

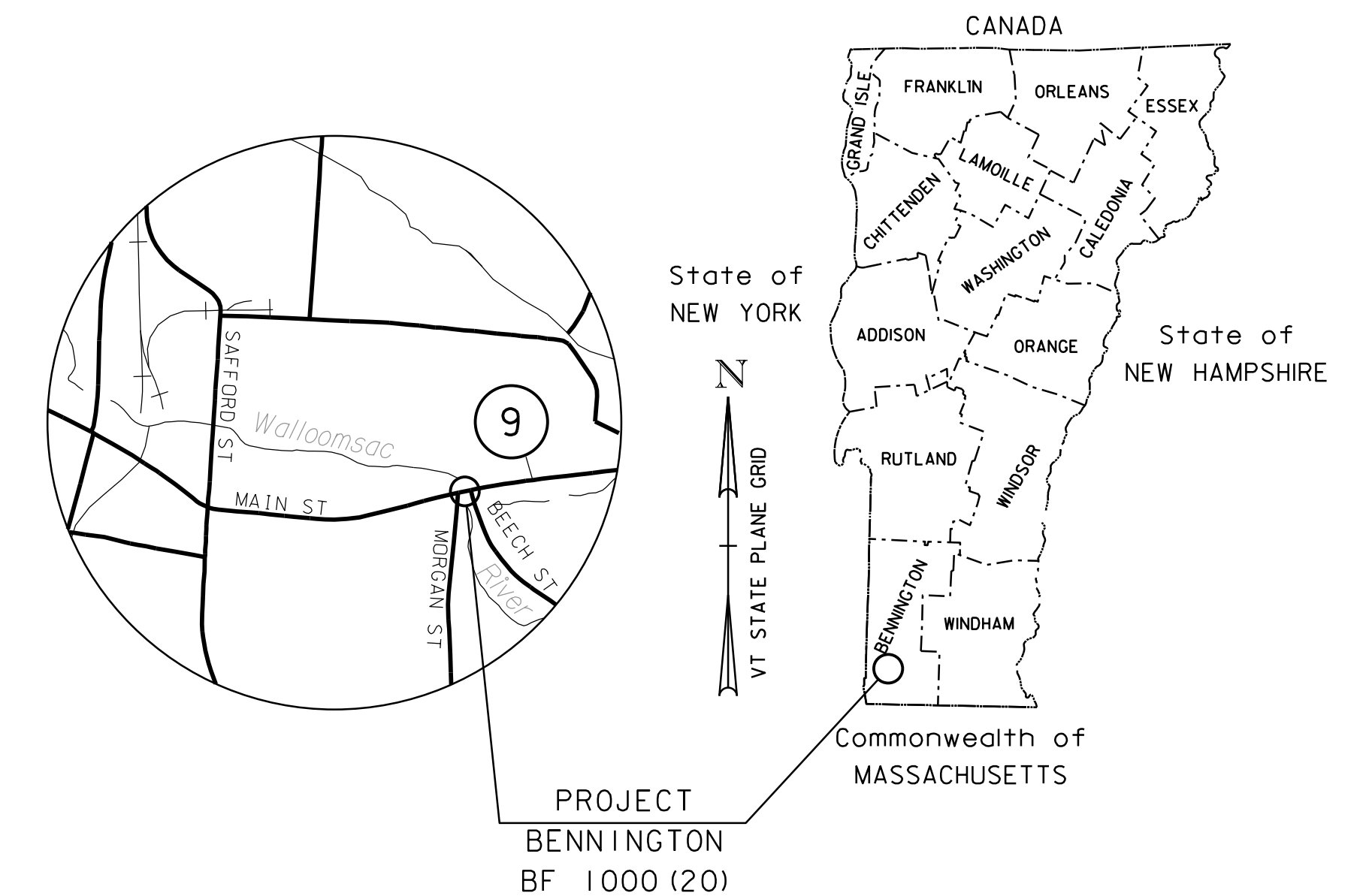
STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE REPLACEMENT PROJECT TOWN OF BENNINGTON COUNTY OF BENNINGTON BRIDGE NO. 6

REVIEWER'S NOTES:

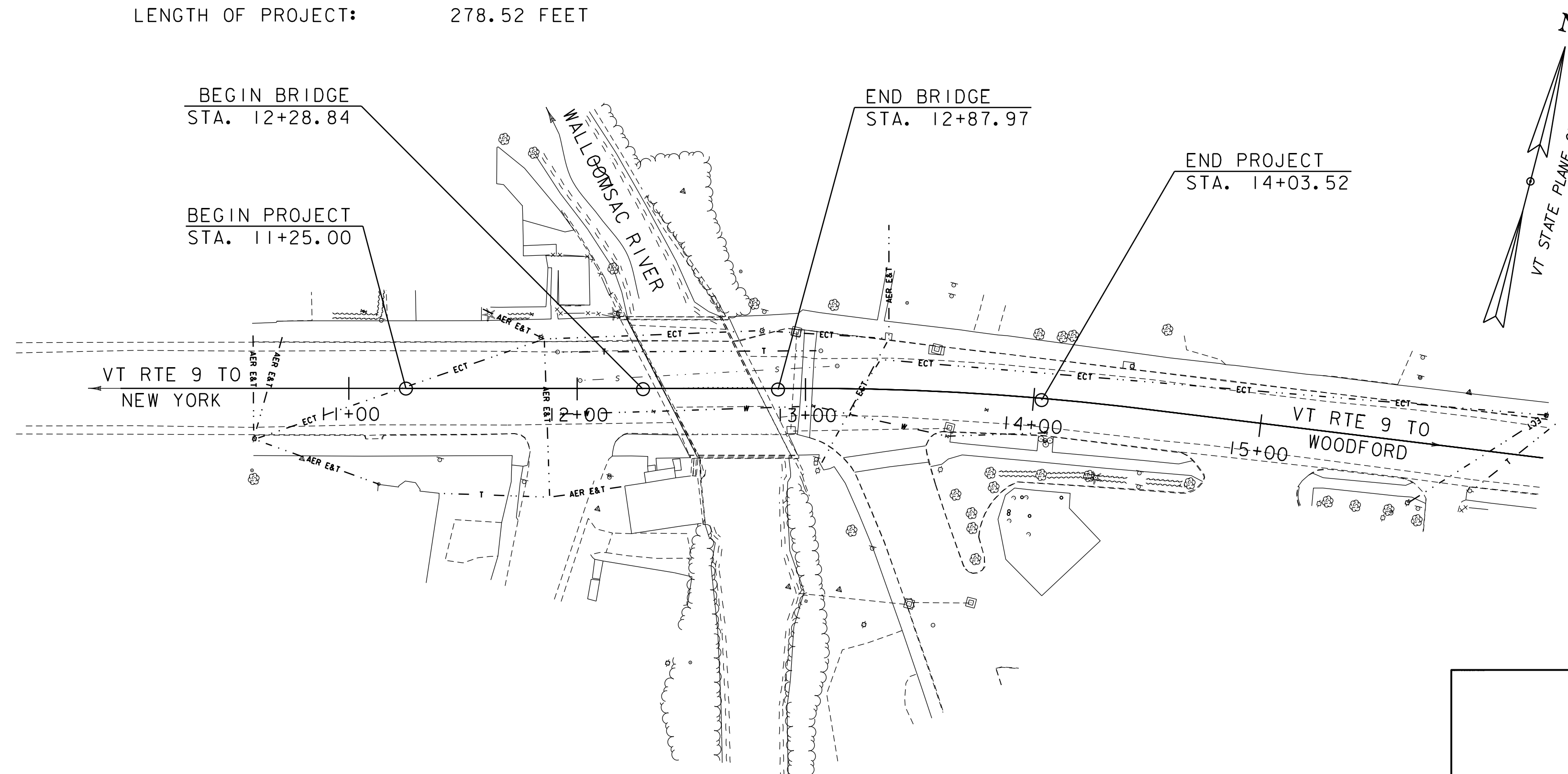
1. ROW EASEMENTS NEEDED.
2. SEWER RELOCATION IS ANTICIPATED.
3. WATERLINE RELOCATION IS ANTICIPATED.
4. OVERHEAD UTILITY RELOCATION IS REQUIRED.



PROJECT LOCATION: THE BRIDGE IS LOCATED ON TOWN HIGHWAY 2 (VT ROUTE 9/MAIN STREET, MILE MARKER 4.955), APPROXIMATELY 0.5 MILES EAST OF THE INTERSECTION OF TOWN HIGHWAY 2 (VT ROUTE 9/MAIN STREET) WITH TOWN HIGHWAY 1 (US ROUTE 7/NORTH STREET/SOUTH STREET).

PROJECT DESCRIPTION: THIS PROJECT INVOLVES REPLACEMENT OF THE EXISTING BRIDGE SUPERSTRUCTURE AND RELATED WORK.

LENGTH OF STRUCTURE: 59.13 FEET
LENGTH OF ROADWAY: 219.39 FEET
LENGTH OF PROJECT: 278.52 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

**CONCEPTUAL
4/15/2020**

| | |
|-------------------------------------|--------------|
| QUALITY ASSURANCE PROGRAM : LEVEL 2 | |
| SURVEYED BY : C. CYR | |
| SURVEYED DATE : 3/2017 | |
| DATUM | |
| VERTICAL | NAVD88 |
| HORIZONTAL | NAD83 (2011) |



| | |
|---|--|
| Stantec Stantec Consulting Services Inc. <small>55 Green Mountain Drive South Burlington VT U.S.A. 05403 Phone: (802) 864-0223 Fax: (802) 864-0165 www.stantec.com</small> | HIGHWAY DIVISION, CHIEF ENGINEER |
| | APPROVED _____ DATE _____ |
| | PROJECT MANAGER : ROB YOUNG, PE |
| | PROJECT NAME : BENNINGTON PROJECT NUMBER : BF 1000 (20) |
| SHEET 1 OF 14 SHEETS | |

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

PLAN SHEETS

- 1 TITLE SHEET
- 2 PRELIMINARY INFORMATION SHEET
- 3 TYPICAL SECTION
- 4 CONVENTIONAL SYMBOLOGY LEGEND SHEET
- 5 TIE SHEET
- 6 LAYOUT SHEET
- 7 PROFILE SHEET
- 8 - 9 ROUTE 9 CROSS SECTION SHEET 1-2
- 10 - 13 CHANNEL CROSS SECTION SHEET 1-4
- 14 EXISTING CONDITIONS PLAN

STANDARDS LIST

DETAIL SHEETS

| | | |
|-----------|-----------------------------|------------|
| SD-501.00 | CONCRETE DETAILS AND NOTES | 2/9/2012 |
| SD-502.00 | CONCRETE DETAILS AND NOTES | 10/10/2012 |
| SD-516.10 | BRIDGE JOINT ASPHALTIC PLUG | 8/29/2011 |

Blank area for final hydraulic report content.

TRAFFIC MAINTENANCE NOTES

- 1. MAINTAIN TRAFFIC ON AN OFF-SITE DETOUR.
- 2. TRAFFIC SIGNALS ARE NOT NECESSARY.
- 3. SIDEWALKS ARE NOT NECESSARY.

DESIGN VALUES

| | |
|--|---------------------------|
| 1. DESIGN LIVE LOAD | HL-93 |
| 2. FUTURE PAVEMENT | --- |
| 3. DESIGN SPAN | L: 0.00 FT |
| 4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) | Δ: --- |
| 5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX) | f _y : 270 KSI |
| 6. PRESTRESSED CONCRETE STRENGTH | f'c: 6.0 KSI |
| 7. PRESTRESSED CONCRETE RELEASE STRENGTH | f'ci: 5.0 KSI |
| 8. HIGH PERFORMANCE CONCRETE, CLASS PC4 | f'c: 4.0 KSI |
| 9. HIGH PERFORMANCE CONCRETE, CLASS PCS | f'c: 3.5 KSI |
| 10. CONCRETE HIGH PERFORMANCE, CLASS PSS | f'c: 4.0 KSI |
| 11. CONCRETE, CLASS C | f'c: 3.0 KSI |
| 12. REINFORCING STEEL | f _y : 60 KSI |
| 13. STRUCTURAL STEEL AASHTO M270 | f _y : --- |
| 14. NOMINAL BEARING RESISTANCE OF SOIL | q _n : 4.0 KSF |
| 15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) | φ: --- |
| 16. NOMINAL BEARING RESISTANCE OF ROCK | q _n : 10.0 KSF |
| 17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) | φ: --- |

LRFR LOAD RATING FACTORS

| LOADING LEVELS | TRUCK | | | | | | |
|----------------|-------|-------|-----|--------|----------|----------|---------|
| | H-20 | HL-93 | 3S2 | 6 AXLE | 3A. STR. | 4A. STR. | 5A. SEM |
| TONNAGE | 20 | 36 | 36 | 66 | 30 | 34.5 | 38 |
| INVENTORY | | | | | | | |
| POSTING | | | | | | | |
| OPERATING | | | | | | | |
| COMMENTS: | | | | | | | |

| | |
|------------------------------|-----------------------|
| 18. PILE RESISTANCE FACTOR | φ: --- |
| 19. LATERAL PILE DEFLECTION | Δ: --- |
| 20. BASIC WIND SPEED | V _{3s} : --- |
| 21. MINIMUM GROUND SNOW LOAD | p _g : --- |
| 22. SEISMIC DATA | PGA: --- S: --- |
| 23. | --- |
| 24. | --- |
| 25. | --- |
| 26. | --- |

TRAFFIC DATA

AS BUILT "REBAR" DETAIL

| YEAR | ADT | DHV | % D | % T | ADTT | 20 year ESAL for flexible pavement from 2018 to 2038 : 0 |
|------|------|------|-----|-----|------|--|
| 2018 | 8800 | 930 | 57 | 3.1 | 330 | 40 year ESAL for flexible pavement from 2018 to 2058 : 0 |
| 2038 | 9800 | 1000 | 57 | 4.6 | 550 | Design Speed : 30 mph |

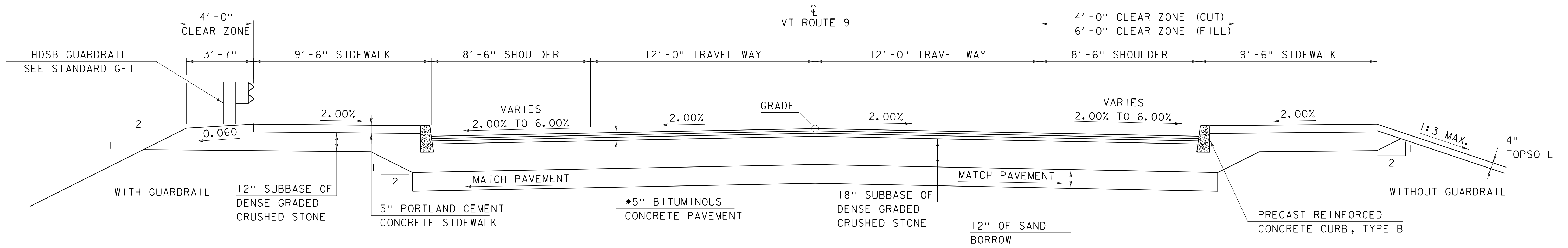
| LEVEL I | LEVEL II | LEVEL III |
|---------|----------|-----------|
| TYPE: | TYPE: | TYPE: |
| GRADE: | GRADE: | GRADE: |

PROJECT NAME: **BENNINGTON**

PROJECT NUMBER: **BF 1000(20)**

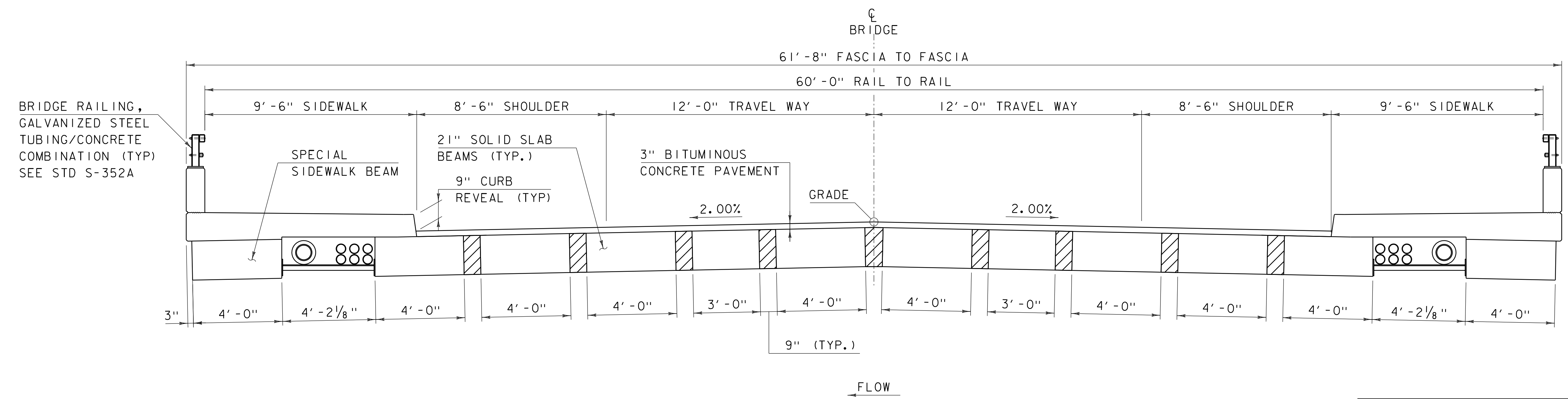
FILE NAME: **z12j606pi.xls** PLOT DATE: 1/14/2020
 PROJECT LEADER: **T. KNIGHT** DRAWN BY: **J. BURKE**
 DESIGNED BY: **I. MAYNARD** CHECKED BY: **T. KNIGHT**
PRELIMINARY INFORMATION SHEET SHEET **2** OF **14**

| MATERIAL TOLERANCES (IF USED ON PROJECT) | |
|---|----------|
| SURFACE | |
| - PAVEMENT (TOTAL THICKNESS) | +/- 1/4" |
| - AGGREGATE SURFACE COURSE | +/- 1/2" |
| SUBBASE | +/- 1" |
| SAND BORROW | +/- 1" |



PROPOSED VT ROUTE 9 TYPICAL SECTION
SCALE 3/8" = 1'-0"

*1 1/2" TYPE IVS OVER
1 1/2" TYPE IVS OVER
2" TYPE IIS



PROPOSED BRIDGE TYPICAL SECTION
SCALE 3/8" = 1'-0"

| | | | |
|-----------------|----------------|--------------|-----------|
| PROJECT NAME: | BENNINGTON | PLOT DATE: | 4/15/2020 |
| PROJECT NUMBER: | BF 1000(20) | DRAWN BY: | J. BURKE |
| FILE NAME: | z12j606typ.dgn | DESIGNED BY: | T. KNIGHT |
| PROJECT LEADER: | T. KNIGHT | CHECKED BY: | G. BOGUE |
| TYPICAL SECTION | | SHEET | 3 OF 14 |



GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

| POINT CODE | DESCRIPTION |
|------------|------------------------------|
| BF | BARRIER FENCE |
| CH | CHANNEL EASEMENT |
| CONST | CONSTRUCTION EASEMENT |
| CUL | CULVERT EASEMENT |
| D&C | DISCONNECT & CONNECT |
| DIT | DITCH EASEMENT |
| DR | DRAINAGE EASEMENT |
| DRIVE | DRIVEWAY EASEMENT |
| EC | EROSION CONTROL |
| HWY | HIGHWAY EASEMENT |
| I&M | INSTALL & MAINTAIN EASEMENT |
| LAND | LANDSCAPE EASEMENT |
| PDF | PROJECT DEMARCATION FENCE |
| R&RES | REMOVE & RESET |
| R&REP | REMOVE & REPLACE |
| R.T.& I. | RIGHT, TITLE, AND INTEREST |
| SR | SLOPE RIGHT |
| UE | UTILITY EASEMENT |
| (P) | PERMANENT EASEMENT |
| (T) | TEMPORARY EASEMENT |
| ■ | BNDNS BOUND SET |
| ▣ | BNDNS BOUND TO BE SET |
| ⊙ | IPNF IRON PIN FOUND |
| ● | IPNS IRON PIN TO BE SET |
| ⊠ | CALC EXISTING ROW POINT |
| ○ | PROW PROPOSED ROW POINT |
| [LENGTH] | LENGTH CARRIED ON NEXT SHEET |

COMMON TOPOGRAPHIC POINT SYMBOLS

| POINT CODE | DESCRIPTION |
|------------|----------------------------------|
| ⊕ | APL BOUND APPARENT LOCATION |
| □ | BM BENCHMARK |
| □ | BND BOUND |
| ⊠ | CB CATCH BASIN |
| ⊕ | COMB COMBINATION POLE |
| ⊠ | DITHR DROP INLET THROATED DNC |
| ⊕ | EL ELECTRIC POWER POLE |
| ○ | FPOLE FLAGPOLE |
| ○ | GASFIL GAS FILLER |
| ○ | GP GUIDE POST |
| × | GSO GAS SHUT OFF |
| ○ | GUY GUY POLE |
| ○ | GUYW GUY WIRE |
| × | GV GATE VALVE |
| ⊕ | H TREE HARDWOOD |
| △ | HCTRL CONTROL HORIZONTAL |
| △ | HVCTRL CONTROL HORIZ. & VERTICAL |
| ◇ | HYD HYDRANT |
| ⊕ | IP IRON PIN |
| ⊕ | IPIPE IRON PIPE |
| ⊠ | LI LIGHT - STREET OR YARD |
| ⊠ | MB MAILBOX |
| ○ | MH MANHOLE (MH) |
| ⊕ | MM MILE MARKER |
| ⊕ | PM PARKING METER |
| ⊕ | PMK PROJECT MARKER |
| ⊕ | POST POST STONE/WOOD |
| ⊠ | RRSIG RAILROAD SIGNAL |
| ⊠ | RRSL RAILROAD SWITCH LEVER |
| ⊕ | S TREE SOFTWOOD |
| ⊕ | SAT SATELLITE DISH |
| ⊕ | SHRUB SHRUB |
| ⊠ | SIGN SIGN |
| ⊠ | STUMP STUMP |
| ⊠ | TEL TELEPHONE POLE |
| ○ | TIE TIE |
| ⊠ | TSIGN SIGN W/DOUBLE POST |
| ⊠ | VCTRL CONTROL VERTICAL |
| ○ | WELL WELL |
| × | WSO WATER SHUT OFF |

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

| CODE | DESCRIPTION |
|------|-------------------------|
| PC | POINT OF CURVATURE |
| PI | POINT OF INTERSECTION |
| CC | CENTER OF CURVE |
| PT | POINT OF TANGENCY |
| PCC | POINT OF COMPOUND CURVE |
| PRC | POINT OF REVERSE CURVE |
| POB | POINT OF BEGINNING |
| POE | POINT OF ENDING |
| STA | STATION PREFIX |
| AH | AHEAD STATION SUFFIX |
| BK | BACK STATION SUFFIX |
| D | CURVE DEGREE OF (100FT) |
| R | CURVE RADIUS OF |
| T | CURVE TANGENT LENGTH |
| L | CURVE LENGTH OF |
| E | CURVE EXTERNAL DISTANCE |
| CB | CHORD BEARING |

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

| | |
|----------|---------------------------|
| — UGU — | UTILITY (GENERIC-UNKNOWN) |
| — UT — | TELEPHONE |
| — UE — | ELECTRIC |
| — UC — | CABLE (TV) |
| — UEC — | ELECTRIC+CABLE |
| — UET — | ELECTRIC+TELEPHONE |
| — UCT — | CABLE+TELEPHONE |
| — UECT — | ELECTRIC+CABLE+TELEPHONE |
| — G — | GAS LINE |
| — W — | WATER LINE |
| — S — | SANITARY SEWER (SEPTIC) |

ABOVE GROUND UTILITIES (AERIAL)

| | |
|-------------|---------------------------|
| — AGU — | UTILITY (GENERIC-UNKNOWN) |
| — T — | TELEPHONE |
| — E — | ELECTRIC |
| — C — | CABLE (TV) |
| — EC — | ELECTRIC+CABLE |
| — ET — | ELECTRIC+TELEPHONE |
| — AER E&T — | ELECTRIC+TELEPHONE |
| — CT — | CABLE+TELEPHONE |
| — ECT — | ELECTRIC+CABLE+TELEPHONE |
| — | UTILITY POLE GUY WIRE |

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

| | |
|----------------|-----------------------|
| — — — CZ — — — | CLEAR ZONE |
| ————— | PLAN LAYOUT MATCHLINE |

PROJECT CONSTRUCTION FEATURES

| | |
|----------------------|----------------------------|
| ▲ —▲ —▲ —▲ | TOP OF CUT SLOPE |
| ○ —○ —○ —○ | TOE OF FILL SLOPE |
| ⊗ ⊗ ⊗ ⊗ | STONE FILL |
| ----- | BOTTOM OF DITCH |
| ----- | CULVERT PROPOSED |
| ----- | STRUCTURE SUBSURFACE |
| PDF — PDF — | PROJECT DEMARCATION FENCE |
| BF — BF — | BARRIER FENCE |
| XXXXXXXXXXXXXXXXXXXX | TREE PROTECTION ZONE (TPZ) |
| //// //// //// //// | STRIPING LINE REMOVAL |
| ~~~~~ | SHEET PILES |

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES

| | |
|------------------|--|
| ————— | TOWN BOUNDARY LINE |
| ————— | COUNTY BOUNDARY LINE |
| ————— | STATE BOUNDARY LINE |
| ——— | PROPOSED STATE R.O.W. (LIMITED ACCESS) |
| ——— | PROPOSED STATE R.O.W. |
| ——— | STATE ROW (LIMITED ACCESS) |
| ——— | STATE ROW |
| ——— | TOWN ROW |
| ----- | PERMANENT EASEMENT LINE (P) |
| ----- | TEMPORARY EASEMENT LINE (T) |
| ----- | SURVEY LINE |
| — P — P — | PROPERTY LINE (P/L) |
| — L — L — | PROPERTY LINE (P/L) |
| — SR — SR — SR — | SLOPE RIGHTS |
| 6f — 6f — | 6F PROPERTY BOUNDARY |
| 4f — 4f — | 4F PROPERTY BOUNDARY |
| HAZ — HAZ — | HAZARDOUS WASTE |

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES

| | |
|-------------------|---|
| ONNOONNOONNO | FILTER CURTAIN |
| — — — — — | SILT FENCE |
| — X — X — X — X — | SILT FENCE WOVEN WIRE |
| — — — — — | CHECK DAM |
| ■ | DISTURBED AREAS REQUIRING RE-VEGETATION |
| ⊠ | EROSION MATTING |

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

ENVIRONMENTAL RESOURCES

| | |
|-----------------|---------------------------------|
| ——— | WETLAND BOUNDARY |
| ----- | RIPARIAN BUFFER ZONE |
| ----- | WETLAND BUFFER ZONE |
| ----- | SOIL TYPE BOUNDARY |
| — T&E — | THREATENED & ENDANGERED SPECIES |
| — HAZ — HAZ — | HAZARDOUS WASTE AREA |
| — AG — | AGRICULTURAL LAND |
| — HABITAT — | FISH & WILDLIFE HABITAT |
| — FLOOD PLAIN — | FLOOD PLAIN |
| — OHW — | ORDINARY HIGH WATER (OHW) |
| — — — — — | STORM WATER |
| — — — — — | USDA FOREST SERVICE LANDS |
| — — — — — | WILDLIFE HABITAT SUIT/CONN |

ARCHEOLOGICAL & HISTORIC

| | |
|-------------------|----------------------------|
| — ARCH — | ARCHEOLOGICAL BOUNDARY |
| — HISTORIC DIST — | HISTORIC DISTRICT BOUNDARY |
| — HISTORIC — | HISTORIC AREA |
| Ⓜ | HISTORIC STRUCTURE |

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

EXISTING FEATURES

| | |
|-------------------|--------------------|
| ----- | ROAD EDGE PAVEMENT |
| ----- | ROAD EDGE GRAVEL |
| ----- | DRIVEWAY EDGE |
| ----- | DITCH |
| ----- | FOUNDATION |
| — X — X — X — X — | FENCE (EXISTING) |
| — □ — □ — □ — □ — | FENCE WOOD POST |
| — ○ — ○ — ○ — ○ — | FENCE STEEL POST |
| ~~~~~ | GARDEN |
| — — — — — | ROAD GUARDRAIL |
| | RAILROAD TRACKS |
| ----- | CULVERT (EXISTING) |
| ----- | STONE WALL |
| ----- | WALL |
| ~~~~~ | WOOD LINE |
| ~~~~~ | BRUSH LINE |
| ~~~~~ | HEDGE |
| ----- | BODY OF WATER EDGE |
| ----- | LEDGE EXPOSED |

PROJECT NAME: BENNINGTON

PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606legend.dgn

PROJECT LEADER: T. KNIGHT

DESIGNED BY: VTRANS

CONVENTIONAL SYMBOLGY LEGEND SHEET

PLOT DATE: 4/15/2020

DRAWN BY: VTRANS

CHECKED BY: T. KNIGHT

SHEET 4 OF 14



NETWORK CONTROL

HVCTRL #1
 KUBRICKY
 NORTH = 141793.3040
 EAST = 1460101.3970
 ELEV. = 965.810

GENERAL LOCATION, BENNINGTON VT.

