

30-OCT-2014 15:27 H:\DDC\Projects\B-4138A (33490.1.FR2) Lillington (Harnett Col)\Roadway\proj\B-4138A\_Rdy\_tsh\_sht1.dgn  
 \$\$\$USERNAME\$\$\$

**CONTRACT: TIP PROJECT: B-4138A & W-5601P**

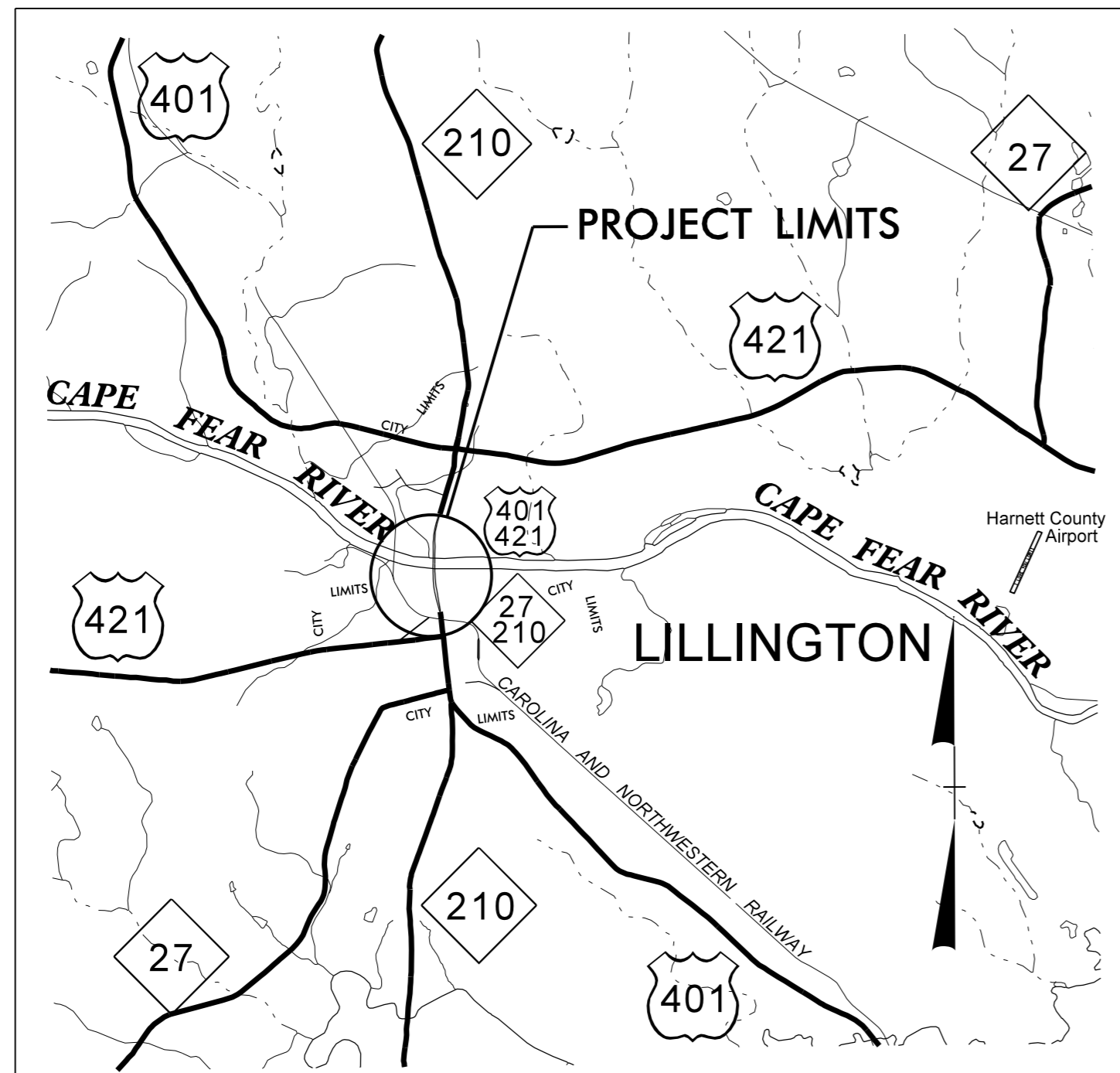
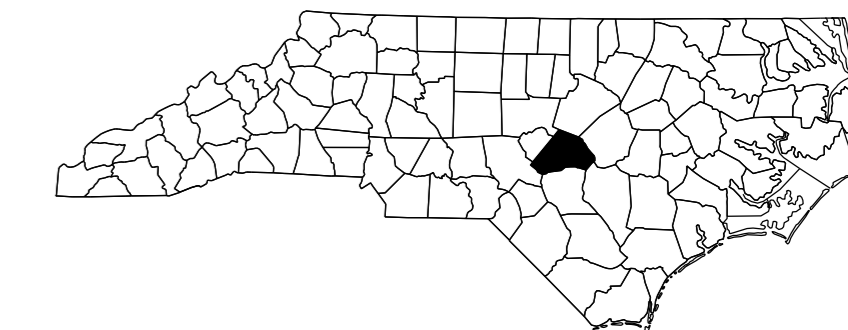
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**HARNETT COUNTY**

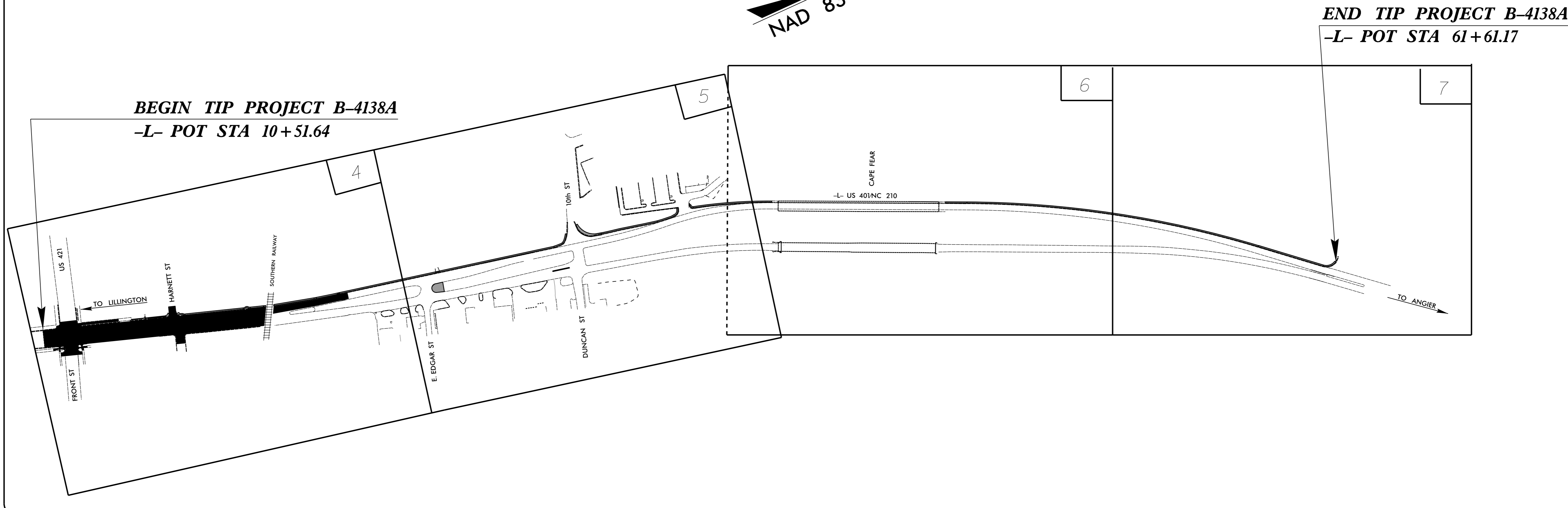
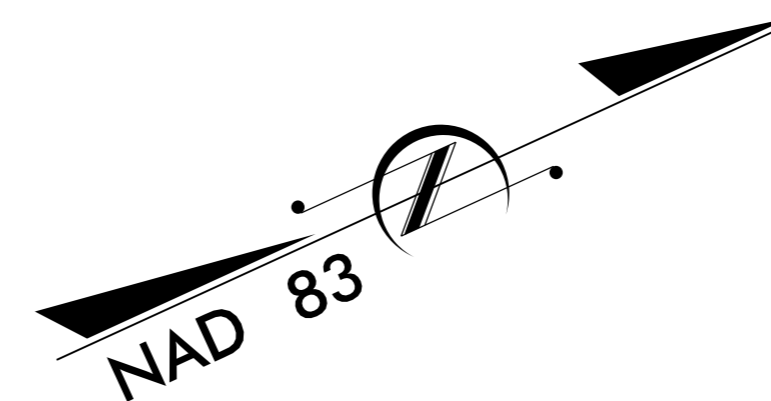
LOCATION: US 401 / NC 210

TYPE OF WORK: GRADING, SIDEWALK AND RETAINING WALL  
MILLING, PAVING, DRAINAGE  
AND PAVEMENT MARKINGS

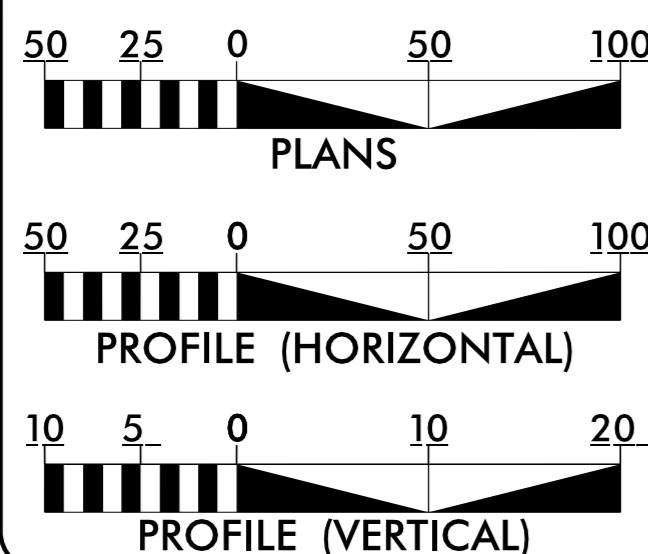
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4138A/W-5601P	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33490.1.FR2	BRSTP-0401(255)	B-4138A (PE)	
33490.2.FR2	BRSTP-0401(255)	B-4138A (R/W/UTIL.)	
33490.3.FR2	BRSTP-0401(255)	B-4138A (CONST.)	
50138.1.FR17	HSIP-0401 (264)	W-5601P (PE)	
50138.3.FR17	HSIP-0401 (264)	W-5601P (CONST.)	



VICINITY MAP



**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2013 = 23000  
 ADT 2023 = 36,800  
 DHV = 10 %  
 D = 55 %  
 T = 8 % \*  
 V = 50 MPH  
 STATEWIDE TIER 4  
 \* TTST 4 DUAL 4

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4138A = 0.81 MILES  
 LENGTH ROADWAY TIP PROJECT W-5601P = 0.14 MILES  
 TOTAL LENGTH OF TIP PROJECT B-4138A & W-5601P = 0.95 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
 431 Transportation Drive Fayetteville, NC 28301

2012 STANDARD SPECIFICATIONS

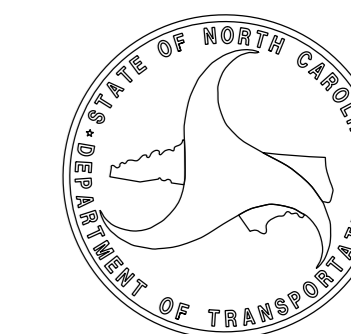
RIGHT OF WAY DATE:  
 MAY 28, 2014

LETTING DATE:  
 NOVEMBER 19, 2014

**SEAN MATUSZEWSKI**  
 PROJECT ENGINEER

**RICK HANDLIN**  
 PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

P.E.

12/05/11

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	----->
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- MLB
Proposed Wetland Boundary	--- MLB
Existing Endangered Animal Boundary	--- EAB
Existing Endangered Plant Boundary	--- EPB
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	☠?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

## HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	--- JS
Buffer Zone 1	--- BZ 1
Buffer Zone 2	--- BZ 2
Flow Arrow	←
Disappearing Stream	----->
Spring	○
Wetland	---
Proposed Lateral, Tail, Head Ditch	-----
False Sump	□

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ CSX TRANSPORTATION MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite R/W Marker	○ R/W ▲
Proposed Control of Access Line with Concrete CA Marker	○ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	--- E
Proposed Temporary Construction Easement	--- E
Proposed Temporary Drainage Easement	--- TDE
Proposed Permanent Drainage Easement	--- PDE
Proposed Permanent Drainage / Utility Easement	--- DUE
Proposed Permanent Utility Easement	--- PUE
Proposed Temporary Utility Easement	--- TUE
Proposed Aerial Utility Easement	--- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C
Proposed Slope Stakes Fill	--- F
Proposed Curb Ramp	○ CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	□

## VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	□ Vineyard

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	□ CONC
Bridge Wing Wall, Head Wall and End Wall	} CONC WW {
MINOR:	
Head and End Wall	--- CONC HW
Pipe Culvert	-----
Footbridge	----->
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○
Storm Sewer	---

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	□
H-Frame Pole	●●
Recorded U/G Power Line	--- P
Designated U/G Power Line (S.U.E.*)	--- P

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	●
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	--- T
Designated U/G Telephone Cable (S.U.E.*)	--- T
Recorded U/G Telephone Conduit	--- TC
Designated U/G Telephone Conduit (S.U.E.*)	--- TC
Recorded U/G Fiber Optics Cable	--- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	--- T FO

## WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	--- W
Designated U/G Water Line (S.U.E.*)	--- W
Above Ground Water Line	--- A/G Water

## TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	--- TV
Designated U/G TV Cable (S.U.E.*)	--- TV
Recorded U/G Fiber Optic Cable	--- TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	--- TV FO

## GAS:

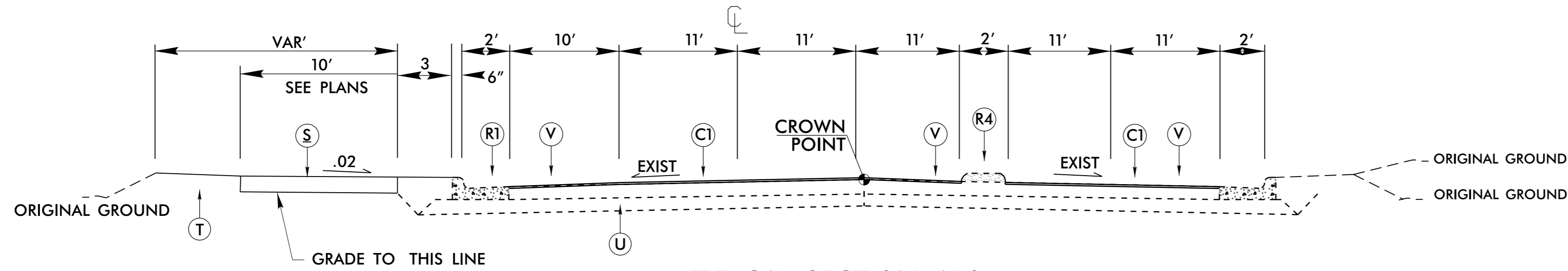
Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	--- G
Designated U/G Gas Line (S.U.E.*)	--- G
Above Ground Gas Line	--- A/G Gas

## SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer
Recorded SS Forced Main Line	--- FSS
Designated SS Forced Main Line (S.U.E.*)	--- FSS

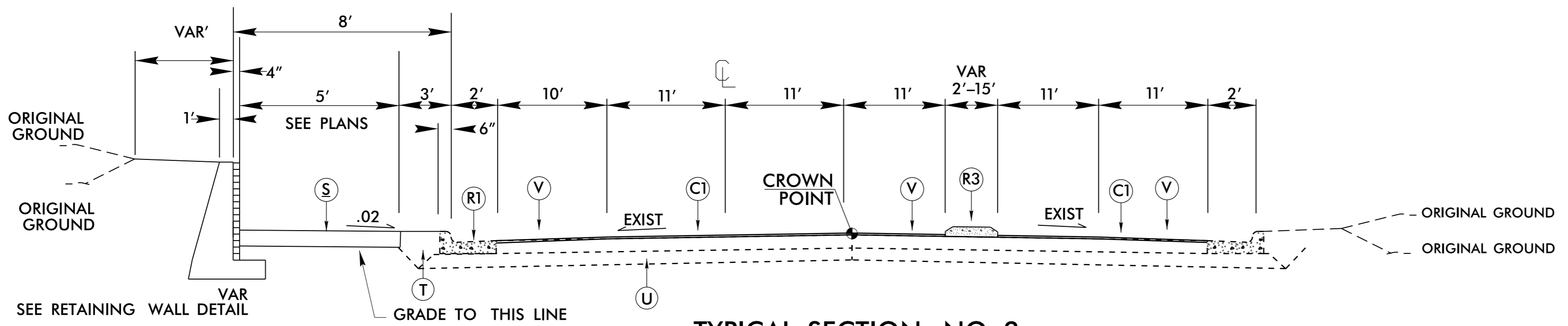
## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	--- ?UTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



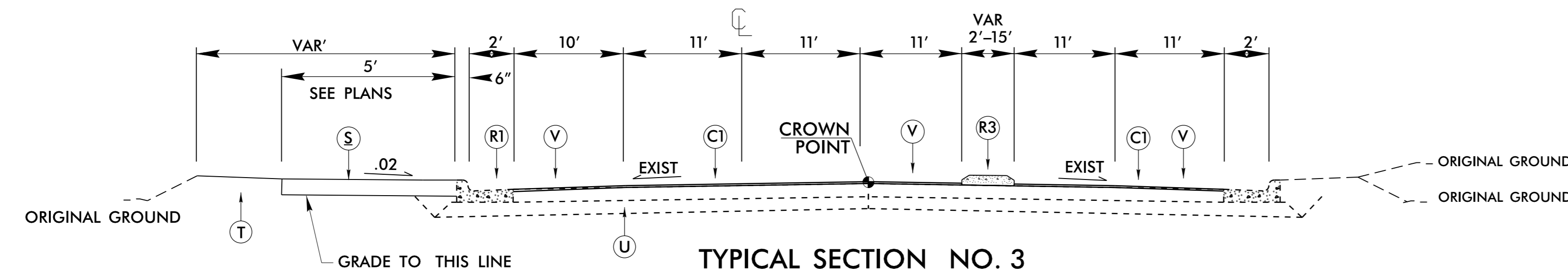
**TYPICAL SECTION NO. 1**

-L- STA. 10+51.64 TO 13+97.97



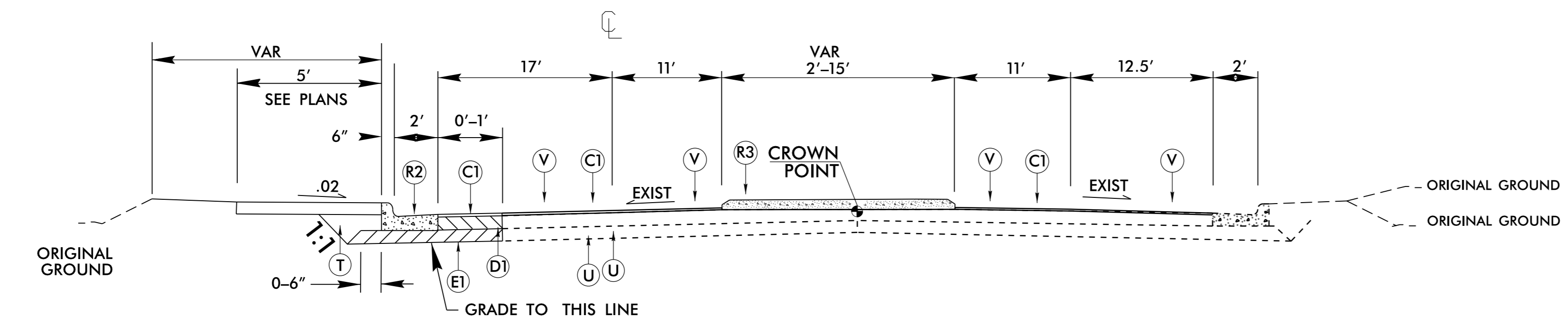
**TYPICAL SECTION NO. 2**

-L- STA. 13+97.97 TO 16+10.00



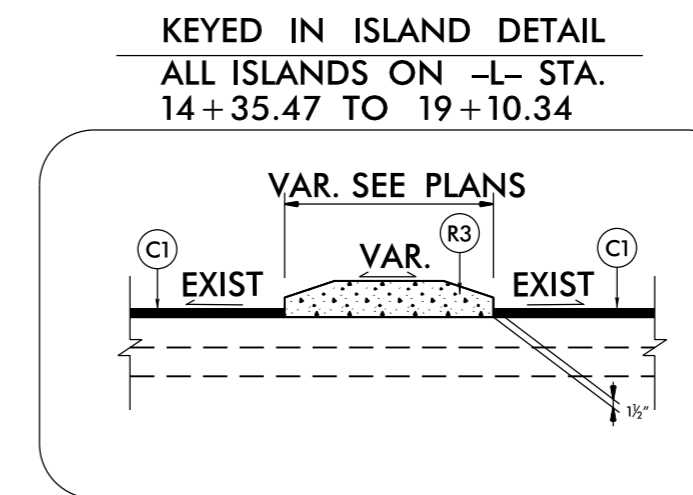
**TYPICAL SECTION NO. 3**

-L- STA. 16+10.00 TO 18+50.00



**TYPICAL SECTION NO. 4**

-L- STA. 18+50.00 TO 21+19.60



PAVEMENT SCHEDULE	
FINAL PAVEMENT DESIGN	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
R1	EXISTING 2'- 6" CONCRETE CURB AND GUTTER
R2	2'- 6" CONCRETE CURB AND GUTTER
R3	5" KEYED IN MONOLITHIC CONCRETE ISLAND. (STD 852.01)
R4	EXIST 5" KEYED IN MONOLITHIC CONCRETE ISLAND.
S	PROPOSED 4" SIDEWALK.
I	EARTH MATERIAL
V	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
U	EXIST. PAVEMENT

**PROJECT NOTES**

- The Contractor shall not work on both sides of the road simultaneously within the same area.
- Ingress and egress shall be maintained to all businesses and dwellings on the project.
- At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded but no base material placed.
- A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
- The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
- During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1 1/2 inches.
- Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
- During periods of construction inactivity, place drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
- Channelizing devices in work areas shall be spaced not greater than 100' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
- Contractor will be responsible for relocating any existing signs after construction.

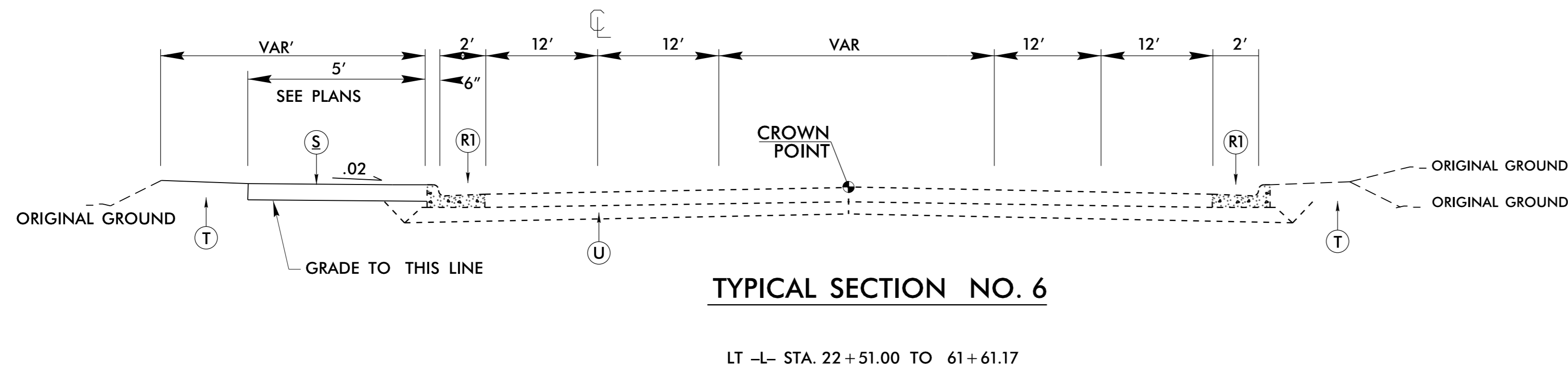
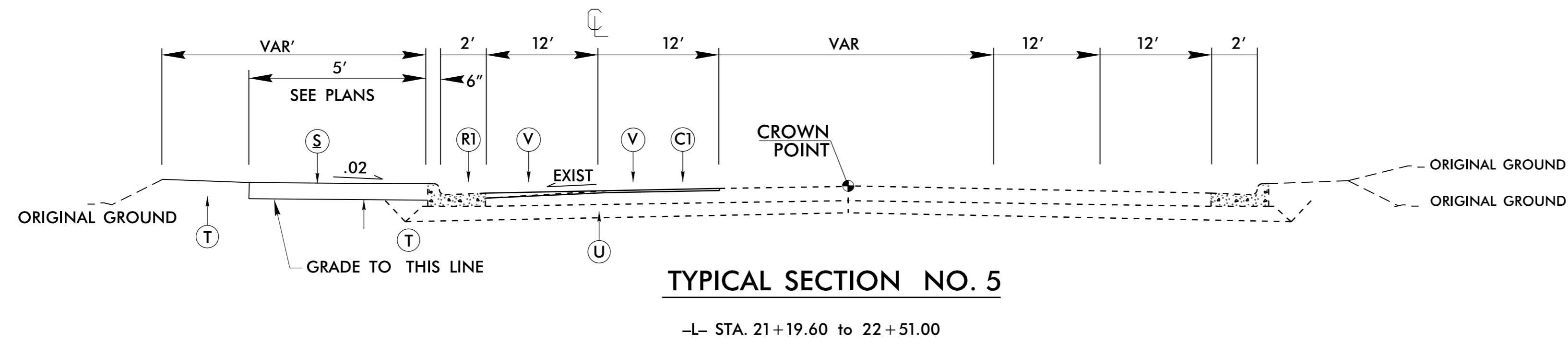
CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS AS NEEDED.

FOR SIGNAL WORK, CONTACT FRANK WEST 910-486-1452, 28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING, CONTACT KENT LANGDON 910-486-1452, 14 DAYS PRIOR TO FINAL PLACEMENT.

