

PROJECT: 32572.1.FS10 REFERENCE: A-0009CB

CONTENTS

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY GRAHAM
 PROJECT DESCRIPTION UPGRADE NC 143 FROM SR 1223 (BEECH CREEK ROAD) TO 0.5 MILES NORTH OF APPALACHIAN TRAIL
 SITE DESCRIPTION RETAINING WALL #15: SOIL NAIL WALL WITH ARCHITECTURAL FORM LINER FINISH ON -L- FROM 352+29 LT TO 368+35 LT

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------------|-----------|--------------|
| N.C. | A-0009CB | 1 | 49 |

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

CG2 EXPLORATION

BRECCIA

N. MCLAREN

D. GOODNIGHT

C. PIERCY

GEL SOLUTIONS

FALCON ENG.

INVESTIGATED BY CG2

DRAWN BY M. BREWER, P.E.

CHECKED BY R. KRAL, P.E.

SUBMITTED BY M. BREWER, P.E.

DATE MAY 2022

Prepared in the Office of:

CG2 | CAROLINAS
 GEOTECHNICAL
 GROUP

2400 CROWNPOINT EXECUTIVE DRIVE
 SUITE 800
 CHARLOTTE, NC 28227
 (980) 339-8684



DocuSigned by:

D. Matthew Brewer 6/7/2022

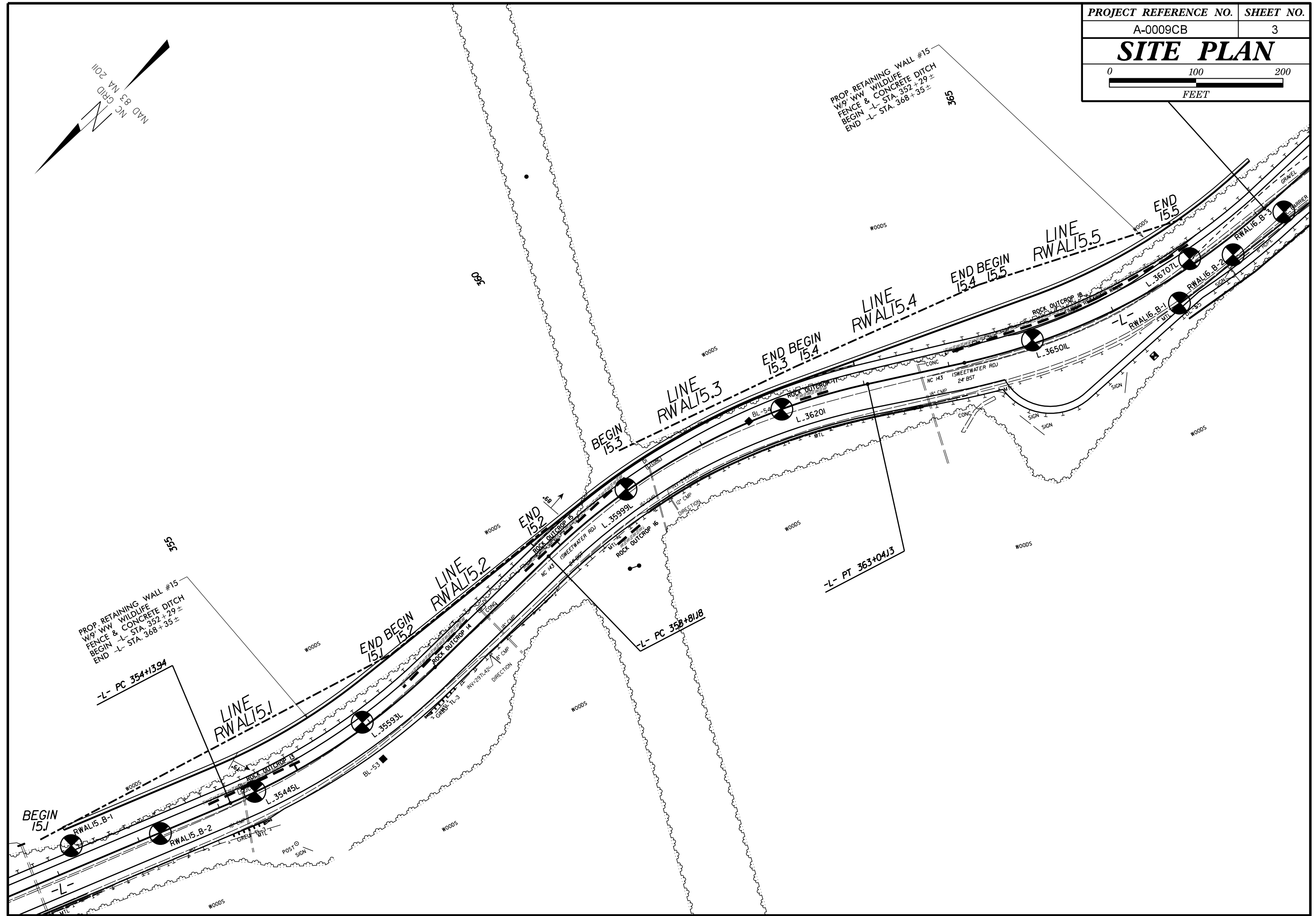
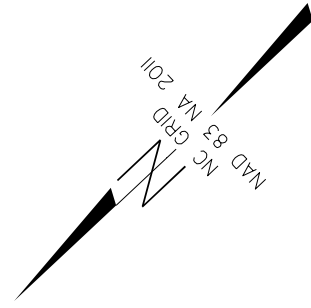
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SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with 4 main columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. It contains detailed technical specifications, legends, and definitions for geotechnical engineering.



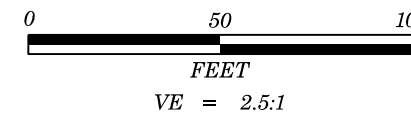


NOTE:
SOIL, WEATHERED ROCK, AND CRYSTALLINE ROCK
LINES ARE BASED ON AN INTERPRETATION OF
BORE HOLE AND SEISMIC REFRACTION DATA AND
SHALL BE CONSIDERED AS APPROXIMATE.

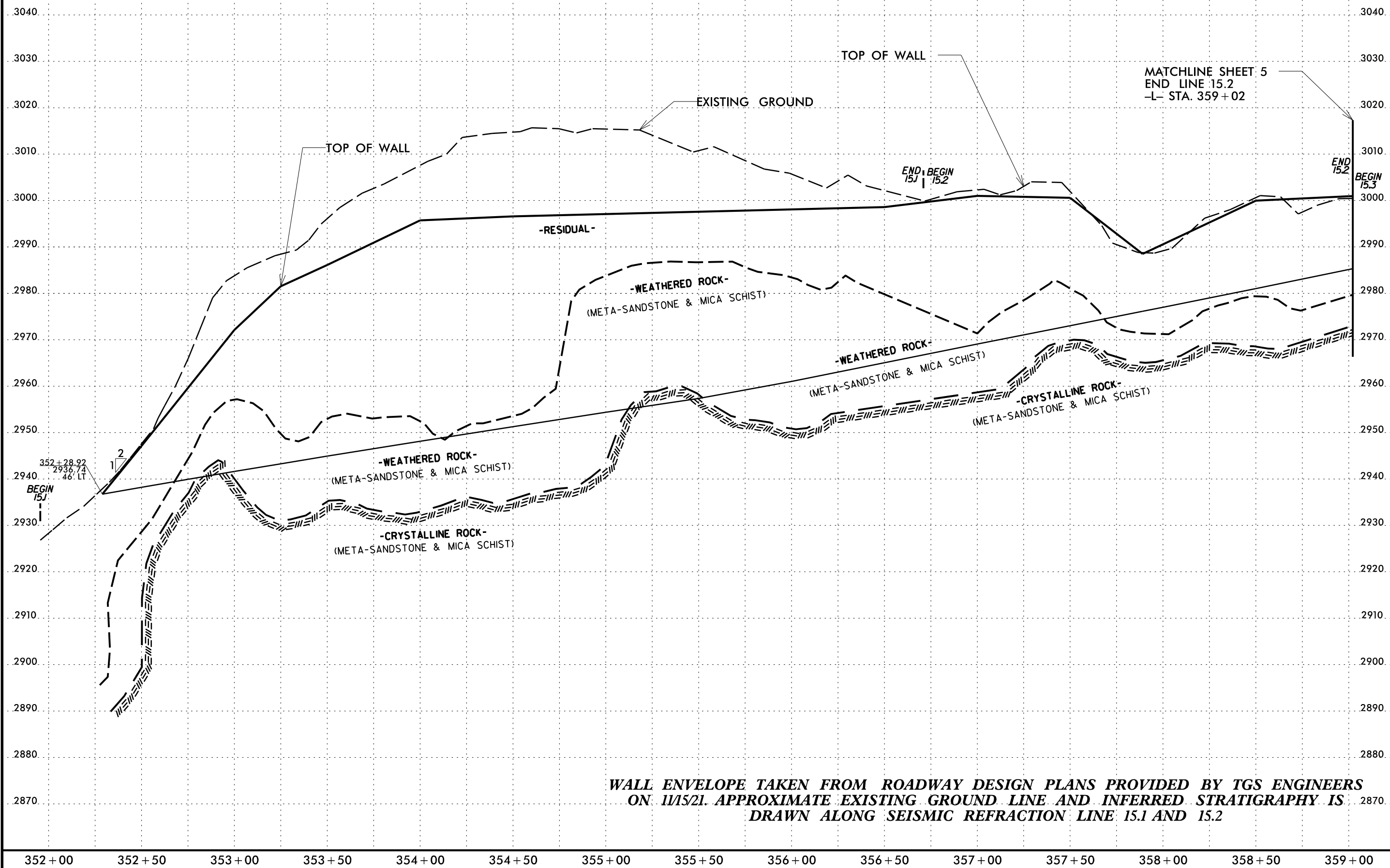
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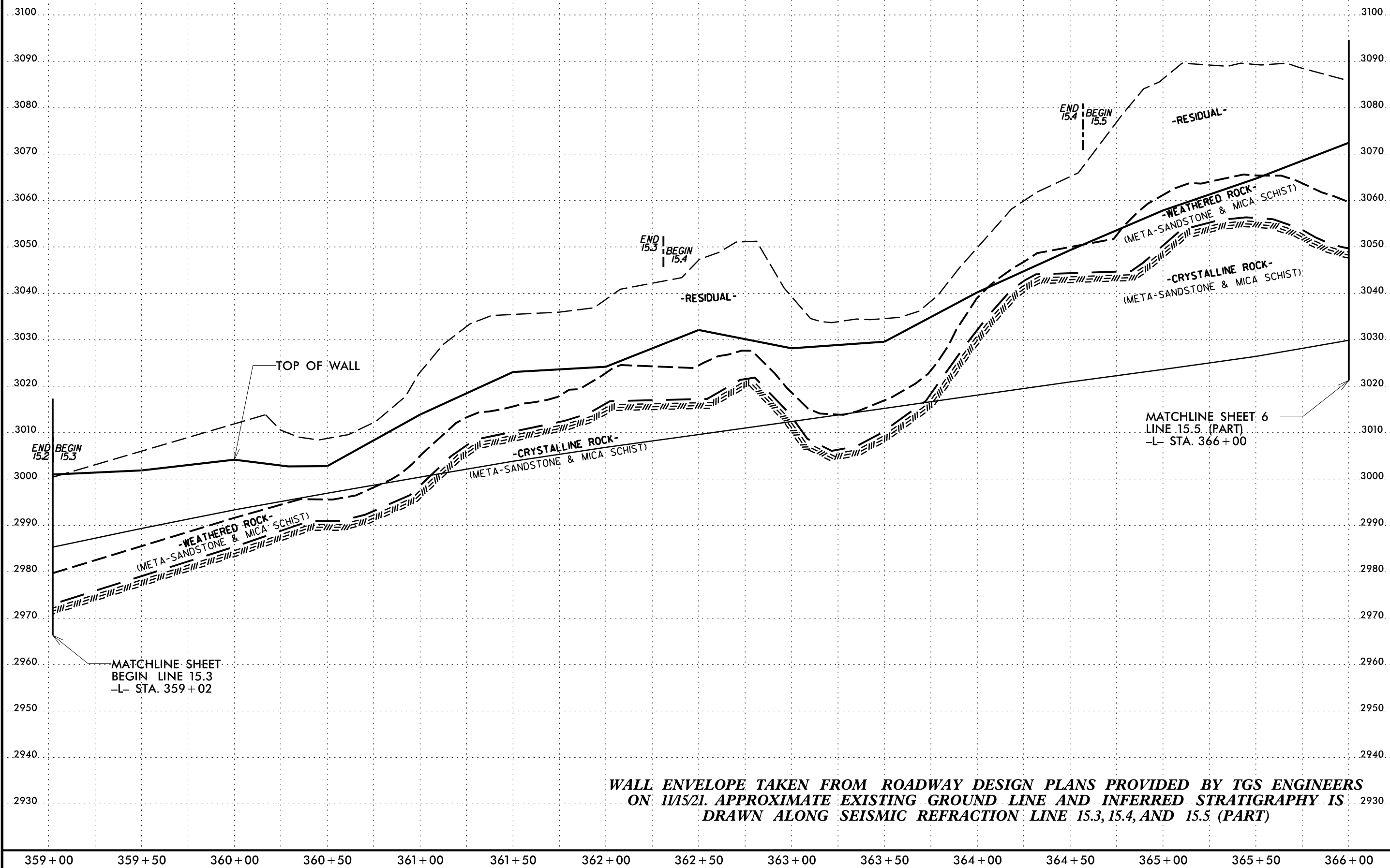
| PROJECT REFERENCE NO. | SHEET NO. |
|---------------------------------------|-----------|
| A-0009CB | 4 |
| RETAINING WALL #15 | |
| SEISMIC REFRACTION LINE 15.1 AND 15.2 | |
| PROJECTED ALONG WALL ENVELOPE | |



WALL ENVELOPE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS
ON 11/15/21. APPROXIMATE EXISTING GROUND LINE AND INFERRED STRATIGRAPHY IS
DRAWN ALONG SEISMIC REFRACTION LINE 15.1 AND 15.2



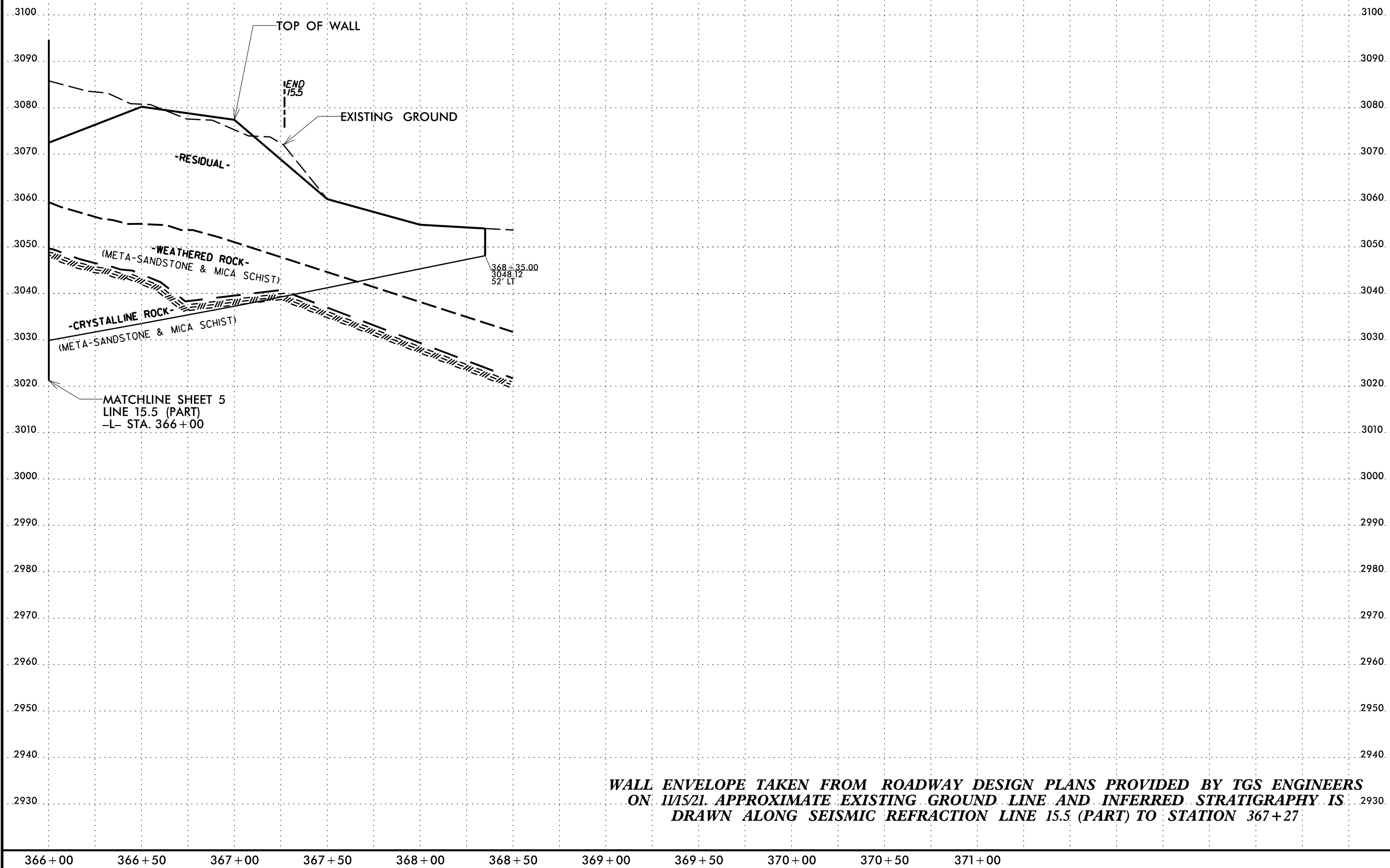
NOTE:
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WALL ENVELOPE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS
ON 11/15/21. APPROXIMATE EXISTING GROUND LINE AND INFERRED STRATIGRAPHY IS
DRAWN ALONG SEISMIC REFRACTION LINE 15.3, 15.4, AND 15.5 (PART)