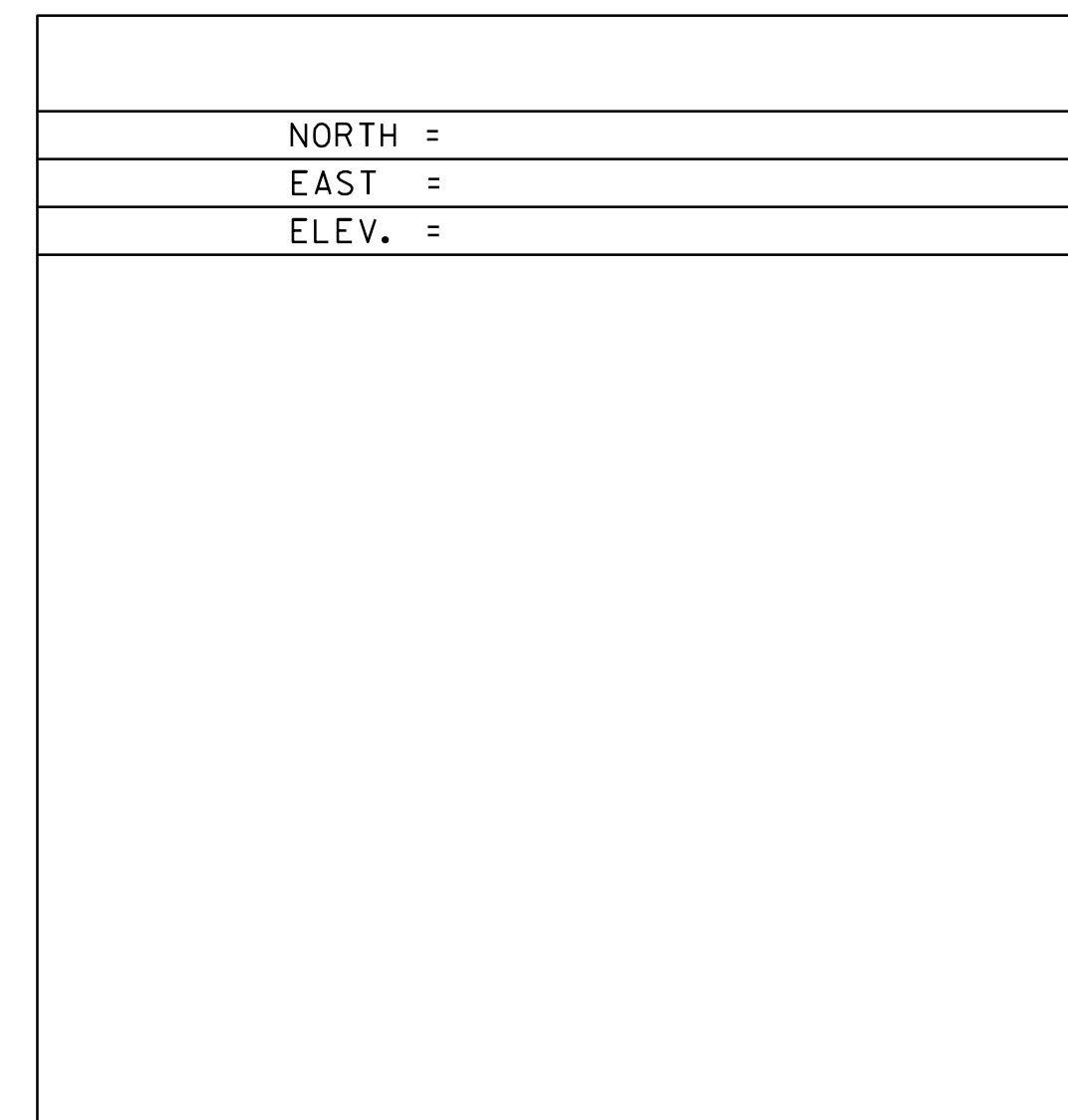
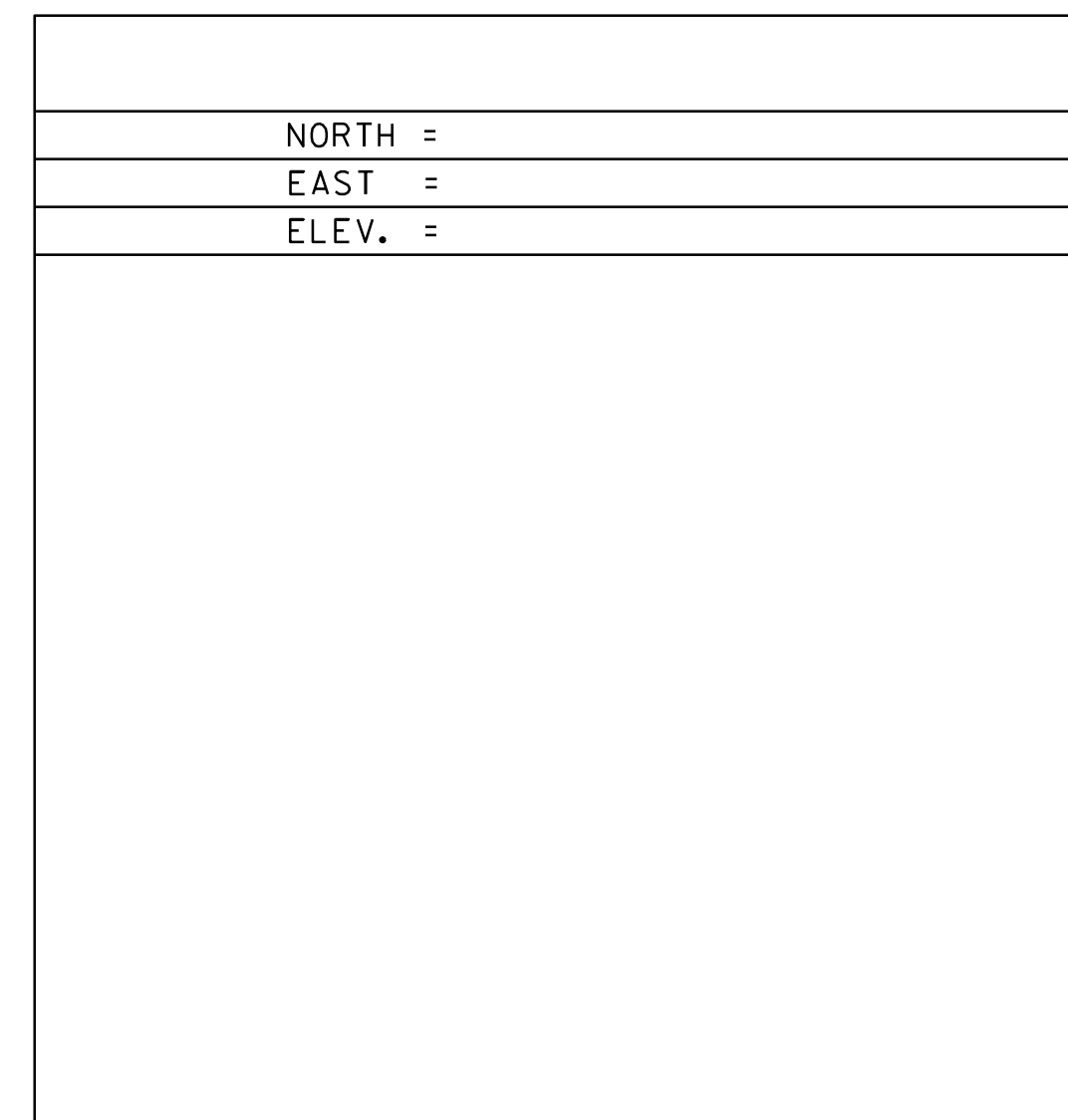
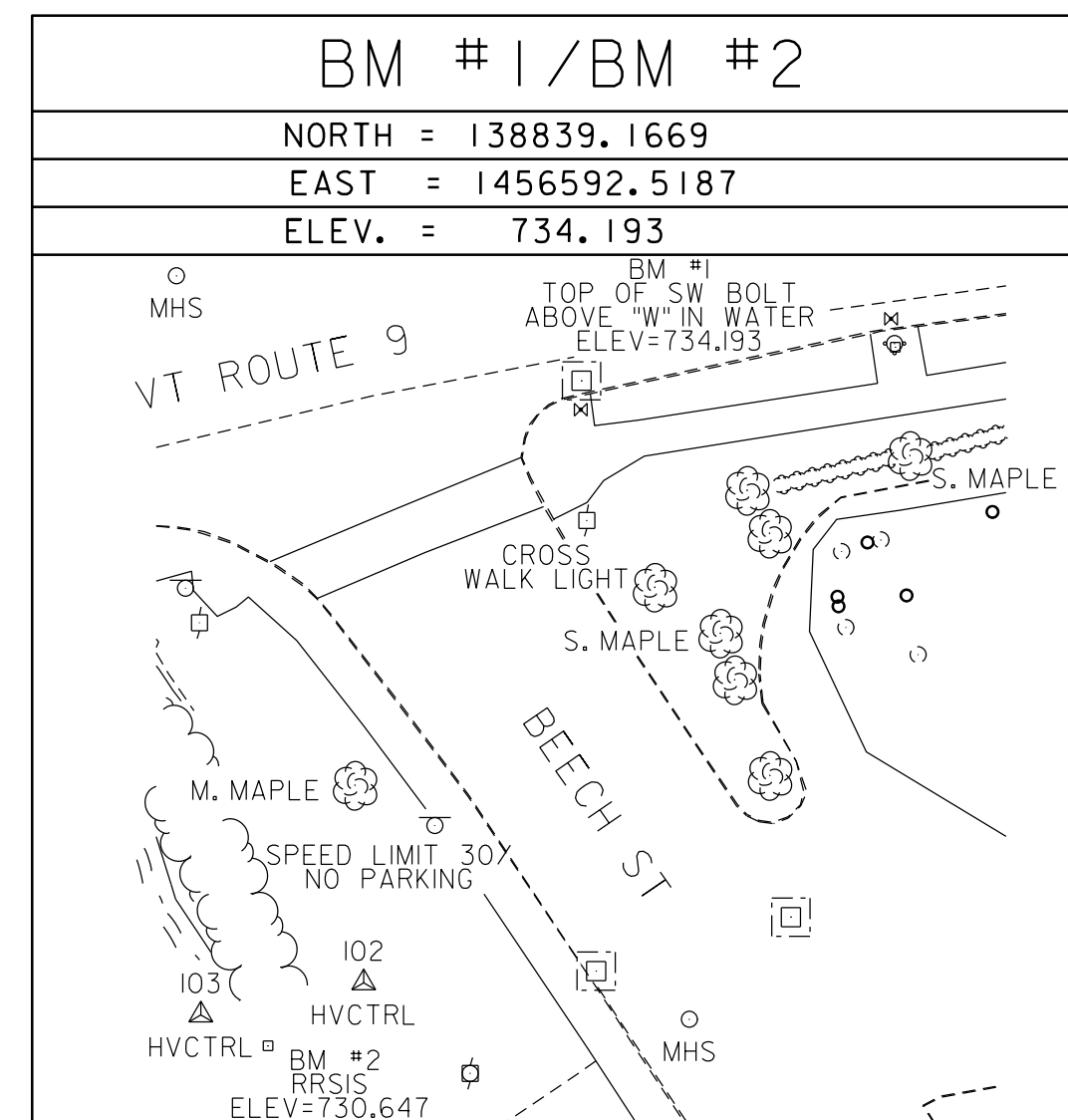
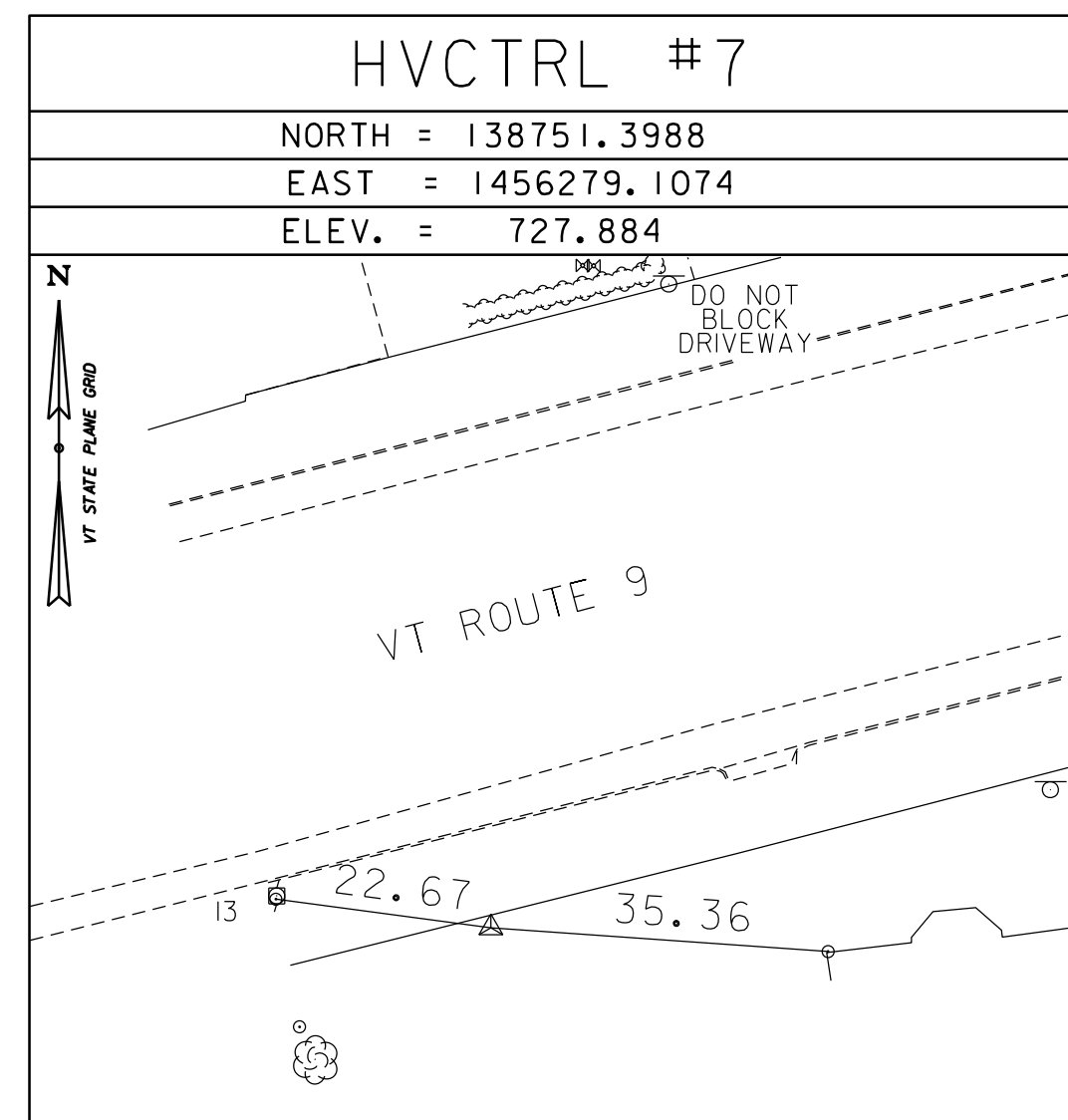
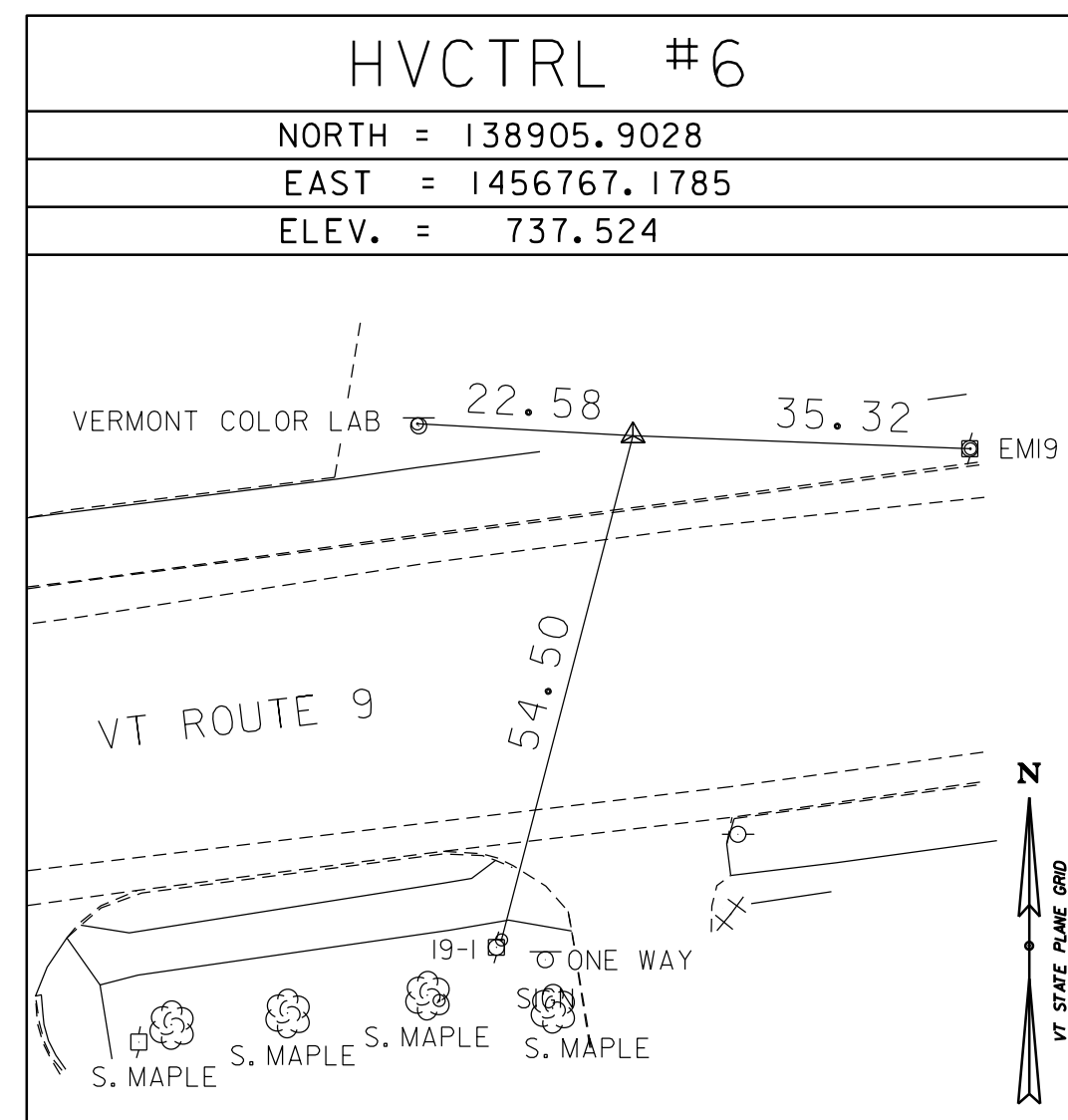
TO REACH FROM THE INTERSECTION OF VT ROUTE 9 AND VT ROUTE 279, GO NORTH ALONG VT ROUTE 279 FOR 0.5 MI (0.8 KM) TO THE INTERSECTION OF A GATED GRAVEL ACCESS ROAD RIGHT. TURN RIGHT AND GO EAST AND THEN SOUTH ALONG THE ACCESS ROAD FOR 0.15 MI (0.2 KM) TO THE INTERSECTION OF A GRAVEL DRIVE LEFT LEADING TO A RETENTION POND AND THE SITE OF THE MARK JUST SOUTH OF THE DRIVE. THE ACCESS DRIVE MAY BE REACHED BY FOLLOWING VT ROUTE 279 SOUTH FOR 1.1 MI (1.8 KM) FROM THE BRANCH ROAD BRIDGE TO THE DRIVE. THE MARK IS SET 15 CM (6 INCHES) ABOVE GROUND SURFACE IN THE TOP OF AN 20 CM (8 INCH) DIAMETER CONCRETE MONUMENT IN A PLASTIC FOOTING TUBE. IT IS 6.5 M (21.3 FT) EAST-NORTHEAST OF THE CENTERLINE OF THE ACCESSROAD, 10.4 M (34.1 FT) NORTHEAST OF THE MOST SOUTHERLY POST FOR A STEEL BEAM GUARD RAIL, 6.9 M (22.6 FT) SOUTHWEST OF THE SOUTHWEST CORNER OF THE CHAIN-LINK FENCE ENCLOSURE FOR THE POND, 9.4 M (30.8 FT) SOUTH-SOUTHWEST OF THE CENTERLINE OF THE DRIVE AND 5.2 M (17.1 FT) WEST-SOUTHWEST OF A RIGHT-OF-WAY FENCE AND A FIBERGLASS WITNESS POST.

