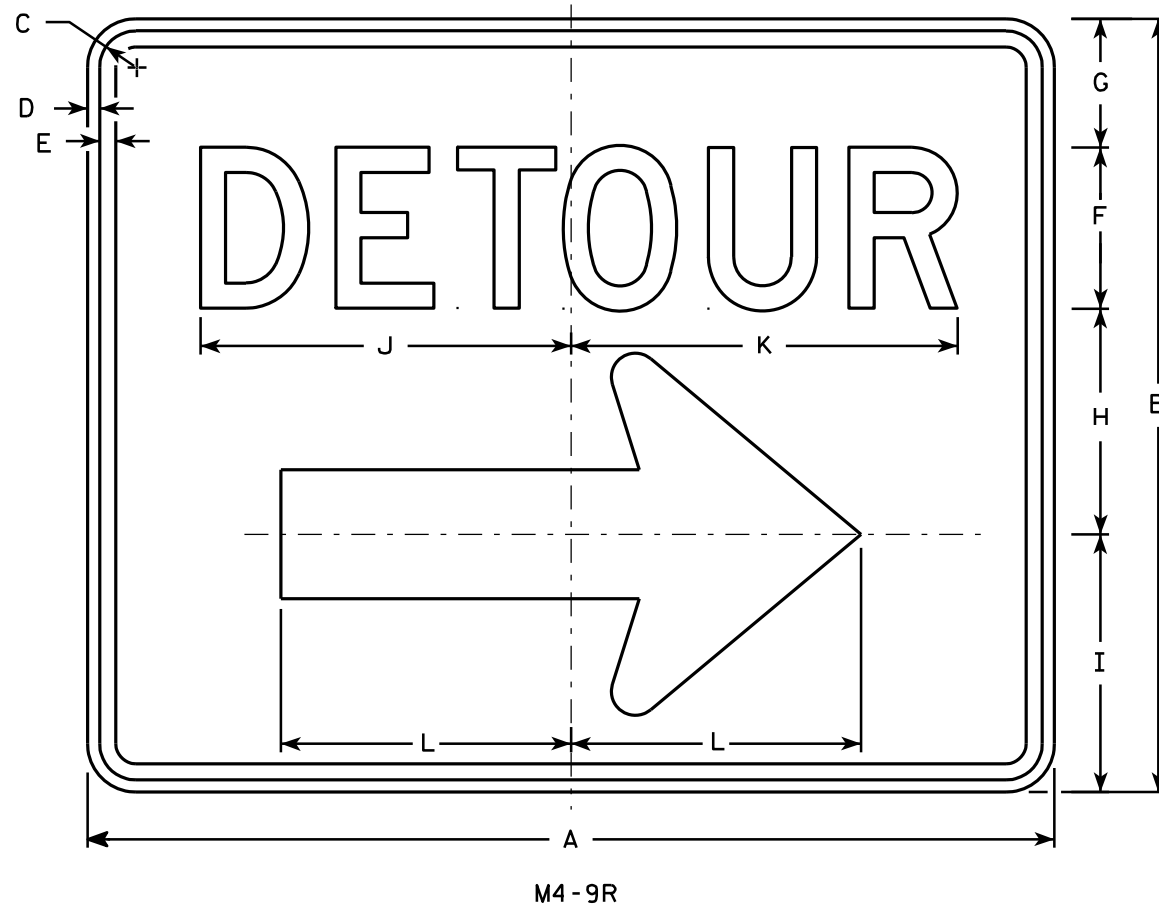
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

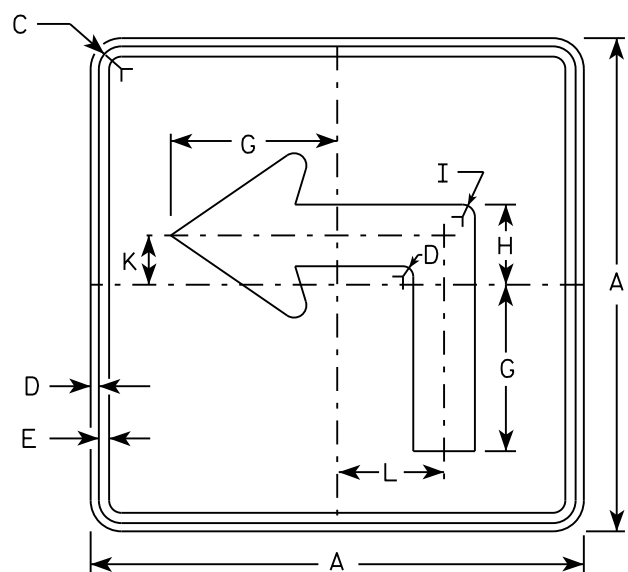
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

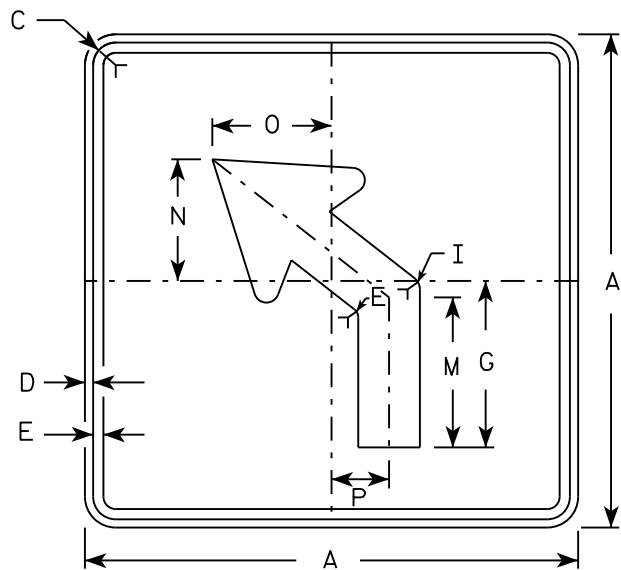
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

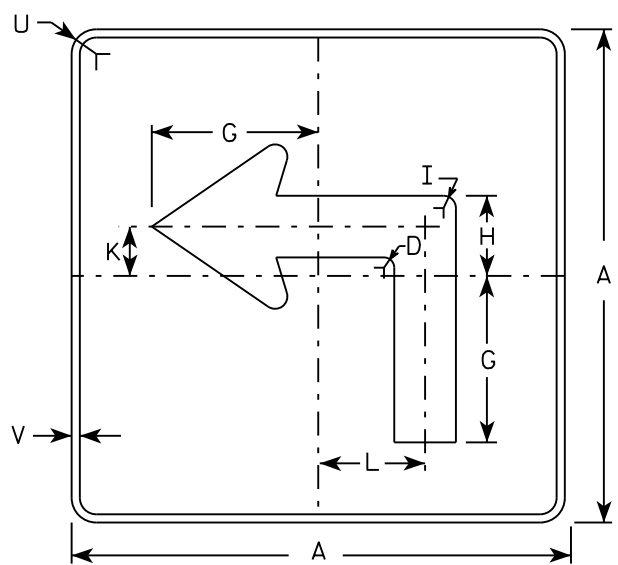
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



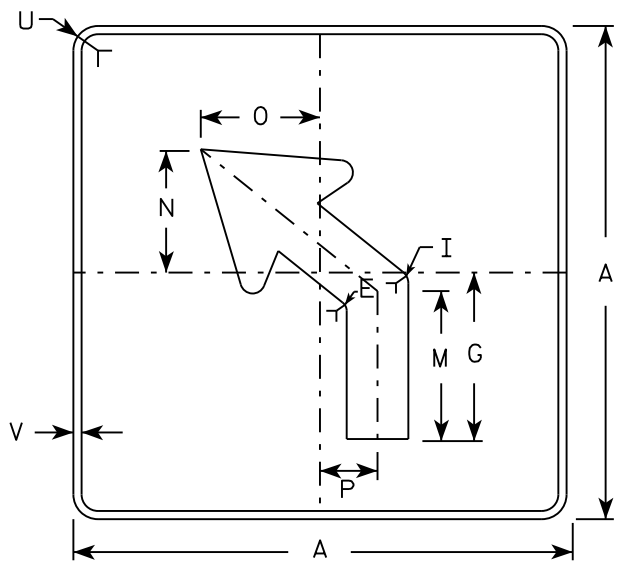
M5-1L
MM5-1L
M05-1L
MP5-1L



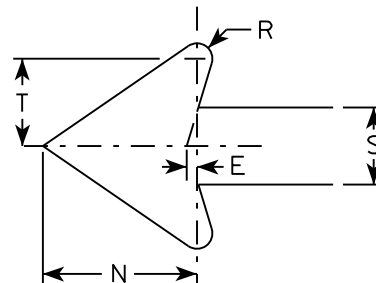
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
 - Background - See note 4
 - Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White
Message - Black
 - MB5-1 and MB5-2 Background - Blue
Message - White
 - MK5-1 and MK5-2 Background - Green
Message - White
 - MM5-1 and MM5-2 Background - White
Message - Green
 - MN5-1 and MN5-2 Background - Brown
Message - White
 - M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
 - MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
 - MR5-1 and MR5-2 Background - Brown
Message - Yellow
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

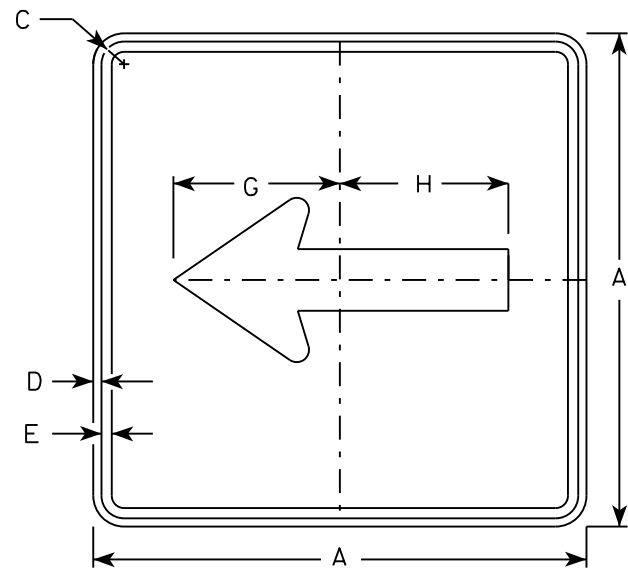
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

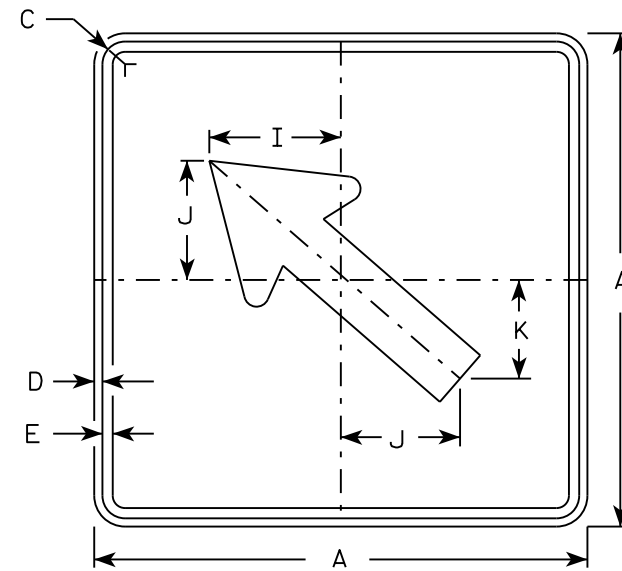
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

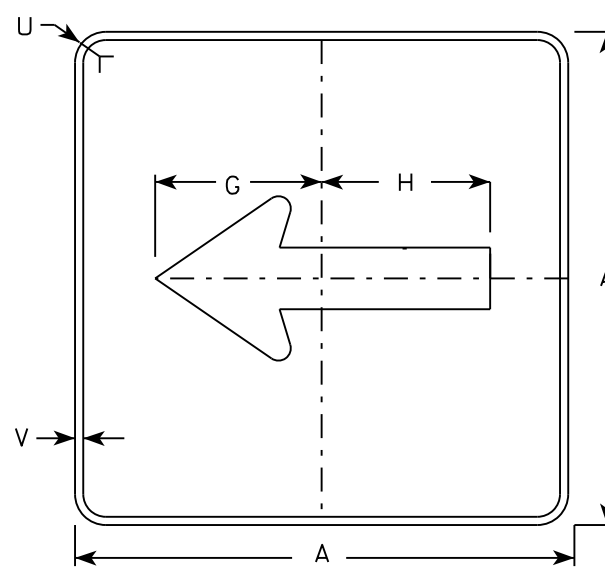
DATE 10/15/15 PLATE NO. M5-1.13



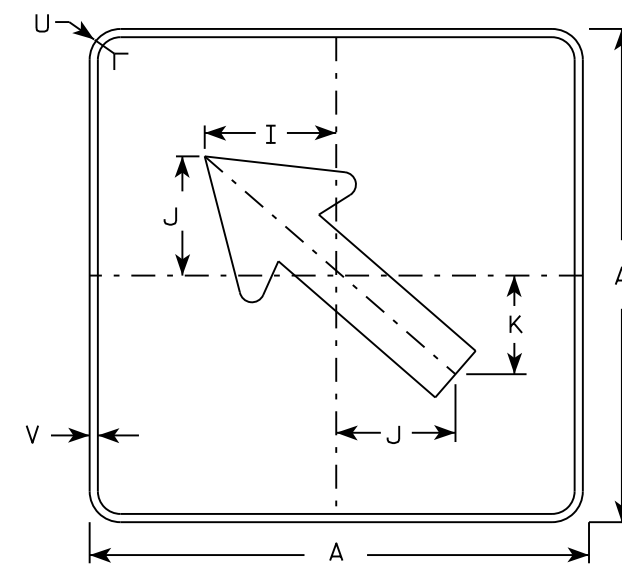
M6-1
MM6-1
M06-1
MP6-1



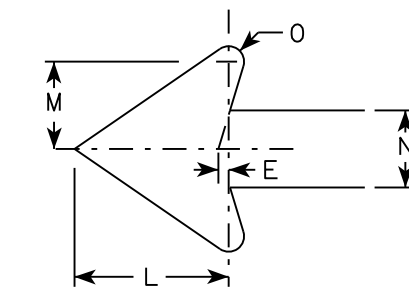
M6-2
MM6-2
M06-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

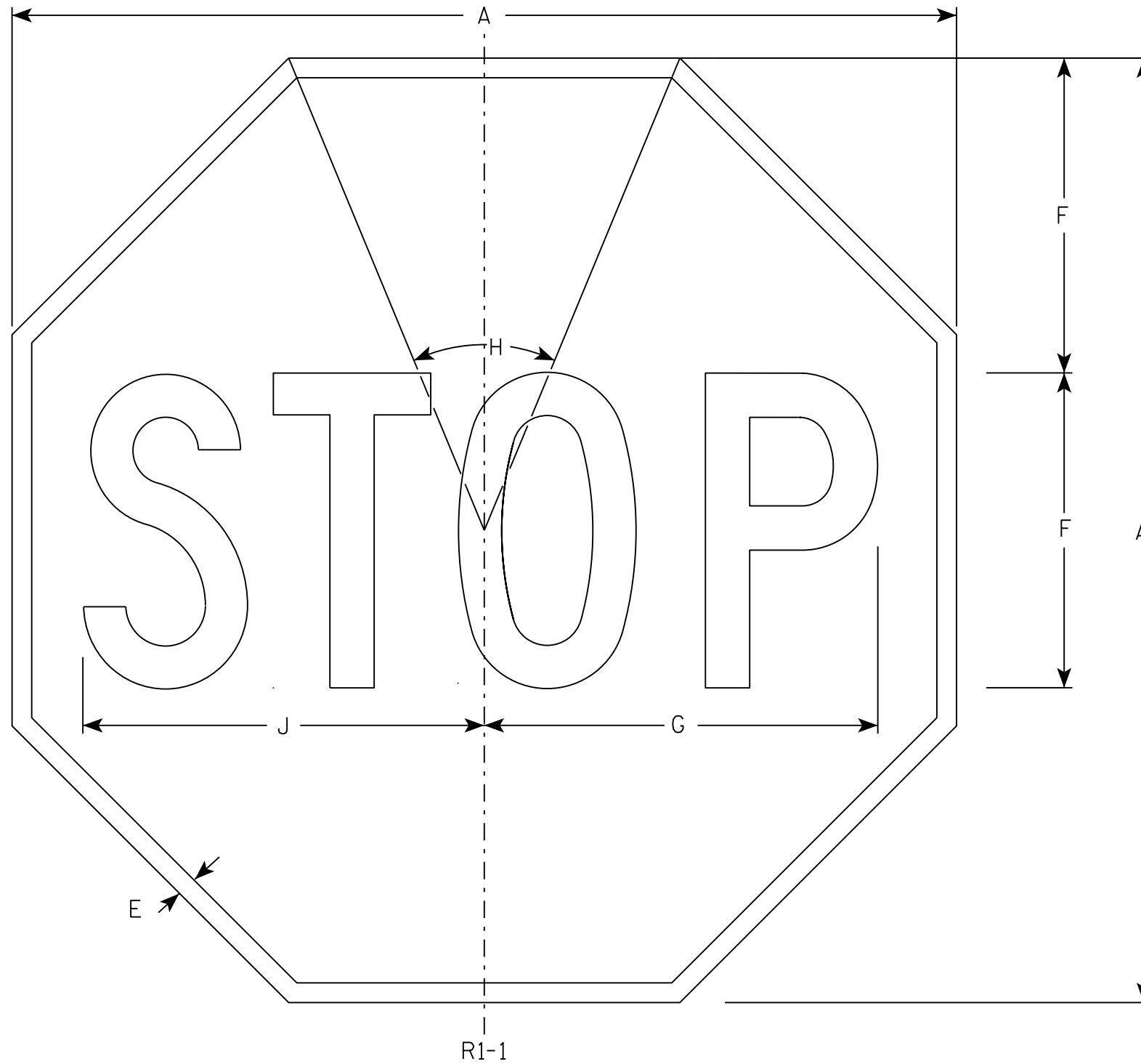
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Red
Message - White
3. Message Series - C



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

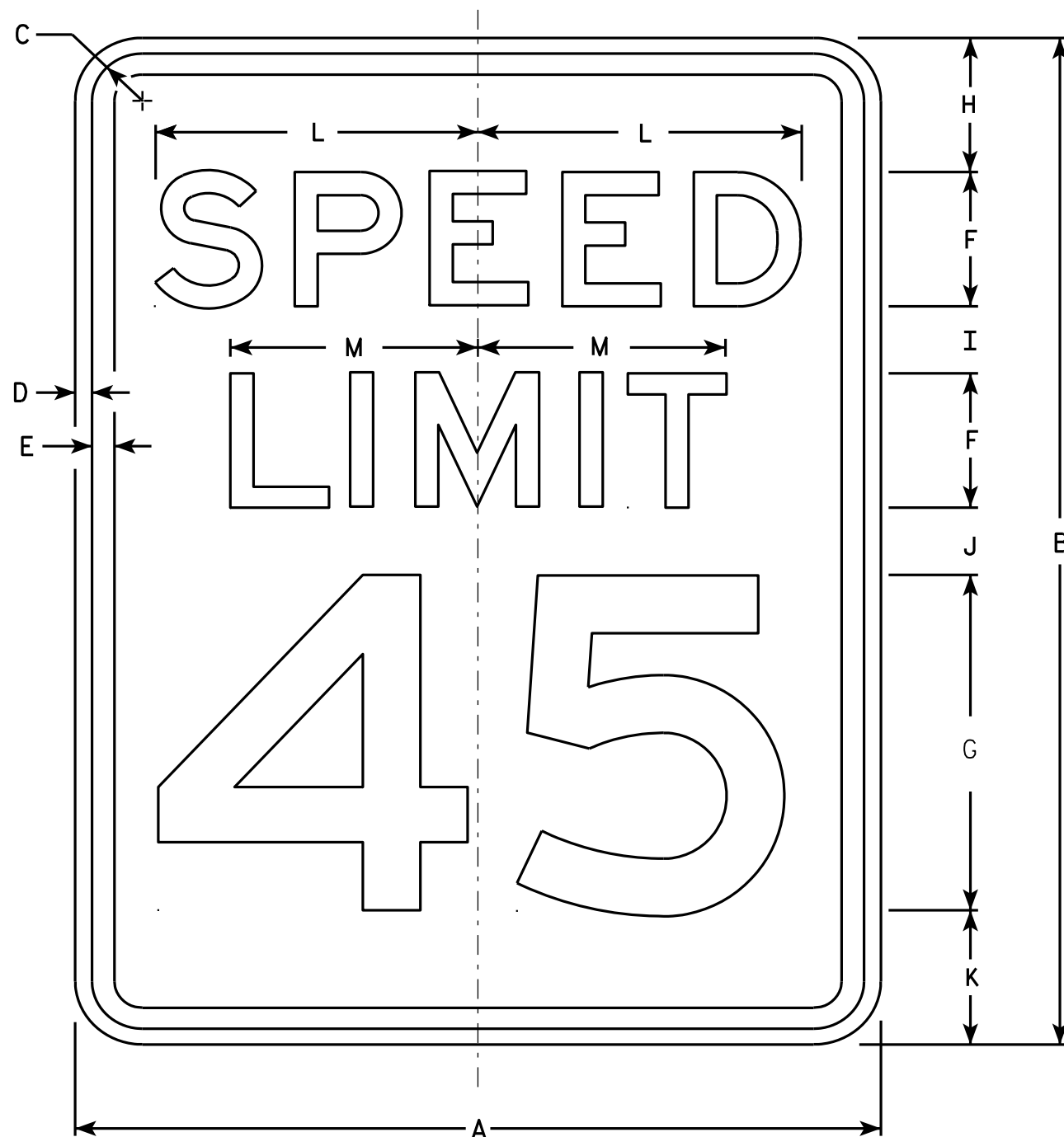
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

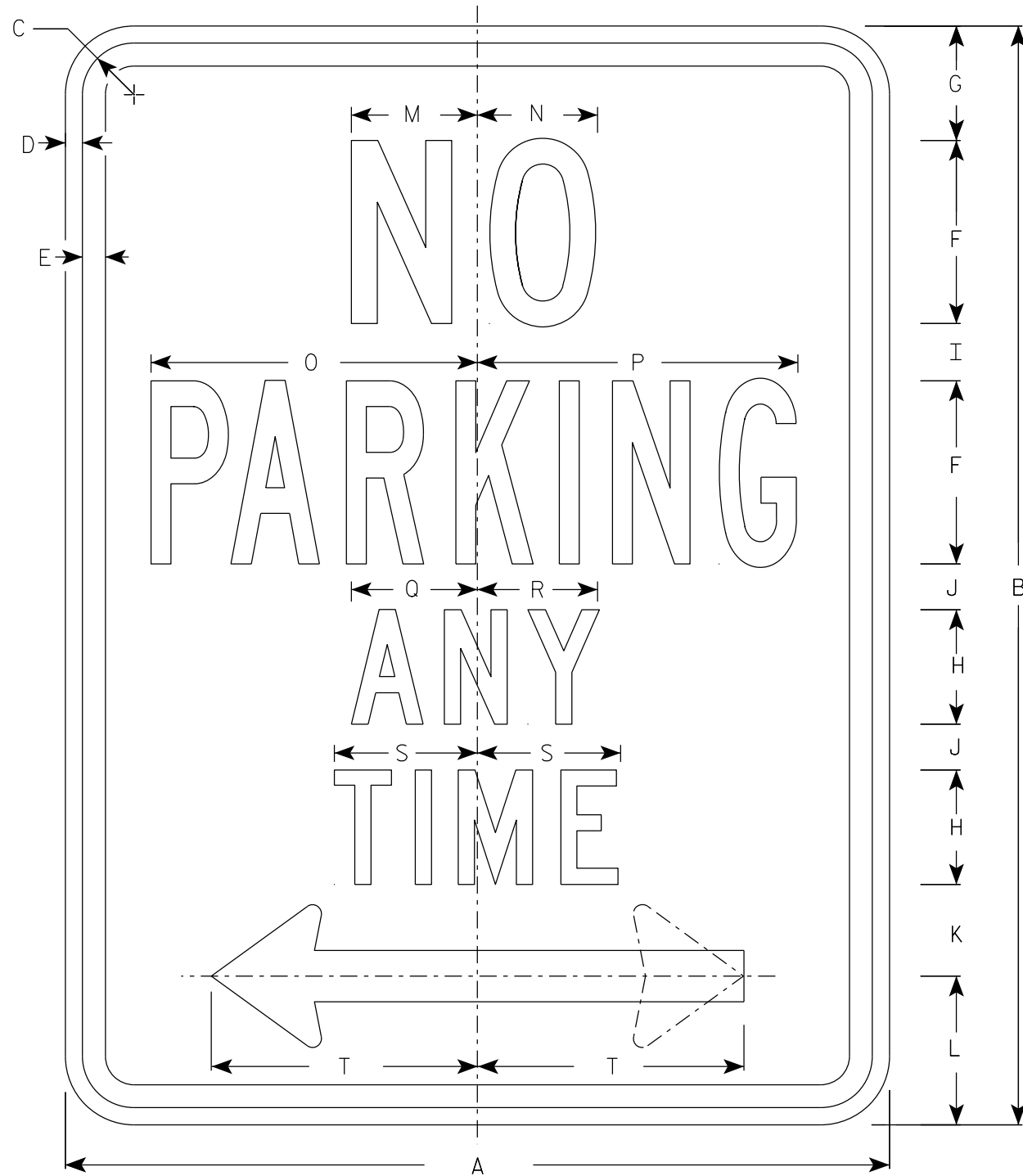
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

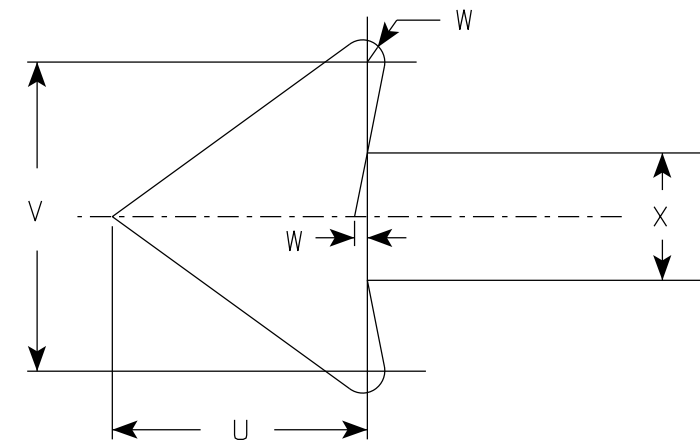
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4		1.5	
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8		3.0	
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2		5.0	
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2		5.0	
4																											
5																											

STANDARD SIGN
R7-1

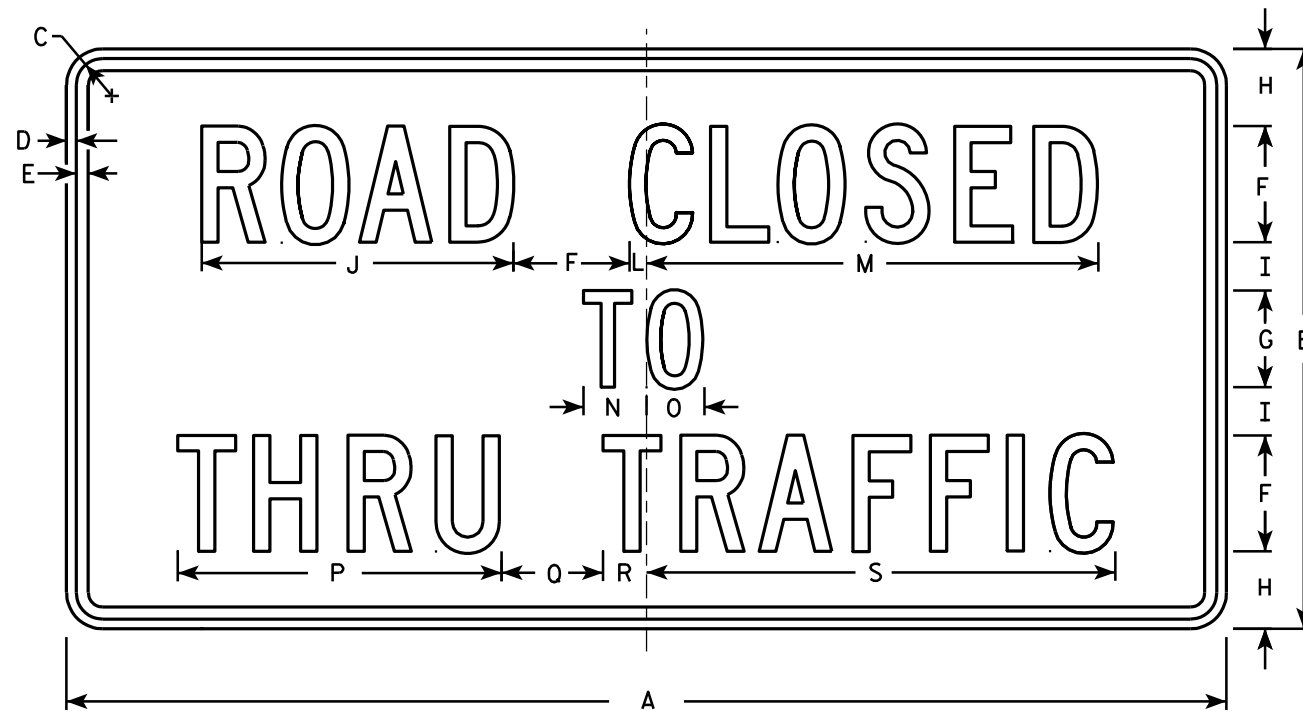
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-4

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

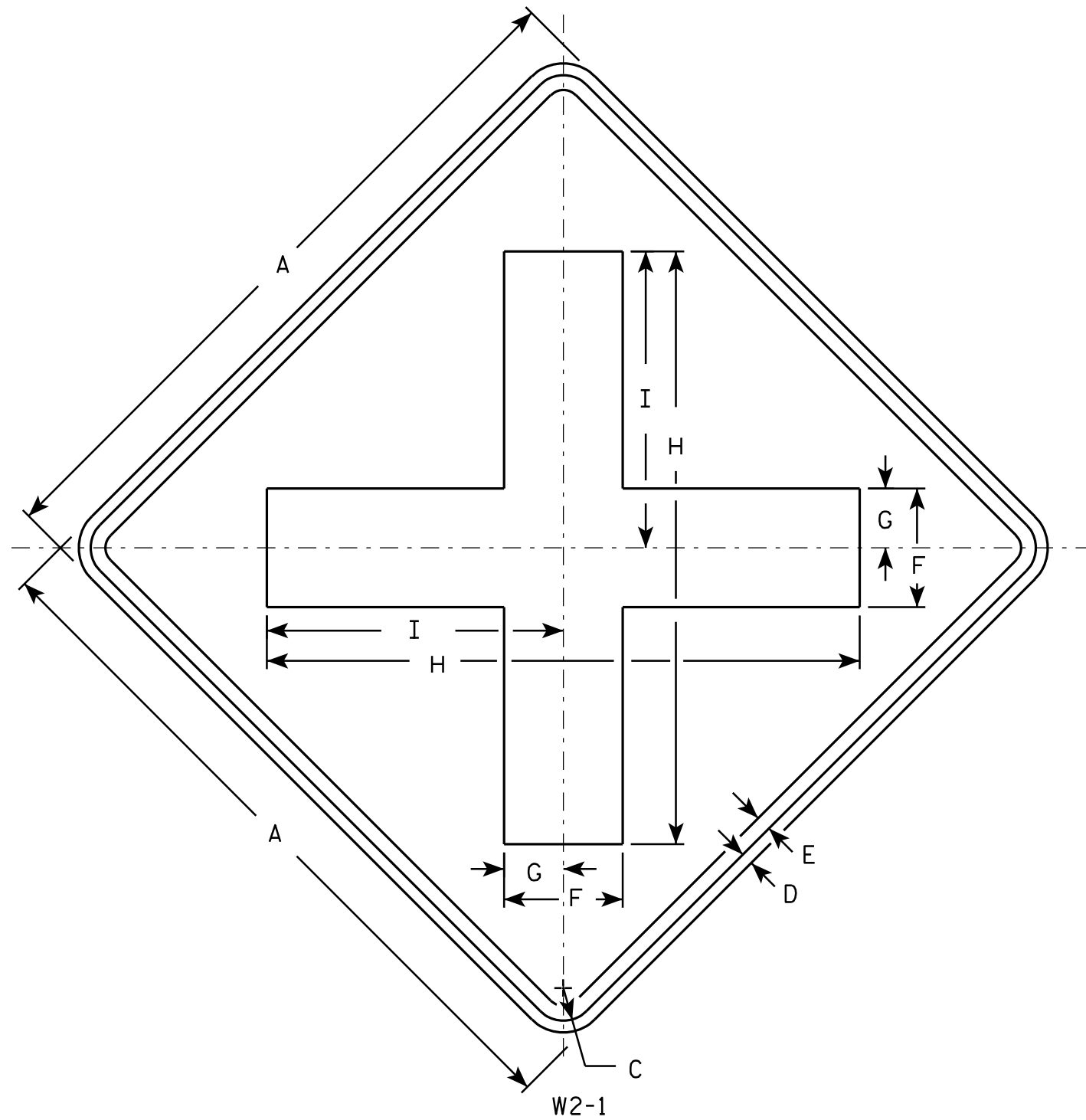
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

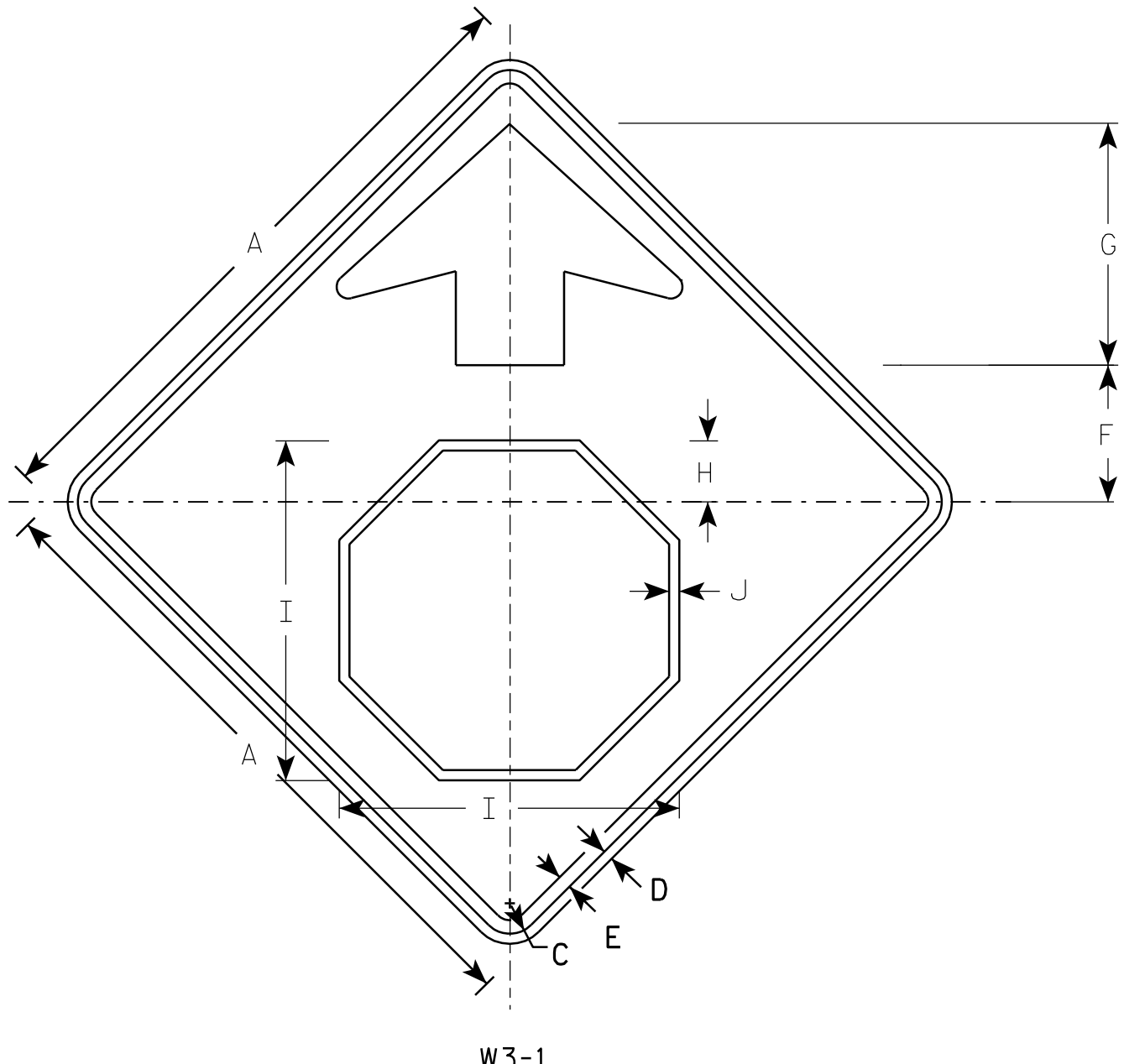
STANDARD SIGN
W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