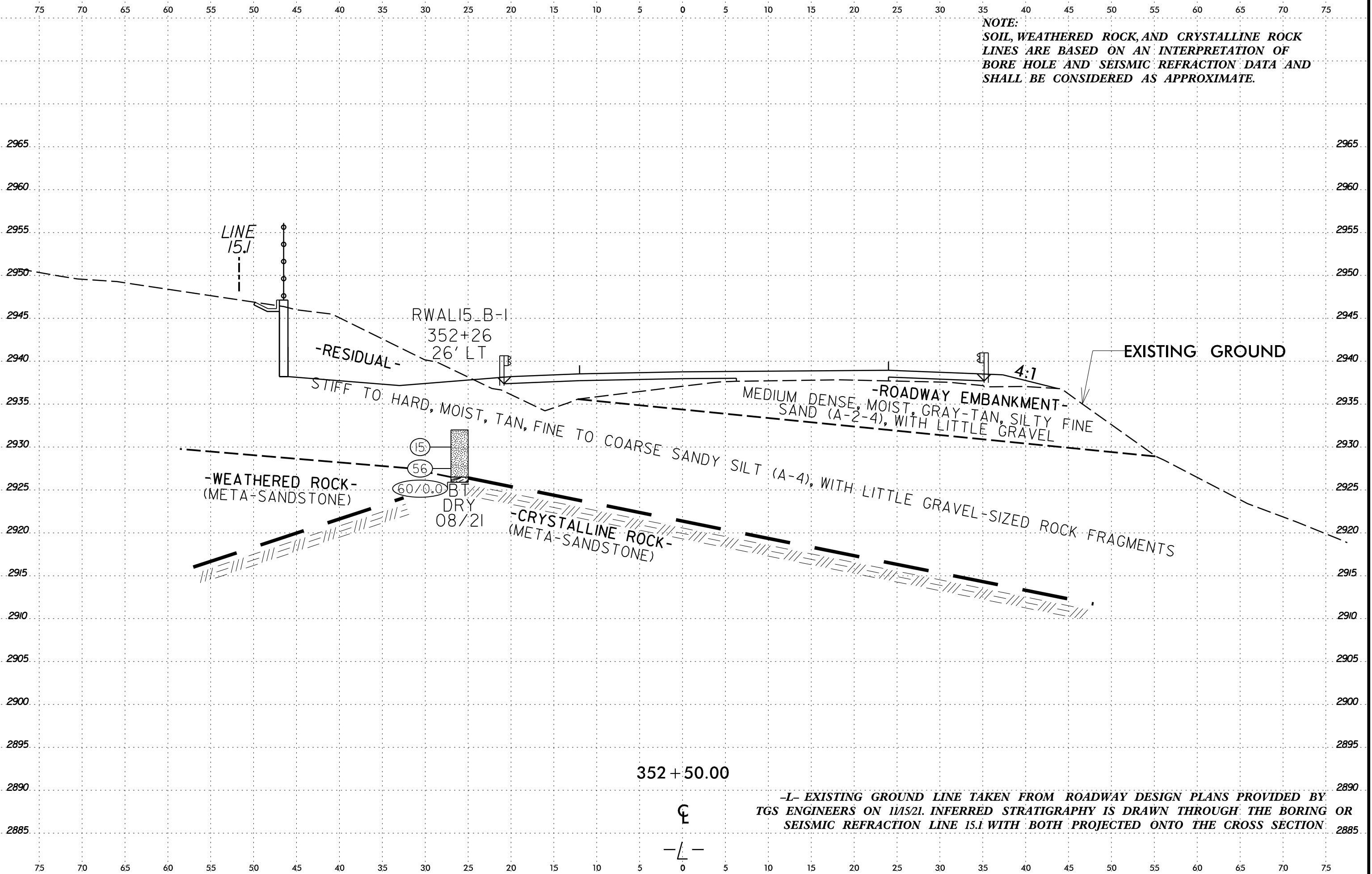
NOTE:
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WALL ENVELOPE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS
 ON 11/15/21. APPROXIMATE EXISTING GROUND LINE AND INFERRED STRATIGRAPHY IS
 DRAWN ALONG SEISMIC REFRACTION LINE 15.5 (PART) TO STATION 367+27

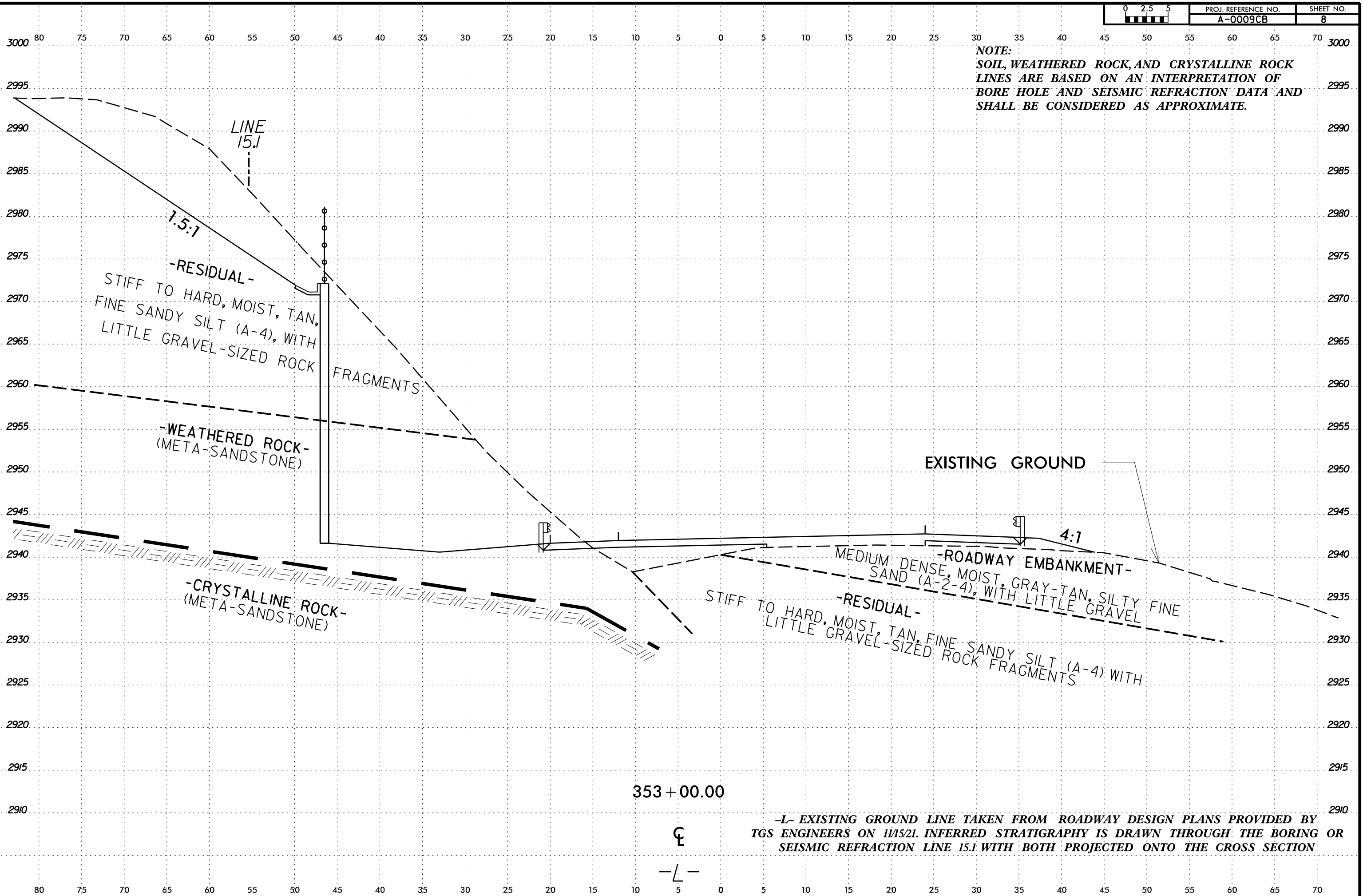
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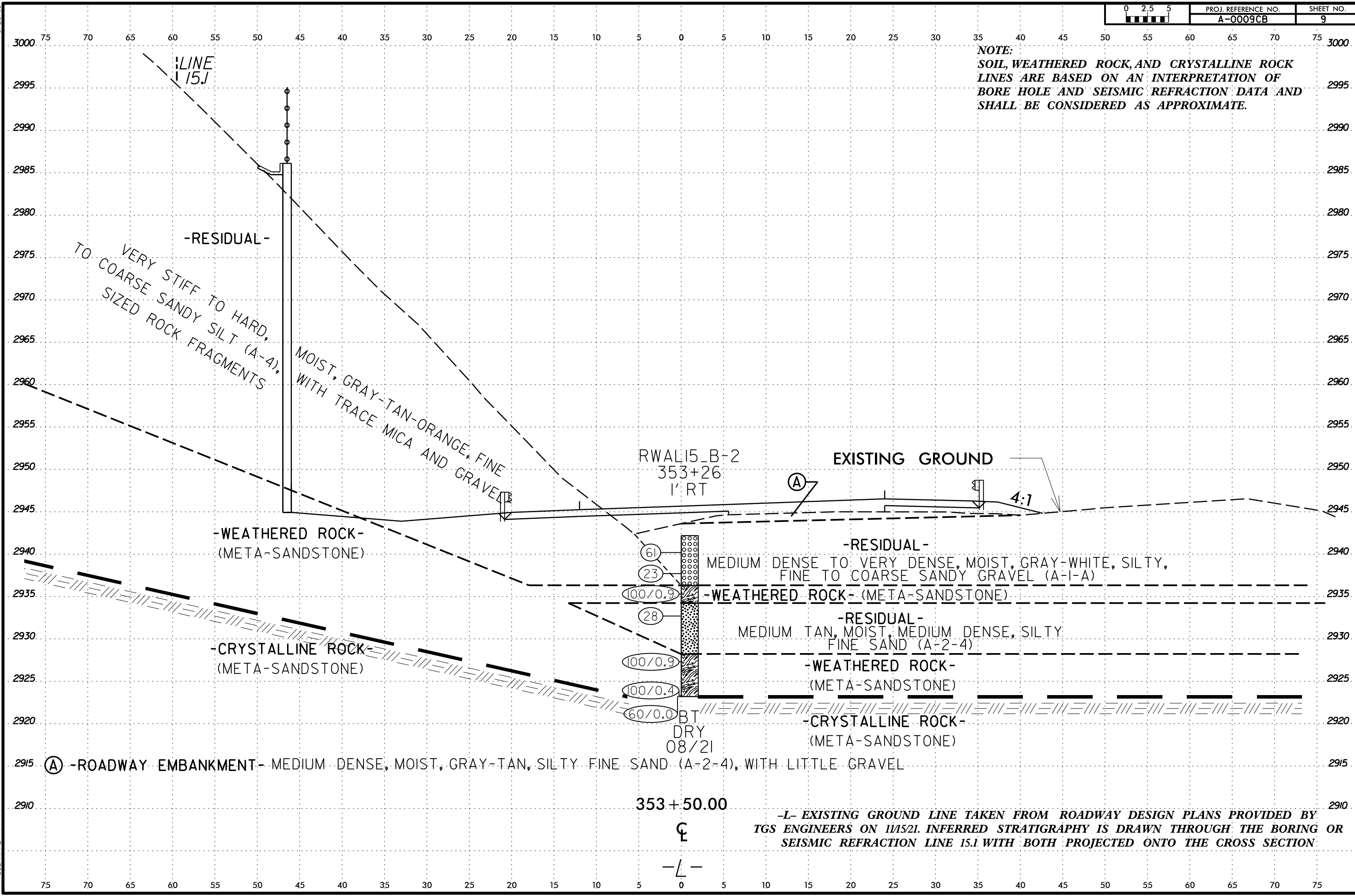


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING OR
SEISMIC REFRACTION LINE 15.1 WITH BOTH PROJECTED ONTO THE CROSS SECTION.

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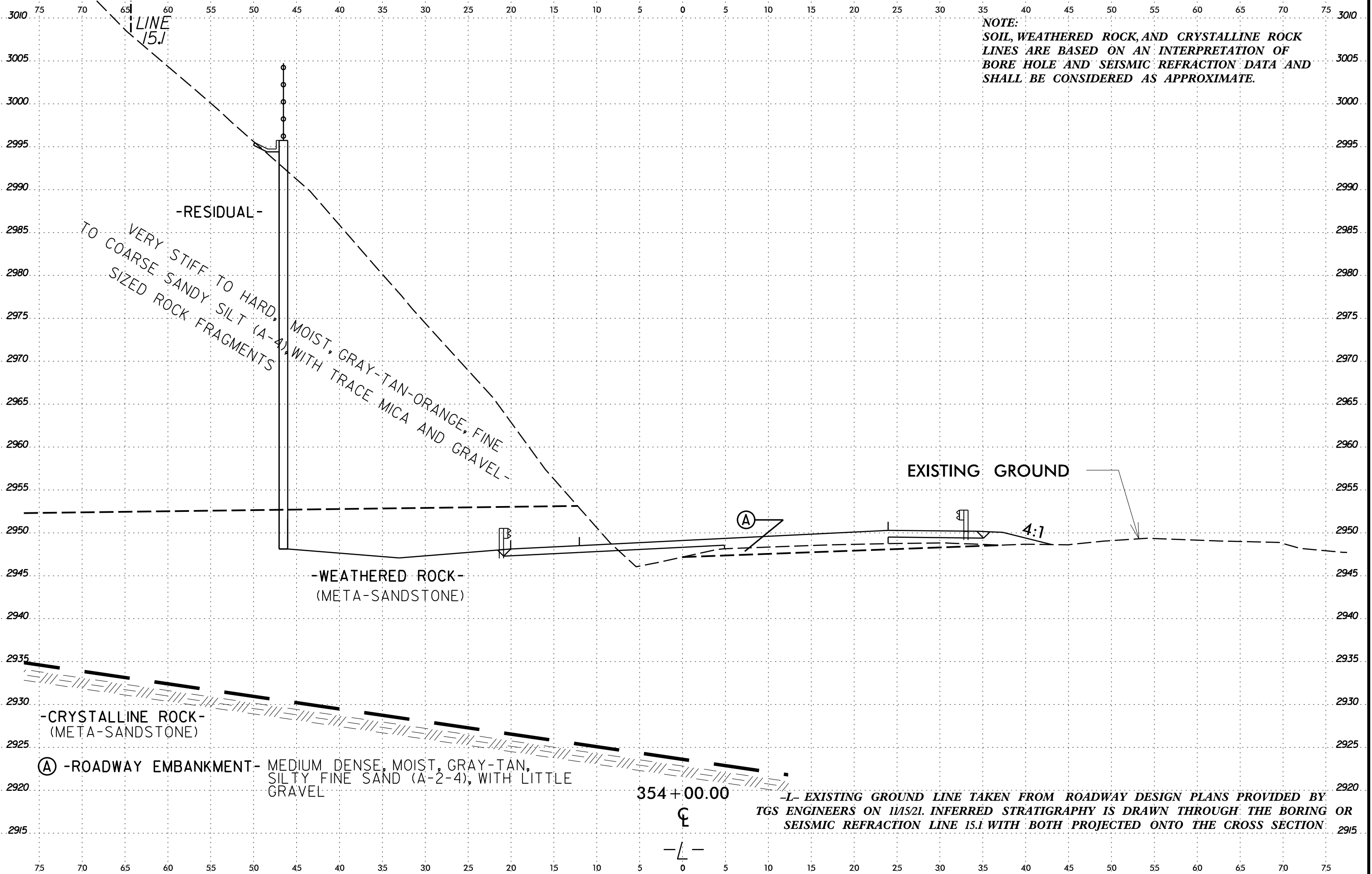
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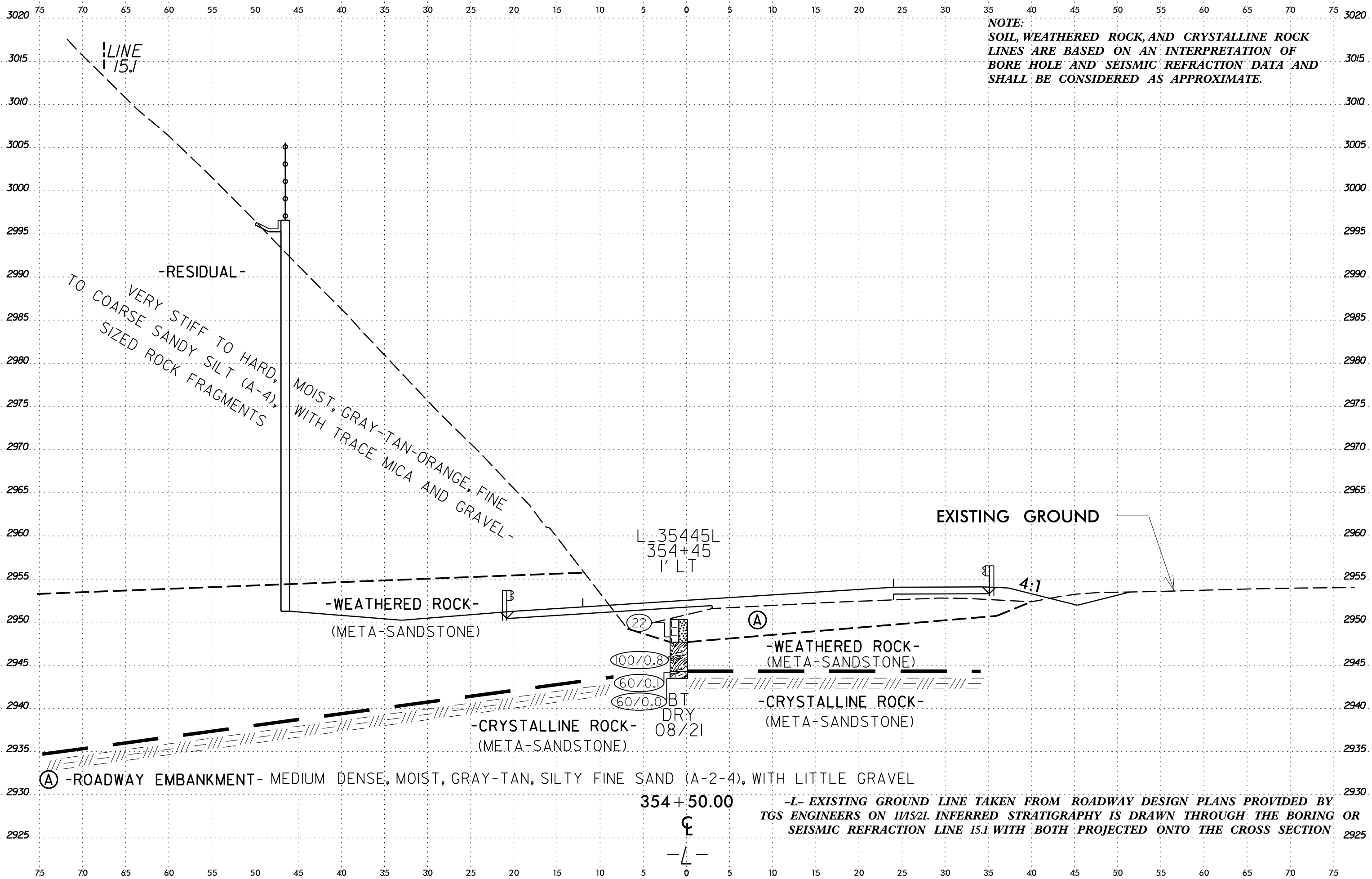
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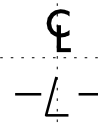
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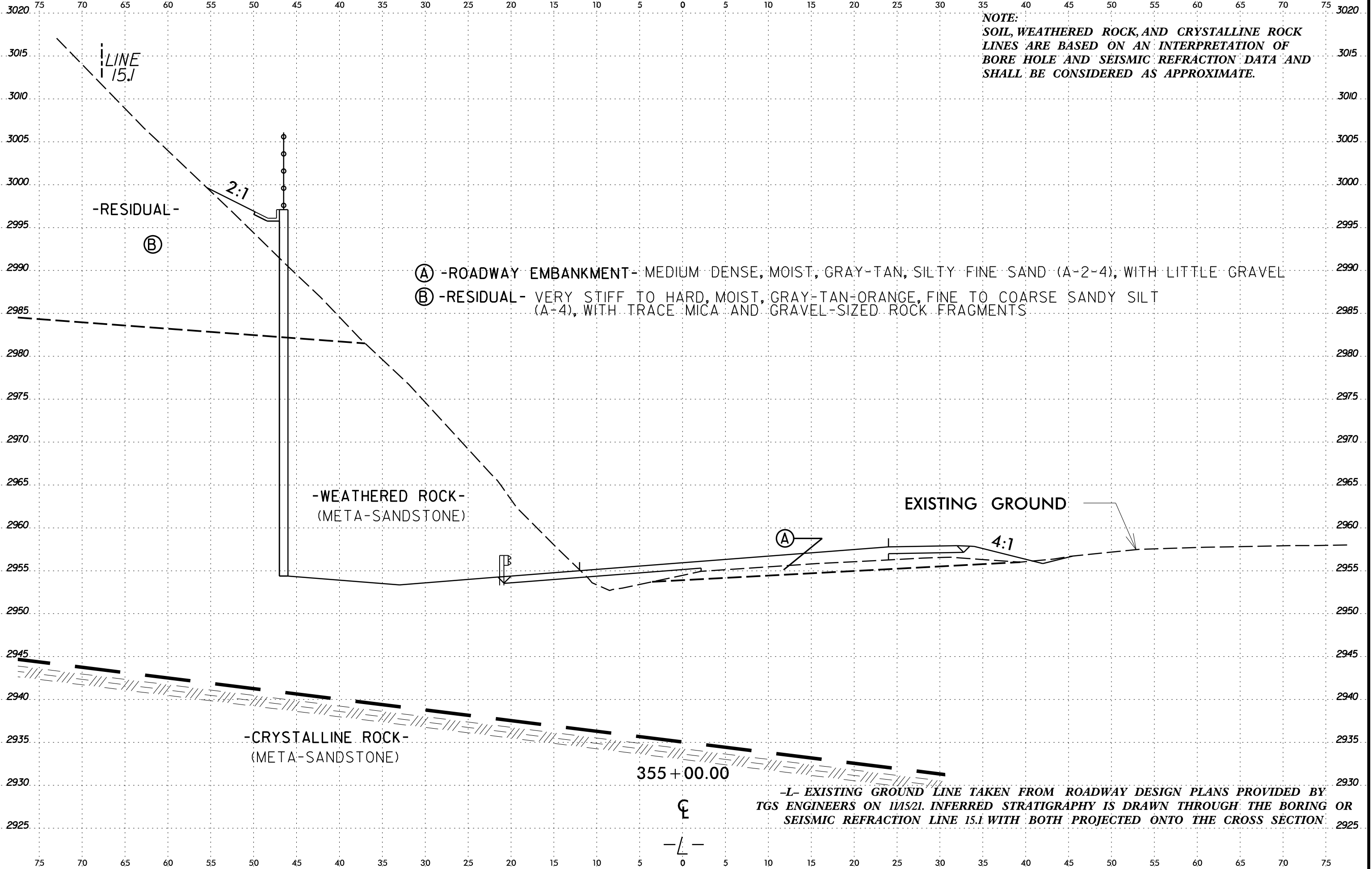