HVCTRL #2
 KUBRICKY AZ MK
 NORTH = 139845.4540
 EAST = 1460572.9290
 ELEV. = 835.745

GENERAL LOCATION, BENNINGTON, VT

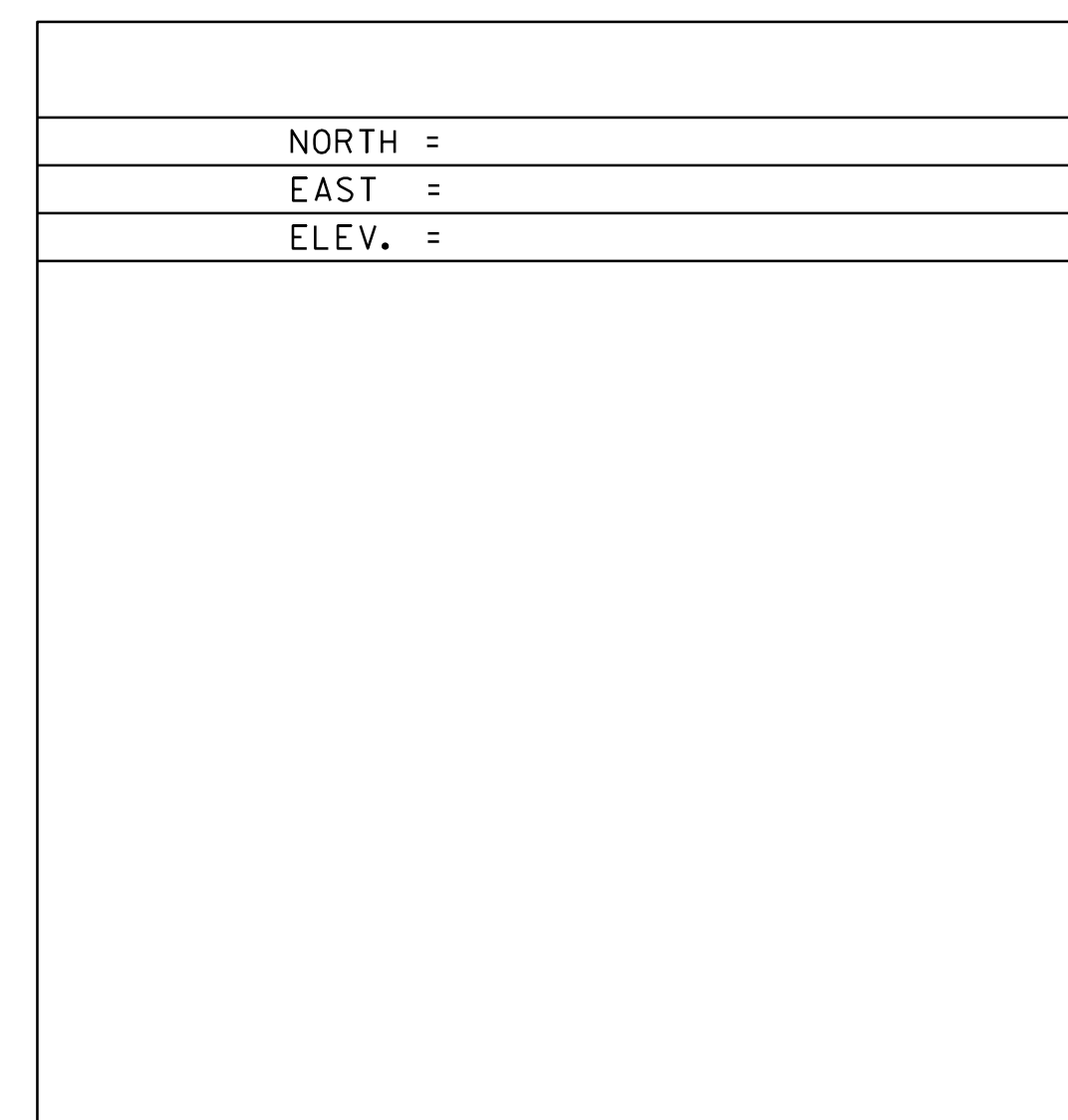
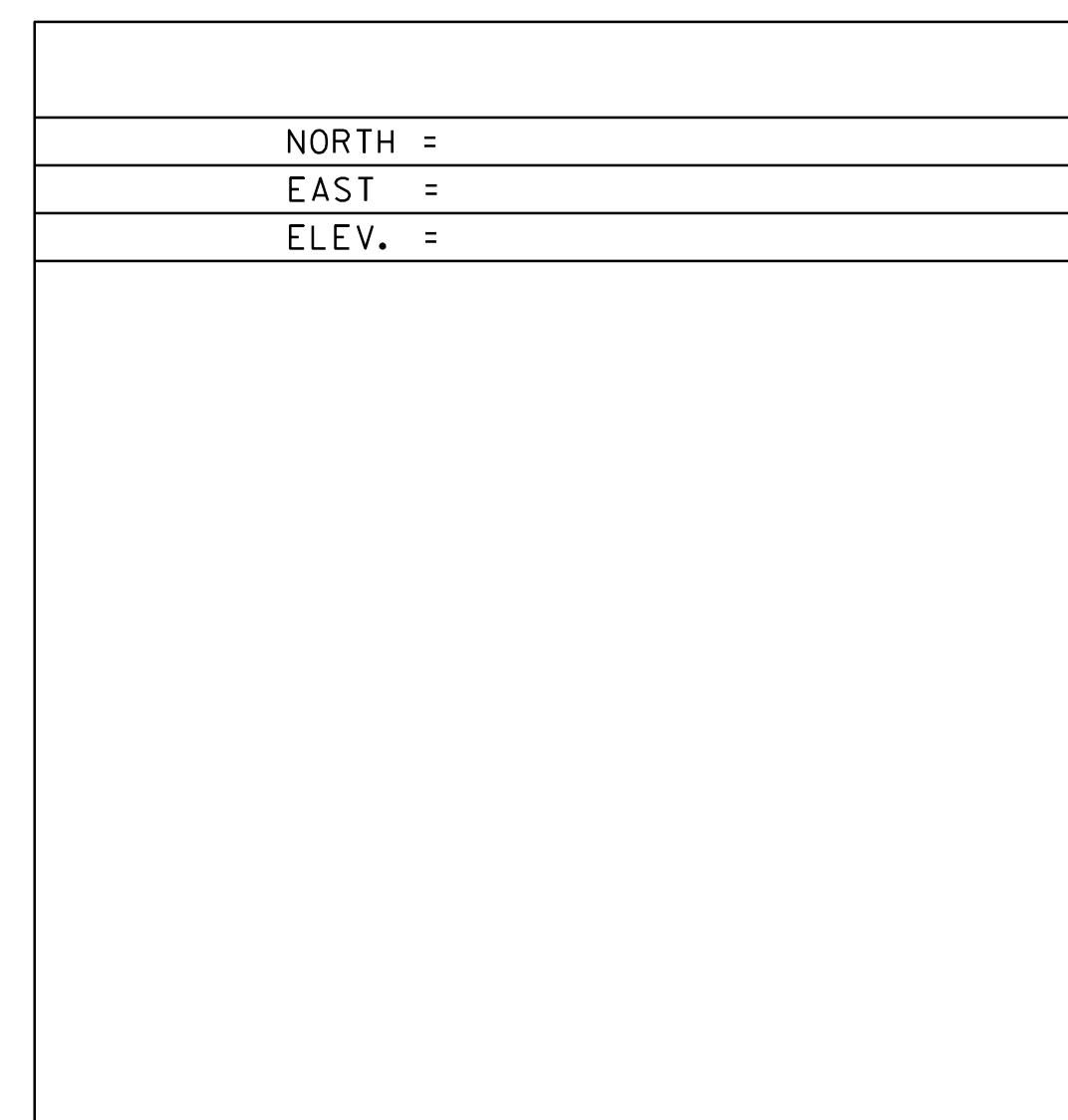
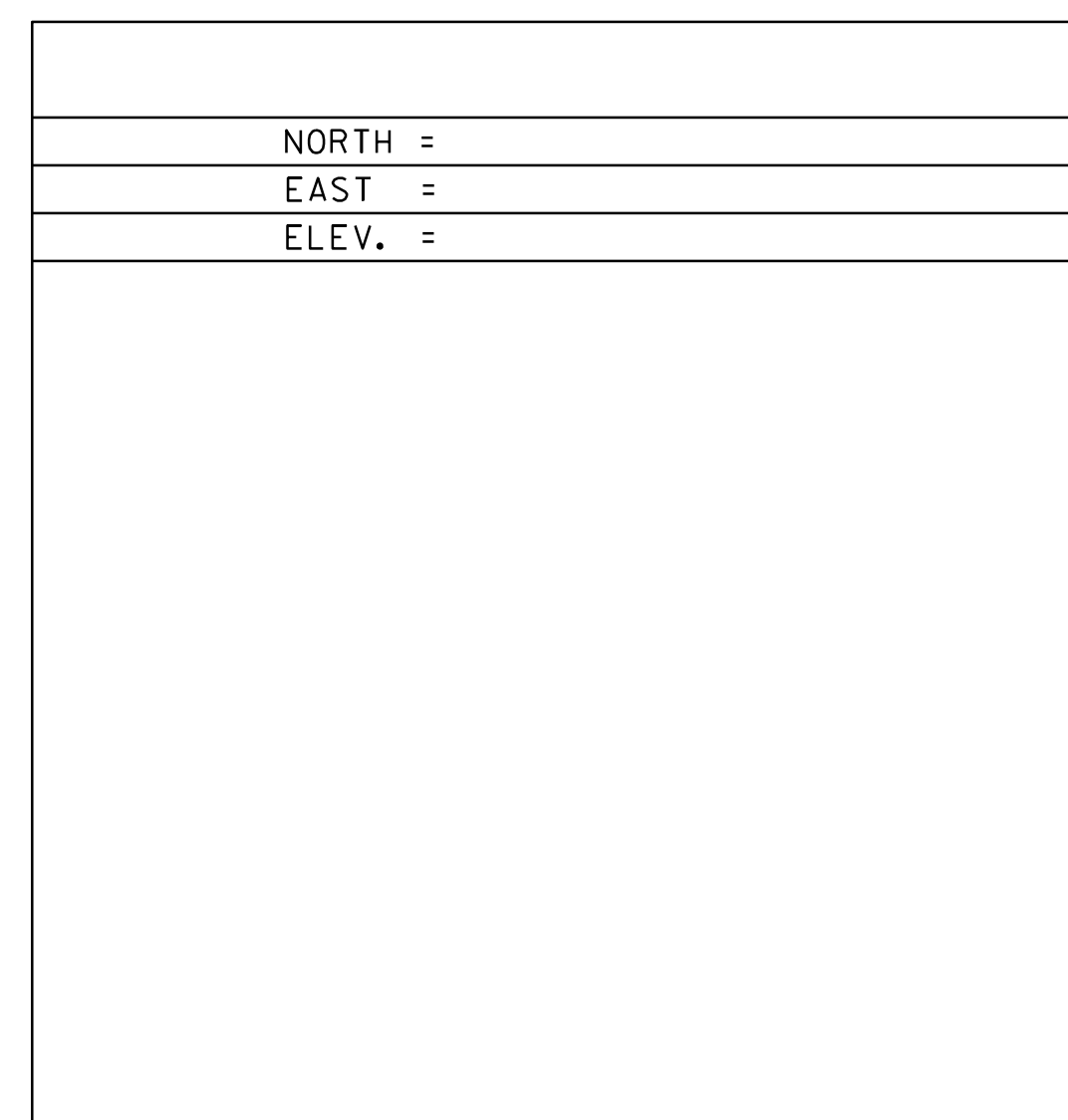
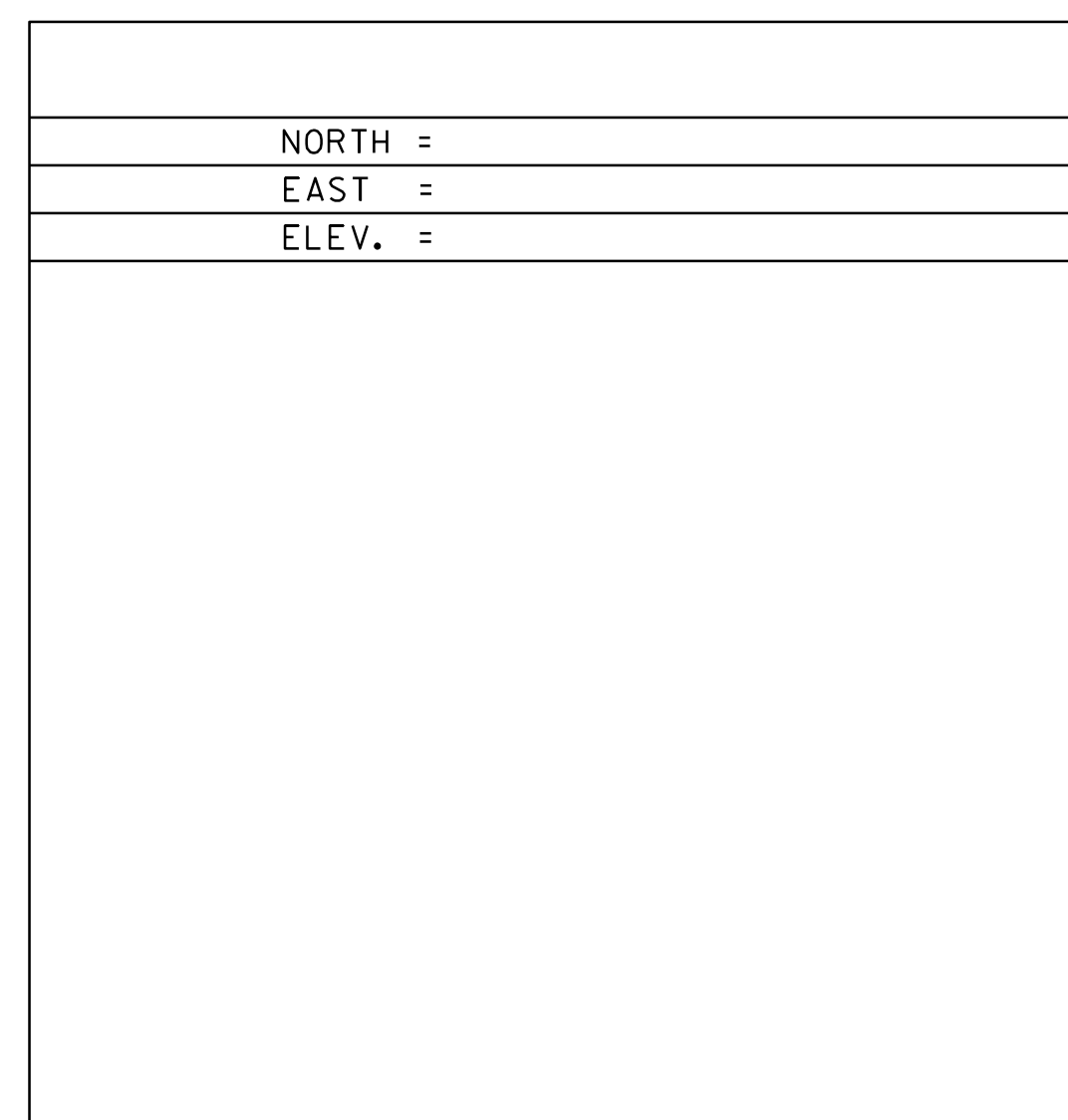
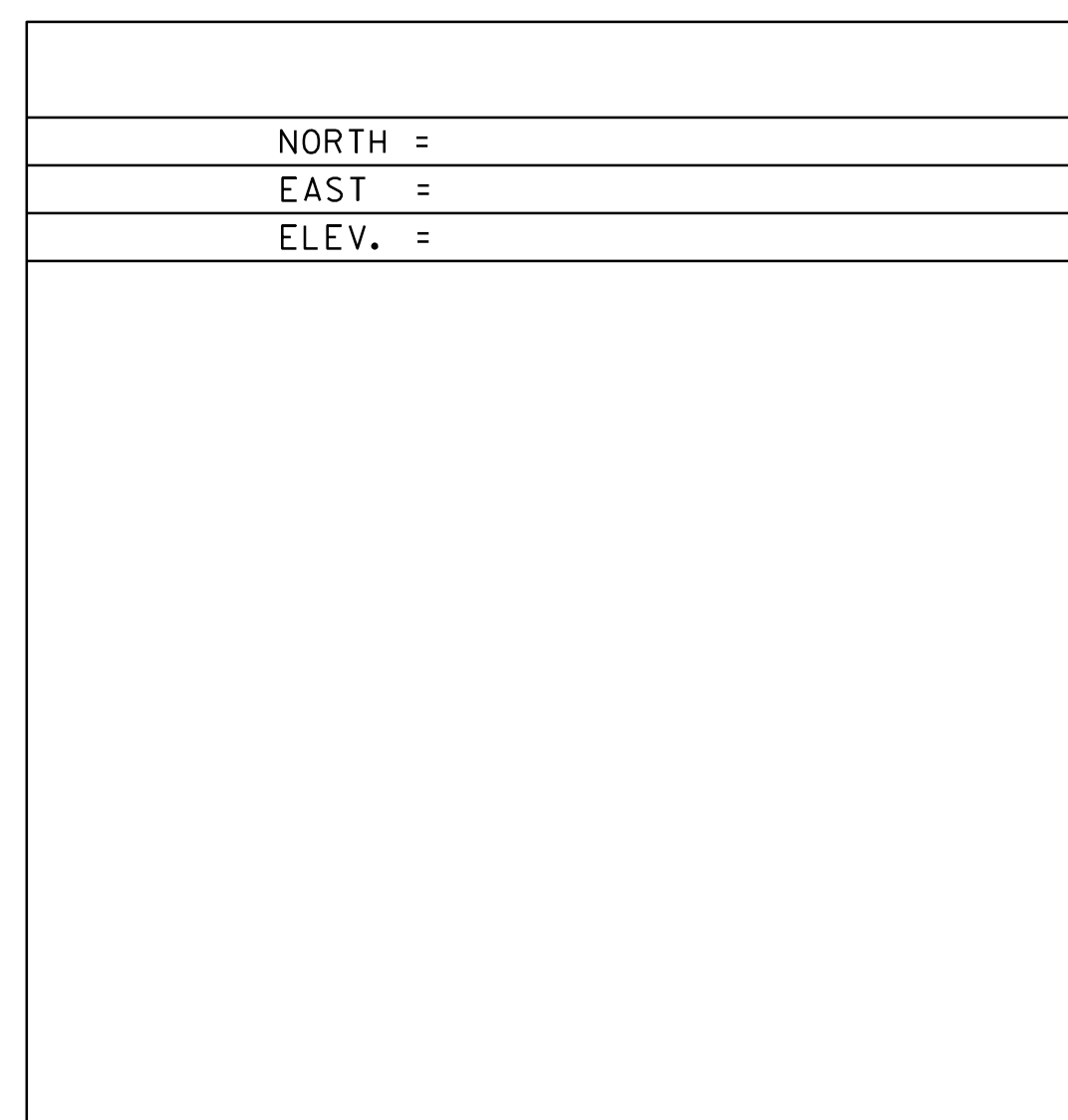
DP6153' TO REACH FROM THE INTERSECTION OF VT ROUTE 9 AND US ROUTE 7 GO EAST DP6153' ALONG VT ROUTE 9 FOR 2.0 MI (3.2 KM) TO THE SITE OF THE MARK ON THE DP6153' LEFT. THE MARK IS LOCATED IN THE GRASSY TRIANGLE FORMED BY THE VT DP6153' ROUTE 279 SOUTHBOUND OFF-RAMPS AND VT ROUTE 9. THE MARK IS SET 5 CM DP6153' (2 INCHES) ABOVE GROUND SURFACE IN THE TOP OF AN 20 CM (8 INCH) DP6153' DIAMETER CONCRETE MONUMENT IN A PLASTIC FOOTING TUBE. THE MARK IS DP6153' 11.6 M (38.1 FT) NORTH OF AND ABOUT 0.1 M (0.3 FT) HIGHER THAN THE VT DP6153' ROUTE 9 NORTH EDGE OF PAVEMENT, 19.5 M (64.0 FT) NORTHWEST OF A DP6153' TRAFFIC SIGNAL, 13.7 M (44.9 FT) WEST-SOUTHWEST OF THE CENTERLINE OF DP6153' THE OFF-RAMP TO VT ROUTE 9 EAST, 15.6 M (51.2 FT) SOUTH-SOUTHWEST OF DP6153' THE NORTH TIP OF THE TRIANGLE, 7.9 M (25.9 FT) EAST OF THE CENTERLINE DP6153' OF THE OFF-RAMP TO VT ROUTE 9 WEST, 13.2 M (43.3 FT) NORTHEAST OF THE DP6153' CENTER OF A 40 CM (16 INCH) SQUARE DRAIN AND 0.2 M (0.7 FT) SOUTHWEST DP6153' OF A FIBERGLASS WITNESS POST.

LOCAL CONTROL



* MAIN TRAVERSE COMPLETED ON 3/8/2017 BY C. CYR P.C. ...T. CATTANEO & K. KELLEY

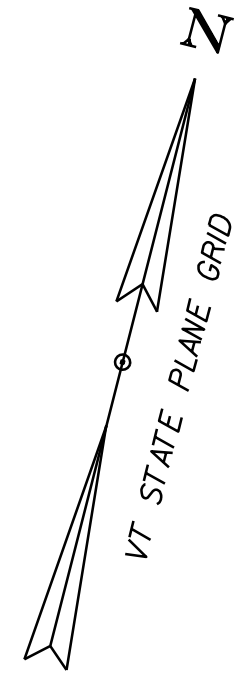
ALIGNMENT TIES



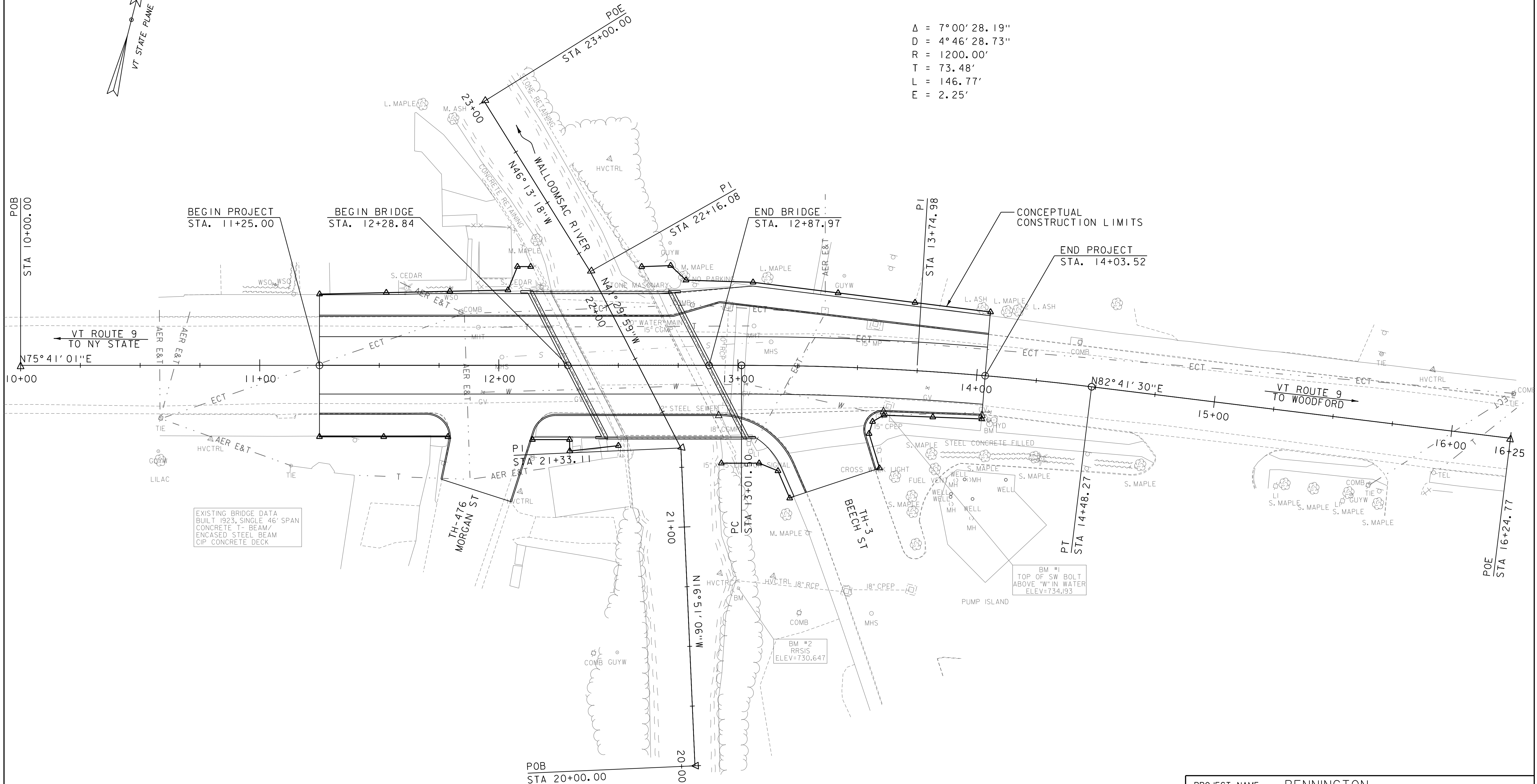
| | |
|------------|-------------|
| DATUM | |
| VERTICAL | NAVD88 |
| HORIZONTAL | NAD83(2011) |
| ADJUSTMENT | COMPASS |

| | |
|-----------------------------|--------------------------|
| PROJECT NAME: BENNINGTON | |
| PROJECT NUMBER: BF 1000(20) | |
| FILE NAME: x12j606t1.dgn | PLOT DATE: 4/15/2020 |
| PROJECT LEADER: T. KNIGHT | DRAWN BY: C. CYR |
| DESIGNED BY: VTRANS | CHECKED BY: G. HITCHCOCK |
| TIE SHEET | SHEET 5 OF 14 |





$\Delta = 7^{\circ}00'28.19''$
 $D = 4^{\circ}46'28.73''$
 $R = 1200.00'$
 $T = 73.48'$
 $L = 146.77'$
 $E = 2.25'$