6/2/99

30-001-2014 15127 B-4138A (334901.FR2) Lillington (Harnett Co)\Roadway\proj\B-4138A\_Rdy\_tjy-2.dgn



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6/2/99

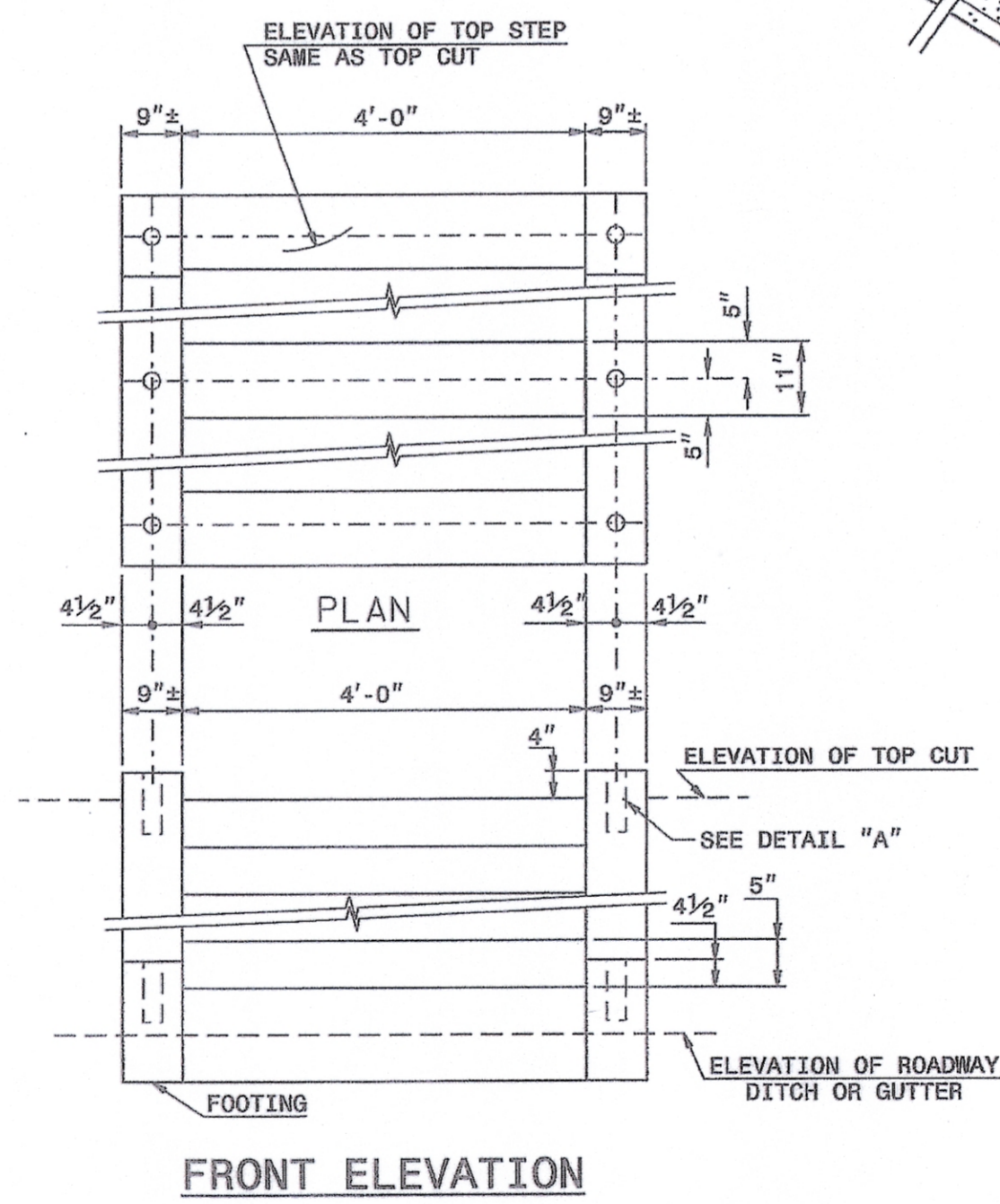
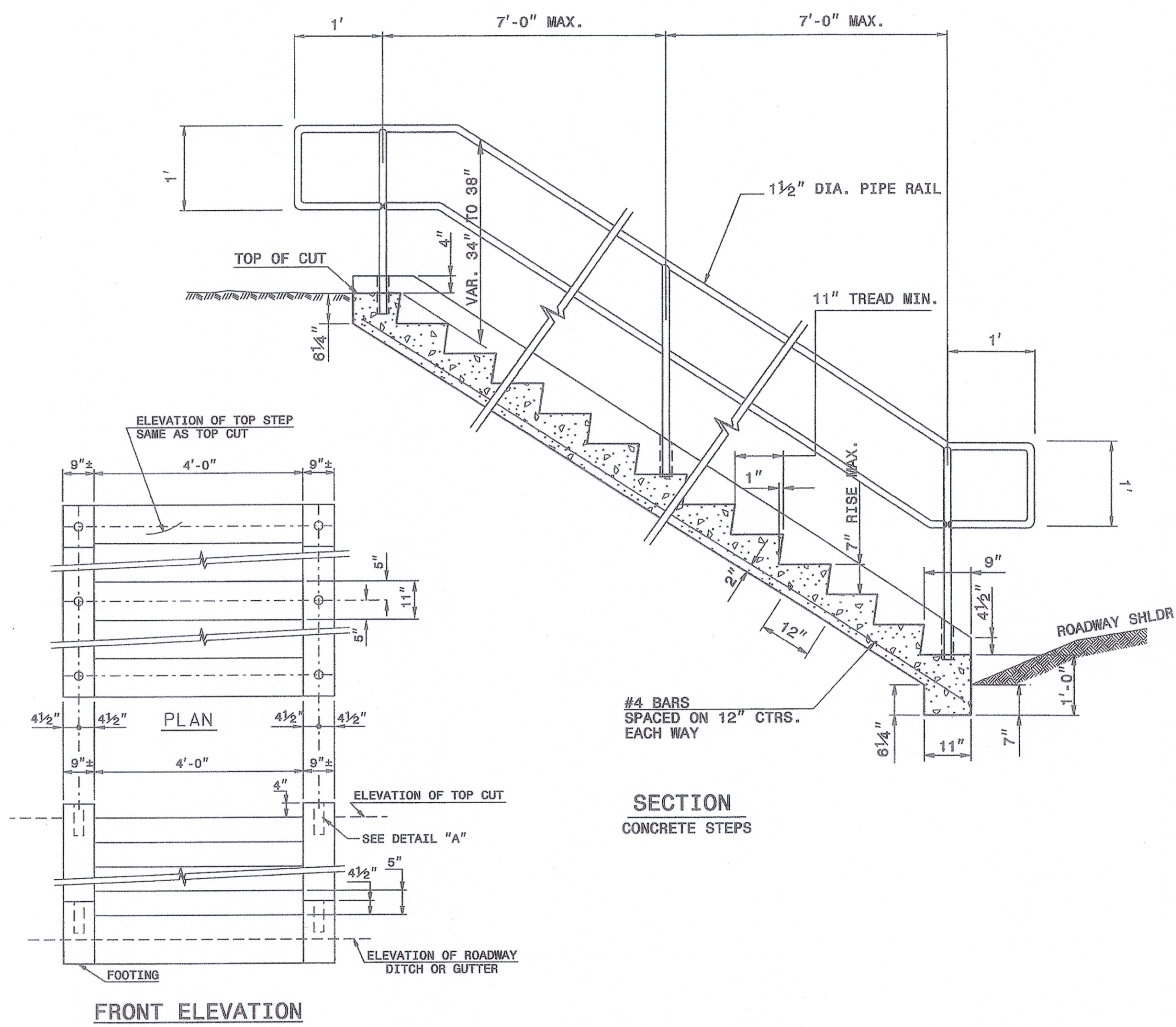
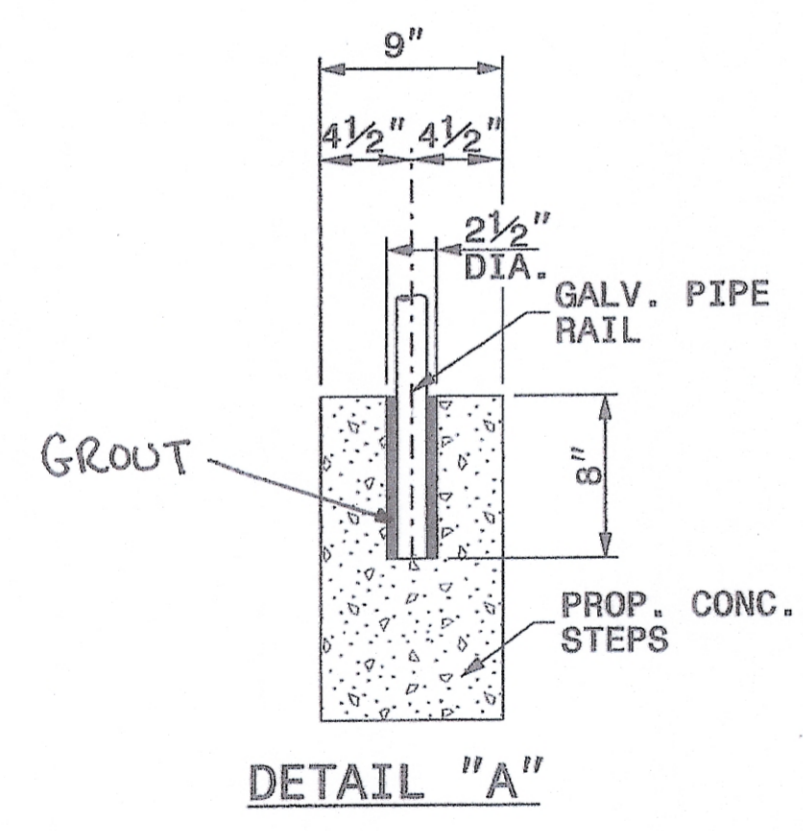
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STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
CONCRETE STEPS WITH HANDRAIL

- GENERAL NOTES :
- 1- CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1½" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53. EMBED PIPE RAIL 8" INTO PROPOSED STEPS WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER.
  - 2- USE A ROTARY DRILL FOR DRILLING THE HOLES FOR THE PIPE RAIL. NO IMPACT DRILLS ALLOWED.
  - 3- USE CLASS "B" CONCRETE THROUGHOUT FOR CONCRETE STEPS.
  - 4- LOCATION AND QUANTITIES SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND QUANTITIES WILL BE DETERMINED BY THE ENGINEER.
  - 5- ALL WORK AS DIRECTED BY THE ENGINEER.
  - 6- REPAIR OF GALVANIZING IN ACCORDANCE WITH SCT.1076 OF THE STANDARD SPECIFICATIONS.
  - 7- WELD IN ACCORDANCE WITH ARTICLE 1072-20 OF THE STANDARD SPECIFICATIONS.
  - 8- 2" CLEAR SPACING ON ALL REINFORCING BARS.
  - 9- EXTEND HORIZONTAL REINFORCING BARS UPWARD INTO SIDE WALLS.
  - 10- ALL HANDRAILS AND STEPS MUST COMPLY WITH ADA STANDARDS FOR ACCESSIBLE DESIGN.

CUBIC YARDS IN STANDARD CONCRETE STEPS					
NO. OF STEPS	4' WIDE	5' WIDE	6' WIDE	7' WIDE	ADDITIONAL CU. YDS. PER 1' WIDTH
2	0.4	0.5	0.5	0.6	0.1
3	0.6	0.7	0.8	0.9	0.1
4	0.8	0.9	1.0	1.2	0.1
5	1.0	1.2	1.3	1.4	0.1
6	1.2	1.4	1.5	1.7	0.2
7	1.4	1.6	1.8	2.0	0.2
8	1.6	1.8	2.0	2.3	0.2
9	1.8	2.0	2.3	2.6	0.3
10	2.0	2.3	2.5	2.8	0.3
ADDITIONAL STEP INCREMENT	0.2	0.2	0.2	0.3	0.1



STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
CONCRETE STEPS WITH HANDRAIL

CONTRACT STANDARDS AND DEVELOPMENT UNIT  
Office 919-707-6950 FAX 919-250-4119

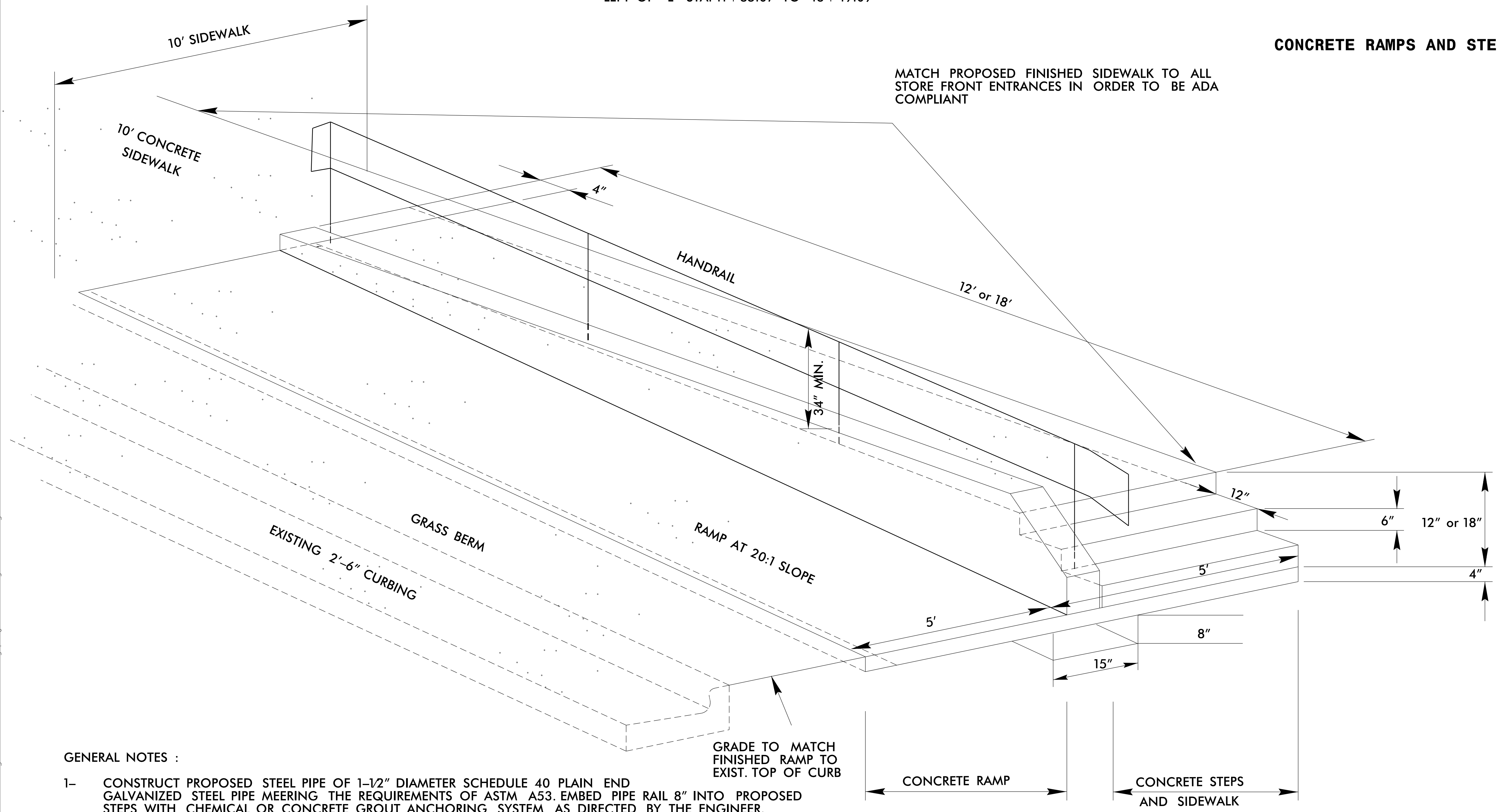
SEE PLATE FOR TITLE

ORIGINAL BY: T.Spall DATE: Oct. 7, 1998  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC.: s:\usr\details\stand\844d01e.dgn

SYSTEMS CONSULTANTS

USE DETAIL TO INSTALL RAMPS AND SIDEWALK  
LEFT OF -L- STA. 11+85.07 TO 13+49.09

**CONCRETE RAMPS AND STEPS**

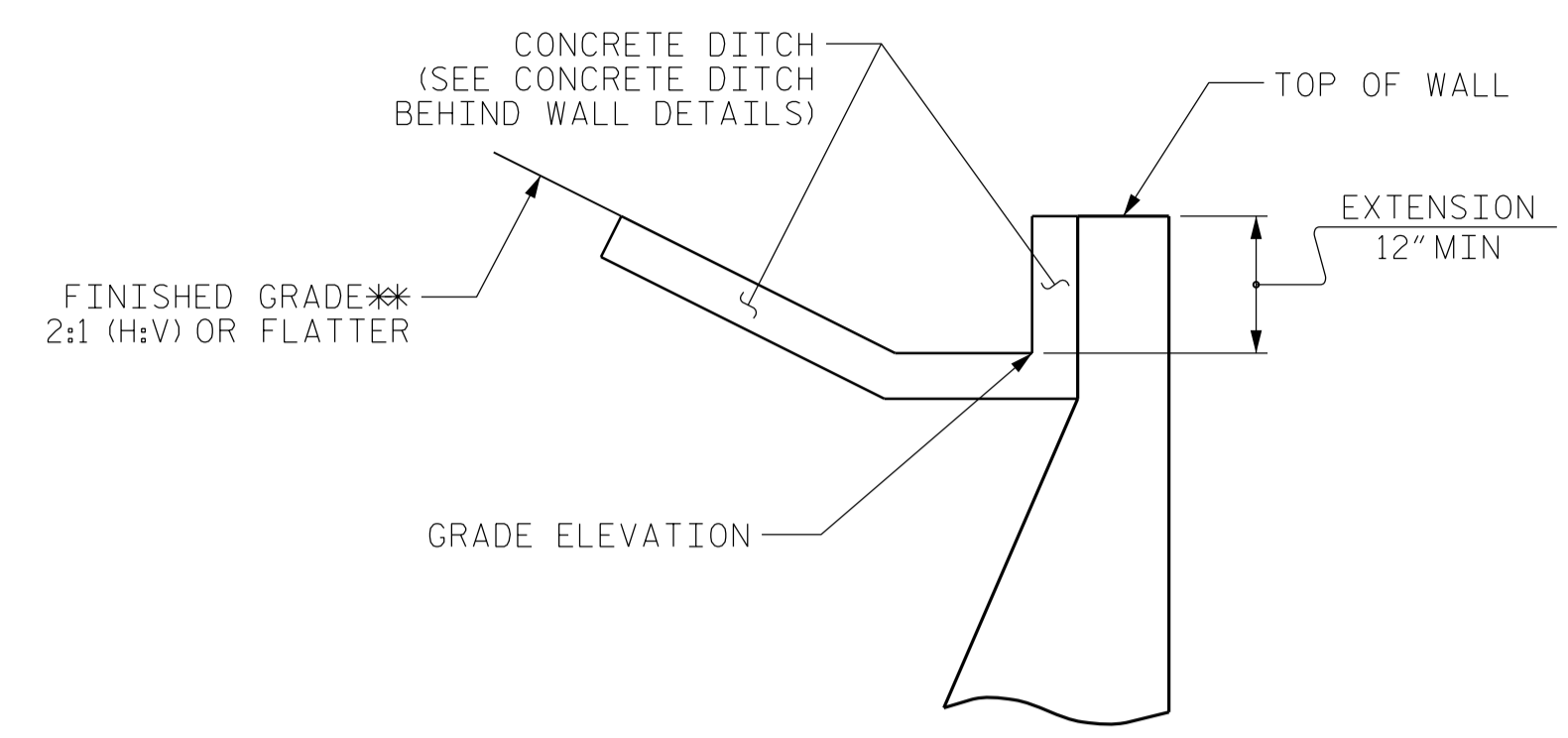


MATCH PROPOSED FINISHED SIDEWALK TO ALL  
STORE FRONT ENTRANCES IN ORDER TO BE ADA  
COMPLIANT

**GENERAL NOTES :**

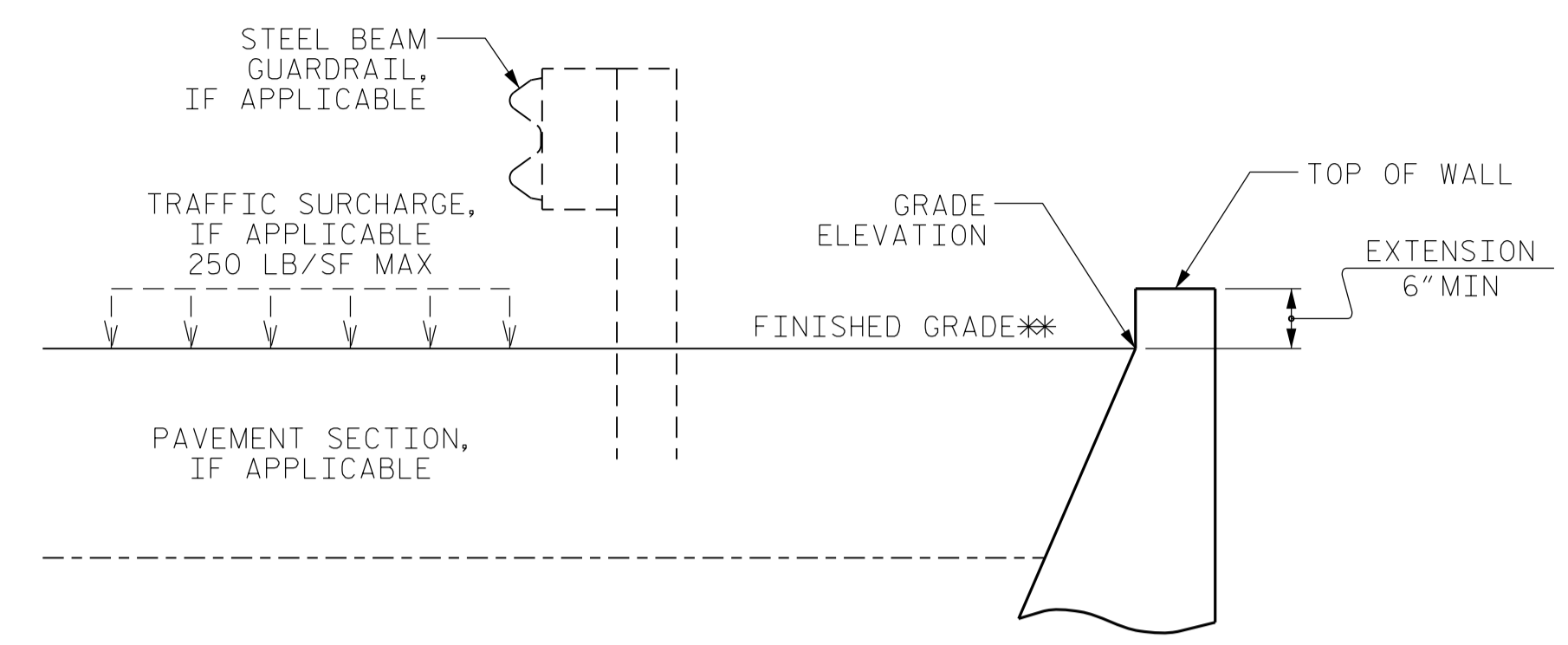
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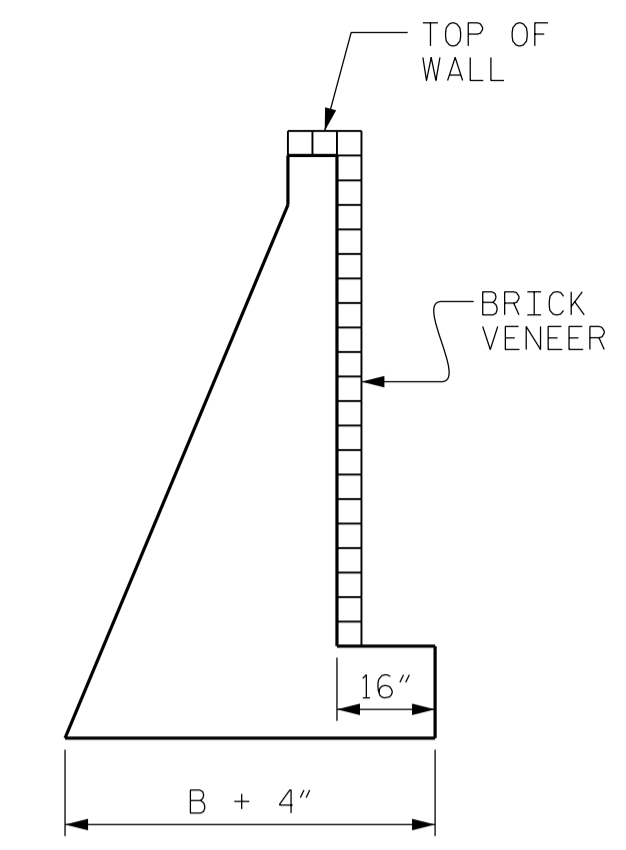
**SLOPE CASE**

\*\*SEE ROADWAY PLANS FOR FINISHED GRADE AND DITCH DETAILS.



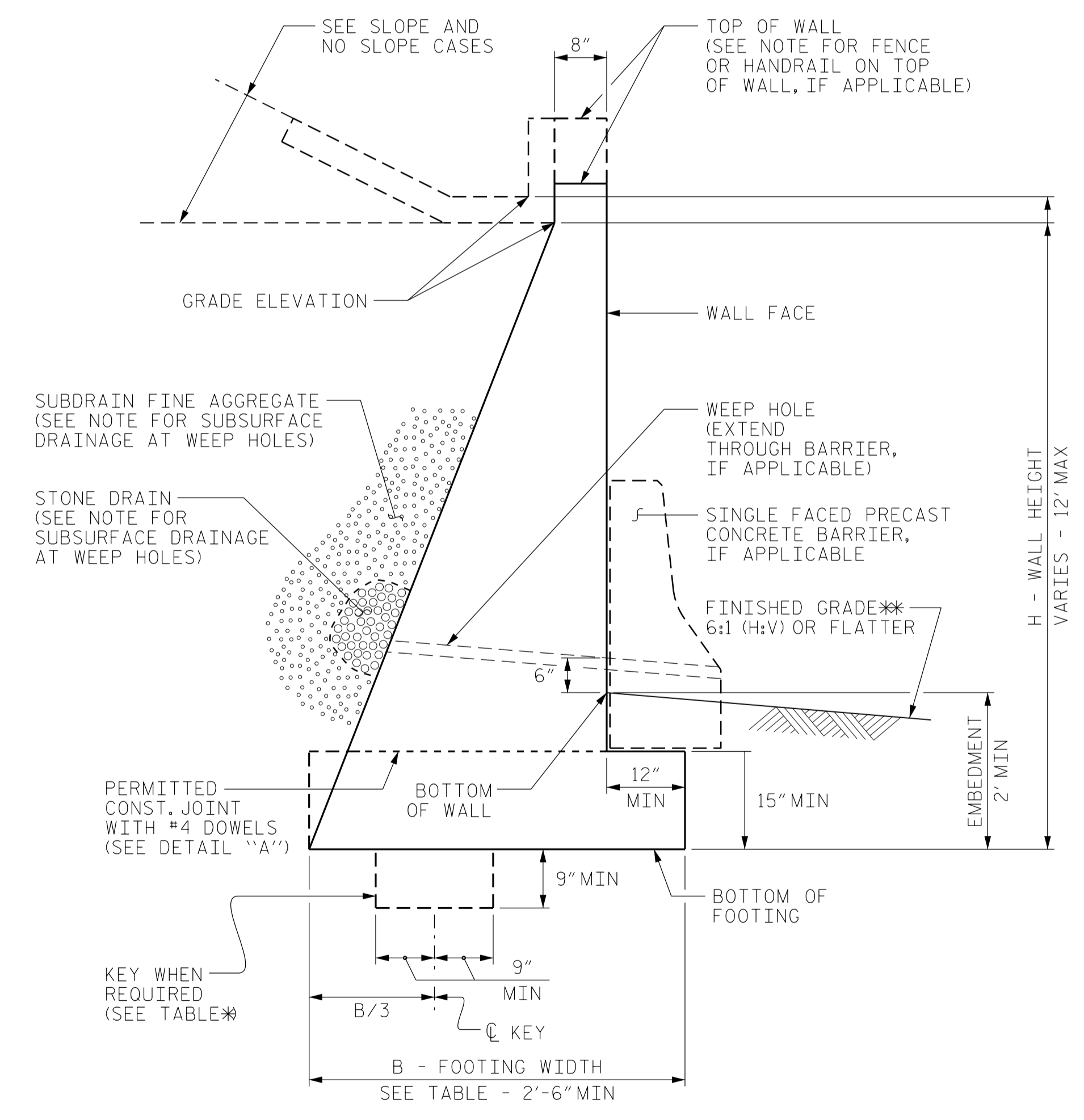
**NO SLOPE CASE**

\*\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



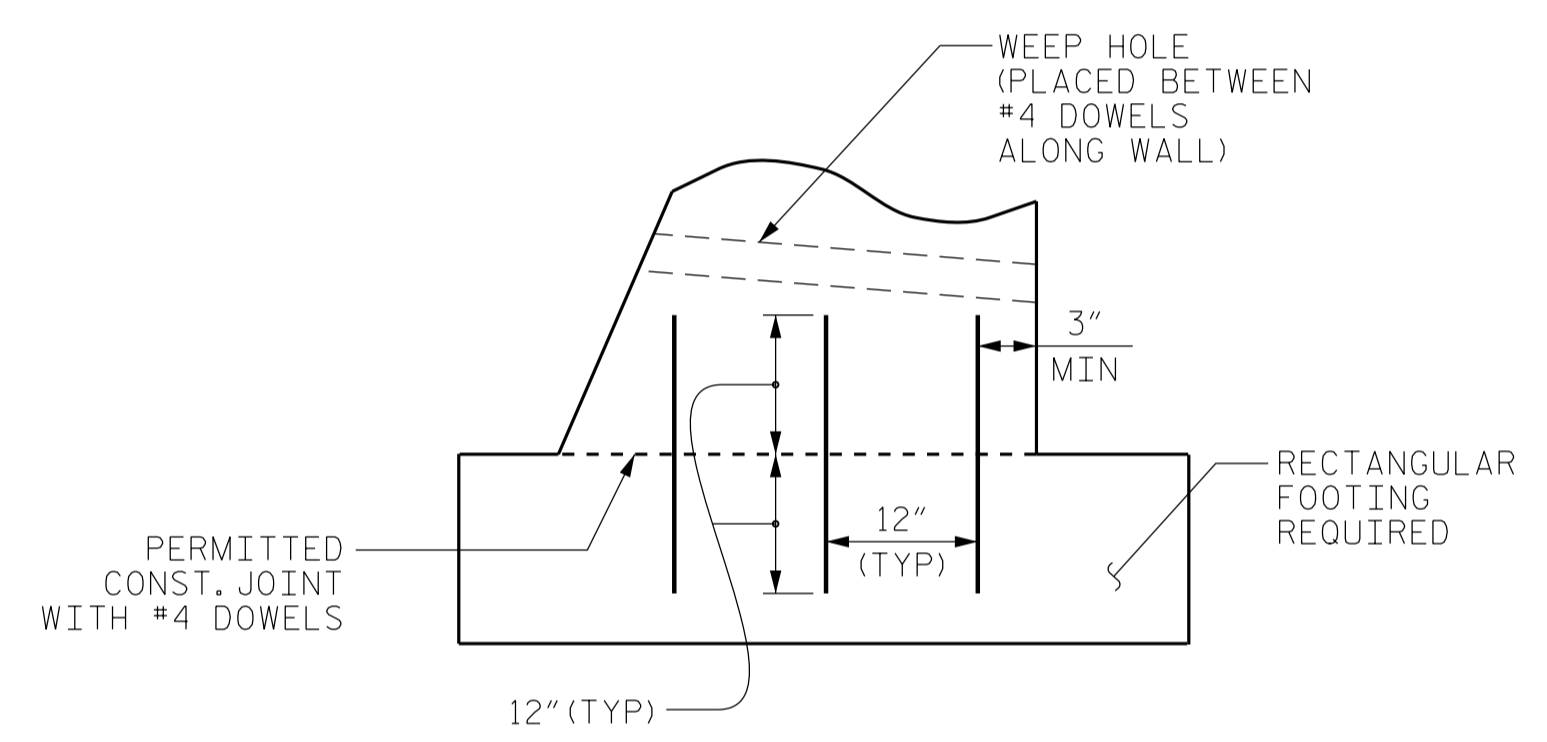
**BRICK VENEER DETAIL**

(WHEN APPLICABLE)



**STANDARD CIP GRAVITY WALL**

\*\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



**DETAIL "A"**

H (FT)	3 - < 6	6 - 9	> 9 - 12
SLOPE CASE	.66	.70*	.75*
NO SLOPE CASE WITH TRAFFIC SURCHARGE	.80	.75*	.70*
NO SLOPE CASE WITHOUT TRAFFIC SURCHARGE	.60	.60	.60

**B/H RATIO (B = 2'-6" MIN)**

\*KEY IS REQUIRED FOR "SLOPE CASE" OR "NO SLOPE CASE WITH TRAFFIC SURCHARGE" WHEN H IS 6' OR GREATER.