354 + 50.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
TGS ENGINEERS ON 11/5/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING OR
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- A -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
- B -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

-RESIDUAL-
B

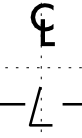
-WEATHERED ROCK-
 (META-SANDSTONE)

-CRYSTALLINE ROCK-
 (META-SANDSTONE)

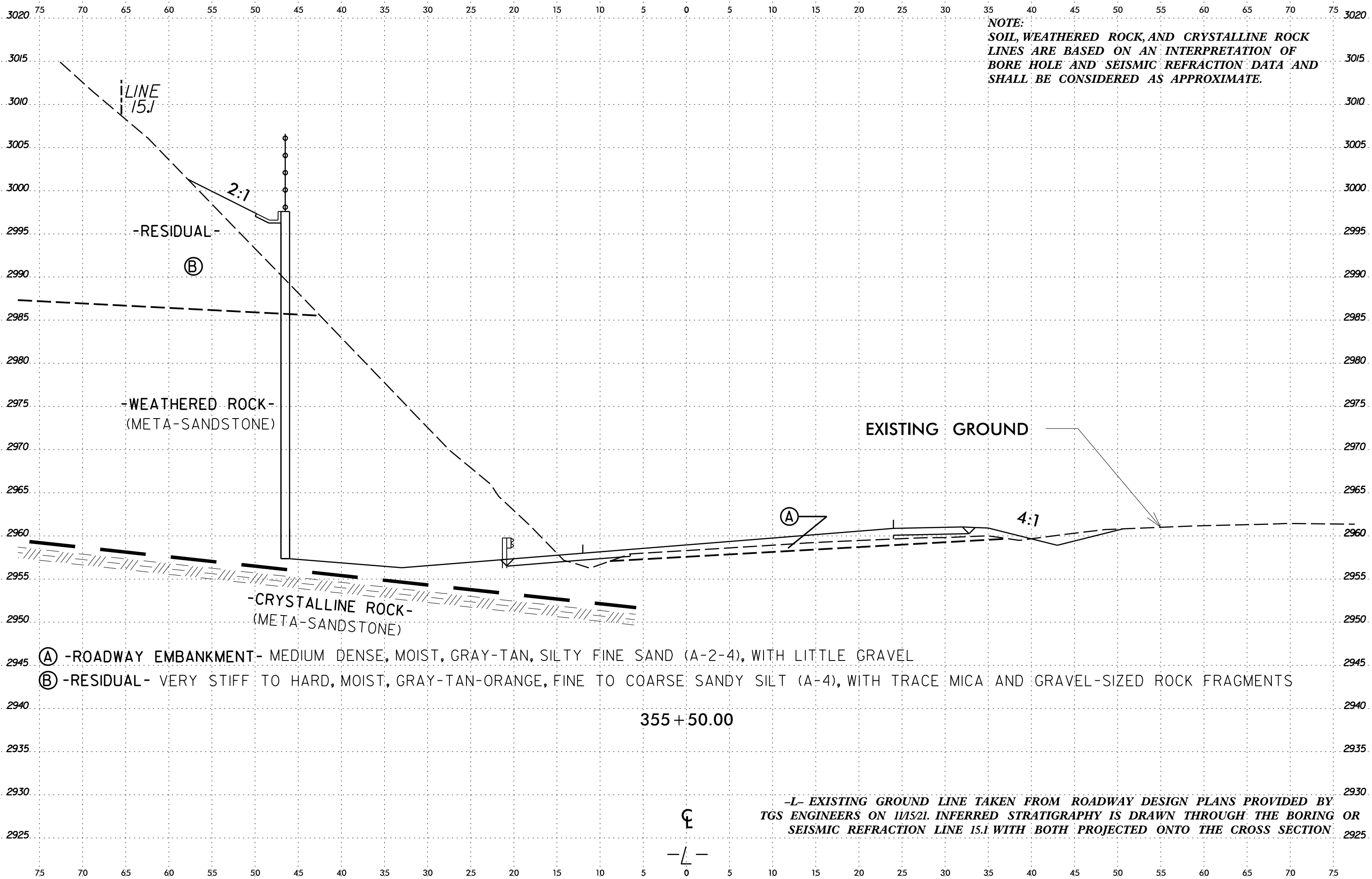
EXISTING GROUND

355 + 00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
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NOTE:
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LINE 15.1
2:1
-RESIDUAL-
(B)

-WEATHERED ROCK-
(META-SANDSTONE)

-CRYSTALLINE ROCK-
(META-SANDSTONE)

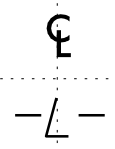
EXISTING GROUND

4:1

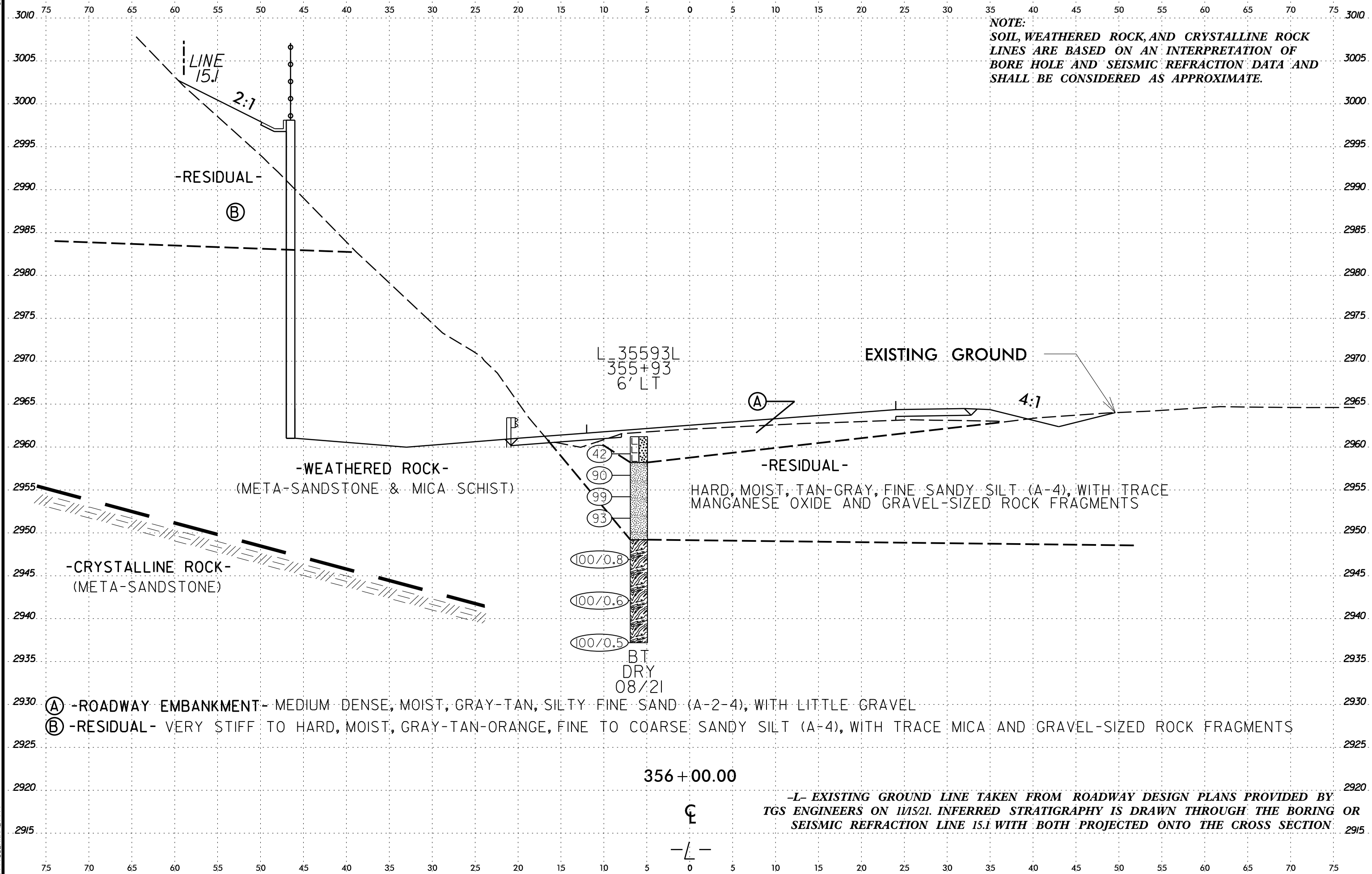
- (A) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
- (B) -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

355 + 50.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
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L = 355+93L
 355+93
 6' LT

EXISTING GROUND

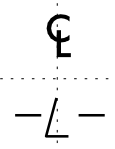
- 42
- 90
- 99
- 93
- 100/0.8
- 100/0.6
- 100/0.5

BT
 DRY
 08/21

- (A) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
- (B) -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

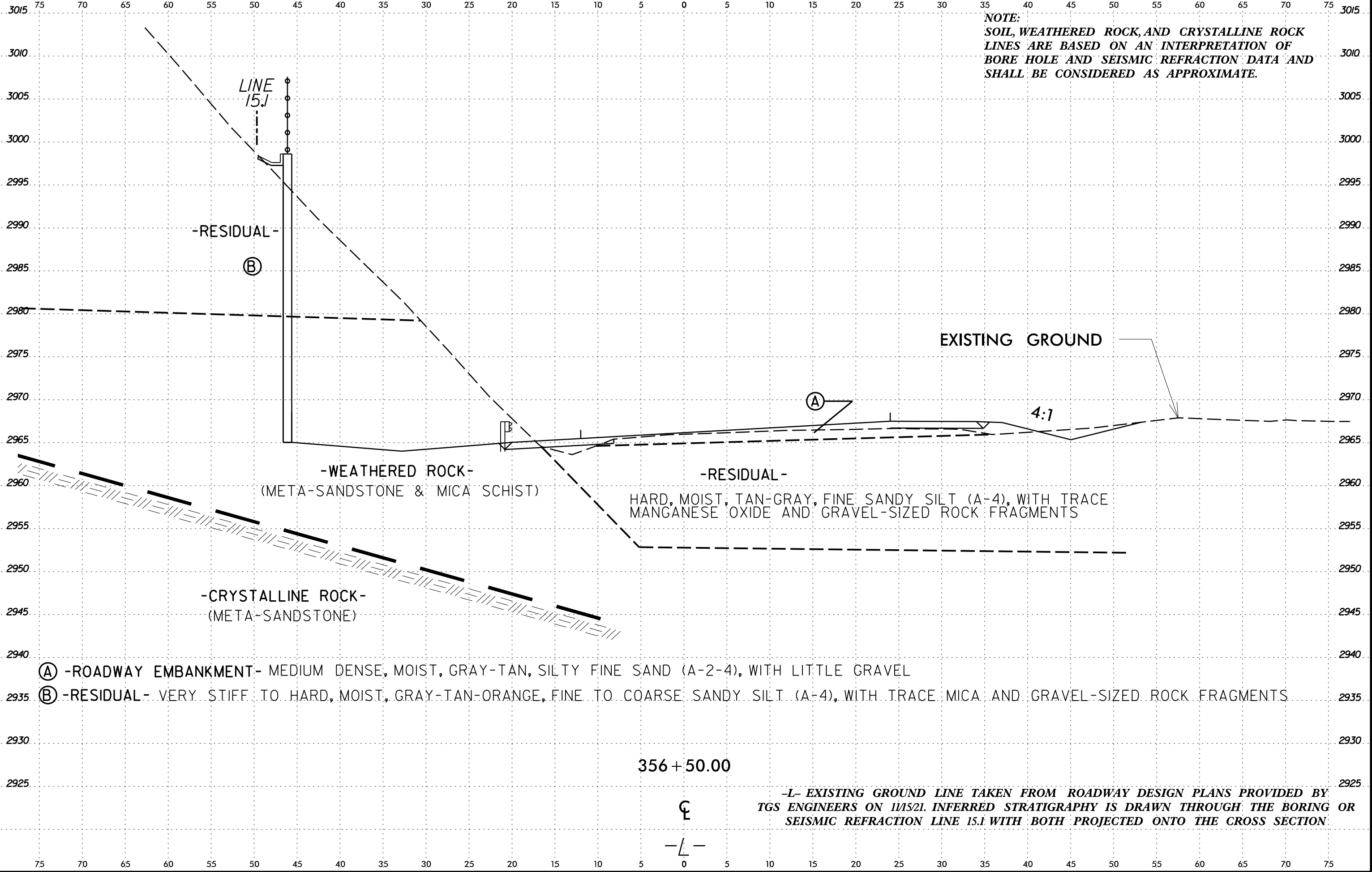
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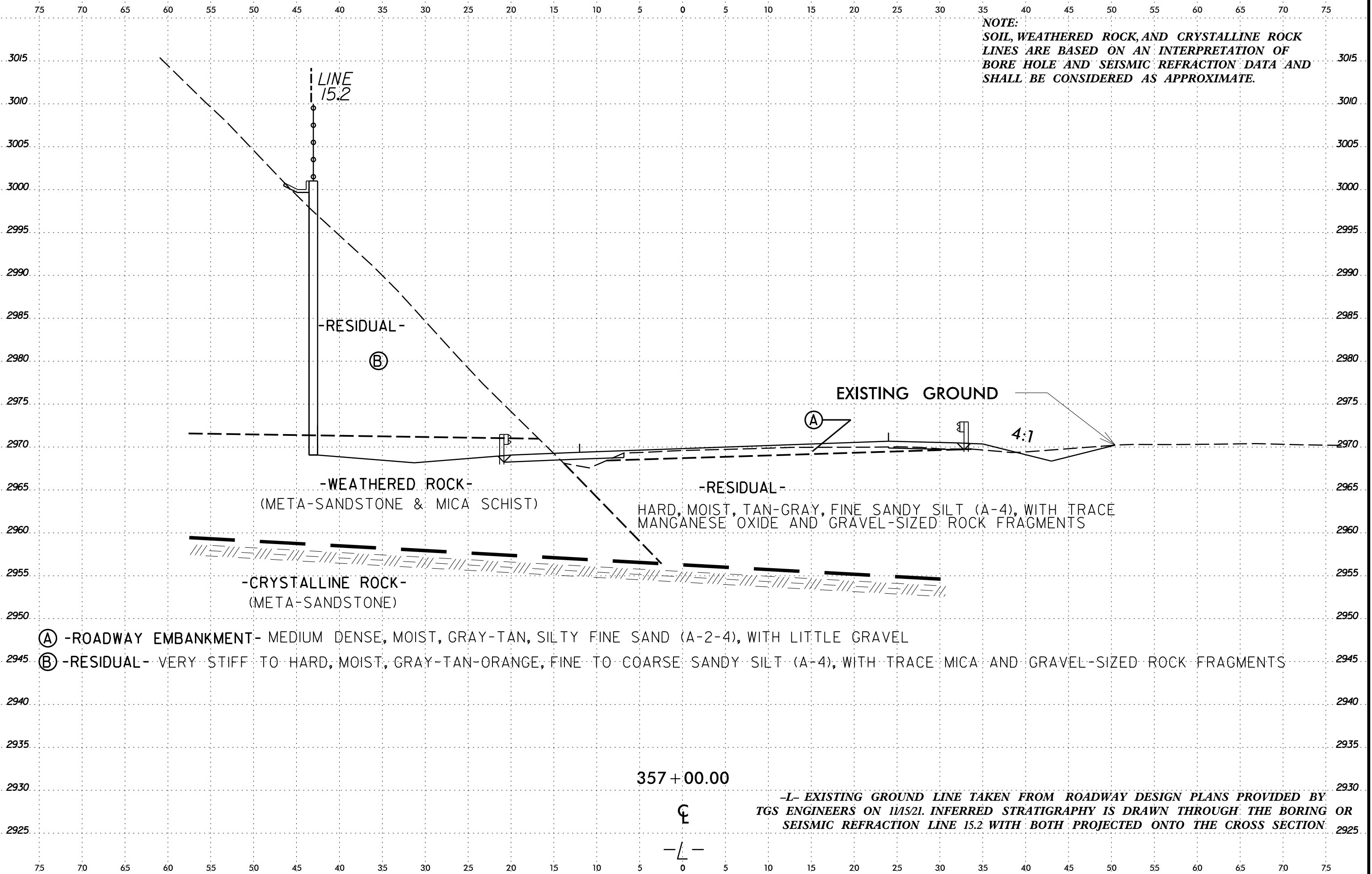