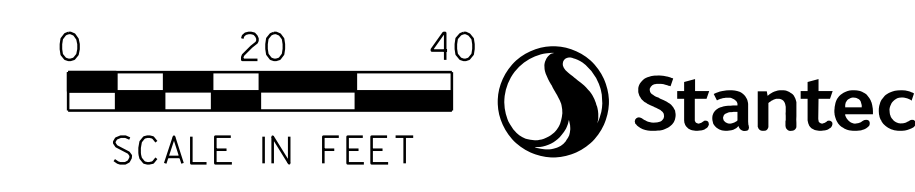


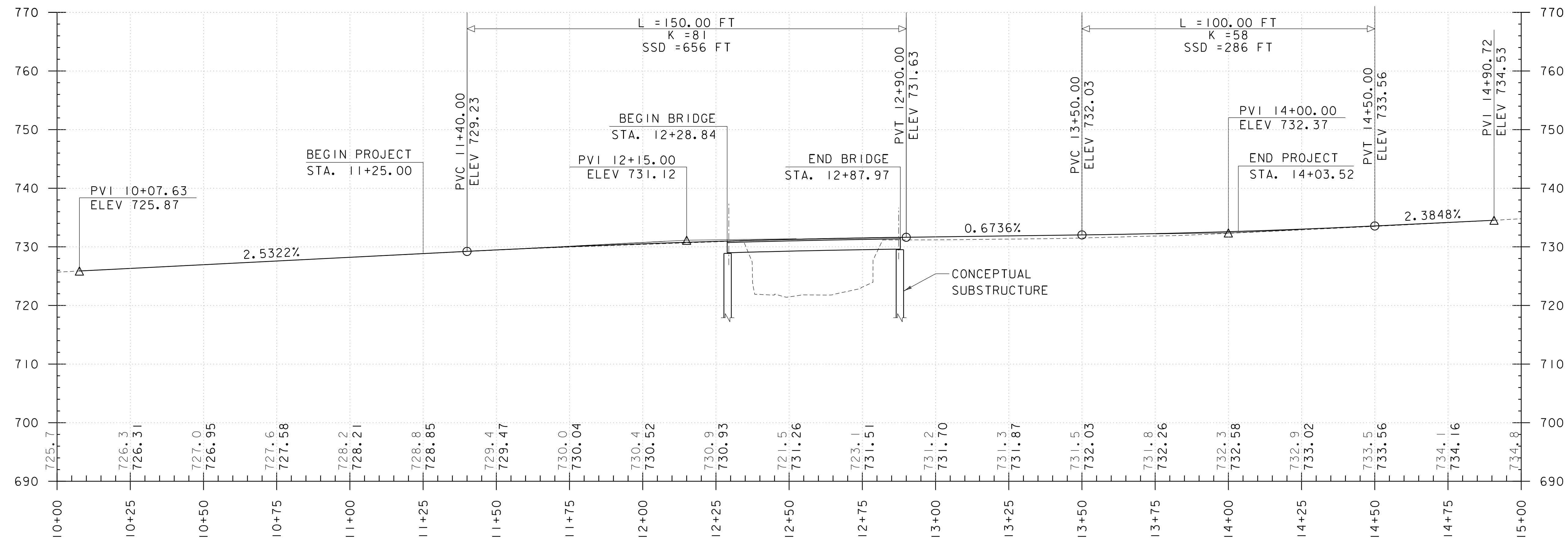
EXISTING BRIDGE DATA
 BUILT 1923, SINGLE 46' SPAN
 CONCRETE T-BEAM/
 ENCASED STEEL BEAM
 CIP CONCRETE DECK

BM #1
 TOP OF SW BOLT
 ABOVE "W" IN WATER
 ELEV=734.193

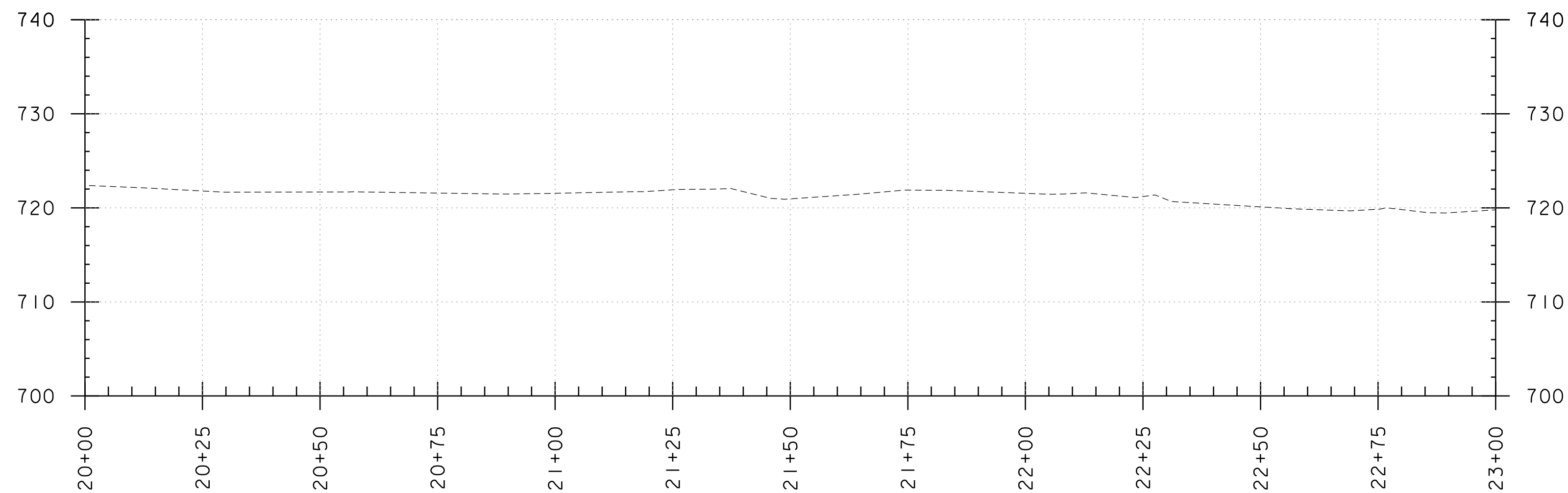
BM #2
 RRIS
 ELEV=730.647

| | | | |
|-----------------|----------------|--------------|------------|
| PROJECT NAME: | BENNINGTON | PLOT DATE: | 4/15/2020 |
| PROJECT NUMBER: | BF 1000(20) | DRAWN BY: | P. ARMATA |
| FILE NAME: | z12j606bdr.dgn | CHECKED BY: | I. MAYNARD |
| PROJECT LEADER: | G. BOUGE | SHEET | 6 OF 14 |
| DESIGNED BY: | G. BOUGE | LAYOUT SHEET | |





VT ROUTE 9 PROFILE
 SCALE: HORIZONTAL 1"=20'-0"
 VERTICAL 1"=10'-0"

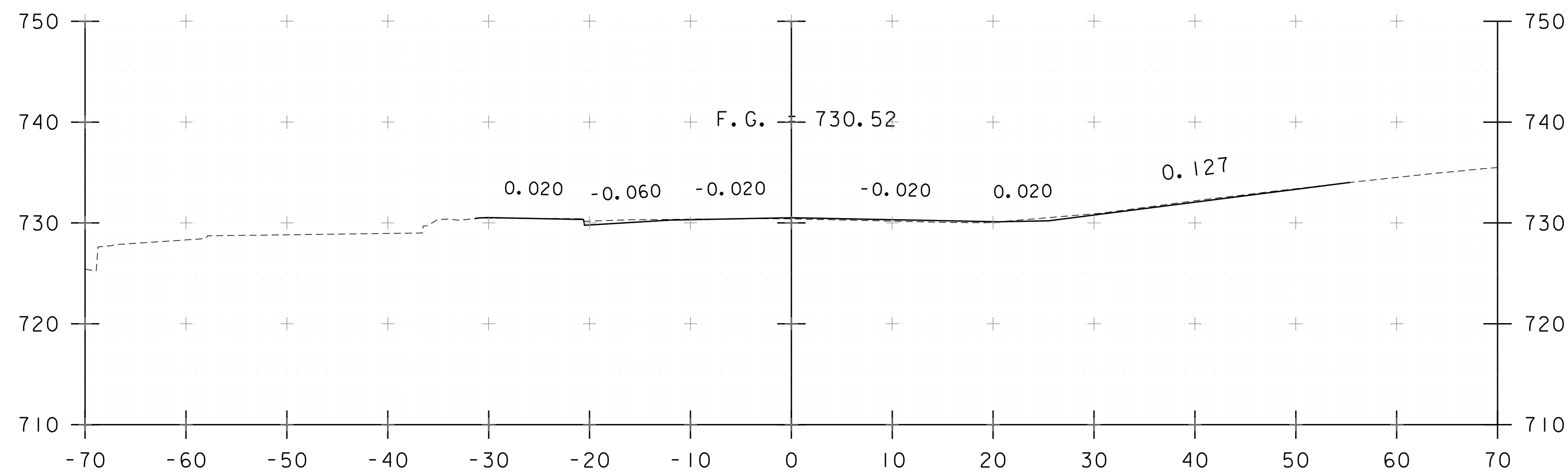


WALLOOMSAC RIVER PROFILE
 SCALE: HORIZONTAL 1"=20'-0"
 VERTICAL 1"=10'-0"

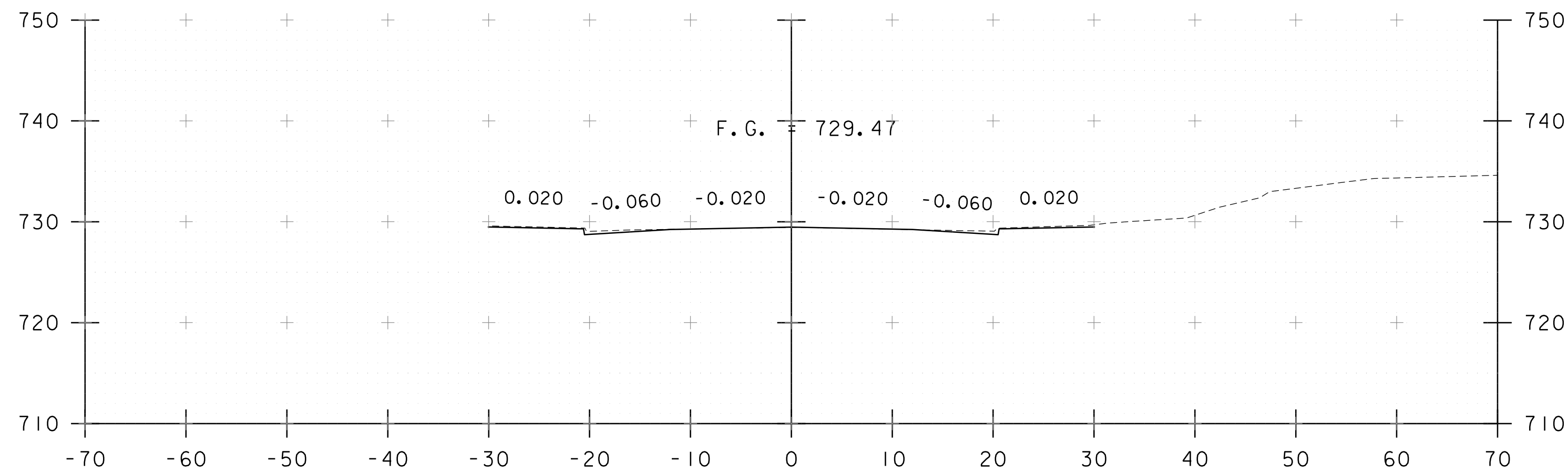
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|-----------------------------|-----------------------|
| PROJECT NAME: BENNINGTON | |
| PROJECT NUMBER: BF 1000(20) | |
| FILE NAME: z12j606pro.dgn | PLOT DATE: 4/15/2020 |
| PROJECT LEADER: T. KNIGHT | DRAWN BY: I. MAYNARD |
| DESIGNED BY: I. MAYNARD | CHECKED BY: T. KNIGHT |
| PROFILE SHEET | SHEET 7 OF 14 |