**NOTES:**

- FOR STANDARD CAST-IN-PLACE (CIP) GRAVITY RETAINING WALLS, SEE CAST-IN-PLACE GRAVITY RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- FOR SUBSURFACE DRAINAGE AT WEEP HOLES, SEE ARTICLE 414-8 OF THE STANDARD SPECIFICATIONS.
- STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
 UNIT WEIGHT,  $\gamma = 120$  LB/CF  
 FRICTION ANGLE,  $\phi = 35$  DEGREES (GROUNDWATER WITHIN 7' OF BOTTOM OF FOOTING)  
 FRICTION ANGLE,  $\phi = 30$  DEGREES (GROUNDWATER MORE THAN 7' BELOW BOTTOM OF FOOTING)  
 COHESION,  $c = 0$  LB/SF
- DO NOT USE STANDARD CIP GRAVITY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE BOTTOM OF FOOTING.
- DO NOT USE STANDARD CIP GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.

BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.

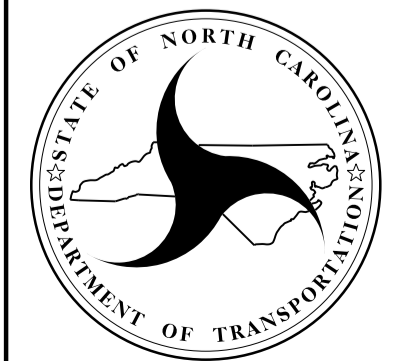
FOR BRICK VENEERS, SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION.

DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

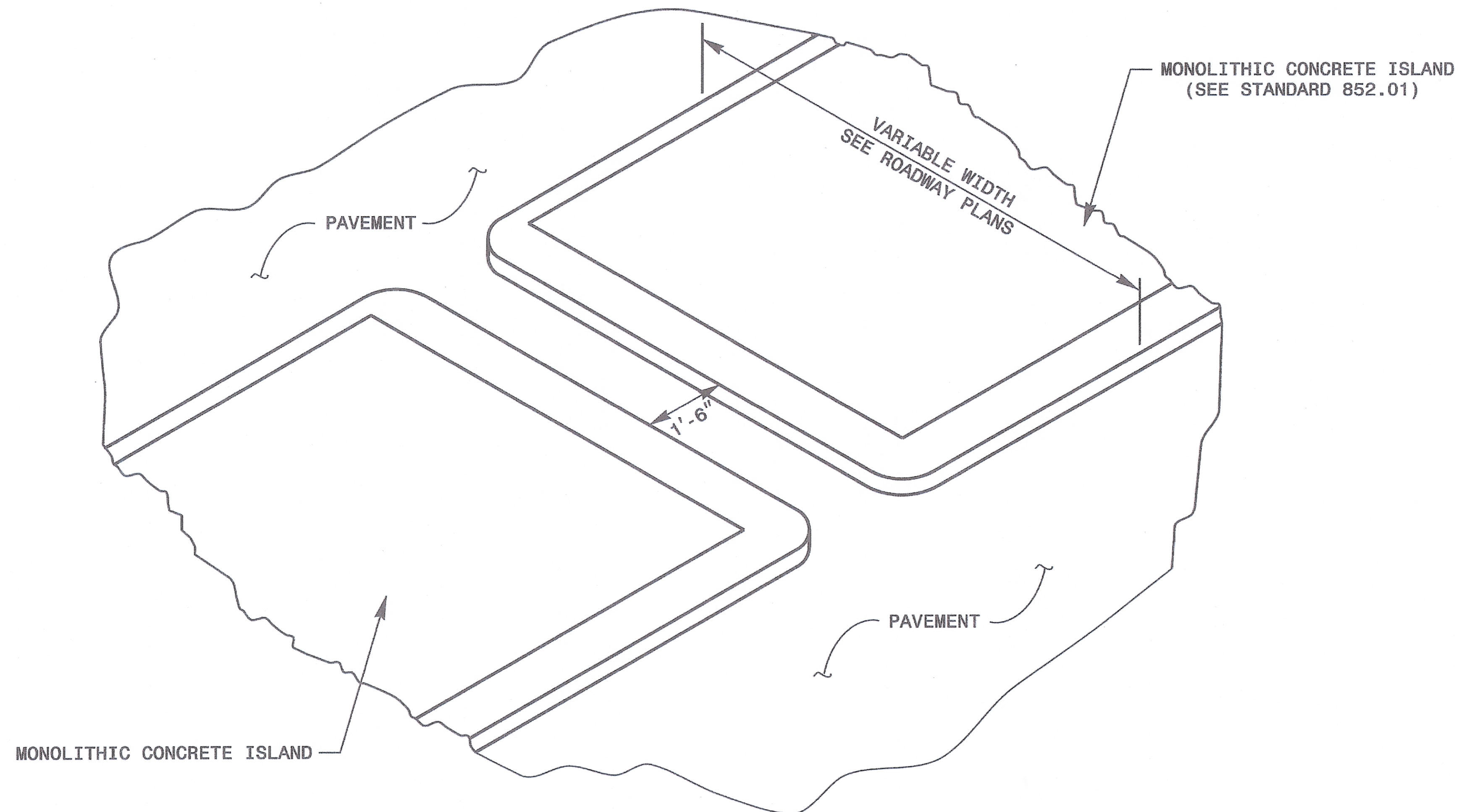
WHEN CONSTRUCTING STANDARD CIP GRAVITY WALLS WITH A CONSTRUCTION JOINT AS SHOWN IN DETAIL "A", PROVIDE A MINIMUM OF 3 EQUALLY SPACED #4 DOWELS AT INTERVALS OF 1'-6" ALONG WALLS.

**PROJECT NO.:** B-4138A  
**HARNETT COUNTY**  
**STATION:** 13+97.97 TO 15+45.00  
 15+84.38 TO 16+10.00

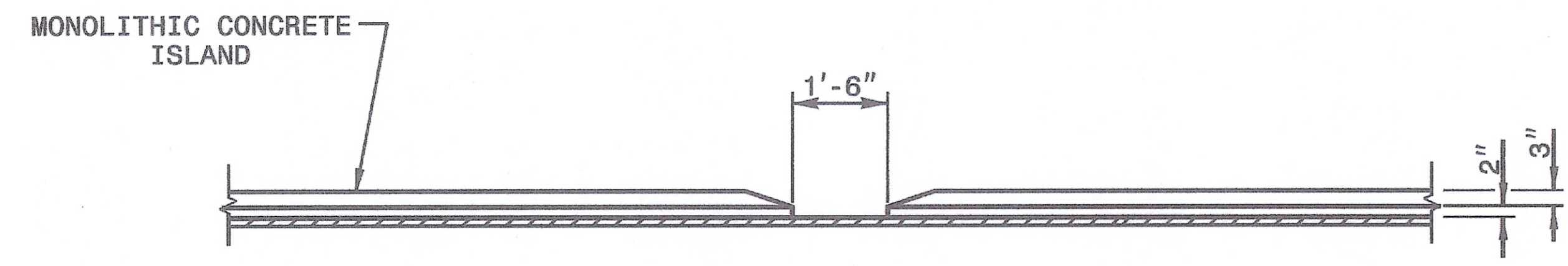
**GEOTECHNICAL ENGINEERING UNIT**  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH



**STANDARD DRAWING NO. 453.01**  
**STANDARD CAST-IN-PLACE (CIP) GRAVITY RETAINING WALL**  
 SHEET NO. TOTAL SHEETS  
 DATE: 1-21-14



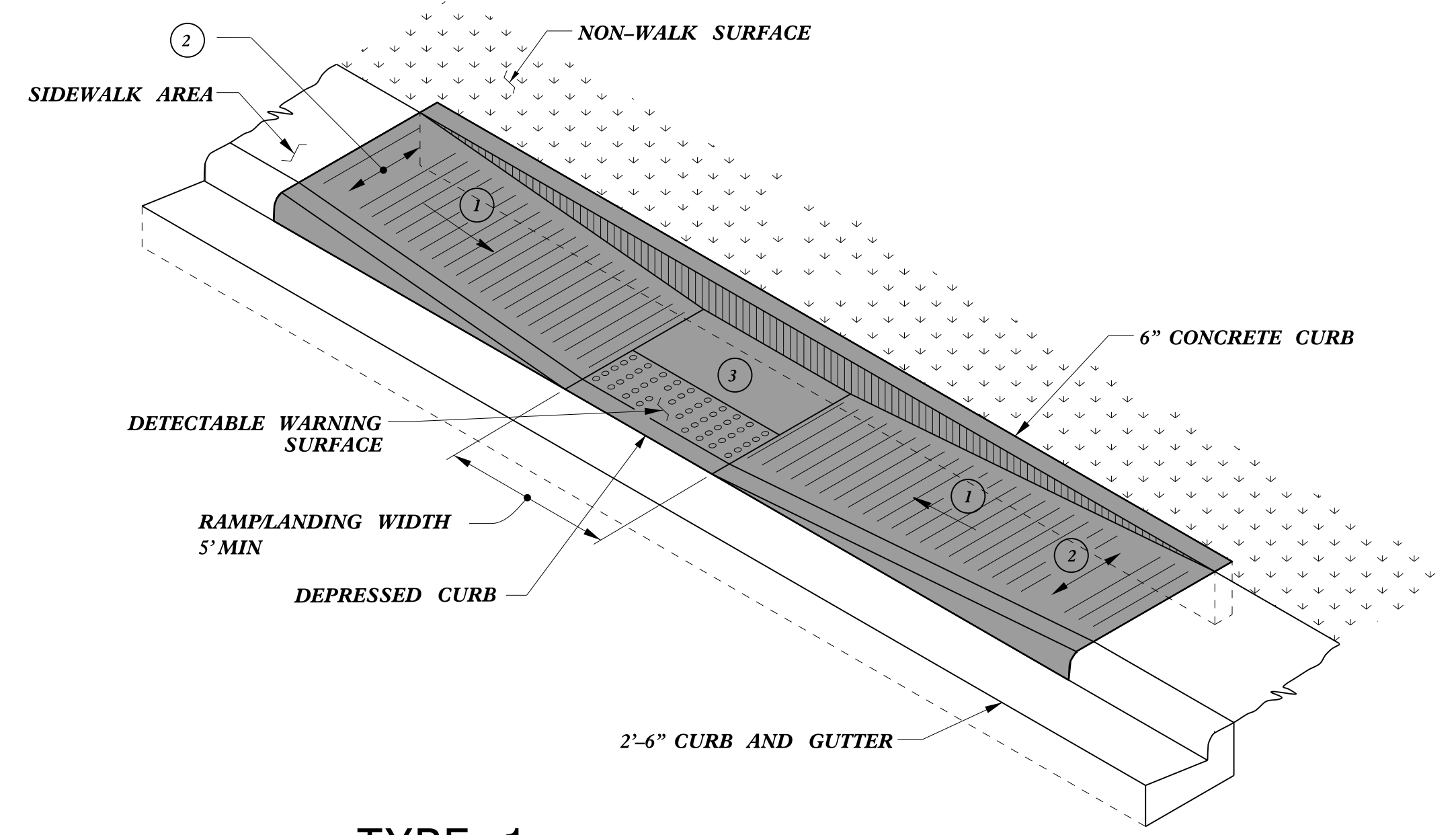
**ISOMETRIC VIEW**



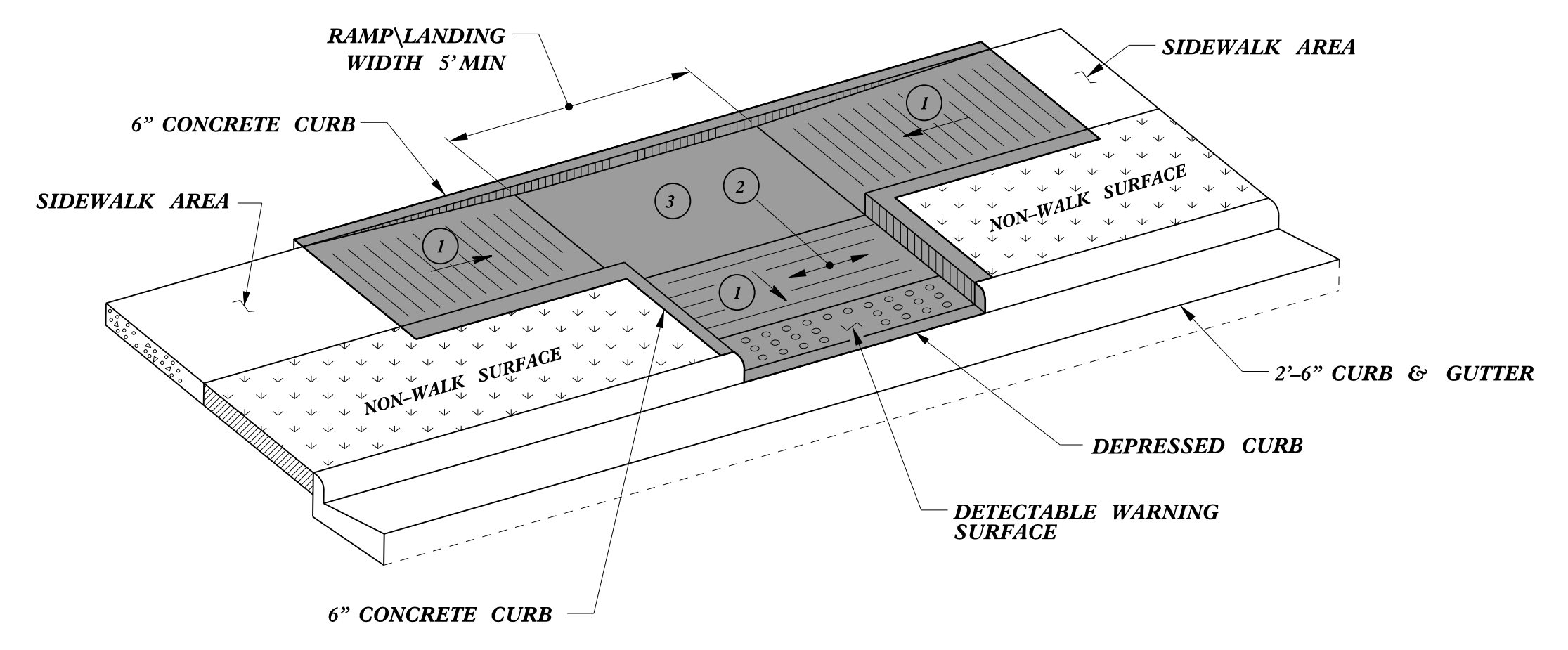
**ELEVATION**

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>DRAINAGE OPENING THRU MONOLITHIC ISLAND</b>	
ORIGINAL BY: _____	DATE: 2-5-02
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: s:\details\stand\Curb Ramp Thru Island.dgn	

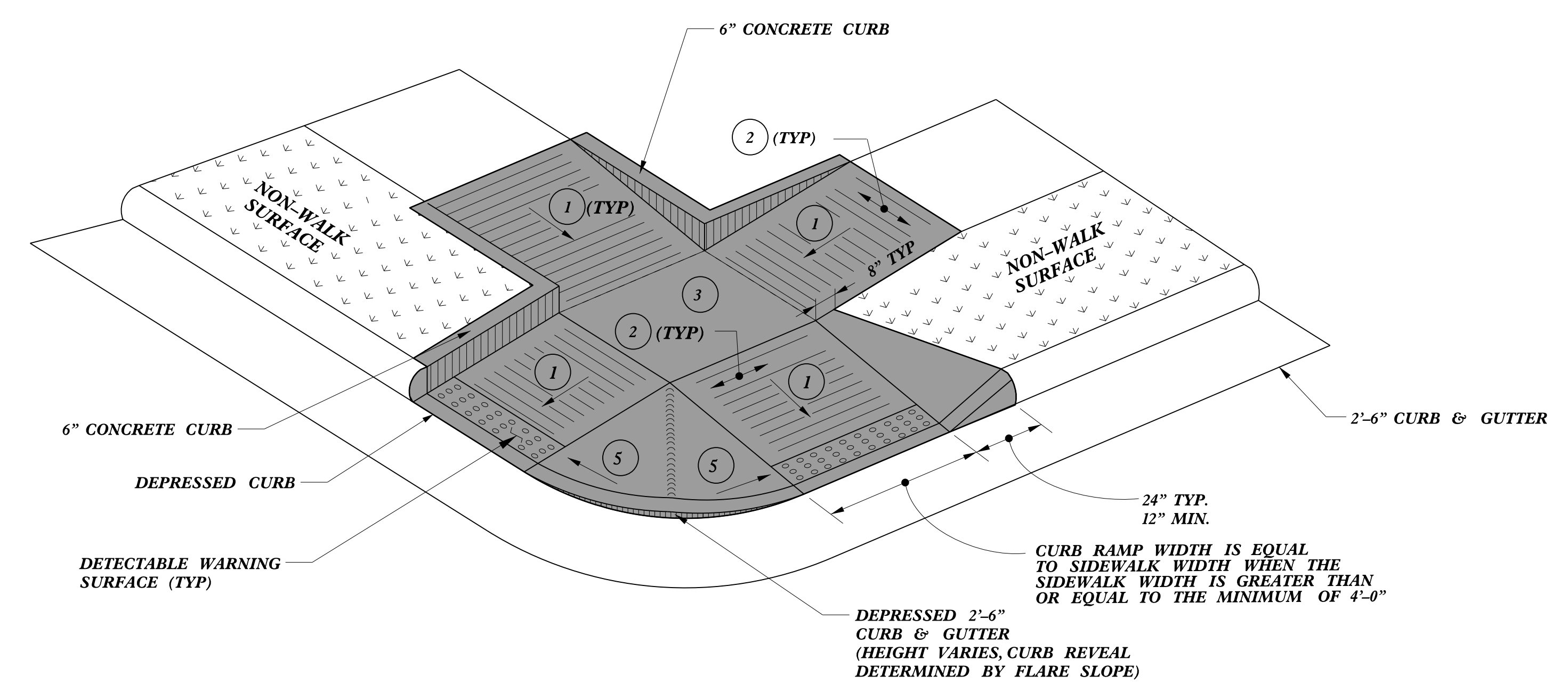




**TYPE 1**  
**(PARALLEL CURB RAMP)**



**TYPE 2**  
**(COMBINATION CURB RAMP)**



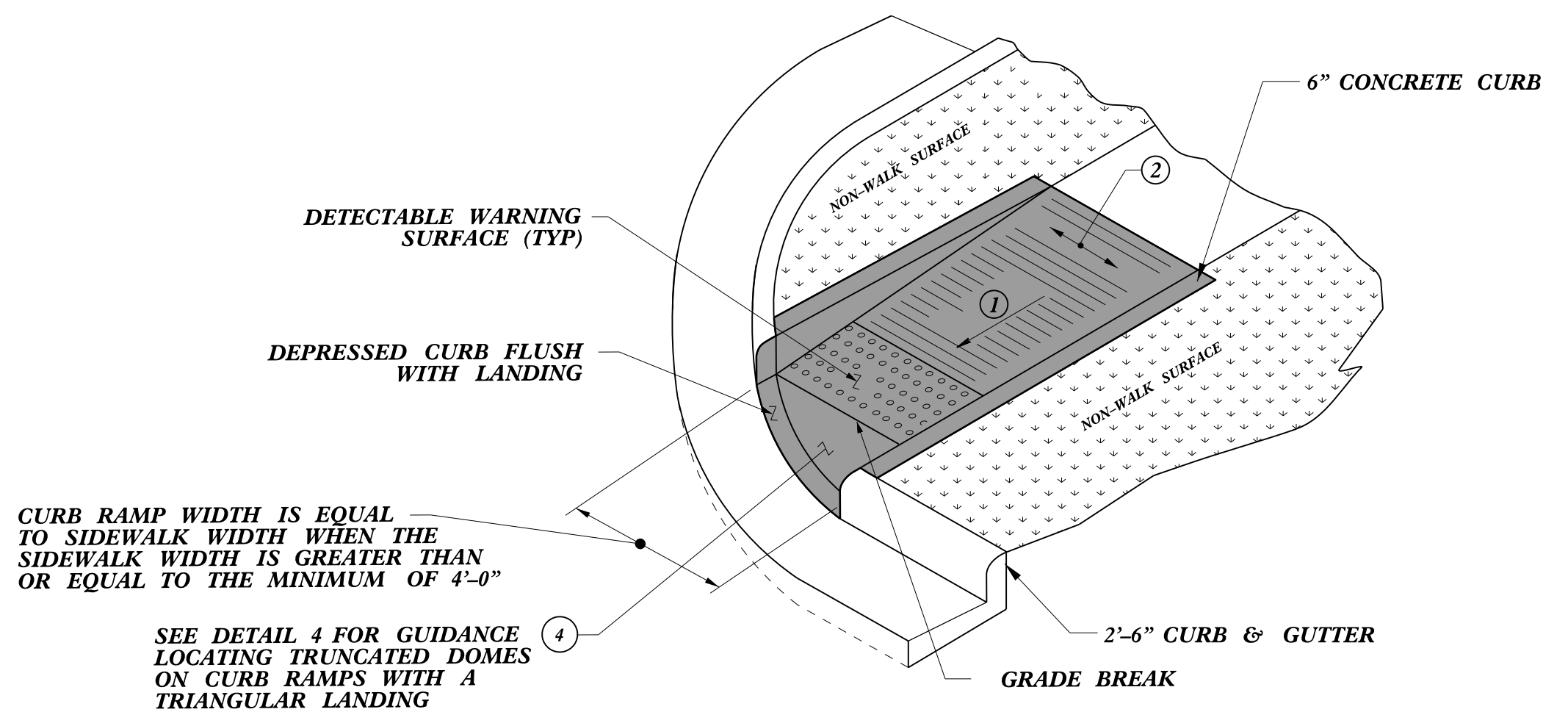
**TYPE 3**  
**(COMBINATION CURB RAMPS WITH SHARED LANDING)**

 PAY LIMITS FOR CURB RAMP

- ① RAMP SLOPE: 8.33% (12:1) MAX.
- ② CROSS SLOPE: 2.00% (50:1) MAX.
- ③ UNLESS OTHERWISE SPECIFIED ON CURB RAMP TYPE DETAIL, CURB RAMPS REQUIRE A 4'-0" X 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% (50:1) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- ④ TRIANGULAR LANDING CROSS SLOPE AND LONGITUDINAL SLOPE: 2.00% (50:1) MAX
- ⑤ FLARE SLOPE: 10.00% (10:1) MAX.

REVISIONS

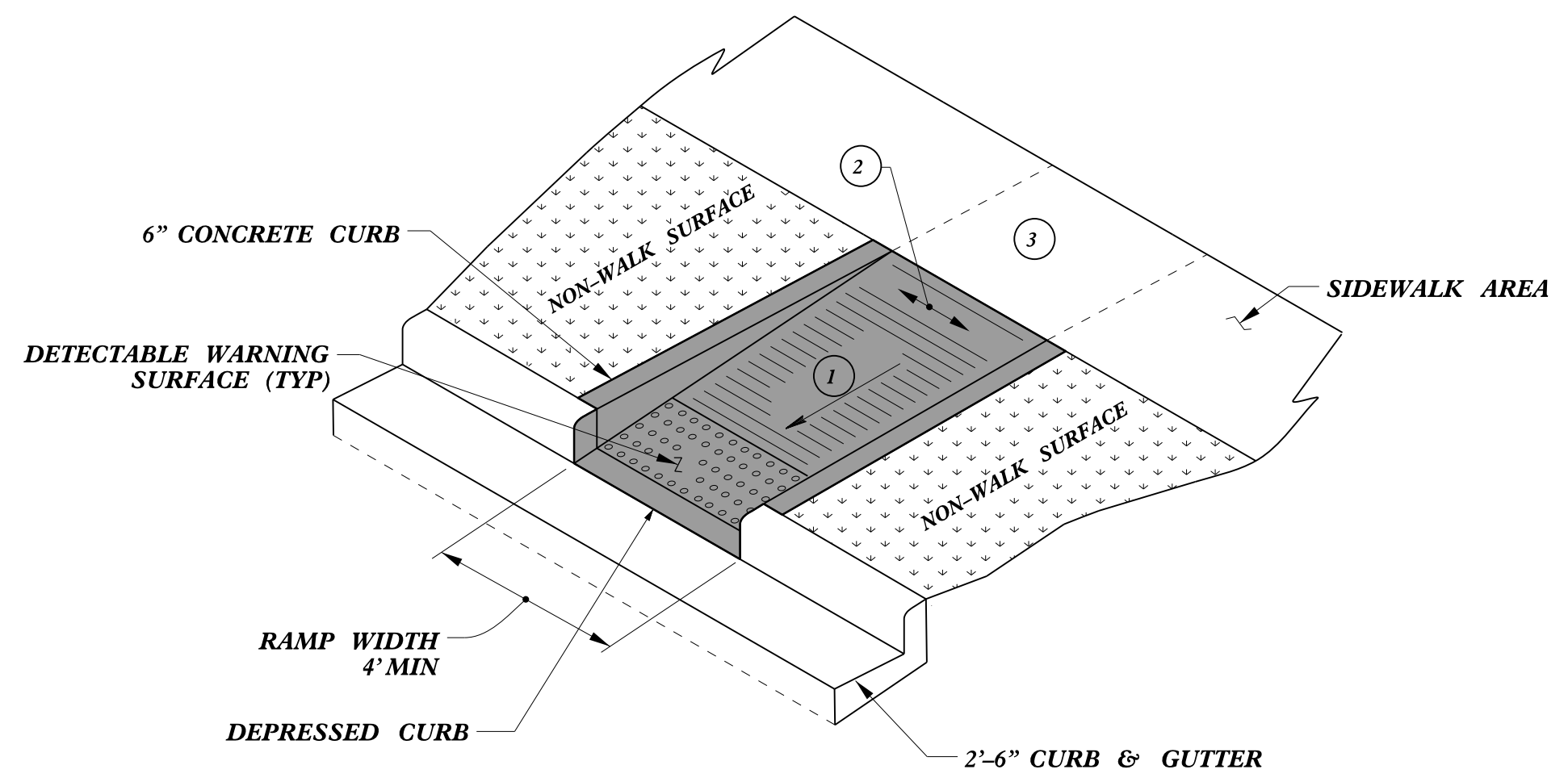
20-OCT-2014 15:27 B-4138A (33490.1.FR2) Lillington  
 9:55:53 AM  
 (harnett\_co)\Roadway\pco\B-4138A\_Bdy\_Detail\_2E.dgn



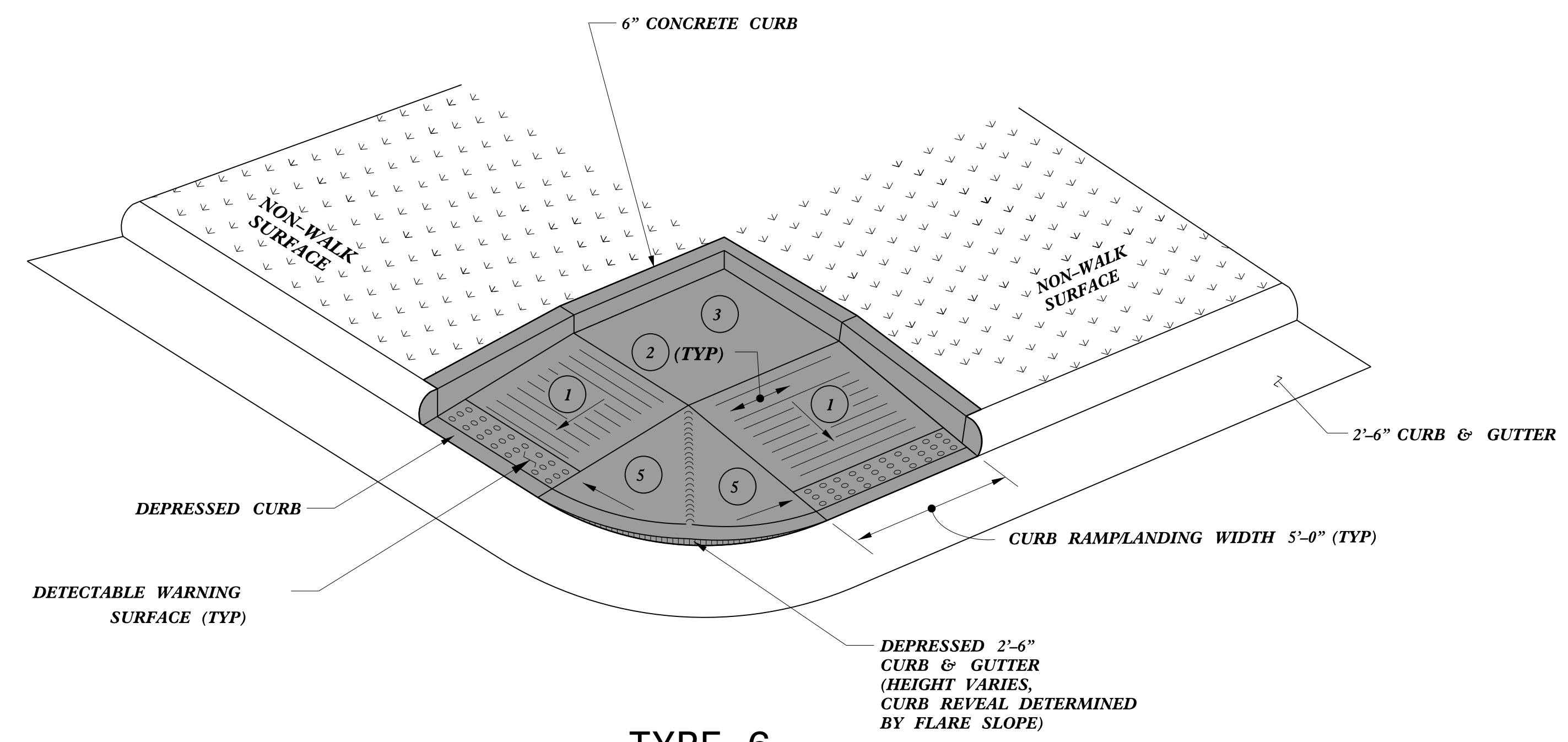
CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO THE MINIMUM OF 4'-0"

SEE DETAIL 4 FOR GUIDANCE LOCATING TRUNCATED DOMES ON CURB RAMP WITH A TRIANGULAR LANDING


**TYPE 4**  
(PARALLEL DIRECTIONAL CURB RAMP WITH RETURN CURBS AND TRIANGULAR LANDING)



**TYPE 5**  
(PERPENDICULAR CURB RAMP WITH RETURN CURBS)



**TYPE 6**  
(COMBINATION CURB RAMP WITH SHARED LANDING)

 PAY LIMITS FOR CURB RAMP

- 1 RAMP SLOPE: 8.33% (12:1) MAX.
- 2 CROSS SLOPE: 2.00% (50:1) MAX.
- 3 UNLESS OTHERWISE SPECIFIED ON CURB RAMP TYPE DETAIL, CURB RAMP REQUIRE A 4'-0" X 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% (50:1) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- 4 TRIANGULAR LANDING CROSS SLOPE AND LONGITUDINAL SLOPE: 2.00% (50:1) MAX
- 5 FLARE SLOPE: 10.00% (10:1) MAX.