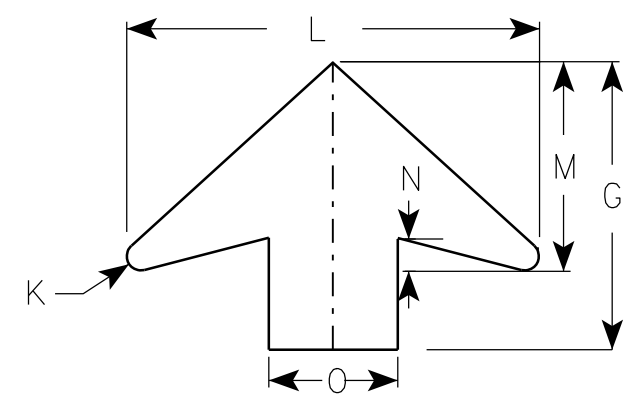
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 Background - YELLOW
 Arrow & Border - BLACK
 Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

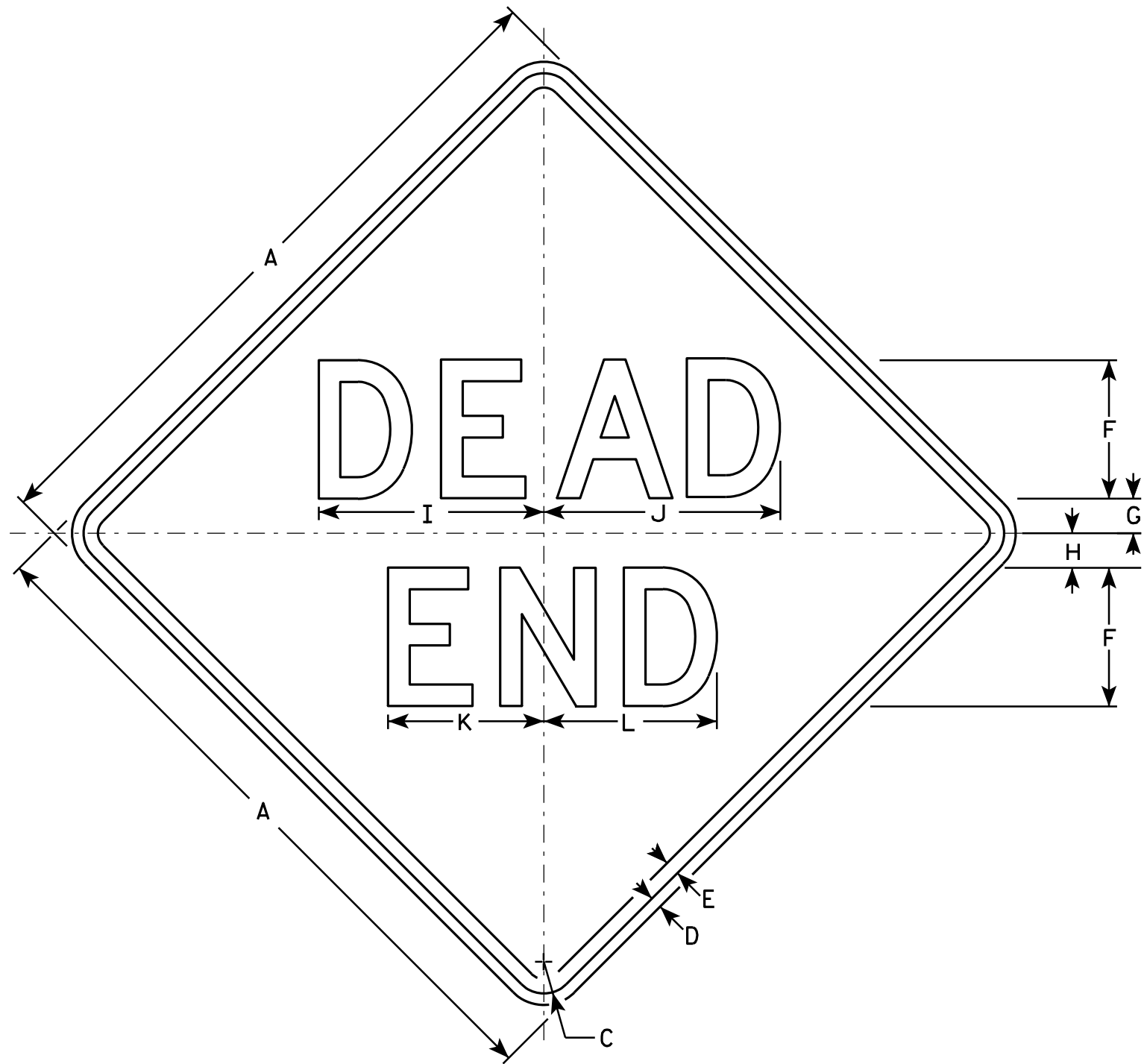
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO: _____ SHEET NO: _____ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

W14-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area, sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

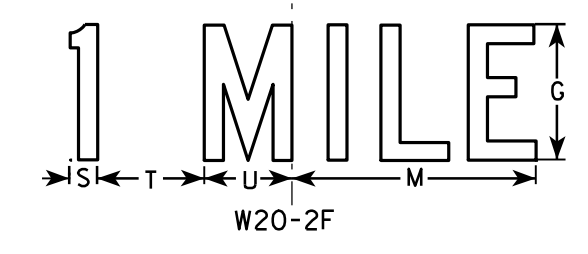
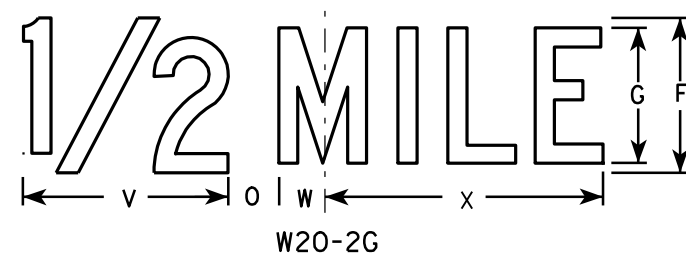
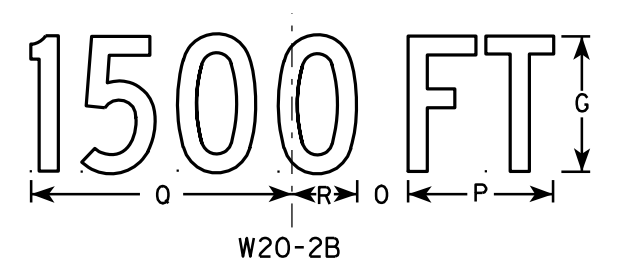
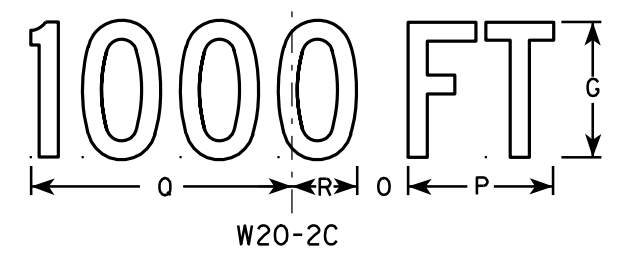
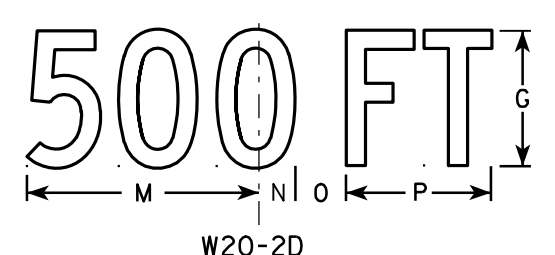
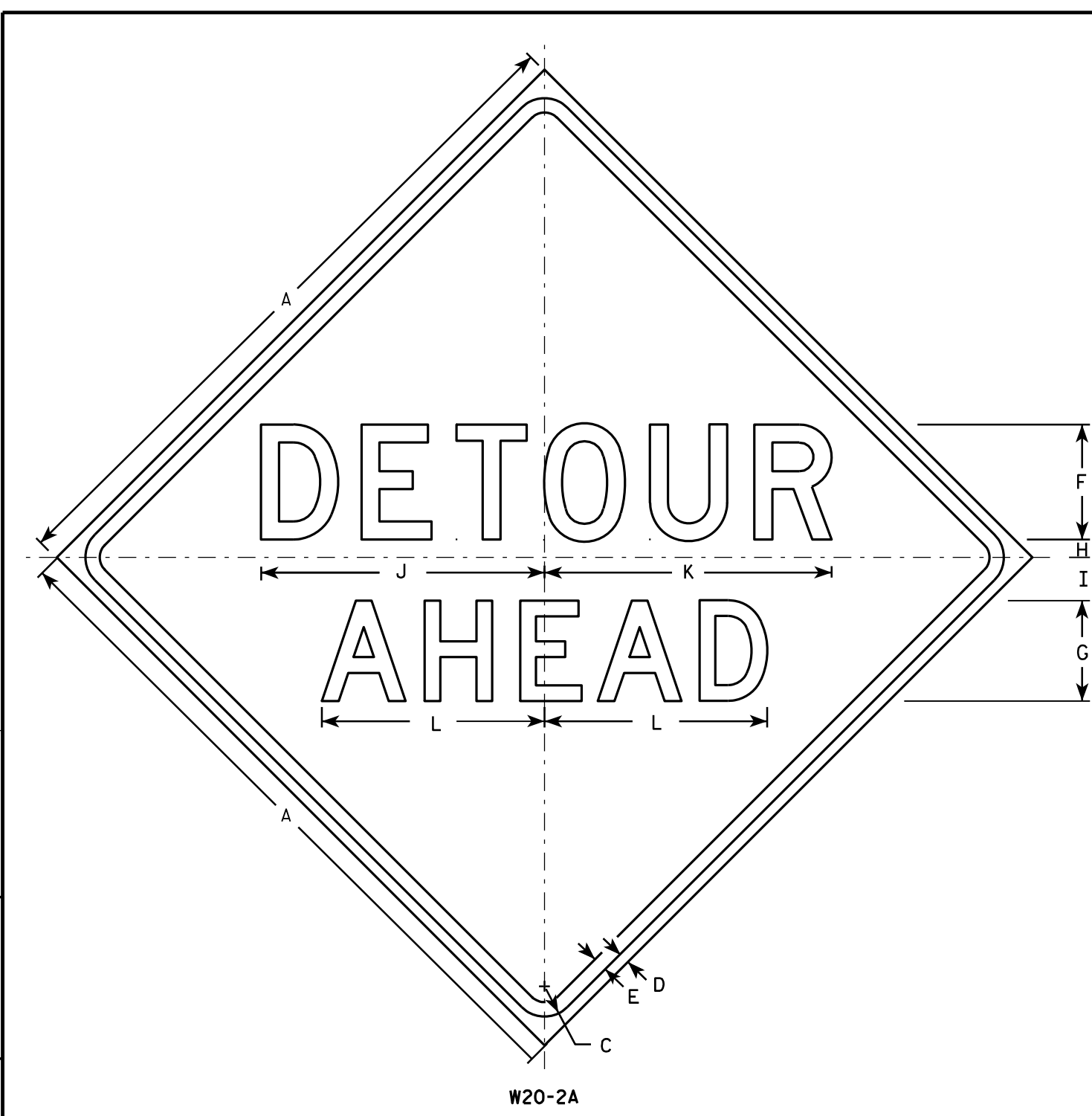
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

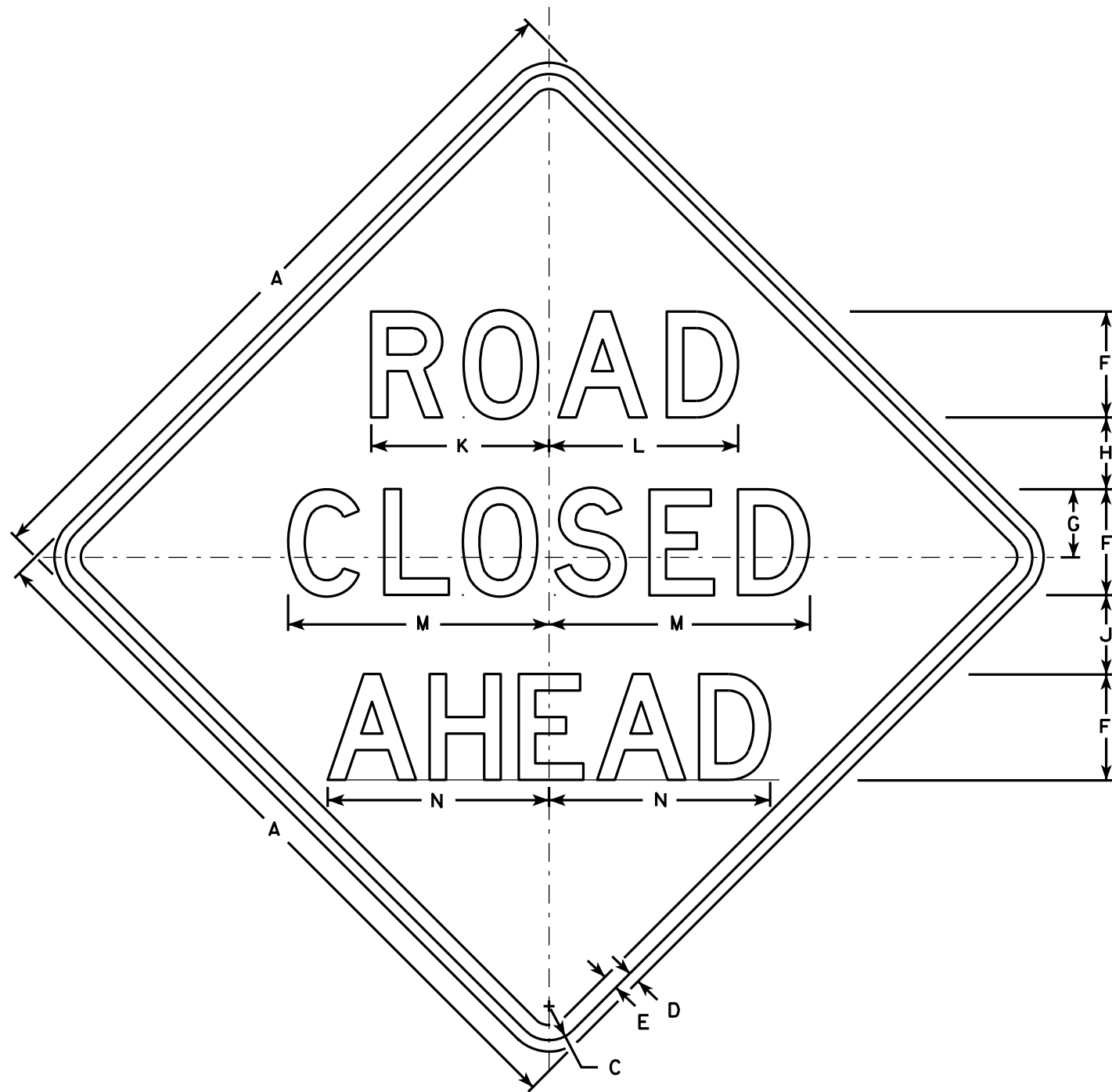
STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

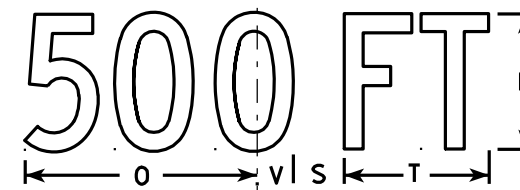
APPROVED *Matthew R. Raub*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

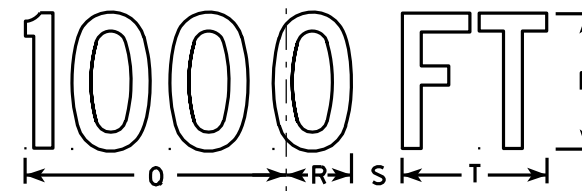
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



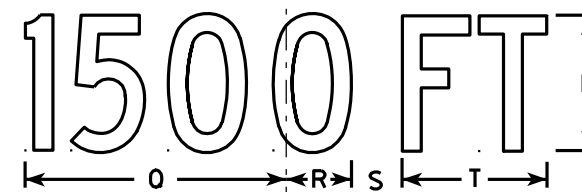
W20-3A



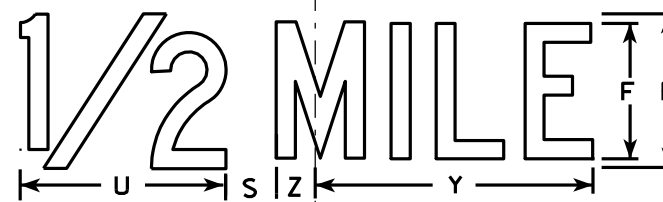
W20-3D



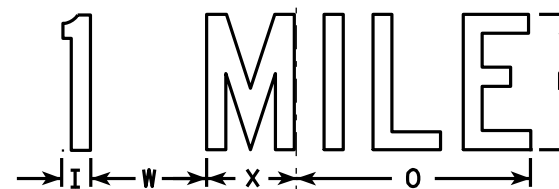
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

7

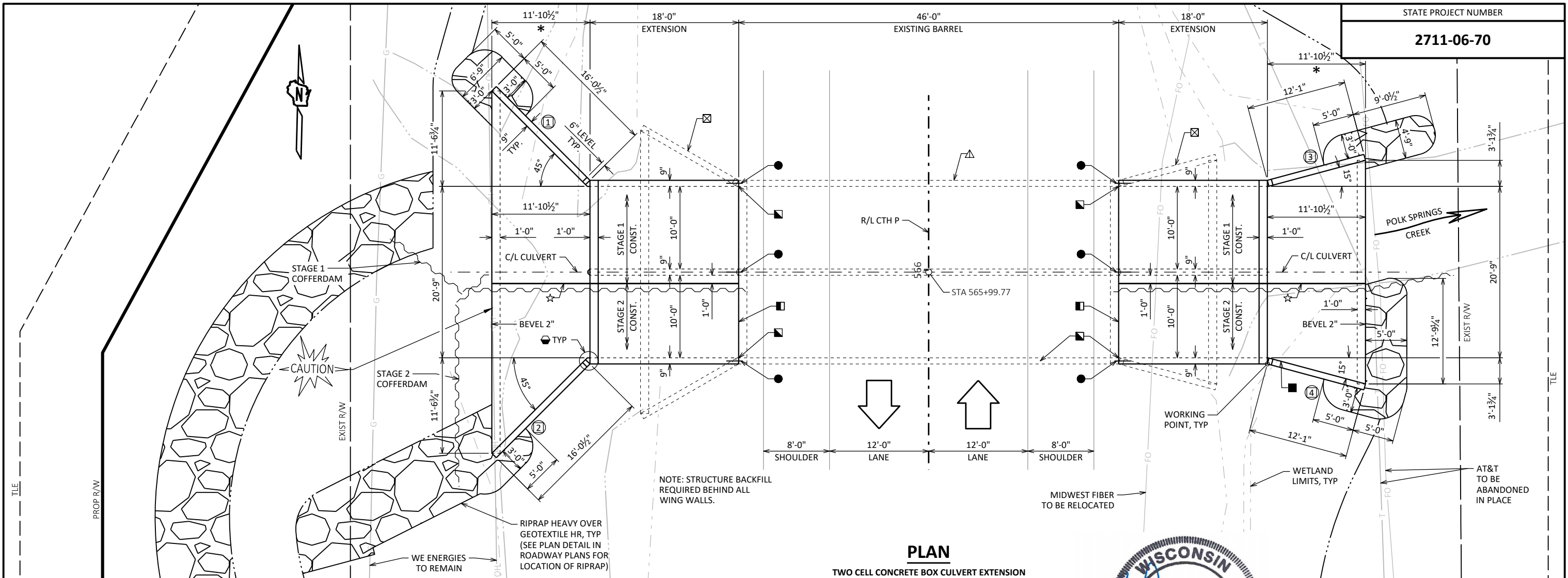
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

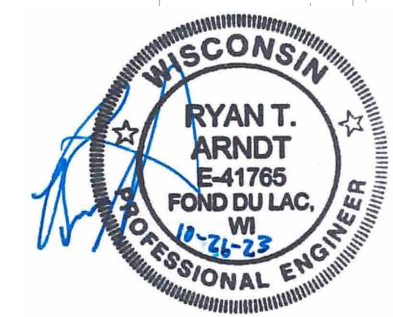
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7



PLAN

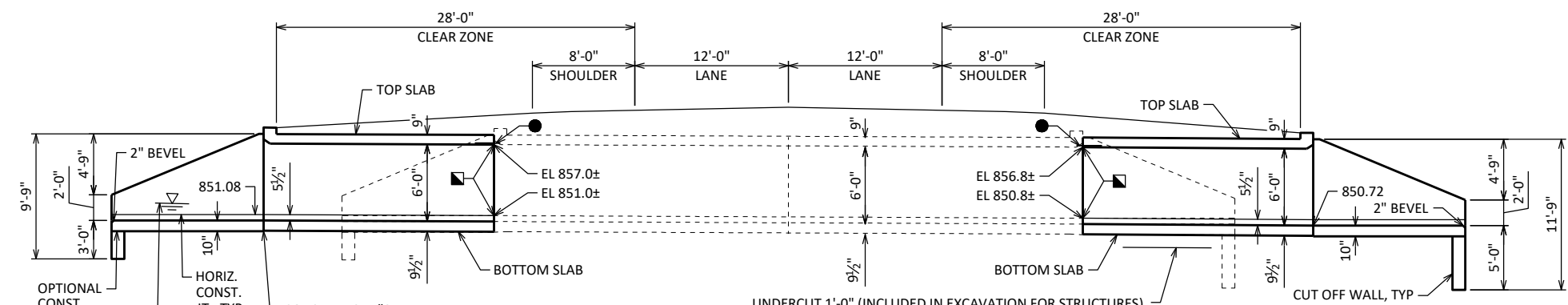
TWO CELL CONCRETE BOX CULVERT EXTENSION



STRUCTURE DESIGN CONTACTS:
 CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
 BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTIONS
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5. SLAB REINFORCEMENT DETAILS
6. APRON DETAILS
7. WINGWALL DETAILS
8. BAR REINFORCEMENT DETAILS



ELEVATION

UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES).
 PLACE GEOTEXTILE, TYPE "C", AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.

OUTLET

DESIGN DATA

LIVE LOAD (EXTENSIONS):
 DESIGN LOADING: HL-93
 INVENTORY RATING: RF = 1.09
 OPERATING RATING: RF = 1.41
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

EARTHLOAD:
 DESIGNED FOR 1.0 FT. OF FILL.

MATERIAL PROPERTIES:
 CONCRETE MASONRY: $f_c = 3,500$ PSI
 BAR STEEL REINFORCEMENT: $f_y = 60,000$ PSI

DESIGN DATA

LIVE LOAD (EXISTING):
 TAKEN FROM HSI, 09/01/2023
 INVENTORY RATING: HS24
 OPERATING RATING: HS40
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

HYDRAULIC DATA

100-YEAR FREQUENCY:
 $Q_{100} = 1253$ C.F.S.
 $V_{100} = 8.4$ F.P.S.
 $HW_{100} = 858.72$ EL.
 WATERWAY AREA = 105 SQ. FT.
 DRAINAGE AREA = 3.5 SQ. MI.
 ROADWAY OVERTOPPING = 25 YRS
 SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:
 $Q_2 = 352$ C.F.S.
 $V_2 = 7.0$ F.P.S.
 $HW_2 = 854.97$ EL.

TRAFFIC DATA

CTH P:
 ADT = 7,400 (2044)
 R.D.S. = 50 MPH

LEGEND

- INDICATES WING NUMBER
- * BUILD APRON AND END OF BOX LEVEL
- ☒ REMOVE EXISTING APRON AND WINGS.
- INSIDE WALLS AND SLABS TO MATCH EXISTING (TYP.)
- ⦿ SEE CORNER DETAILS ON "APRON DETAILS" SHEET
- ADHESIVE ANCHORS NO. 5 BARS, EMBED 1'-0 1/2" INTO SOUND CONCRETE AND SPACE AT MAX 1'-0" CENTERS. (TYP. IN ALL WALLS AND TOP & BOTTOM SLAB)
- VERT. CONST. JOINT (TYP.)
- ☆ OPTIONAL LONGIT. CONST. JOINT
- △ EXIST. BARREL TO REMAIN IN PLACE
- NAME PLATE LOCATION (SEE "WINGWALL DETAILS" SHEET)

NO.	DATE	REVISION	BY

G GREMMER & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 Stevens Point • Fond du Lac

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 ACCEPTED: *[Signature]* SDR 11/07/23
 CHIEF STRUCTURES DESIGN ENGINEER DATE

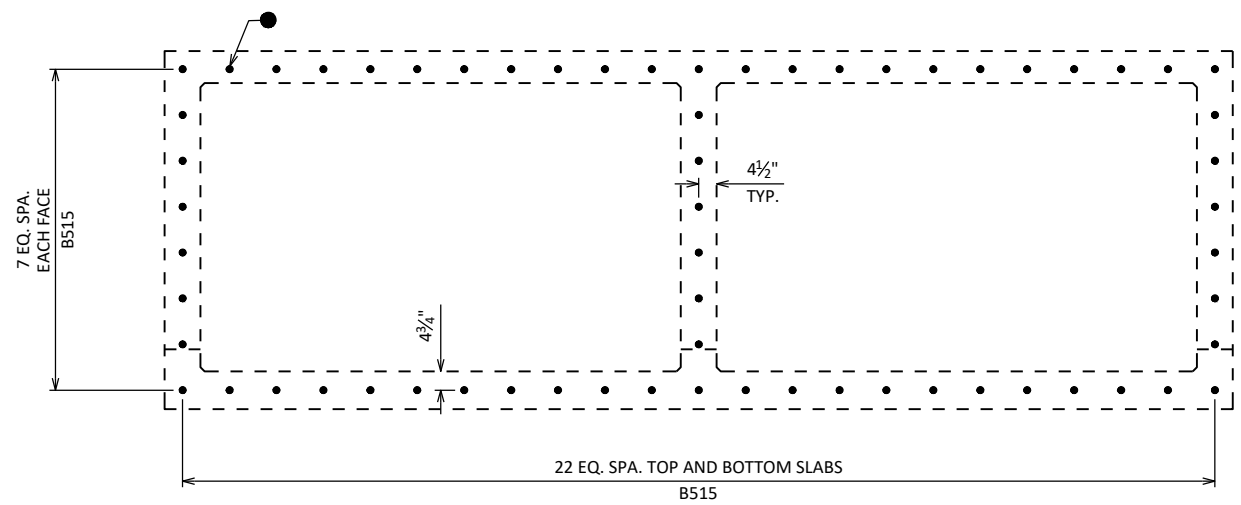
STRUCTURE B-66-94

CTH P OVER POLK SPRING CREEK

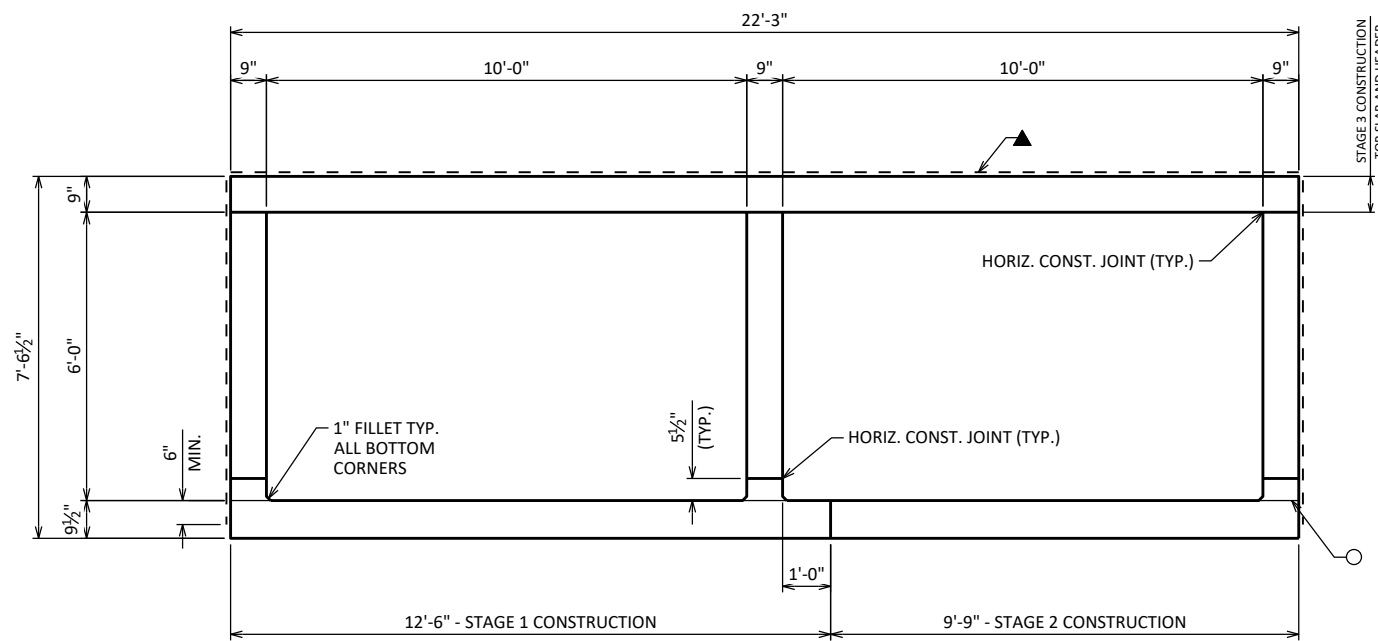
COUNTY WASHINGTON TOWN JACKSON

DESIGN SPEC. REHABILITATION N/A
 DESIGNED BY RTA DESIGNED CK'D ALK DRAWN BY AJA PLANS CK'D ALK

GENERAL PLAN SHEET 1 OF 8



SECTION THRU EXISTING BOX



SECTION THRU BOX CULVERT

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING STRUCTURE B-66-94	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS B-66-94	EACH	1
206.5001	COFFERDAMS B-66-94	EACH	3
210.2500	BACKFILL STRUCTURE TYPE B	TON	530
311.0110	BREAKER RUN	TON	120
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	128
504.0100	CONCRETE MASONRY CULVERTS	CY	101
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	21630
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1070
505.0904	BAR COUPLERS NO. 4	EACH	106
505.0909	BAR COUPLERS NO. 9	EACH	54
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	18
606.0300	RIPRAP HEAVY	CY	24
645.0105	GEOTEXTILE TYPE C	SY	206
645.0120	GEOTEXTILE TYPE HR	SY	36
NON-BID ITEMS			
----	FILLER	SIZE	3/4"

GENERAL NOTES

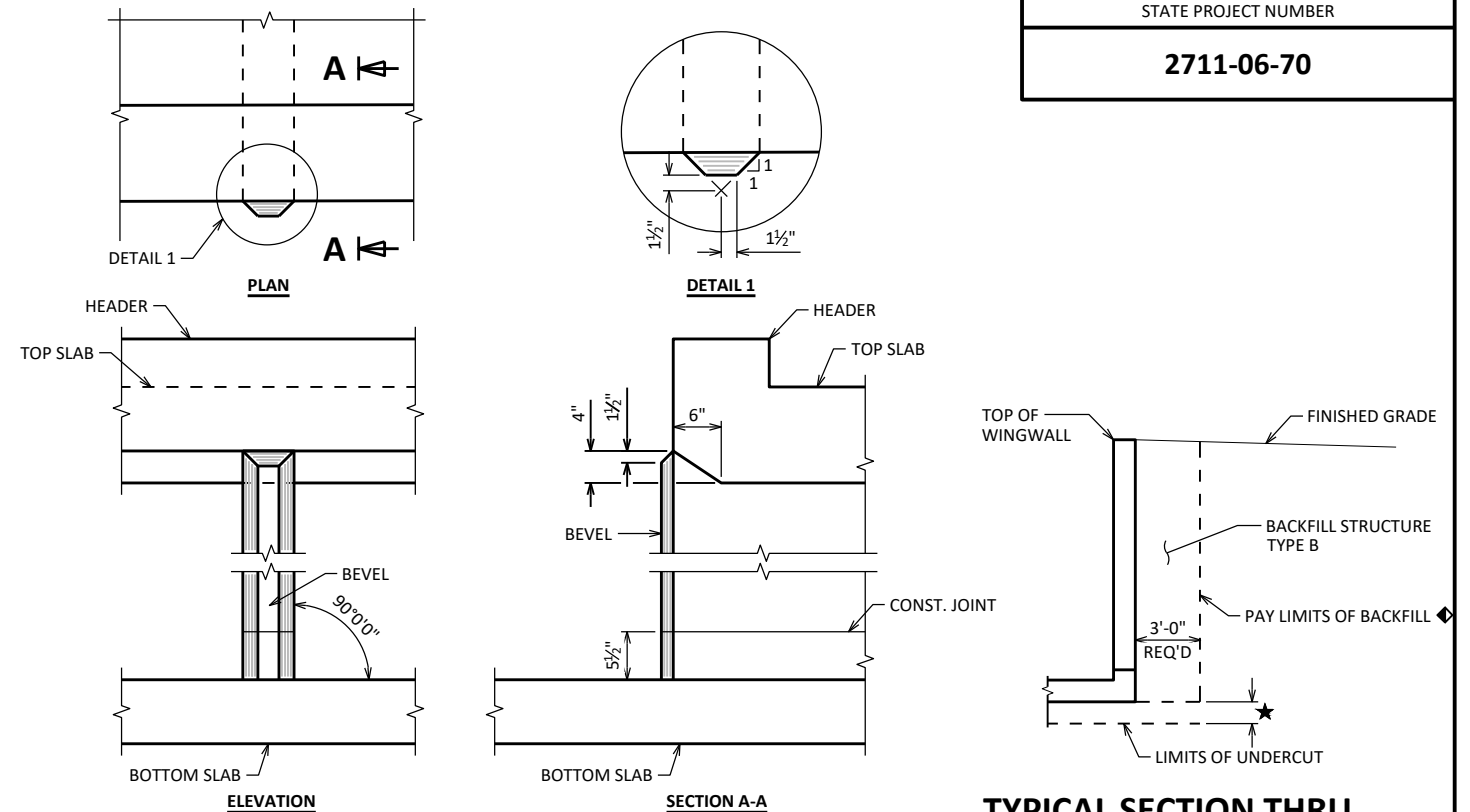
- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-66-94" SHALL BE THE EXISTING GROUNDLINE.
- ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.
- THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.
- THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

- PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAWCUT, UNLESS SPECIFIED OTHERWISE.
- UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
- THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

LEGEND

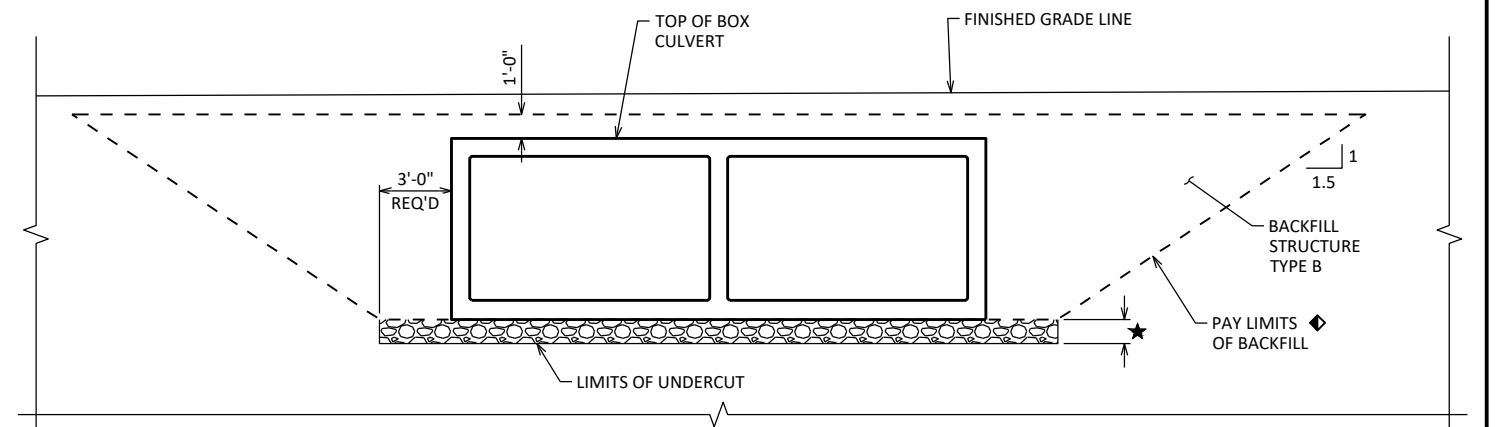
- ▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.
- ★ UNDERCUT 1'-0". EXCAVATION FOR UNDERCUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".
- ★ IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.
- ◆ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ALTERNATE CONST. JT. OMIT 1" FILLET IF OPTIONAL CONST. JT. IS USED.
- ADHESIVE ANCHORS NO. 5 BARS, EMBED 1'-0 1/2" INTO SOUND CONCRETE AND SPACE AT MAX 1'-0" CENTERS. (TYP. IN ALL WALLS AND TOP & BOTTOM SLAB)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-94			
DRAWN BY		PLANS CK'D	
AJS		ALK	
QUANTITIES AND CROSS SECTIONS			SHEET 2

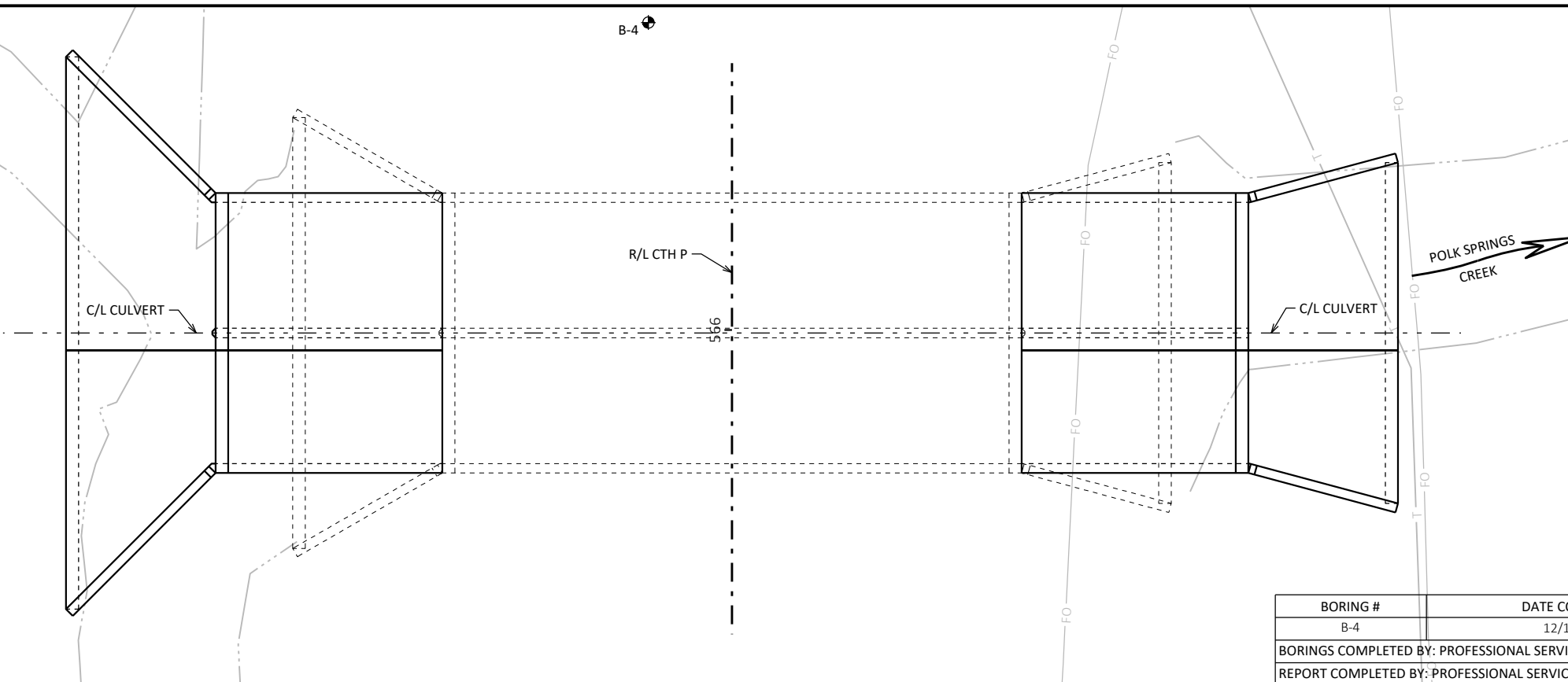


INLET NOSE DETAILS

TYPICAL SECTION THRU BOX CULVERT WINGWALL



TYPICAL SECTION THRU BOX CULVERT



* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.