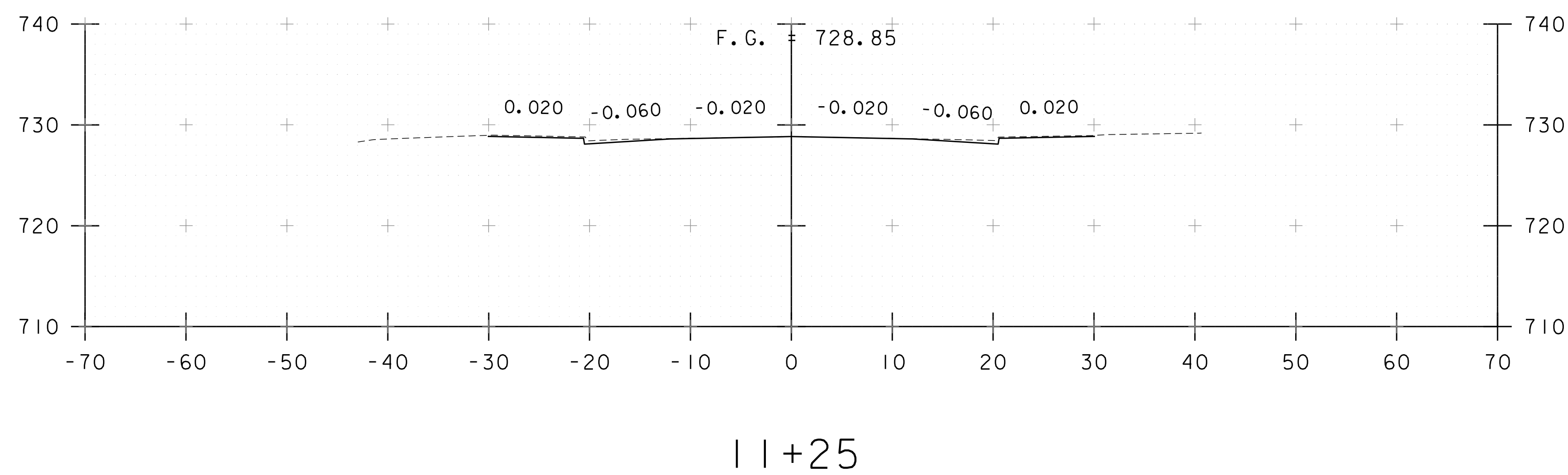
12+28.84 BEGIN BRIDGE



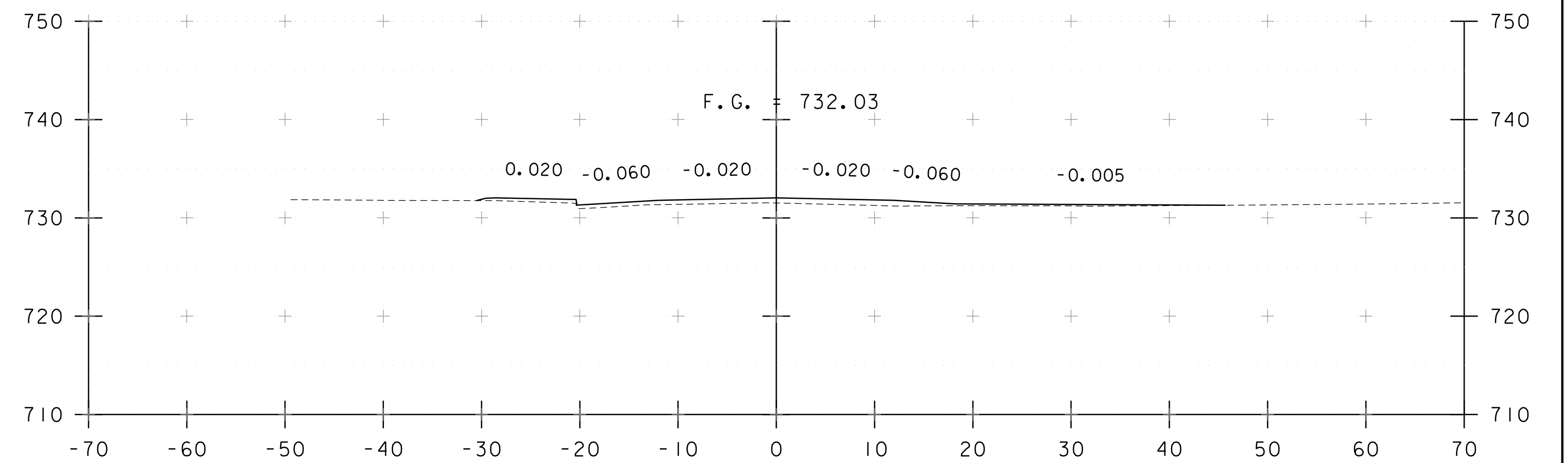
12+00



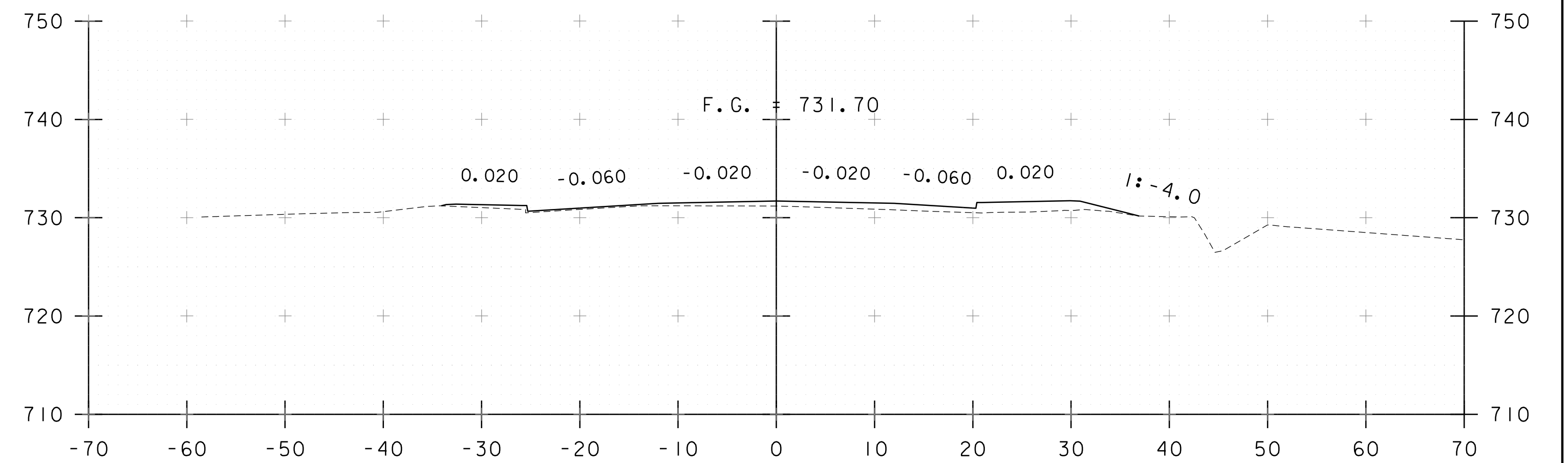
11+50



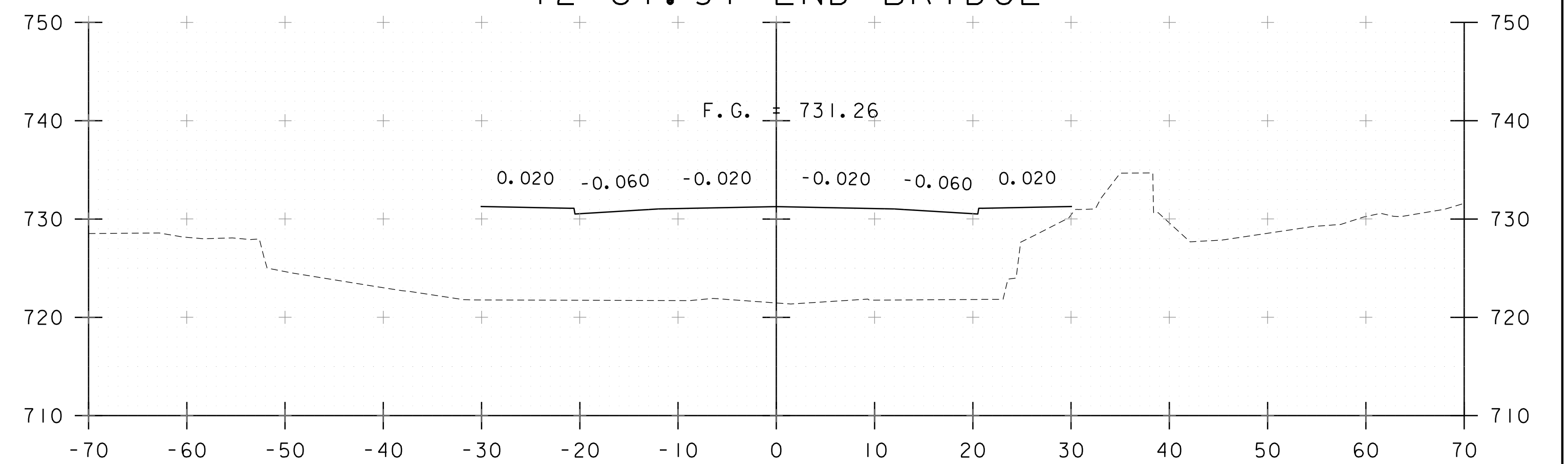
11+25



13+50



13+00
12+87.97 END BRIDGE



12+50

STA. 11+25 TO STA. 13+50



PROJECT NAME: BENNINGTON

PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606xs.dgn

PROJECT LEADER: T. KNIGHT

DESIGNED BY: I. MAYNARD

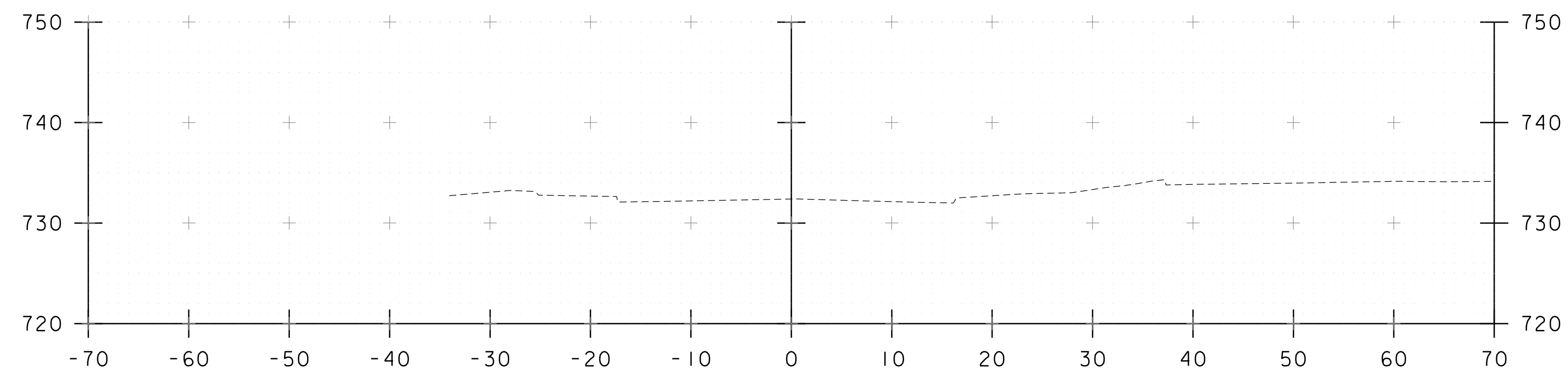
ROUTE 9 CROSS SECTION SHEET 1

PLOT DATE: 4/15/2020

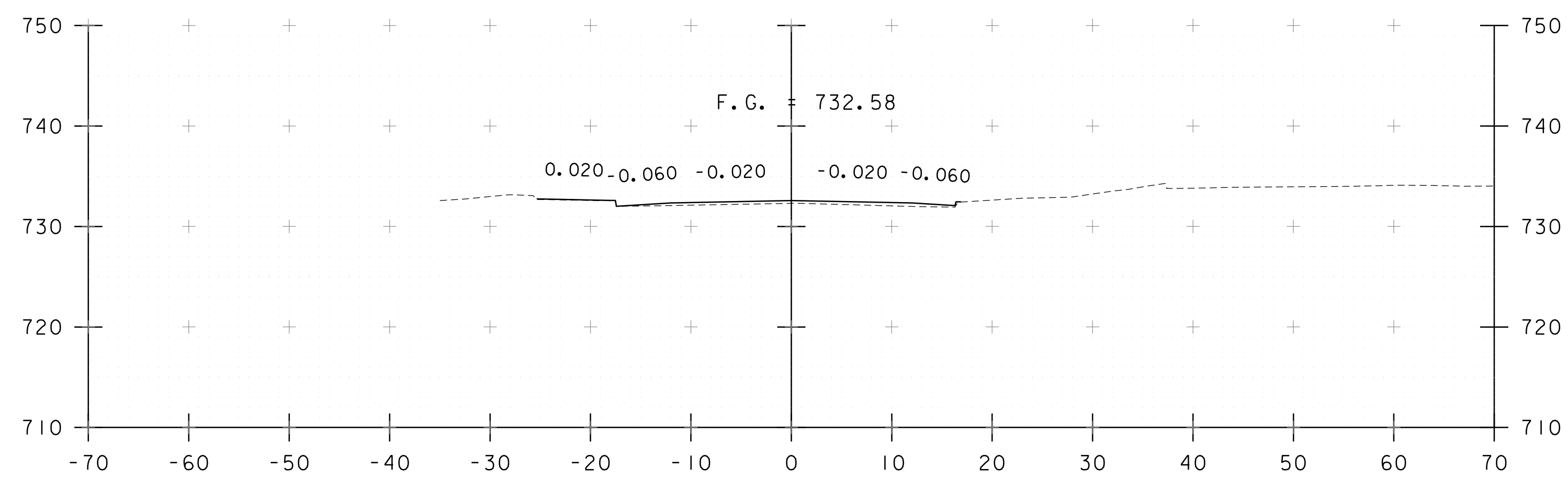
DRAWN BY: I. MAYNARD

CHECKED BY: T. KNIGHT

SHEET 8 OF 14



14+04



14+00

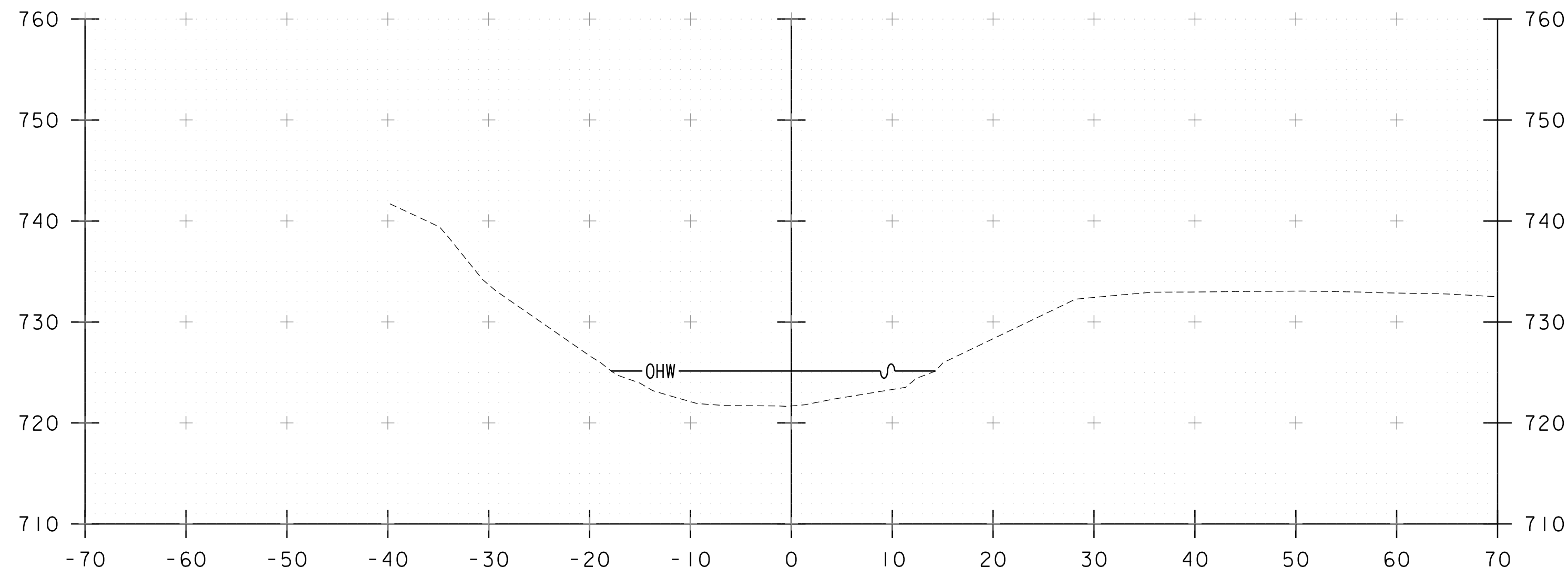
STA. 14+00 TO STA. 14+04



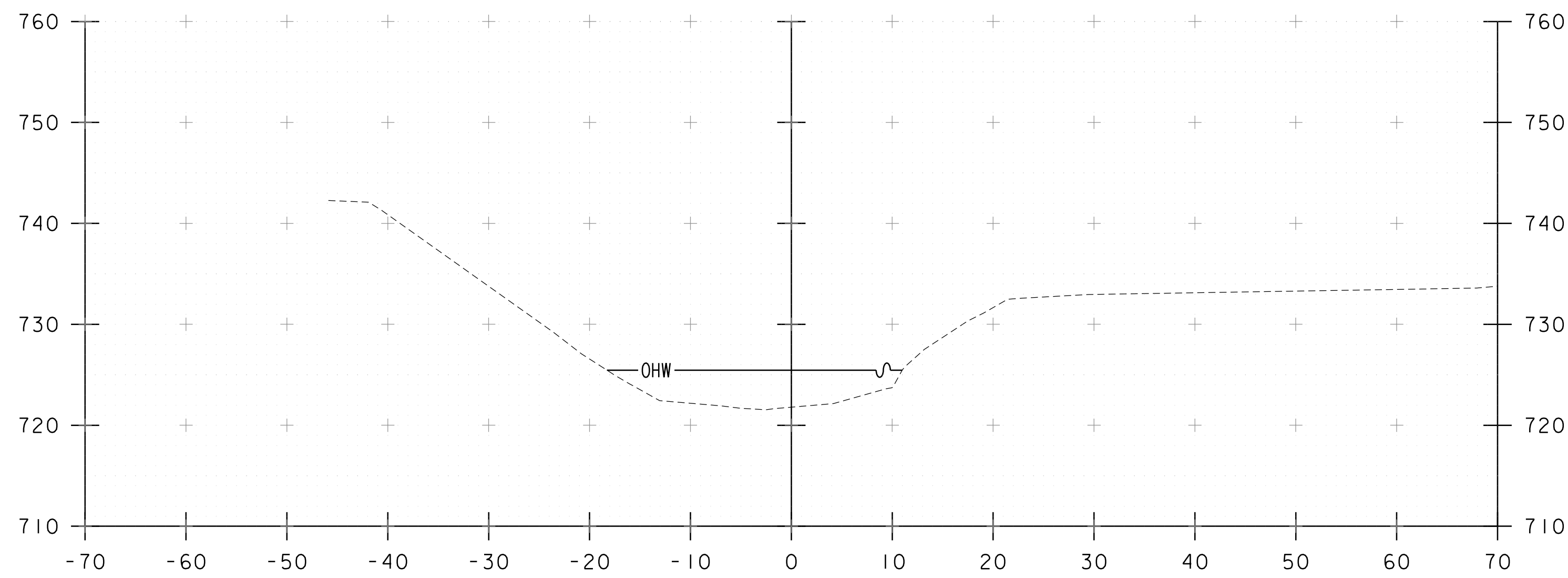
PROJECT NAME: BENNINGTON
PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606xs.dgn
PROJECT LEADER: T. KNIGHT
DESIGNED BY: I. MAYNARD
ROUTE 9 CROSS SECTION SHEET 2

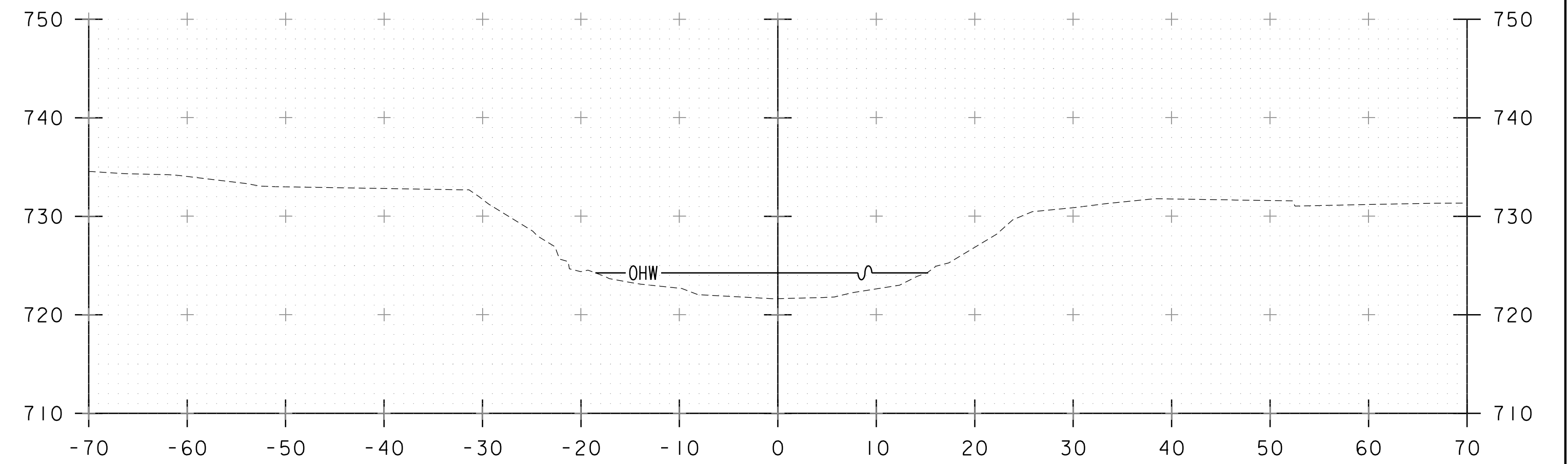
PLOT DATE: 4/15/2020
DRAWN BY: I. MAYNARD
CHECKED BY: T. KNIGHT
SHEET 9 OF 14



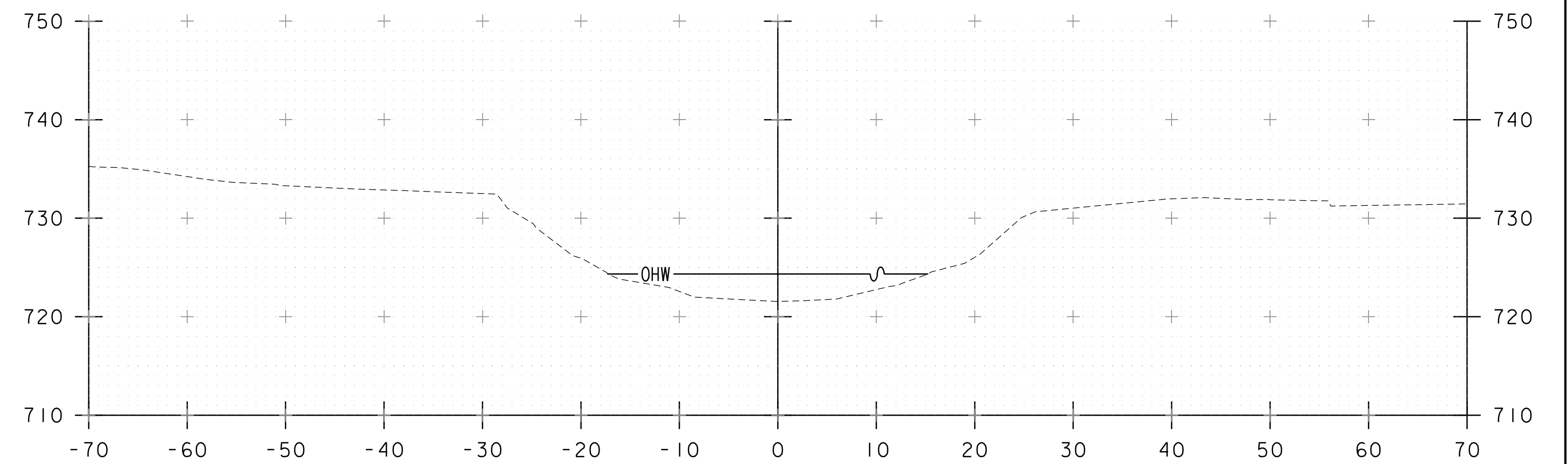
20+50



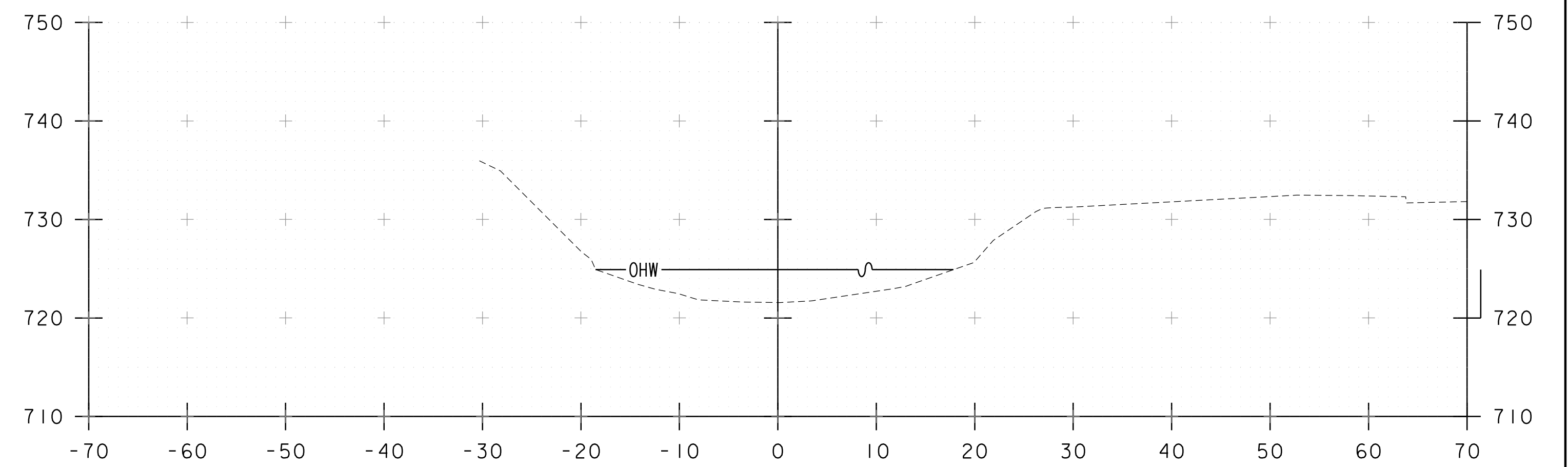
20+25



21+10



21+00



20+75

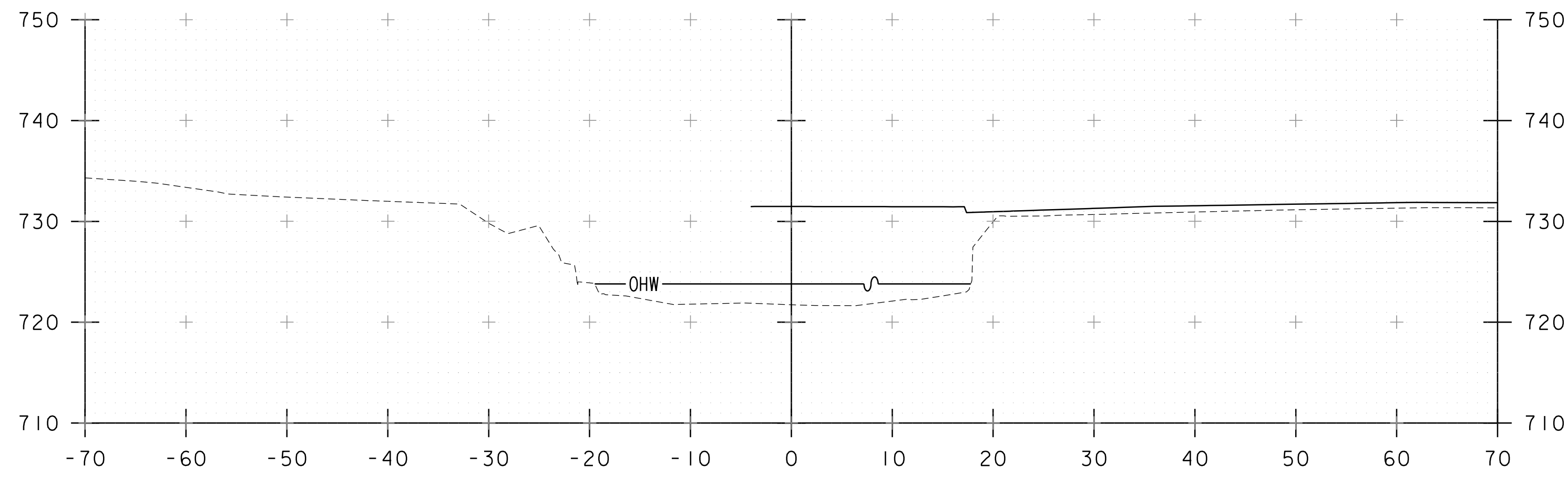
STA. 20+25 TO STA. 21+10



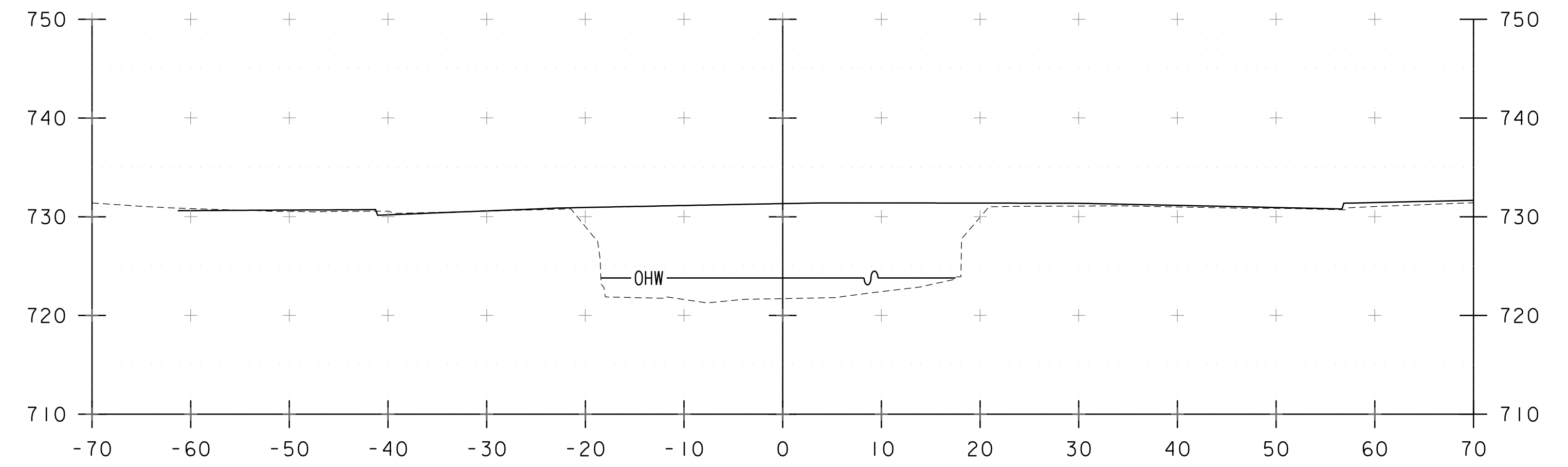
PROJECT NAME: BENNINGTON
PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606xs.dgn
PROJECT LEADER: T. KNIGHT
DESIGNED BY: I. MAYNARD
CHANNEL CROSS SECTION SHEET 1