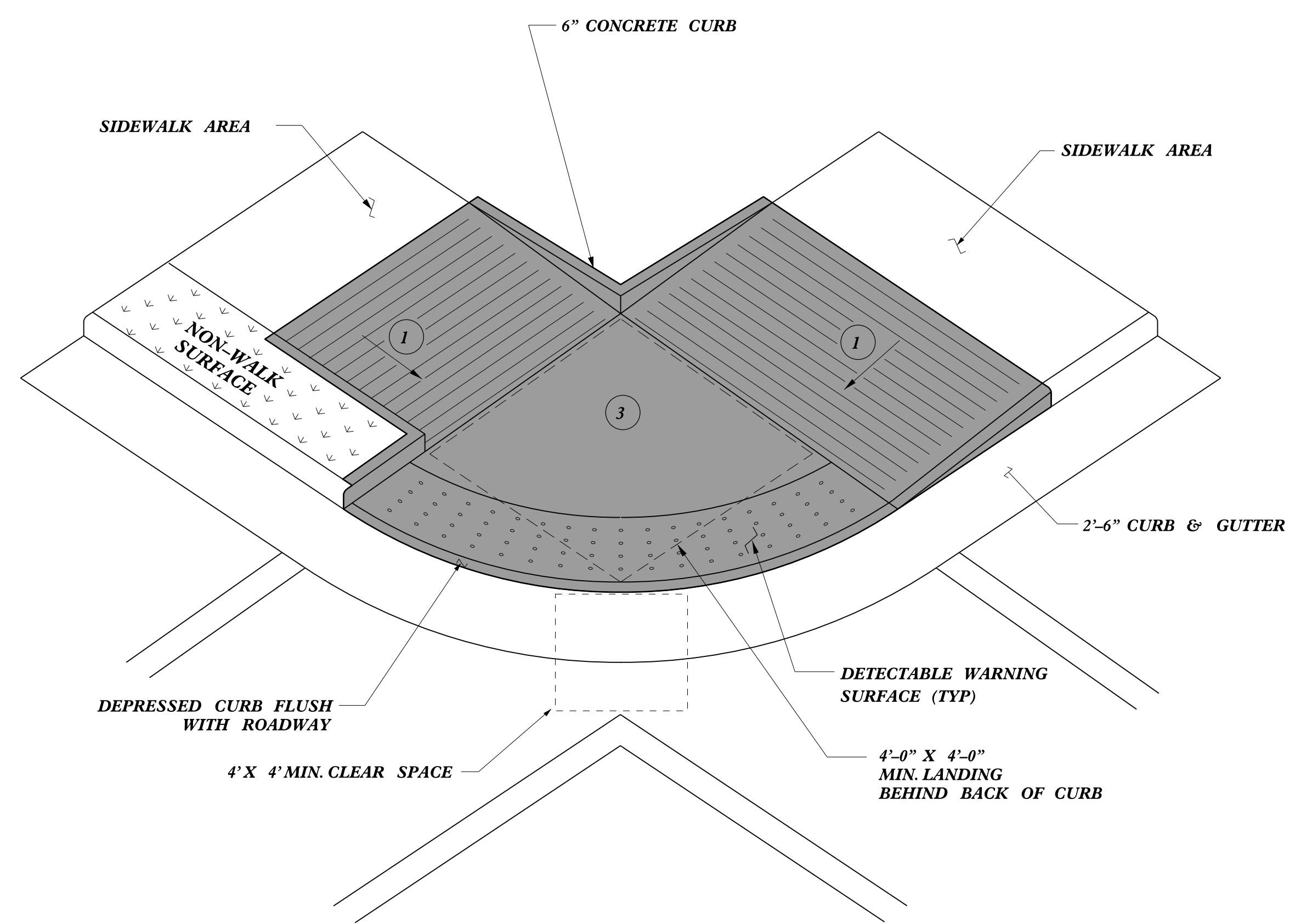
REVISIONS

20-OCT-2014 15:27 B-4138A (334901.FR2) Lillington  
 (harnett\_co)\Roadway\proj\B-4138A\_Bdy\_Detail\_2G.dgn  
 8/17/99

8/17/99

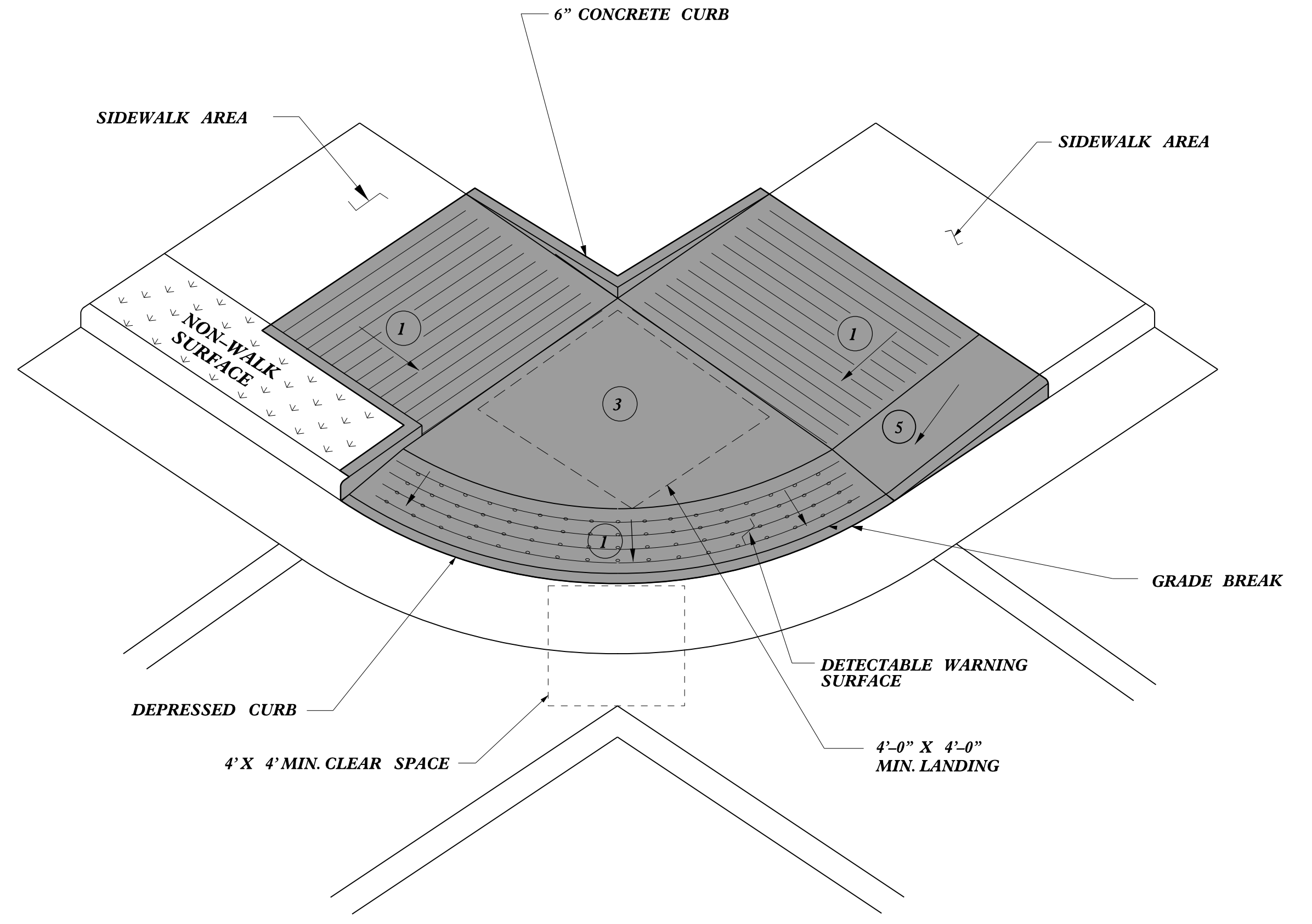
REVISIONS

30-OCT-2014 15:25 B-4138A (33490.1.FR2) Lillington  
 (harnett\_co)\Roadway\proj\B-4138A\_Bdy\_Detail\_2H.dgn  
 9:58:53 AM



**TYPE 7**

(PARALLEL CURB RAMPS WITH DEPRESSED CORNER SHARED LANDING)



**TYPE 8**

(COMBINATION CURB RAMPS WITH DEPRESSED CORNER SHARED LANDING)

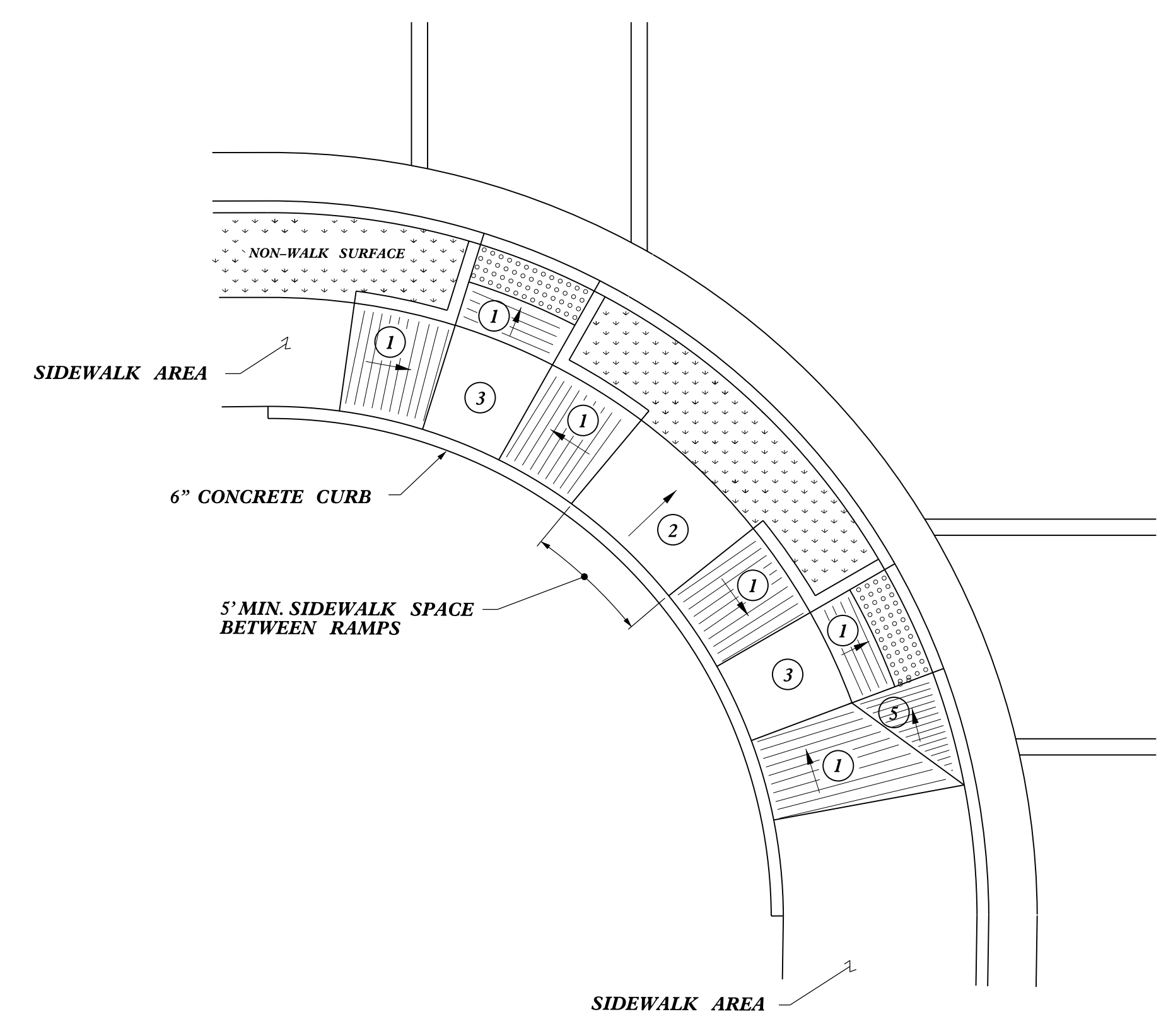
**PAY LIMITS FOR CURB RAMP**

- ① RAMP SLOPE: 8.33% (12:1) MAX.
- ② CROSS SLOPE: 2.00% (50:1) MAX.
- ③ UNLESS OTHERWISE SPECIFIED ON CURB RAMP TYPE DETAIL, CURB RAMPS REQUIRE A 4'-0" X 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% (50:1) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- ④ TRIANGULAR LANDING CROSS SLOPE AND LONGITUDINAL SLOPE: 2.00% (50:1) MAX
- ⑤ FLARE SLOPE: 10.00% (10:1) MAX.

8/17/99

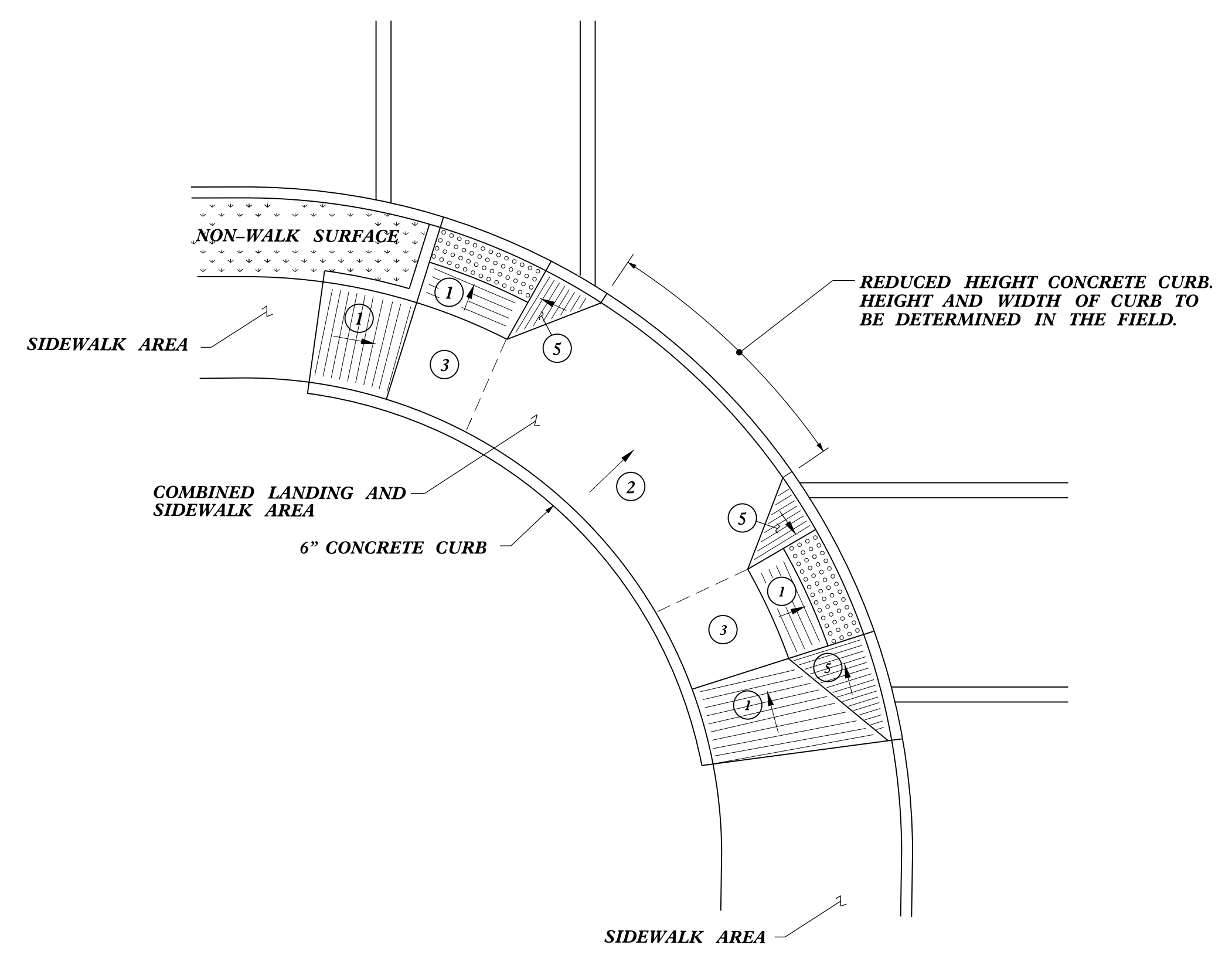
REVISIONS

30-OCT-2014 15:25 B-4138A (33490.1.FR2) Lillingston  
 (Harnett\_Co)\Roadway\proj\B-4138A\_Bdy\_Detail\_21.dgn



**DETAIL 1**

(PLACEMENT GUIDANCE OF ADJACENT COMBINATION CURB RAMPS)



**DETAIL 2**

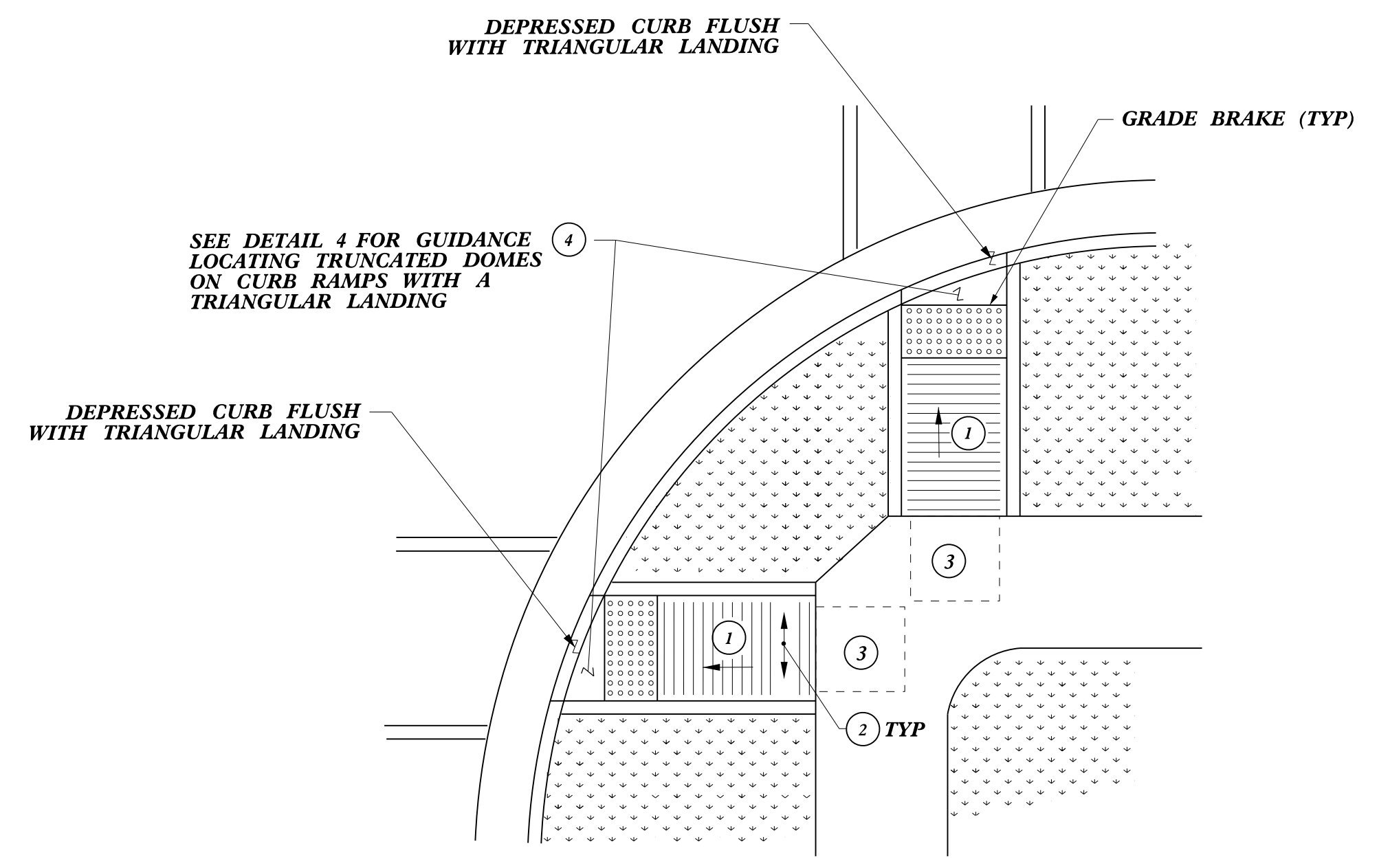
(PLACEMENT GUIDANCE OF ADJACENT COMBINATION CURB RAMPS WITH SHARED LANDING AND SIDEWALK AREA)

- ① RAMP SLOPE: 8.33% (12:1) MAX.
- ② CROSS SLOPE: 2.00% (50:1) MAX.
- ③ UNLESS OTHERWISE SPECIFIED ON CURB RAMP TYPE DETAIL, CURB RAMPS REQUIRE A 4'-0" X 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% (50:1) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- ⑤ FLARE SLOPE: 10.00% (10:1) MAX.

8/17/99

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20-OCT-2014 15:25 B-4138A (33490.1.FR2) Lillington  
 (Harnett, Co)\Roadway\proj\B-4138A\_Bdy\_Detail\_2.dgn



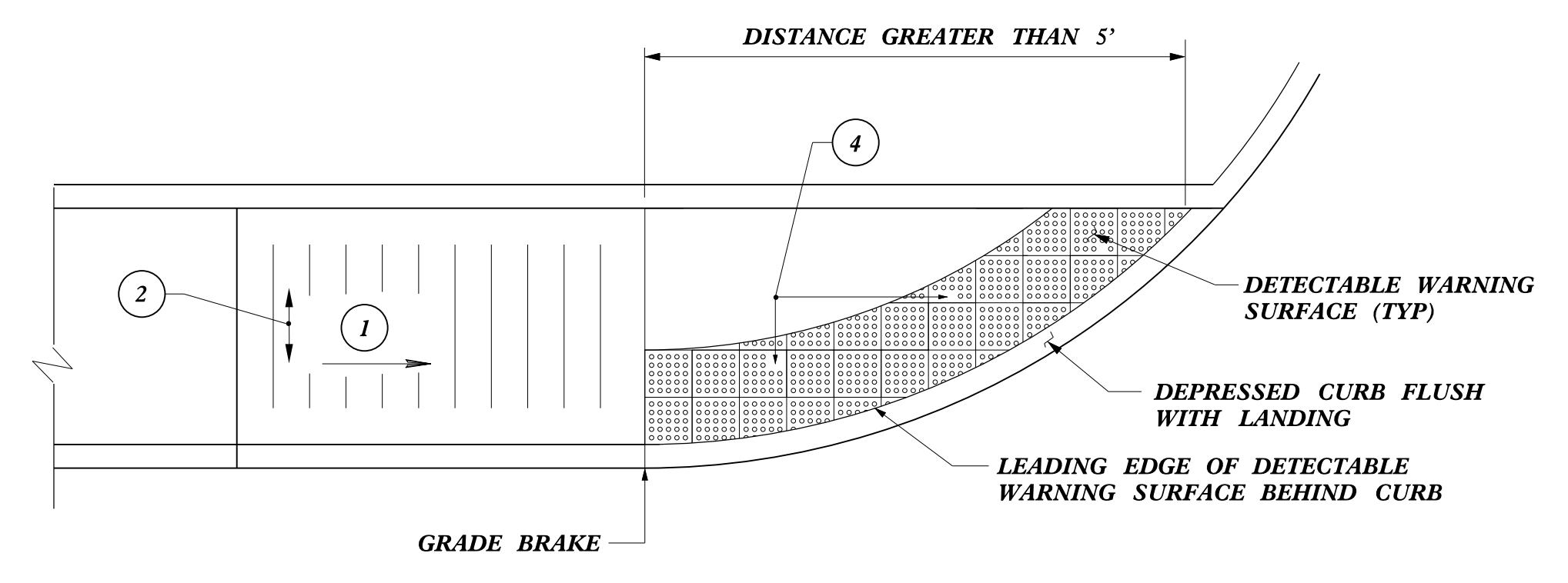
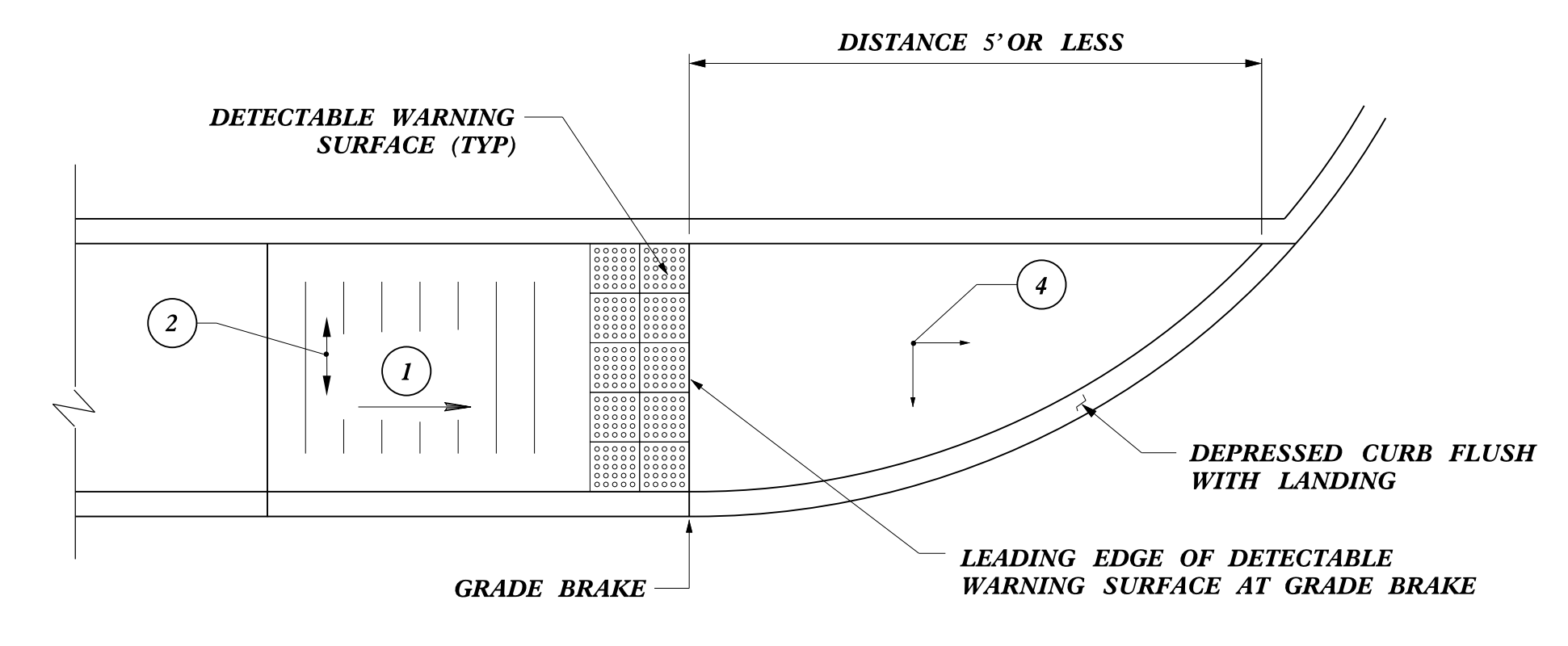
SEE DETAIL 4 FOR GUIDANCE LOCATING TRUNCATED DOMES ON CURB RAMPS WITH A TRIANGULAR LANDING

NOTES:

1. PROVIDE A LEVEL TRIANGLE LANDING WHEN SKEWING RAMPS TO TRANSITION THE GRADE BREAK FROM A CURB. SEE DETAIL 4 FOR DETECTABLE WARNING SURFACE GUIDANCE.
2. PERPENDICULAR CURB RAMPS SHOWN FOR ILLUSTRATED PURPOSES. GUIDANCE WILL APPLY TO OTHER CURB RAMP TYPES WHEN RAMP IS SKEWED. USE THE ABOVE GUIDANCE IN ADDITION TO EACH CURB RAMP'S CONSTRUCTION DETAILS.