BORING #	DATE COMPLETED
B-4	12/17/2001
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.	
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.	

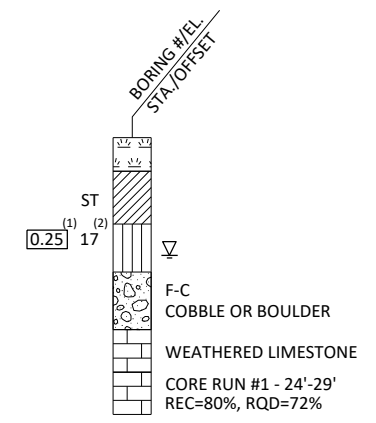
STATE PROJECT NUMBER

2711-06-70

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



- (1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
- (2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

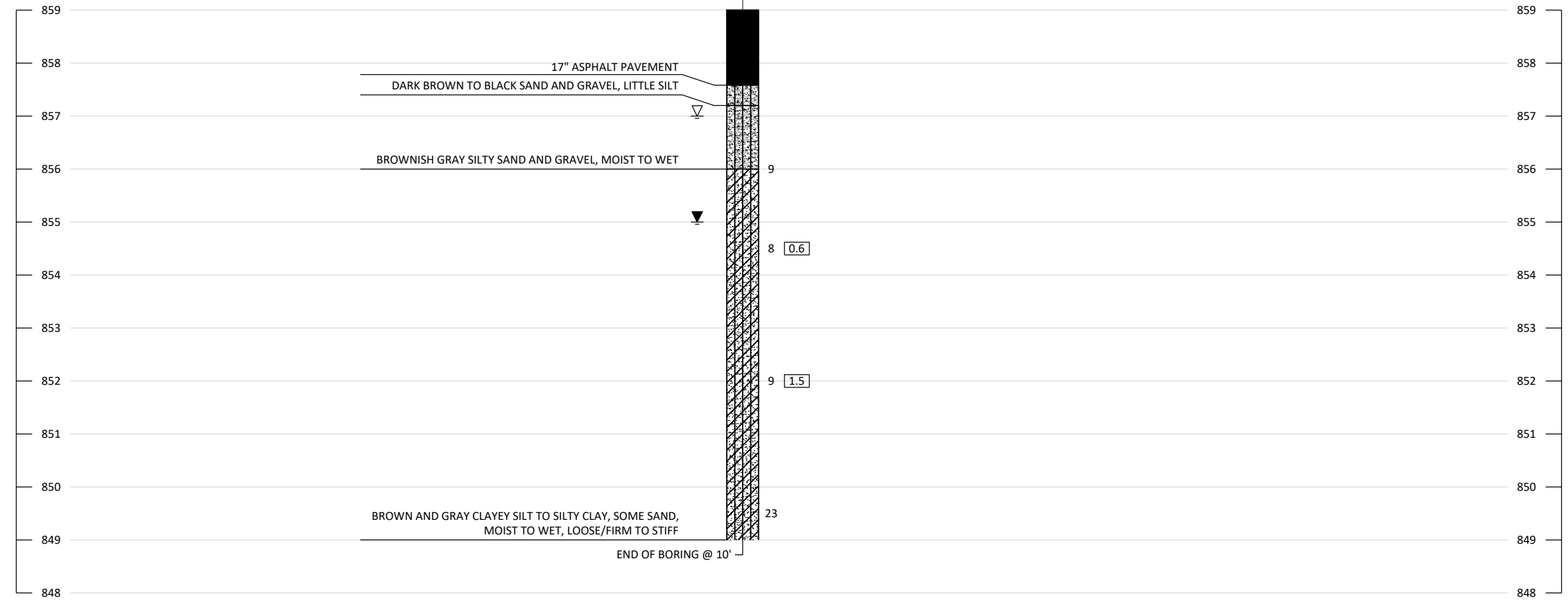
- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.



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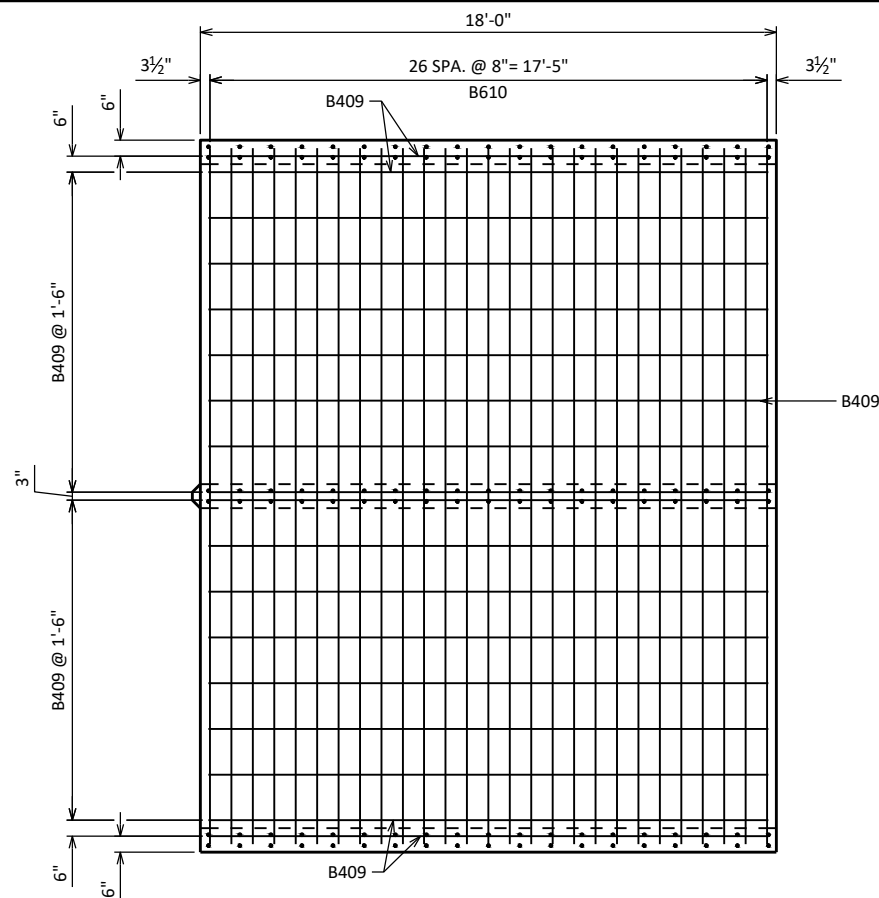
NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-94

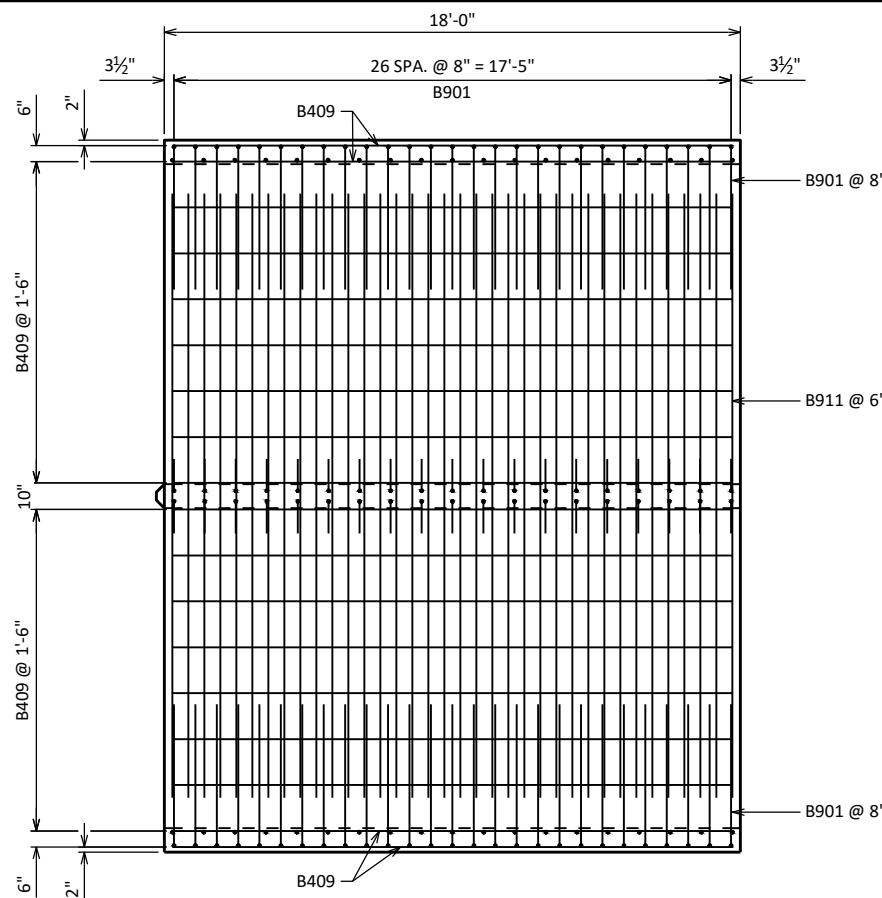
DRAWN BY: AJS PLANS CK'D: ALK

SUBSURFACE EXPLORATION SHEET 3



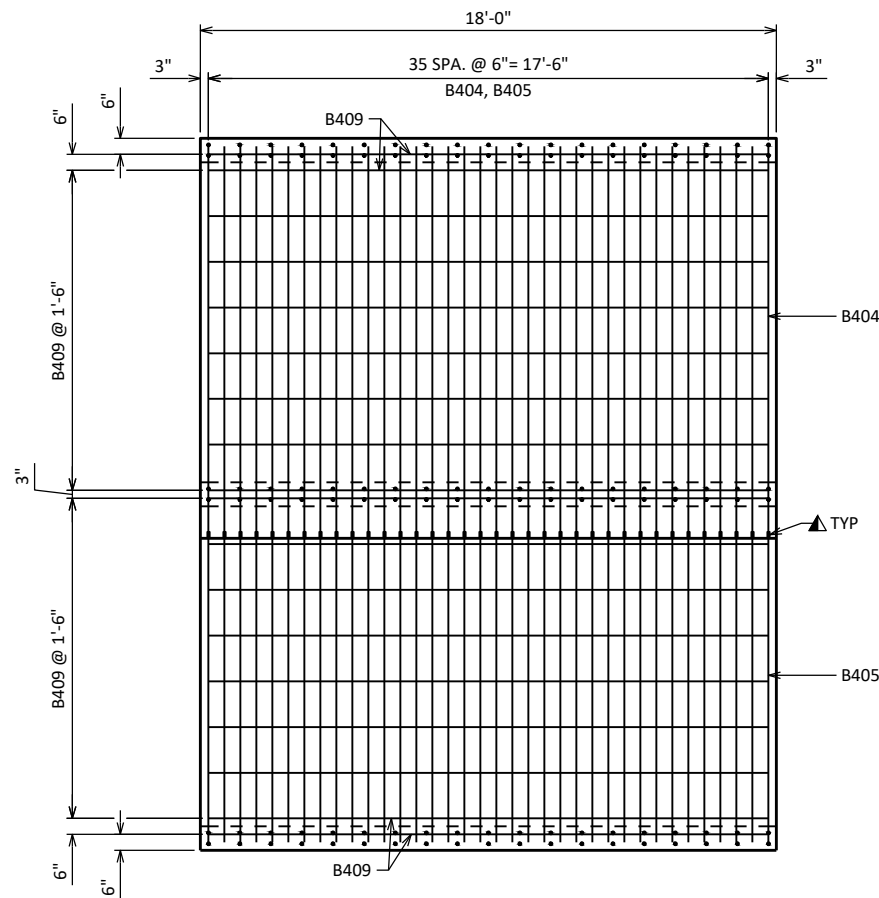
TOP SLAB INSIDE STEEL

HEADER NOT SHOWN FOR CLARITY
WEST EXTENSION SHOWN
EAST EXTENSION SIMILAR



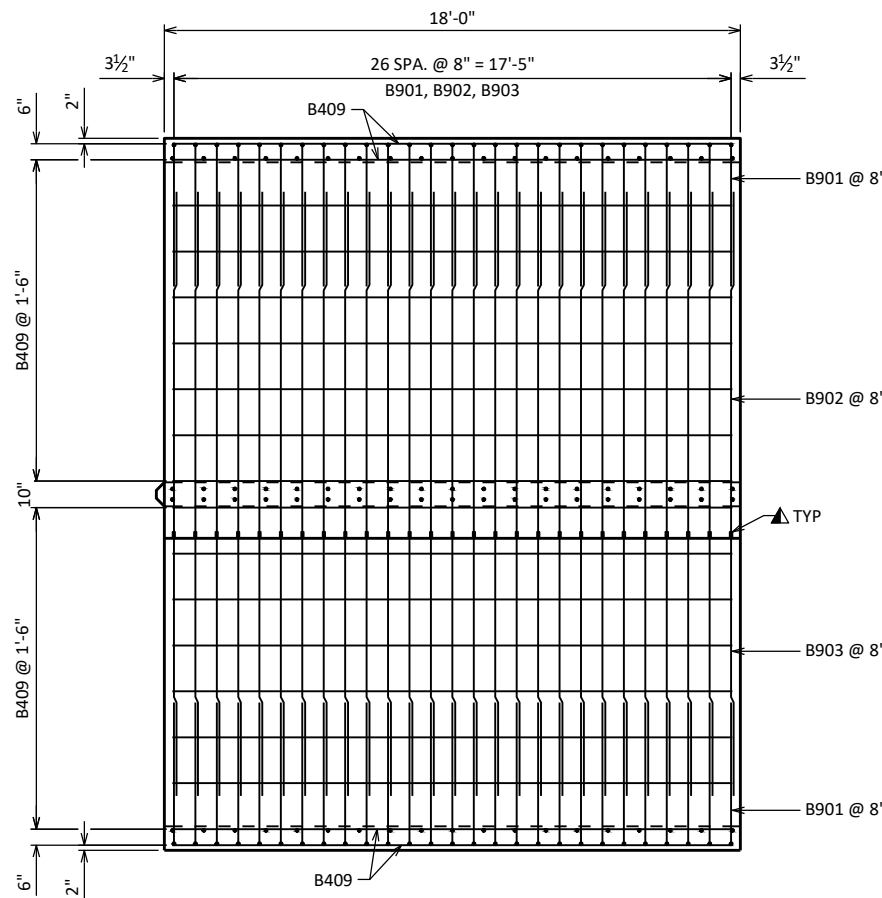
TOP SLAB OUTSIDE STEEL

HEADER NOT SHOWN FOR CLARITY
WEST EXTENSION SHOWN
EAST EXTENSION SIMILAR



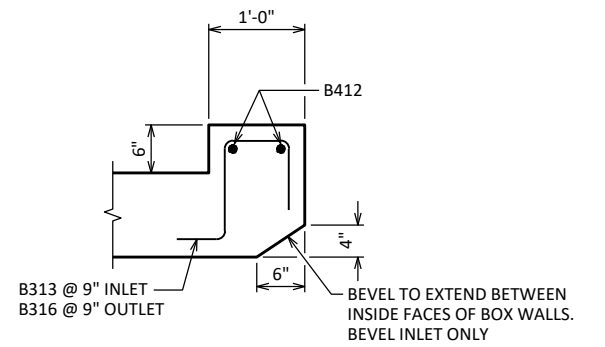
BOTTOM SLAB INSIDE STEEL

WEST EXTENSION SHOWN
EAST EXTENSION SIMILAR

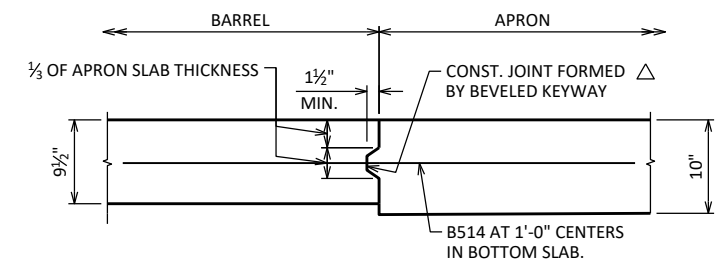


BOTTOM SLAB OUTSIDE STEEL

WEST EXTENSION SHOWN
EAST EXTENSION SIMILAR

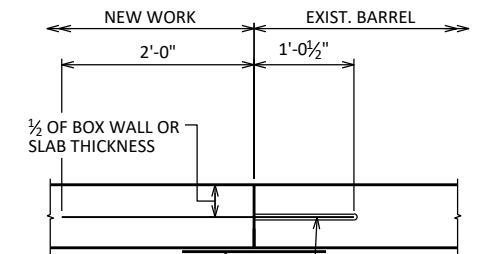


SECTION THRU HEADER



APRON CONNECTION DETAIL

IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL JOINTS UP THE WALL AND ACROSS TOP SLAB.
B515 AT 1'-0" SPACING ADHESIVE ANCHOR #5 BAR. EMBED 1'-0 1/2" INTO SOUND CONCRETE. TYP. IN ALL WALLS AND TOP & BOTTOM SLAB.

VERTICAL CONSTRUCTION JOINT

TYPICAL WALLS AND TOP & BOTTOM SLAB

LEGEND

▲ PROVIDE THREADED BAR COUPLERS AT CONSTRUCTION JOINT. SEE SHEET 8 FOR DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-94			
DRAWN BY		PLANS CK'D	
AJS		ALK	
SLAB REINFORCEMENT DETAILS			SHEET 5

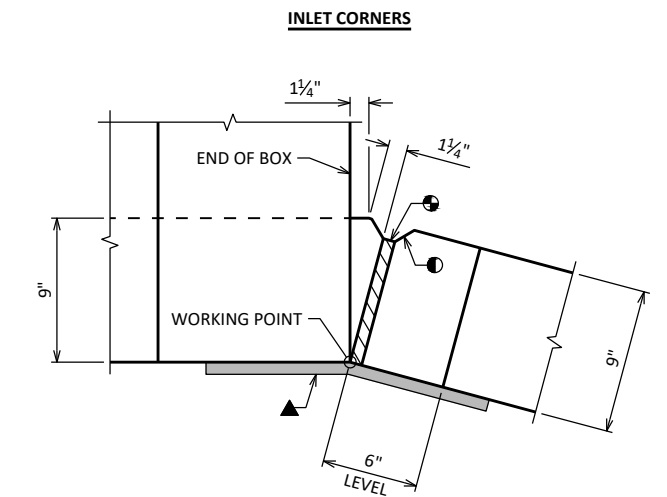
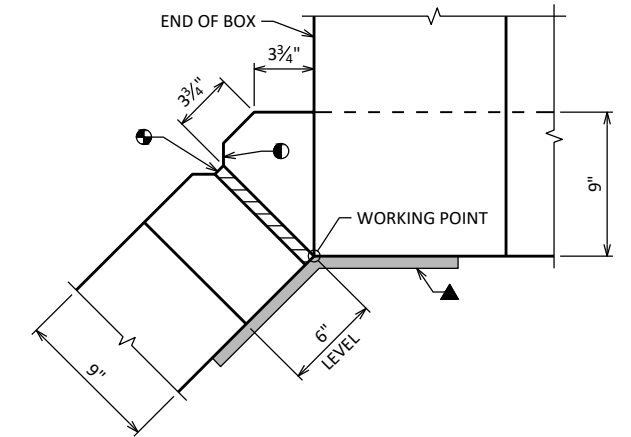
SCALE = 6.00

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LEGEND

- 1" BEVEL TYPICAL
- ⊙ 3/4" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- ▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)
- ▲ PROVIDE THREADED BAR COUPLERS AT CONSTRUCTION JOINT. SEE SHEET 8 FOR DETAILS.

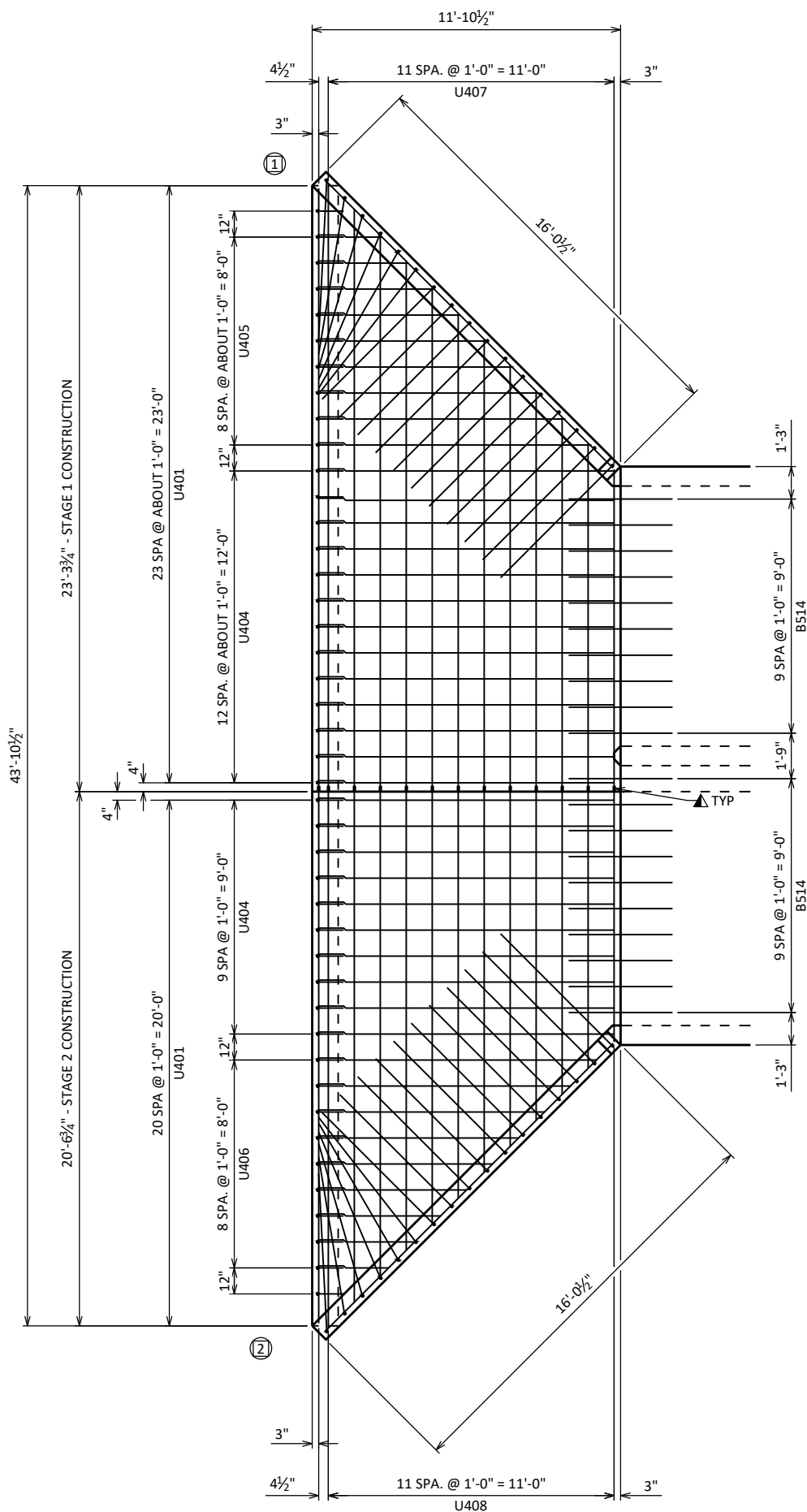


OUTLET CORNERS

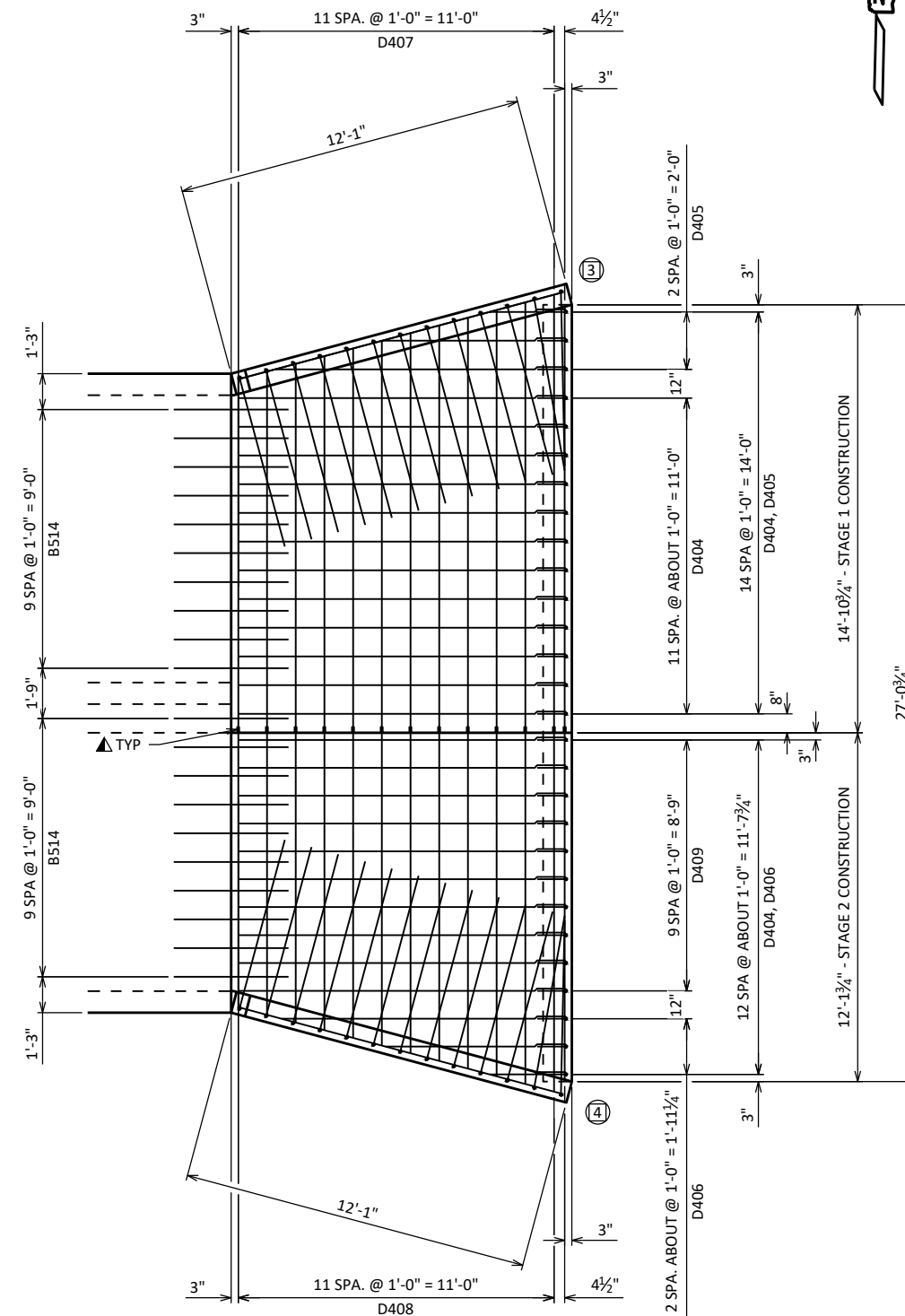
CORNER DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-94			
DRAWN BY		PLANS CK'D	
AJS		ALK	
APRON DETAILS			SHEET 6

SCALE = 6.00



INLET APRON PLAN

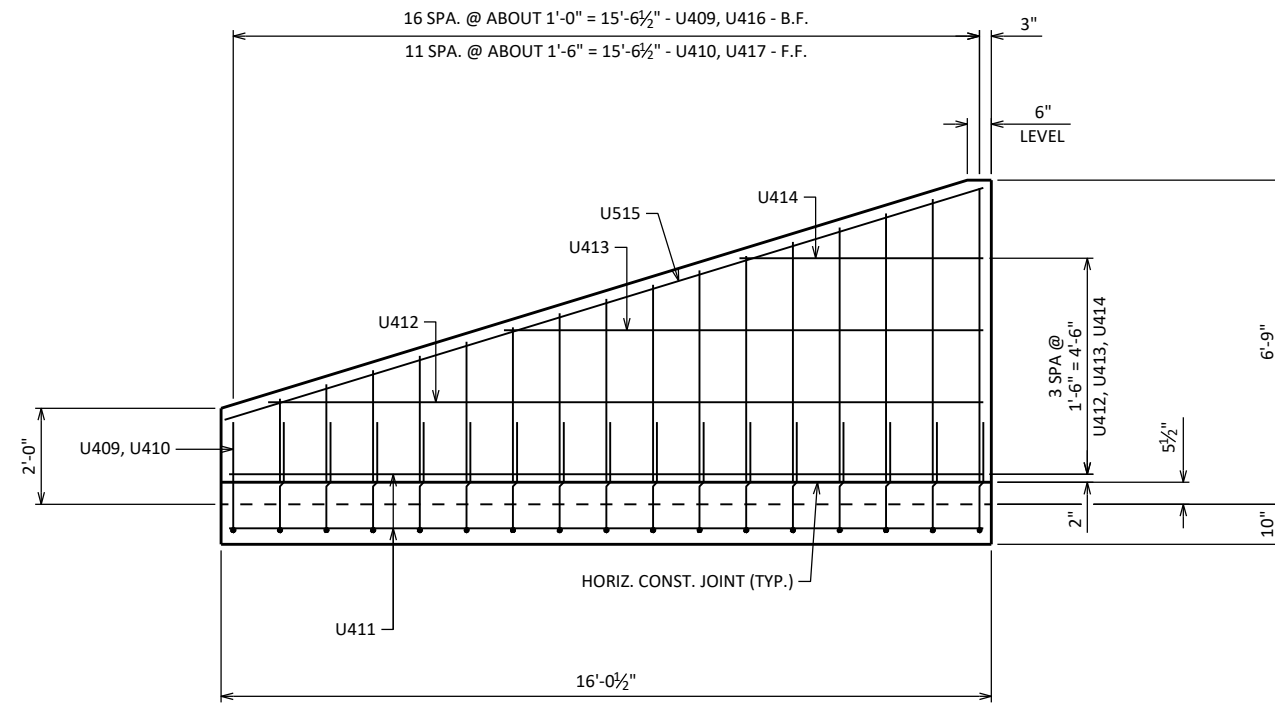


OUTLET APRON PLAN

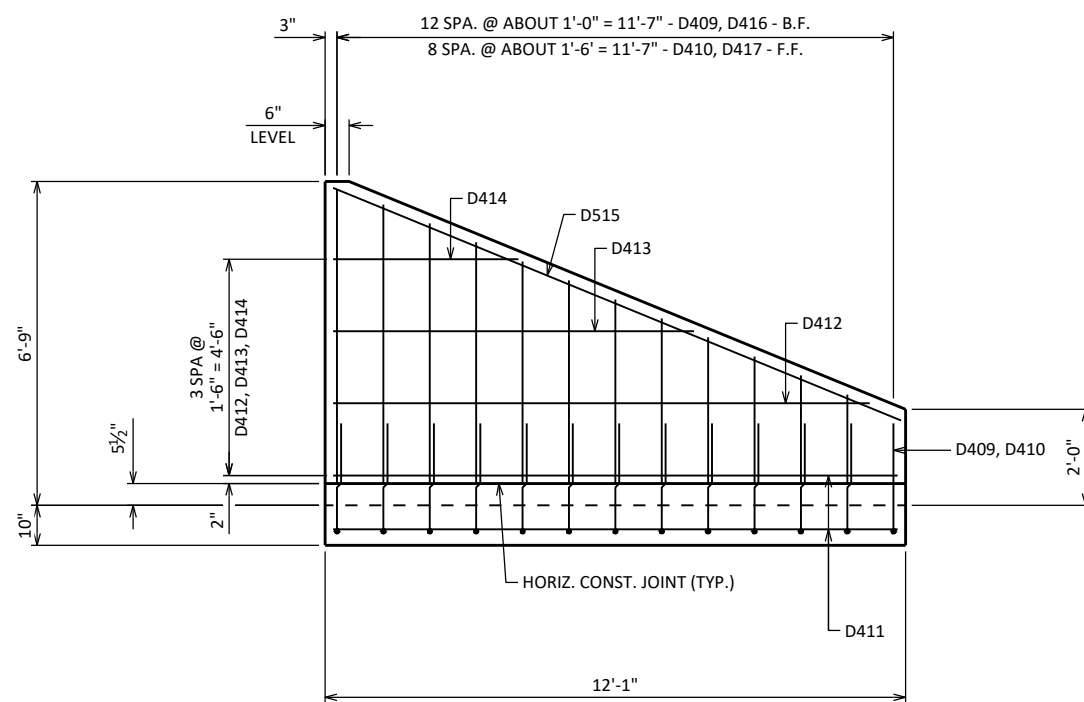


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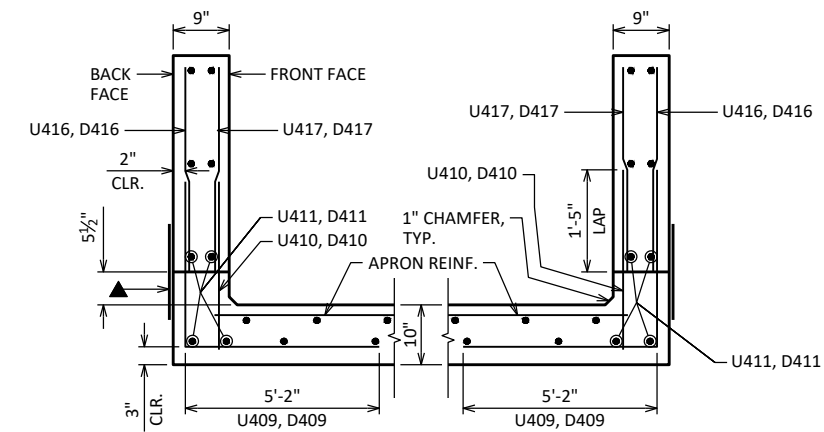


SECTION THRU WING 1 & 2

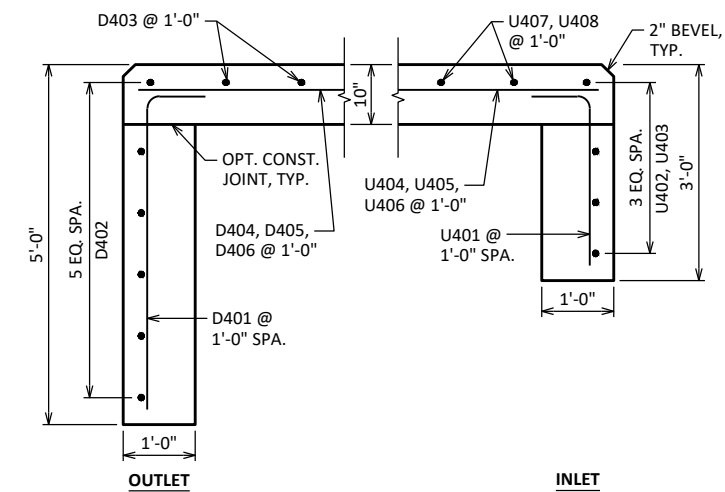


SECTION THRU WING 3 & 4

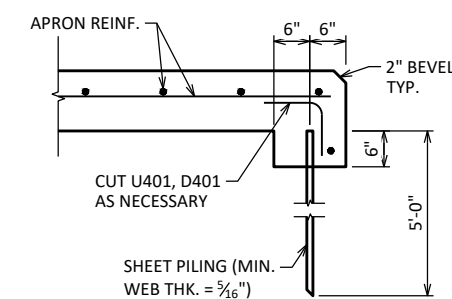
▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