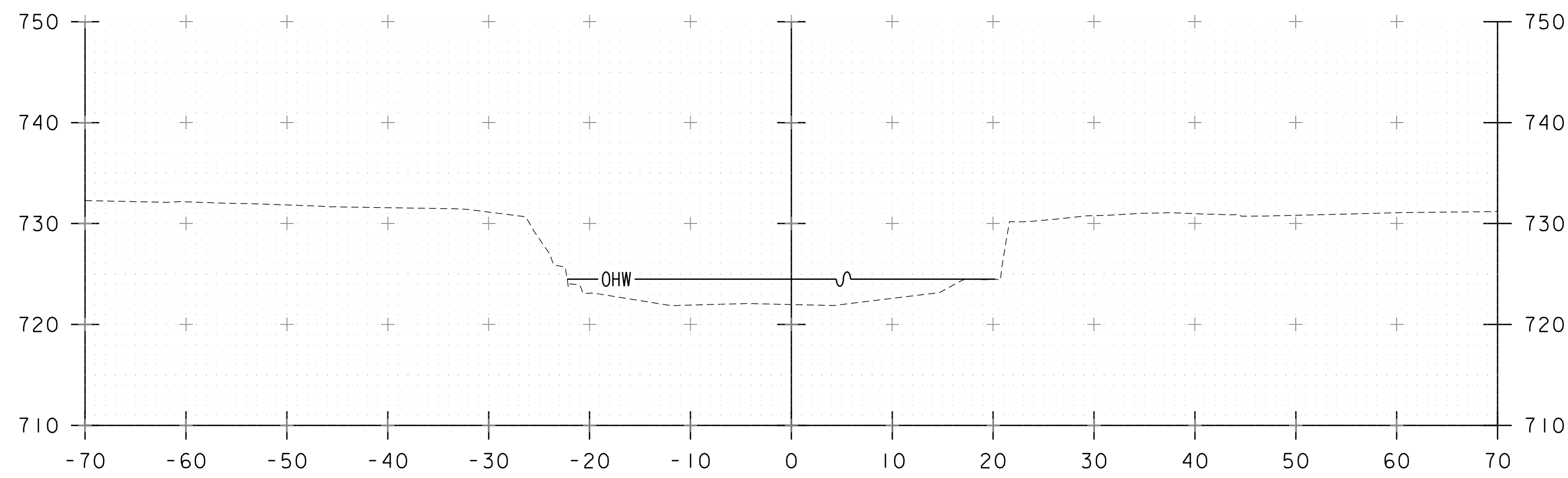
PLOT DATE: 4/15/2020
DRAWN BY: I. MAYNARD
CHECKED BY: T. KNIGHT
SHEET 10 OF 14



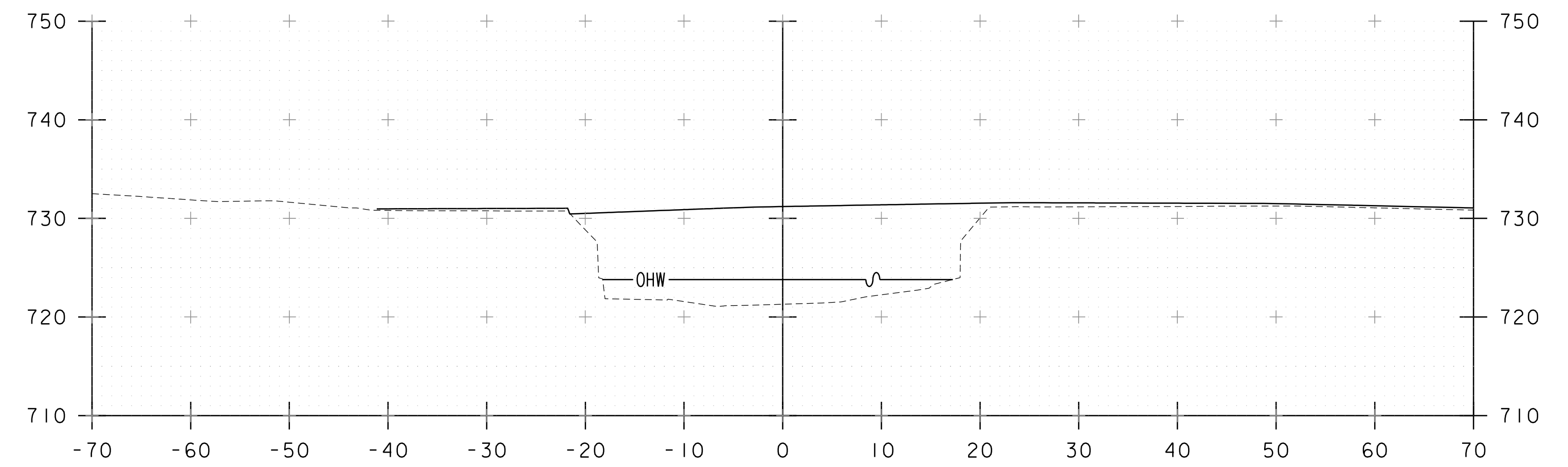
21+40



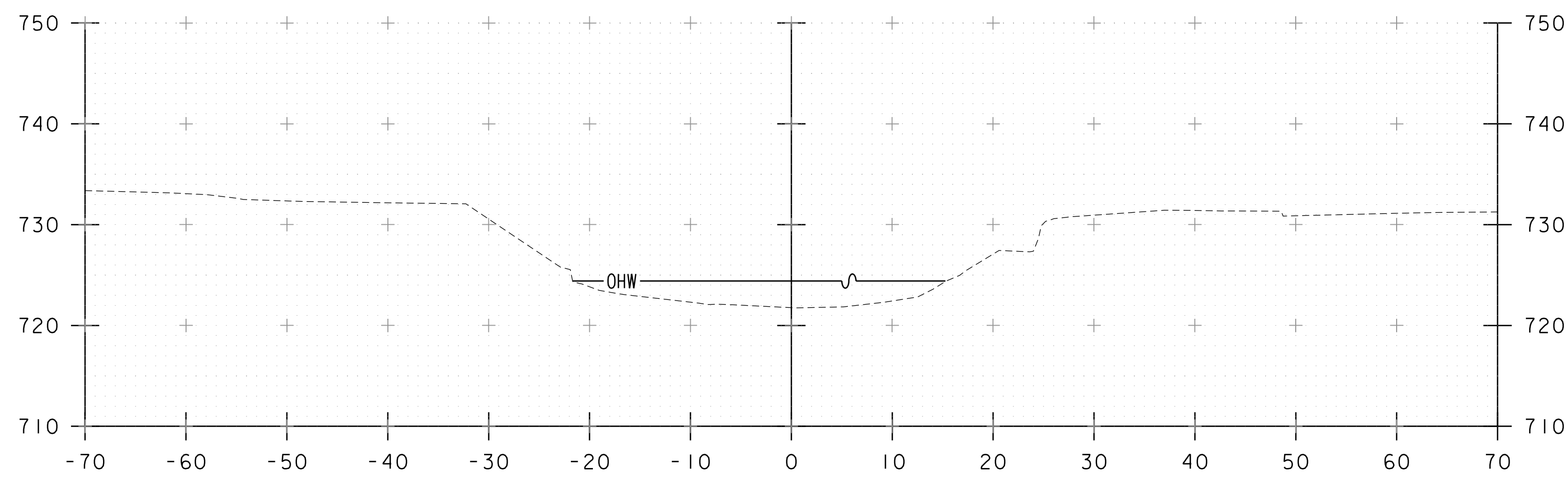
21+70



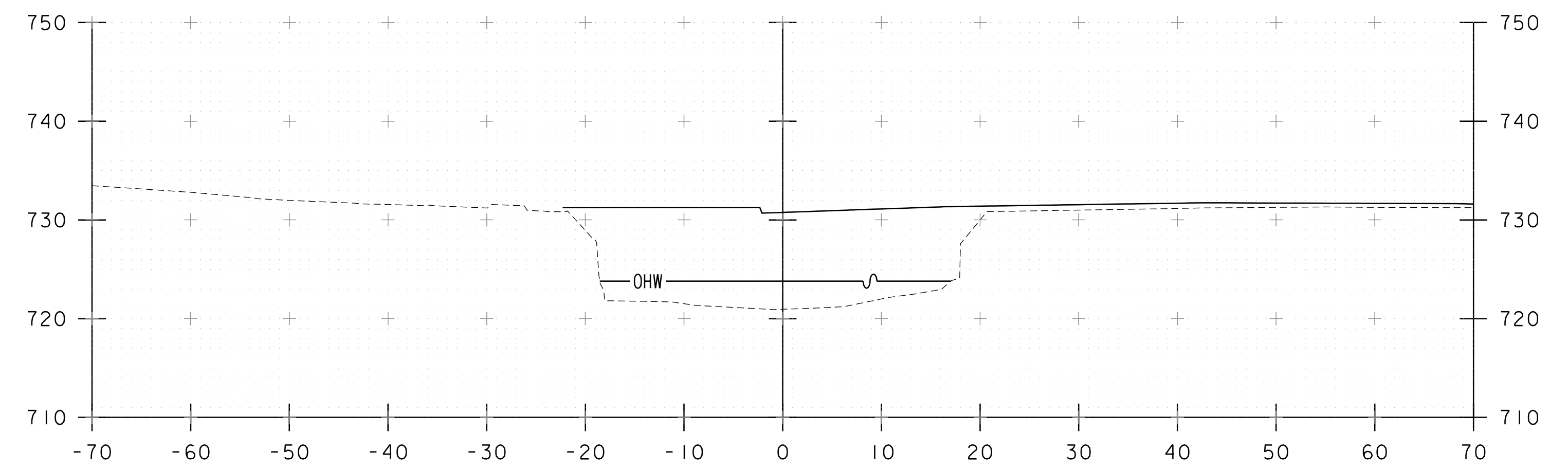
21+30



21+60



21+20



21+50

STA. 21+20 TO STA. 21+70



PROJECT NAME: BENNINGTON

PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606xs.dgn

PROJECT LEADER: T. KNIGHT

DESIGNED BY: I. MAYNARD

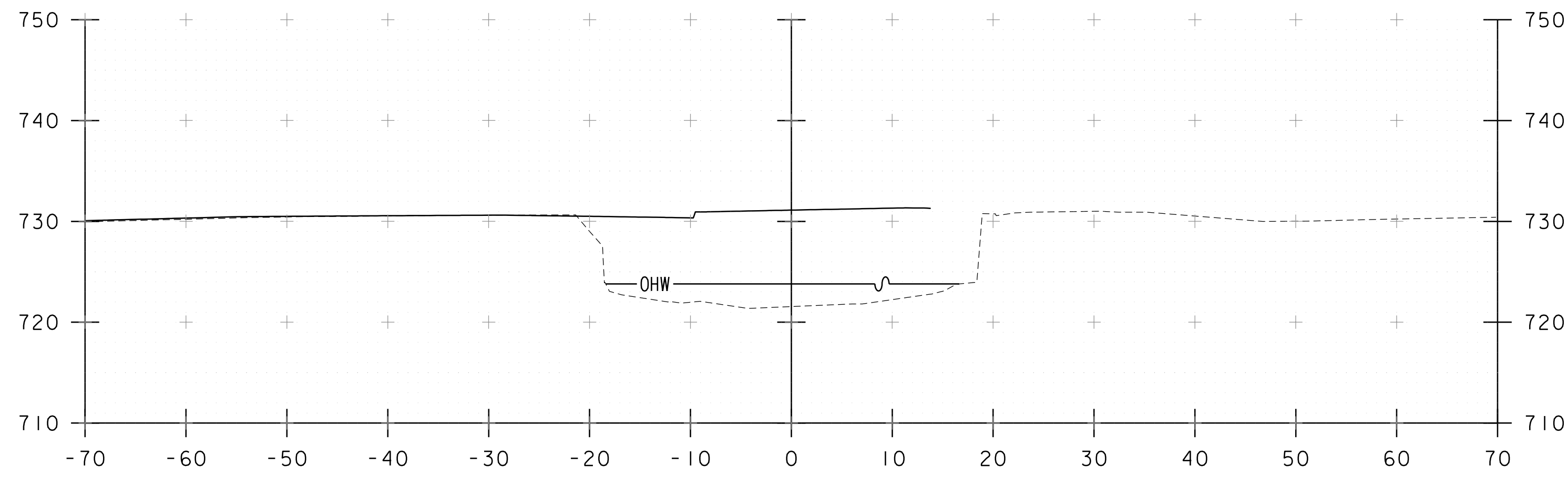
CHANNEL CROSS SECTION SHEET 2

PLOT DATE: 4/15/2020

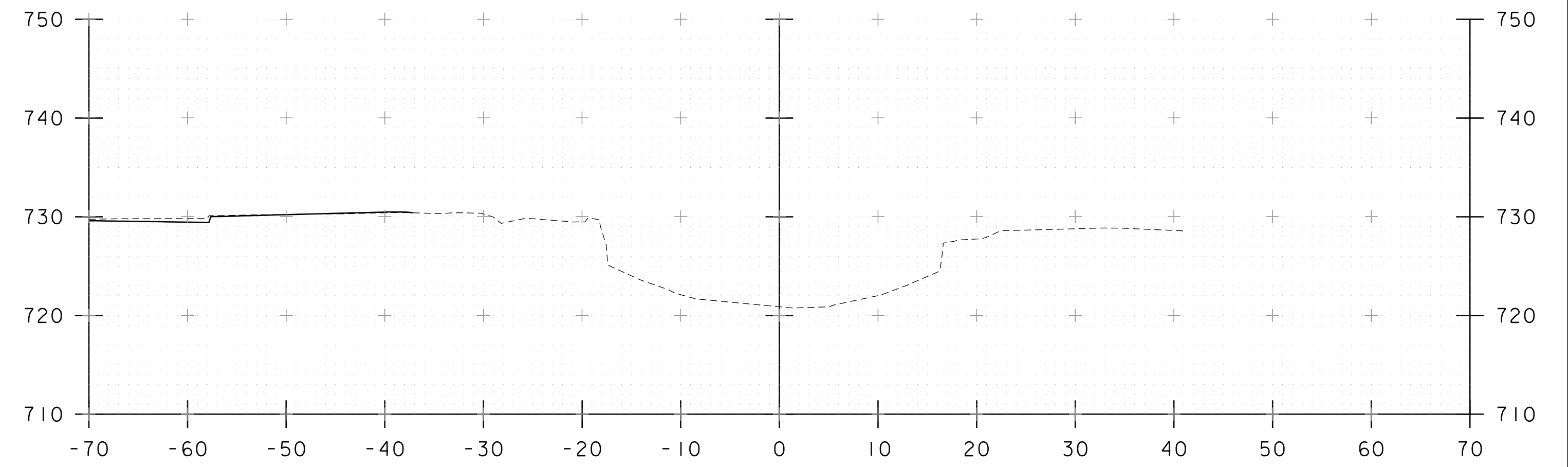
DRAWN BY: I. MAYNARD

CHECKED BY: T. KNIGHT

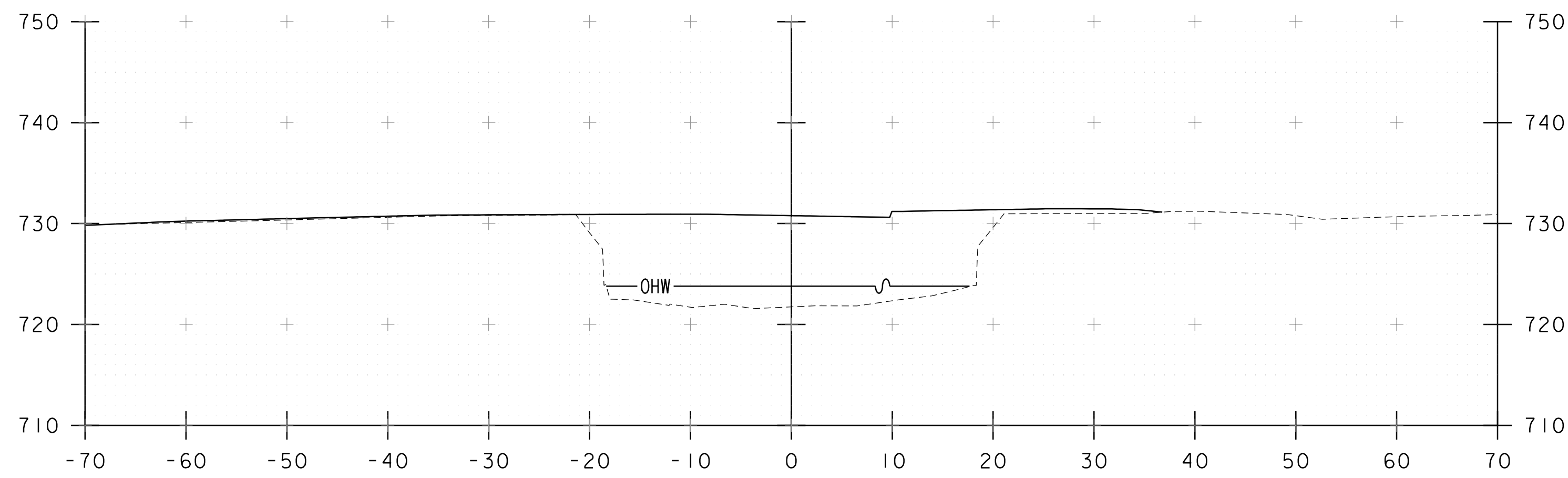
SHEET 11 OF 14



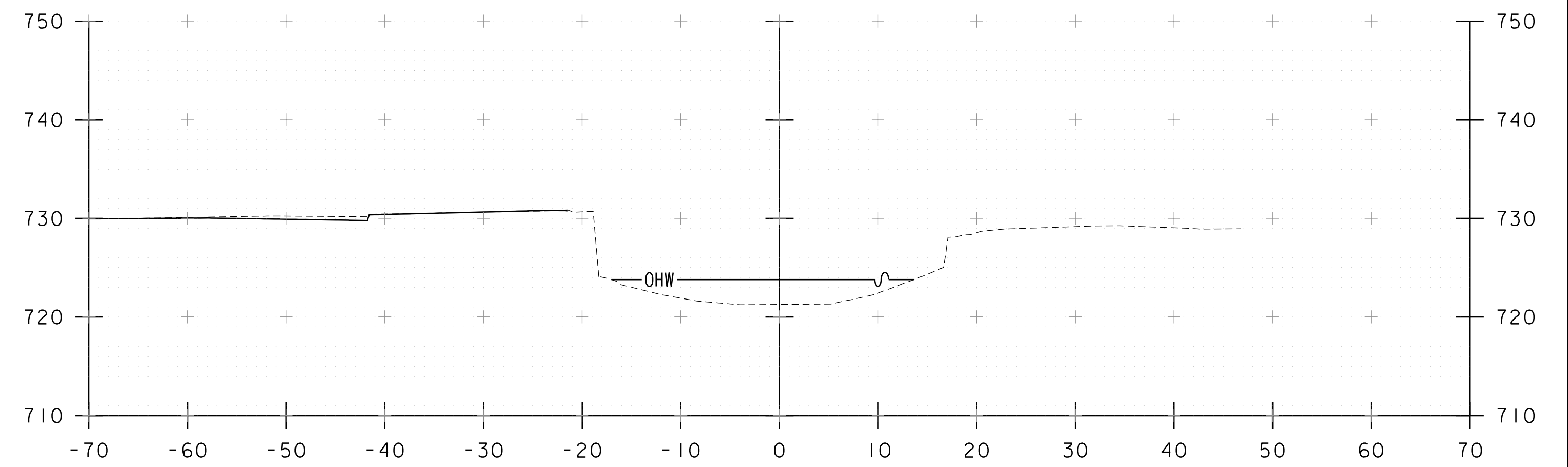
22+00



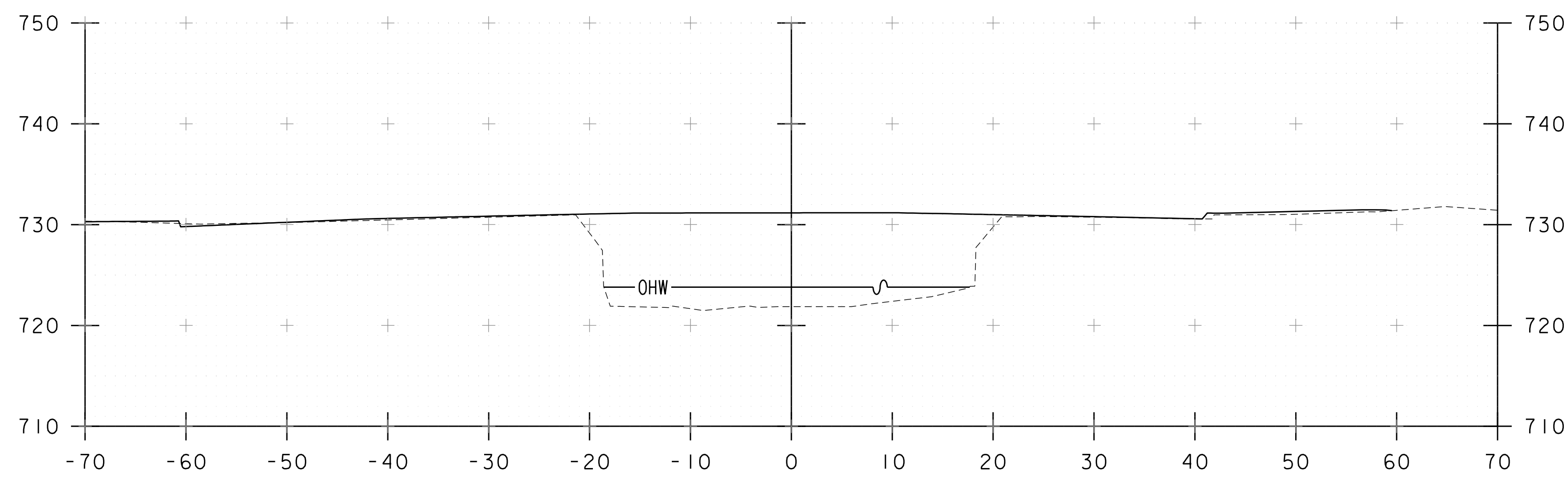
22+30



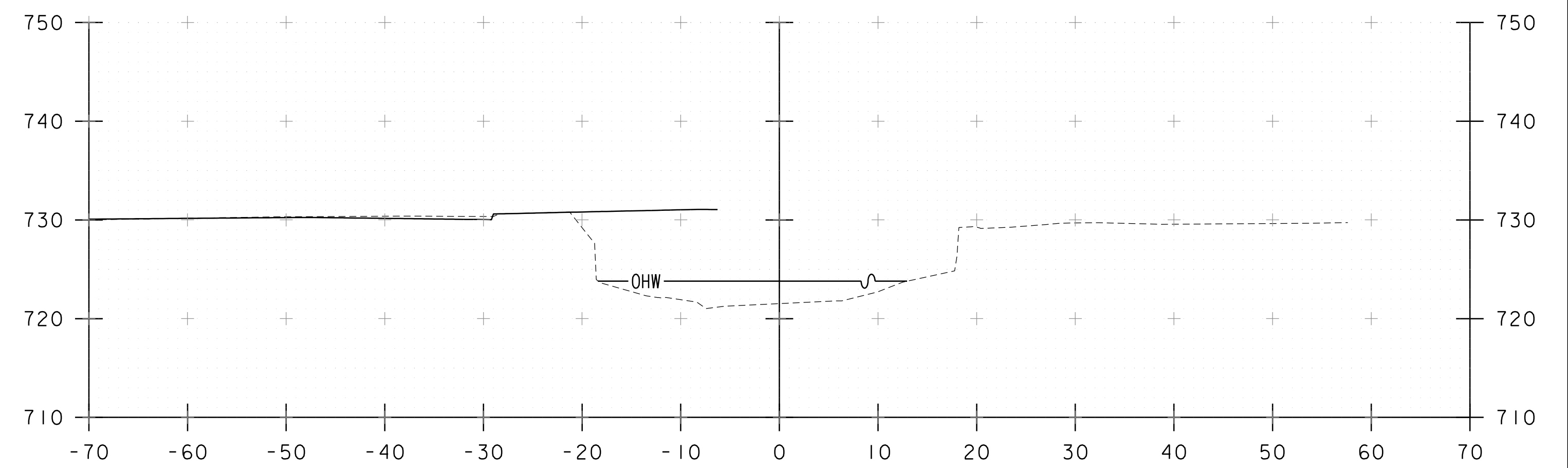
21+90



22+20



21+80



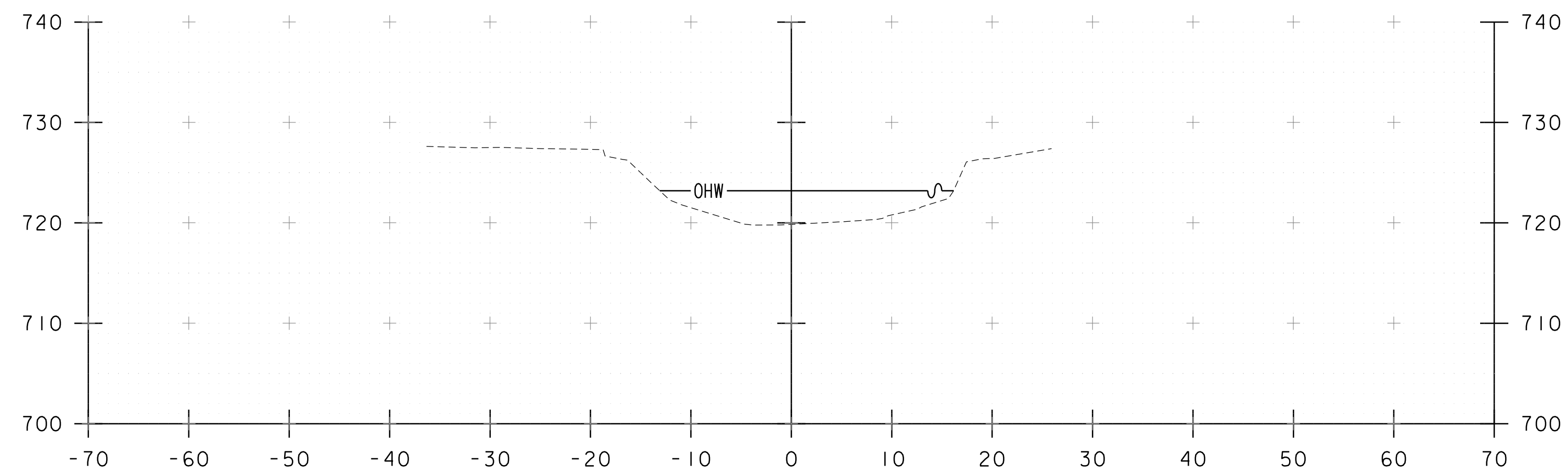
22+10

STA. 21+80 TO STA. 22+30

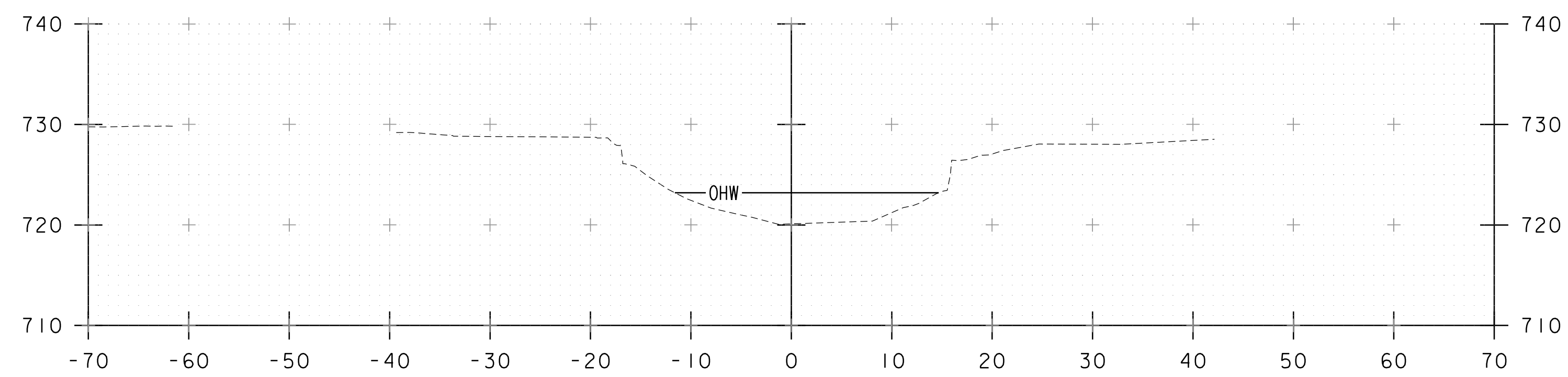


PROJECT NAME: BENNINGTON
 PROJECT NUMBER: BF 1000(20)
 FILE NAME: z12j606xs.dgn
 PROJECT LEADER: T. KNIGHT
 DESIGNED BY: I. MAYNARD
 CHANNEL CROSS SECTION SHEET 3

PLOT DATE: 4/15/2020
 DRAWN BY: I. MAYNARD
 CHECKED BY: T. KNIGHT
 SHEET 12 OF 14



22+75



22+50

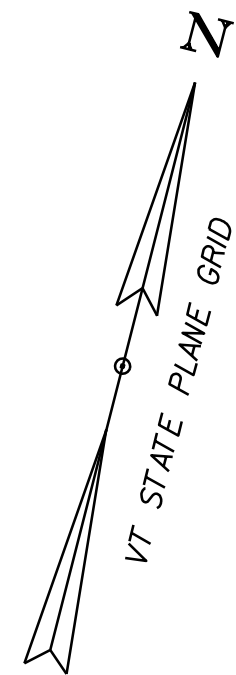
STA. 22+50 TO STA. 22+75



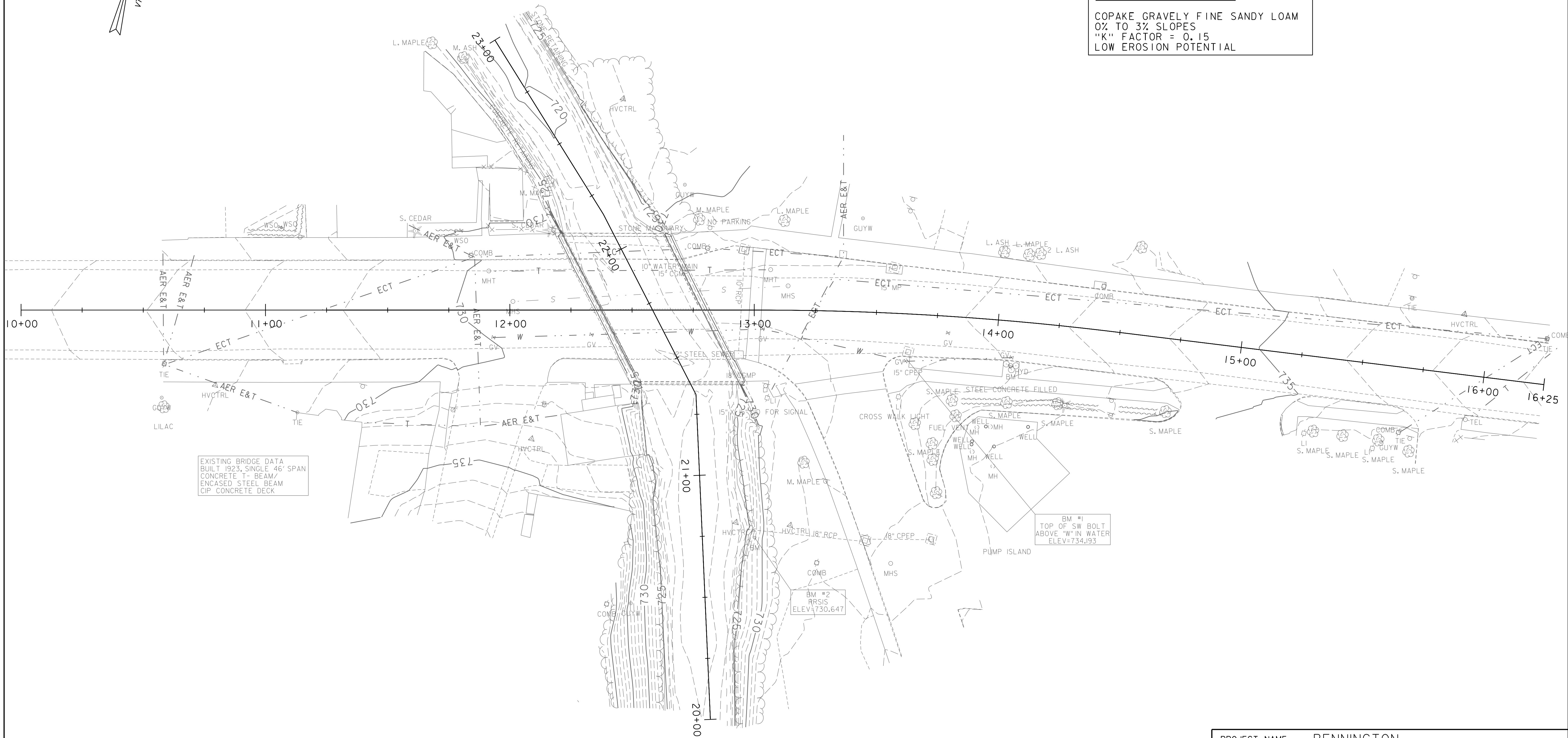
PROJECT NAME: BENNINGTON
 PROJECT NUMBER: BF 1000(20)

FILE NAME: z12j606xs.dgn
 PROJECT LEADER: T. KNIGHT
 DESIGNED BY: I. MAYNARD
 CHANNEL CROSS SECTION SHEET 4

PLOT DATE: 4/15/2020
 DRAWN BY: I. MAYNARD
 CHECKED BY: T. KNIGHT
 SHEET 13 OF 14



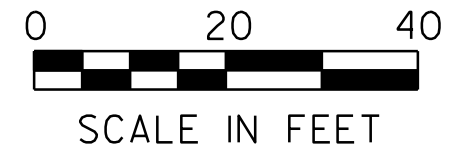
SOIL CLASSIFICATION C
 COPAKE GRAVELLY FINE SANDY LOAM
 0% TO 3% SLOPES
 "K" FACTOR = 0.15
 LOW EROSION POTENTIAL