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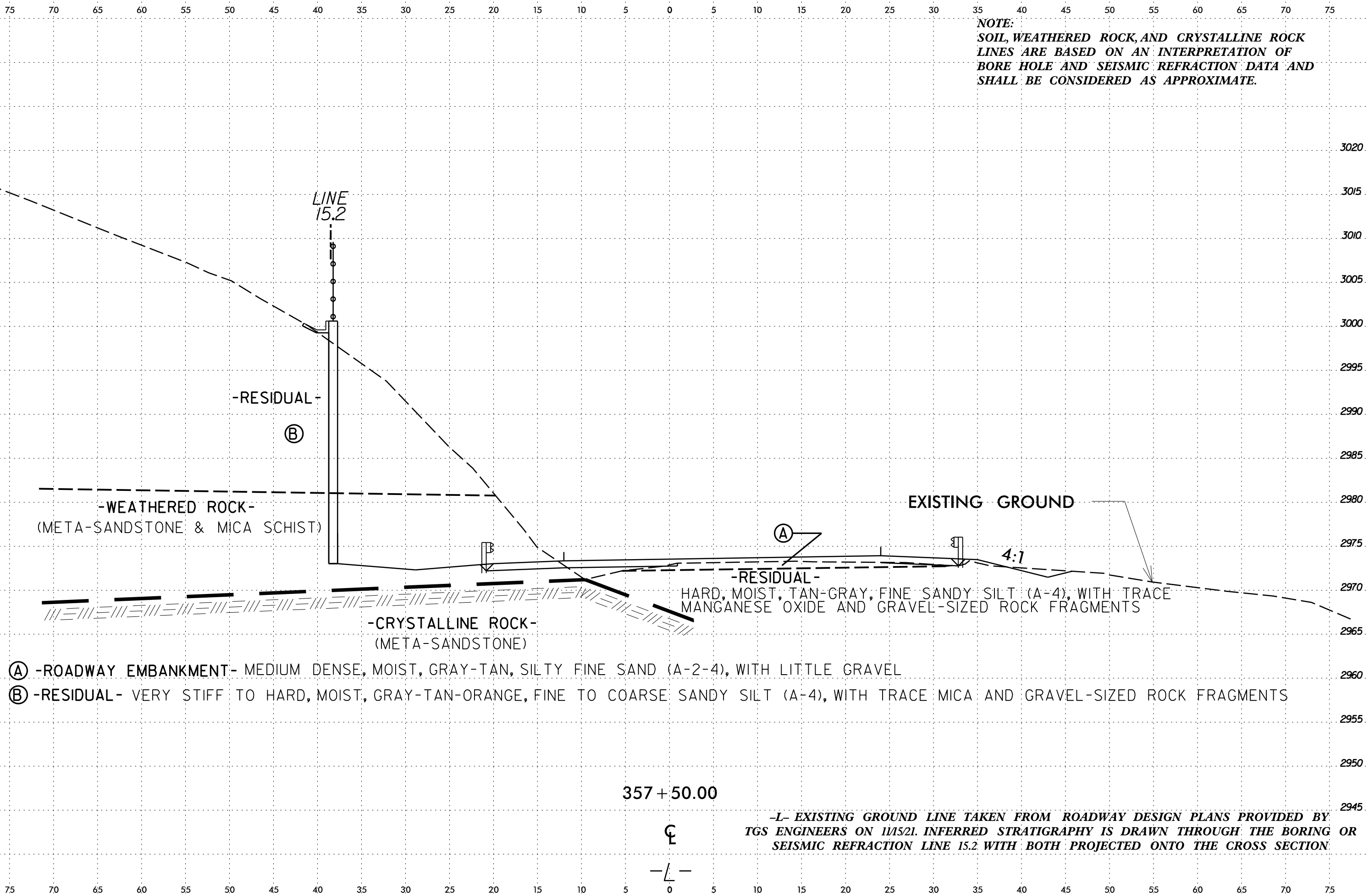
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| | PROJ. REFERENCE NO. A-0009CB | SHEET NO. 15 |
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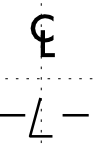
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- (A) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
- (B) -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

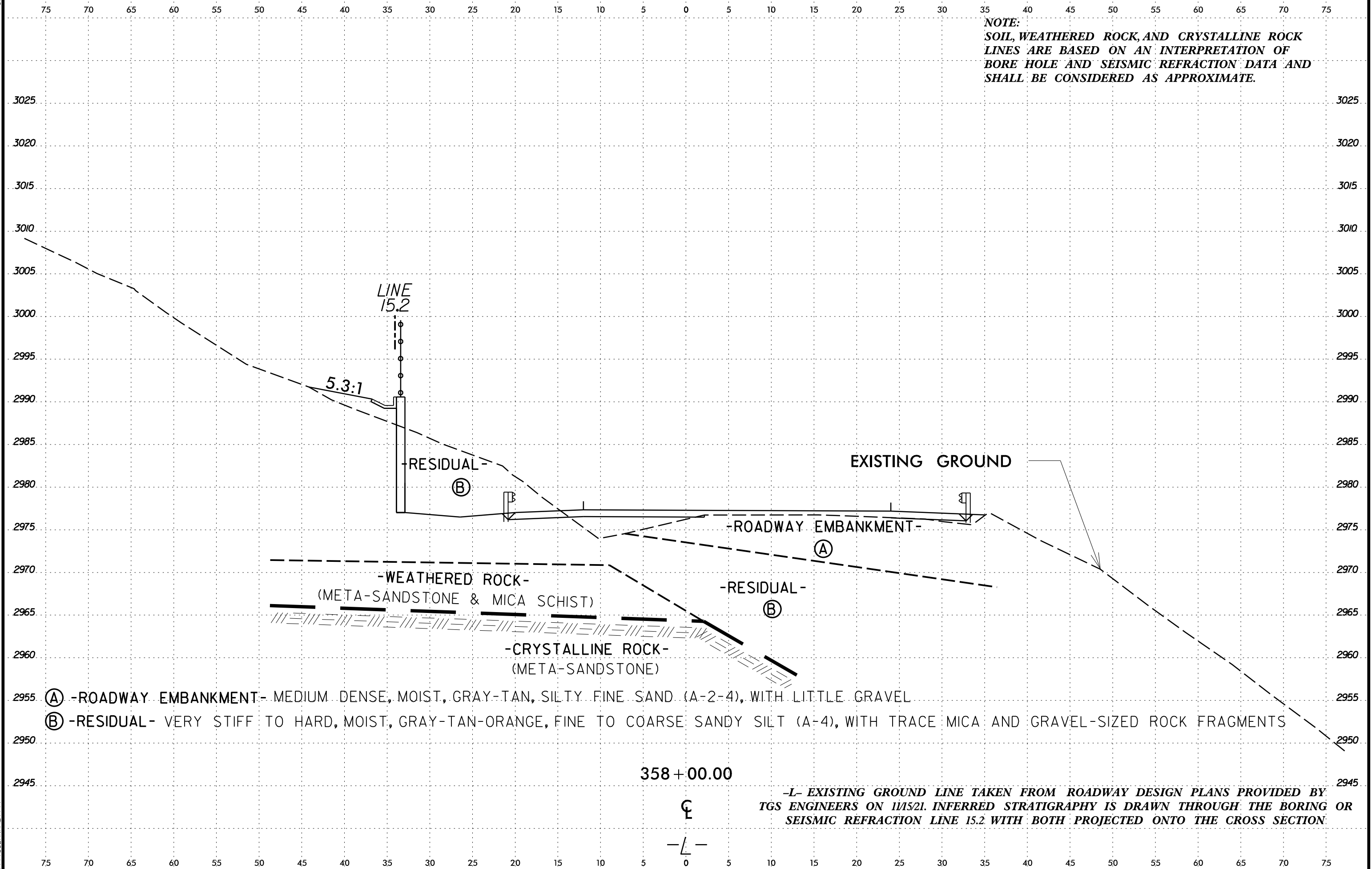
357 + 50.00



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING OR SEISMIC REFRACTION LINE 15.2 WITH BOTH PROJECTED ONTO THE CROSS SECTION.

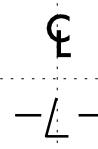
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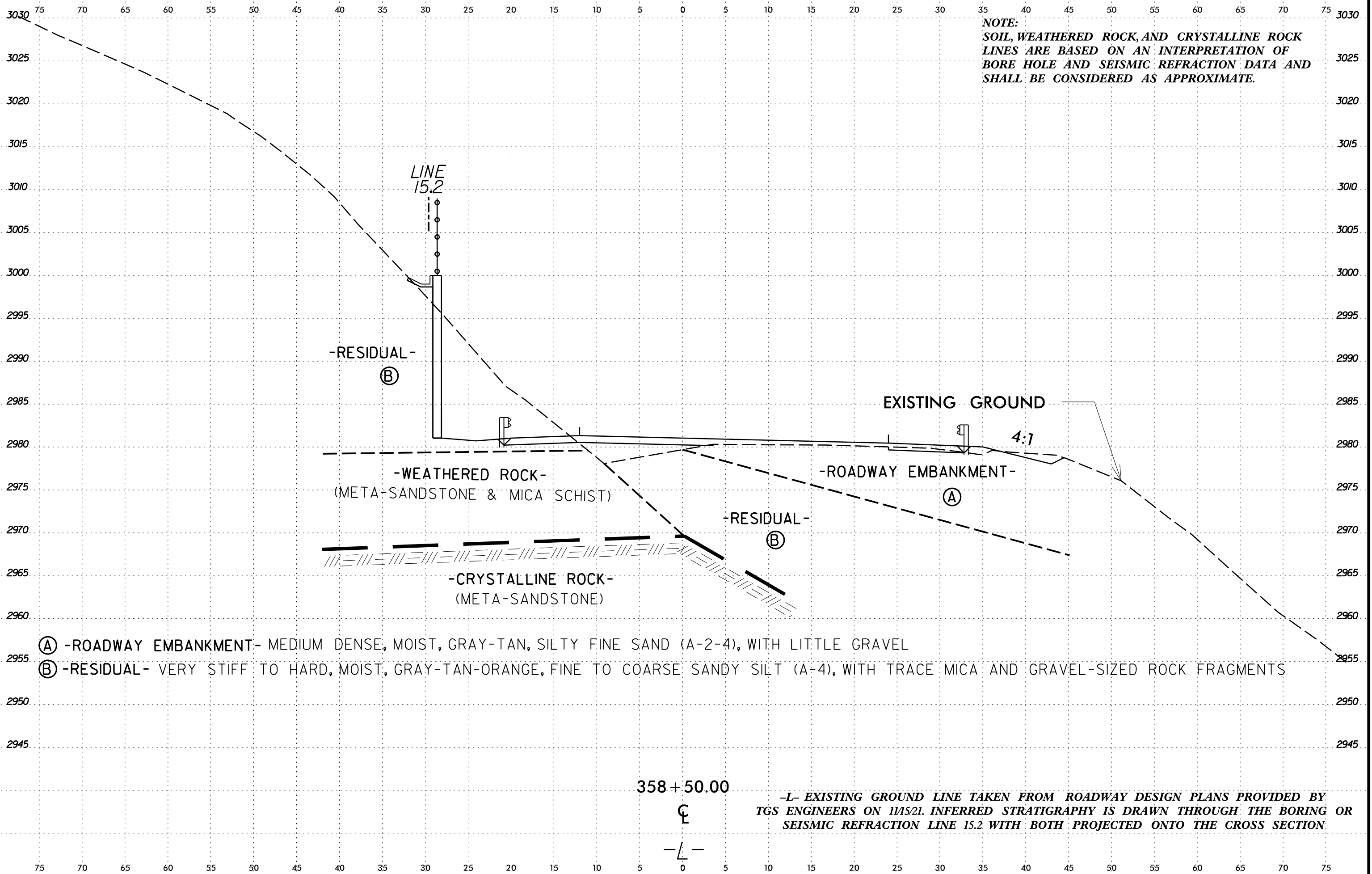


- (A) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
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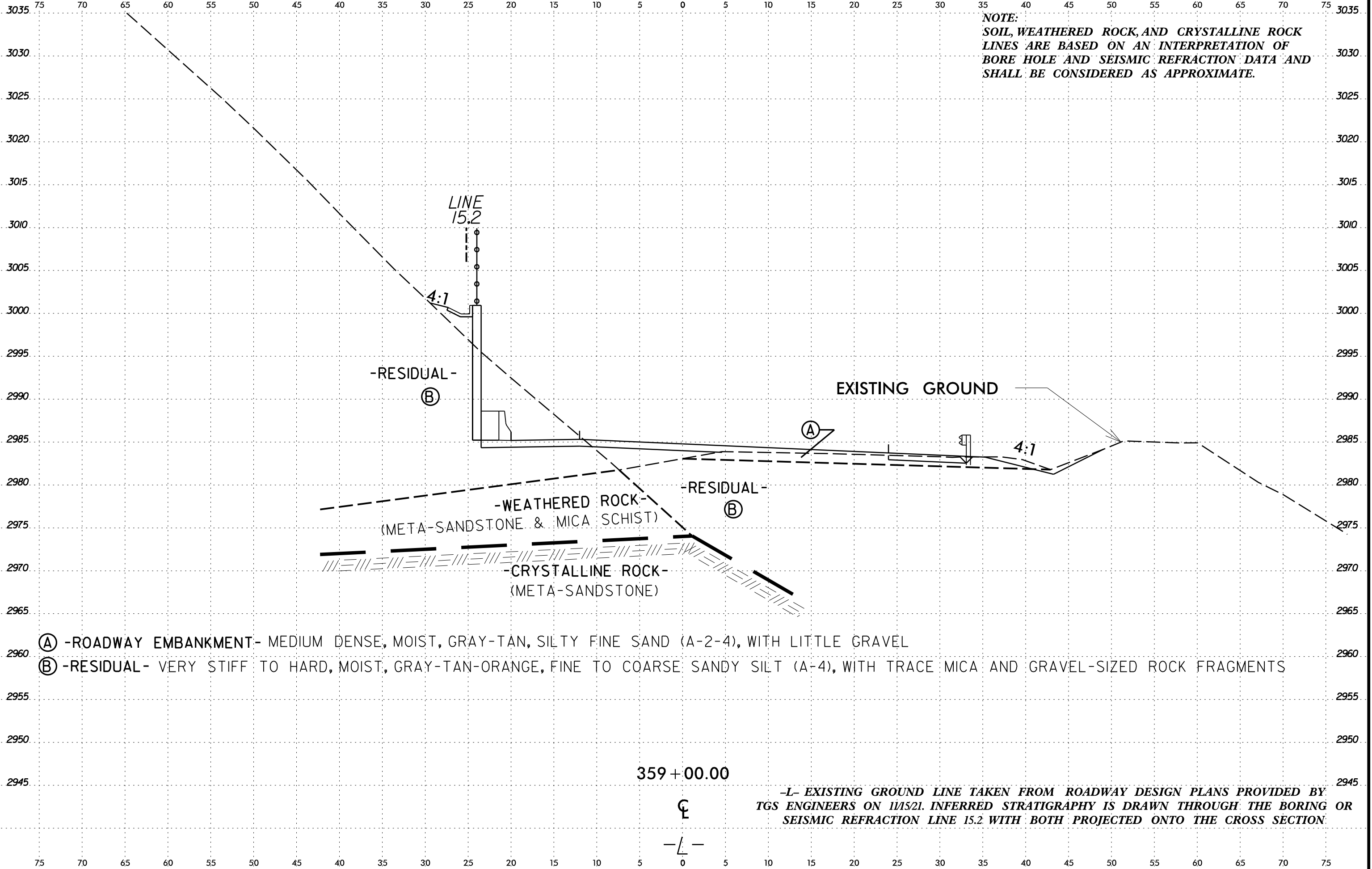


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358 + 50.00
CL
-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING OR SEISMIC REFRACTION LINE 15.2 WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16
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NOTE:
SOIL, WEATHERED ROCK, AND CRYSTALLINE ROCK
LINES ARE BASED ON AN INTERPRETATION OF
BORE HOLE AND SEISMIC REFRACTION DATA AND
SHALL BE CONSIDERED AS APPROXIMATE.