SECTION THRU WINGS

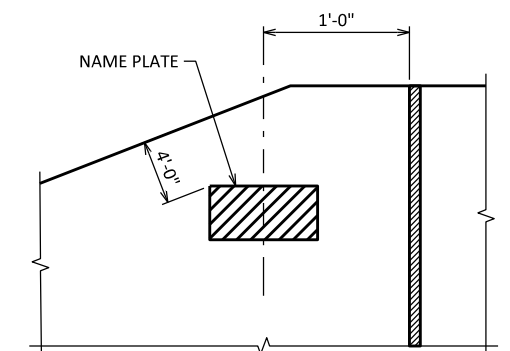


CUT-OFF WALLS



ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



NAME PLATE DETAIL

WING 4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-94			
DRAWN BY		PLANS CK'D	
AJS		ALK	
WINGWALL DETAILS			SHEET 7

SCALE = 4.00

BILL OF BARS - INLET BOX EXTENSION

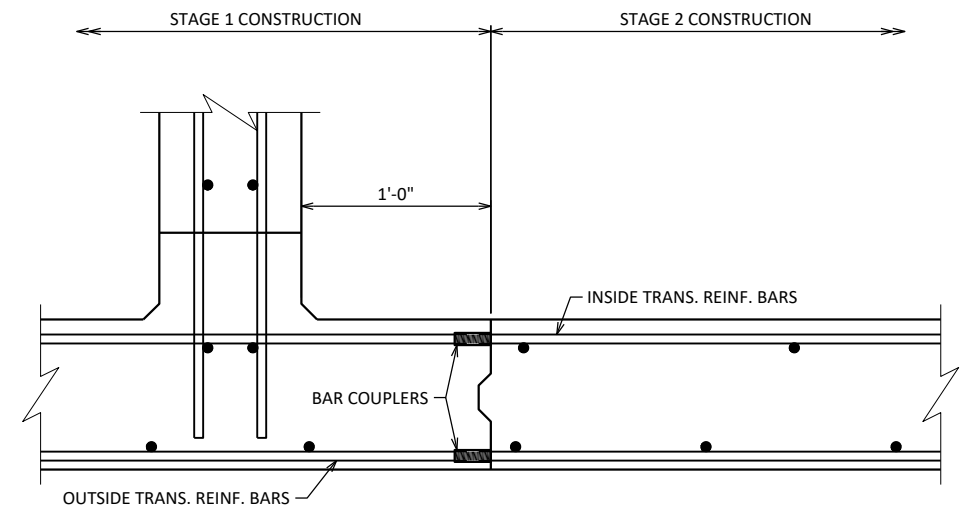
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	STAGE 1 NO. REQ'D.	STAGE 2 NO. REQ'D.	STAGE 3 NO. REQ'D.	LENGTH	BENT	LOCATION
B901		54	54	0	10'-1"	X	CORNERS - TOP & BOTTOM - VERT.
B902		27	0	0	8'-11"		BOTTOM SLAB - EXTERIOR - TRANS.
B903		0	27	0	6'-1"		BOTTOM SLAB - EXTERIOR - TRANS.
B404		36	0	0	12'-4"		BOTTOM SLAB - INTERIOR - TRANS.
B405		0	36	0	9'-7"		BOTTOM SLAB - INTERIOR - TRANS.
B406		36	0	0	7'-0"	X	PIER - VERT.
B407		48	12	0	2'-5"		DOWELS - WALL & PIER - VERT.
B408		12	12	0	6'-1"		WALLS - INTERIOR - VERT.
B409		37	23	32	17'-8"		SLAB & WALLS LONGITUDINAL
B610		0	0	27	21'-11"		TOP SLAB - INSIDE FACE - TRANS.
B911		0	0	36	15'-0"		TOP SLAB - EXTERIOR FACE - TRANS.
B412		0	0	2	21'-11"		HEADER - TRANSVERSE
B313		0	0	31	2'-8"	X	HEADER - STIRRUP - INLET
B514		13	10	0	4'-0"		CONSTRUCTION JOINT DOWEL - LONG.
B515		25	16	23	3'-0"		CONSTRUCTION JOINT DOWEL - EXIST. BOX

BILL OF BARS - OUTLET BOX EXTENSION

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	STAGE 1 NO. REQ'D.	STAGE 2 NO. REQ'D.	STAGE 3 NO. REQ'D.	LENGTH	BENT	LOCATION
B901		54	54	0	10'-1"	X	CORNERS - TOP & BOTTOM - VERT.
B902		27	0	0	8'-11"		BOTTOM SLAB - EXTERIOR - TRANS.
B903		0	27	0	6'-1"		BOTTOM SLAB - EXTERIOR - TRANS.
B404		36	0	0	12'-4"		BOTTOM SLAB - INTERIOR - TRANS.
B405		0	36	0	9'-7"		BOTTOM SLAB - INTERIOR - TRANS.
B406		36	0	0	7'-0"	X	PIER - VERT.
B407		48	12	0	2'-5"		DOWELS - WALL & PIER - VERT.
B408		12	12	0	6'-1"		WALLS - INTERIOR - VERT.
B409		37	23	32	17'-8"		SLAB & WALLS LONGITUDINAL
B610		0	0	27	21'-11"		TOP SLAB - INSIDE FACE - TRANS.
B911		0	0	36	15'-0"		TOP SLAB - EXTERIOR FACE - TRANS.
B412		0	0	2	21'-11"		HEADER - TRANSVERSE
B514		13	10	0	4'-0"		CONSTRUCTION JOINT DOWEL - LONG.
B515		25	16	23	3'-0"		CONSTRUCTION JOINT DOWEL - EXIST. BOX
B316	X	0	0	31	3'-0"	X	HEADER - STIRRUP - OUTLET

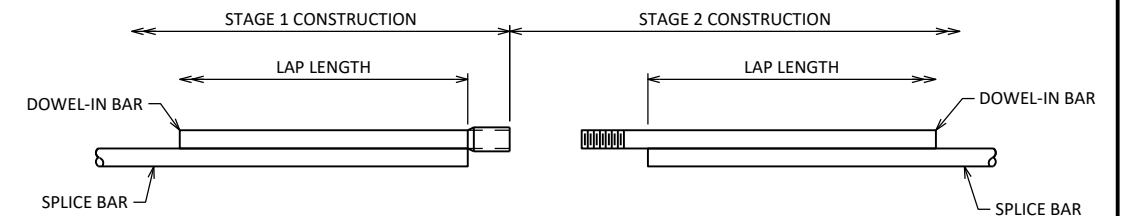


SECTION THRU BOTTOM SLAB

ONE-PIECE THREADED COUPLER SHOWN

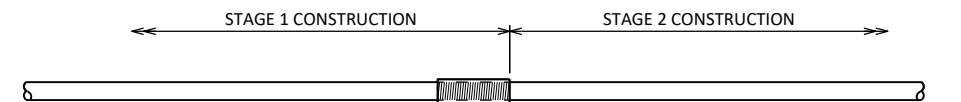
NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.



DOWEL BAR COUPLER

STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1



ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES

BILL OF BARS - INLET APRON & WINGS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	STAGE 1 NO. REQ'D.	STAGE 2 NO. REQ'D.	STAGE 3 NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		24	21	0	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		4	0	0	23'-1"			INLET APRON CUT-OFF WALL - TRANS STAGE 1
U403		0	4	0	20'-5"			INLET APRON CUT-OFF WALL - TRANS STAGE 2
U404		13	10	0	11'-6"			INLET APRON - LONGITUDINAL
U405		9	0	0	6'-5"		△	INLET APRON - @ WING 1 - LONGIT.
U406		0	9	0	6'-5"		△	INLET APRON - @ WING 2 - LONGIT.
U407		12	0	0	18'-1"		△	INLET APRON - TRANS. STAGE 1
U408		0	12	0	15'-4"		△	INLET APRON - TRANS. STAGE 2
U409	X	17	17	0	7'-8"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.
U410	X	17	17	0	2'-7"			WINGS 1 & 2 - F.F. DOWELS - VERT.
U411	X	4	4	0	15'-8"			WINGS 1 & 2 - F.F. & B.F. & APRON - LONGIT.
U412	X	2	2	0	15'-3"			WINGS 1 & 2 - F.F. & B.F. - LONGIT.
U413	X	2	2	0	10'-4"			WINGS 1 & 2 - F.F. & B.F. - LONGIT.
U414	X	2	2	0	5'-5"			WINGS 1 & 2 - F.F. & B.F. - LONGIT.
U515	X	2	2	0	16'-1"			WINGS 1 & 2 - F.F. & B.F. - TOP LONGIT.
U416	X	16	16	0	3'-11"		△	WINGS 1 & 2 - B.F. VERT.
U417	X	11	11	0	3'-11"		△	WINGS 1 & 2 - F.F. VERT.

△ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U405	1 SERIES OF 9	1'-11" TO 10'-10"
U406	1 SERIES OF 9	1'-11" TO 10'-10"
U407	1 SERIES OF 12	12'-7" TO 23'-7"
U408	1 SERIES OF 12	9'-10" TO 20'-10"
U416	2 SERIES OF 16	1'-9" TO 6'-1"
U417	2 SERIES OF 11	1'-9" TO 6'-1"

BILL OF BARS - OUTLET APRON & WINGS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

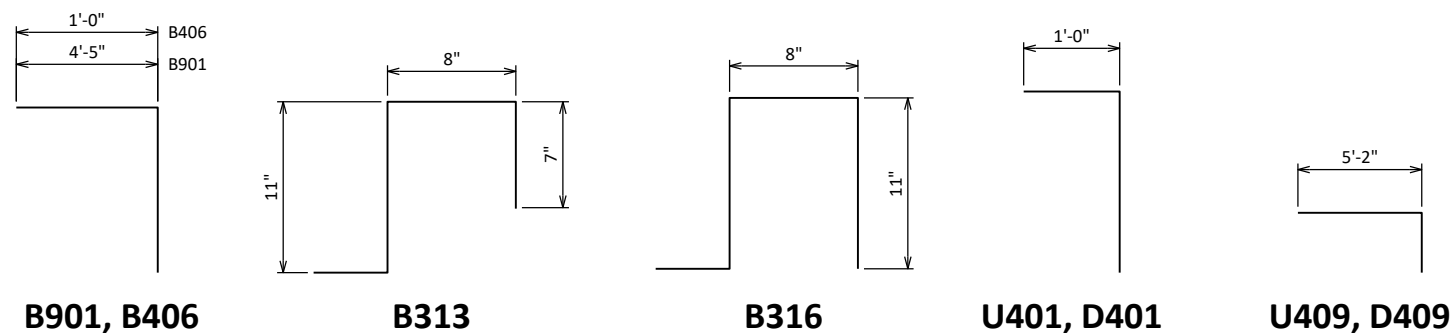
BAR MARK	COAT	STAGE 1 NO. REQ'D.	STAGE 2 NO. REQ'D.	STAGE 3 NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		15	13	0	5'-7"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		6	0	0	14'-8"			OUTLET APRON CUT-OFF WALL - TRANS STAGE 1
D403		0	6	0	11'-11"			OUTLET APRON CUT-OFF WALL - TRANS STAGE 2
D404		12	10	0	11'-6"			OUTLET APRON - LONGITUDINAL
D405		3	0	0	6'-9"		△	OUTLET APRON - @ WING 3 - LONGIT.
D406		0	3	0	6'-8"		△	OUTLET APRON - @ WING 4 - LONGIT.
D407		12	0	0	13'-10"		△	OUTLET APRON - TRANS. STAGE 1
D408		0	12	0	11'-1"		△	OUTLET APRON - TRANS. STAGE 2
D409	X	13	13	0	7'-8"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
D410	X	13	13	0	2'-7"			WINGS 3 & 4 - F.F. DOWELS - VERT.
D411	X	4	4	0	11'-9"			WINGS 3 & 4 - F.F. & B.F. & APRON - LONGIT.
D412	X	2	2	0	11'-2"			WINGS 3 & 4 - F.F. & B.F. - LONGIT.
D413	X	2	2	0	7'-6"			WINGS 3 & 4 - F.F. & B.F. - LONGIT.
D414	X	2	2	0	3'-10"			WINGS 3 & 4 - F.F. & B.F. - LONGIT.
D515	X	2	2	0	12'-4"			WINGS 3 & 4 - F.F. & B.F. - TOP LONGIT.
D416	X	12	12	0	3'-11"		△	WINGS 3 & 4 - B.F. VERT.
D417	X	8	8	0	3'-11"		△	WINGS 3 & 4 - F.F. VERT.

△ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D405	1 SERIES OF 3	3'-1" TO 10'-6"
D406	1 SERIES OF 3	3'-1" TO 10'-3"
D407	1 SERIES OF 12	12'-4" TO 15'-4"
D408	1 SERIES OF 12	9'-7" TO 12'-7"
D416	2 SERIES OF 12	1'-10" TO 6'-1"
D417	2 SERIES OF 8	1'-10" TO 6'-1"



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-94			
DRAWN BY		AJS	PLANS CK'D ALK
BAR REINFORCEMENT DETAILS			SHEET 8

DIVISION 1 - CTH P

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)				
		CUT	FILL	MARSH EXC	CUT	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
								1.00	1.25	1.00	0.60	
NOTE 1	NOTE 3	NOTE 1	NOTE 4	NOTE 6	NOTE 8							
480+00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0
480+26.784	26.78	0.00	0.00	0.00	0	0	0	0	0	0	0	0
481+00	73.22	130.19	0.98	0.00	177	1	0	177	1	0	0	176
482+00	100.00	113.59	6.96	0.00	451	15	0	628	20	0	0	608
483+00	100.00	144.58	2.58	0.00	478	18	0	1,106	43	0	0	1,064
484+00	100.00	90.18	12.29	0.00	435	28	0	1,541	78	0	0	1,464
485+00	100.00	107.76	7.37	0.00	367	36	0	1,908	123	0	0	1,786
486+00	100.00	89.43	15.14	0.00	365	42	0	2,273	175	0	0	2,098
487+00	100.00	146.67	13.09	0.00	437	52	0	2,710	240	0	0	2,470
488+00	100.00	186.36	7.43	0.00	617	38	0	3,327	288	0	0	3,040
489+00	100.00	204.10	9.25	0.00	723	31	0	4,050	326	0	0	3,724
490+00	100.00	162.25	12.25	0.00	678	40	0	4,728	376	0	0	4,352
491+00	100.00	81.10	15.73	0.00	451	52	0	5,179	441	0	0	4,738
492+00	100.00	67.53	16.50	0.00	275	60	0	5,454	516	0	0	4,938
493+00	100.00	75.69	22.46	0.00	265	72	0	5,719	606	0	0	5,113
494+00	100.00	111.18	0.00	0.00	346	42	0	6,065	659	0	0	5,406
495+00	100.00	119.15	0.00	0.00	427	0	0	6,492	659	0	0	5,833
496+00	100.00	201.74	0.00	0.00	594	0	0	7,086	659	0	0	6,427
497+00	100.00	185.83	0.00	0.00	718	0	0	7,804	659	0	0	7,145
498+00	100.00	117.01	0.06	0.00	561	0	0	8,365	659	0	0	7,706
499+00	100.00	74.00	12.36	0.00	354	23	0	8,719	688	0	0	8,032
500+00	100.00	61.18	26.94	0.00	250	73	0	8,969	779	0	0	8,190
501+00	100.00	116.02	11.11	10.00	328	70	19	9,297	852	19	11	8,445
502+00	100.00	88.33	18.45	26.59	378	55	68	9,675	870	87	52	8,805
503+00	100.00	71.34	78.40	5.29	296	179	59	9,971	1,049	146	88	8,922
503+25	25.00	71.21	72.02	6.31	66	70	5	10,037	1,133	151	91	8,904
504+00	75.00	68.92	58.75	0.00	195	182	9	10,232	1,354	160	96	8,878
505+00	100.00	101.25	22.10	0.00	315	150	0	10,547	1,541	160	96	9,006
506+00	100.00	113.57	0.83	0.00	398	42	0	10,945	1,594	160	96	9,351
507+00	100.00	226.94	0.00	0.00	631	2	0	11,576	1,596	160	96	9,980
508+00	100.00	317.35	0.00	0.00	1,008	0	0	12,584	1,596	160	96	10,988
509+00	100.00	440.69	0.00	0.00	1,404	0	0	13,988	1,596	160	96	12,392
510+00	100.00	485.43	0.00	0.00	1,715	0	0	15,703	1,596	160	96	14,107
511+00	100.00	422.17	0.00	0.00	1,681	0	0	17,384	1,596	160	96	15,788
512+00	100.00	176.25	5.57	0.00	1,108	10	0	18,492	1,609	160	96	16,883
513+00	100.00	86.84	43.73	0.00	487	91	0	18,979	1,723	160	96	17,257
514+00	100.00	66.91	44.13	0.00	285	163	0	19,264	1,926	160	96	17,338
515+00	100.00	95.82	36.67	0.00	301	150	0	19,565	2,114	160	96	17,451
516+00	100.00	134.85	41.53	0.00	427	145	0	19,992	2,295	160	96	17,697
517+00	100.00	155.73	41.56	0.00	538	154	0	20,530	2,488	160	96	18,043

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH BREAKER RUN
5 - EXPANDED EBS	NOT USED
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	NOT USED
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

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DIVISION 1 - CTH P

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)				
		CUT	FILL	MARSH EXC	CUT	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 4	NOTE 6	NOTE 8							
518+00	100.00	180.89	31.03	0.00	623	134	0	21,153	2,655	160	96	18,498
519+00	100.00	153.04	15.82	0.00	618	87	0	21,771	2,764	160	96	19,007
520+00	100.00	128.22	19.21	0.00	521	65	0	22,292	2,845	160	96	19,447
521+00	100.00	76.82	0.00	0.00	380	36	0	22,672	2,890	160	96	19,782
522+00	100.00	98.98	12.78	0.00	326	24	0	22,998	2,920	160	96	20,078
523+00	100.00	98.60	19.72	0.00	366	60	0	23,364	2,995	160	96	20,369
524+00	100.00	125.44	1.51	0.00	415	39	0	23,779	3,044	160	96	20,735
525+00	100.00	219.15	0.00	0.00	638	3	0	24,417	3,048	160	96	21,370
526+00	100.00	373.28	0.00	0.00	1,097	0	0	25,514	3,048	160	96	22,467
527+00	100.00	485.08	0.00	0.00	1,590	0	0	27,104	3,048	160	96	24,057
528+00	100.00	577.80	0.00	0.00	1,968	0	0	29,072	3,048	160	96	26,025
529+00	100.00	399.88	0.00	0.00	1,811	0	0	30,883	3,048	160	96	27,836
530+00	100.00	203.47	0.01	0.00	1,117	0	0	32,000	3,048	160	96	28,953
531+00	100.00	75.54	17.24	0.00	517	32	0	32,517	3,088	160	96	29,430
532+00	100.00	24.75	55.88	0.00	186	135	0	32,703	3,256	160	96	29,447
533+00	100.00	37.30	77.14	0.00	115	246	0	32,818	3,564	160	96	29,254
533+50	50.00	38.64	94.72	36.39	70	159	34	32,888	3,737	194	116	29,151
534+00	50.00	52.62	95.29	59.30	85	176	89	32,973	3,890	283	170	29,083
534+75	75.00	37.81	46.30	28.71	126	197	122	33,099	4,045	405	243	29,054
535+00	25.00	57.64	44.34	0.00	44	42	13	33,143	4,088	418	251	29,055
536+00	100.00	268.69	0.00	0.00	604	82	0	33,747	4,190	418	251	29,557
537+00	100.00	704.37	0.00	0.00	1,802	0	0	35,549	4,190	418	251	31,359
538+00	100.00	1076.14	0.00	0.00	3,297	0	0	38,846	4,190	418	251	34,656
539+00	100.00	1376.01	0.00	0.00	4,541	0	0	43,387	4,190	418	251	39,197
540+00	100.00	1503.51	0.00	0.00	5,332	0	0	48,719	4,190	418	251	44,529
541+00	100.00	1413.52	0.00	0.00	5,402	0	0	54,121	4,190	418	251	49,931
542+00	100.00	926.07	0.00	0.00	4,333	0	0	58,454	4,190	418	251	54,264
543+00	100.00	471.92	0.00	0.00	2,589	0	0	61,043	4,190	418	251	56,853
544+00	100.00	125.22	0.00	0.00	1,106	0	0	62,149	4,190	418	251	57,959
545+00	100.00	25.68	151.38	0.00	279	280	0	62,428	4,540	418	251	57,888
545+50	50.00	4.87	601.16	45.05	28	697	42	62,456	5,380	460	276	57,076
546+00	50.00	5.43	315.79	30.77	10	849	70	62,466	6,389	530	318	56,077
546+25	25.00	5.58	292.75	25.78	5	282	26	62,471	6,722	556	334	55,749
547+00	75.00	30.08	124.97	0.00	50	580	36	62,521	7,420	592	355	55,101
548+00	100.00	25.48	35.31	0.00	103	297	0	62,624	7,791	592	355	54,833
549+00	100.00	128.43	0.28	0.00	285	66	0	62,909	7,874	592	355	55,036
550+00	100.00	256.64	0.00	0.00	713	1	0	63,622	7,875	592	355	55,747
551+00	100.00	220.28	0.00	0.00	883	0	0	64,505	7,875	592	355	56,630
552+00	100.00	132.76	0.42	0.00	654	1	0	65,159	7,876	592	355	57,283
553+00	100.00	106.09	0.13	0.00	442	1	0	65,601	7,877	592	355	57,724

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH BREAKER RUN
5 - EXPANDED EBS	NOT USED
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	NOT USED
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

9

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DIVISION 1 - CTH P

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)				
		CUT	FILL	MARSH EXC	CUT	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 4	NOTE 6	NOTE 8							
554+00	100.00	90.66	1.75	0.00	364	3	0	65,965	7,881	592	355	58,084
555+00	100.00	86.05	4.07	0.00	327	11	0	66,292	7,895	592	355	58,397
556+00	100.00	95.95	1.49	0.00	337	10	0	66,629	7,907	592	355	58,722
557+00	100.00	94.74	0.55	0.00	353	4	0	66,982	7,912	592	355	59,070
558+00	100.00	108.18	1.02	0.00	376	3	0	67,358	7,916	592	355	59,442
559+00	100.00	122.03	4.94	0.00	426	11	0	67,784	7,930	592	355	59,854
560+00	100.00	131.32	0.57	0.00	469	10	0	68,253	7,942	592	355	60,311
561+00	100.00	169.10	13.02	0.00	556	25	0	68,809	7,974	592	355	60,836
562+00	100.00	115.47	46.07	0.00	527	109	0	69,336	8,110	592	355	61,226
563+00	100.00	122.91	53.81	0.00	441	185	0	69,777	8,341	592	355	61,436
564+00	100.00	133.79	56.57	0.00	475	204	0	70,252	8,596	592	355	61,656
564+75	75.00	226.91	61.35	40.76	501	164	57	70,753	8,758	649	389	61,995
565+00	25.00	128.53	62.82	31.84	165	57	34	70,918	8,804	683	410	62,114
566+00	100.00	200.69	212.17	25.42	610	509	106	71,528	9,361	789	473	62,167
566+25	25.00	111.77	51.42	40.43	145	122	30	71,673	9,491	819	491	62,182
567+00	75.00	80.61	32.19	0.00	267	116	56	71,940	9,594	875	525	62,346
567+50	50.00	53.34	47.35	0.00	124	74	0	72,064	9,686	875	525	62,378
568+00	50.00	55.41	40.79	0.00	101	82	0	72,165	9,789	875	525	62,376
568+50	50.00	68.30	9.24	0.00	115	46	0	72,280	9,846	875	525	62,434
569+00	50.00	71.21	23.15	0.00	129	30	0	72,409	9,884	875	525	62,525
569+50	50.00	77.67	19.58	0.00	138	40	0	72,547	9,934	875	525	62,613
570+00	50.00	104.78	0.07	0.00	169	18	0	72,716	9,956	875	525	62,760
570+50	50.00	108.02	3.74	0.00	197	4	0	72,913	9,961	875	525	62,952
571+00	50.00	108.54	0.00	0.00	201	3	0	73,114	9,965	875	525	63,149
571+50	50.00	94.85	8.06	0.00	188	7	0	73,302	9,974	875	525	63,328
572+00	50.00	114.47	0.00	0.00	194	7	0	73,496	9,983	875	525	63,514
572+50	50.00	121.52	0.22	0.00	219	0	0	73,715	9,983	875	525	63,733
573+00	50.00	120.84	0.88	0.00	224	1	0	73,939	9,984	875	525	63,955
573+50	50.00	144.24	1.28	0.00	245	2	0	74,184	9,986	875	525	64,198
574+00	50.00	135.77	0.00	0.00	259	1	0	74,443	9,988	875	525	64,456
574+50	50.00	135.52	0.00	0.00	251	0	0	74,694	9,988	875	525	64,707
575+00	50.00	203.01	0.07	0.00	313	0	0	75,007	9,988	875	525	65,020
575+50	50.00	194.99	2.99	0.00	369	3	0	75,376	9,991	875	525	65,385
576+00	50.00	182.56	3.15	0.00	350	6	0	75,726	9,999	875	525	65,727
576+50	50.00	172.11	4.55	0.00	328	7	0	76,054	10,008	875	525	66,047
577+00	50.00	168.98	2.75	0.00	316	7	0	76,370	10,016	875	525	66,354
					76,370	8,538	875					

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH BREAKER RUN
5 - EXPANDED EBS	NOT USED
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	NOT USED
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

9

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DIVISION 1 - PRIVATE ROAD

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 8					
08+50	0.00	58.35	0.23	0	0	0	0	0
09+00	50.00	70.41	2.42	119	2	119	3	117
09+50	50.00	90.43	24.98	149	25	268	34	234
09+76	26.00	262.94	0.00	170	12	438	49	389
				438	39			

DIVISION 1 - WESTERN AVENUE (WEST)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 8					
18+50	0.00	59.61	2.22	0	0	0	0	0
19+00	50.00	76.30	0.00	126	2	126	3	124
19+50	50.00	344.31	4.83	389	4	515	8	508
19+76	26.00	132.64	9.77	230	7	745	16	729
				745	13			

DIVISION 1 - WESTERN AVENUE (EAST)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 8					
20+24.018	0.00	126.11	0.34	0	0	0	0	0
20+50	25.98	94.73	28.02	106	14	106	18	89
21+00	50.00	65.30	6.68	148	32	254	58	197
21+50	50.00	0.00	0.00	60	6	314	65	249
				314	52			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH BREAKER RUN
5 - EXPANDED EBS	NOT USED
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	NOT USED
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

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DIVISION 1 - SHERMAN ROAD (WEST)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
28+15	0.00	0.00	0.00	0	0	0	0	0
28+50	35.00	73.32	6.35	48	4	48	5	43
29+00	50.00	79.04	7.54	141	13	189	21	168
29+50	50.00	118.05	6.71	182	13	371	38	334
29+75.996	26.00	336.04	0.00	219	3	590	41	549
				590	33			

DIVISION 1 - SHERMAN ROAD (EAST)

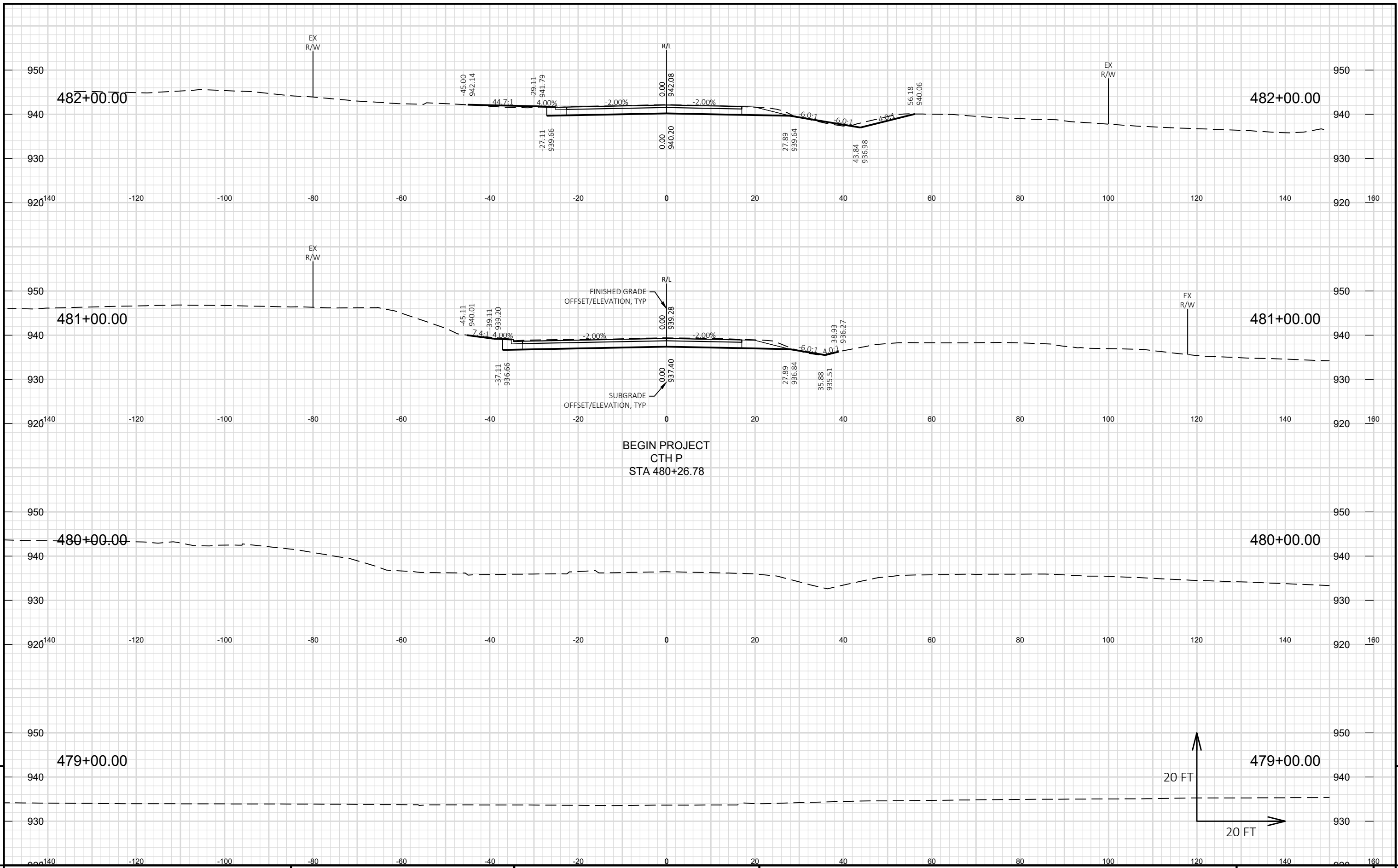
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
30+24.015	0.00	283.68	0.00	0	0	0	0	0
30+50	25.98	130.56	0.00	199	0	199	0	199
31+00	50.00	114.21	0.00	227	0	426	0	426
31+50	50.00	83.40	1.95	183	2	609	3	607
31+95	45.00	55.23	6.97	116	7	725	11	714
				725	9			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
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6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	NOT USED
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

DIVISION 1 - POLK SPRING CREEK

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
90+22	0.00	1.16	0.96	0	0	0	0	0
90+50	28.00	101.61	0.00	53	0	53	0	53
91+00	50.00	91.42	0.00	179	0	232	0	232
91+50	50.00	93.10	0.00	171	0	403	0	403
92+00	50.00	92.21	0.00	172	0	575	0	575
92+50	50.00	90.27	0.00	169	0	744	0	744
93+00	50.00	91.53	0.00	168	0	912	0	912
93+50	50.00	98.45	0.00	176	0	1,088	0	1,088
94+00	50.00	95.40	0.00	179	0	1,267	0	1,267
94+50	50.00	84.11	0.00	166	0	1,433	0	1,433
95+00	50.00	78.27	0.00	150	0	1,583	0	1,583
95+47	47.00	24.12	0.00	89	0	1,672	0	1,672
				1,672	0			

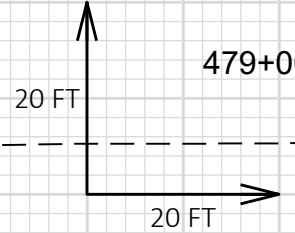
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH BREAKER RUN
5 - EXPANDED EBS	NOT USED
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
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8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]



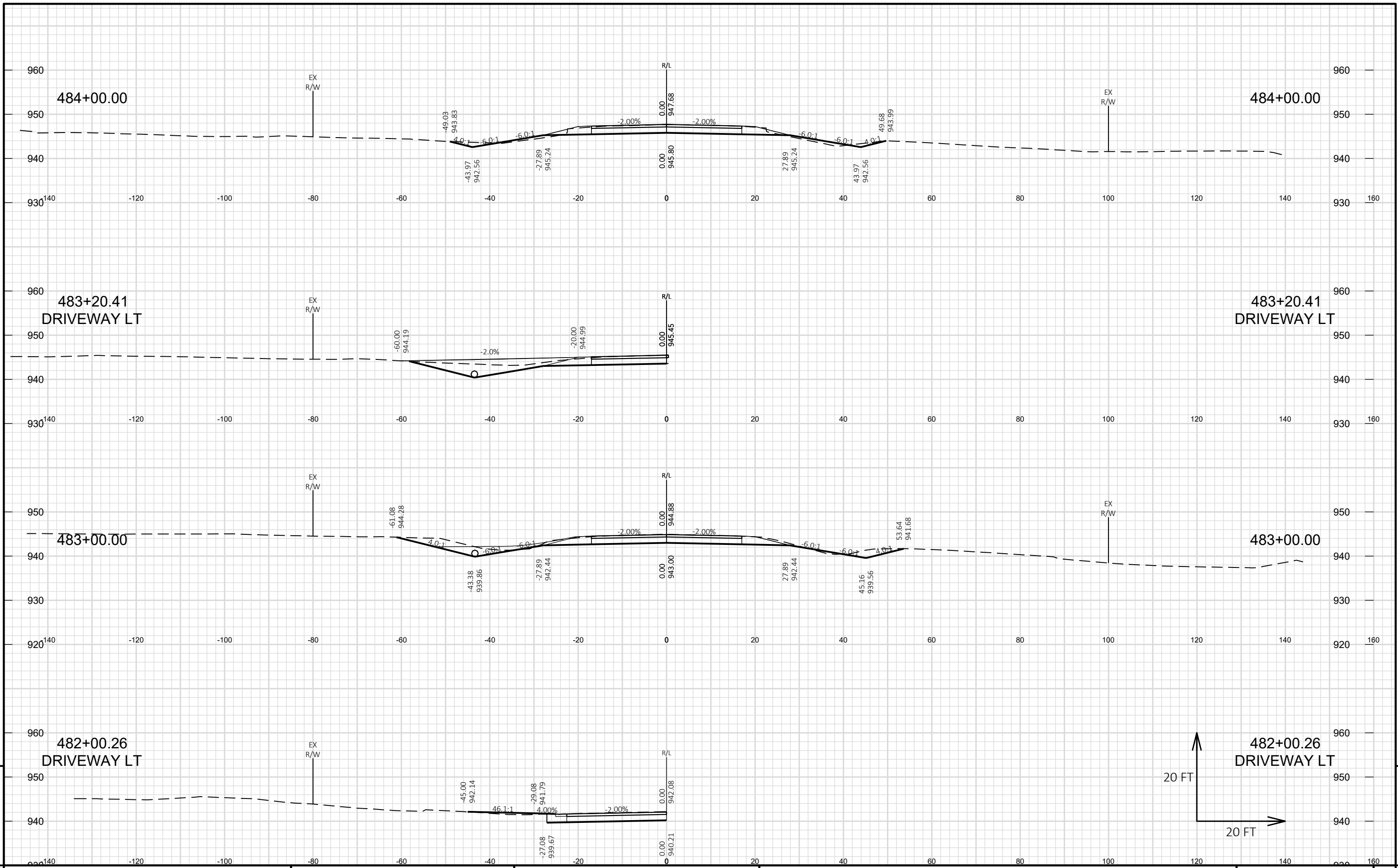
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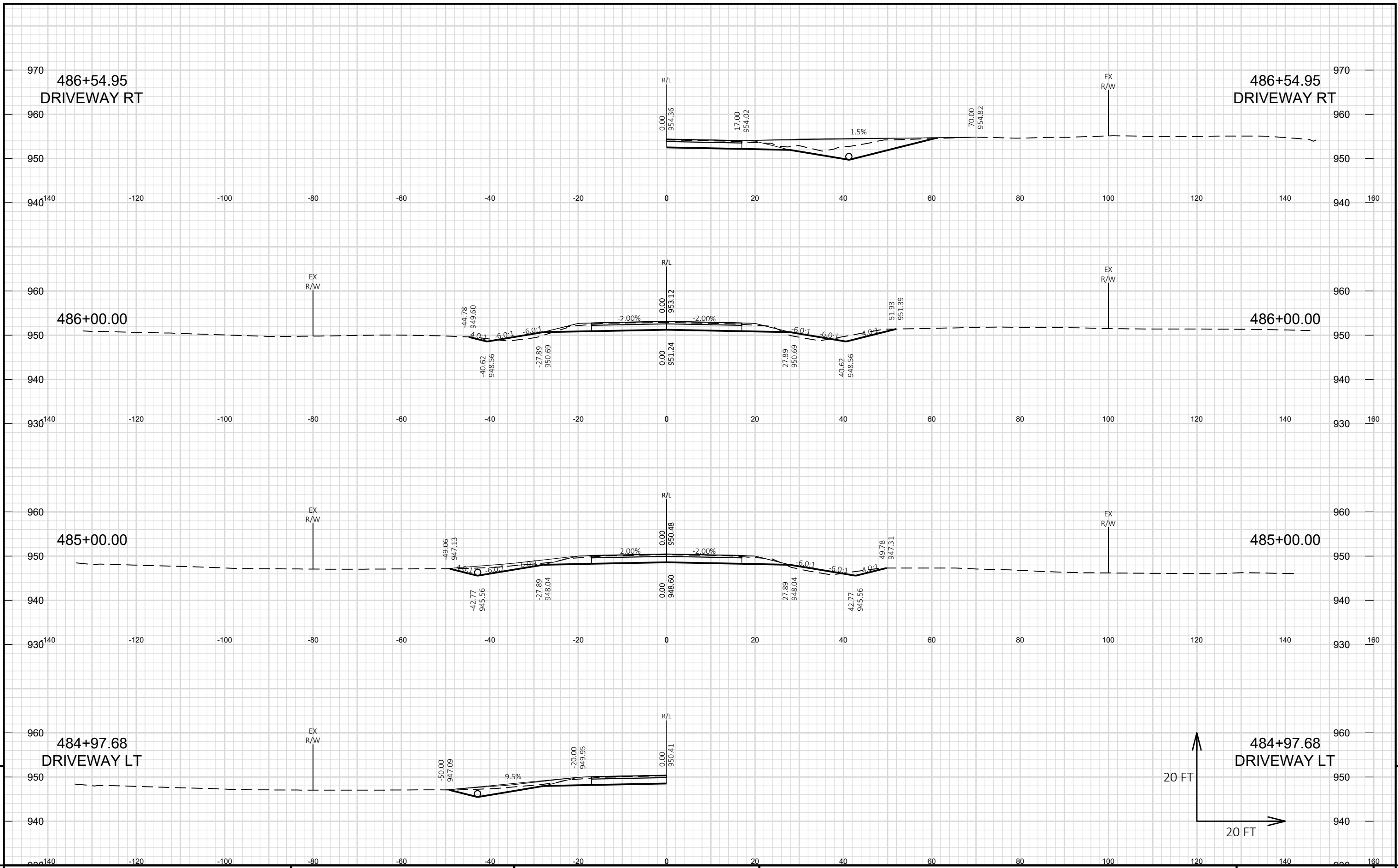
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PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	CROSS SECTIONS: CTH P	SHEET	E
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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET 9