EXISTING BRIDGE DATA
 BUILT 1923, SINGLE 46' SPAN
 CONCRETE T-BEAM/
 ENCASED STEEL BEAM
 CIP CONCRETE DECK

BM #1
 TOP OF SW BOLT
 ABOVE "W" IN WATER
 ELEV=734.193

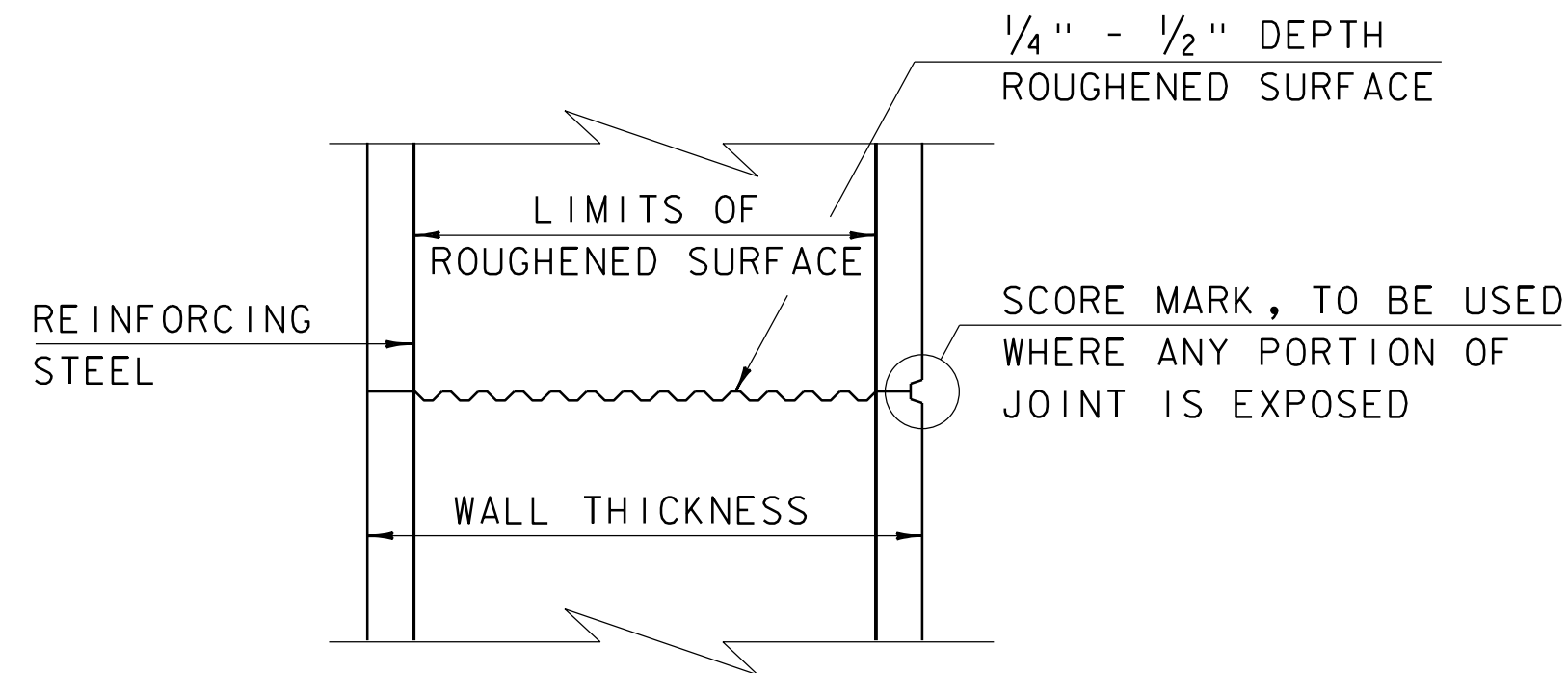
BM #2
 RRISIS
 ELEV=730.647



| | |
|-----------------------------|-----------------------|
| PROJECT NAME: BENNINGTON | PLOT DATE: 4/15/2020 |
| PROJECT NUMBER: BF 1000(20) | DRAWN BY: P. ARMATA |
| FILE NAME: z12j606bdr.dgn | CHECKED BY: T. KNIGHT |
| PROJECT LEADER: T. KNIGHT | SHEET 14 OF 14 |
| DESIGNED BY: I. MAYNARD | |
| EXISTING CONDITIONS PLAN | |

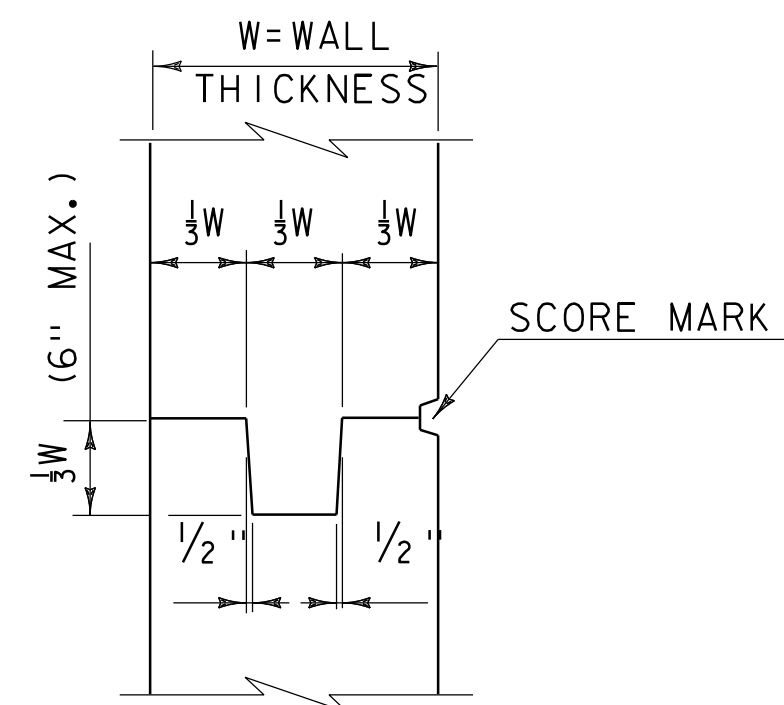
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

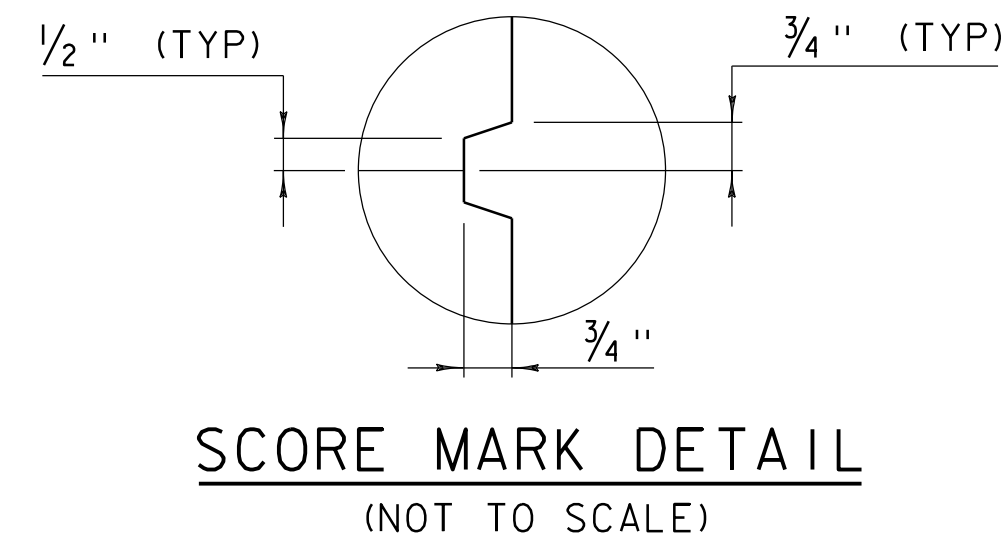


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

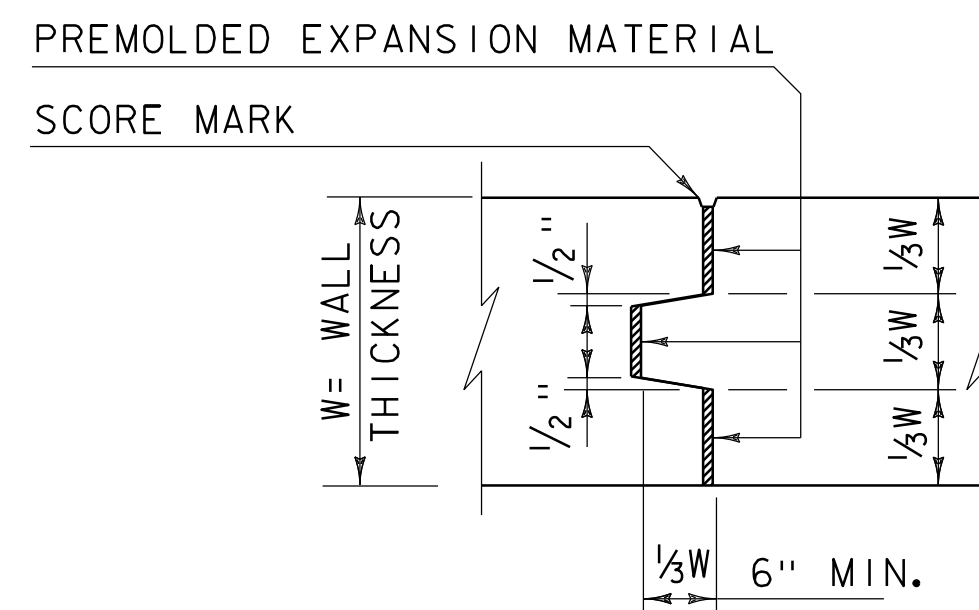
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



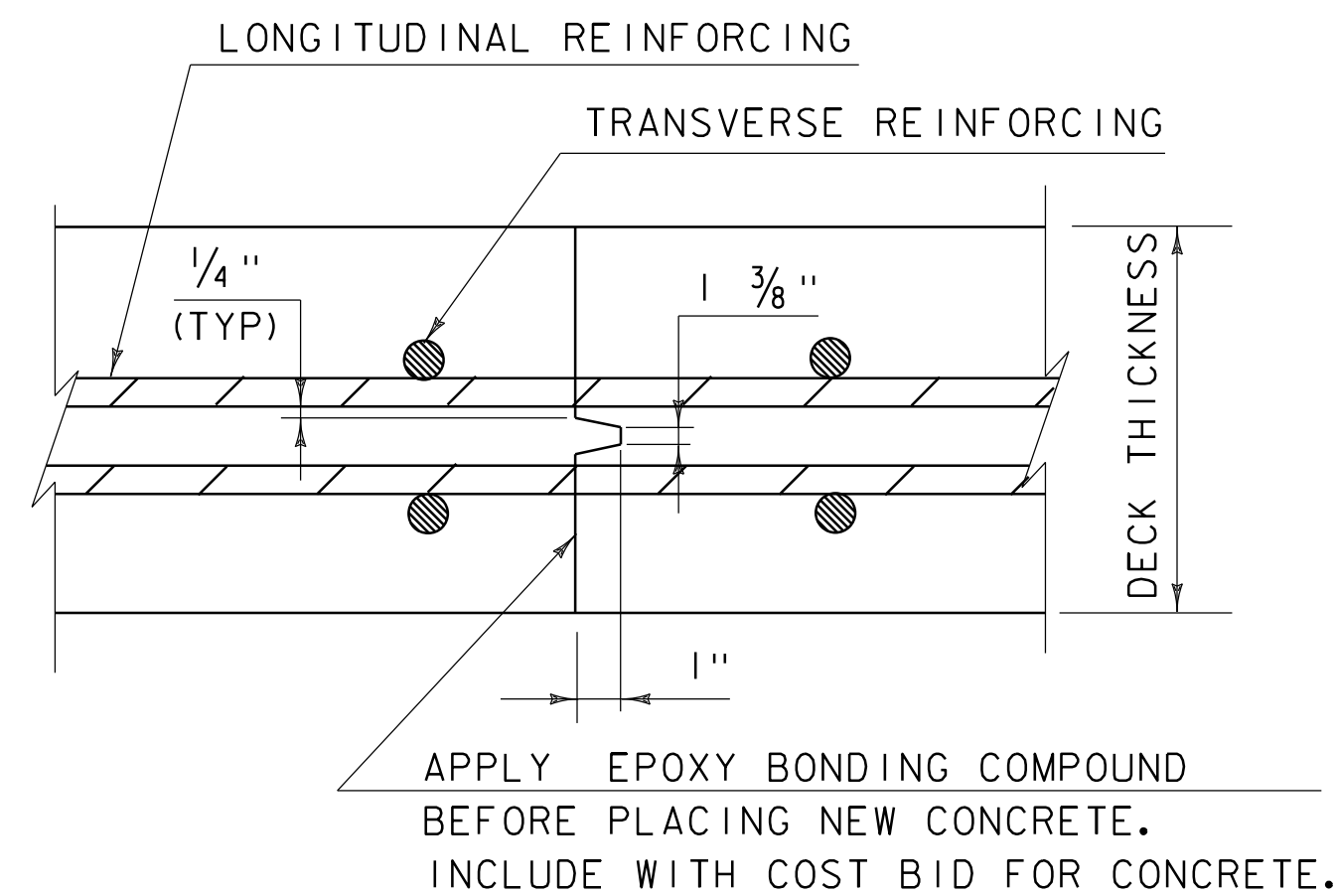
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



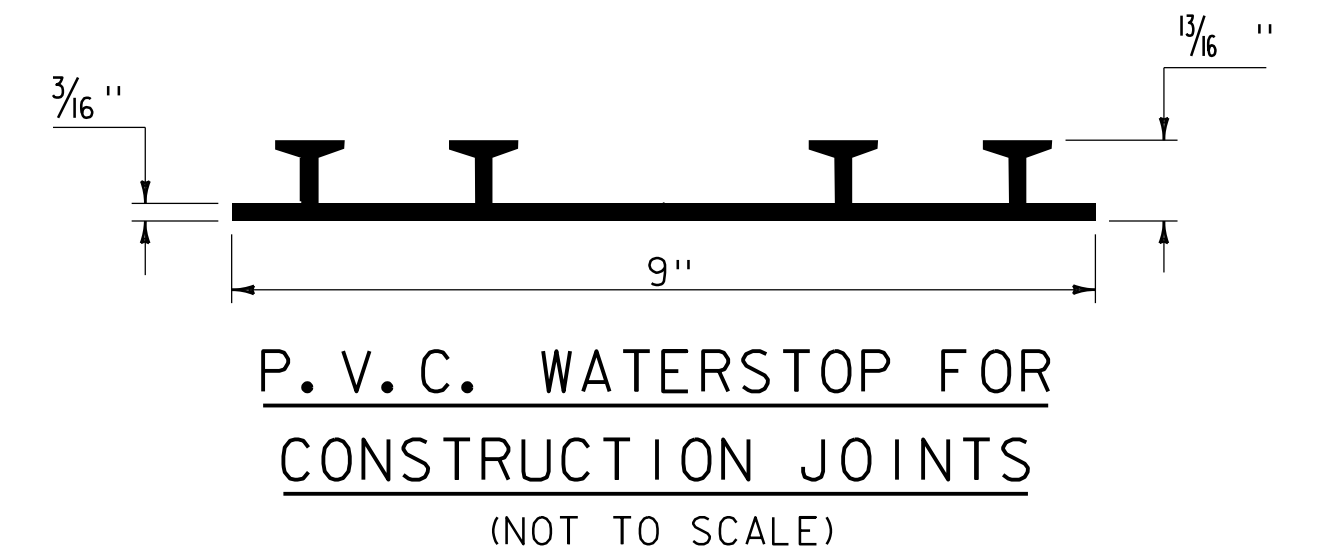
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)

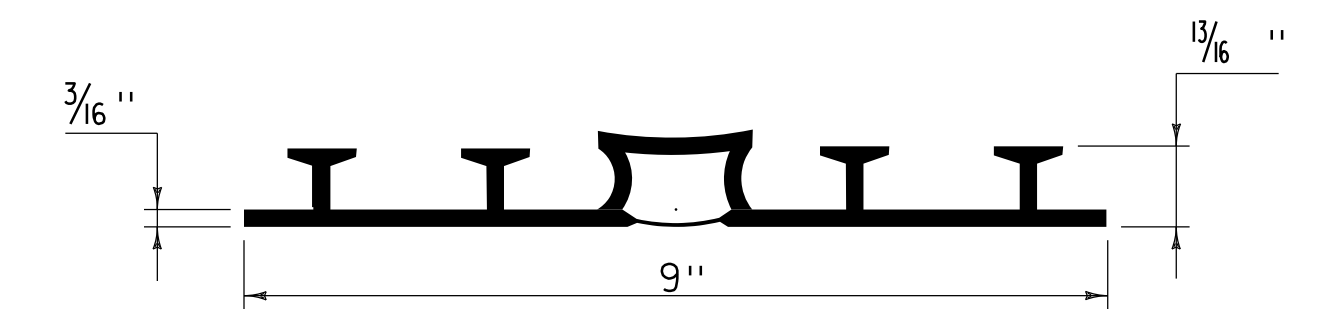


TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

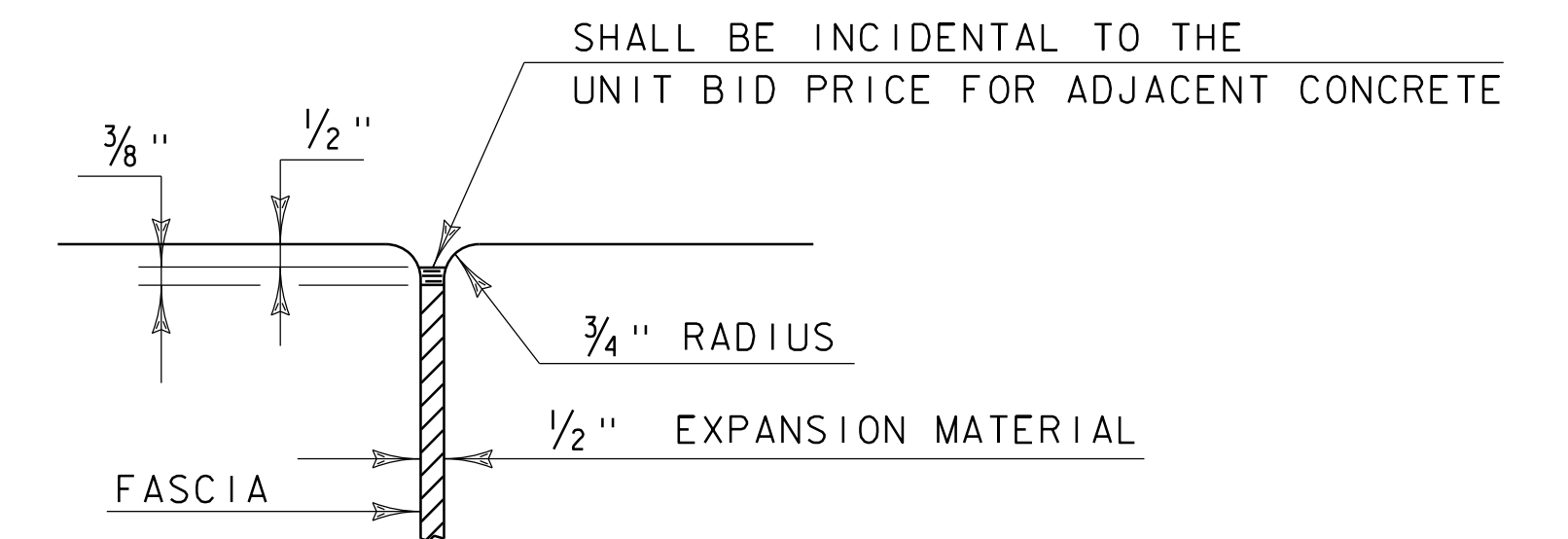
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

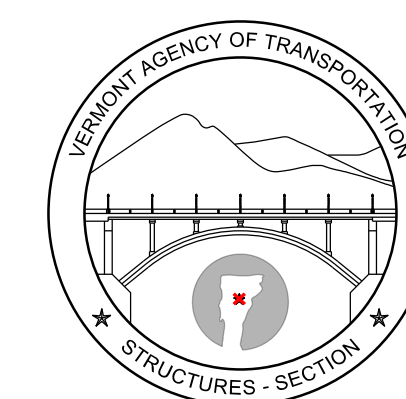
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



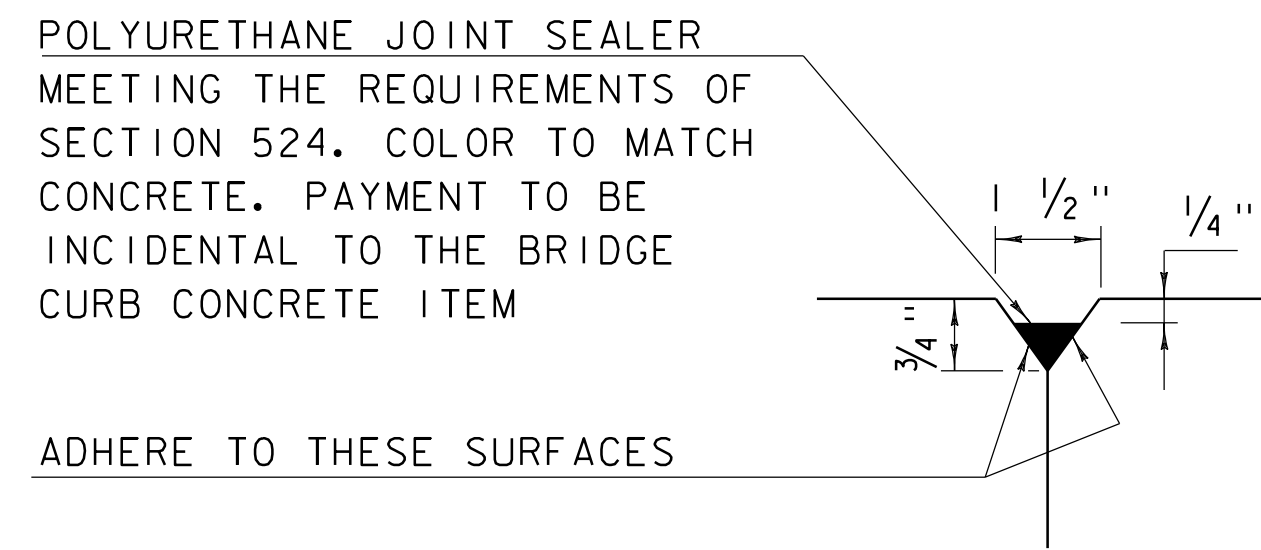
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

| REVISIONS | |
|------------------|---|
| MAY 7, 2010 | APPROVED FOR USE BY VAOT STRUCTURES SECTION |
| FEBRUARY 9, 2012 | REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES. |
| | |
| | |
| | |
| | |
| | |

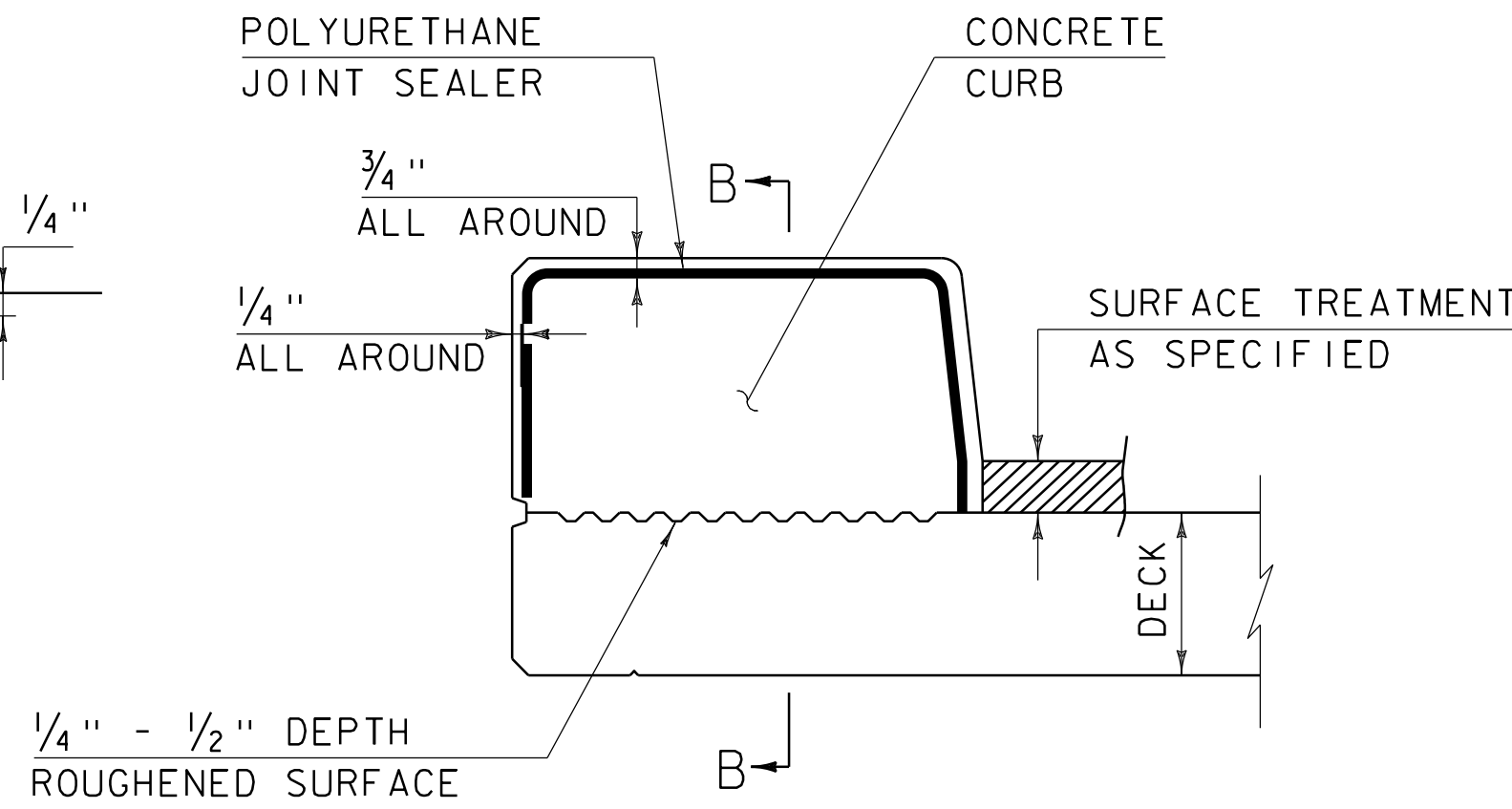
**CONCRETE
DETAILS AND NOTES**



**STRUCTURES
DETAIL
SD-501.00**

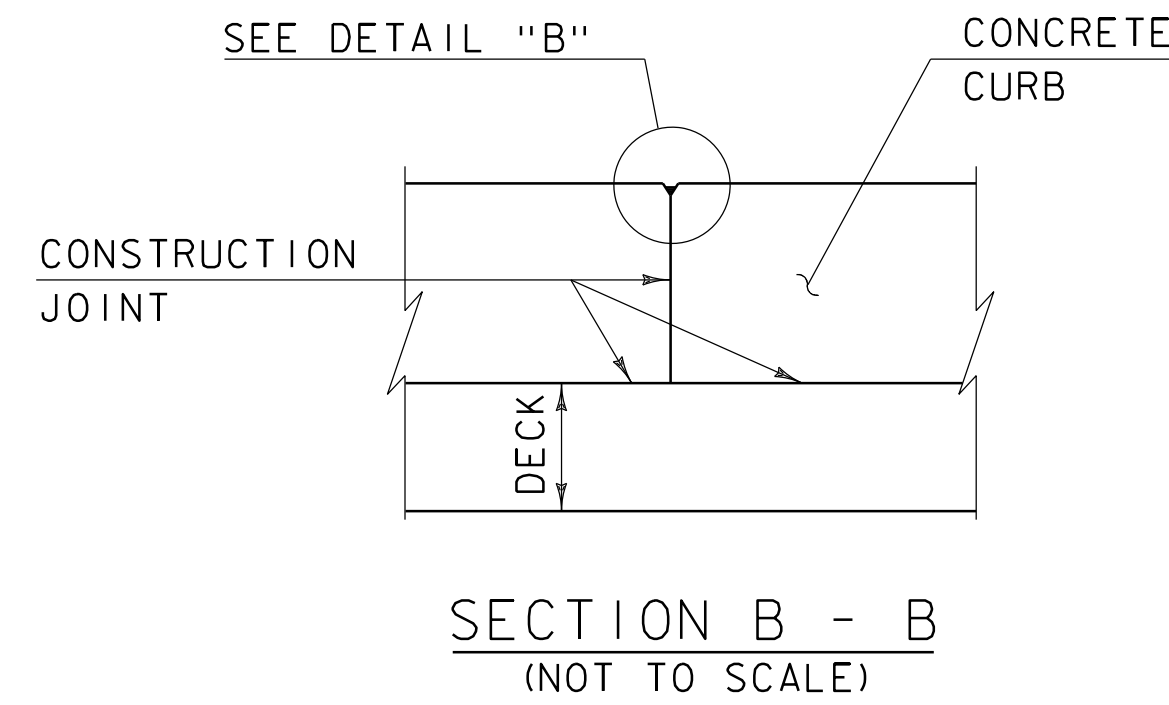


DETAIL "B"
(NOT TO SCALE)