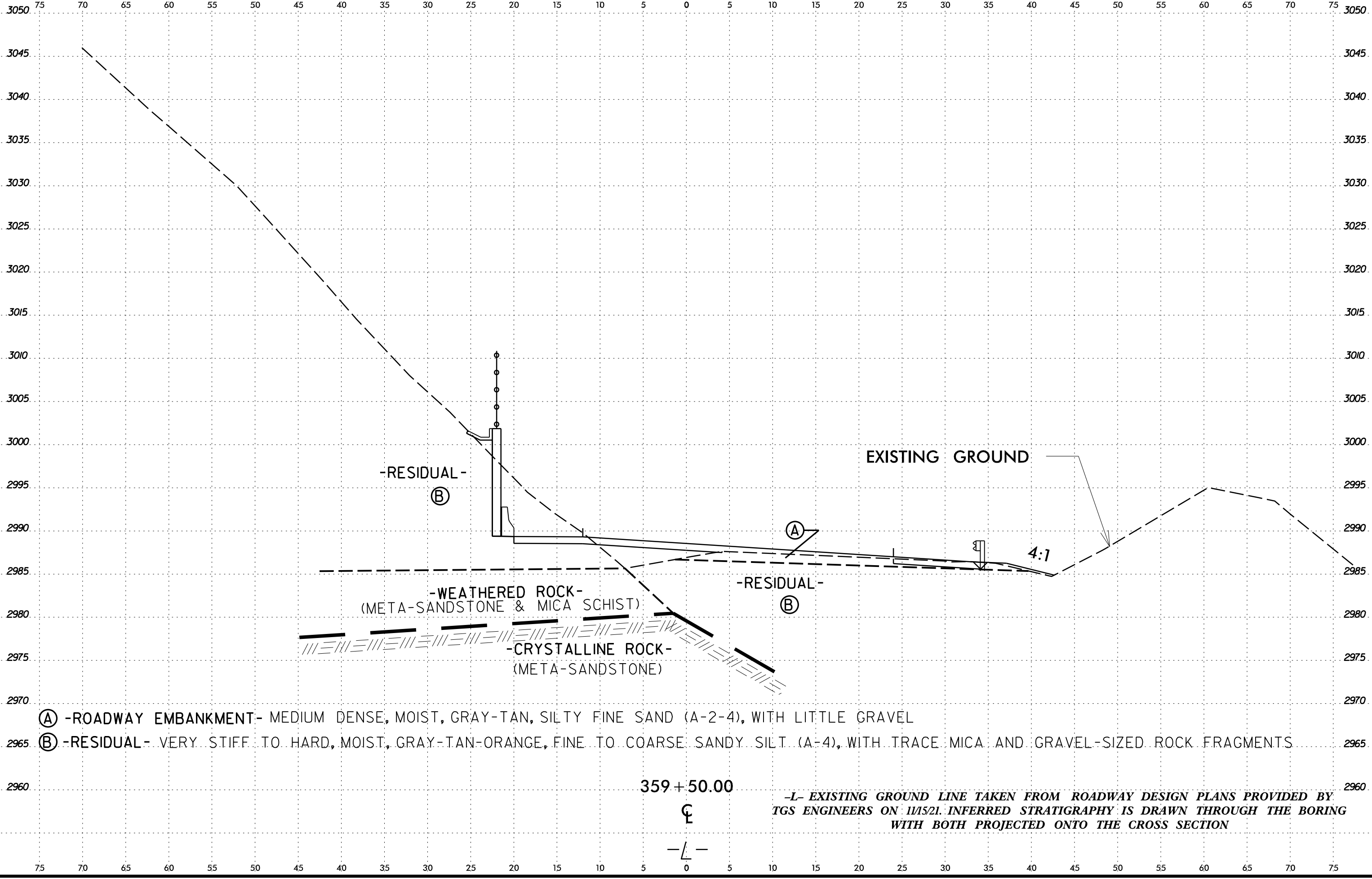
- Ⓐ -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
- Ⓑ -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

359 + 00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
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SEISMIC REFRACTION LINE 15.2 WITH BOTH PROJECTED ONTO THE CROSS SECTION.



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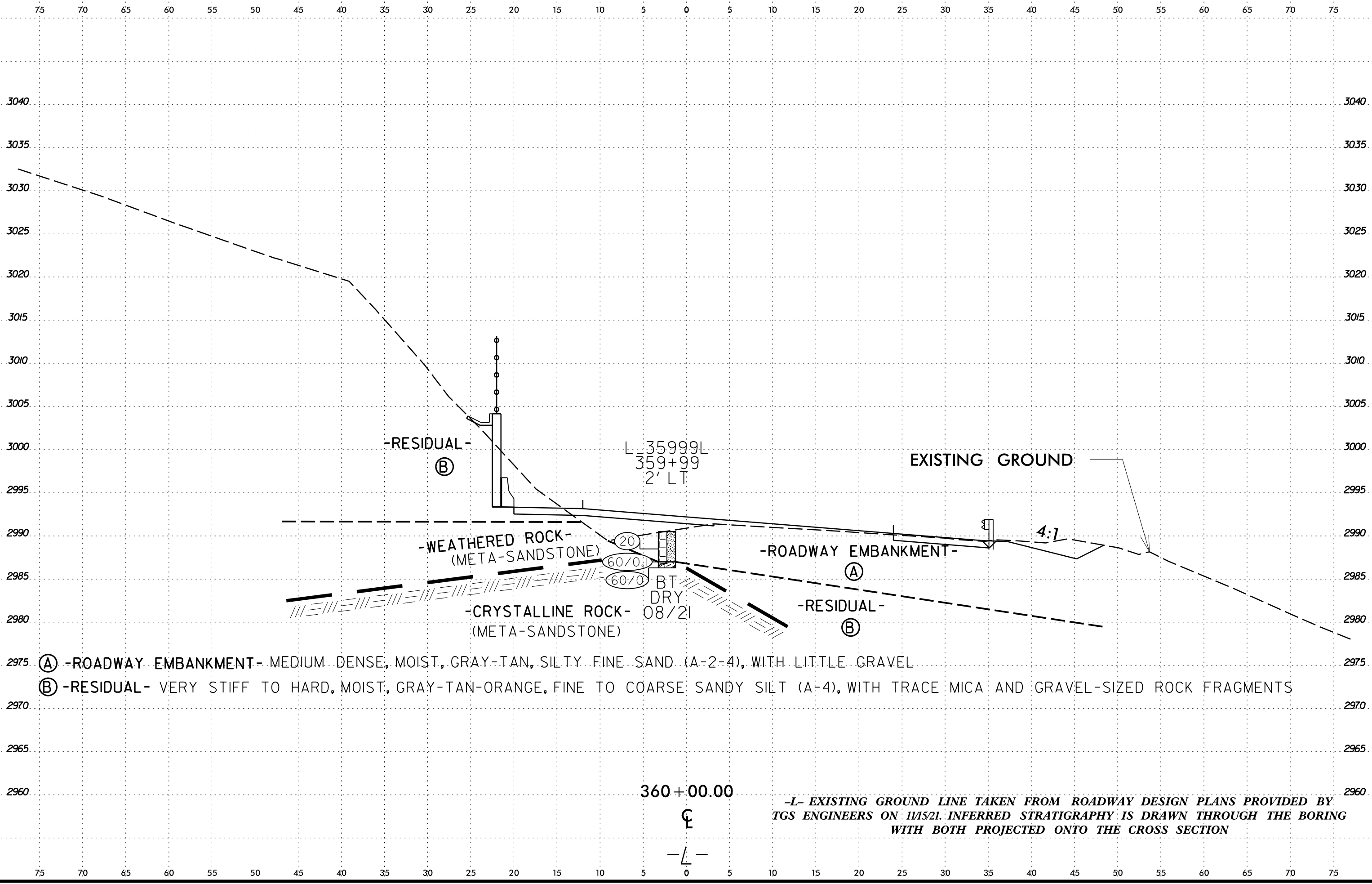
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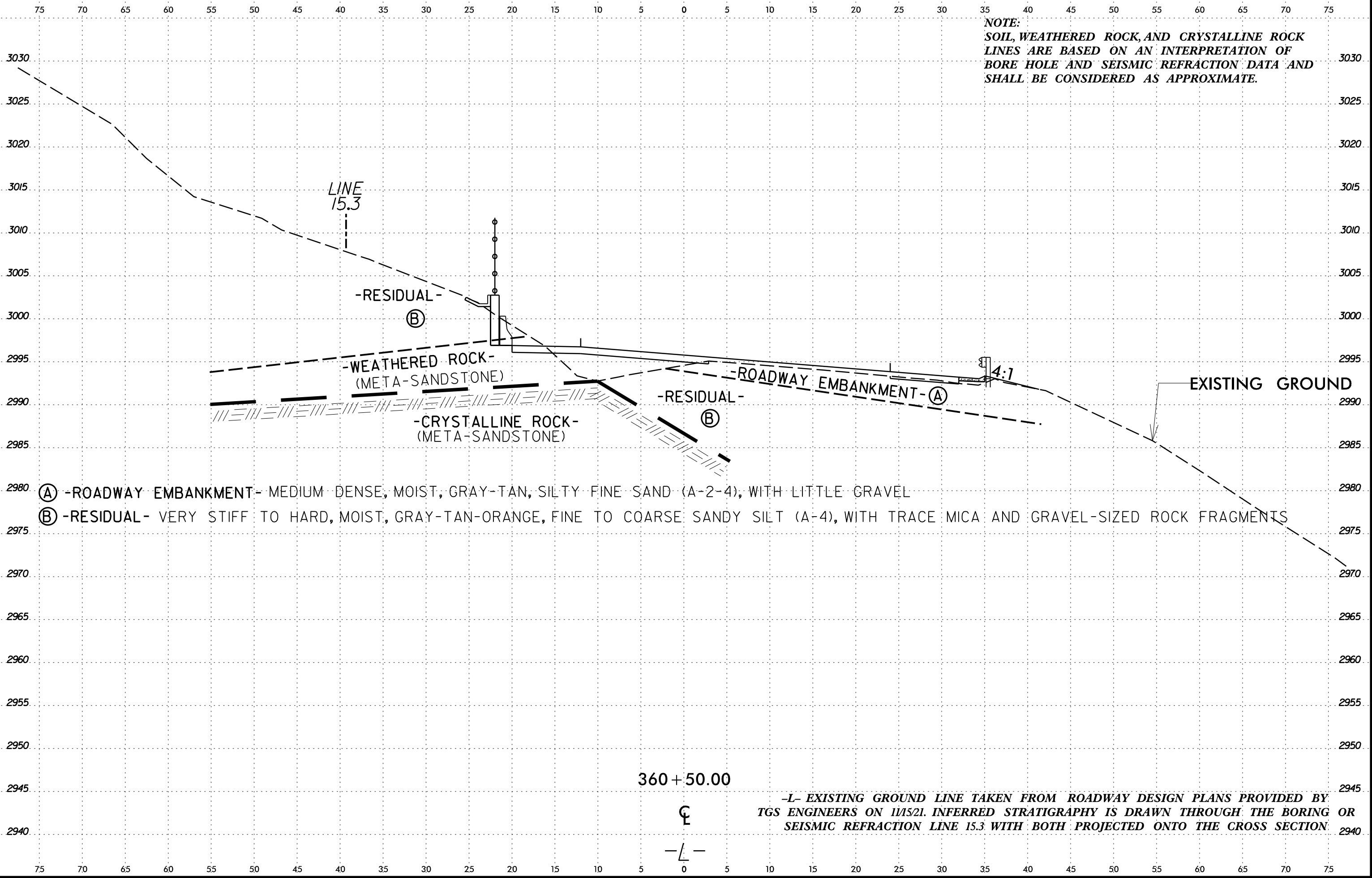
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LINE
15.3

-RESIDUAL-

(B)

-WEATHERED ROCK -
(META-SANDSTONE)

-CRYSTALLINE ROCK -
(META-SANDSTONE)

-RESIDUAL-

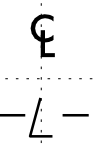
(B)

4:1

EXISTING GROUND

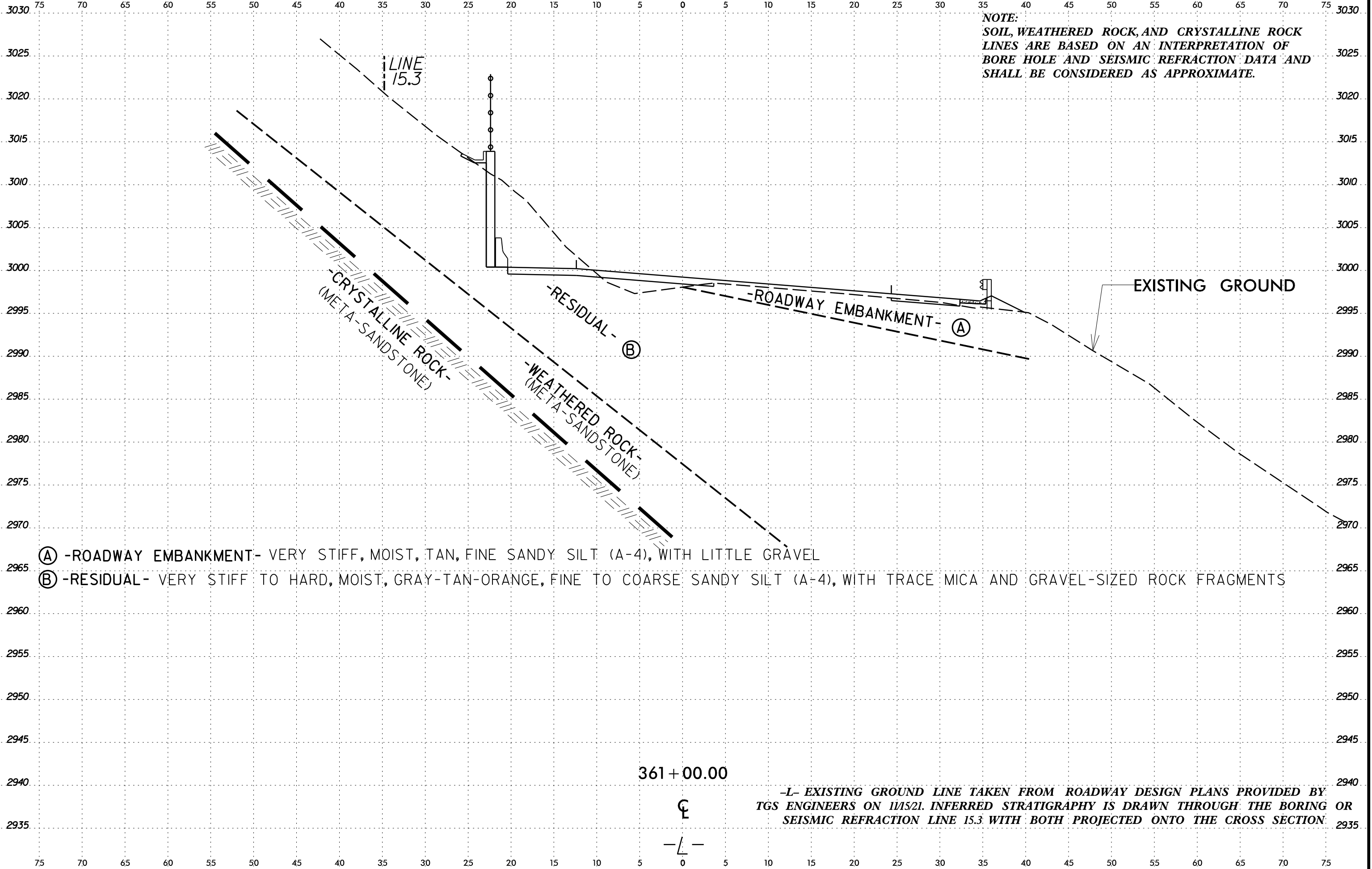
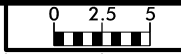
(A) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL
(B) -RESIDUAL- VERY STIFF TO HARD, MOIST, GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

360 + 50.00



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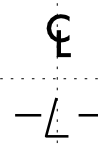
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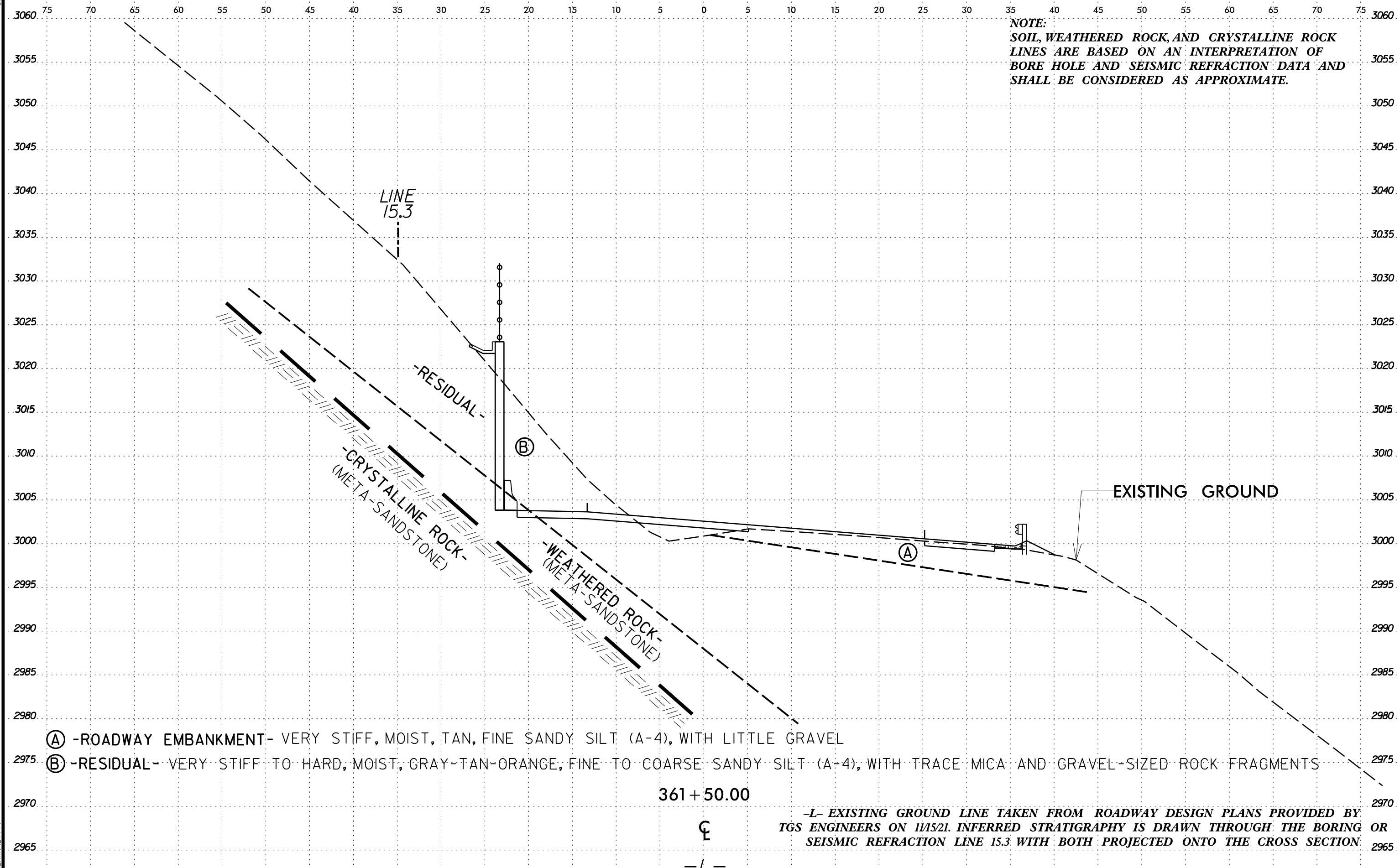
- (A) -ROADWAY EMBANKMENT- VERY STIFF, MOIST, TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL
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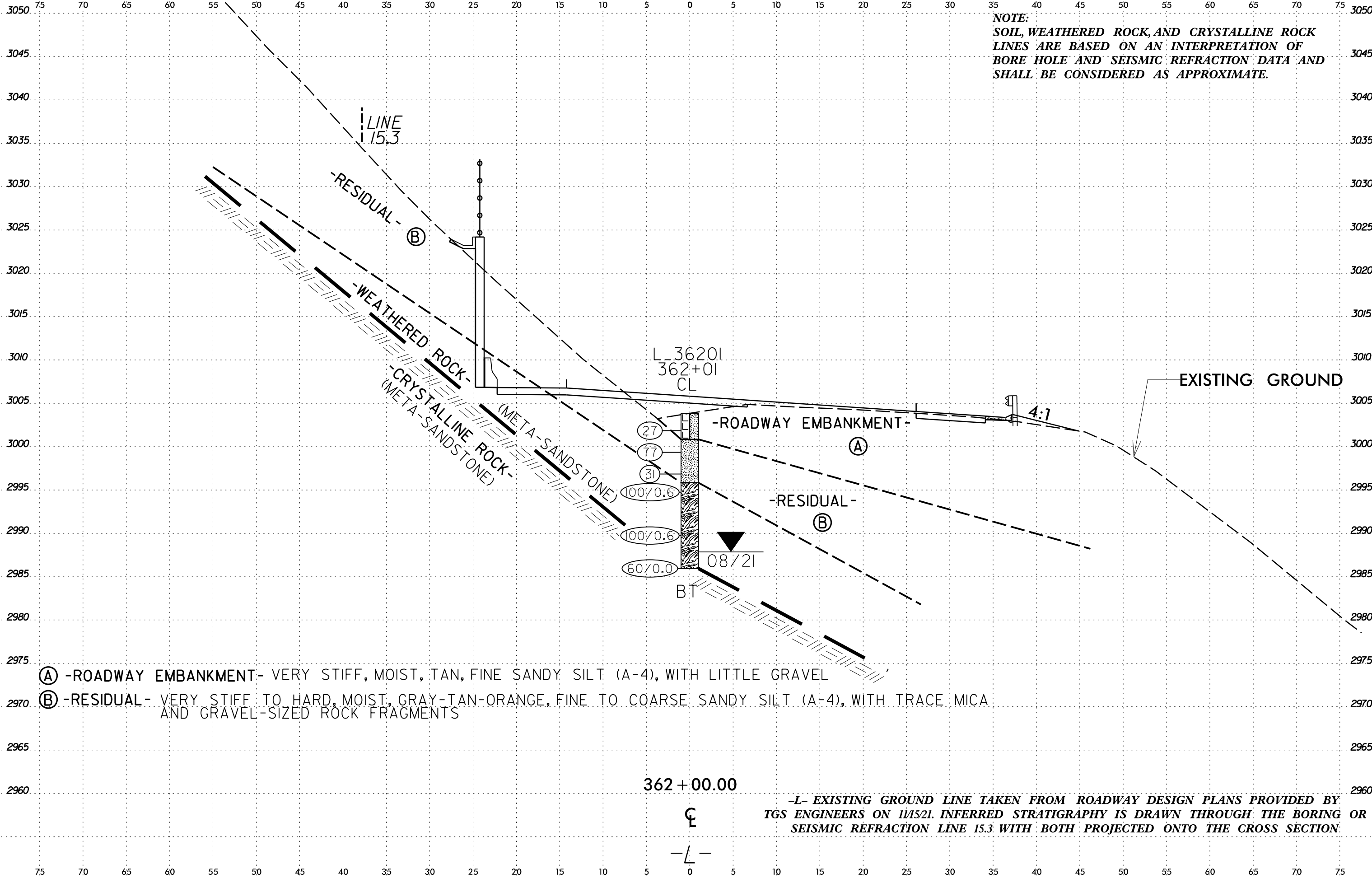
- (A) -ROADWAY EMBANKMENT- VERY STIFF, MOIST, TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL
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361+50.00