**DETAIL 3**

(CONSTRUCTION GUIDANCE OF CURB RAMPS SKEWED TO ROADWAY)

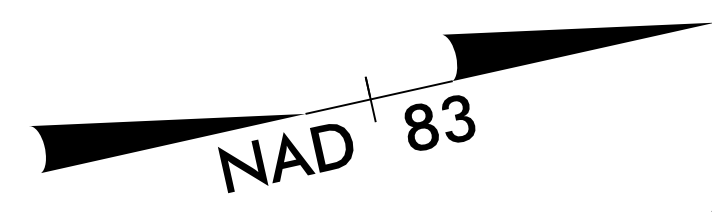


**DETAIL 4**

(CONSTRUCTION GUIDANCE FOR CURB RAMPS WITH A TRIANGULAR LANDING)

- 1 RAMP SLOPE: 8.33% (12:1) MAX.
- 2 CROSS SLOPE: 2.00% (50:1) MAX.
- 3 UNLESS OTHERWISE SPECIFIED ON CURB RAMP TYPE DETAIL, CURB RAMPS REQUIRE A 4'-0" X 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% (50:1) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- 4 TRIANGULAR LANDING CROSS SLOPE AND LONGITUDIAL SLOPE: 2.00% (50:1) MAX





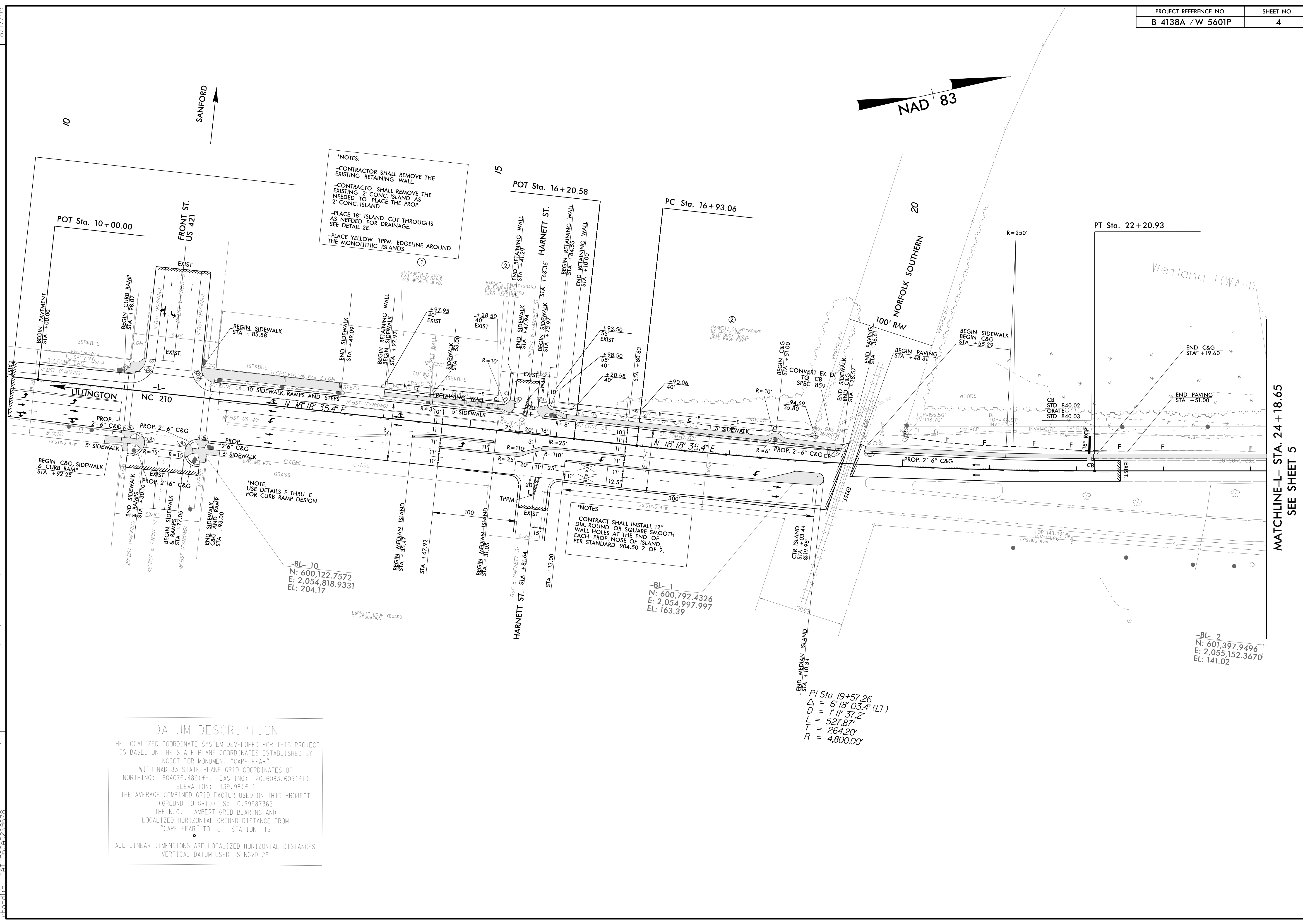
**\*NOTES:**  
 -CONTRACTOR SHALL REMOVE THE EXISTING RETAINING WALL.  
 -CONTRACTOR SHALL REMOVE THE EXISTING 2' CONC ISLAND AS NEEDED TO PLACE THE PROP. 2' CONC ISLAND.  
 -PLACE 18" ISLAND CUT THROUGH AS NEEDED FOR DRAINAGE. SEE DETAIL 2E.  
 -PLACE YELLOW TPPM EDGELINE AROUND THE MONOLITHIC ISLANDS.

**\*NOTES:**  
 -CONTRACT SHALL INSTALL 12" DIA. ROUND OR SQUARE SMOOTH WALL HOLES AT THE END OF EACH PROP. NOSE OF ISLAND, PER STANDARD 904.50 2 OF 2.

**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCOOT FOR MONUMENT "CAPE FEAR"  
 WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 604076.4891(ft) EASTING: 2056083.605(ft)  
 ELEVATION: 139.98(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987362  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "CAPE FEAR" TO -L- STATION IS  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NGVD 29

PI Sta 19+57.26  
 $\Delta = 6'18"03.4" (LT)$   
 $D = 1'11"37.2"$   
 $L = 527.87'$   
 $T = 264.20'$   
 $R = 4,800.00'$

REVISIONS  
 30-OCT-2014 15:25 B-4138A (334901.FR2) Lillington (harnett\_co)\Roadway\pcc\B-4138A\_Bdy\_psh\_sht\_4.dgn  
 8/17/99

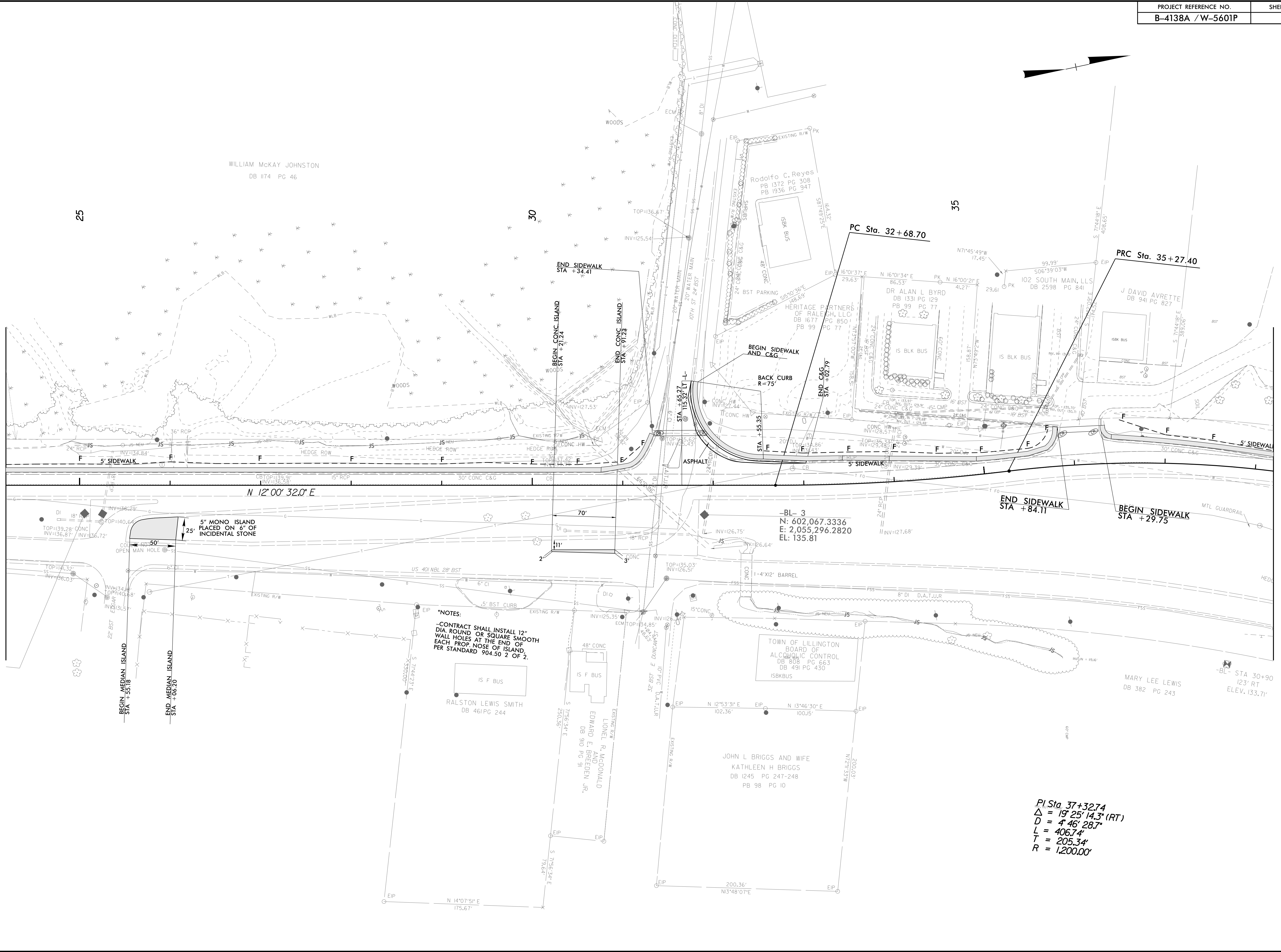


MATCHLINE-L- STA. 24 + 18.65  
 SEE SHEET 5

REVISIONS

30-OCT-2014 15:25 B-4138A (334901.FR2) Lillington (harnett\_co)\Roadway\pcc\B-4138A\_Bdy\_psh\_sht\_5.dgn 8/17/99

MATCHLINE-L- STA. 24 + 18.65  
SEE SHEET 4



**\*NOTES:**  
-CONTRACT SHALL INSTALL 12" DIA. ROUND OR SQUARE SMOOTH WALL HOLES AT THE END OF EACH PROP. NOSE OF ISLAND, PER STANDARD 904.50 2 OF 2.

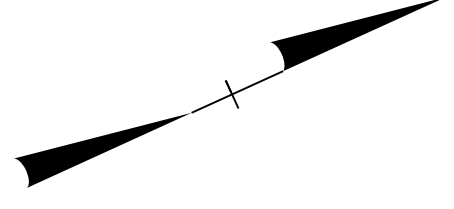
-BL- 3  
N: 602.067.3336  
E: 2,055,296.2820  
EL: 135.81

TOWN OF LILLINGTON  
BOARD OF ALCOHOLIC CONTROL  
DB 808 PG 663  
DB 491 PG 430  
ISBKBUS

PI Sta 37+32.74  
Δ = 19° 25' 14.3" (RT)  
D = 4' 46" 28.7"  
L = 406.74'  
T = 205.34'  
R = 1,200.00'

MATCHLINE-L- STA. 38 + 20.18  
SEE SHEET 6



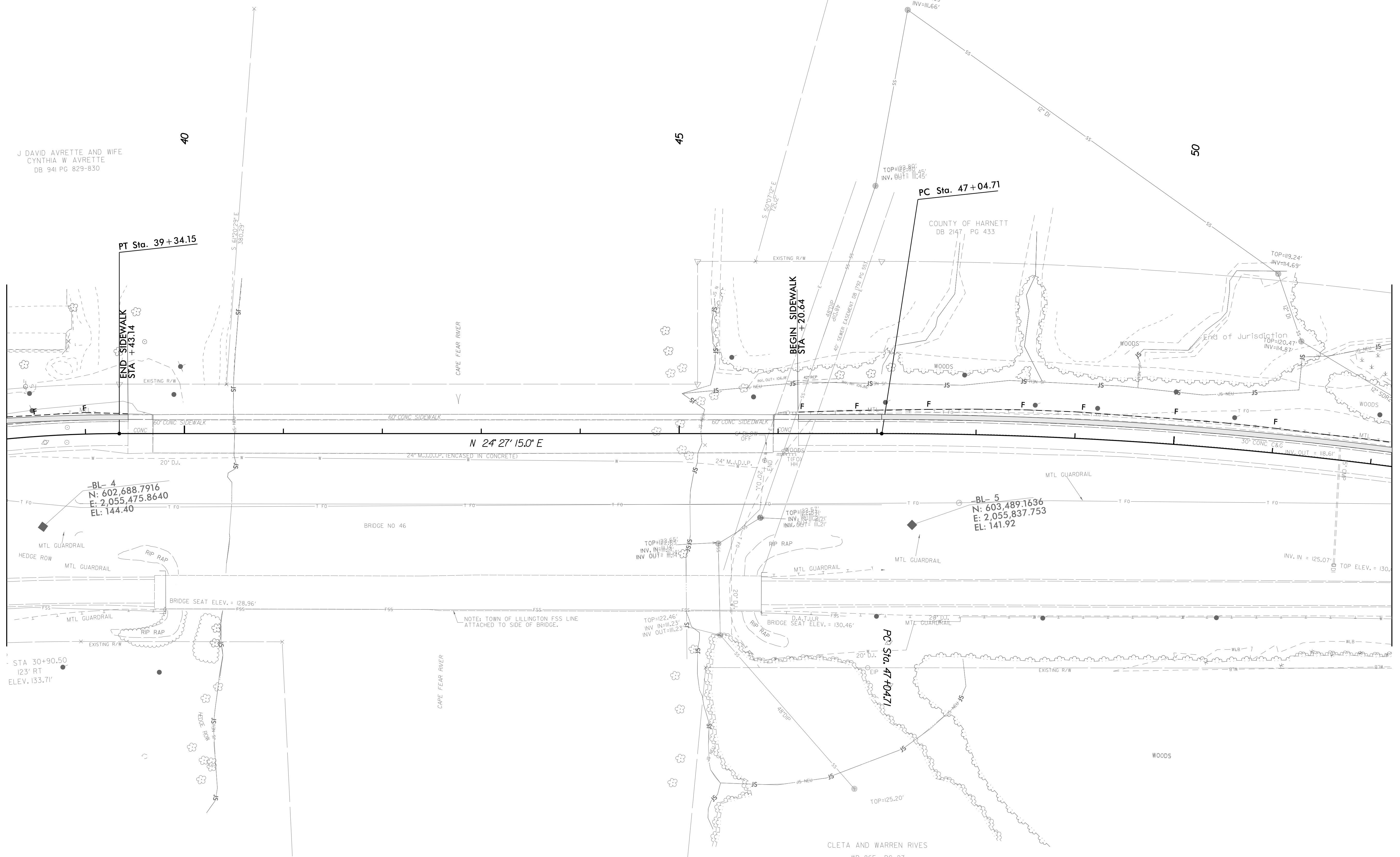


8/17/99

REVISIONS

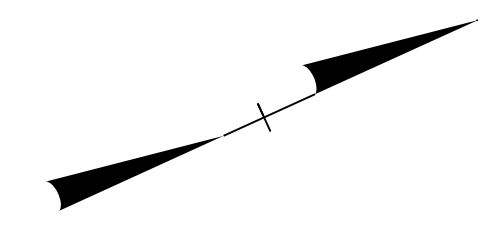
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MATCHLINE-L- STA. 38 + 20.18  
SEE SHEET 5



MATCHLINE-L- STA. 52 + 21.80  
SEE SHEET 7

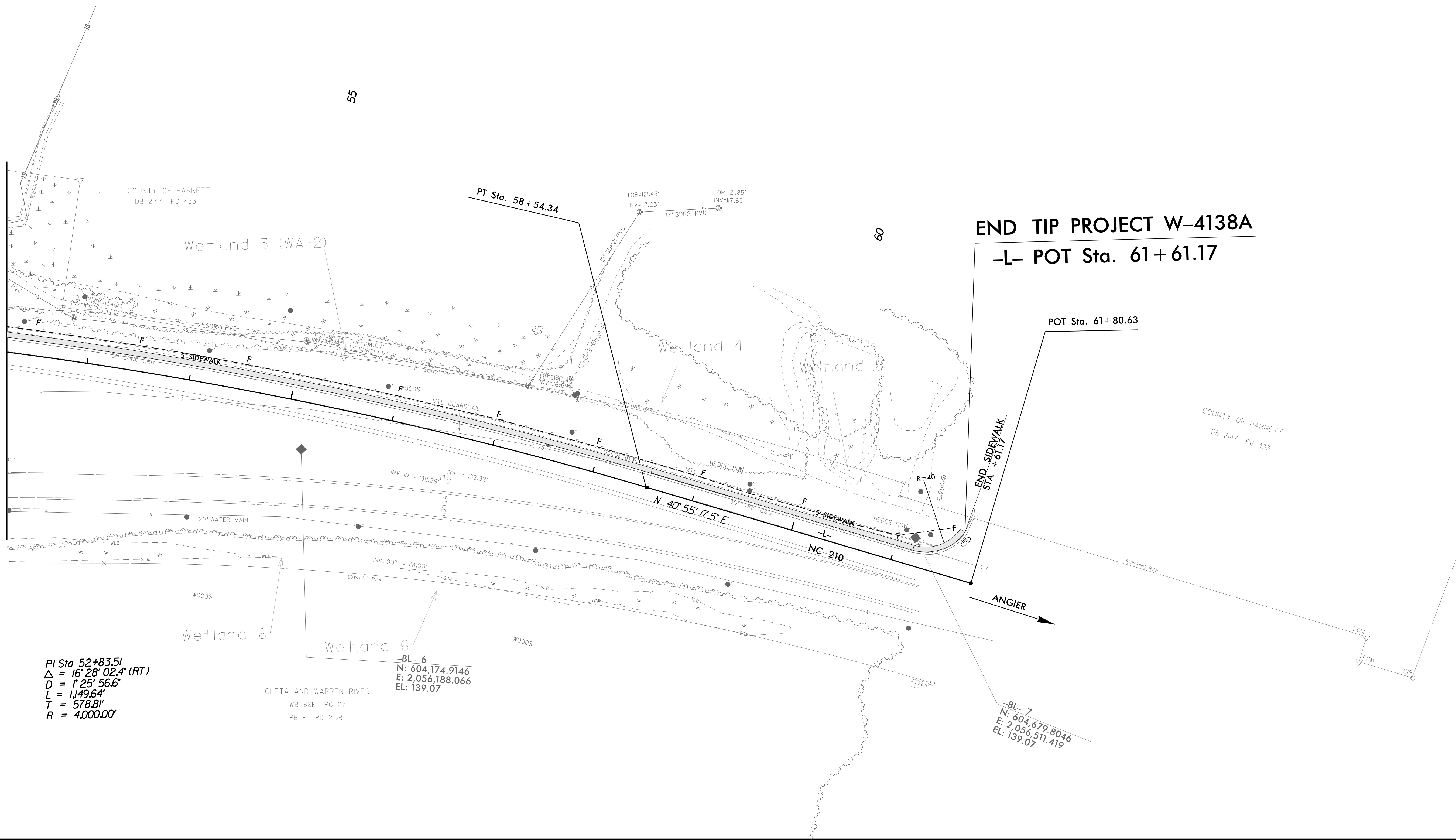
CLETA AND WARREN RIVES  
WB 86E PG 27  
PB F PG 215B



REVISIONS

30-OCT-2014 15:25 (harnett\_co)\Roadway\pco\B-4138A\_Bdy\_ssb\_sht\_7.dgn  
 30-OCT-2014 15:25 (harnett\_co)\Roadway\pco\B-4138A\_Bdy\_ssb\_sht\_7.dgn  
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 30-OCT-2014 15:25 (harnett\_co)\Roadway\pco\B-4138A\_Bdy\_ssb\_sht\_7.dgn

MATCHLINE-L- STA. 52 + 21.80  
SEE SHEET 6



PI Sta 52+83.51  
 $\Delta = 16^{\circ} 28' 02.4''$  (RT)  
 $D = 1' 25' 56.6''$   
 $L = 1,149.64'$   
 $T = 578.81'$   
 $R = 4,000.00'$

CLETA AND WARREN RIVES  
 WB 86E PG 27  
 PB F PG 215B

-BL- 6  
 N: 604,174.9146  
 E: 2,056,188.066  
 EL: 139.07

-BL- 7  
 N: 604,679.8046  
 E: 2,056,511.419  
 EL: 139.07

**END TIP PROJECT W-4138A**  
**-L- POT Sta. 61+61.17**

POT Sta. 61+80.63

END SIDEWALK  
STA + 61.17

ANGIER

COUNTY OF HARNETT  
DB 2147 PG 433

COUNTY OF HARNETT  
DB 2147 PG 433

PT Sta. 58+54.34

TOP=121.45'  
INV=117.23'

TOP=121.85'  
INV=117.65'

POT Sta. 61+80.63

END SIDEWALK  
STA + 61.17

ANGIER

COUNTY OF HARNETT  
DB 2147 PG 433

COUNTY OF HARNETT  
DB 2147 PG 433

PT Sta. 58+54.34

TOP=121.45'  
INV=117.23'

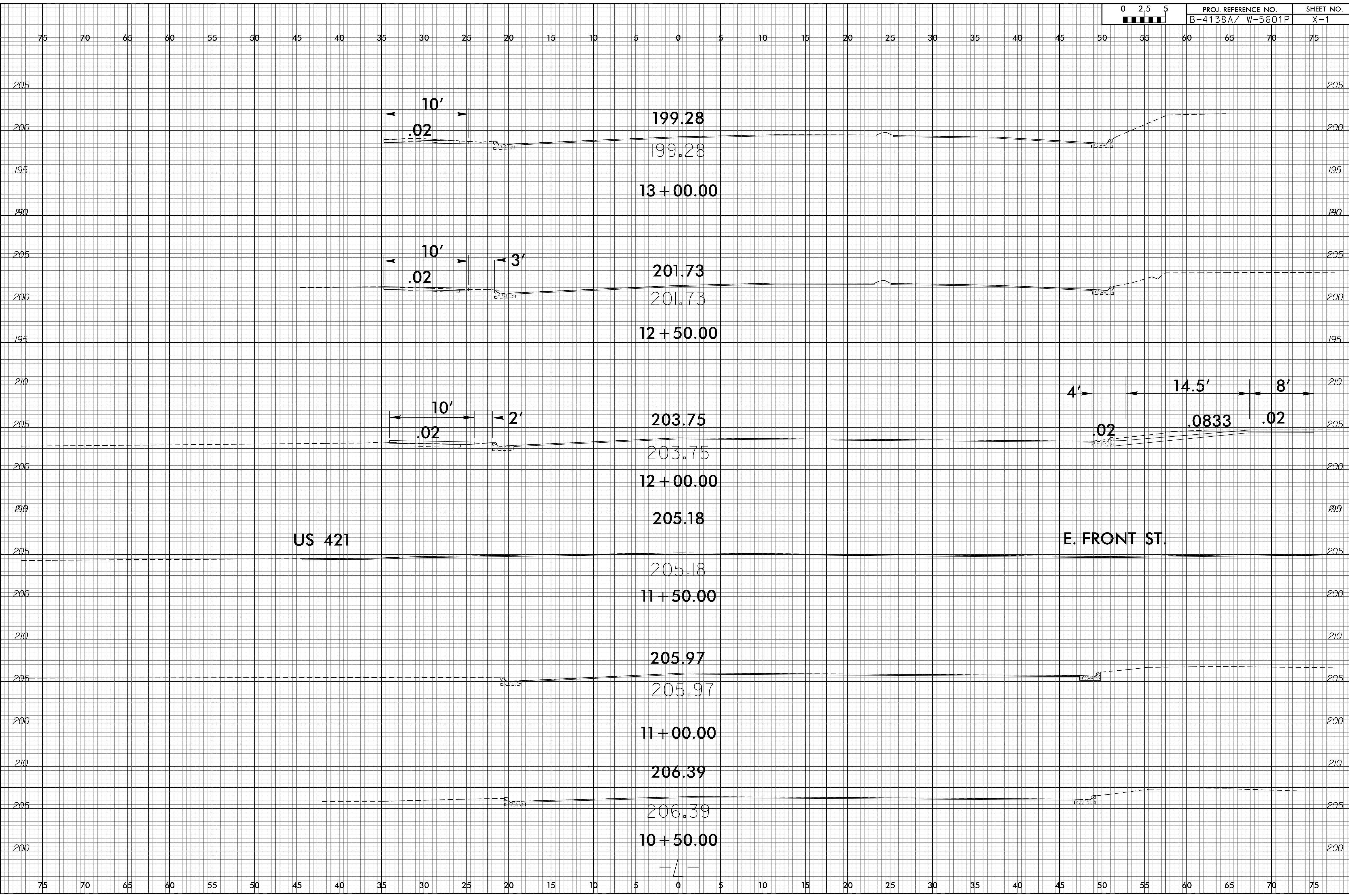
TOP=121.85'  
INV=117.65'