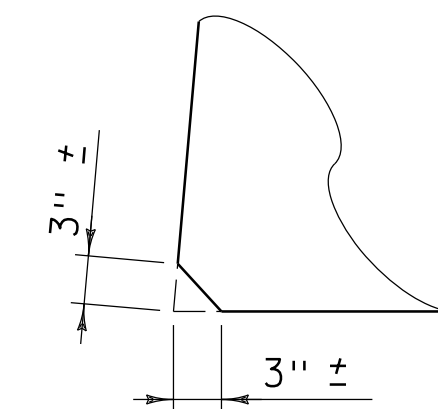


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



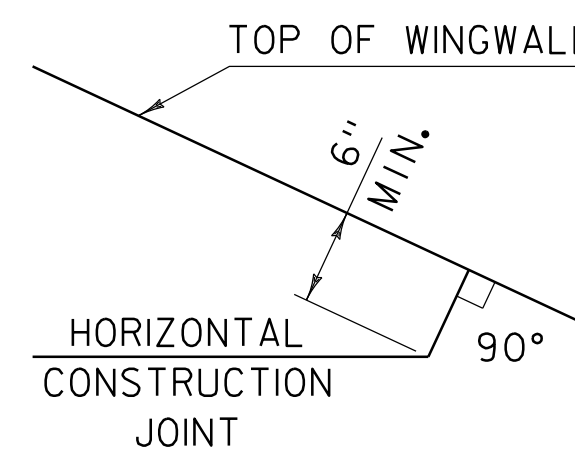
SECTION B - B
(NOT TO SCALE)



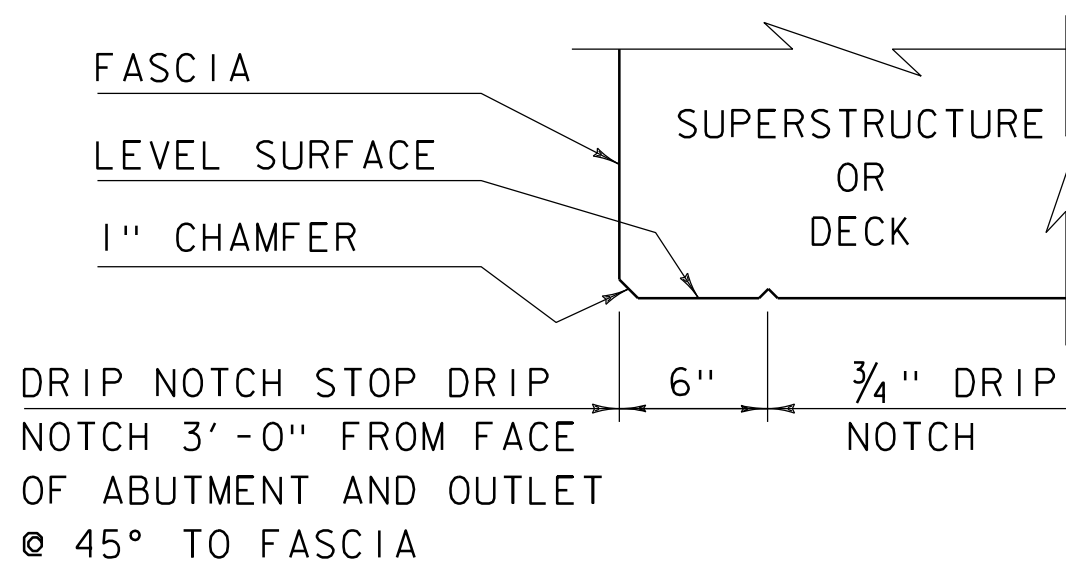
ACUTE ANGLE
CLIP DETAIL
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

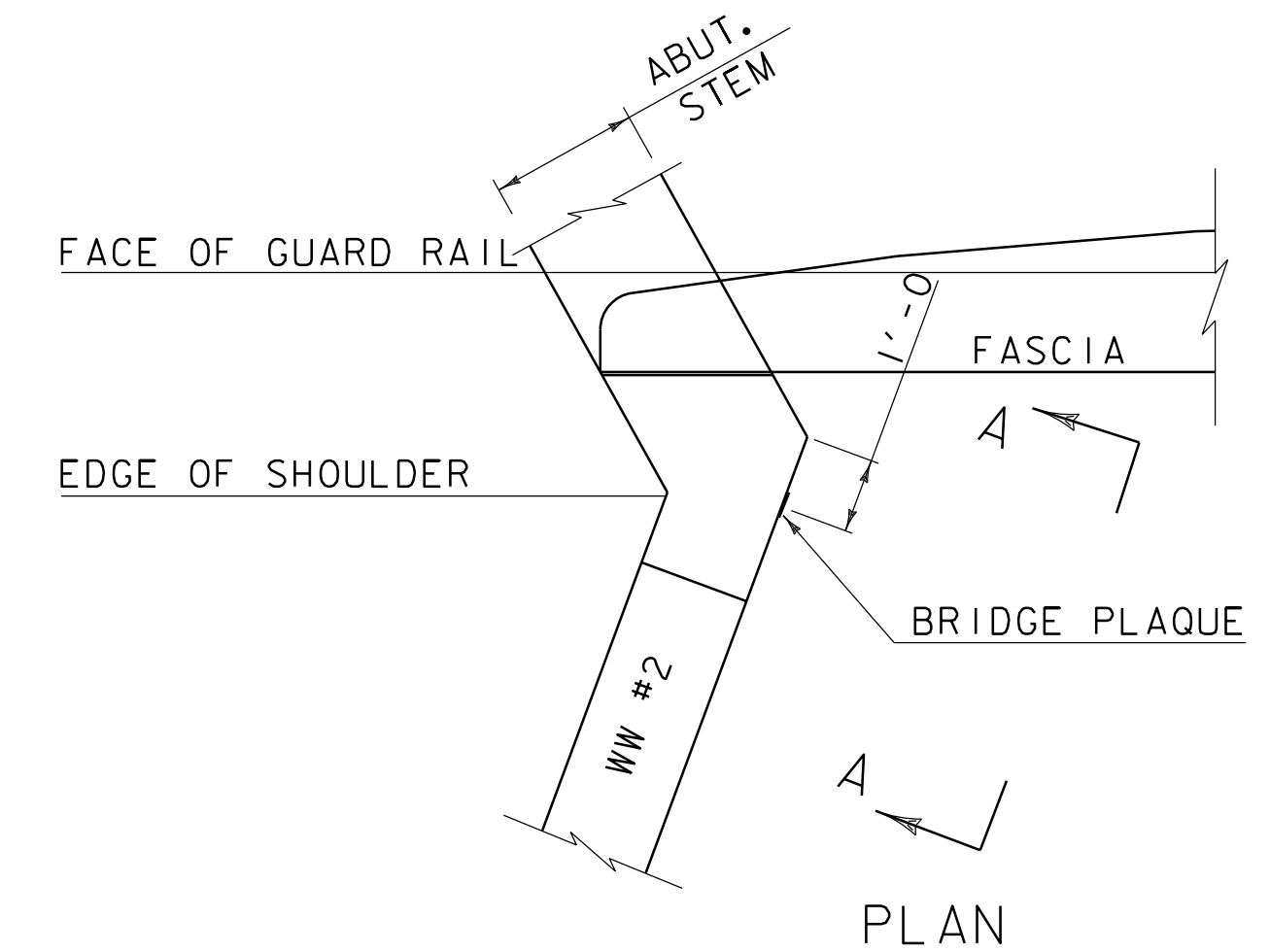
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



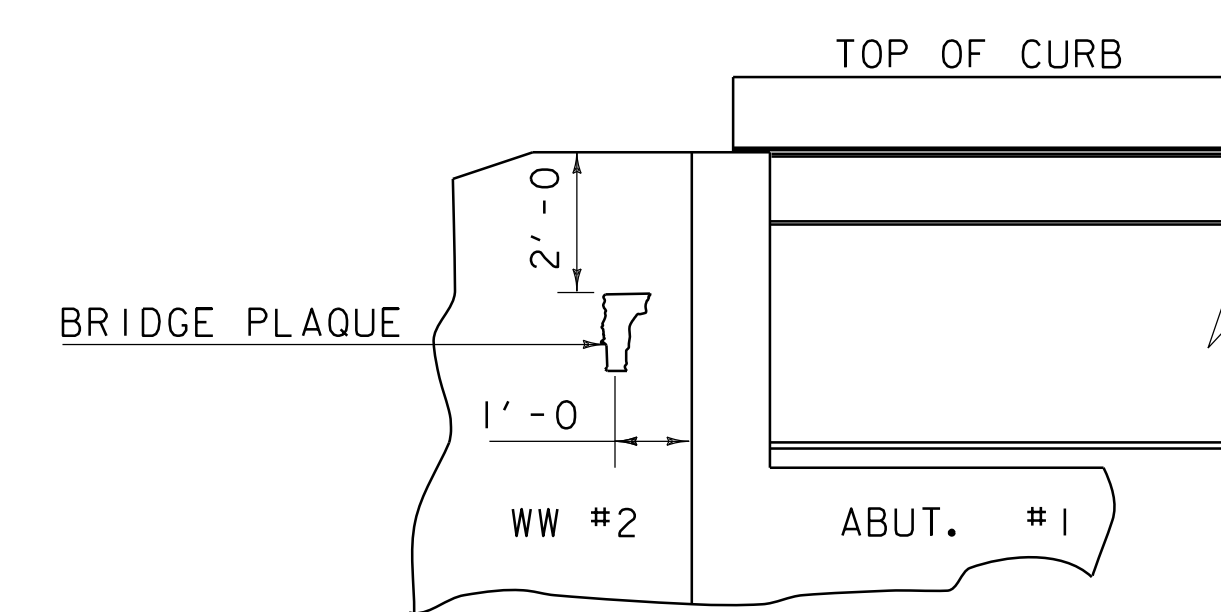
HORIZONTAL WINGWALL
CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

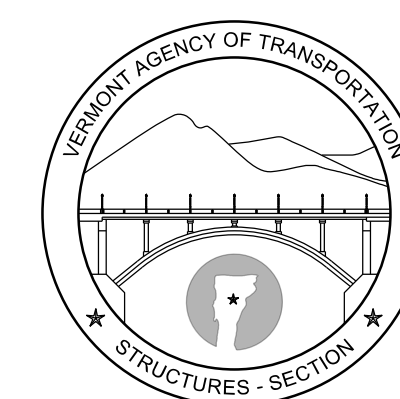
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

| | |
|------------------|---|
| MAY 7, 2010 | APPROVED FOR USE BY VAOT STRUCTURES SECTION |
| JUNE 4, 2010 | MODIFIED AND ADDED TWO DETAILS |
| OCTOBER 10, 2012 | MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION |
| | |
| | |
| | |
| | |

CONCRETE
DETAILS AND NOTES



STRUCTURES
DETAIL
SD-502.00

ASPHALTIC PLUG JOINT NOTES

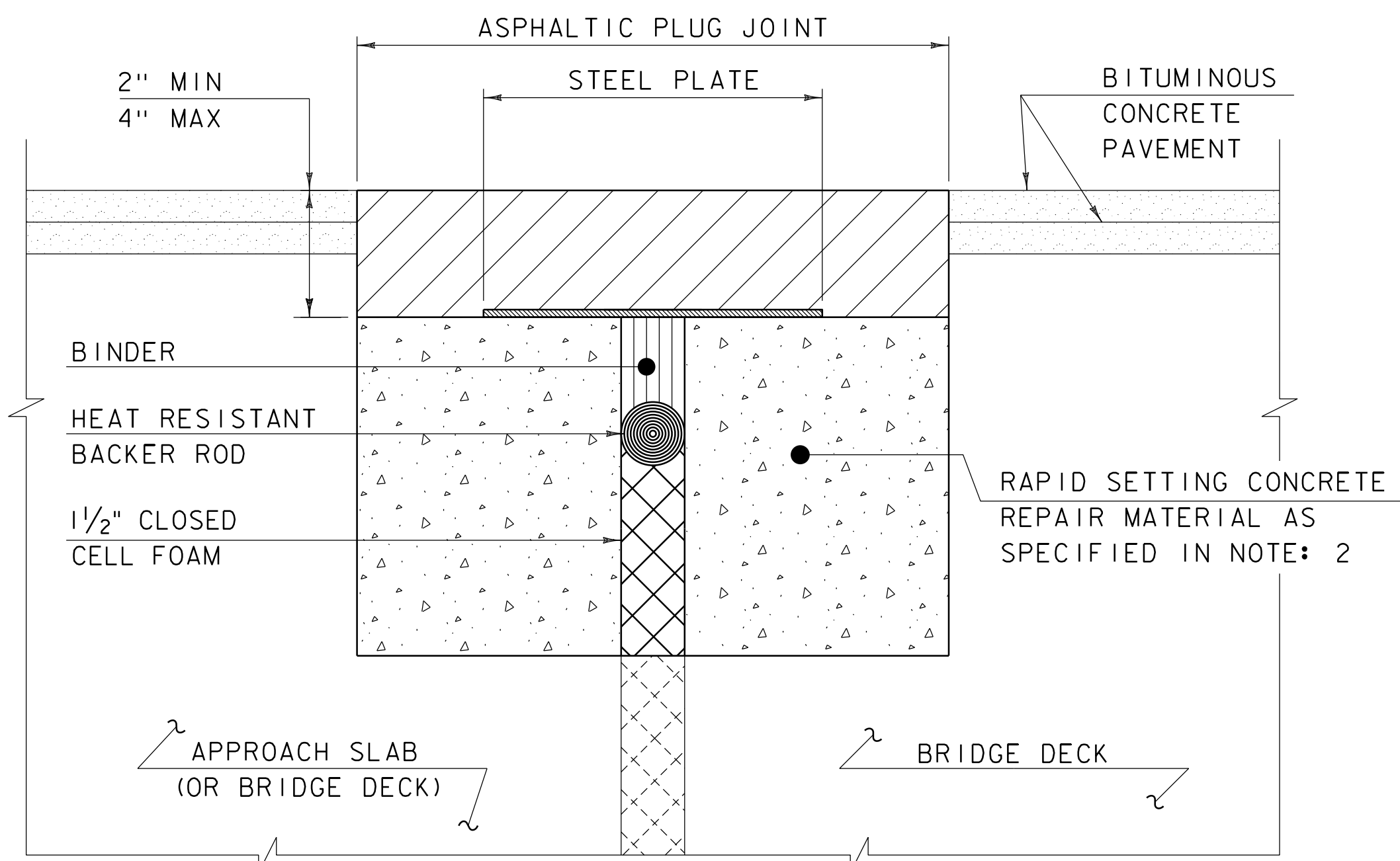
INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

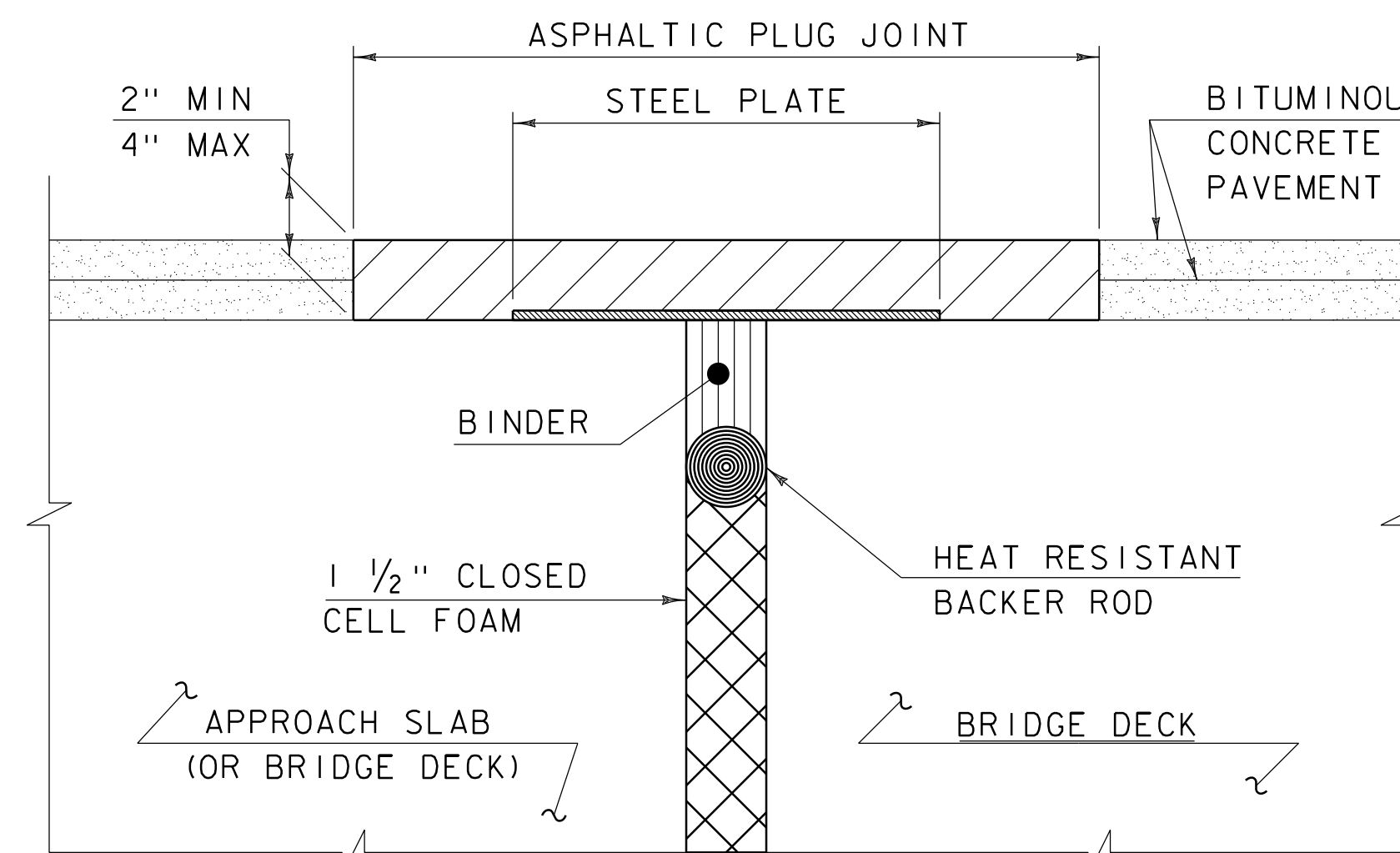
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

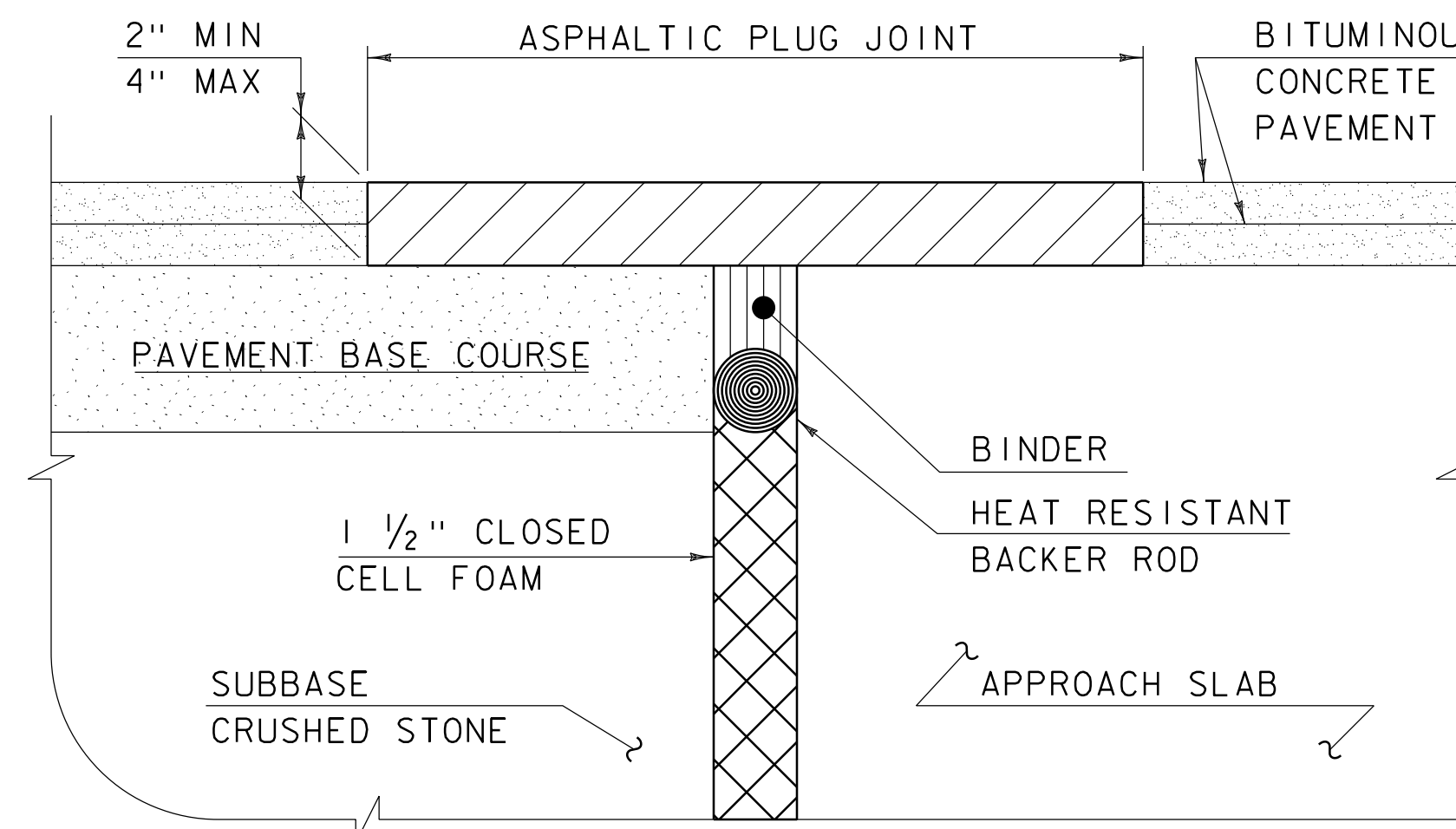
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

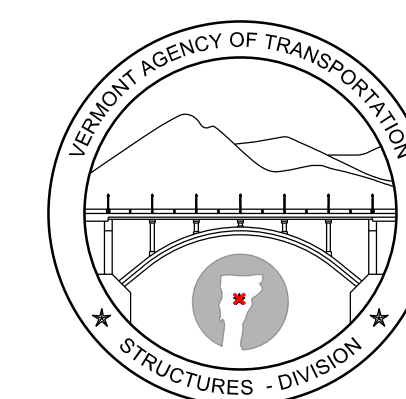


ASPHALTIC PLUG JOINT DETAIL "B" - NEW

DETAILS ON THIS SHEET ARE NOT TO SCALE.

| REVISIONS | |
|-----------------|---|
| MAY 7, 2010 | APPROVED FOR USE BY VAOT STRUCTURES SECTION |
| AUGUST 29, 2011 | ADD DETAIL "B" AND REV. NOTES |
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| | |

BRIDGE JOINT
ASPHALTIC PLUG



STRUCTURES
DETAIL
SD-516.10