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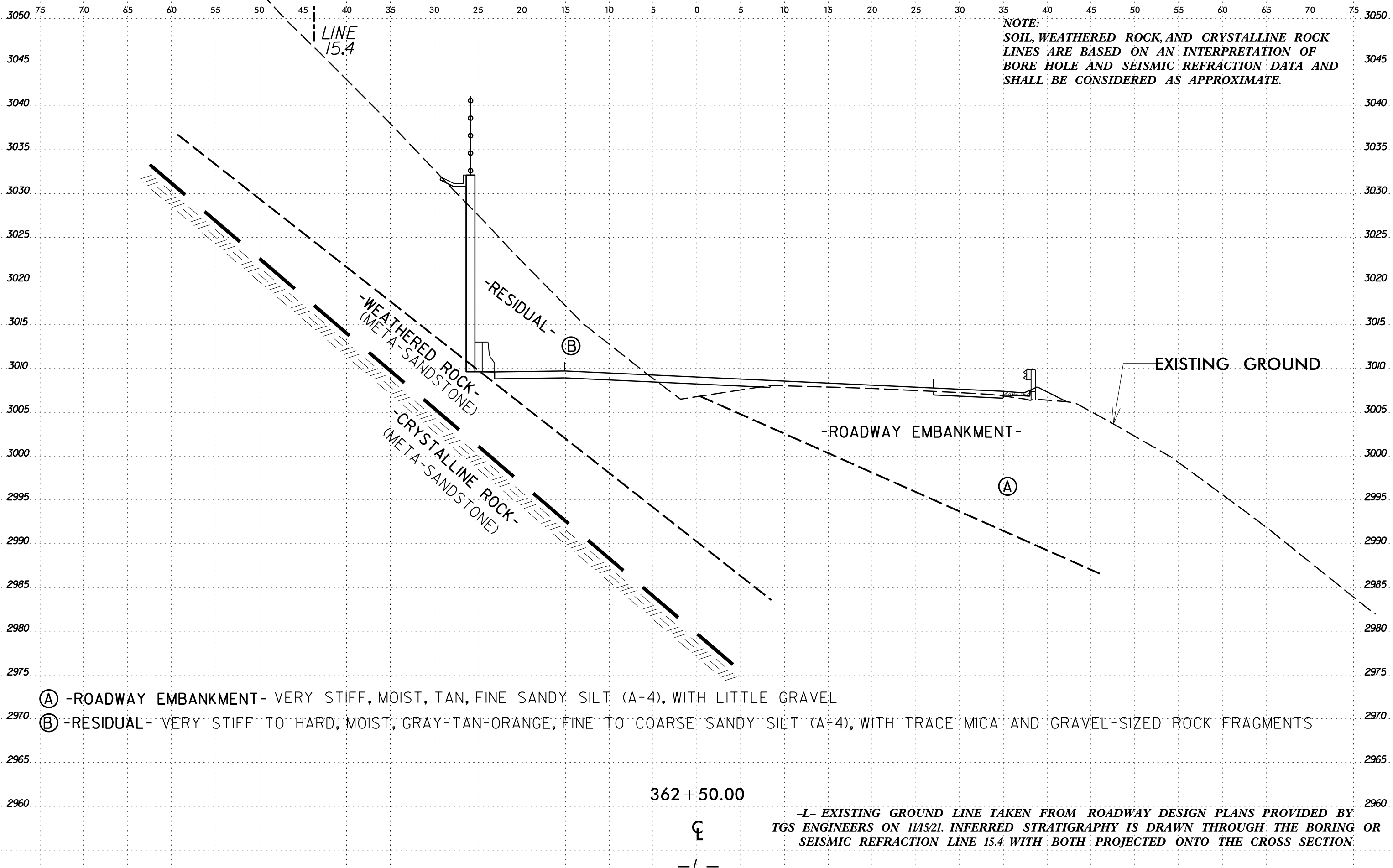
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362 + 00.00

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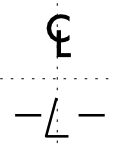
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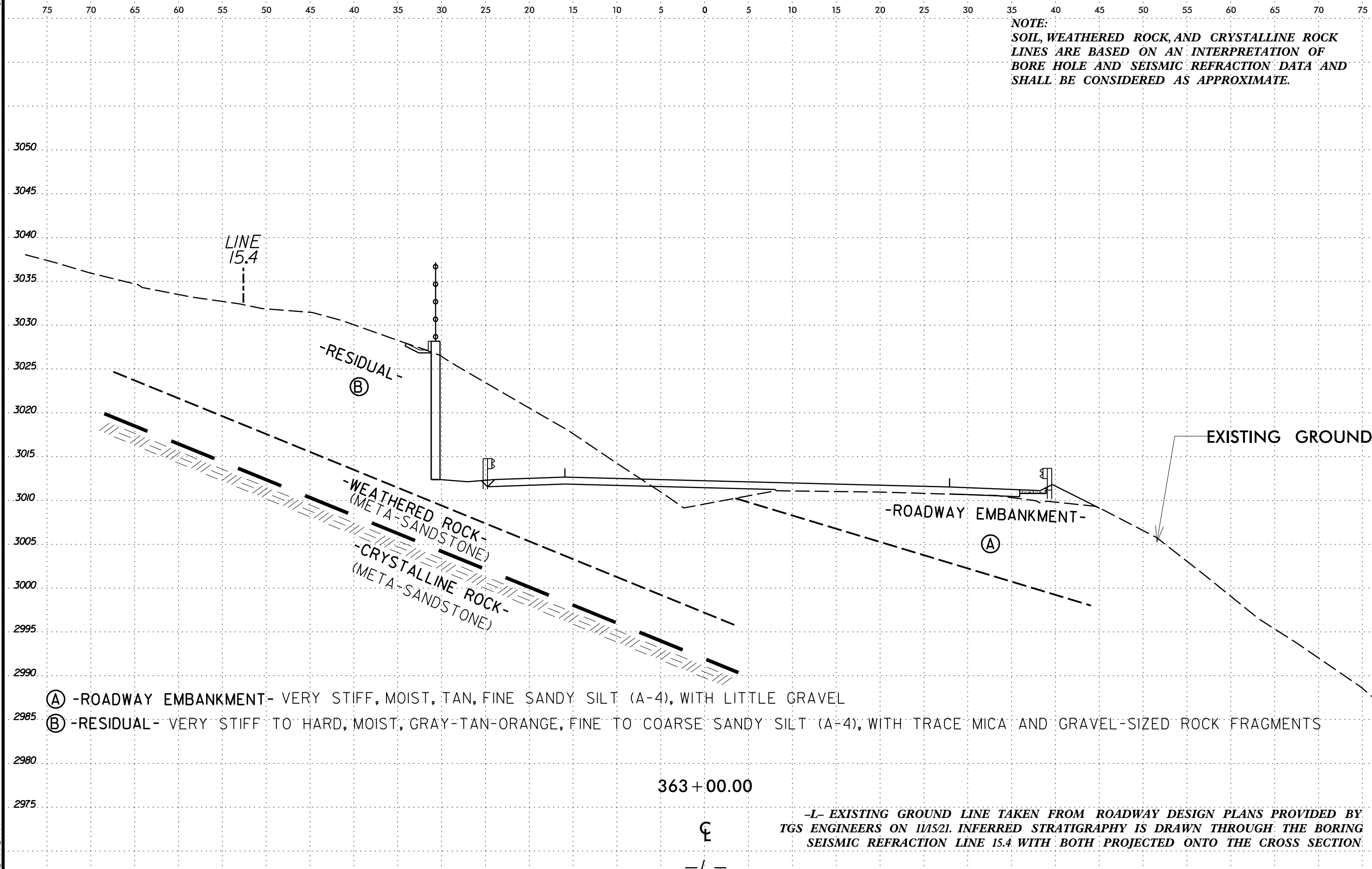
- (A) -ROADWAY EMBANKMENT- VERY STIFF, MOIST, TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL
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362 + 50.00



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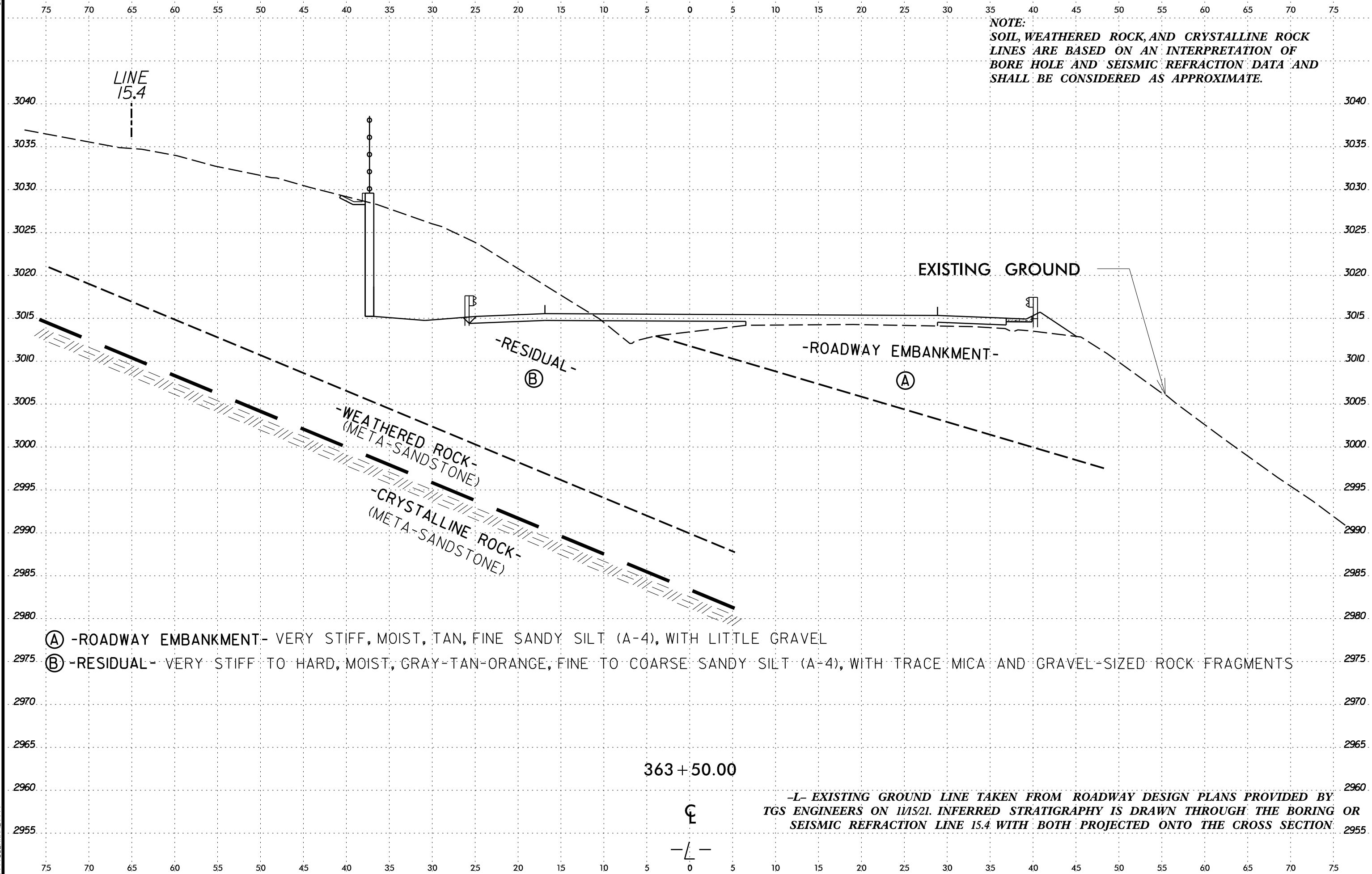
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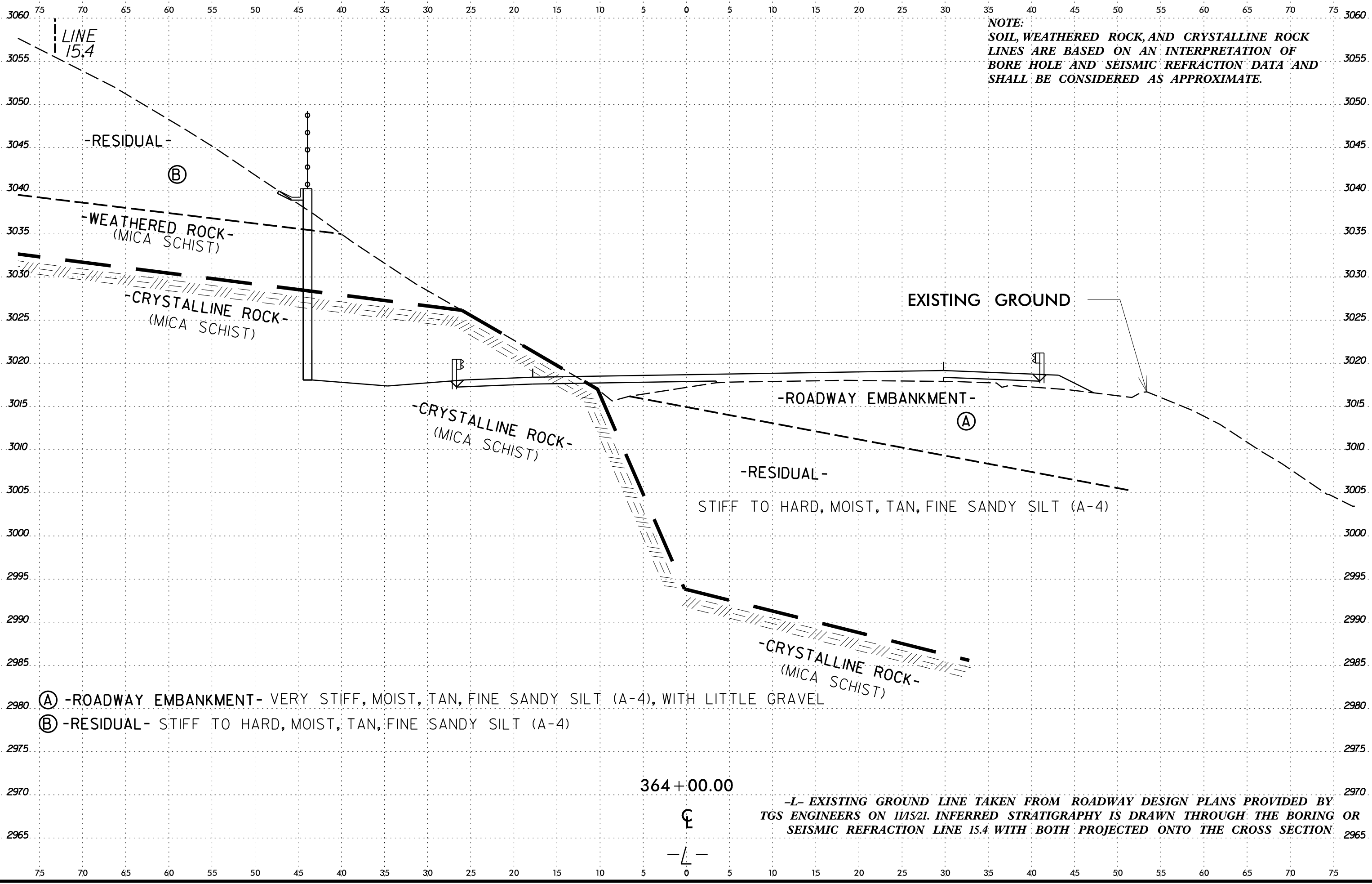
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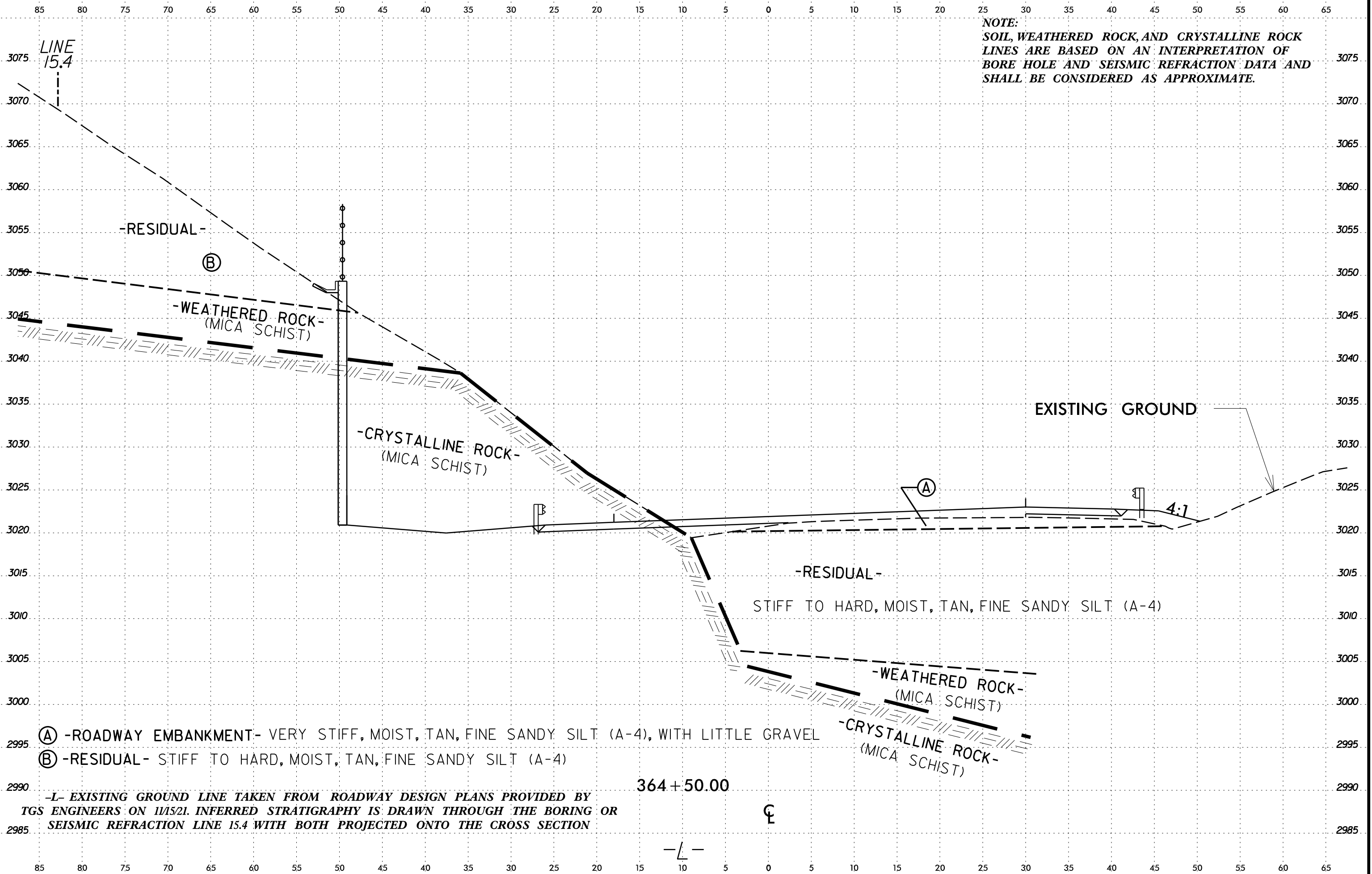