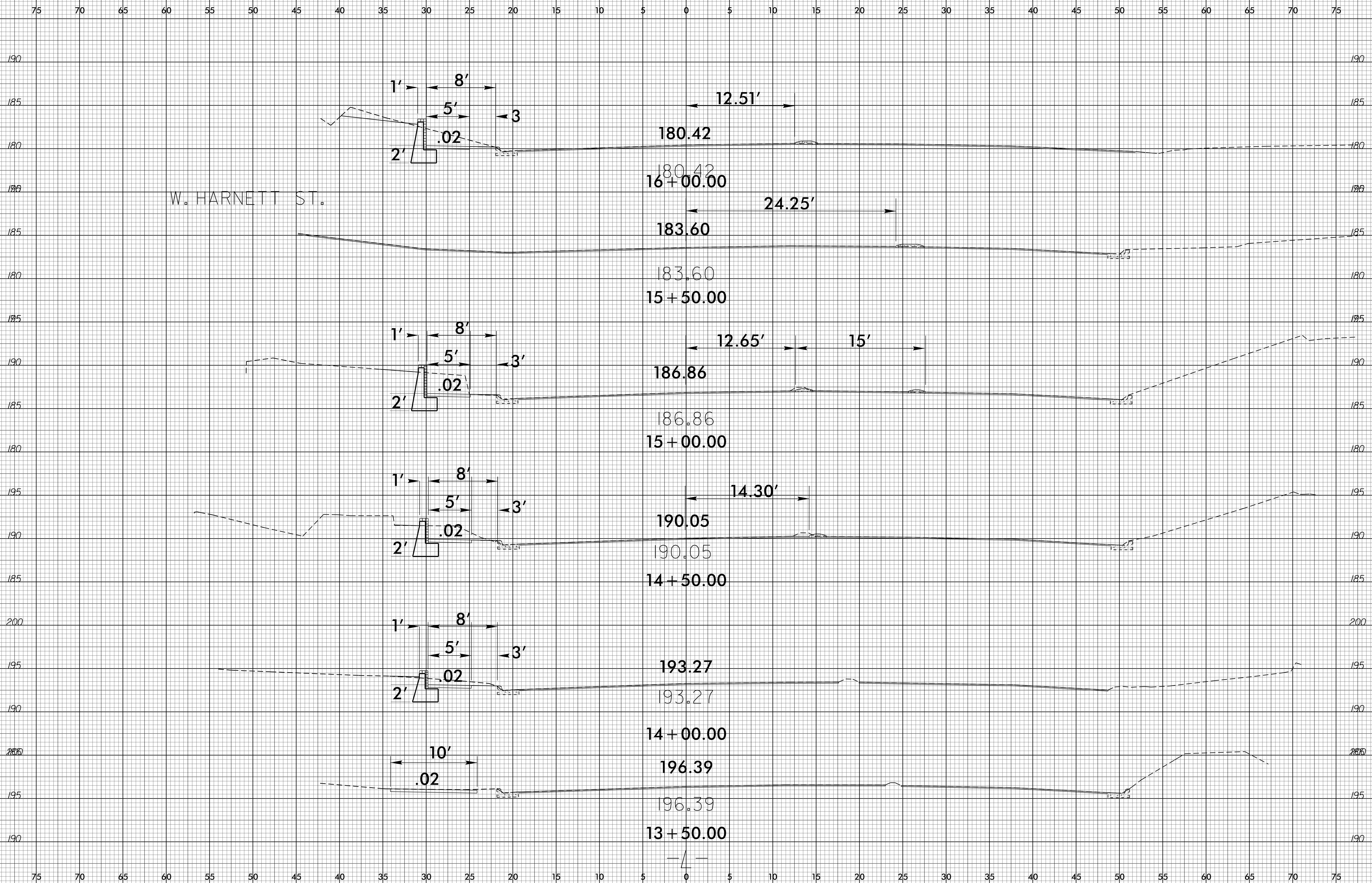
POT Sta. 61+80.63

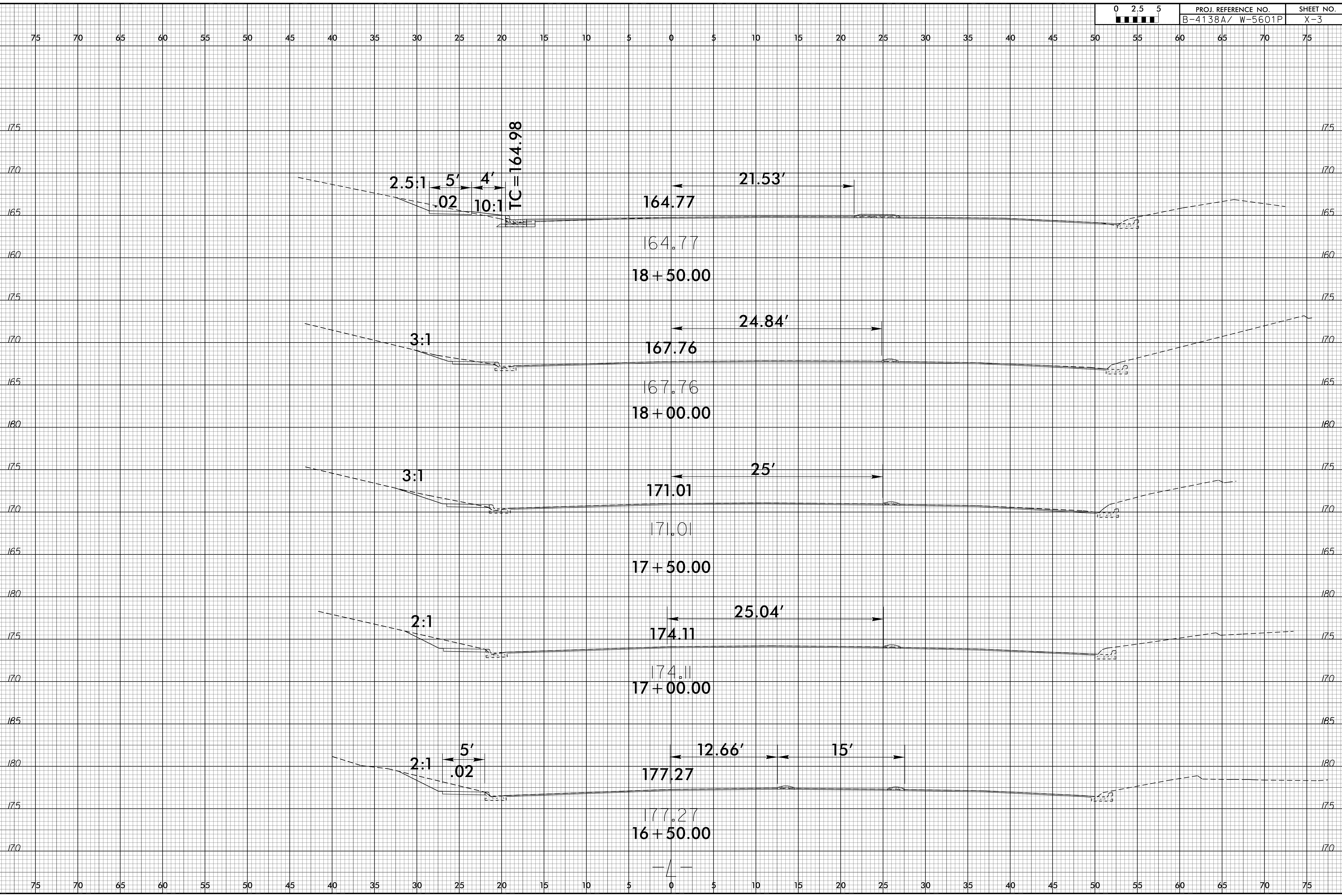
END SIDEWALK  
STA + 61.17

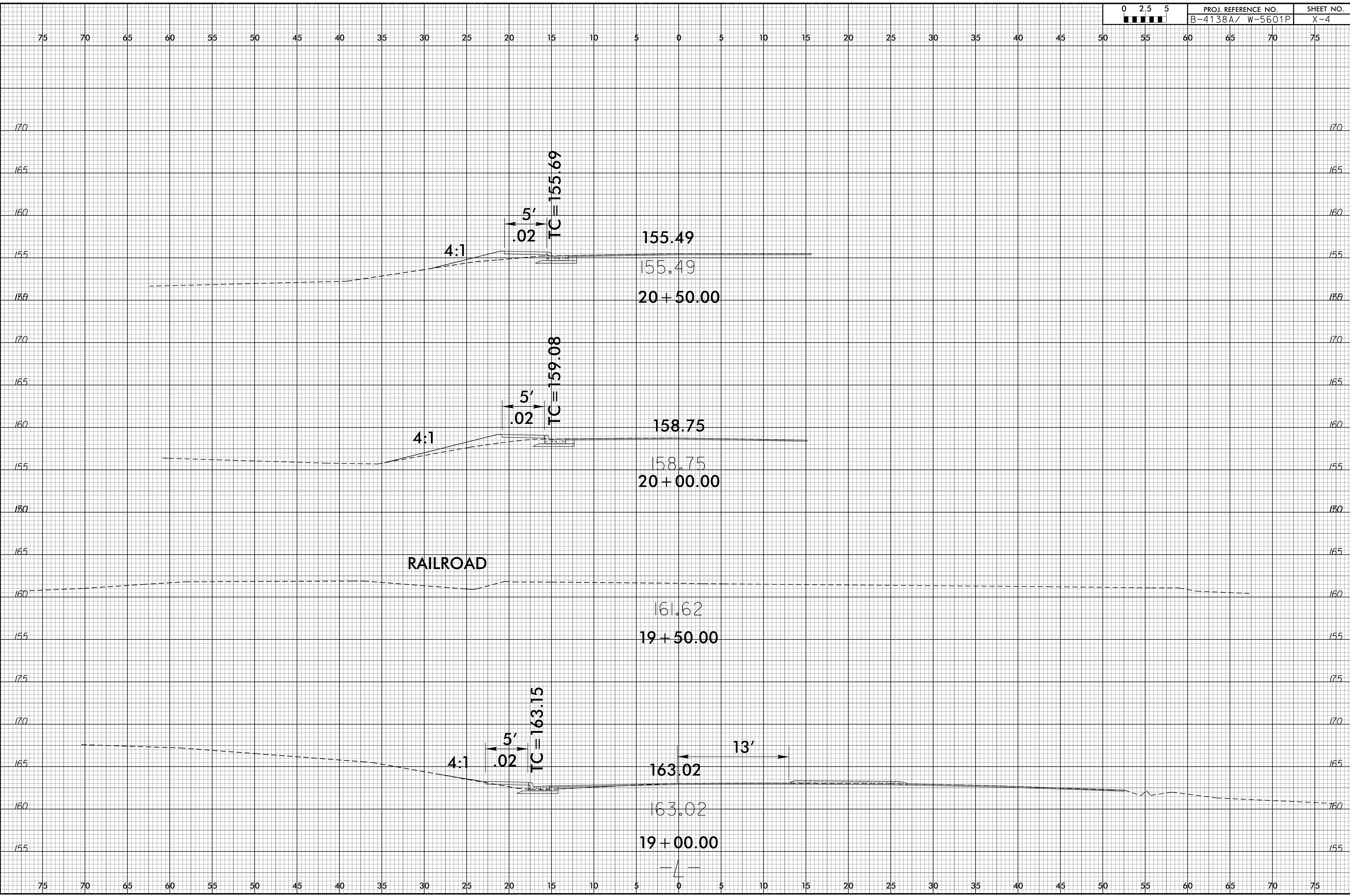
ANGIER

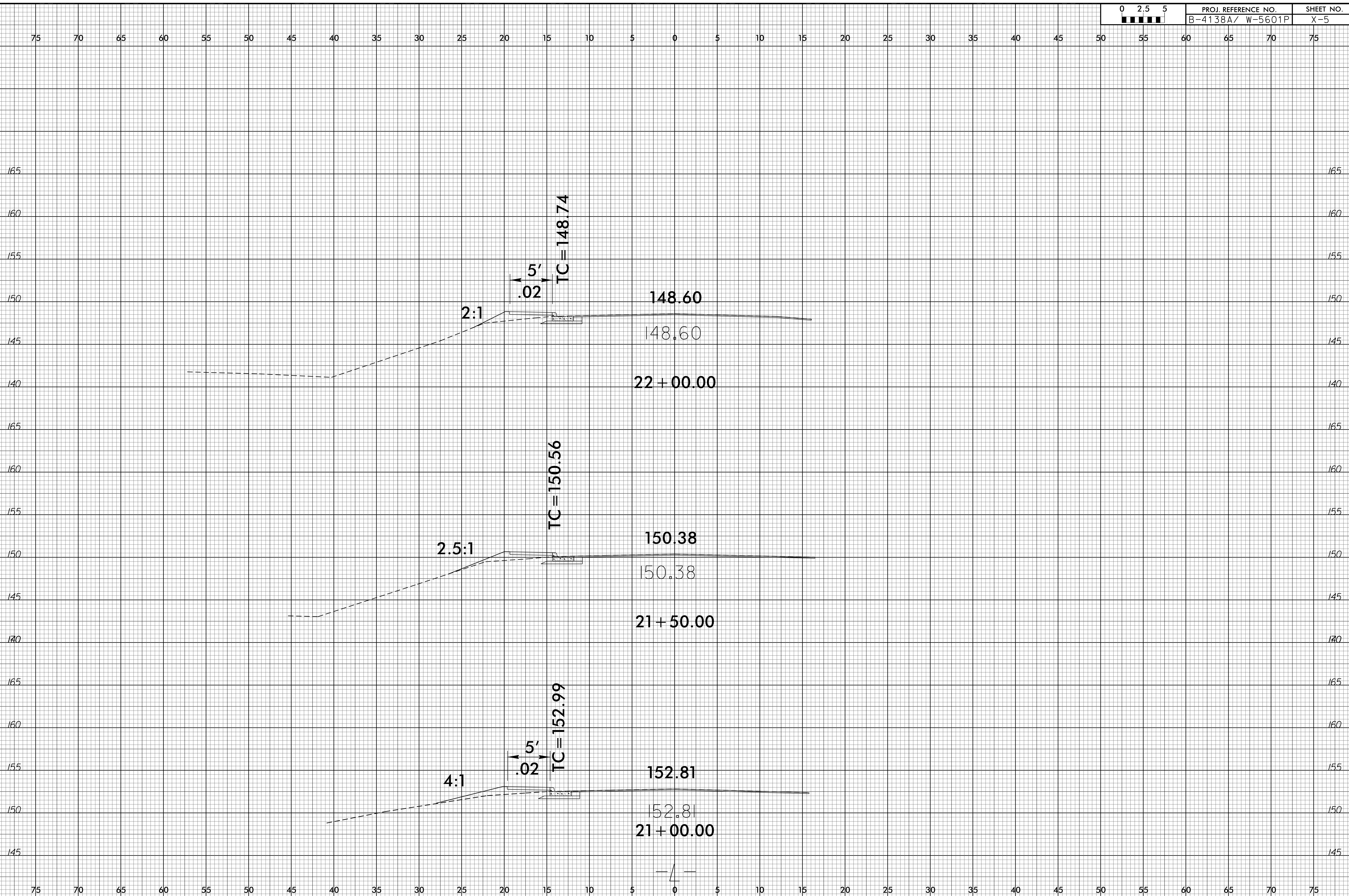
COUNTY OF HARNETT  
DB 2147 PG 433



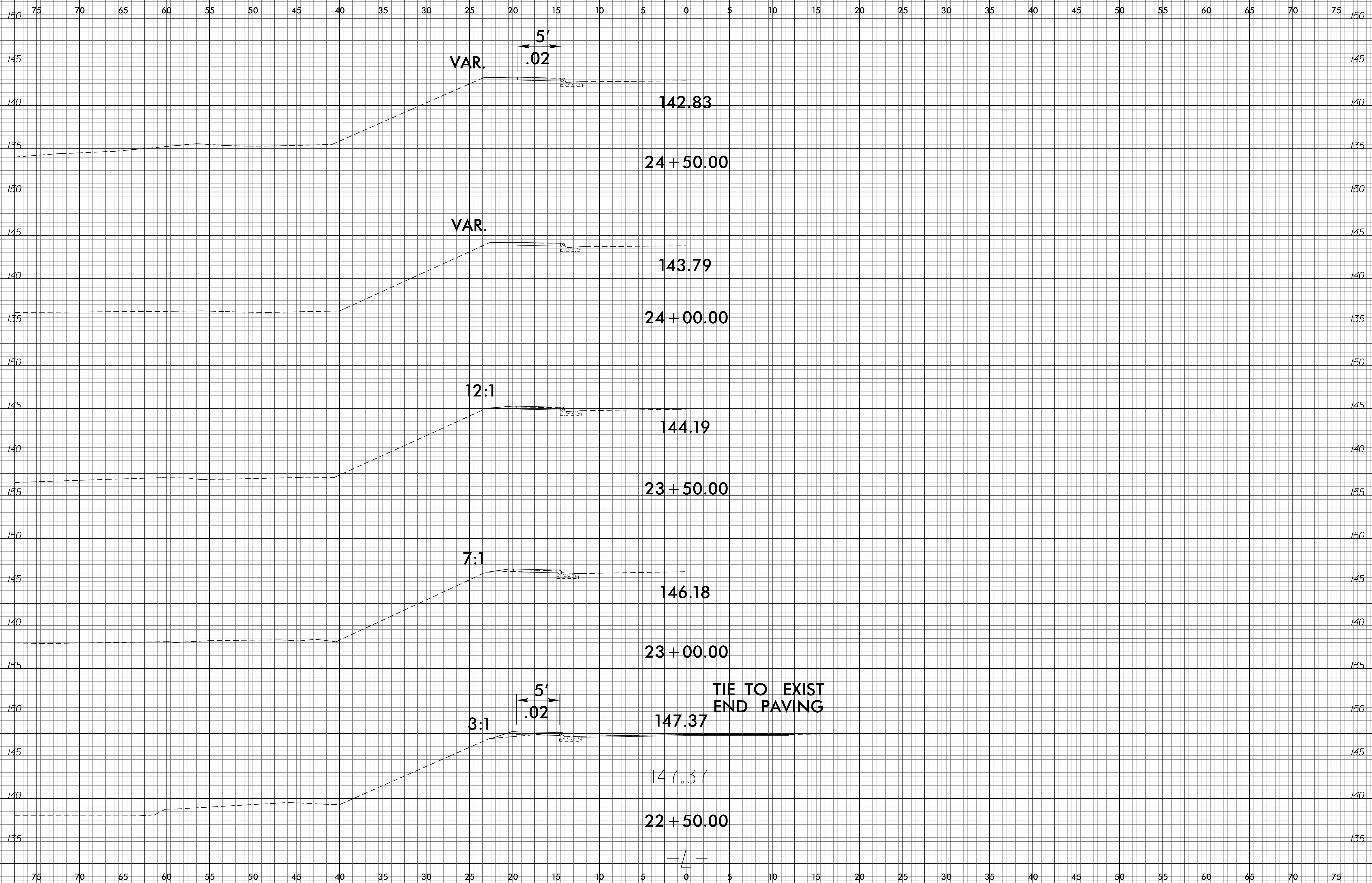




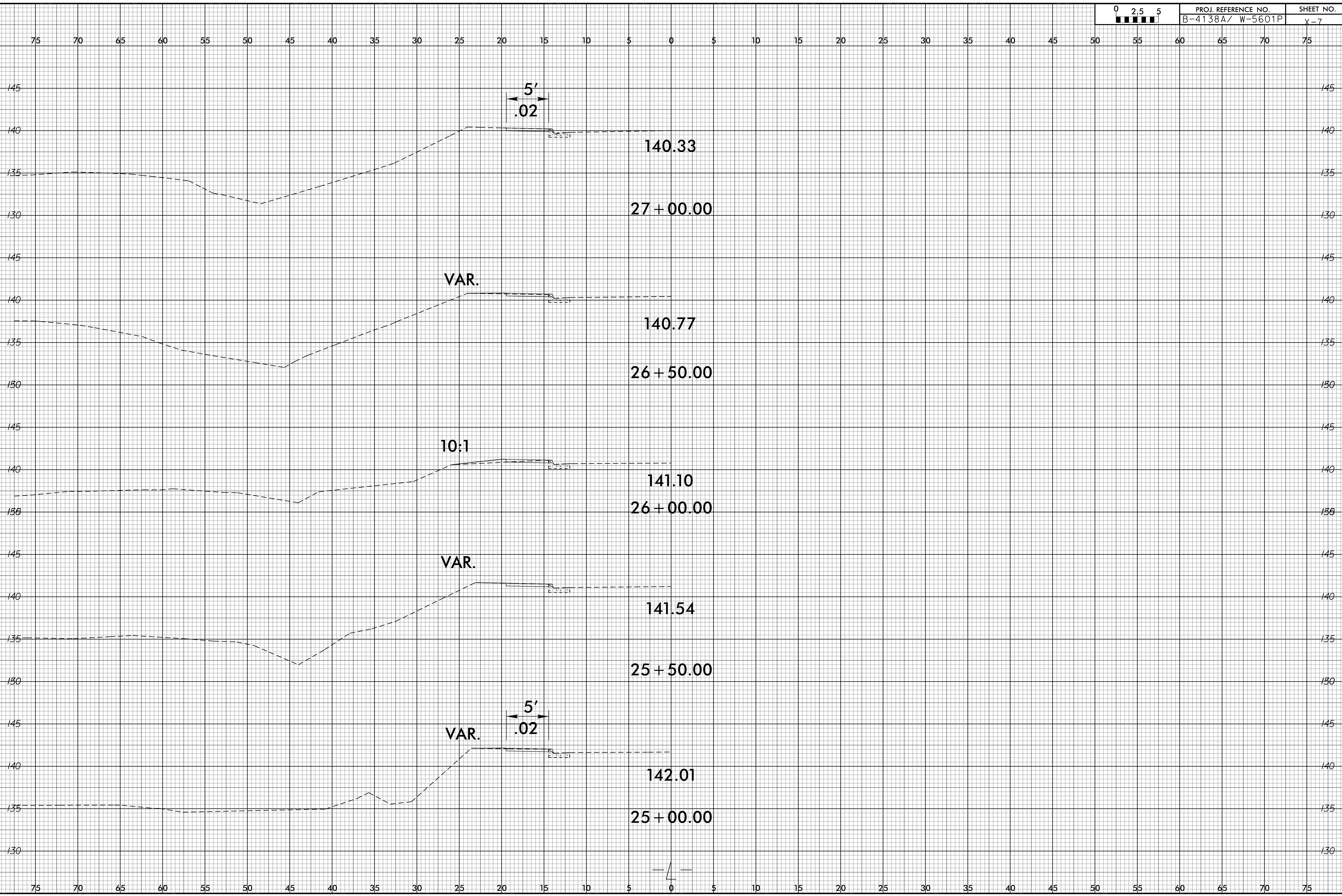


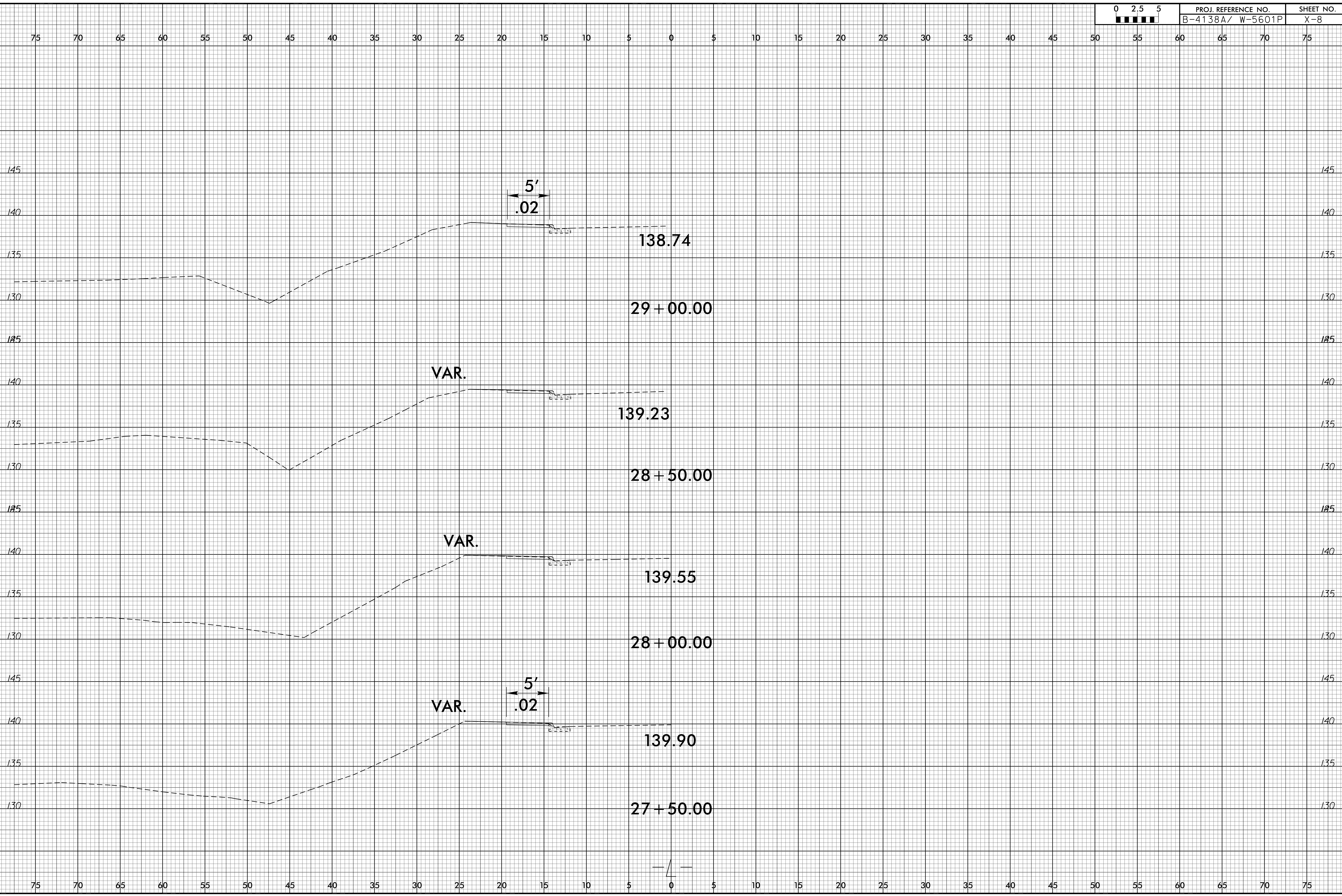


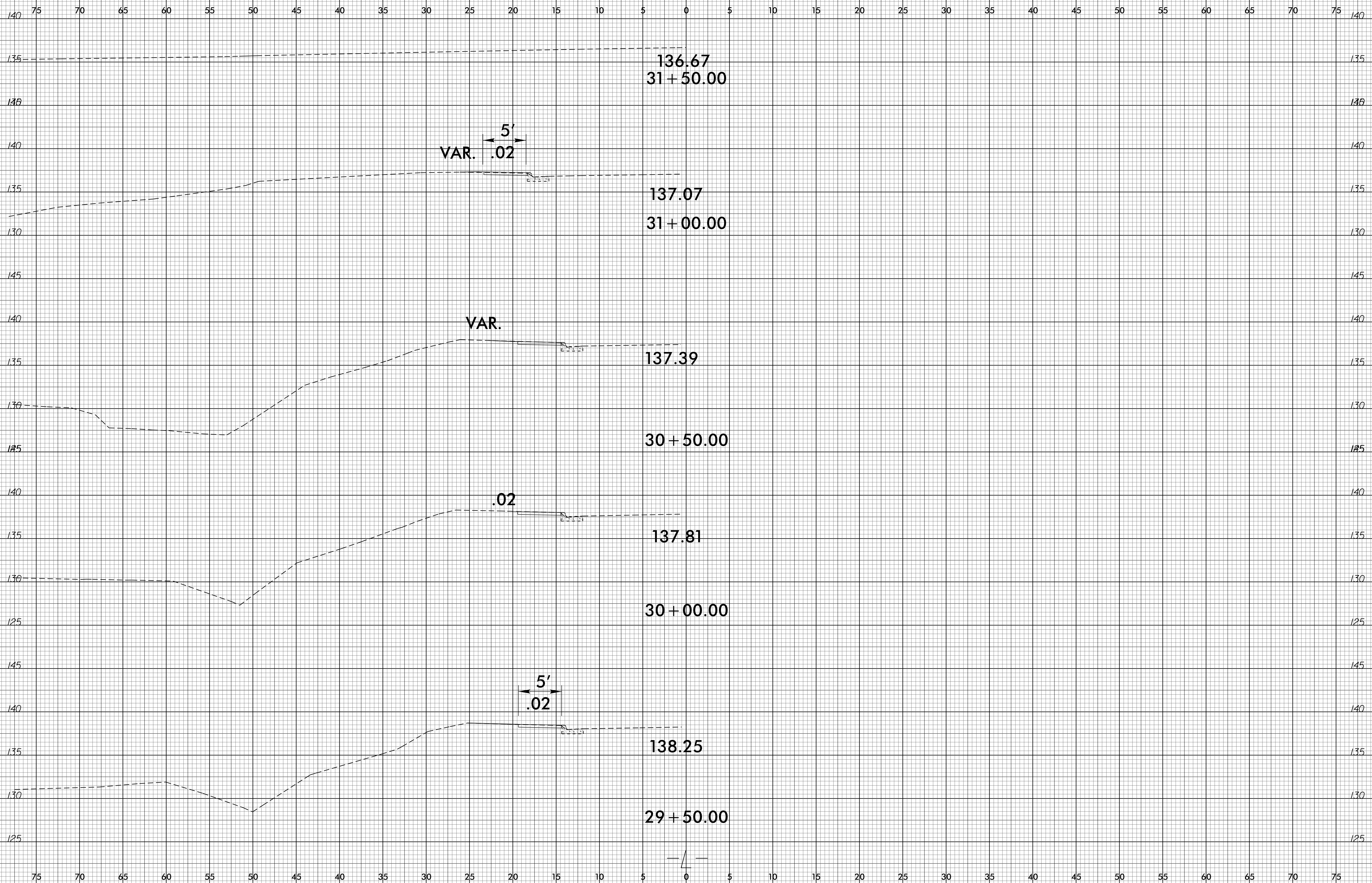
30-OCT-2014 15:28  
 H:\DUC\Projects\B-4138A (334901.FR2)\Lillington (Hernett Co)\Roadway\WCS\B-4138A\_Rdy.xpl.dgn  
 \$\$\$USERNAME\$\$\$