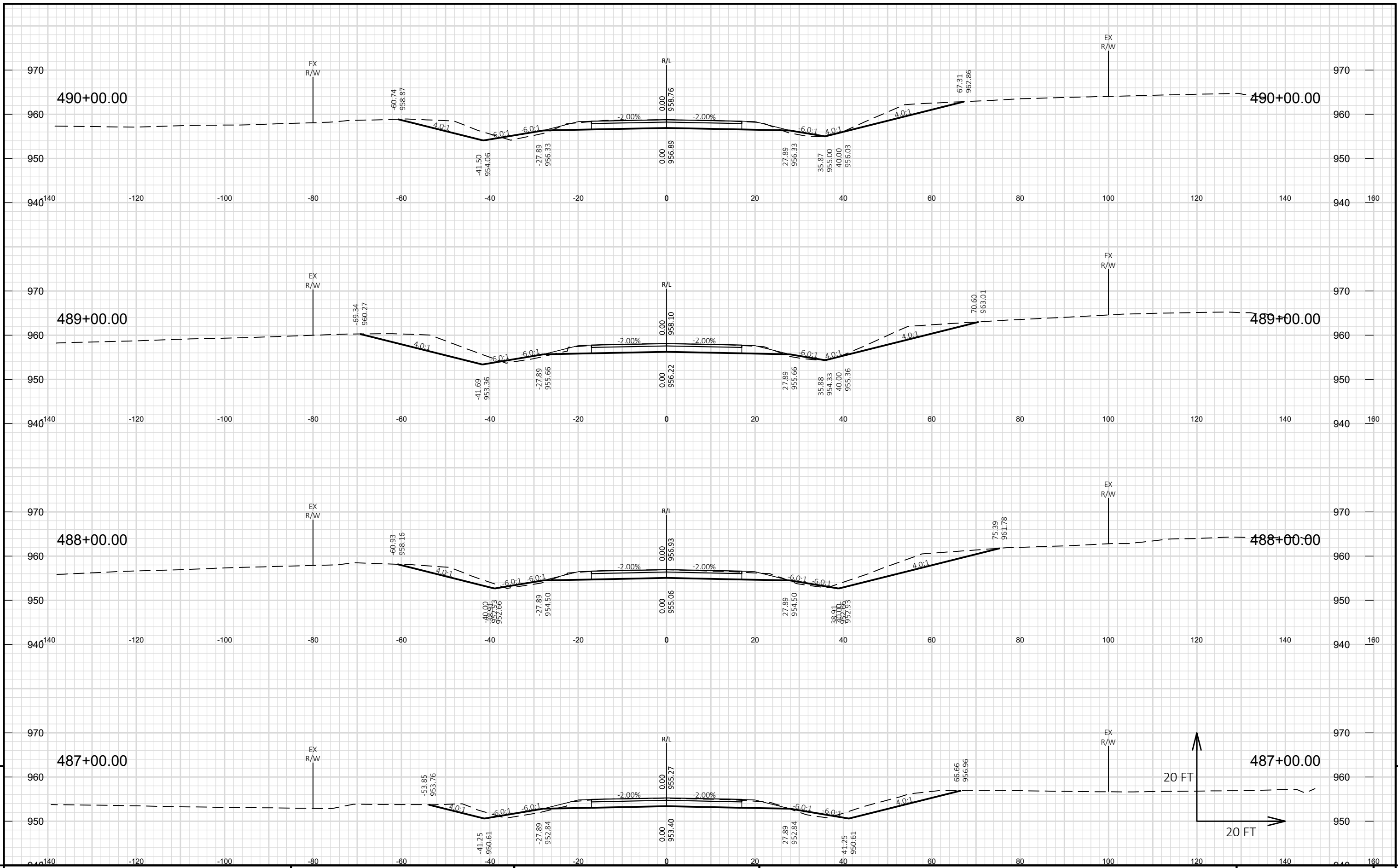


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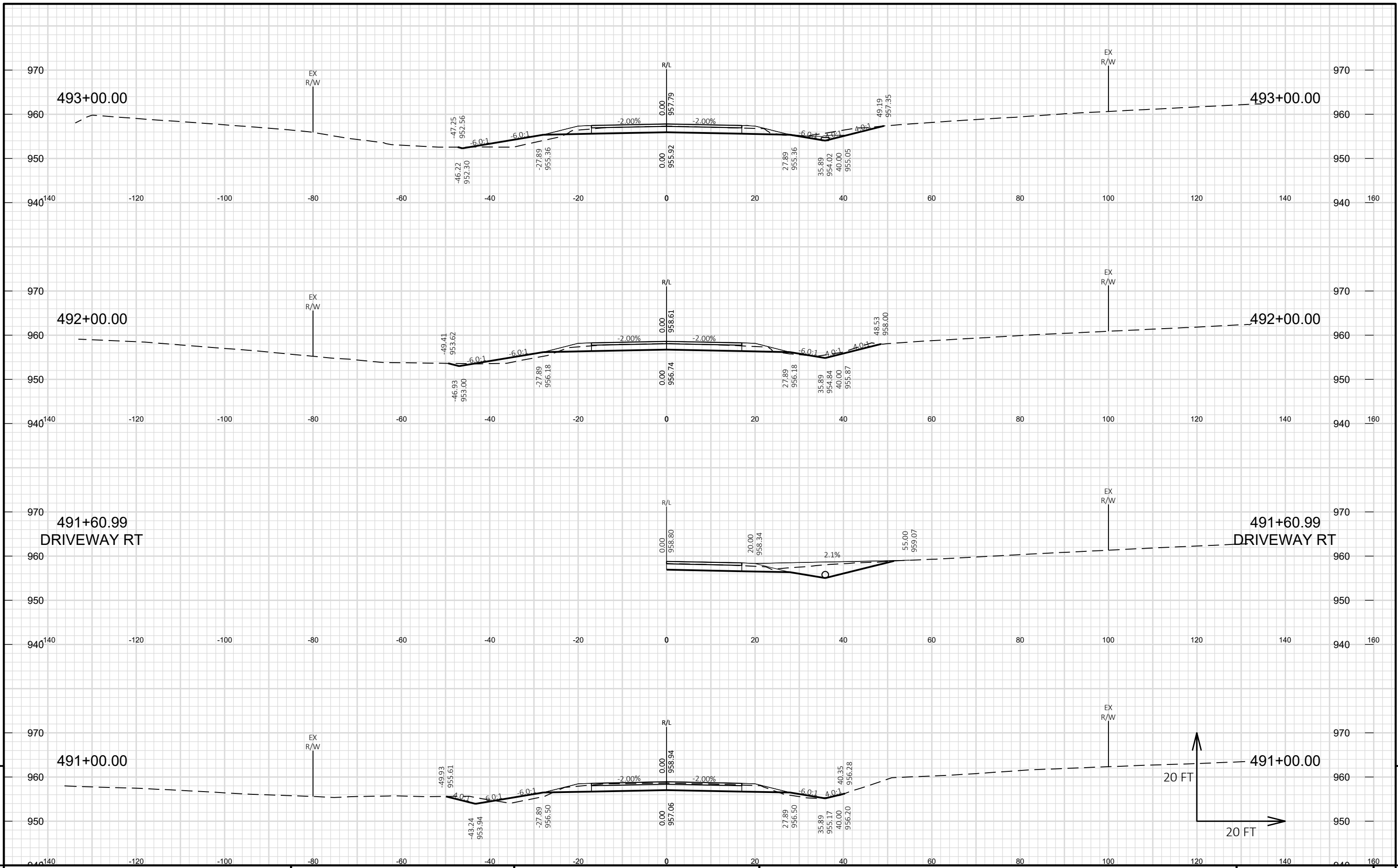
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COUNTY: WASHINGTON

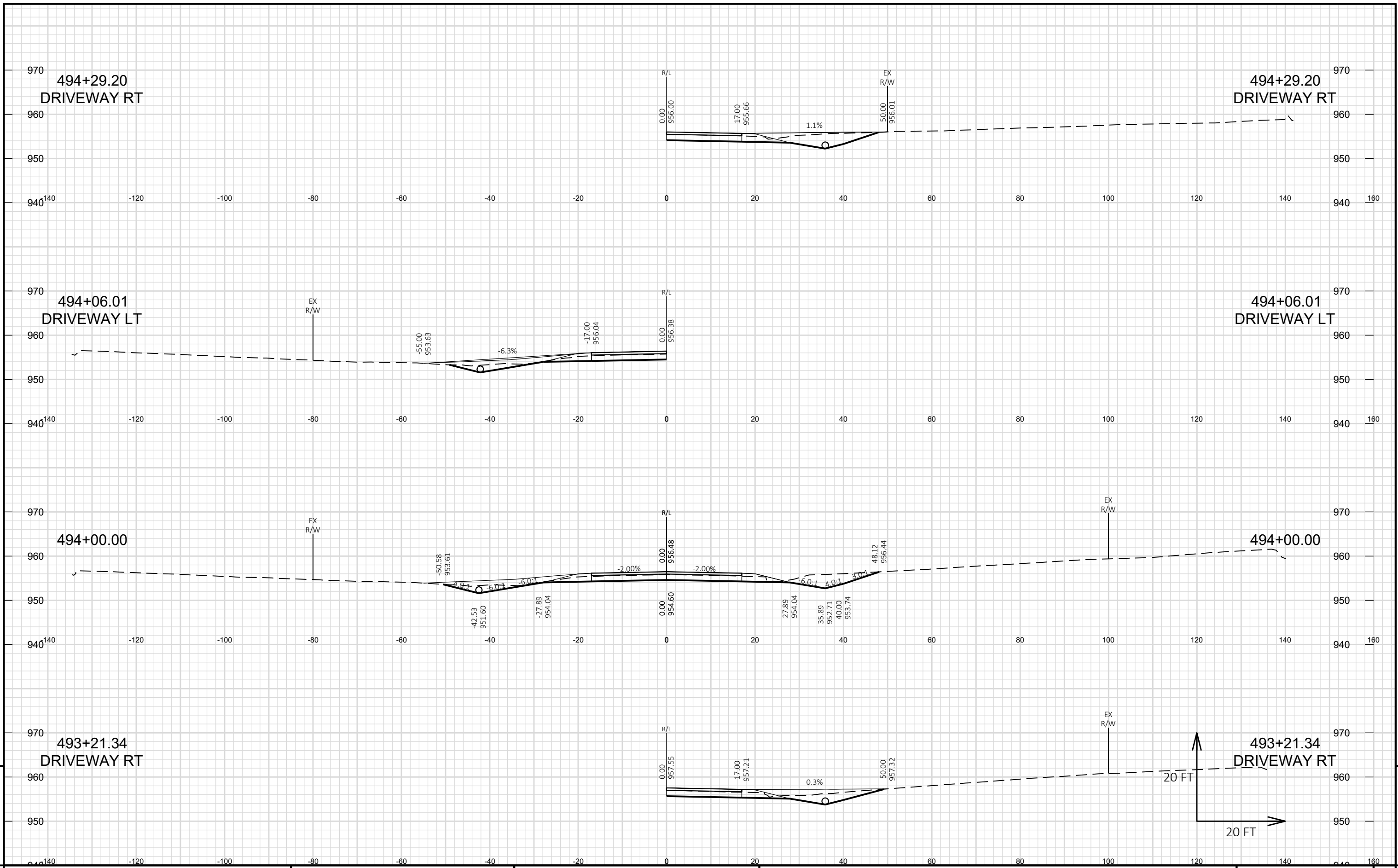
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SHEET

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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET 9

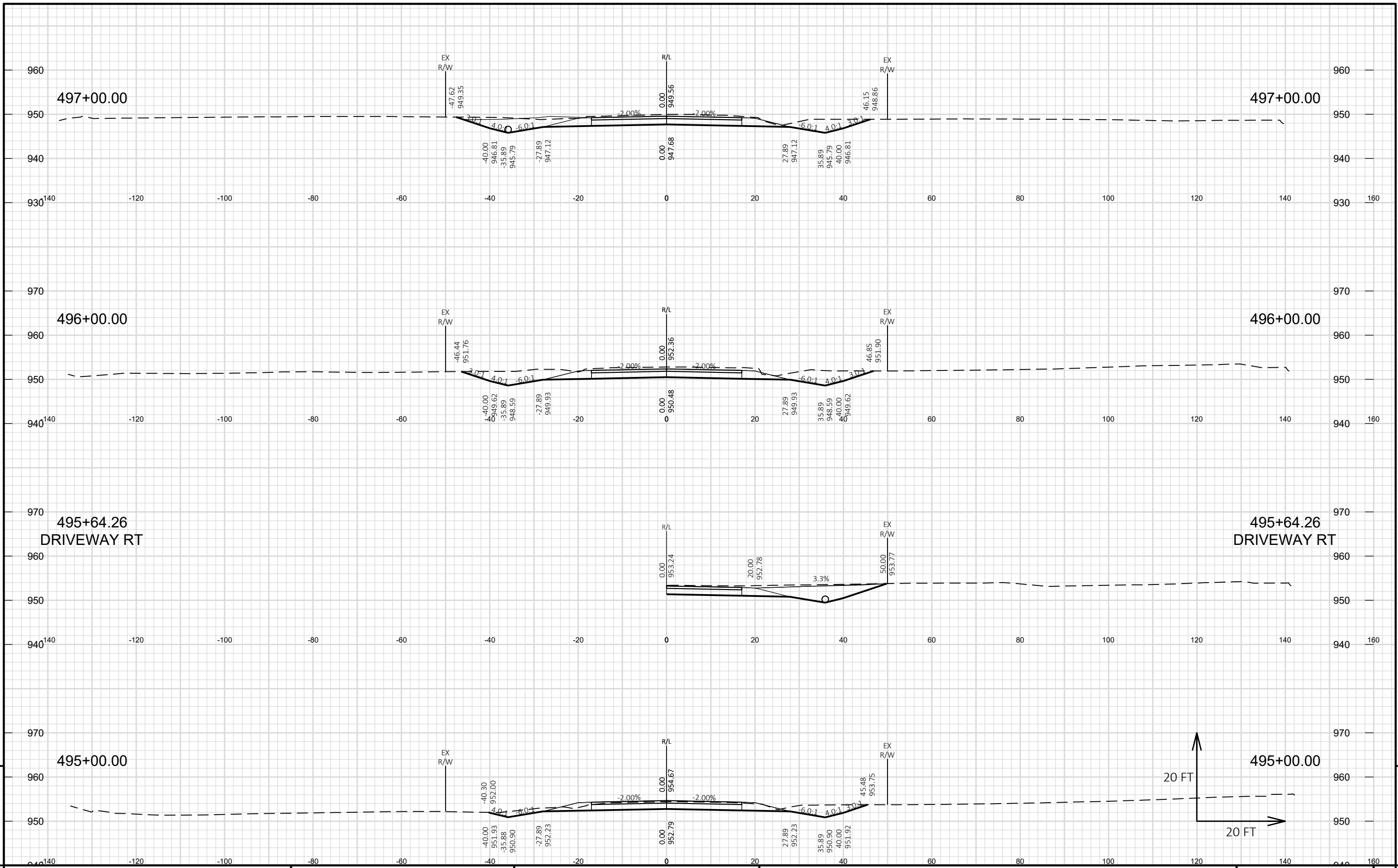


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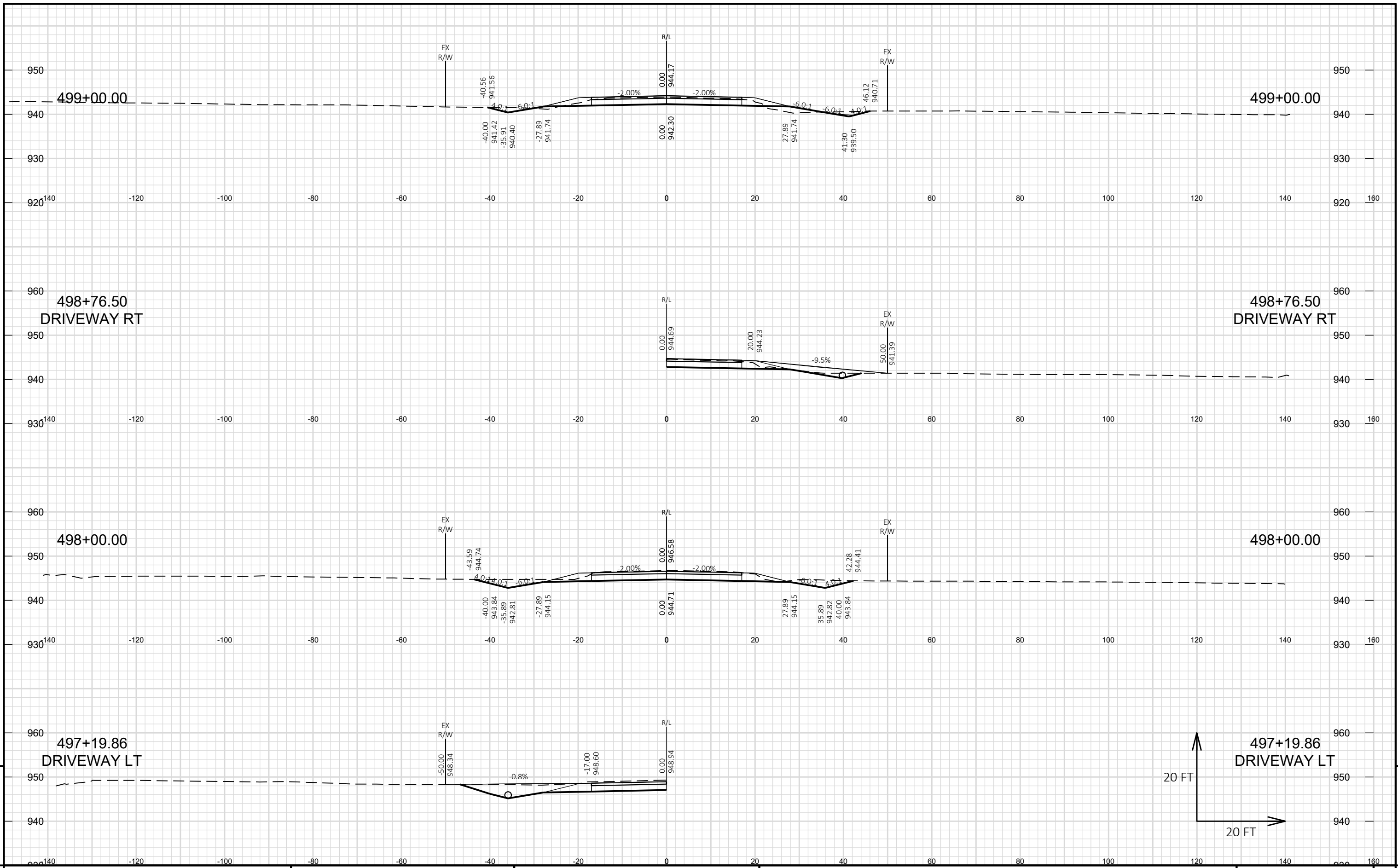
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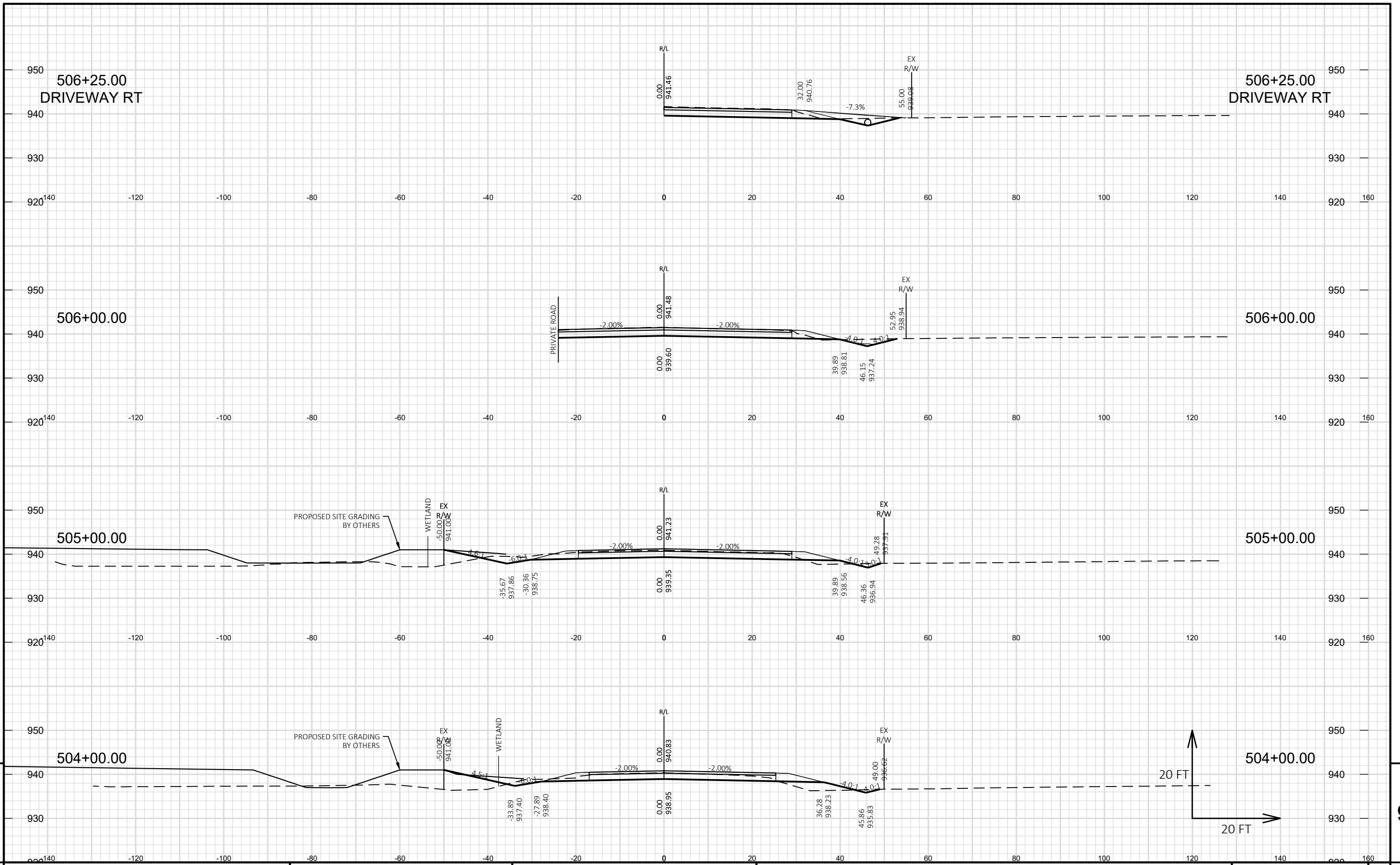
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COUNTY: WASHINGTON

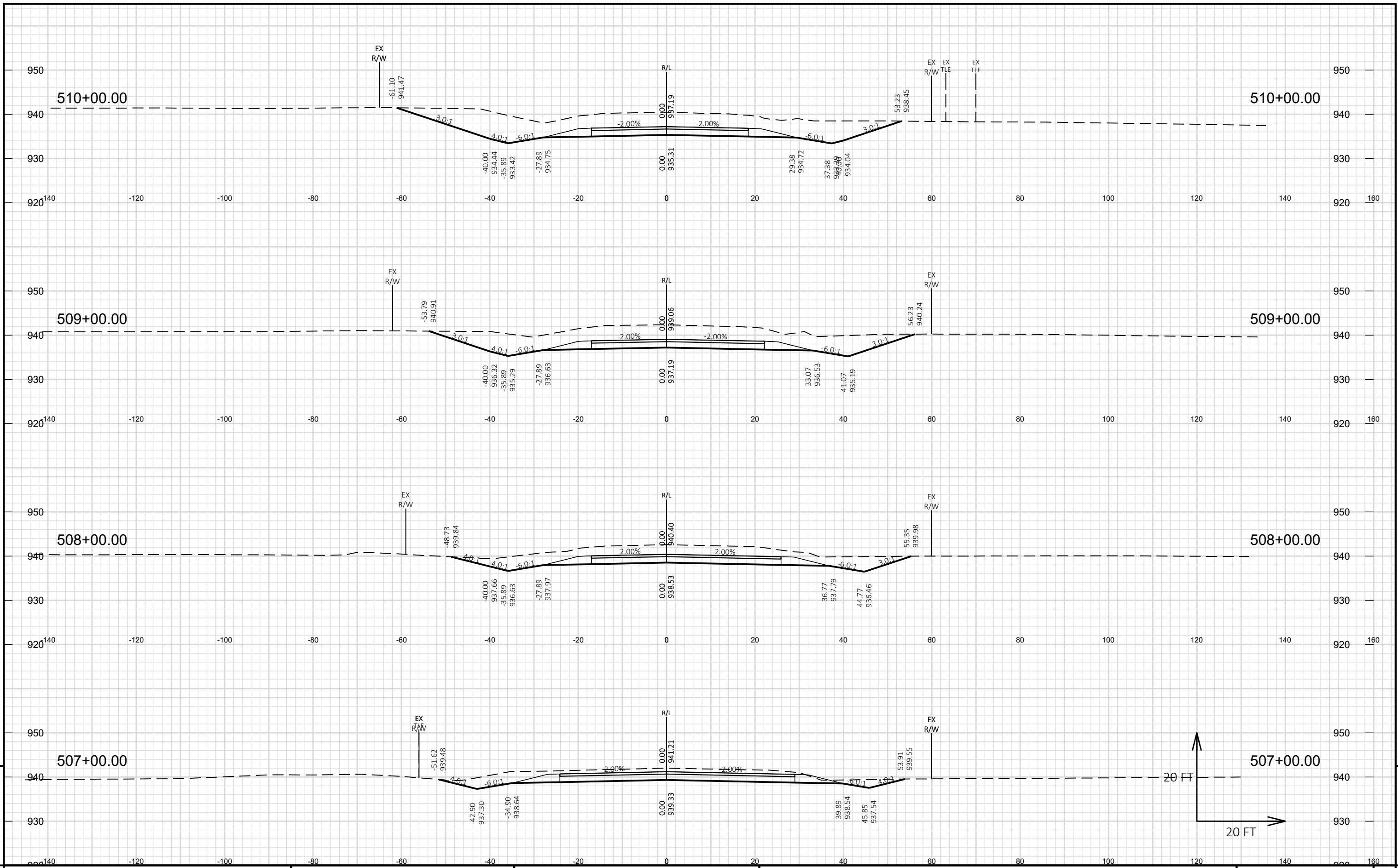
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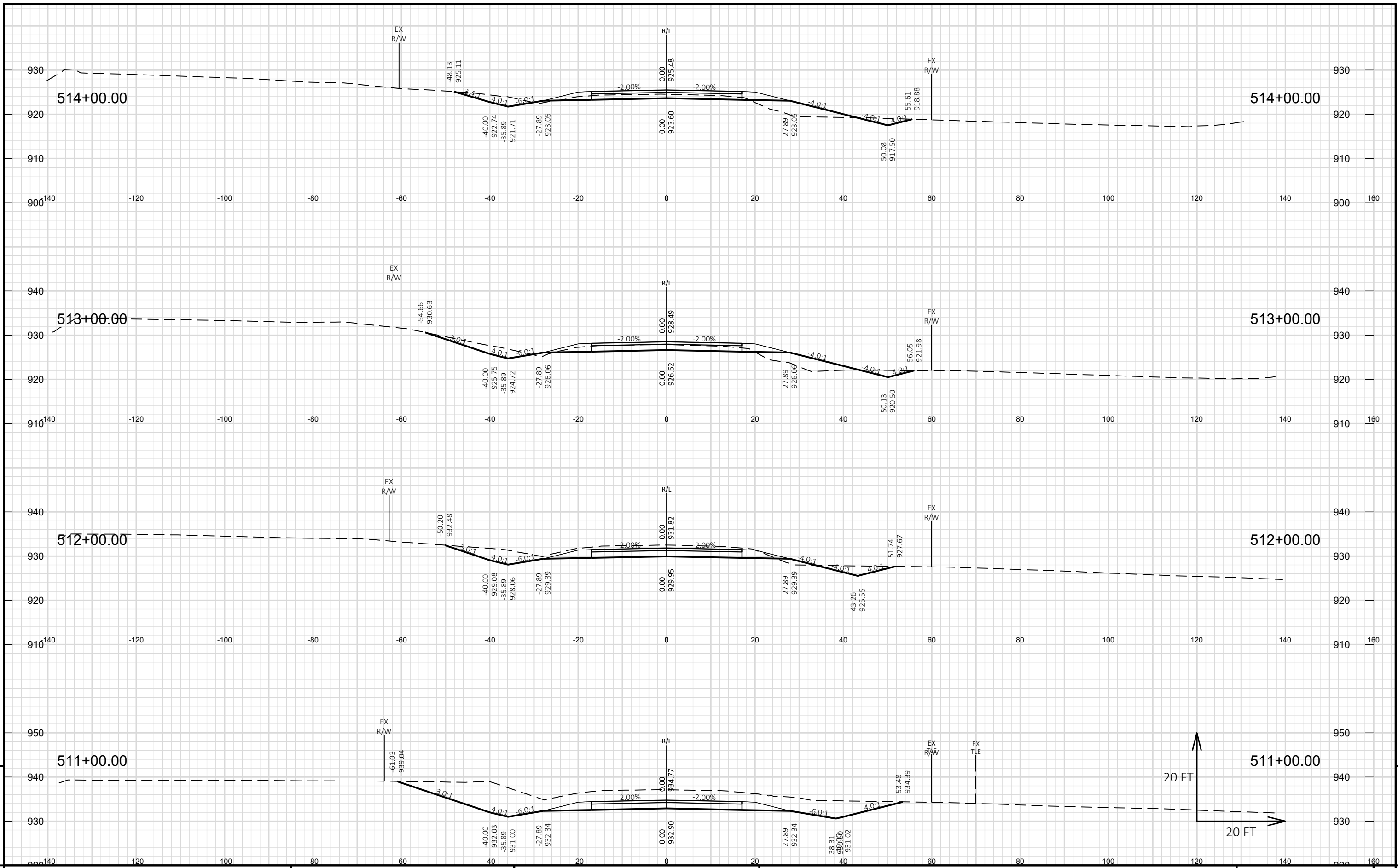
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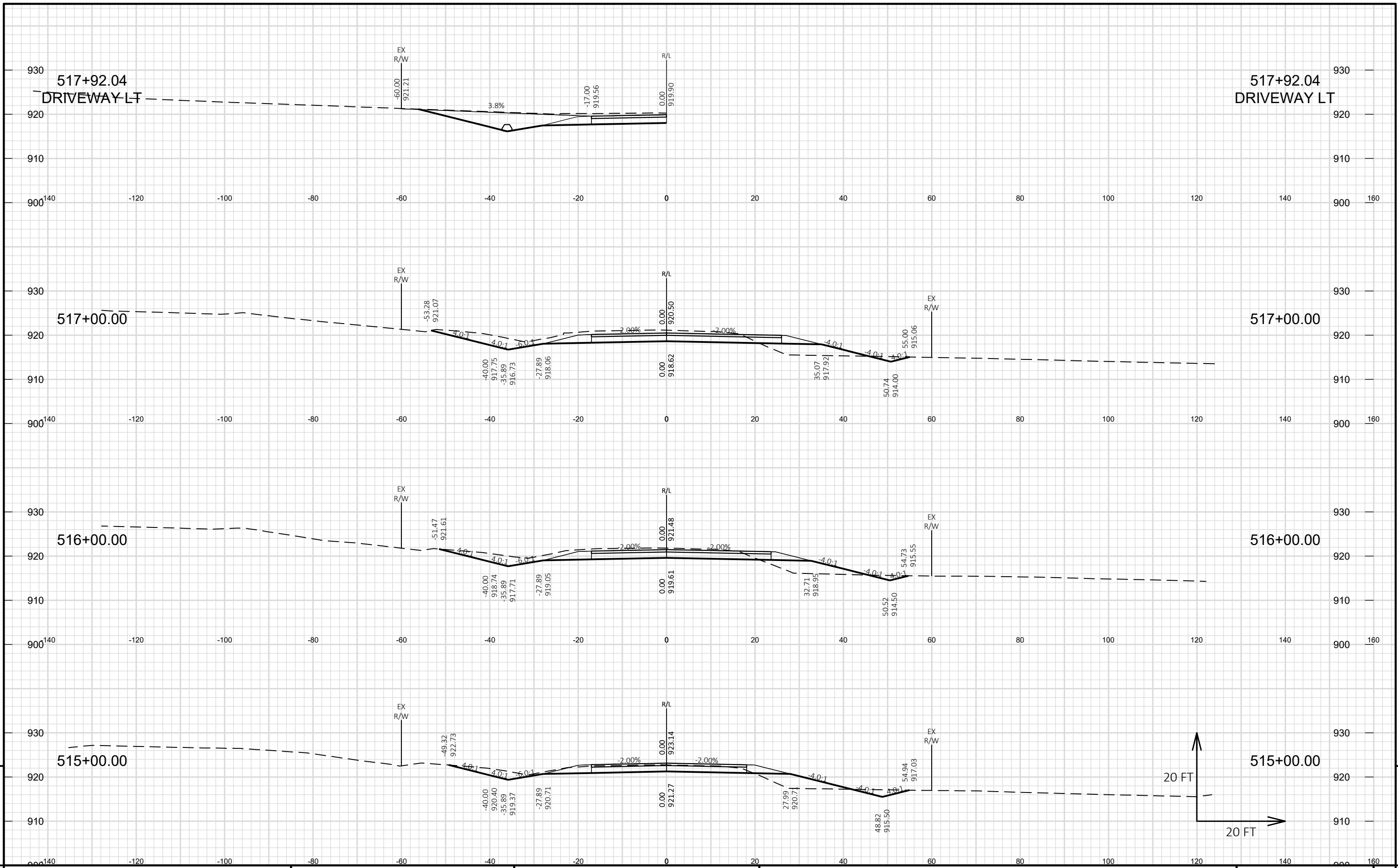
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LAYOUT NAME - 111-CTH P