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- (B) -RESIDUAL- STIFF TO HARD, MOIST, TAN, FINE SANDY SILT (A-4)

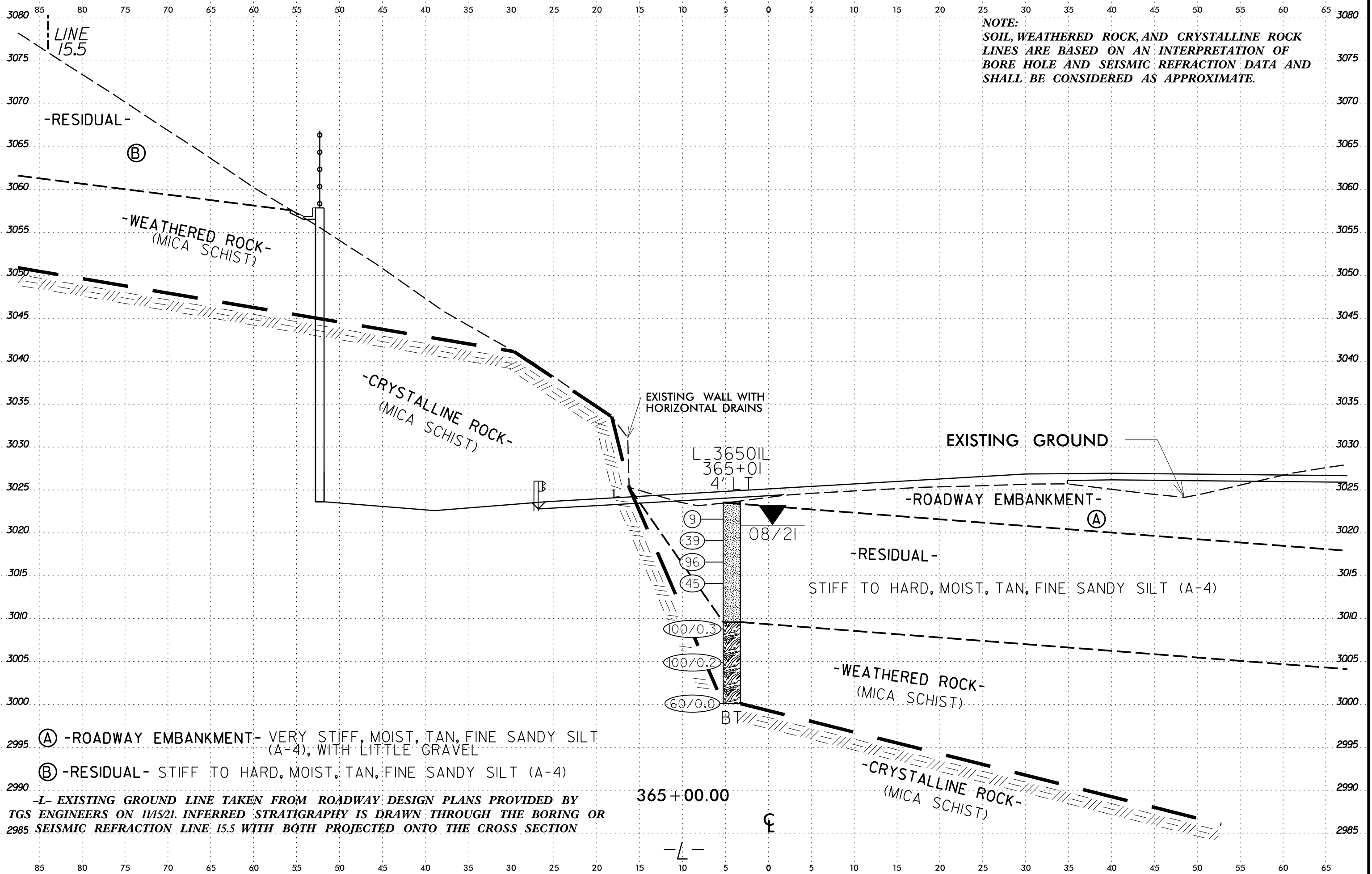
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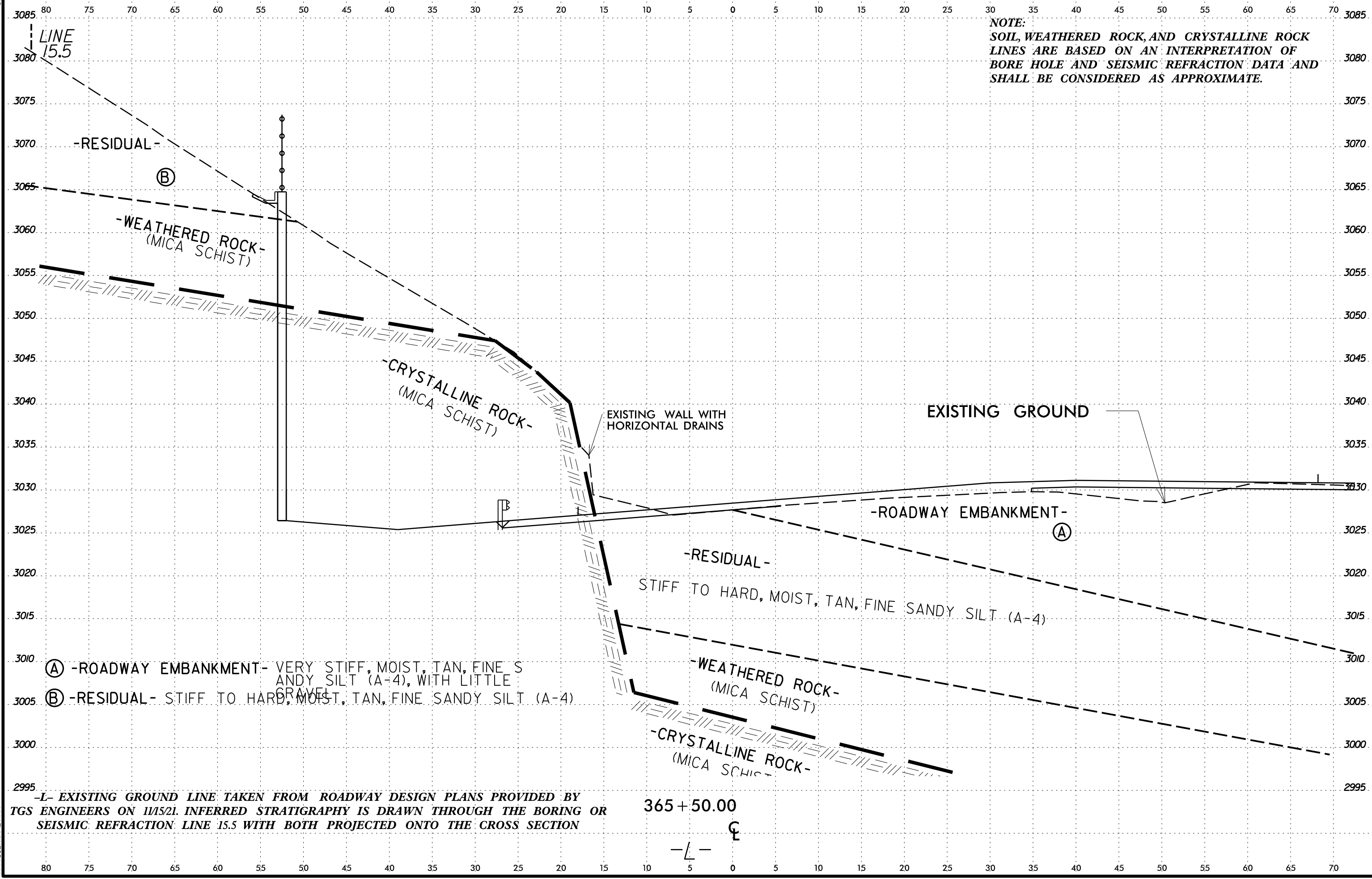
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(A) -ROADWAY EMBANKMENT- VERY STIFF, MOIST, TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL
(B) -RESIDUAL- STIFF TO HARD, MOIST, TAN, FINE SANDY SILT (A-4)
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING OR 2985 SEISMIC REFRACTION LINE 15.5 WITH BOTH PROJECTED ONTO THE CROSS SECTION

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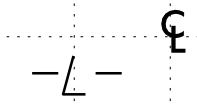