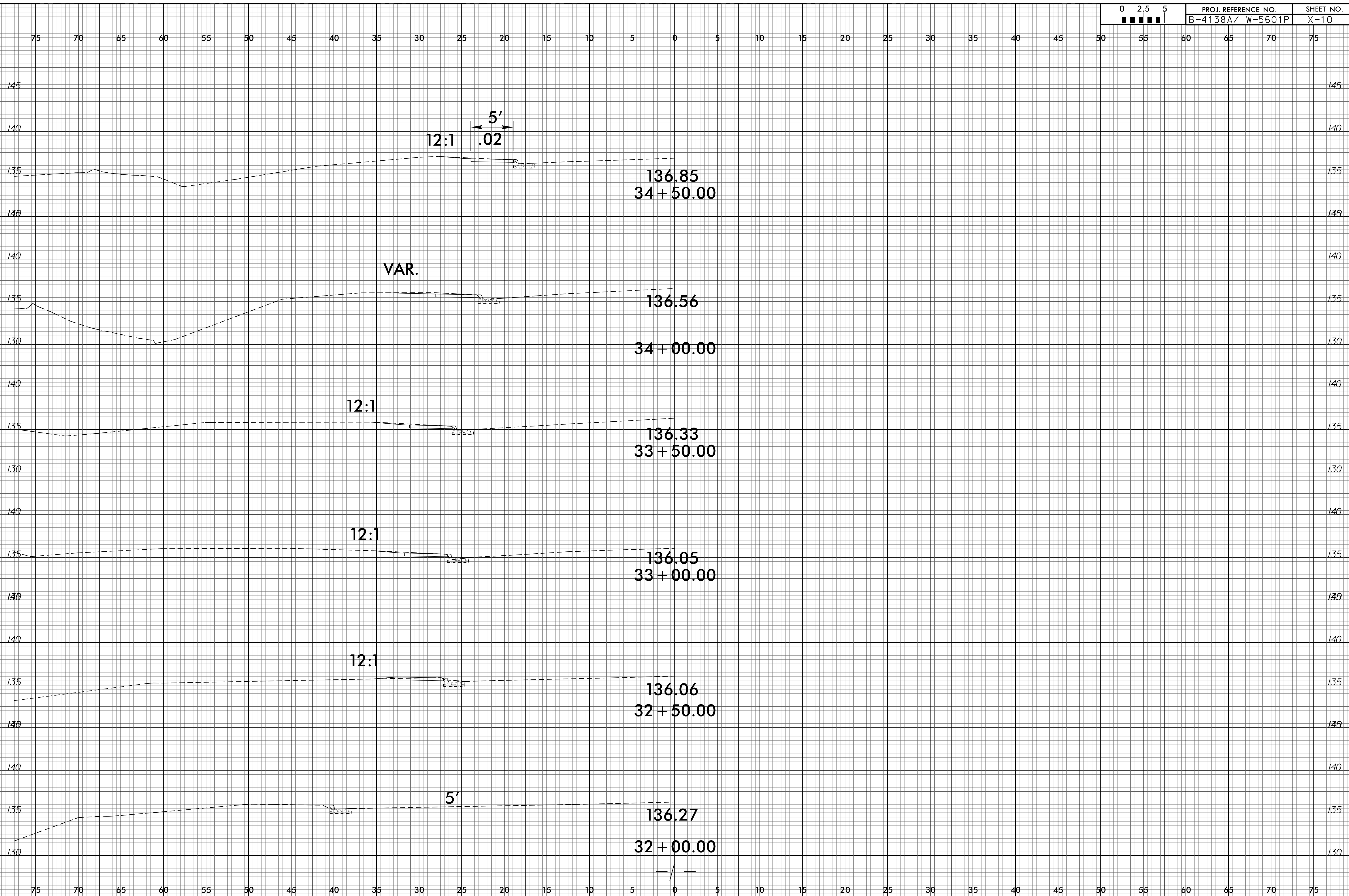


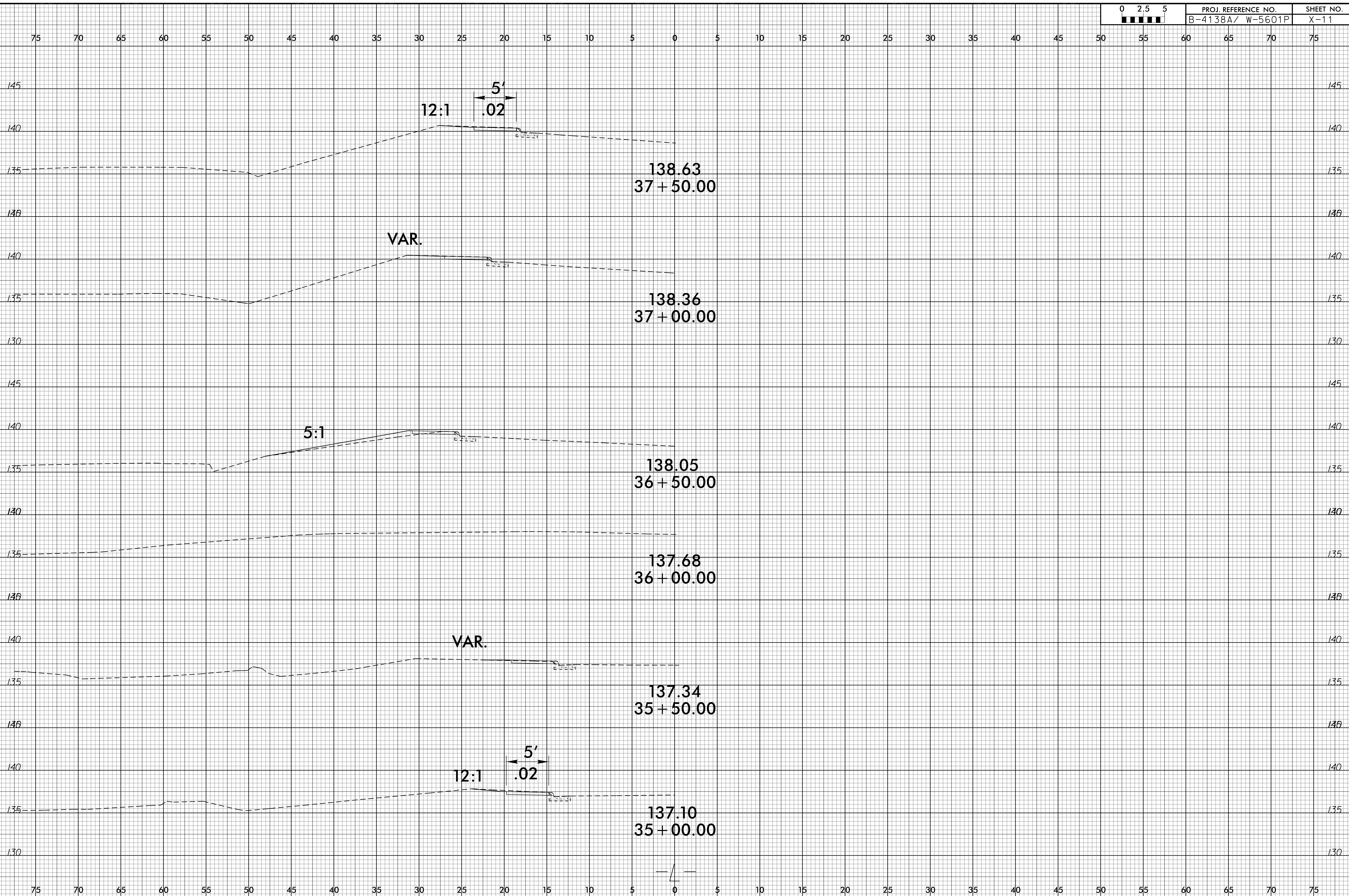


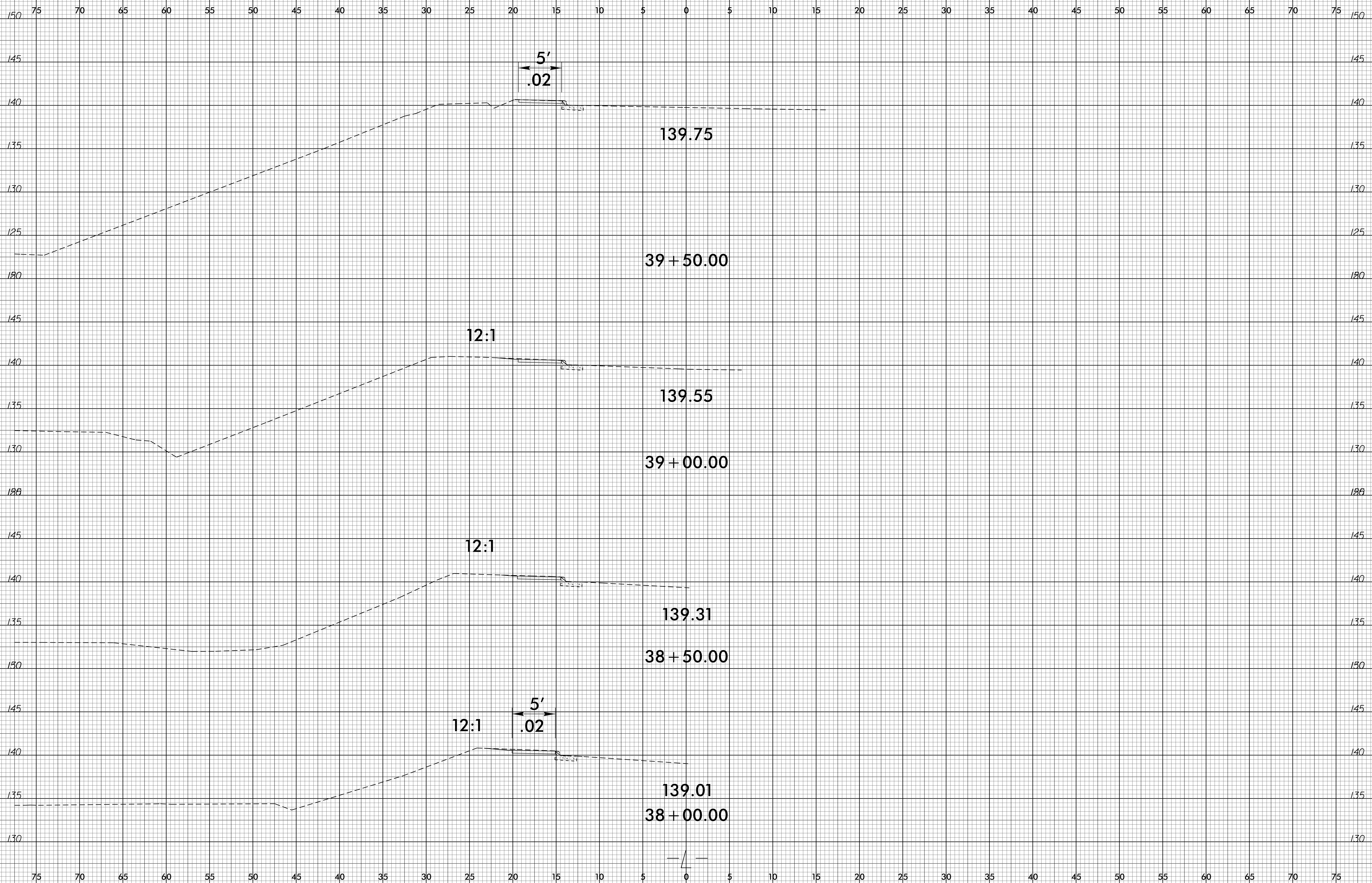


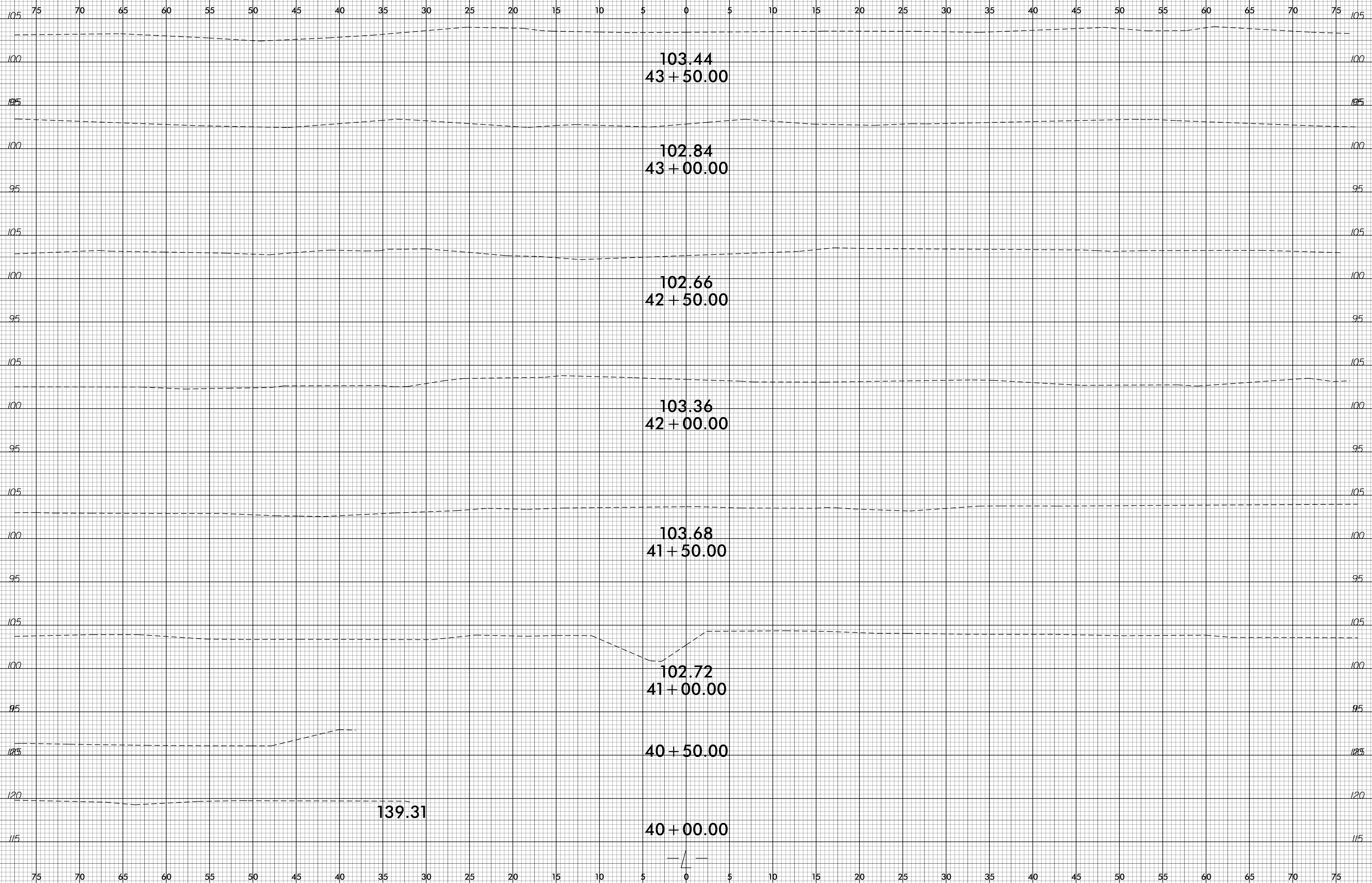


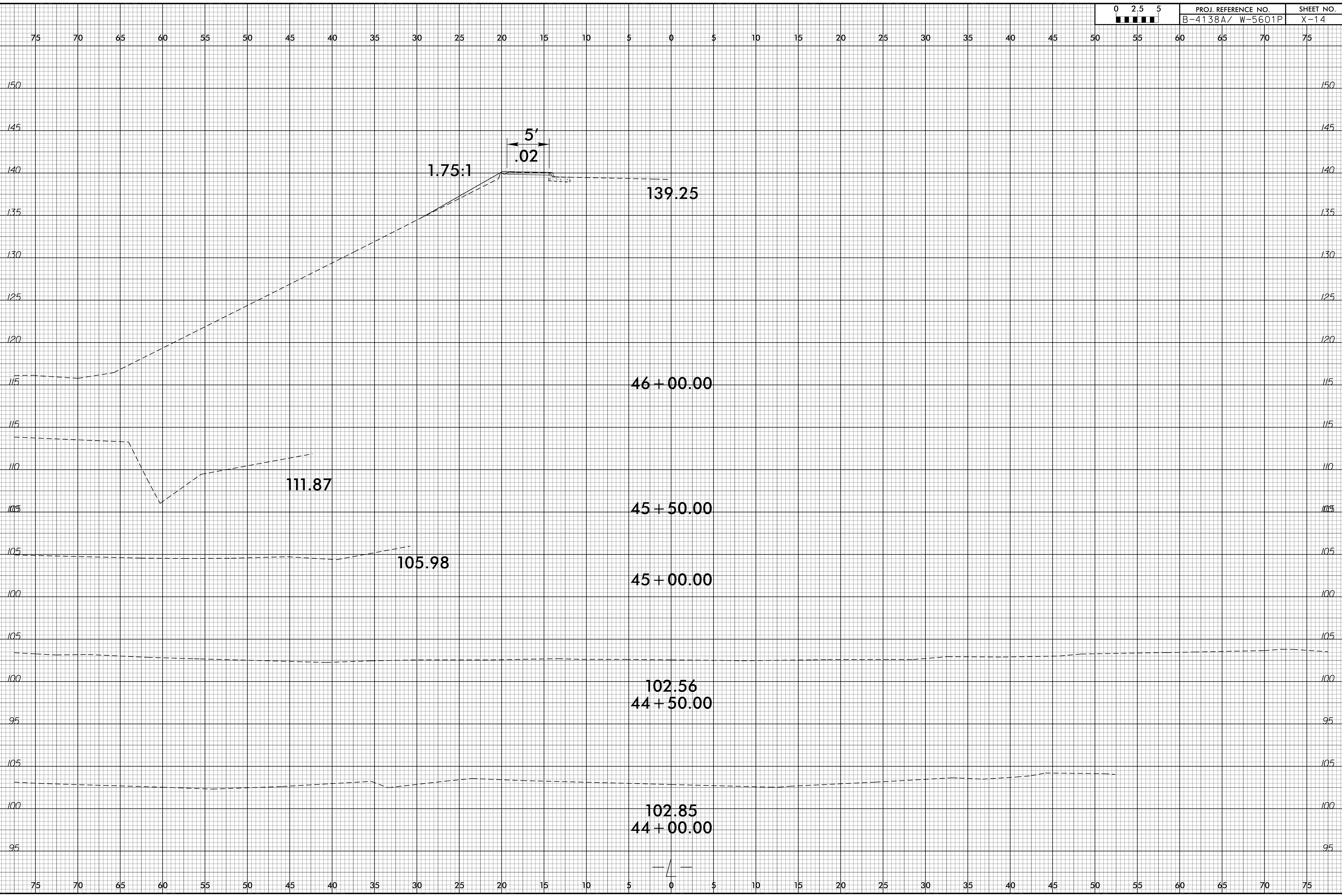




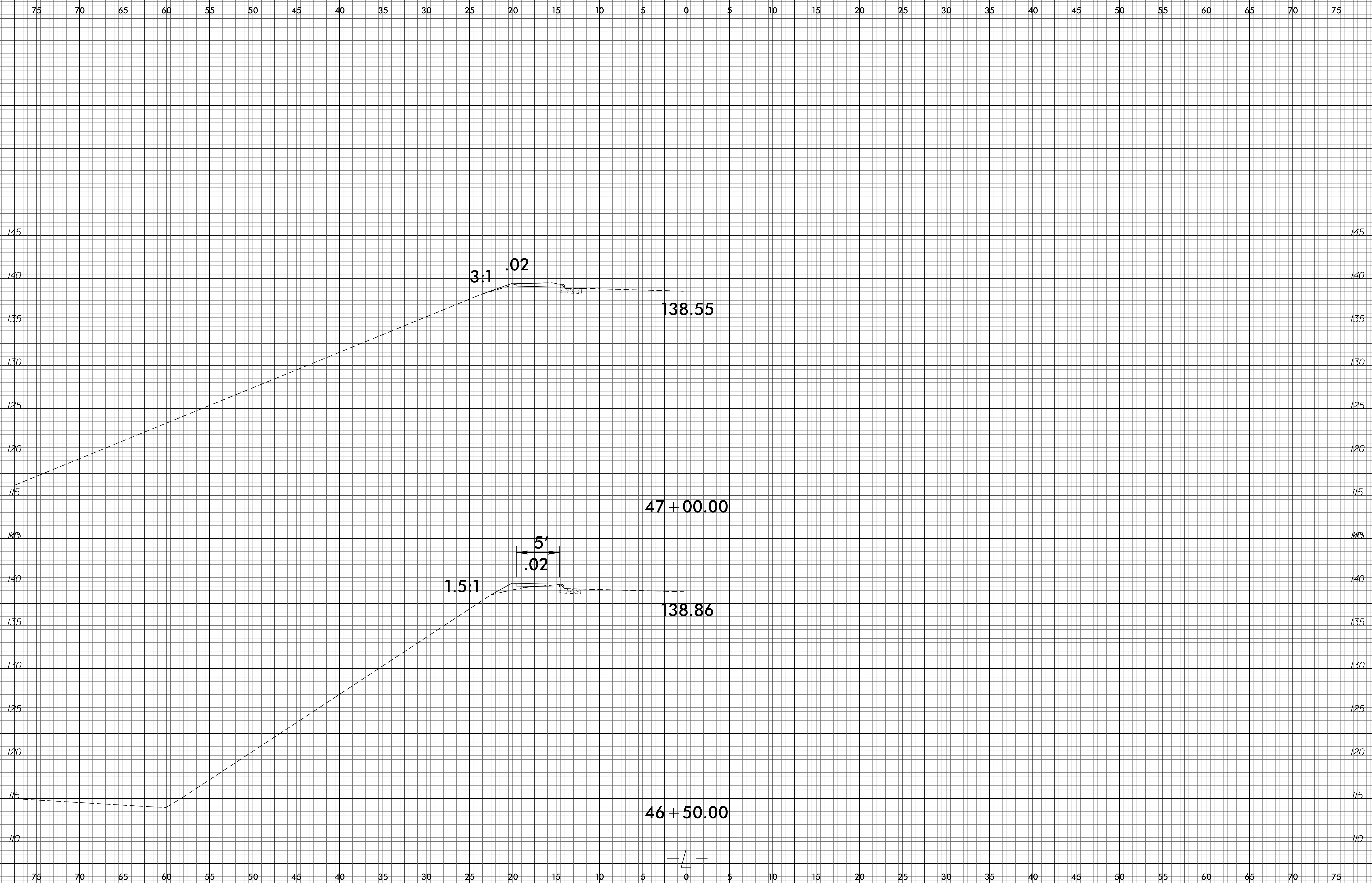


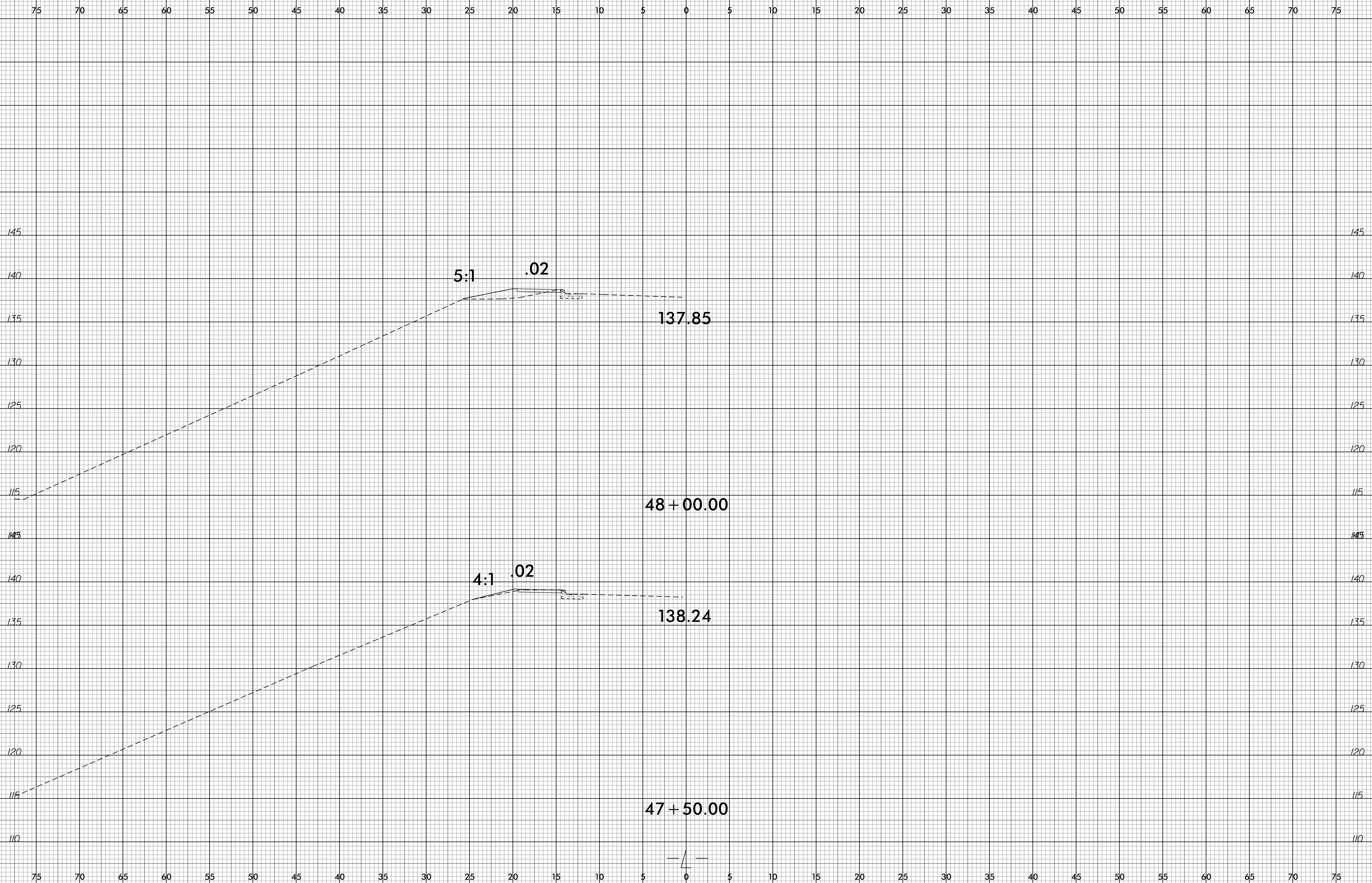


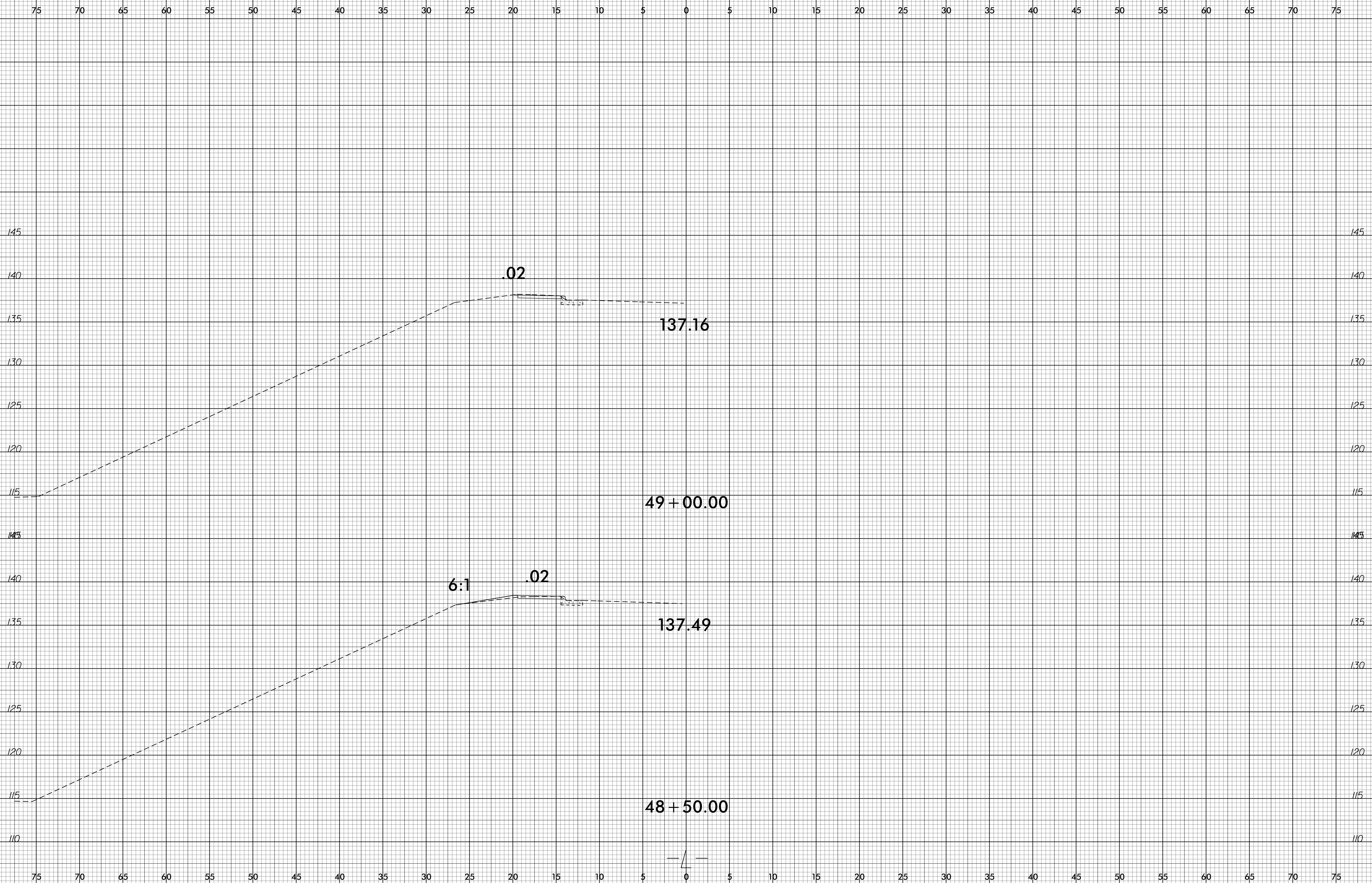




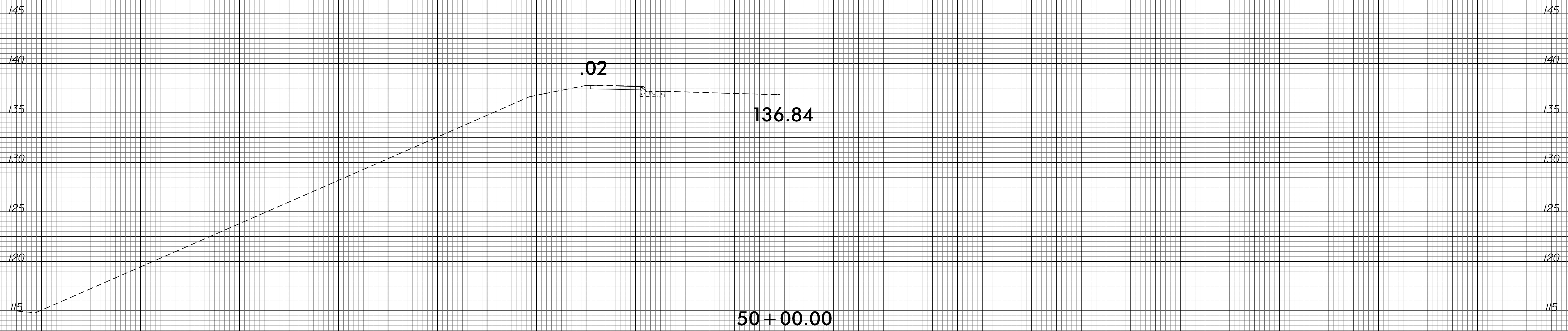




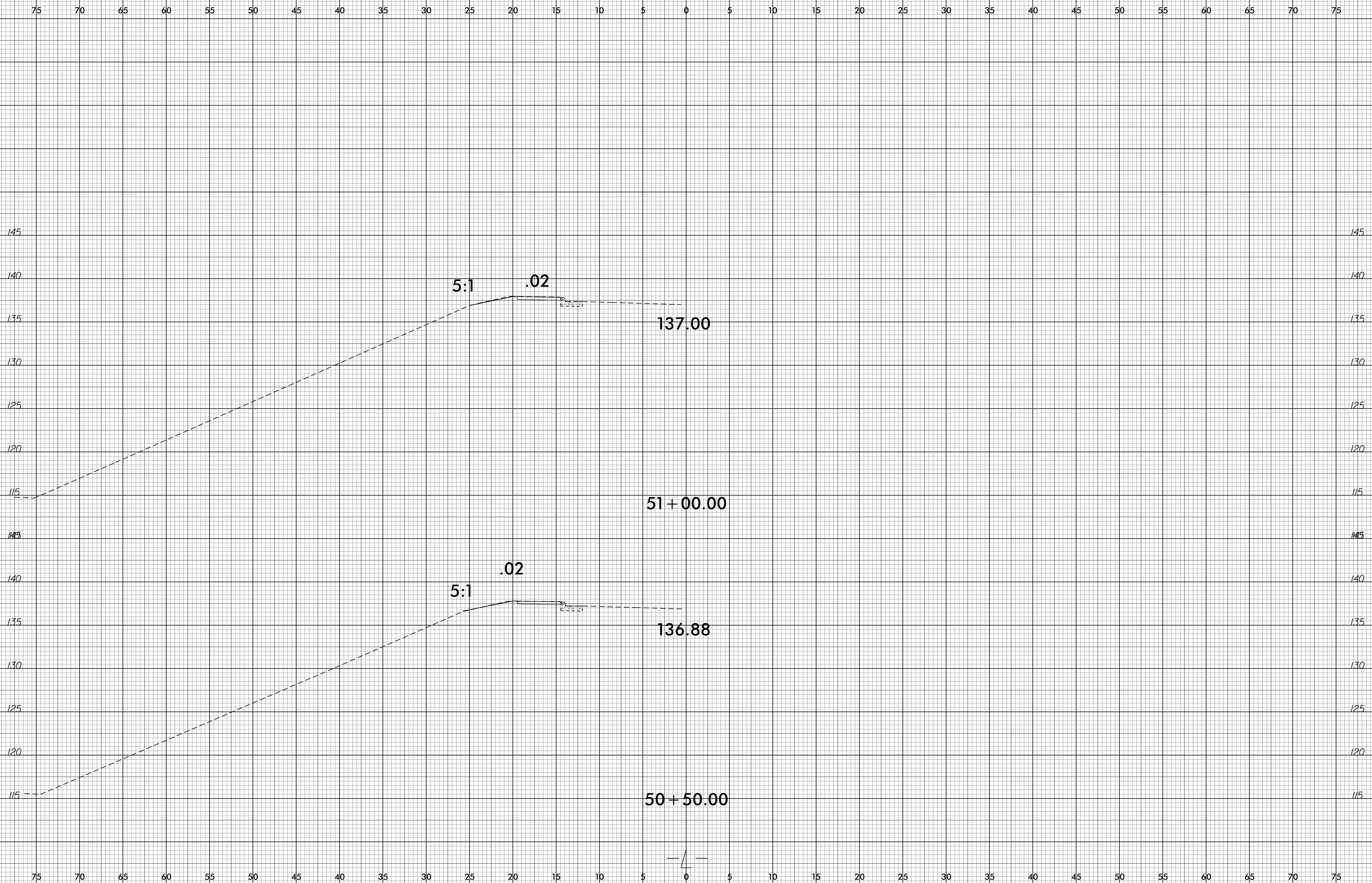




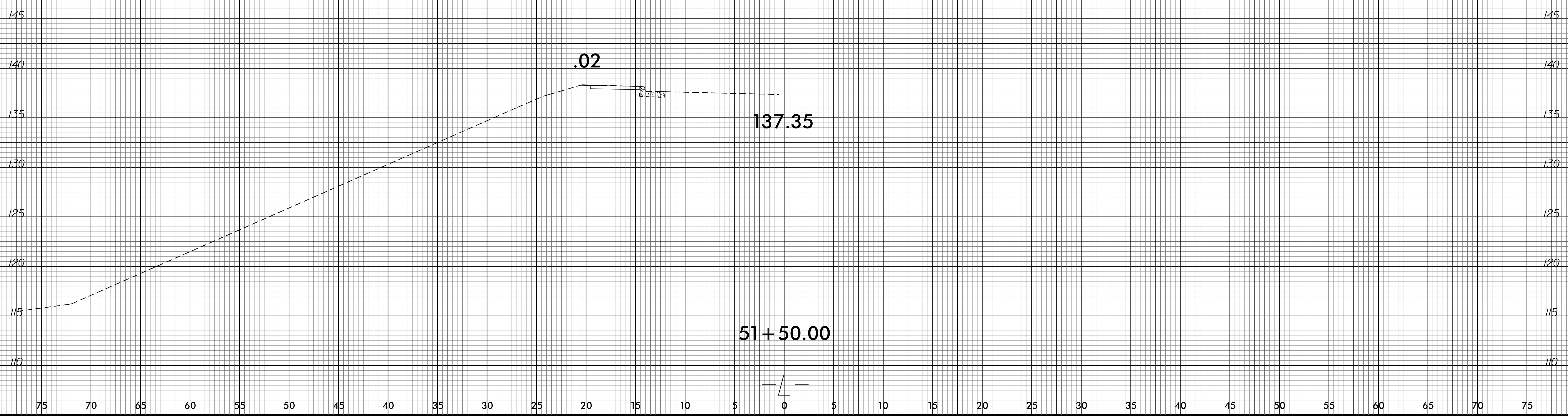
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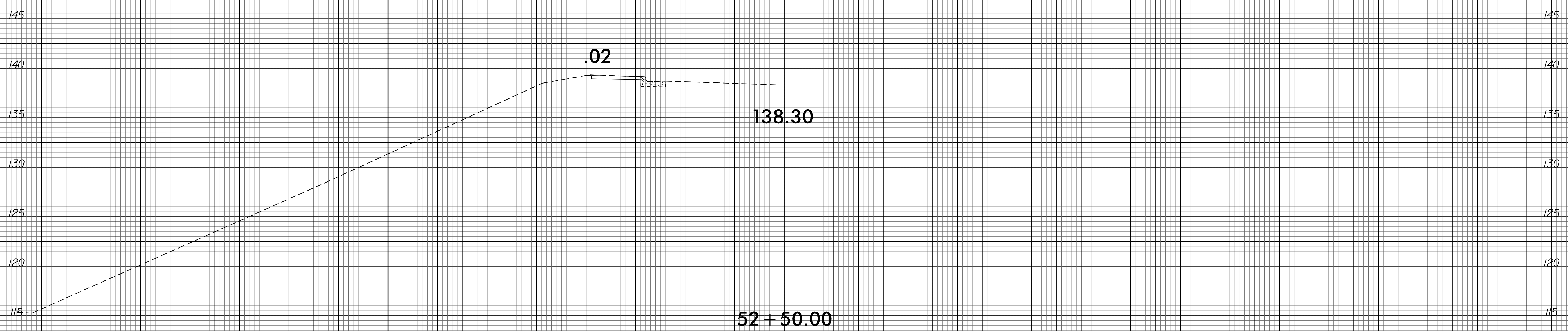