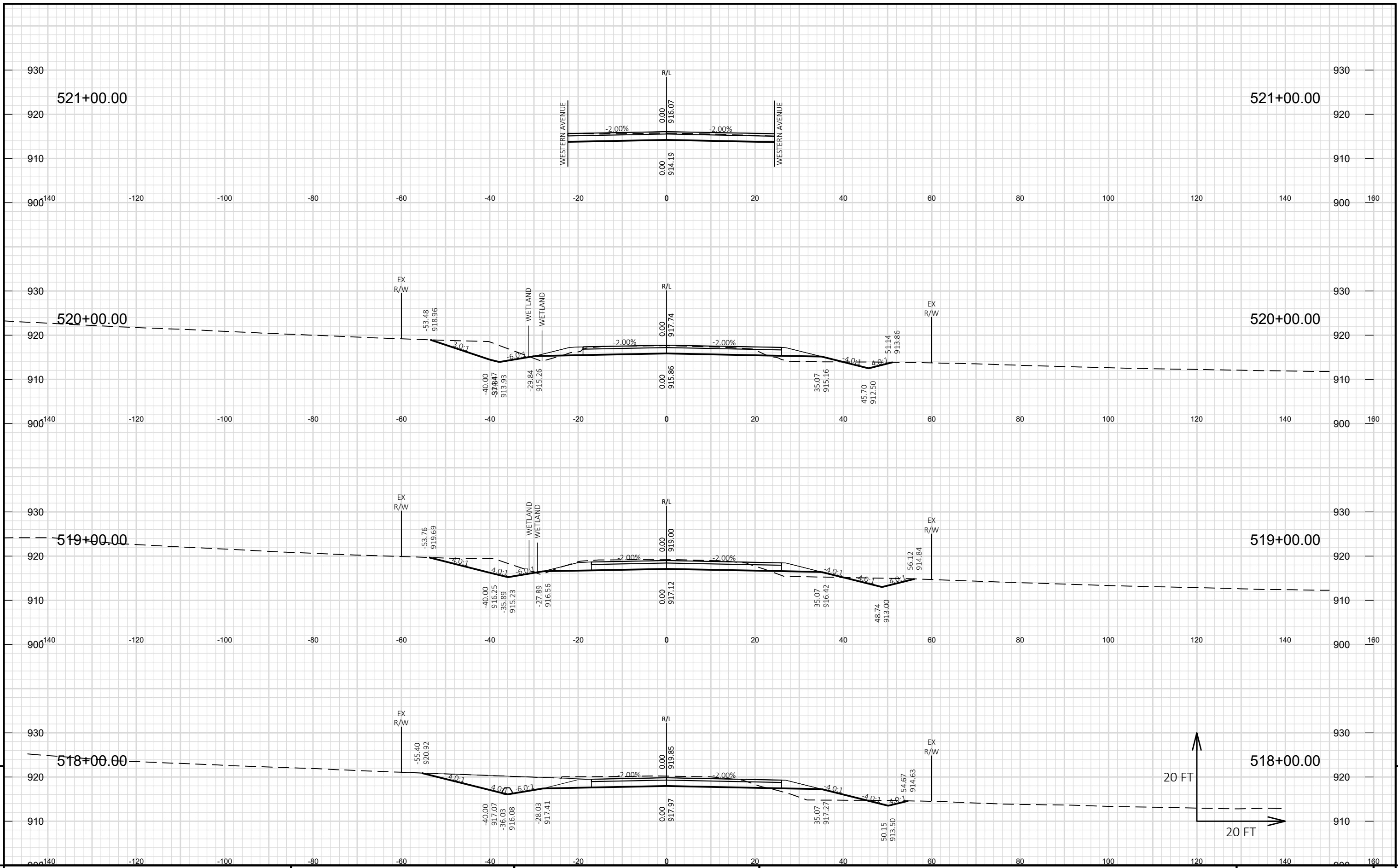
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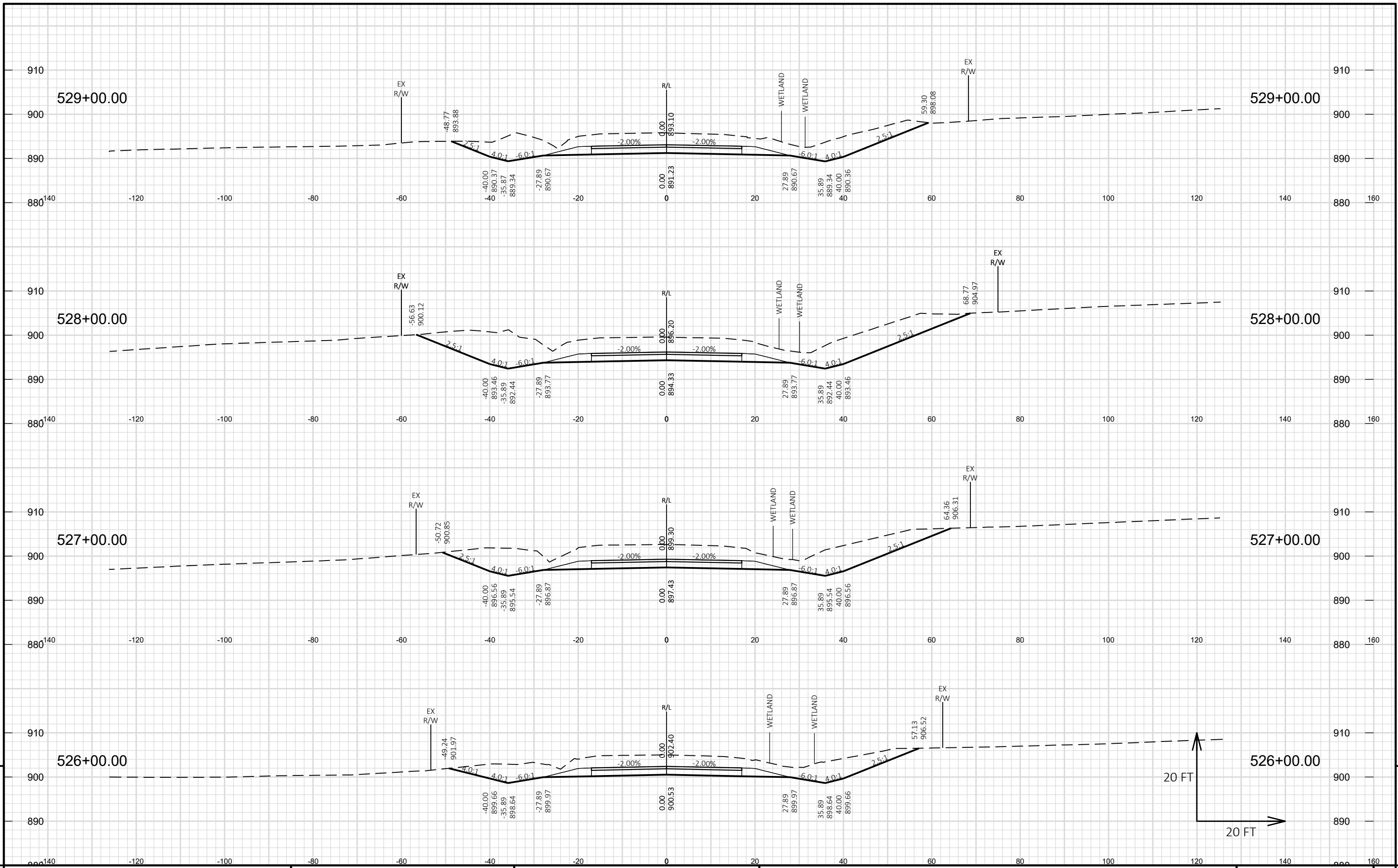
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LAYOUT NAME - 112-CTH P



PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET E



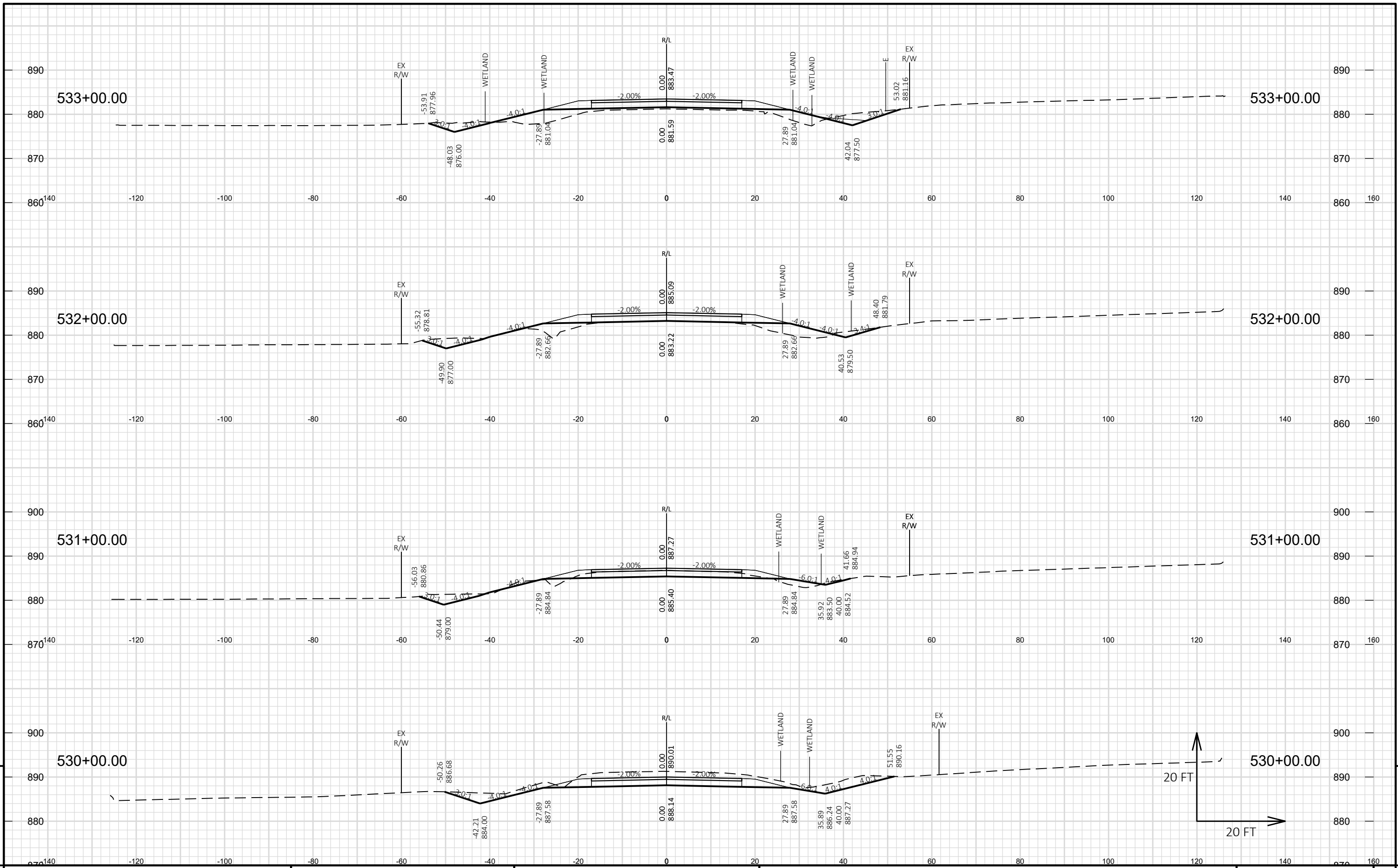
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LAYOUT NAME - 115-CTH P



PROJECT NO: 2711-06-70

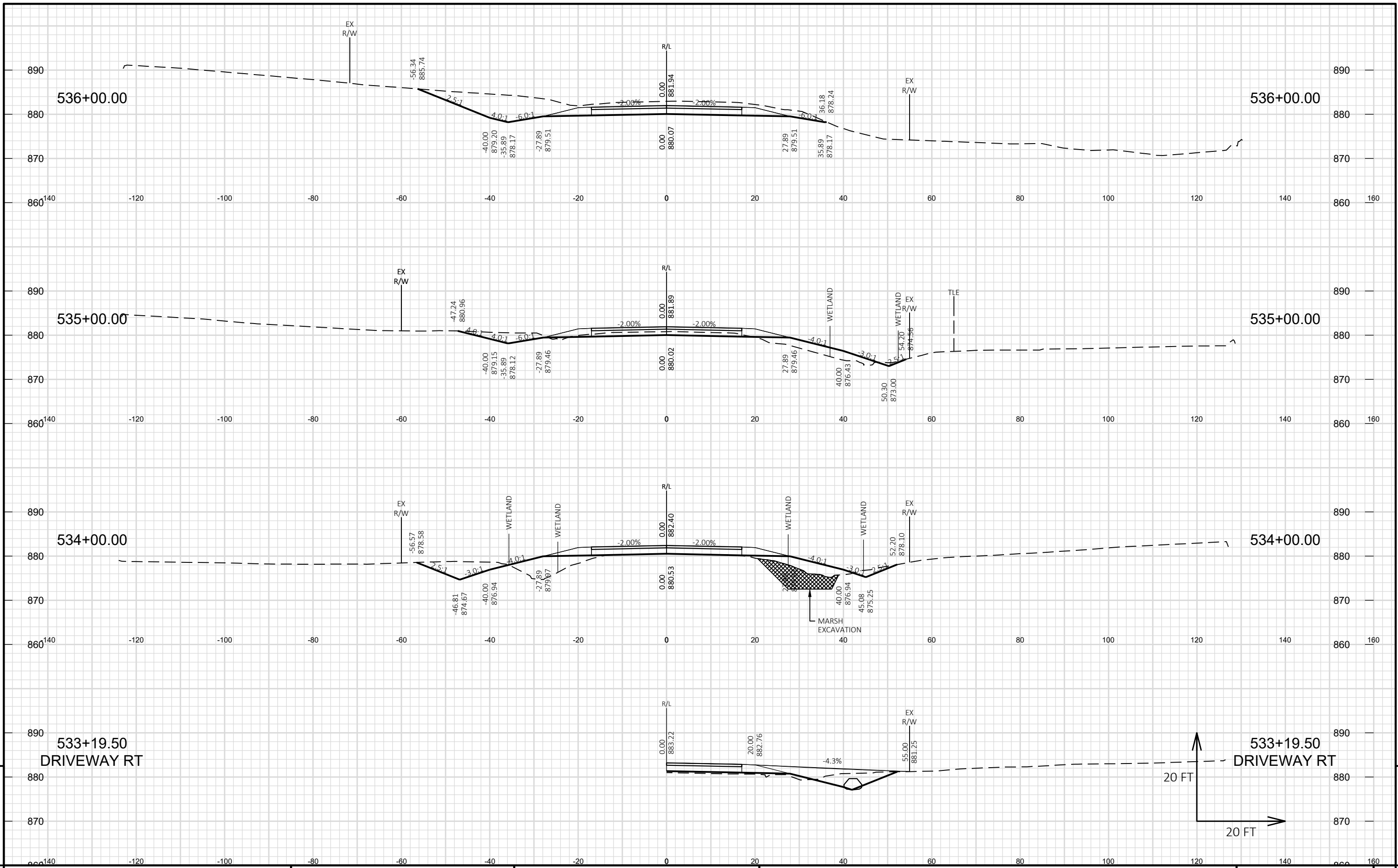
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COUNTY: WASHINGTON

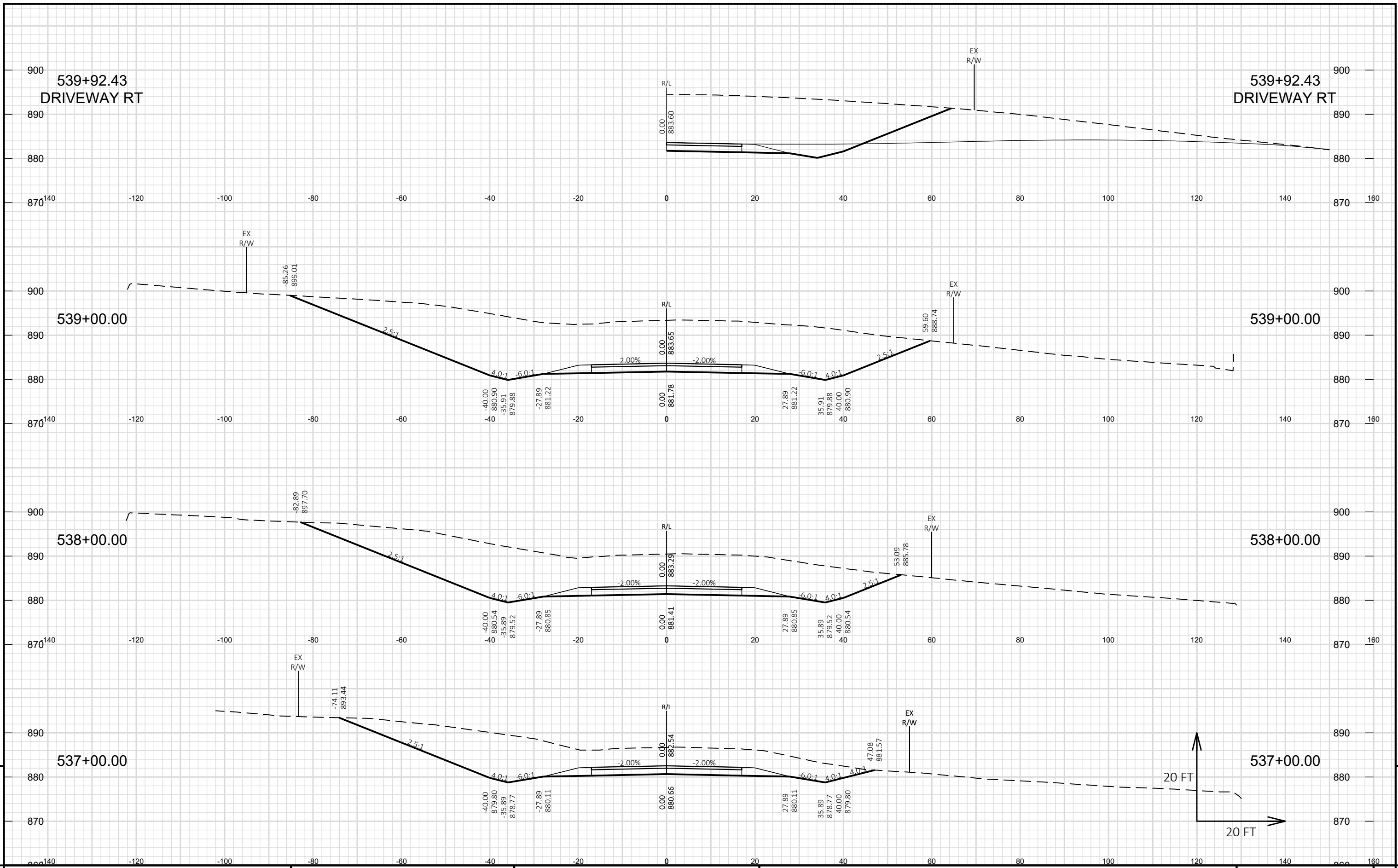
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SHEET

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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET 9



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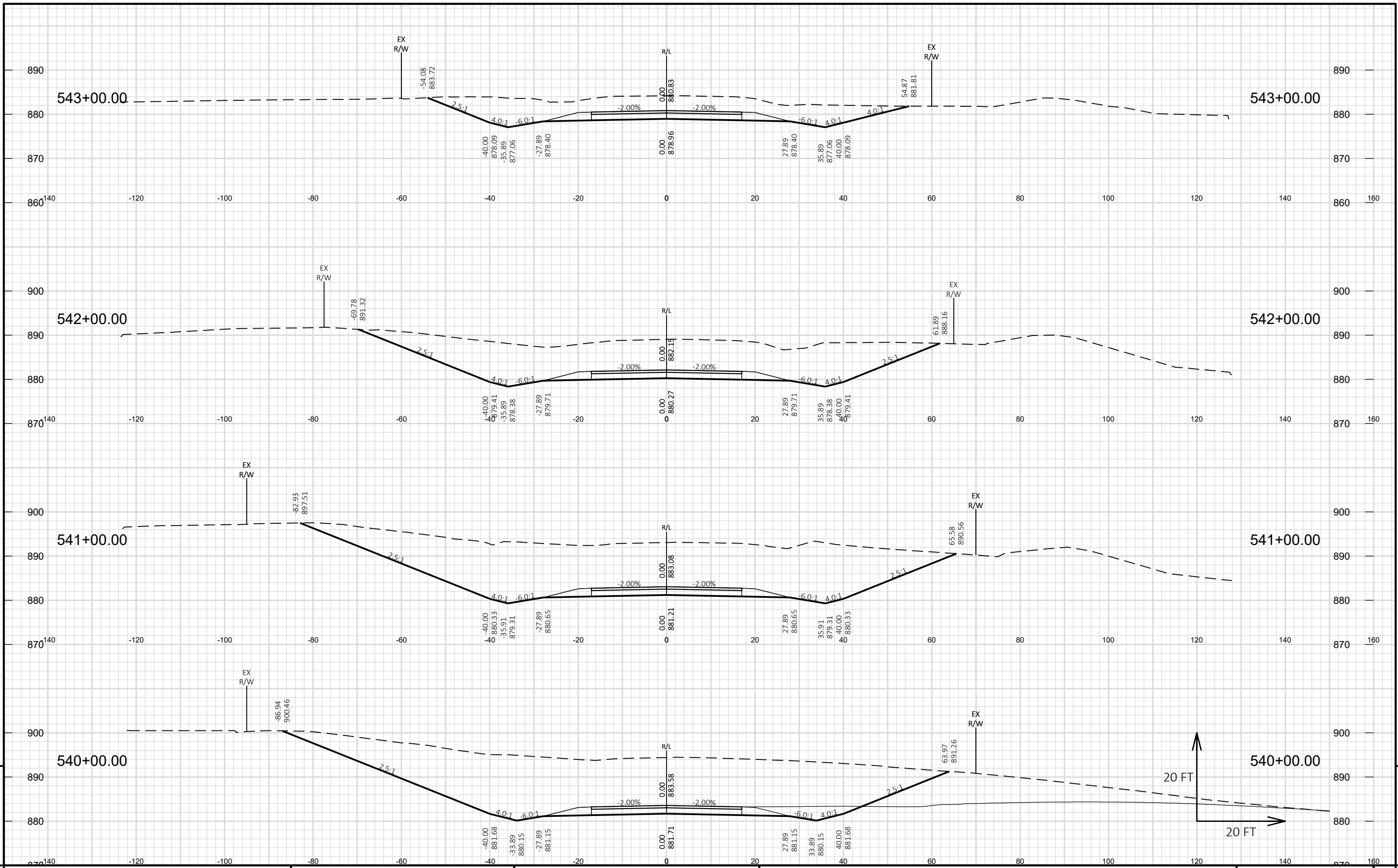
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CROSS SECTIONS: CTH P

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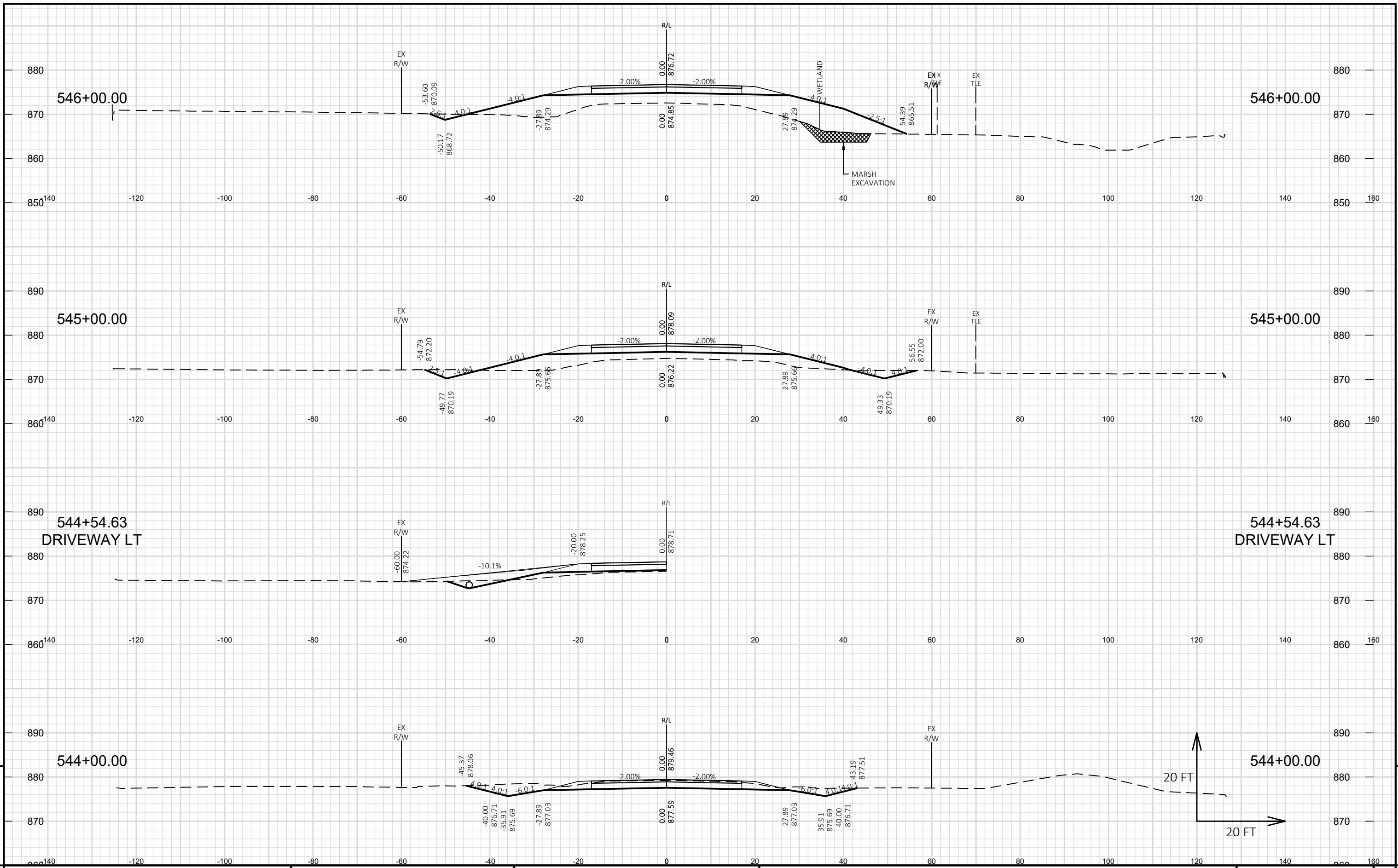
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CROSS SECTIONS: CTH P

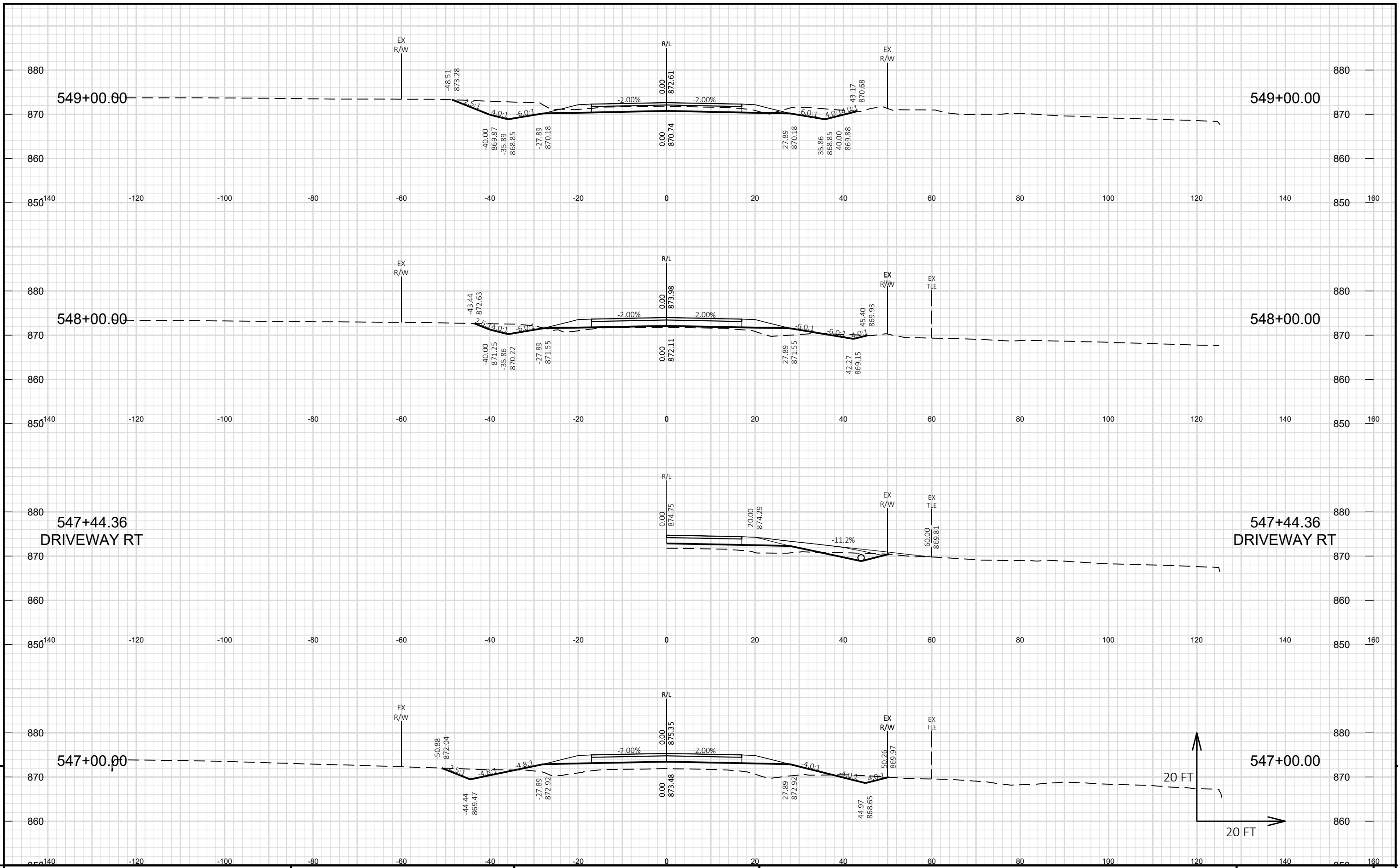
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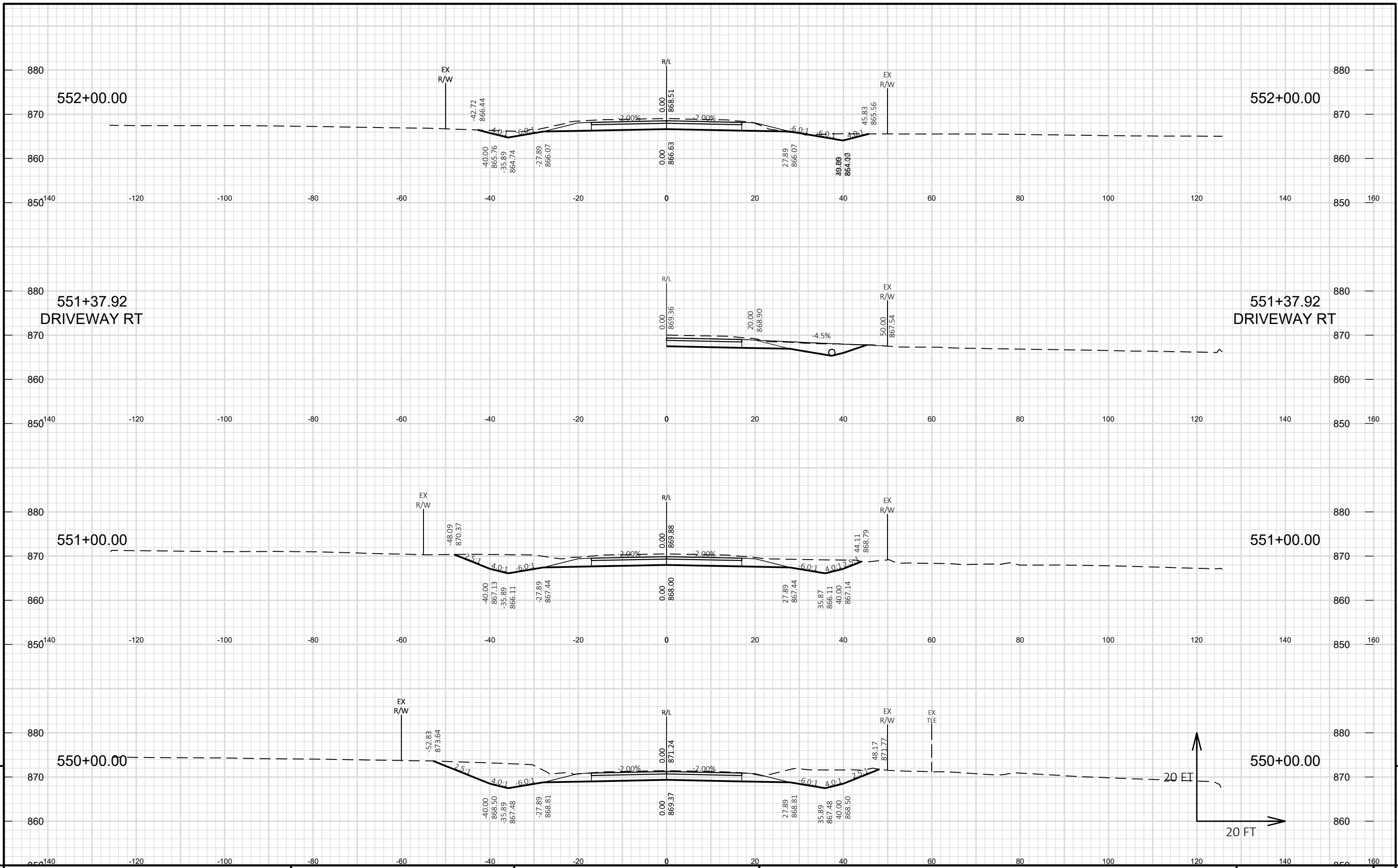


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PROJECT NO: 2711-06-70

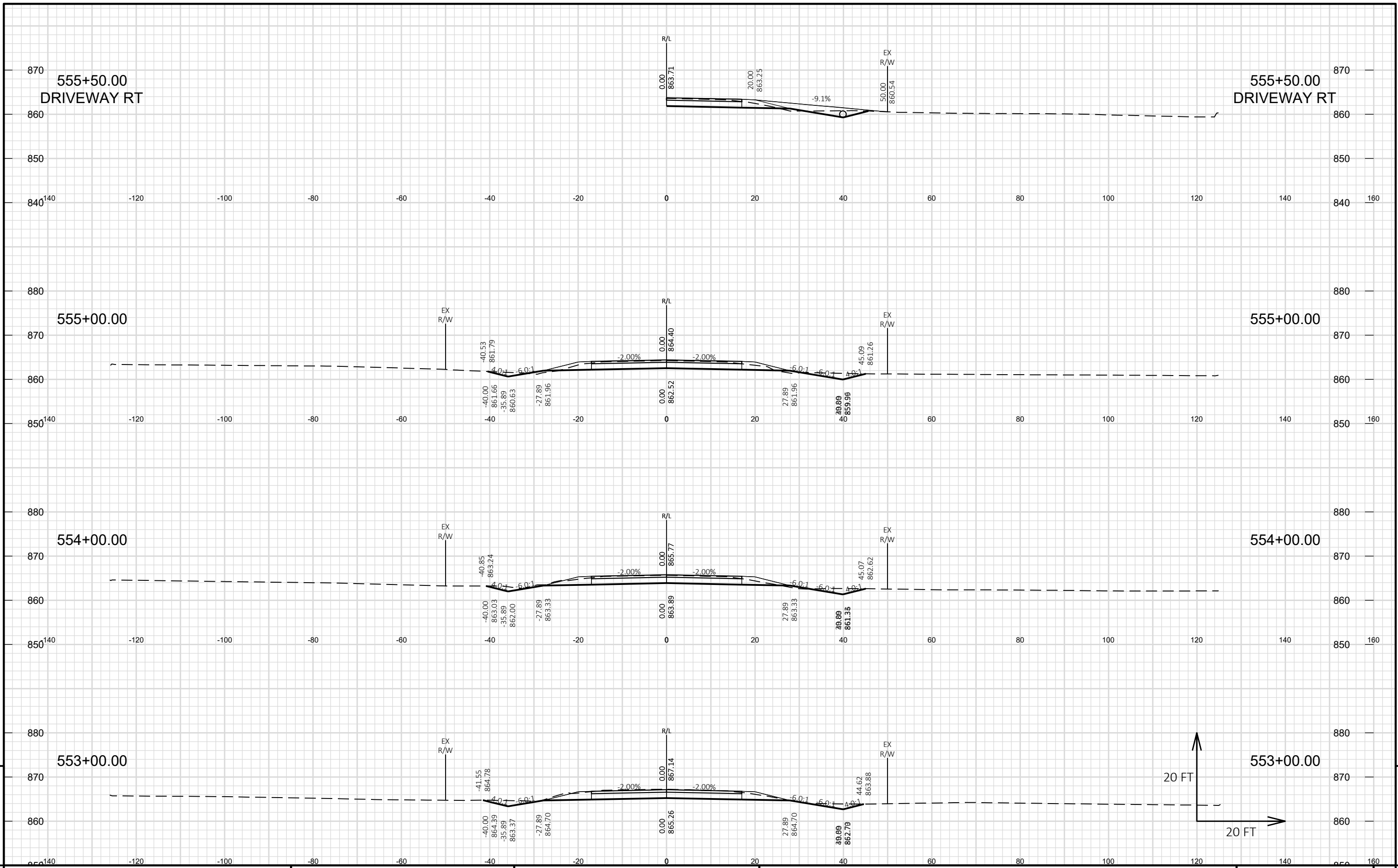
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COUNTY: WASHINGTON