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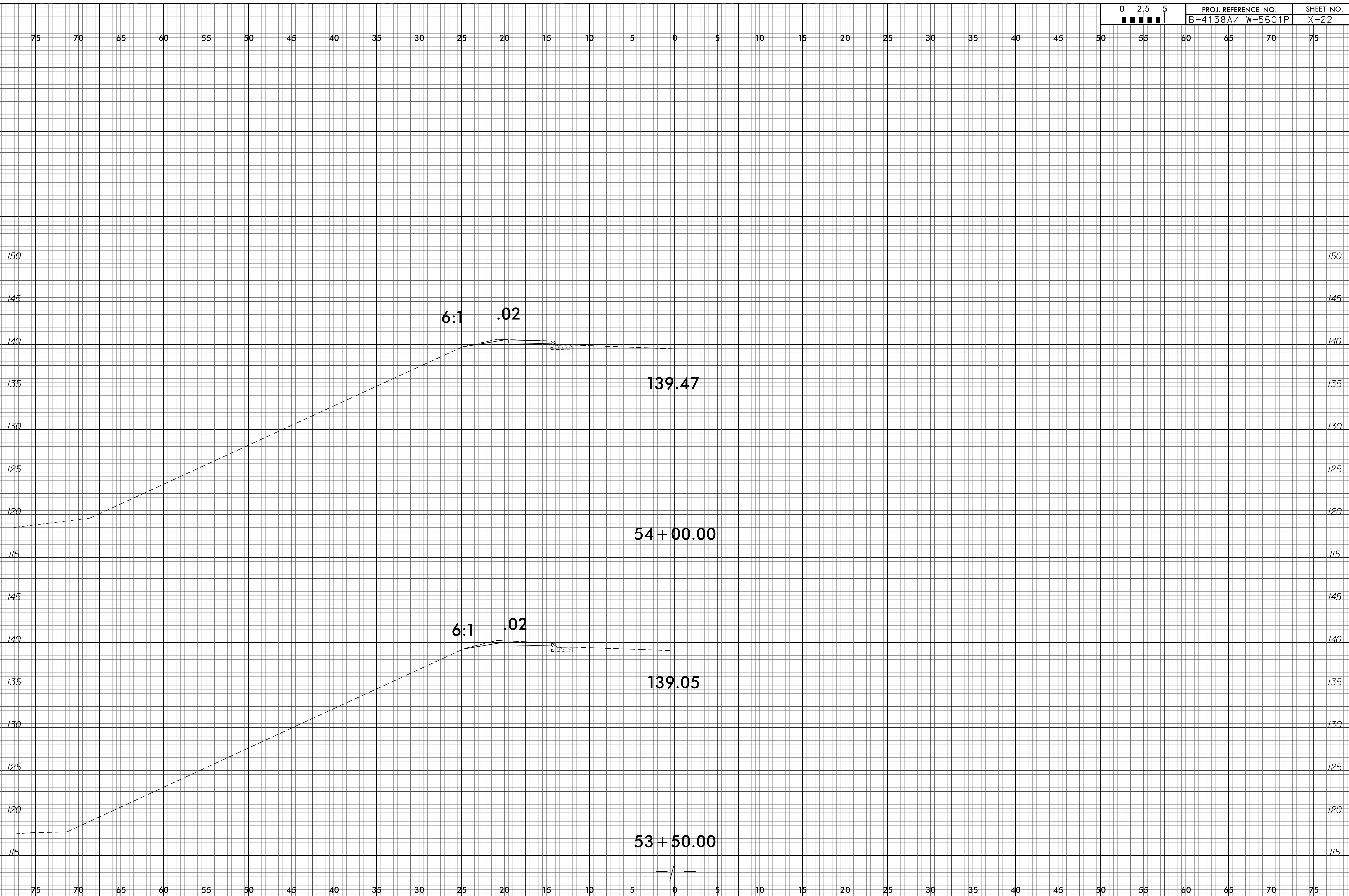
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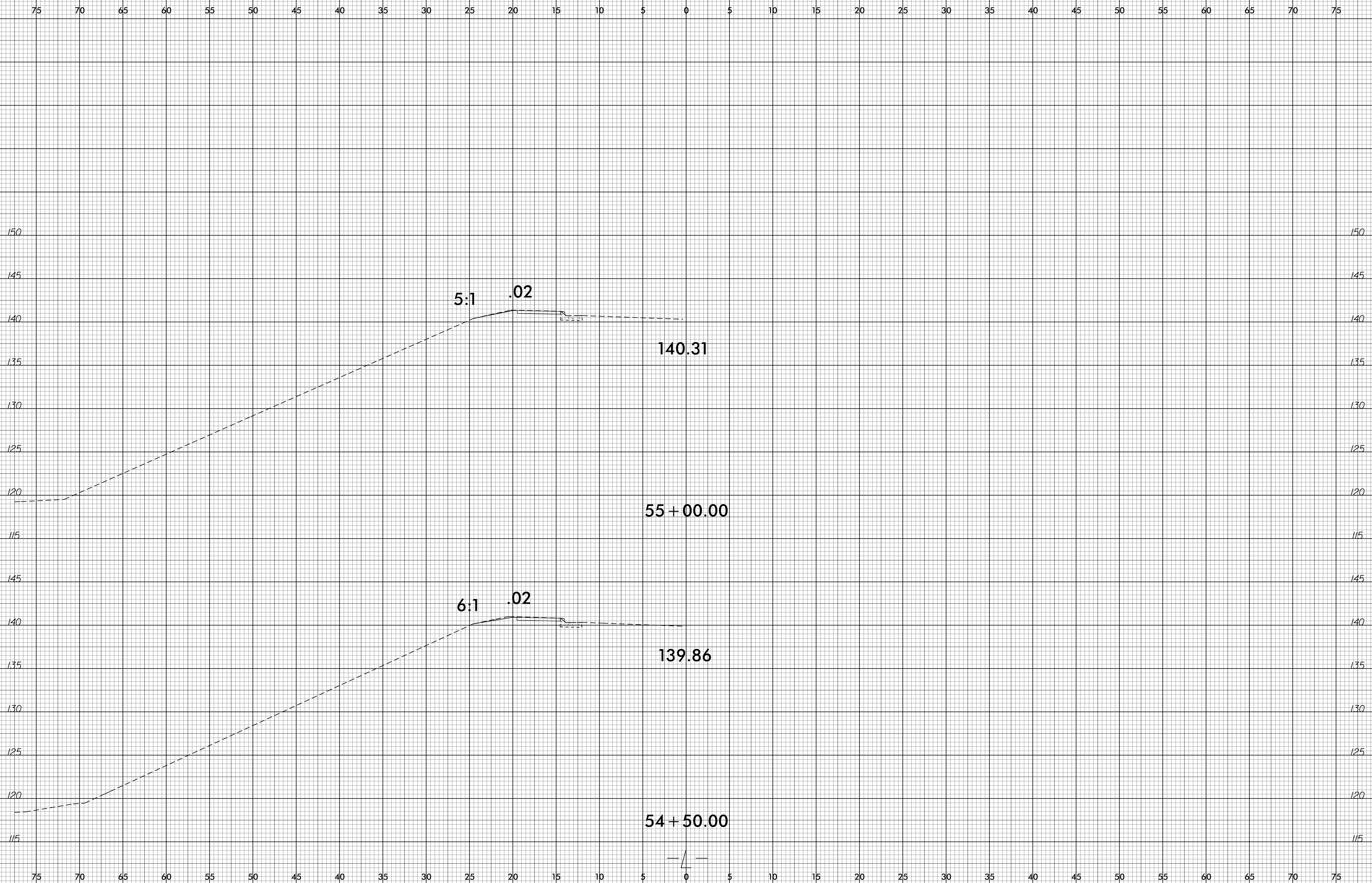
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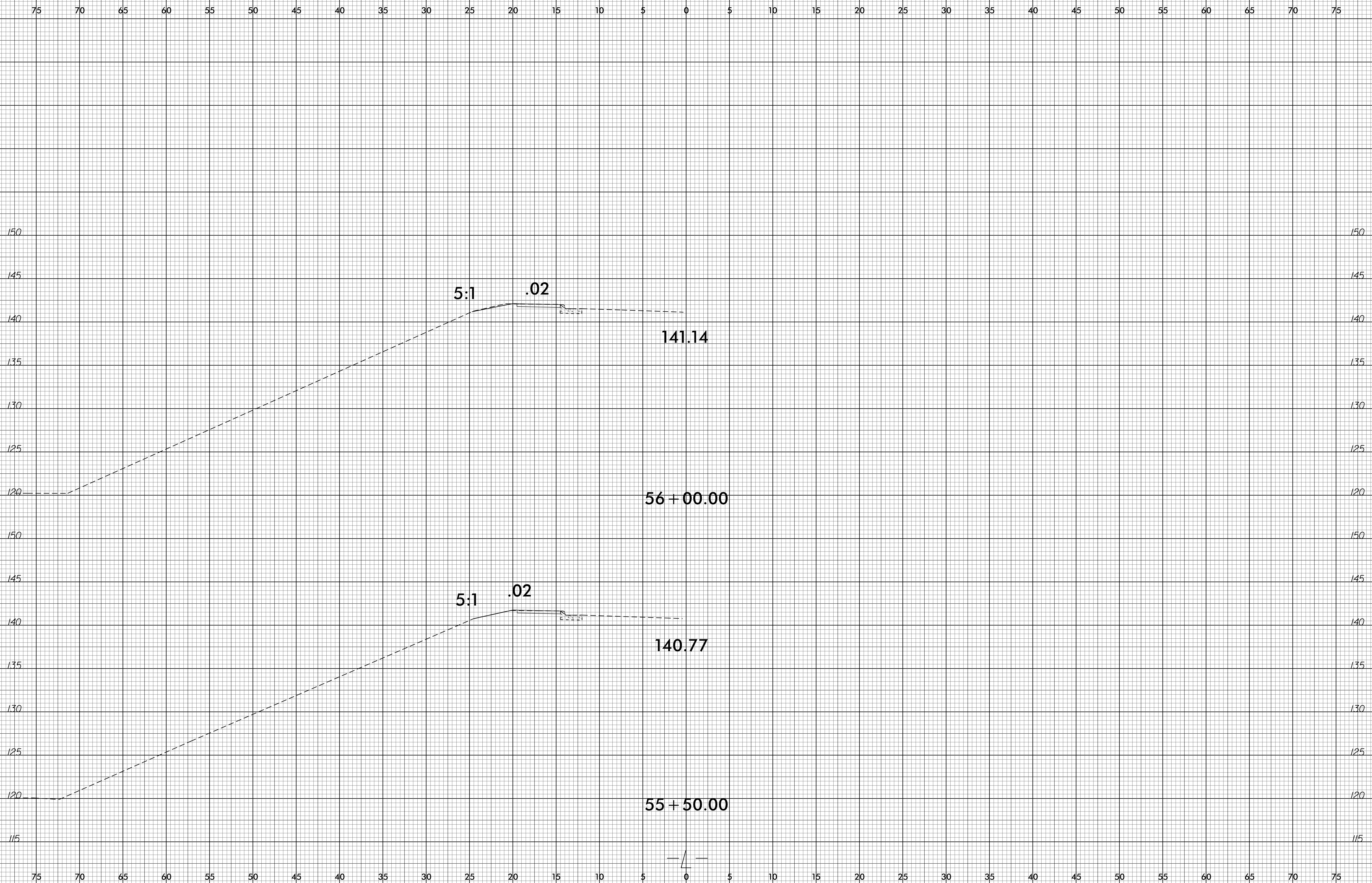


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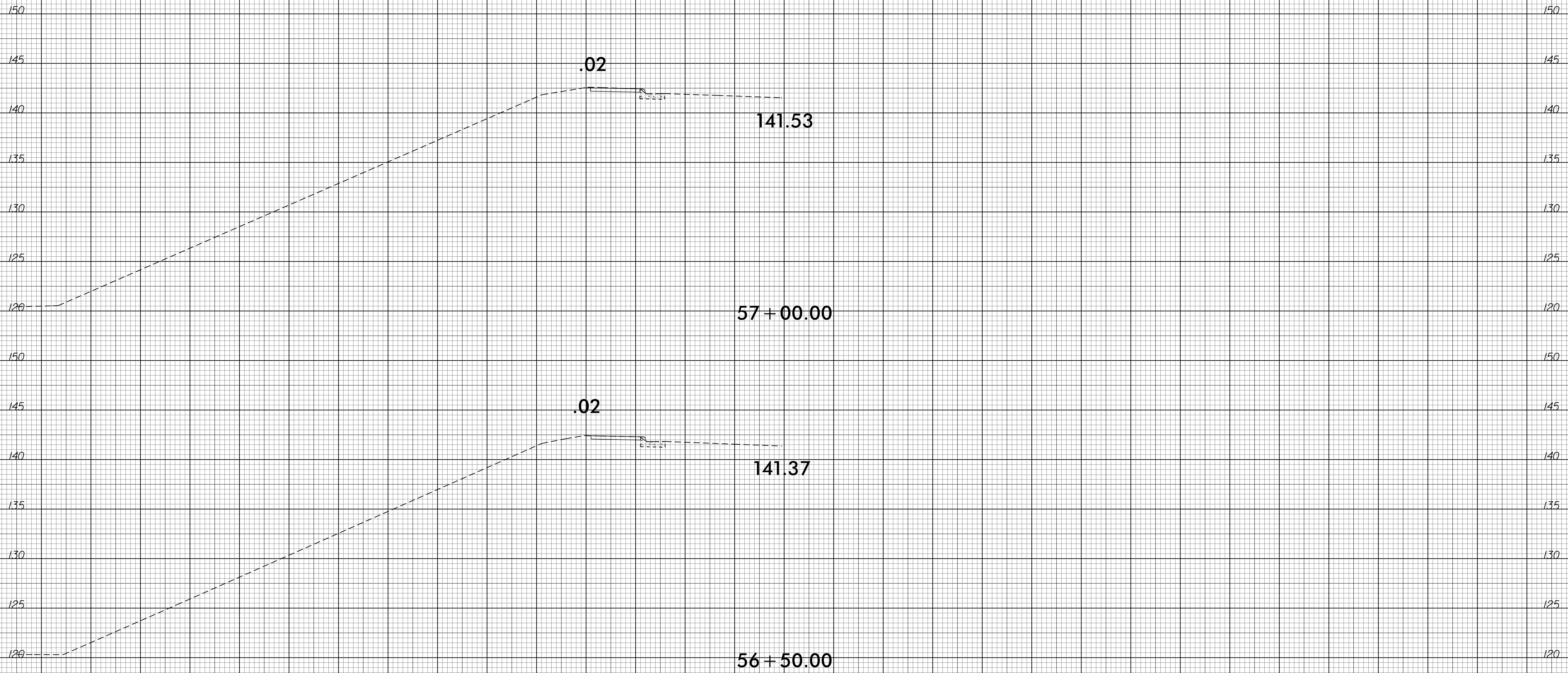






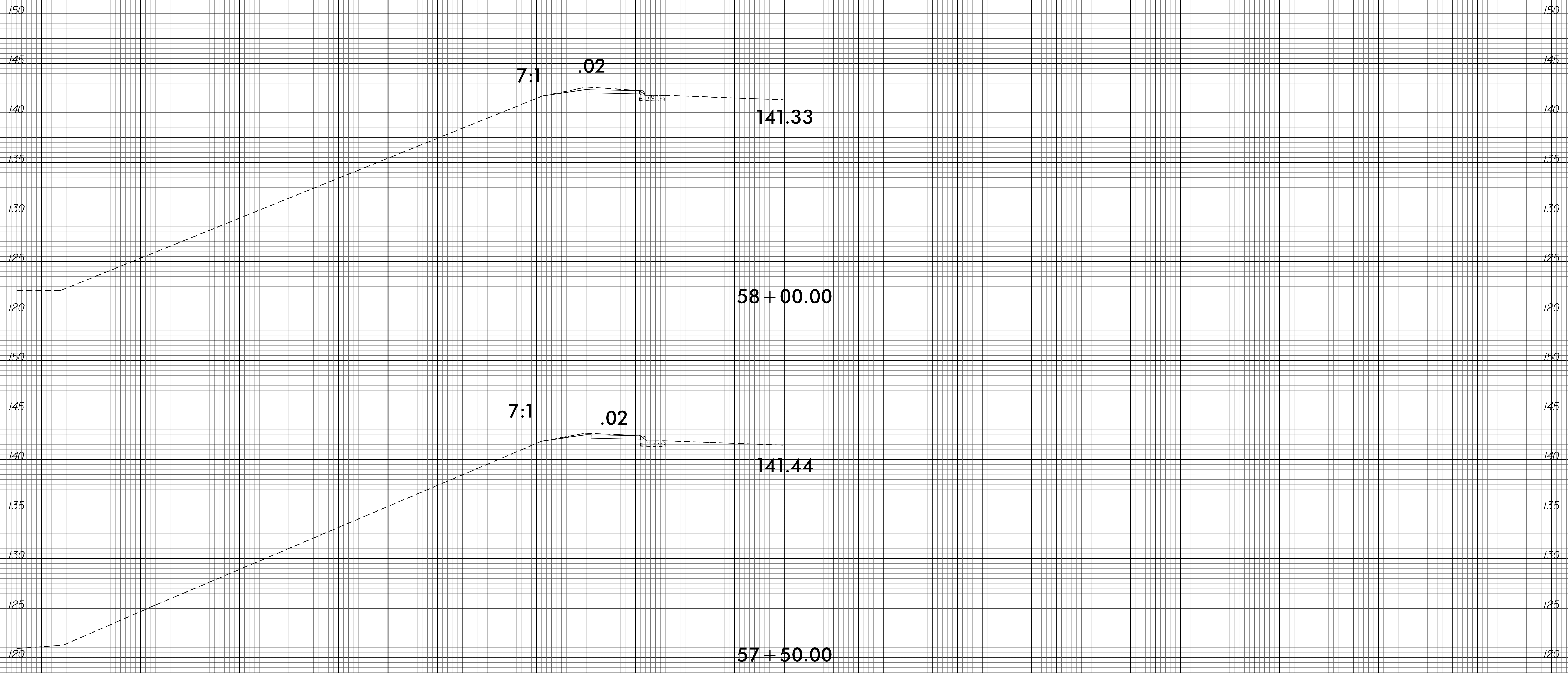


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