CROSS SECTIONS: CTH P

SHEET

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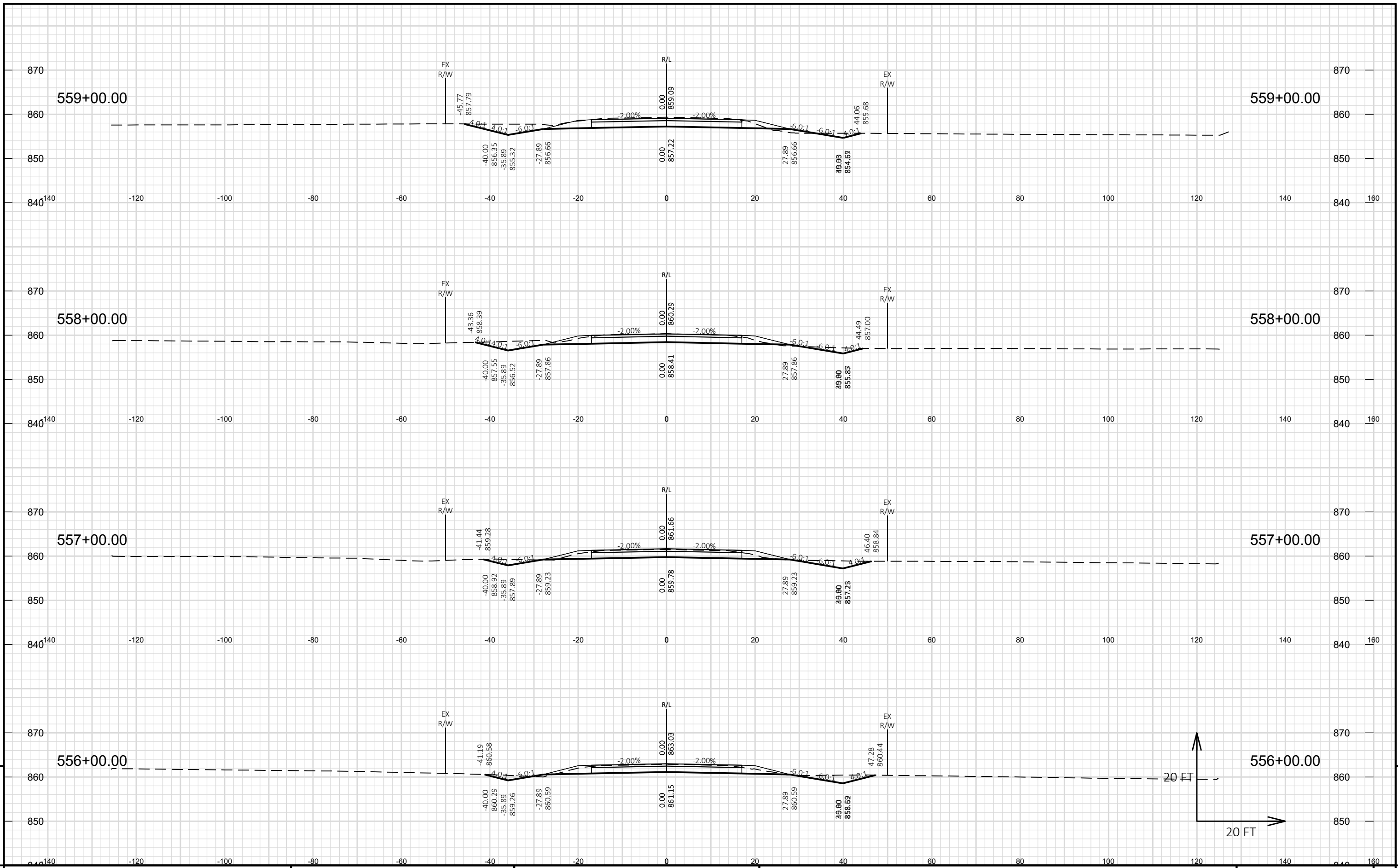


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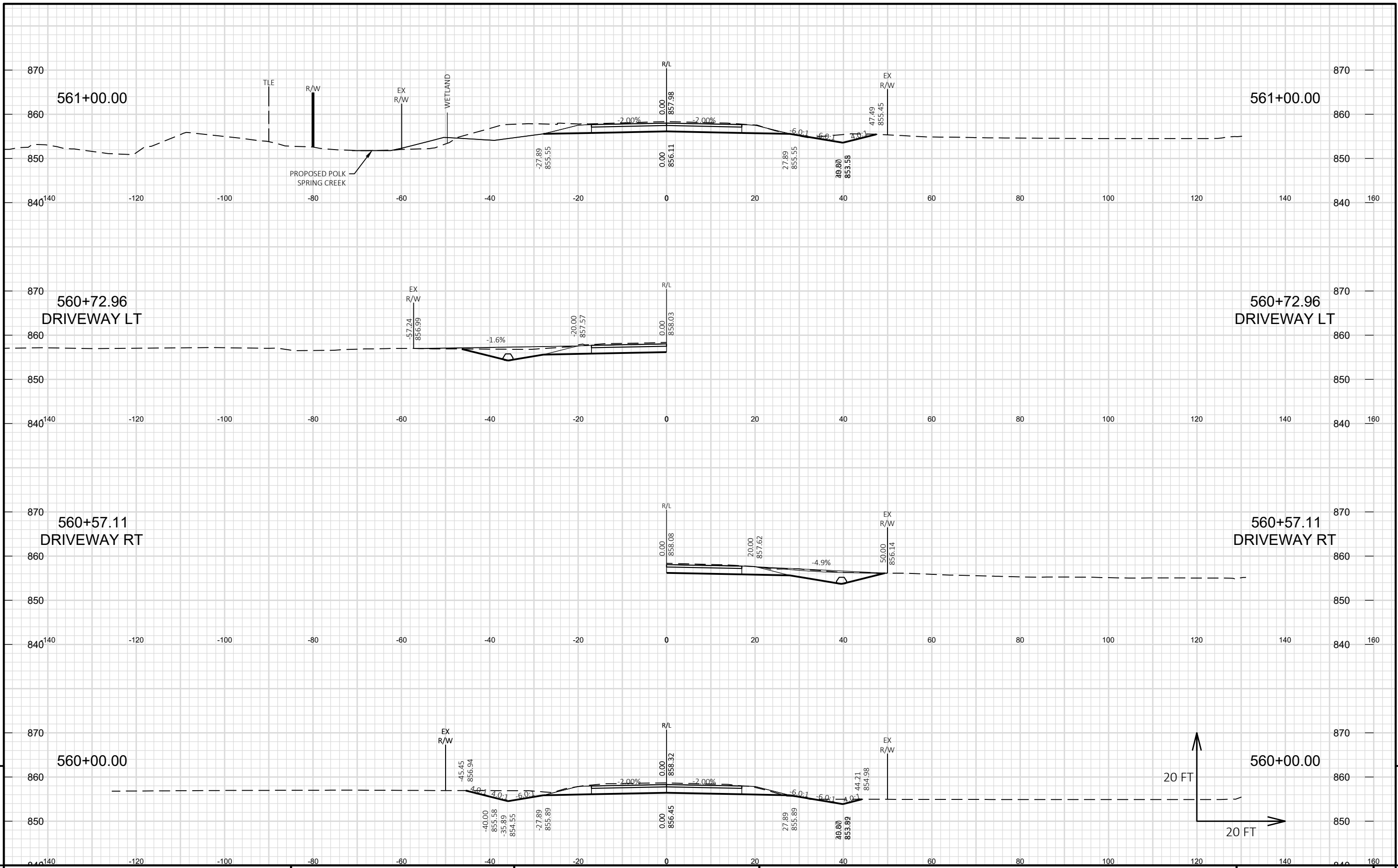
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CROSS SECTIONS: CTH P

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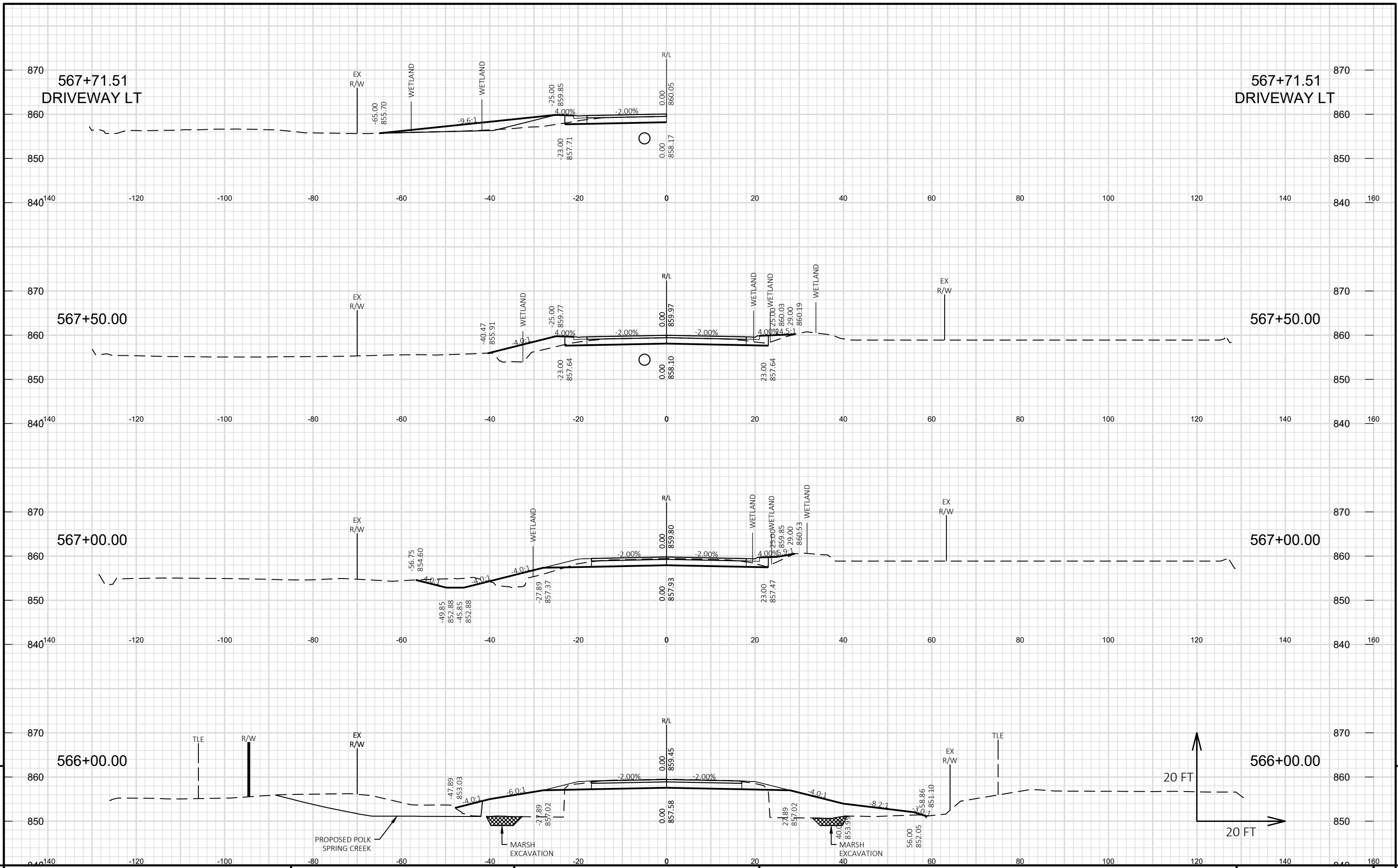


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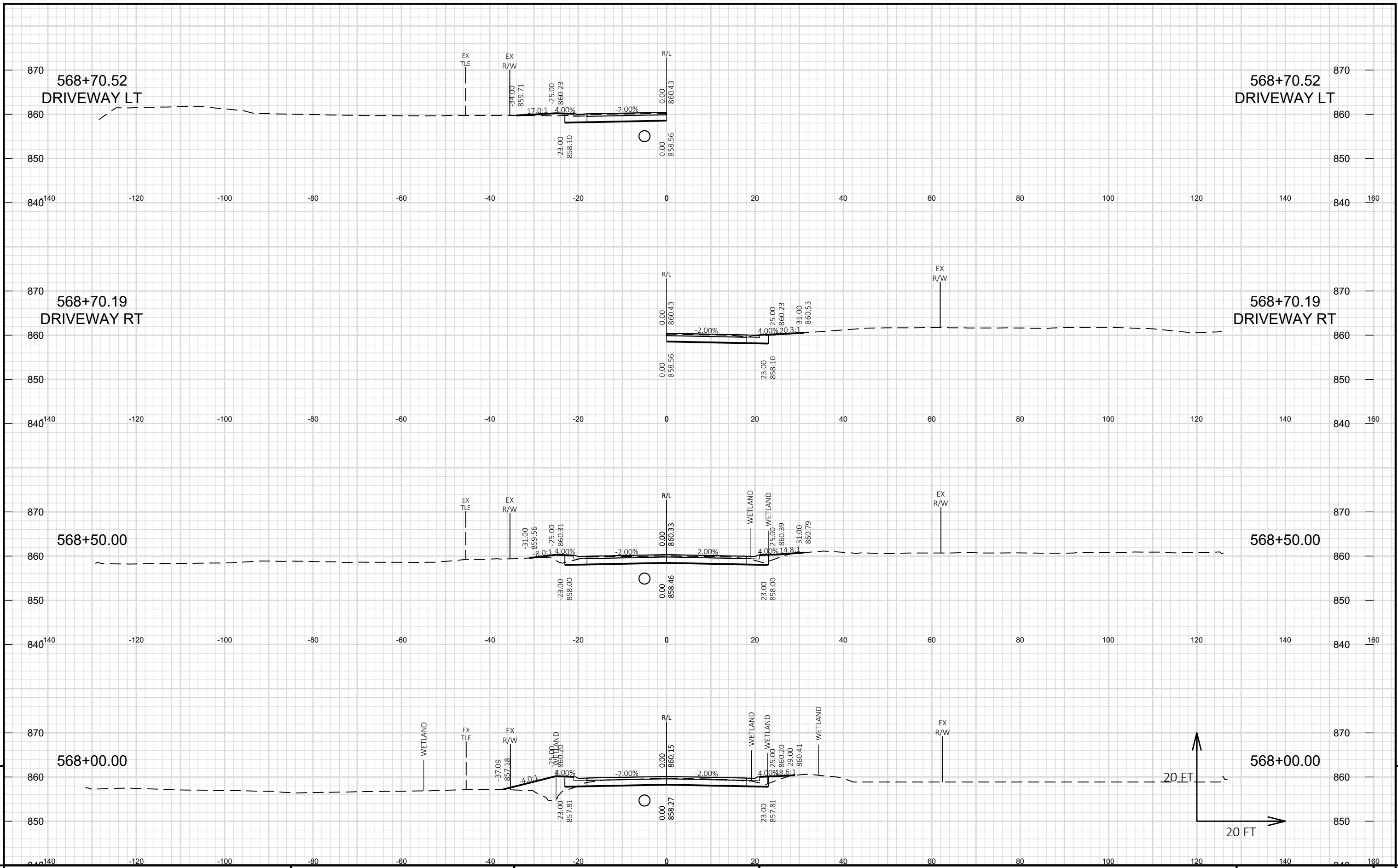
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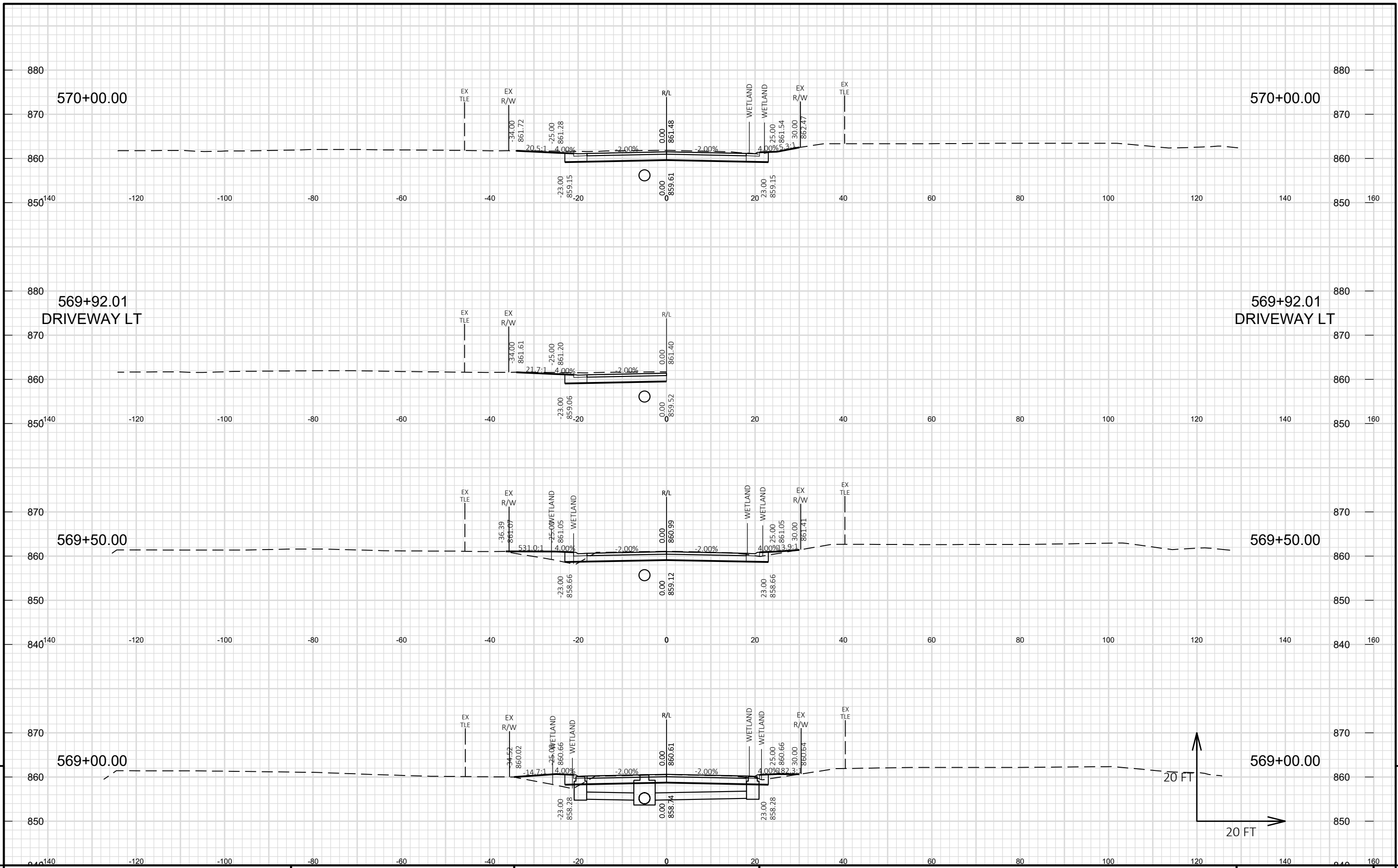


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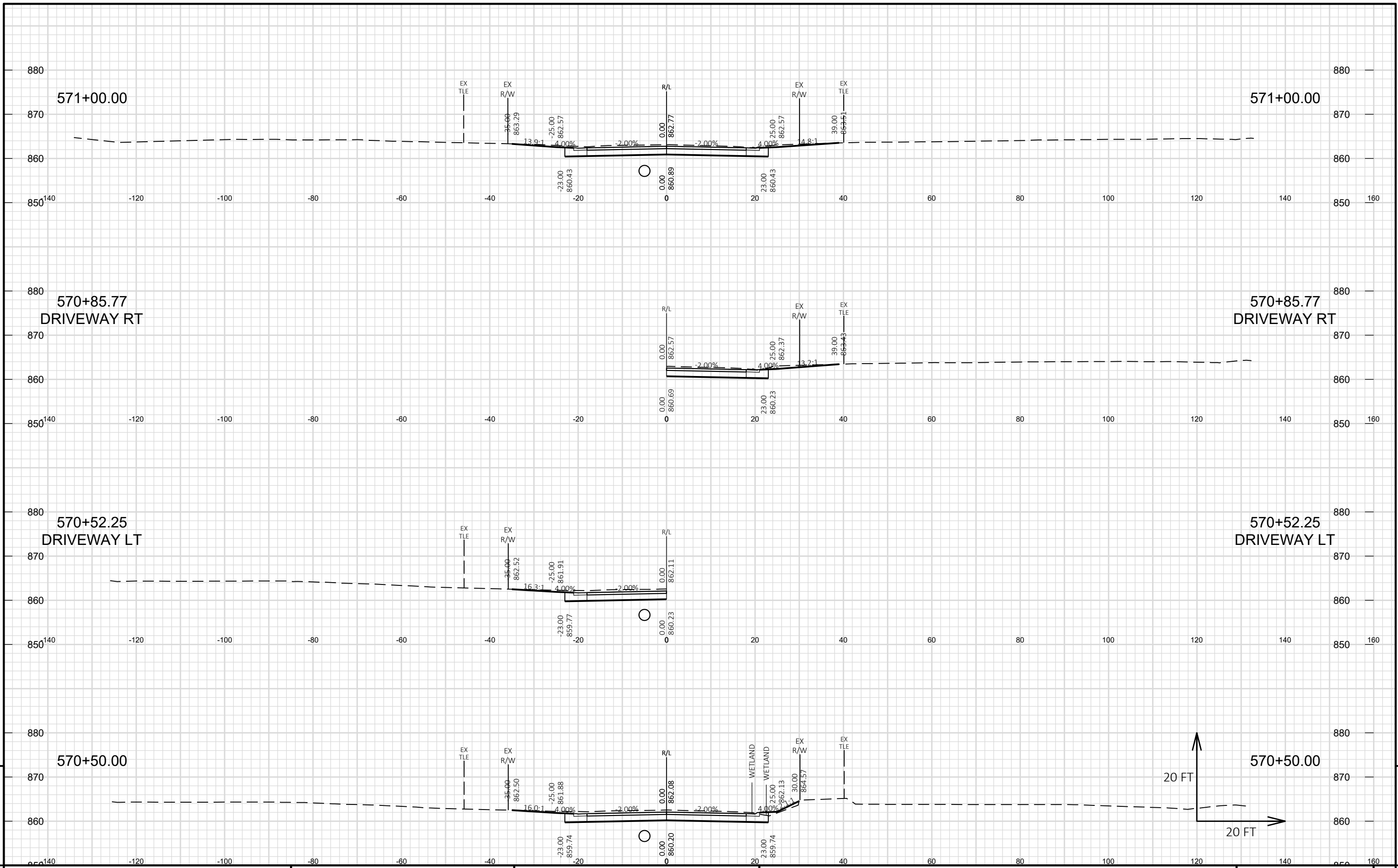
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LAYOUT NAME - 129-CTH P



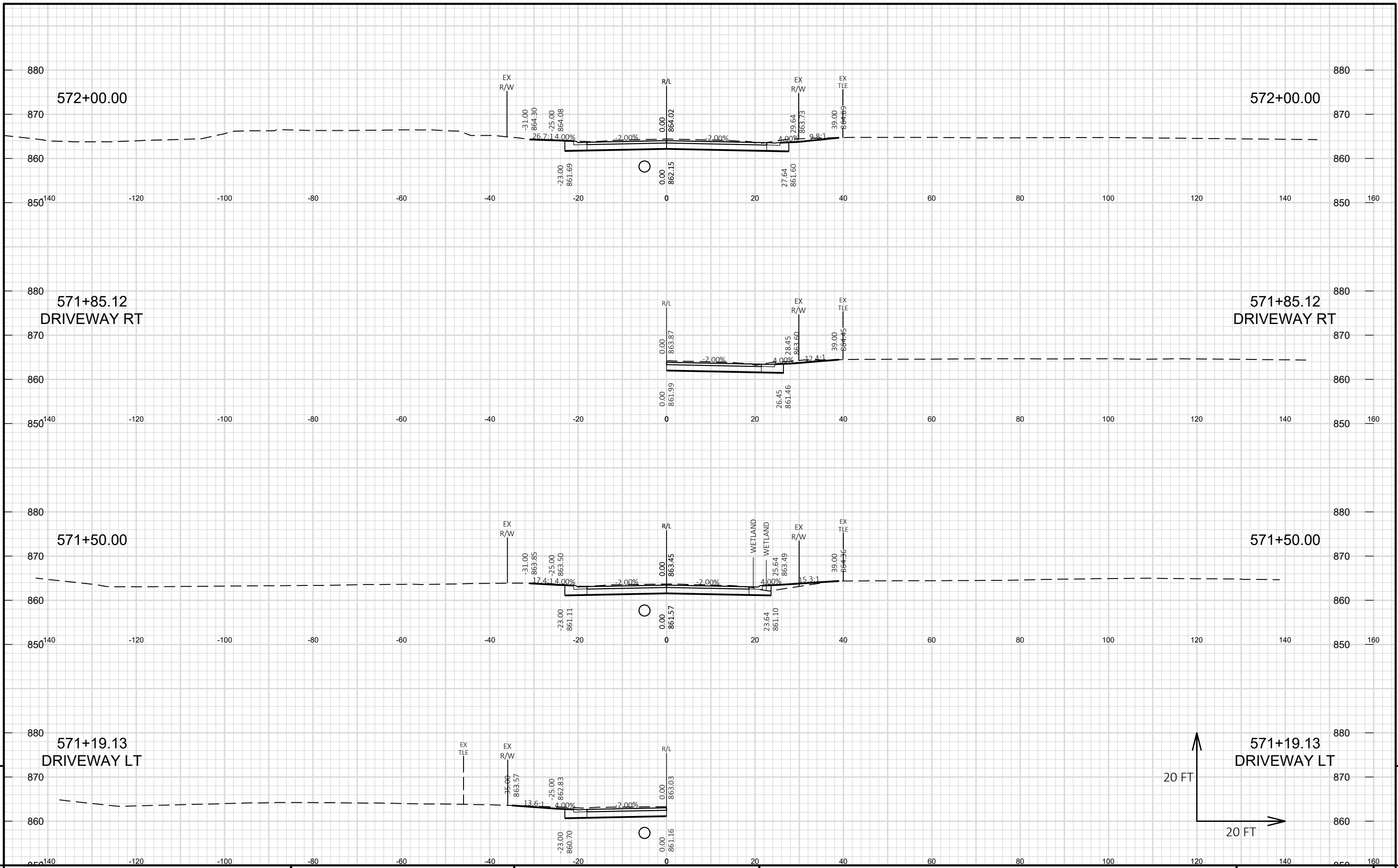
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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET E

FILE NAME : S:\CURRPROJ\WASHINCO\CTH P_STH 145-STH 60\CIVIL3D\CTH P\SHEETSPLAN\WISDOT\WISDOT_CTHP-090201-XS.DWG PLOT DATE : 10/31/2023 7:06 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 130-CTH P



PROJECT NO: 2711-06-70

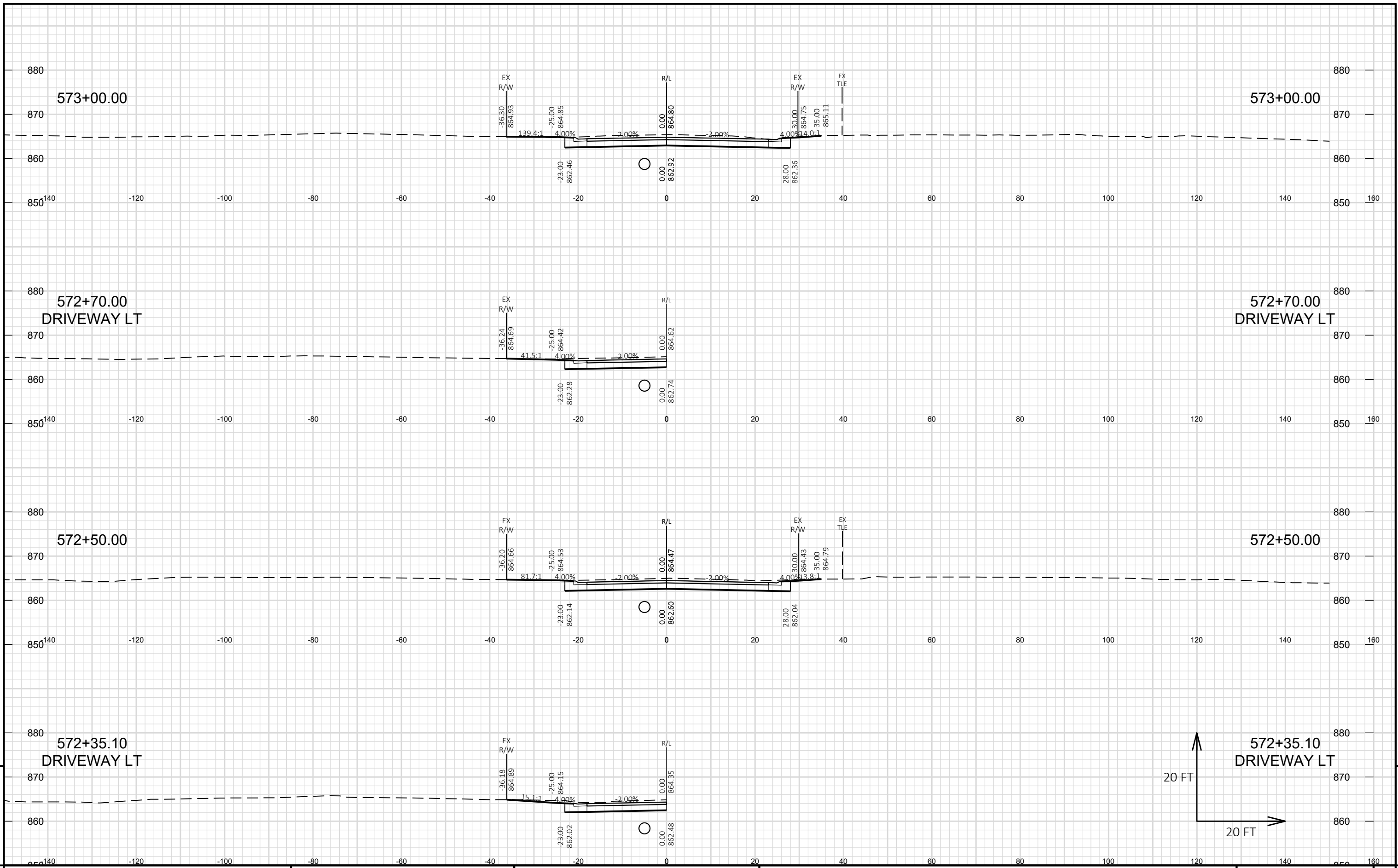
HWY: CTH P

COUNTY: WASHINGTON

CROSS SECTIONS: CTH P

SHEET

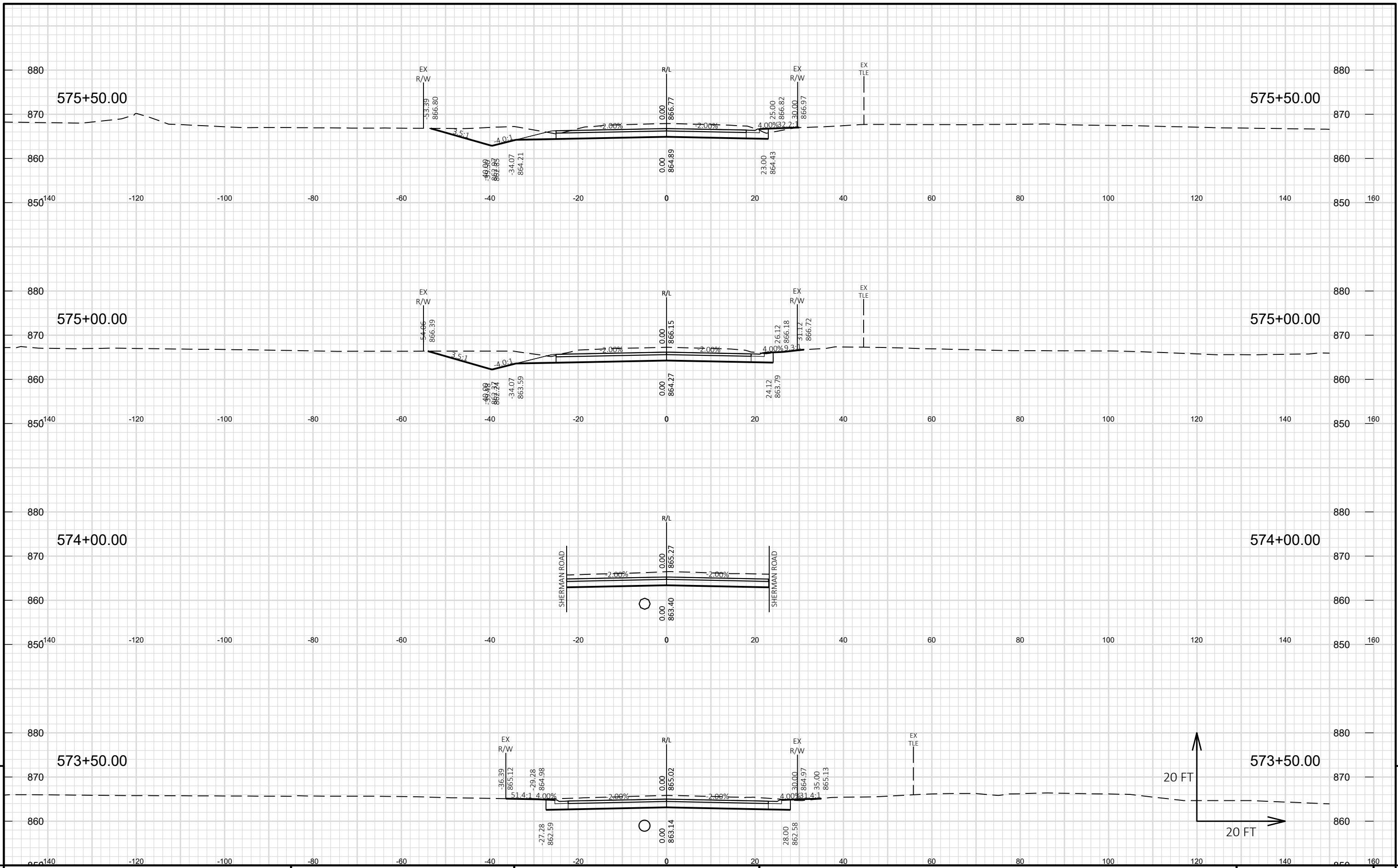
E



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PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	CROSS SECTIONS: CTH P	SHEET E
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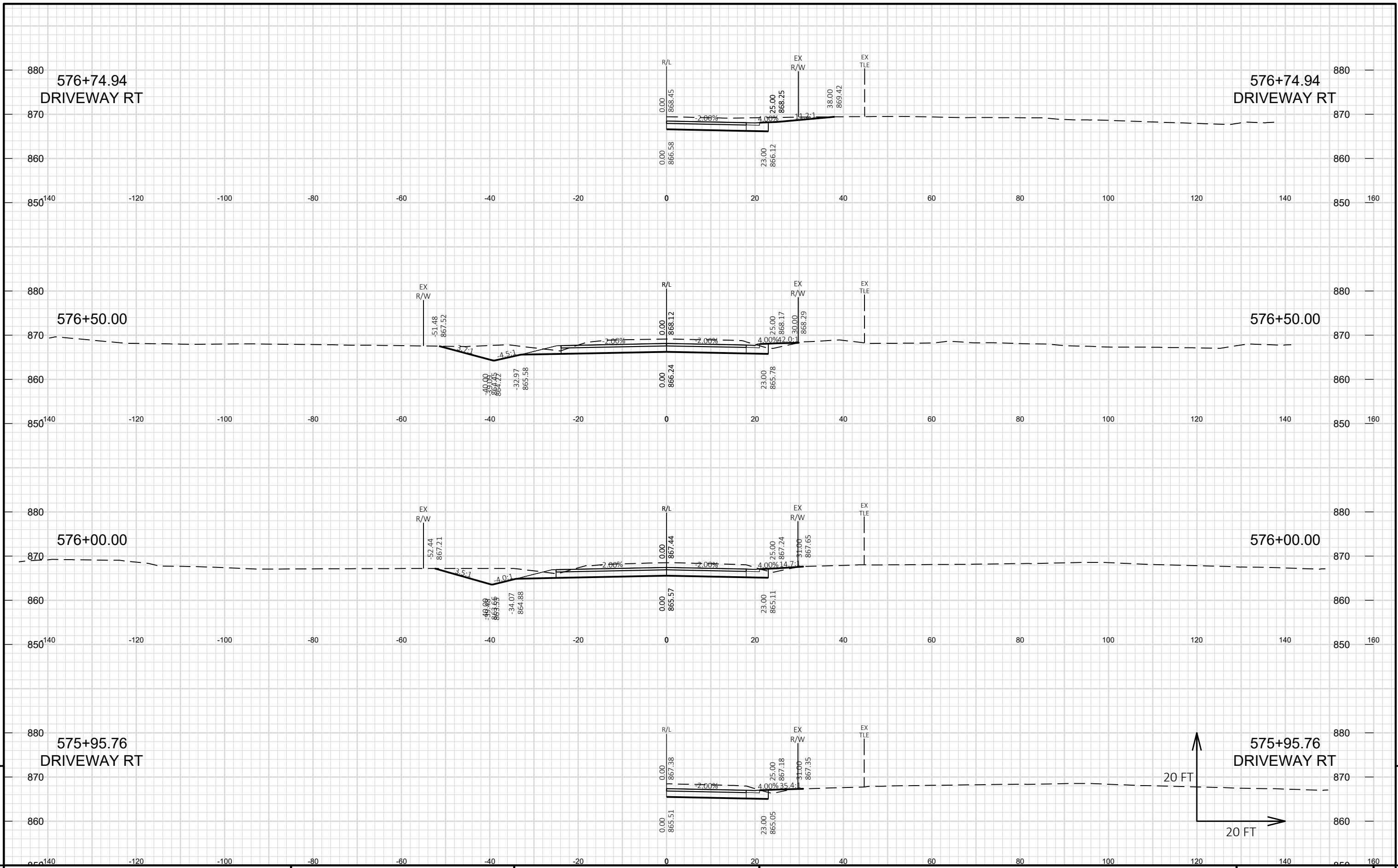


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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET E

FILE NAME: S:\CURRPROJ\WASHINCO\CTH_P_STH 145-STH 60\CIVIL3D\CTH P\SHEETS\PLAN\WISDOT\WISDOT_CTHP-090201-XS.DWG PLOT DATE: 10/31/2023 7:06 AM PLOT BY: AARON SARAUER PLOT NAME: PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:20 FT VERT. WISDOT/CADD SHEET 49

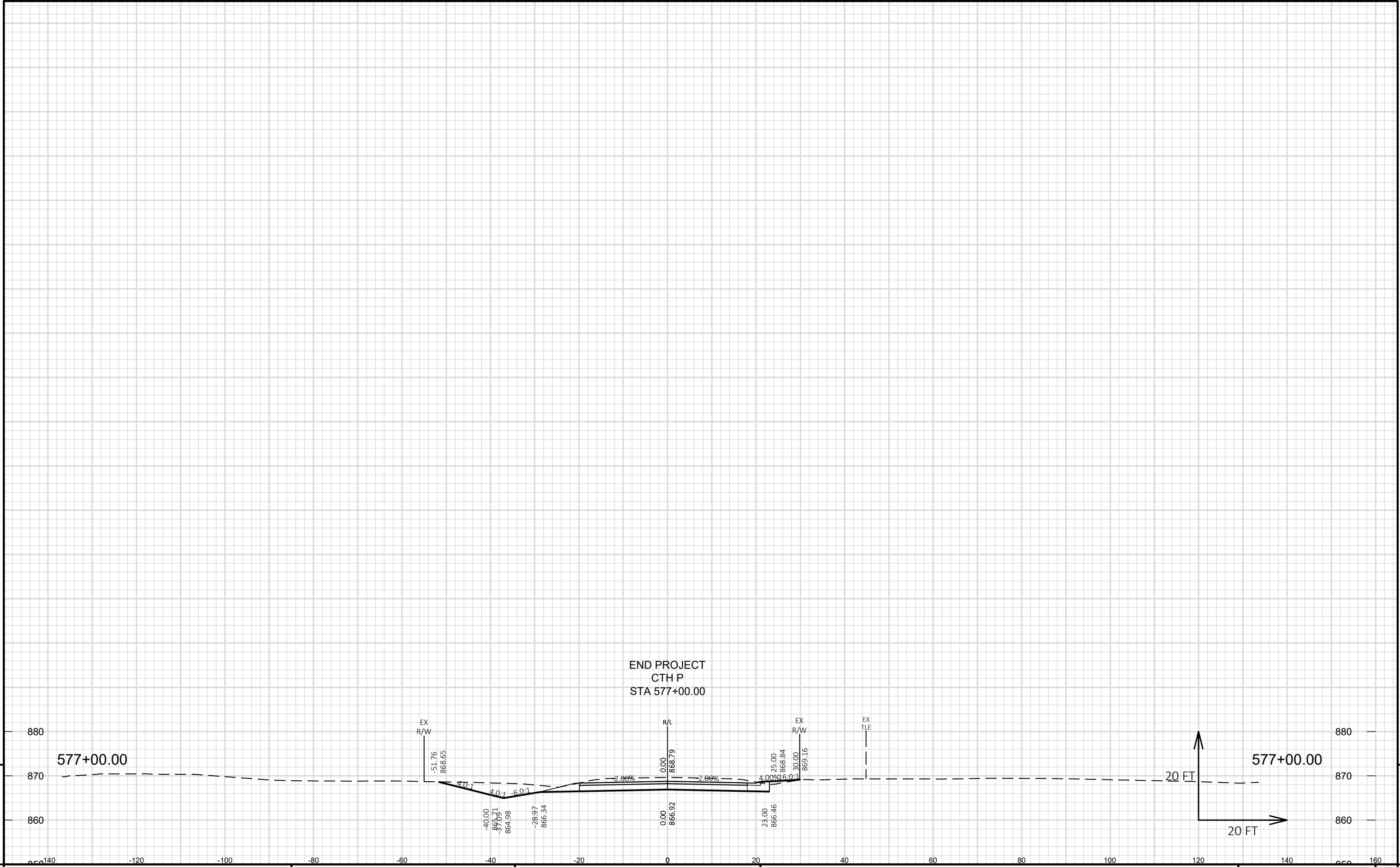


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PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET E

FILE NAME: S:\CURRPROJ\WASHINCO\CTH_P_STH 145-STH 60\CIVIL3D\CTH P\SHEETS\PLAN\WISDOT\WISDOT_CTHP-090201-XS.DWG PLOT DATE: 10/31/2023 7:06 AM PLOT BY: AARON SARAUER PLOT NAME: PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:20 FT VERT. WISDOT/CADD SHEET 49



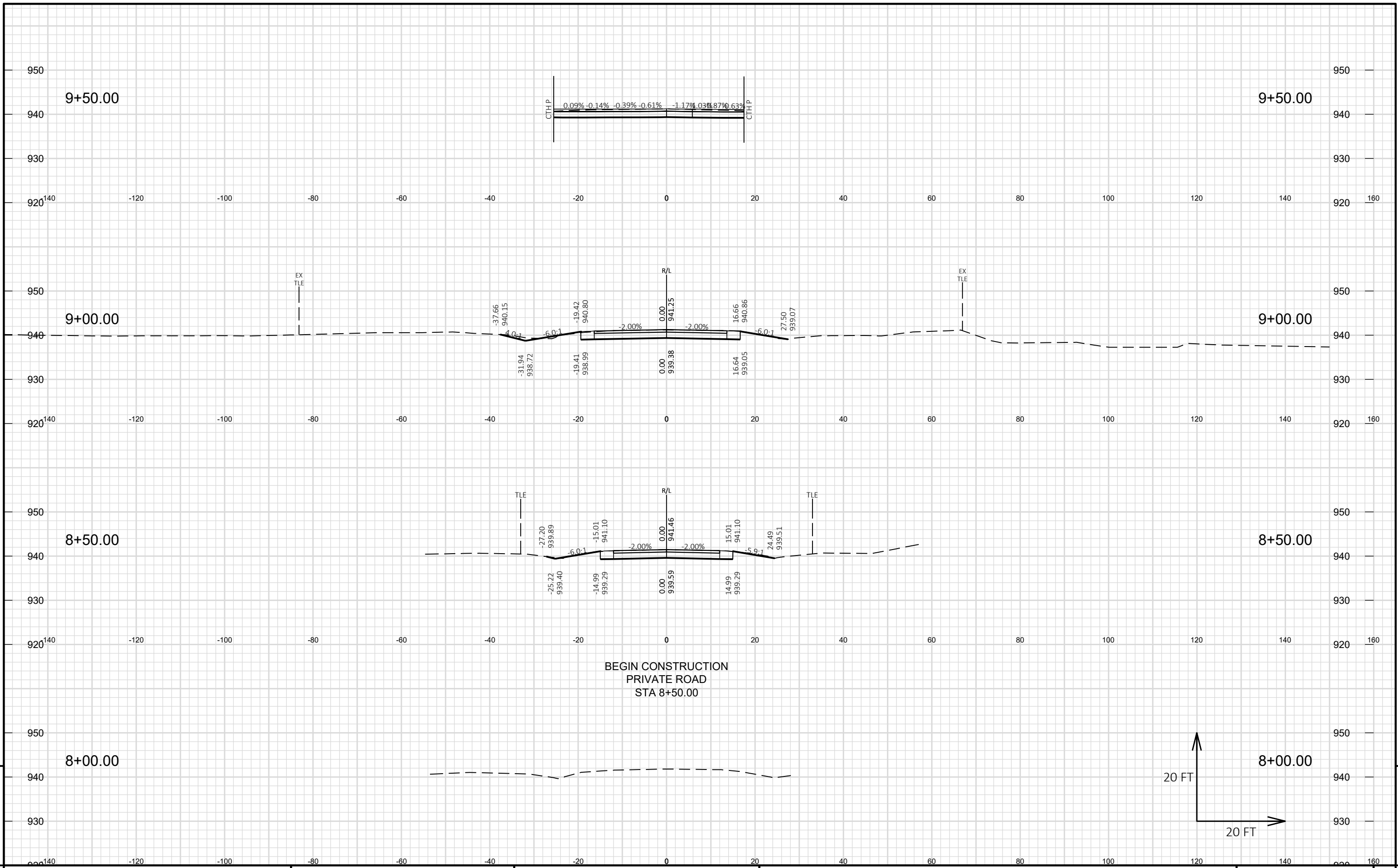
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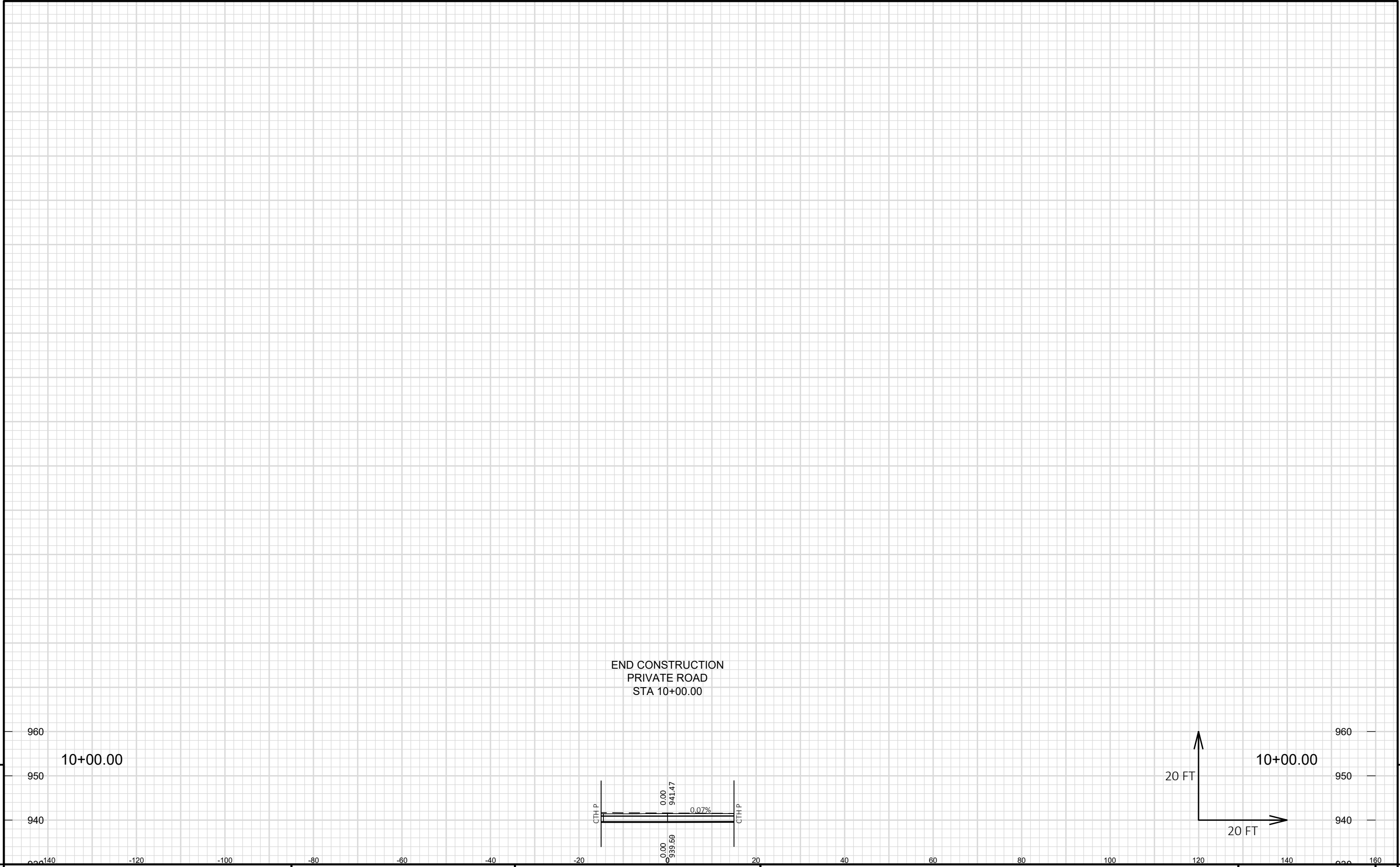
PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: CTH P SHEET E

FILE NAME : S:\CURRPROJ\WASHINCO\CTH P_STH 145-STH 60\CIVIL3D\CTH P\SHEETSPLAN\WISDOT\WISDOT_CTHP-090201-XS.DWG PLOT DATE : 10/31/2023 7:06 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 135-CTH P



PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: PRIVATE ROAD SHEET E

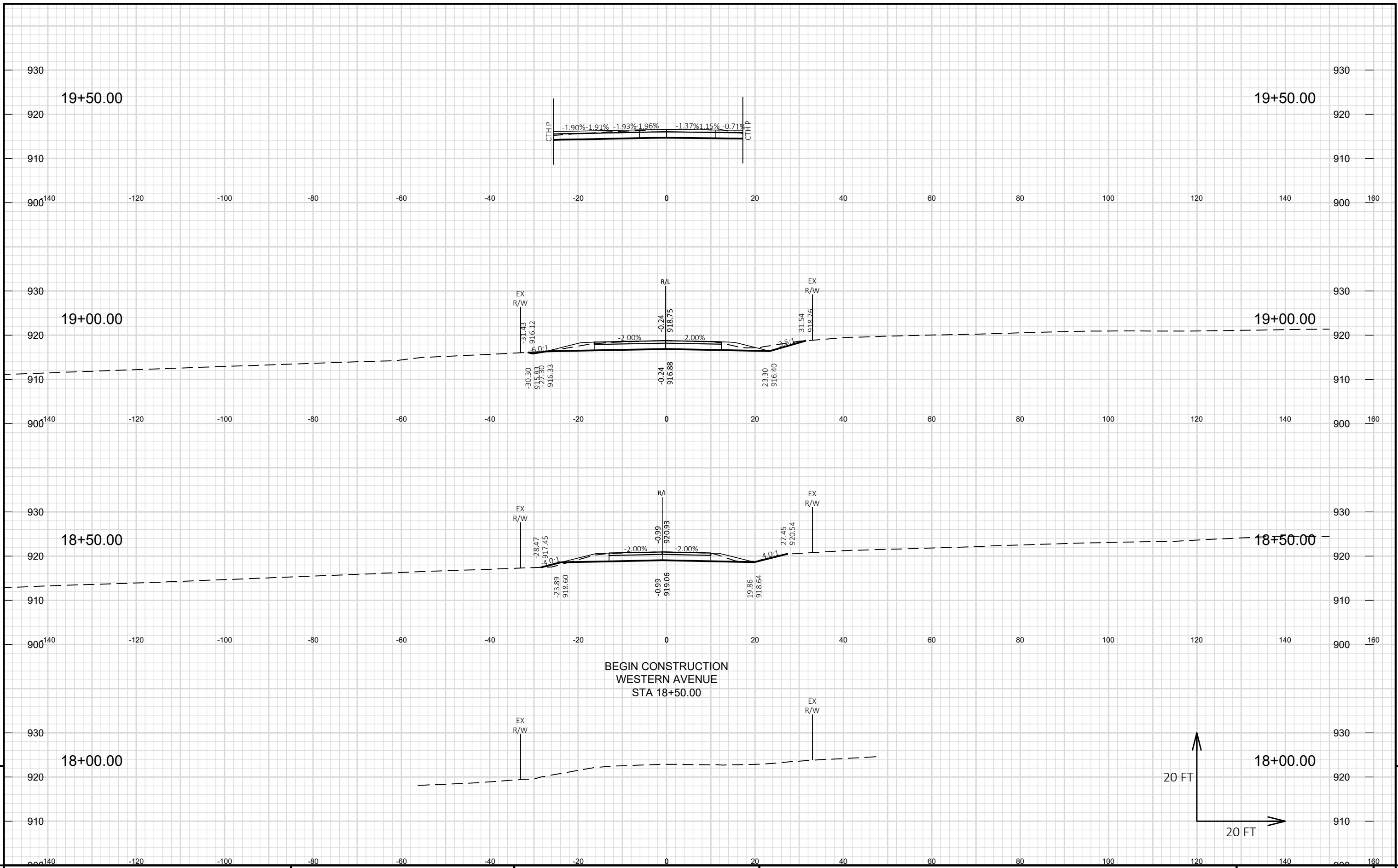


END CONSTRUCTION
PRIVATE ROAD
STA 10+00.00

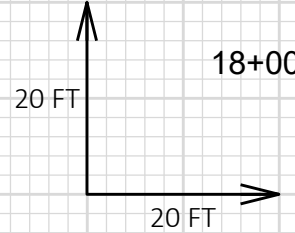
960
10+00.00
950
940

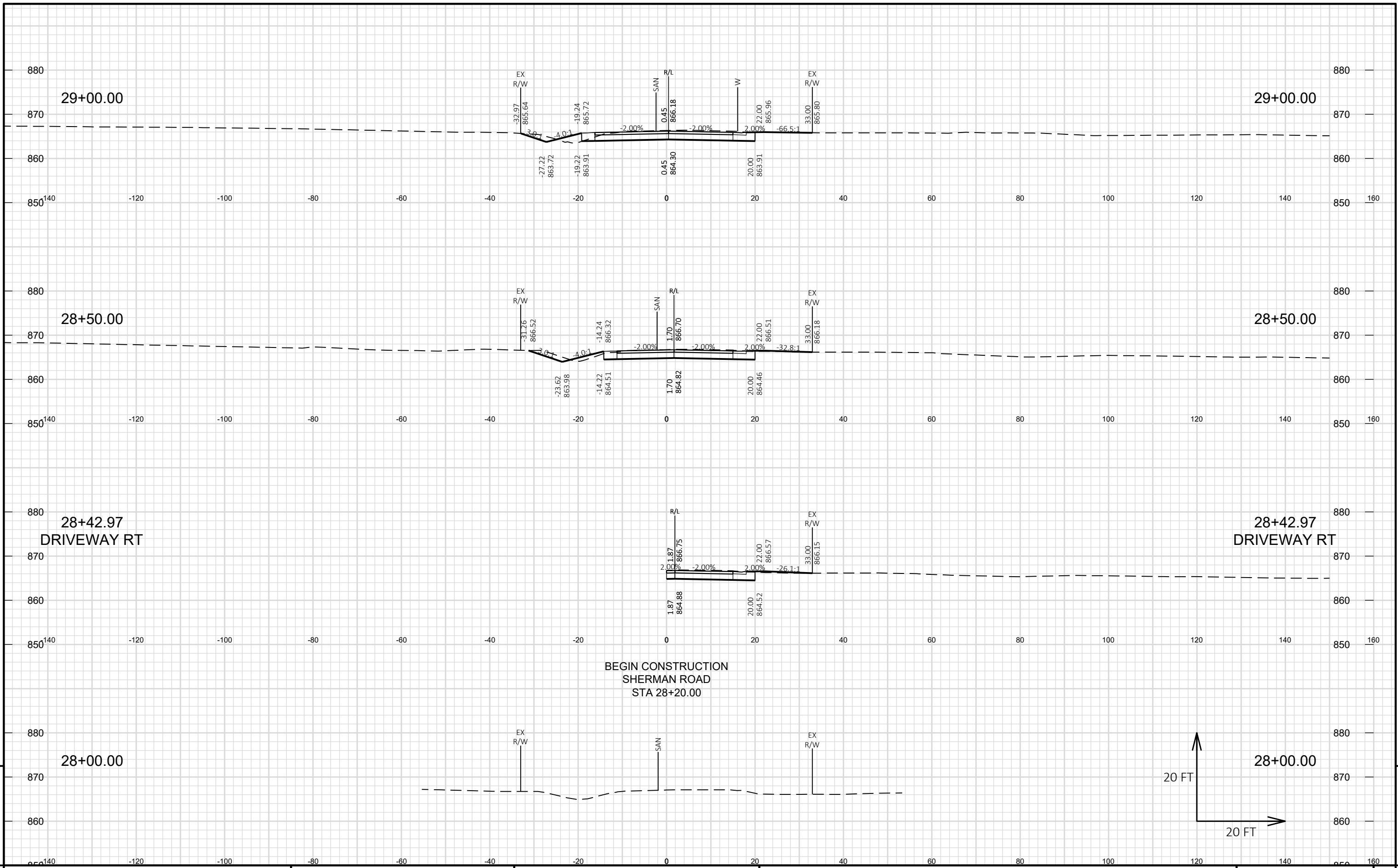
960
10+00.00
950
940
20 FT
20 FT

PROJECT NO: 2711-06-70	HWY: CTH P	COUNTY: WASHINGTON	CROSS SECTIONS: PRIVATE ROAD	SHEET	E
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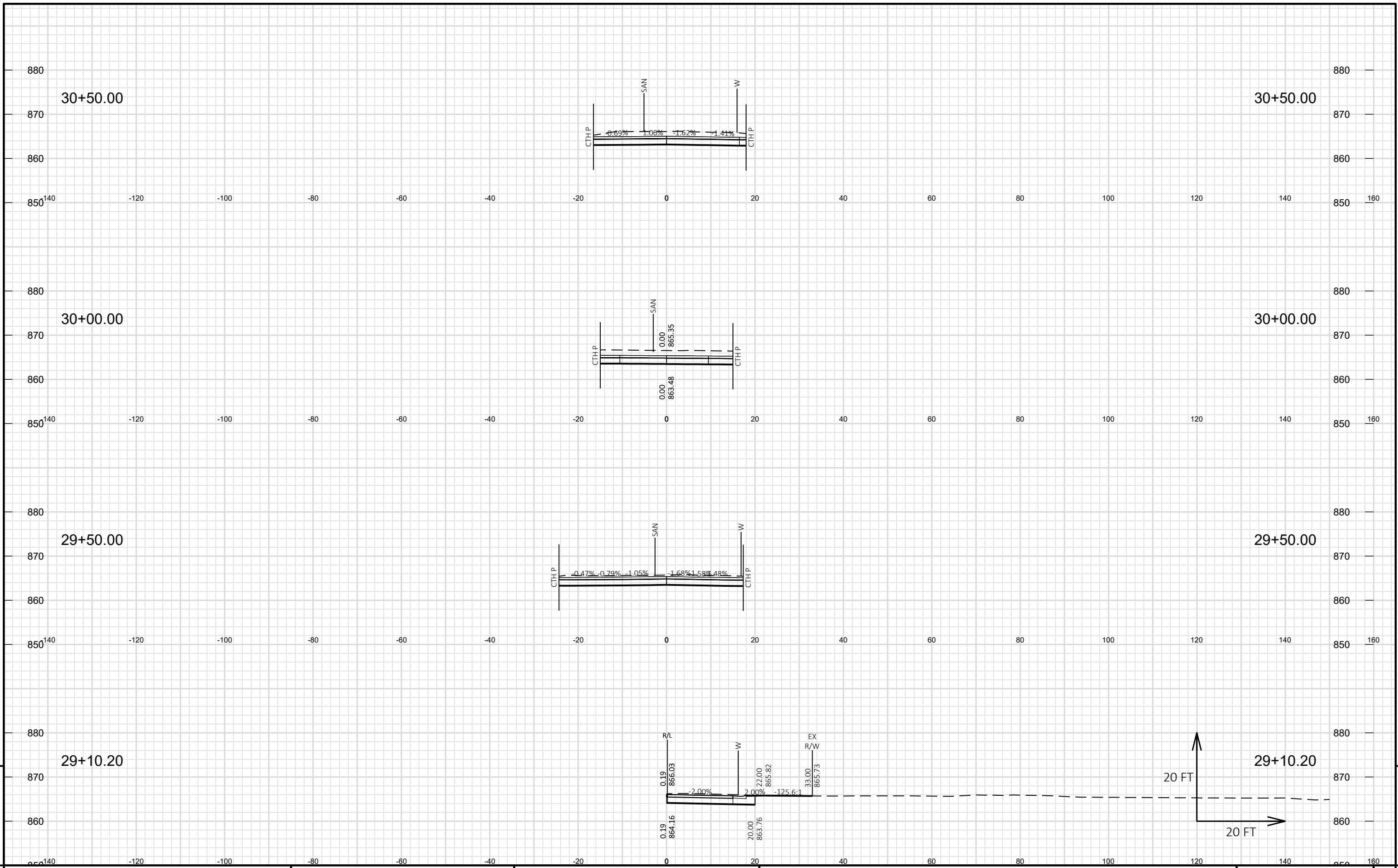


BEGIN CONSTRUCTION
WESTERN AVENUE
STA 18+50.00



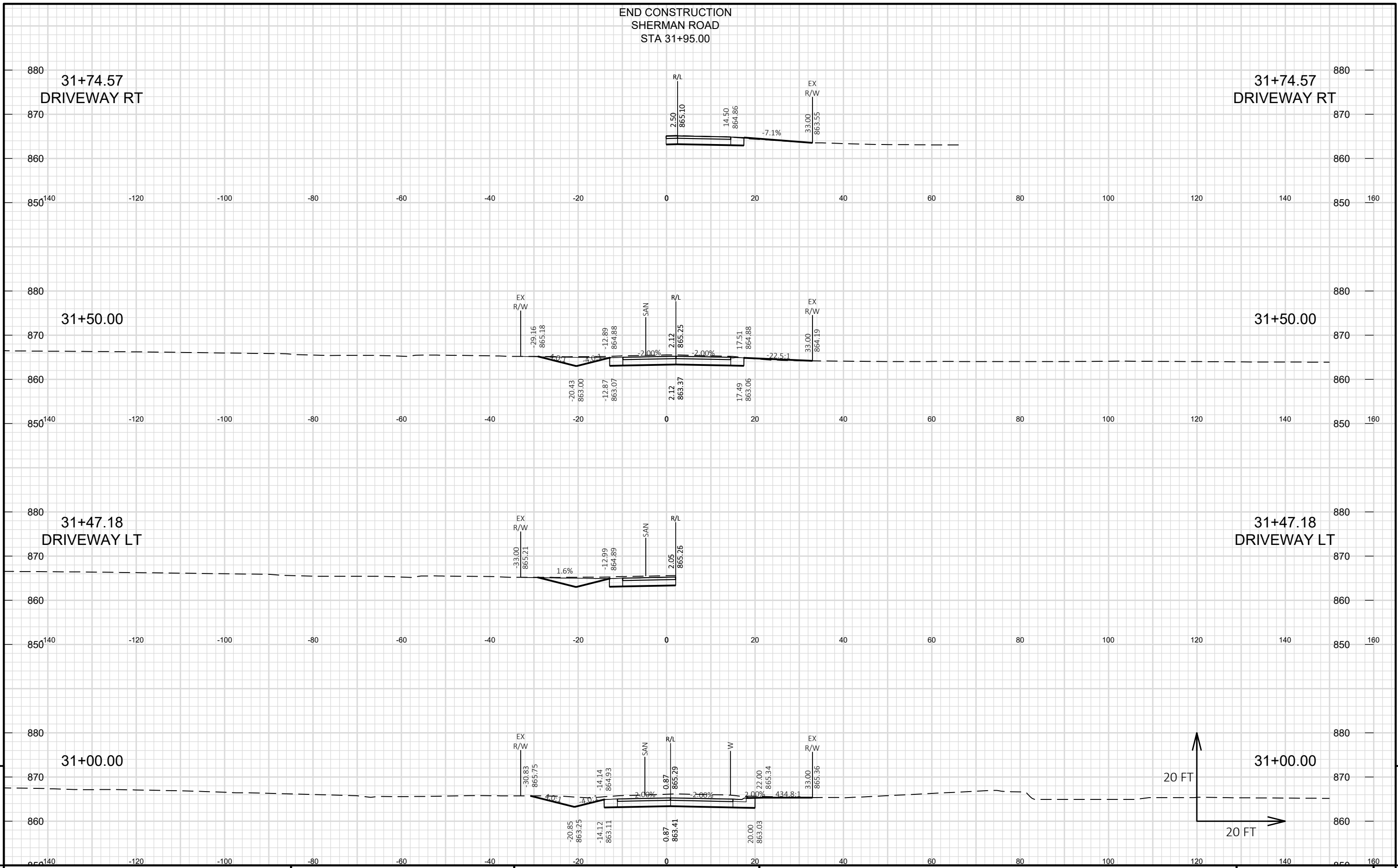


PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: SHERMAN ROAD SHEET 9



PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: SHERMAN ROAD SHEET 9

END CONSTRUCTION
SHERMAN ROAD
STA 31+95.00



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PROJECT NO: 2711-06-70

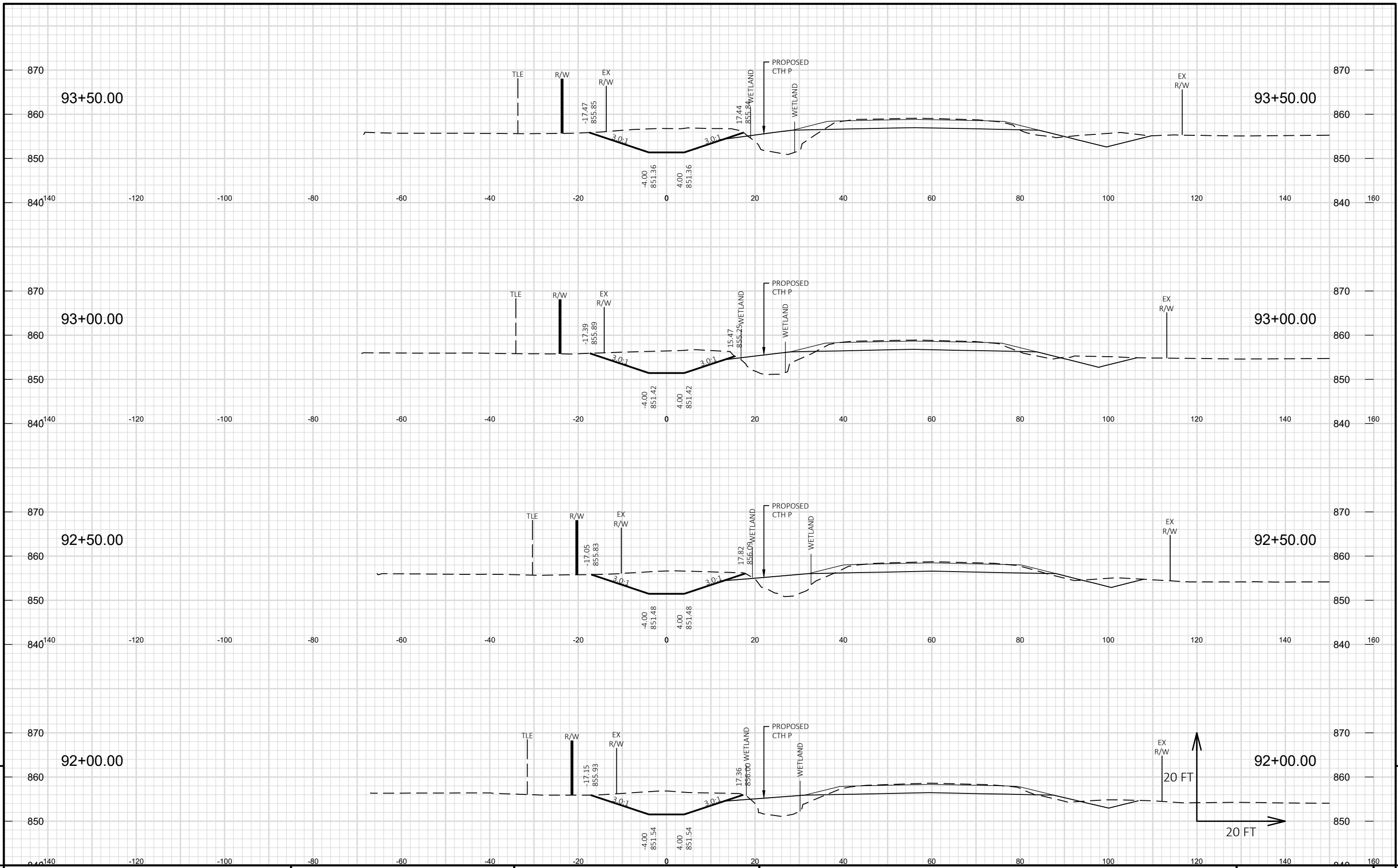
HWY: CTH P

COUNTY: WASHINGTON

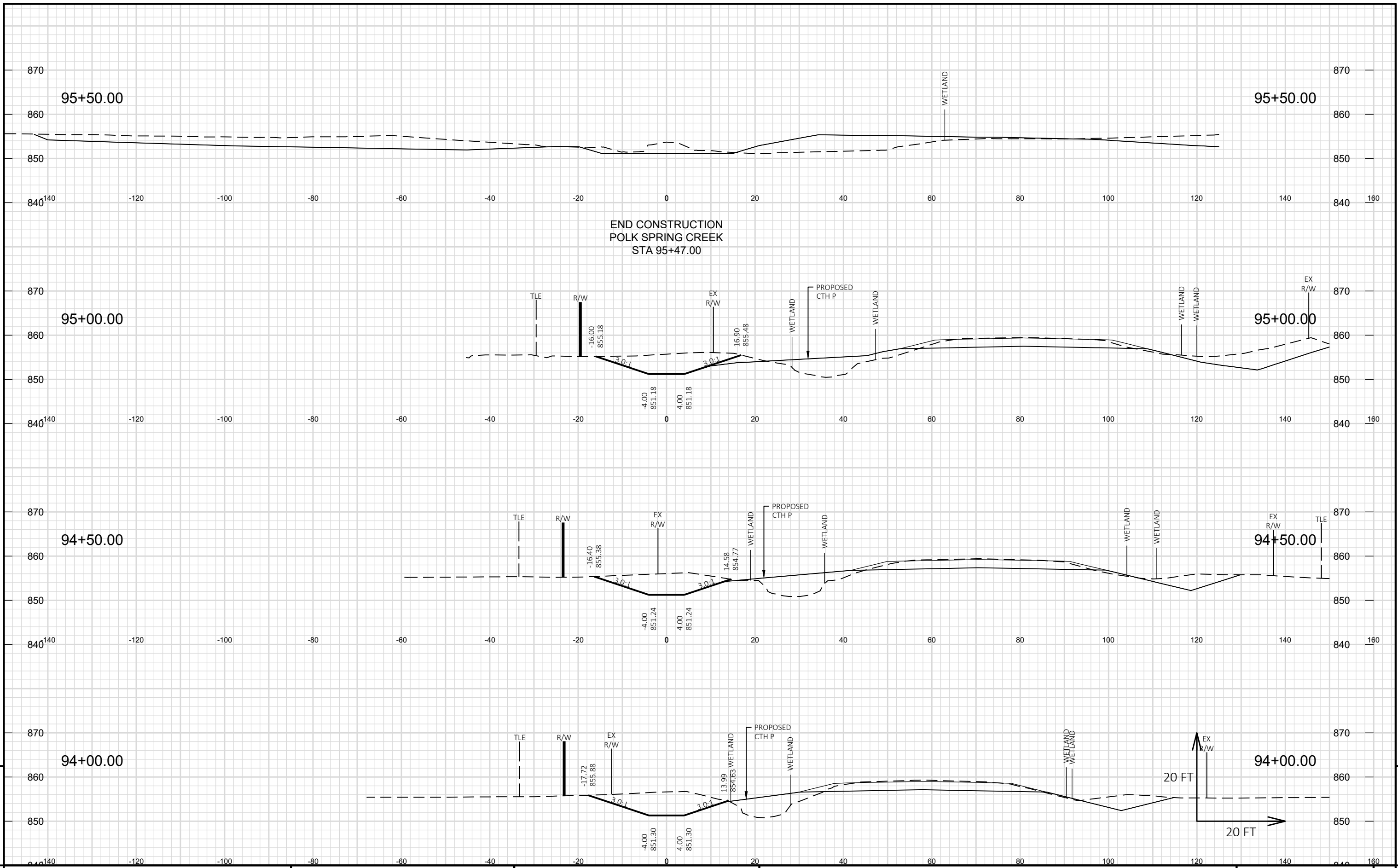
CROSS SECTIONS: SHERMAN ROAD

SHEET

E



PROJECT NO: 2711-06-70 HWY: CTH P COUNTY: WASHINGTON CROSS SECTIONS: POLK SPRING CREEK SHEET 9



PROJECT NO: 2711-06-70

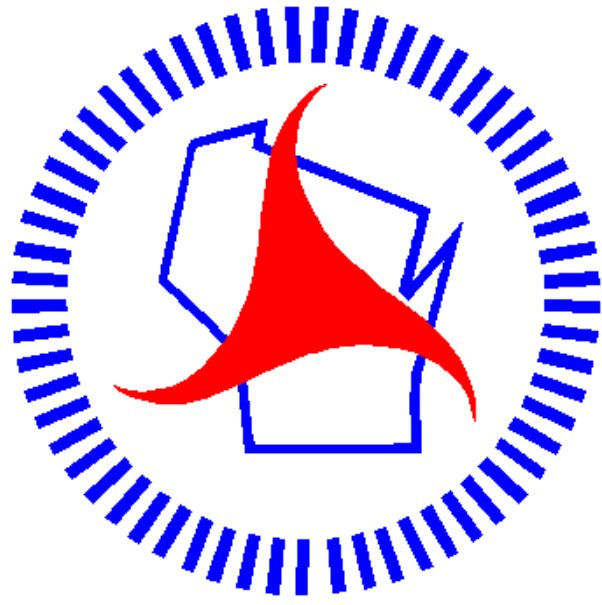
HWY: CTH P

COUNTY: WASHINGTON

CROSS SECTIONS: POLK SPRING CREEK

SHEET

E



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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