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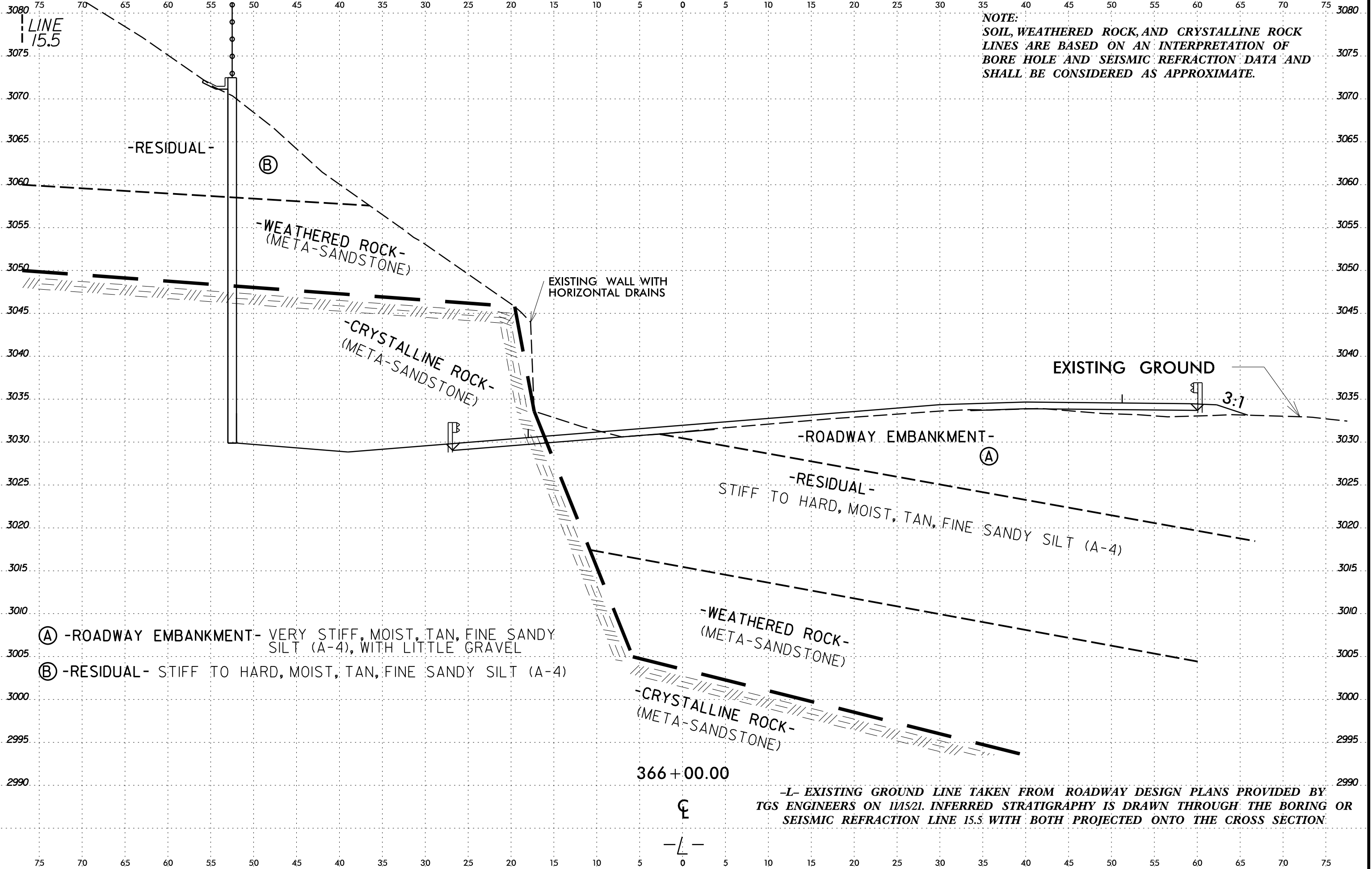
- (A) - ROADWAY EMBANKMENT - VERY STIFF, MOIST, TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL
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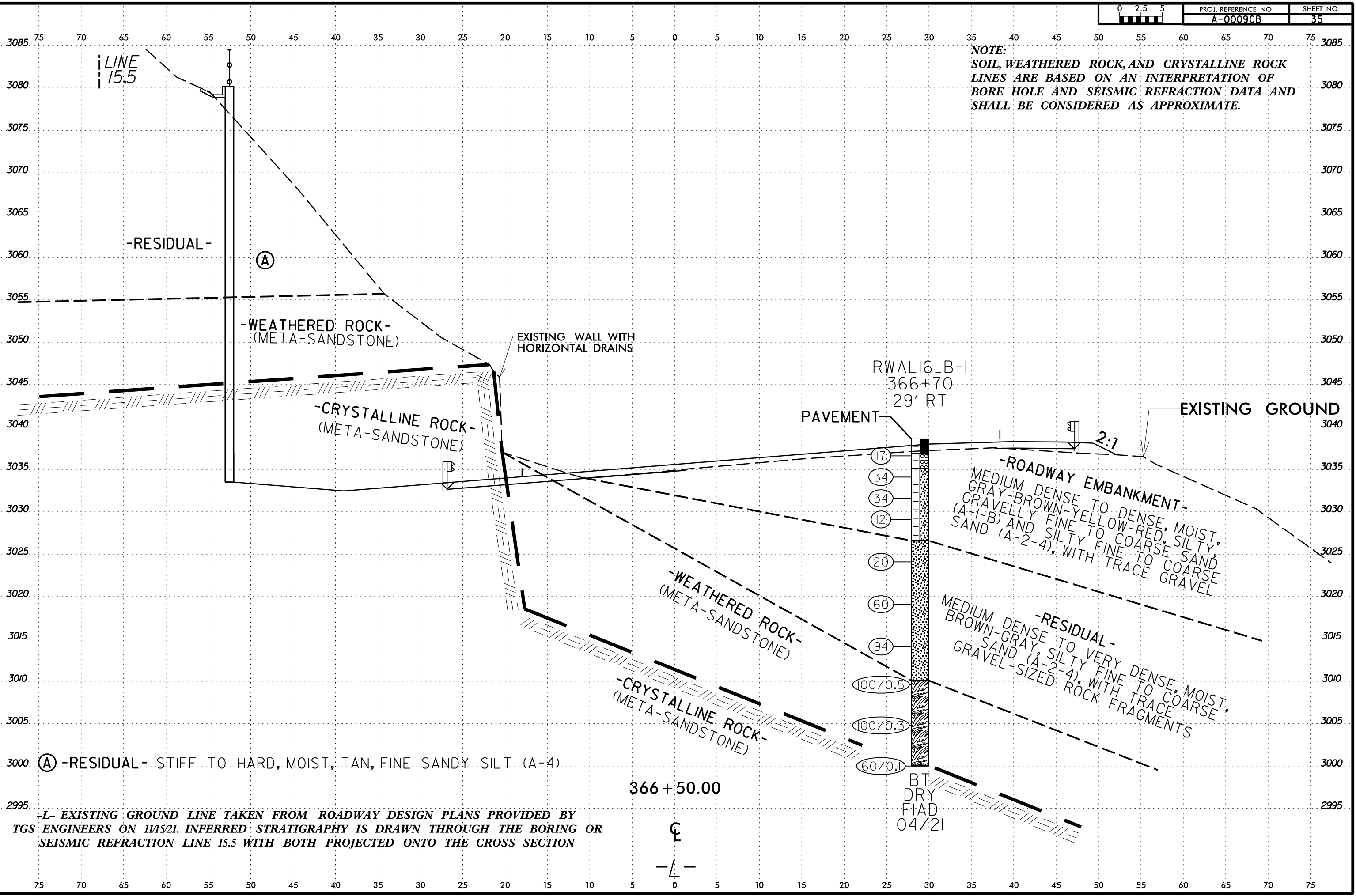
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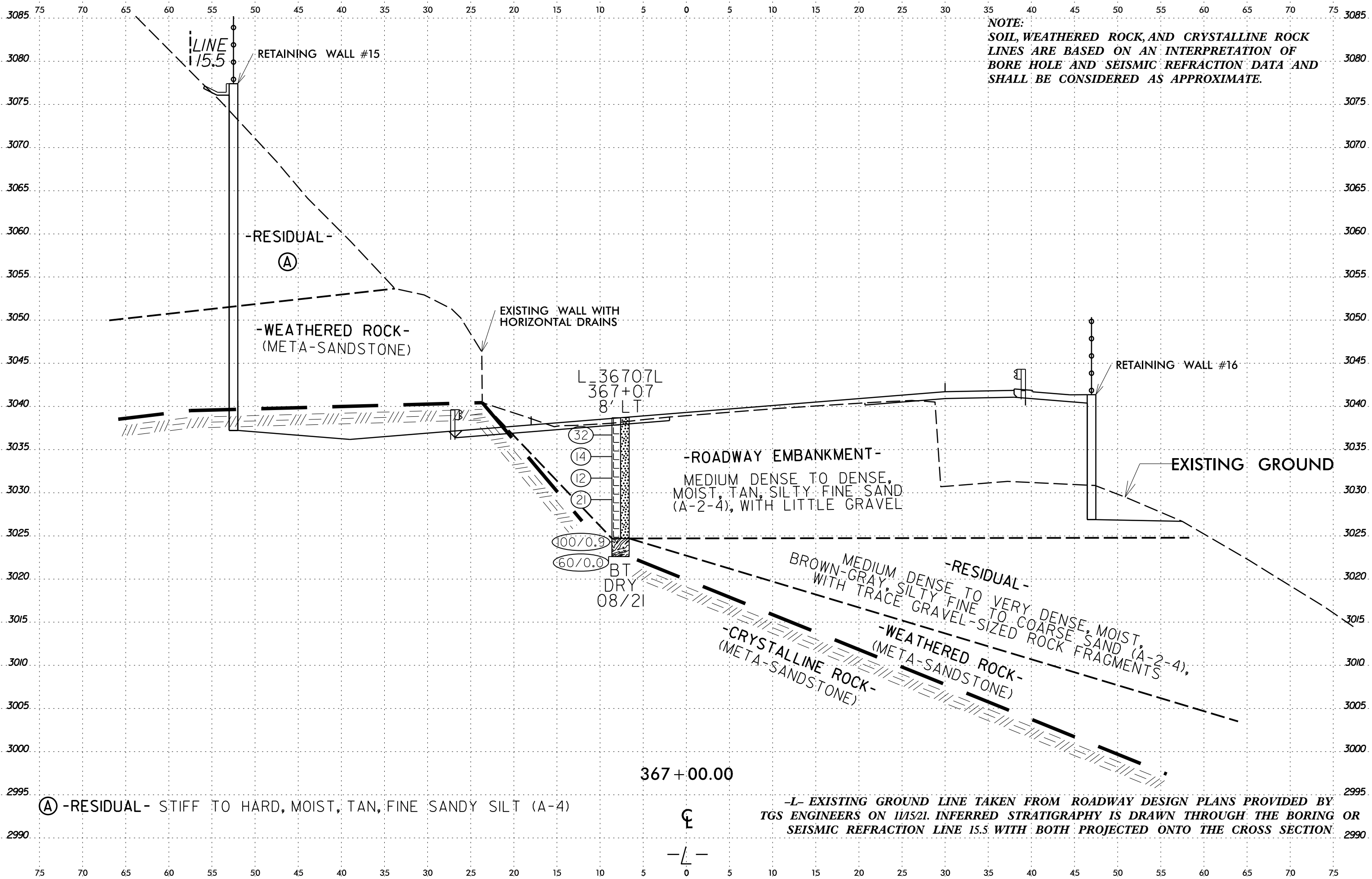
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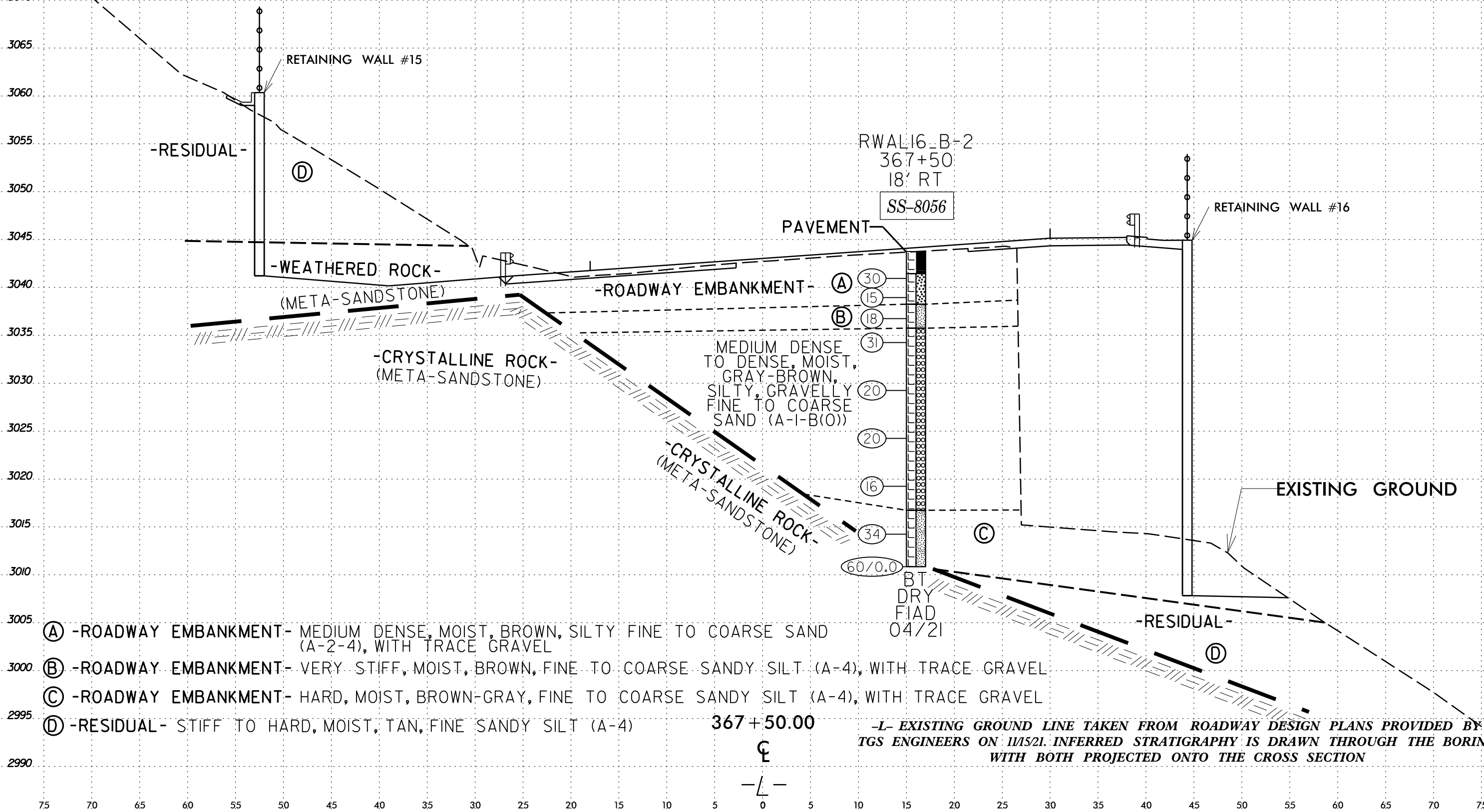
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\$\$\$\$SUBSERIALNAME\$\$\$\$



SOIL TEST RESULTS

| SAMPLE NO. | OFFSET | STATION | DEPTH INTERVAL | AASHTO CLASS. | L.L. | P.I. | % BY WEIGHT | | | | % PASSING (SIEVES) | | | % MOISTURE | % ORGANIC |
|------------|--------|------------|----------------|---------------|------|------|-------------|---------|------|------|--------------------|----|-----|------------|-----------|
| | | | | | | | C. SAND | F. SAND | SILT | CLAY | 10 | 40 | 200 | | |
| SS-8056 | 18' RT | 367+50 -L- | 13.5' - 15.0' | A-1-b(0) | 25 | NP | 26 | 24 | 32 | 17 | 34 | 27 | 20 | 8 | - |



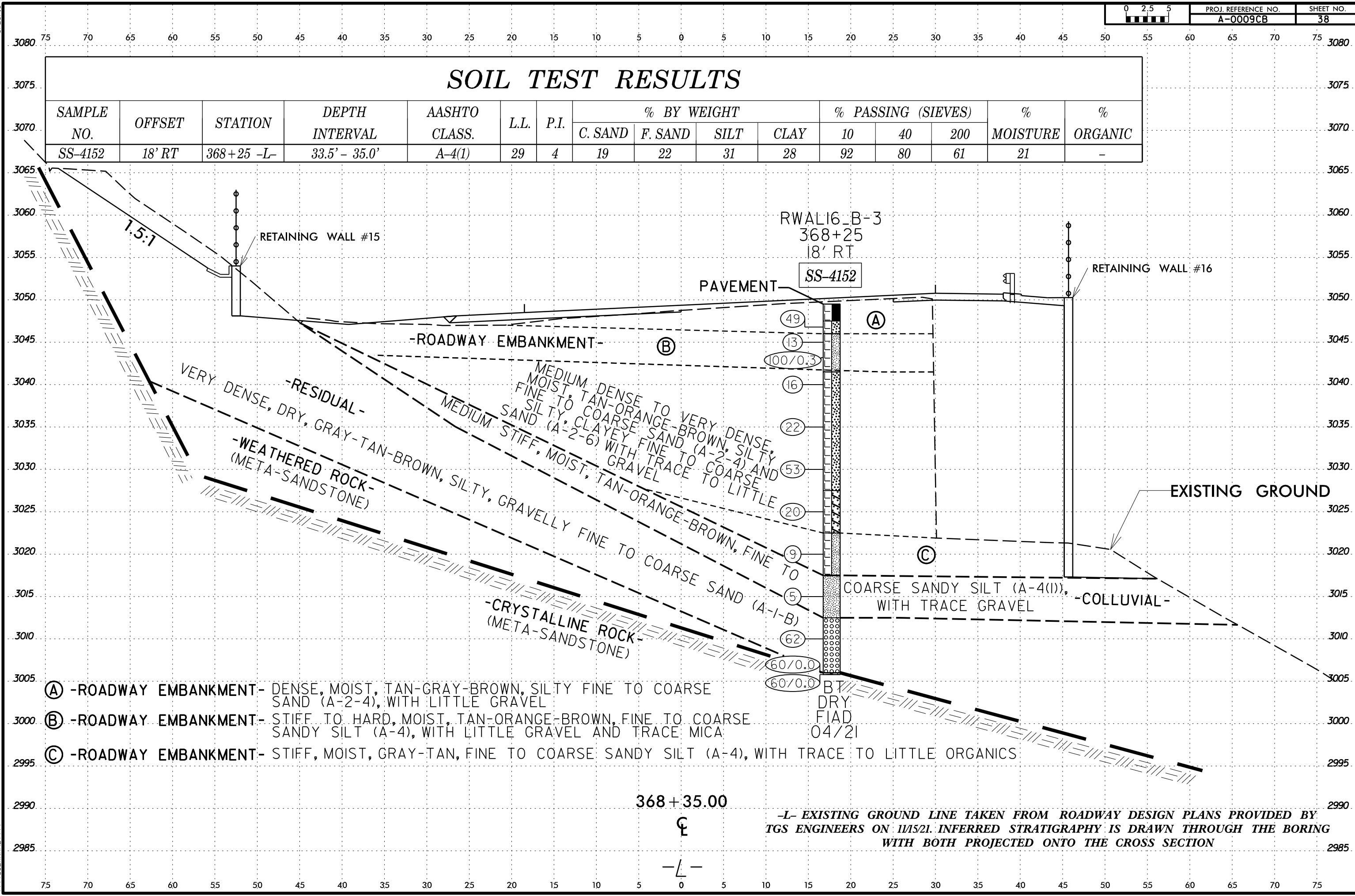
- Ⓐ -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL
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- Ⓒ -ROADWAY EMBANKMENT- HARD, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL
- Ⓓ -RESIDUAL- STIFF TO HARD, MOIST, TAN, FINE SANDY SILT (A-4)

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SOIL TEST RESULTS

| SAMPLE NO. | OFFSET | STATION | DEPTH INTERVAL | AASHTO CLASS. | L.L. | P.I. | % BY WEIGHT | | | | % PASSING (SIEVES) | | | % MOISTURE | % ORGANIC |
|------------|--------|------------|----------------|---------------|------|------|-------------|---------|------|------|--------------------|----|-----|------------|-----------|
| | | | | | | | C. SAND | F. SAND | SILT | CLAY | 10 | 40 | 200 | | |
| SS-4152 | 18' RT | 368+25 -L- | 33.5' - 35.0' | A-4(1) | 29 | 4 | 19 | 22 | 31 | 28 | 92 | 80 | 61 | 21 | - |



19-MAY-2022 17:31
 C:\Users\jbrun\OneDrive - Carolines Geotechnical Group, PLLC\Projects\0068 - A-0009CB - Future US 74_TGS\A-0009CB\CADD_GEO\TECH\Site\A-0009CB.GEO_RWAL15.XSL.dgn
 \$\$\$USERNAME\$\$\$

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 1/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|--------------------------|---------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|-----|---|------------|-----|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. RWAL15_B-1 | | STATION 352+26 | | OFFSET 26 ft LT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 2,932.0 ft | | TOTAL DEPTH 6.1 ft | | NORTHING 621,176 | | EASTING 593,616 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | DRILL METHOD H.S. Augers | | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/11/21 | | COMP. DATE 08/11/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 2935 | | | | | | | | | | | | | | | | |
| | 2,931.0 | 1.0 | 5 | 7 | 8 | | | | | | | | | | 2,932.0 | 0.0 |
| 2930 | 2,928.5 | 3.5 | 23 | 26 | 30 | | | | | | | M | | RESIDUAL Stiff to Hard, Tan, Fine to Coarse Sandy SILT (A-4), with little gravel-sized rock fragments | | |
| | 2,925.9 | 6.1 | 60/0.0 | | | | | | | | | M | | CRYSTALLINE ROCK Light Gray, (META-SANDSTONE) Boring Terminated with Standard Penetration Test Refusal at Elevation 2,925.9 ft In Crystalline Rock (META-SANDSTONE) | 5.5 6.1 | |

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST C. Piercy | | | | | | | | | | |
|---|-----------------|---------------------|--------------------------|---------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|-----|--|--------------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. RWAL16_B-1 | | STATION 366+70 | | OFFSET 29 ft RT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 3,038.6 ft | | TOTAL DEPTH 38.6 ft | | NORTHING 619,819 | | EASTING 593,196 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE BRE9533 CME-550X 78% 03/12/2021 | | | DRILL METHOD H.S. Augers | | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 04/27/21 | | COMP. DATE 04/27/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 3040 | | | | | | | | | | | | | | | | |
| | 3,036.9 | 1.7 | 16 | 9 | 8 | | | | | | | | | GROUND SURFACE | 0.0 | |
| | 3,035.1 | 3.5 | 6 | 13 | 21 | | | | | | | | | ROADWAY EMBANKMENT Asphalt (1.7') | 1.7 | |
| 3035 | 3,032.6 | 6.0 | 38 | 21 | 13 | | | | | | | | | Medium Dense, Gray-Brown, Silty, Gravelly Fine to Coarse SAND (A-1-b) Medium Dense to Dense, Yellow-Red-Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel | 3.5 | |
| 3030 | 3,030.1 | 8.5 | 6 | 6 | 6 | | | | | | | | | | | |
| | 3,025.1 | 13.5 | 8 | 10 | 10 | | | | | | | | | RESIDUAL Medium Dense to Very Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments | 12.0 | |
| 3025 | 3,020.1 | 18.5 | 22 | 32 | 28 | | | | | | | | | | | |
| 3020 | 3,015.1 | 23.5 | 8 | 27 | 67 | | | | | | | | | | | |
| 3015 | 3,010.1 | 28.5 | 100/0.5 | | | | | | | | | | | WEATHERED ROCK Gray-Brown, (META-SANDSTONE) | 28.5 | |
| 3010 | 3,005.1 | 33.5 | 100/0.3 | | | | | | | | | | | | | |
| 3005 | 3,000.1 | 38.5 | 60/0.1 | | | | | | | | | | | CRYSTALLINE ROCK Gray-Brown, (META-SANDSTONE) Boring Terminated with Standard Penetration Test Refusal at Elevation 3,000.0 ft In Crystalline Rock (META-SANDSTONE) | 38.5 38.6 | |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 5/18/22

GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-------|---------------------------|------------|-----|---|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. L_36707L | | STATION 367+07 | | OFFSET 8 ft LT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 3,038.7 ft | | TOTAL DEPTH 16.1 ft | | NORTHING 619,775 | | EASTING 593,225 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | L O G | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 3040 | | | | | | | | | | | | | | 3,038.7 | 0.0 | GROUND SURFACE |
| | 3,037.7 | 1.0 | 15 | 17 | 15 | | | | | | | | M | | | ROADWAY EMBANKMENT Medium Dense to Dense, Tan, Silty Fine SAND (A-2-4), with little gravel |
| 3035 | 3,035.2 | 3.5 | 3 | 7 | 7 | | | | | | | | M | | | |
| | 3,032.7 | 6.0 | 4 | 7 | 5 | | | | | | | | M | | | |
| 3030 | 3,030.2 | 8.5 | 5 | 10 | 11 | | | | | | | | M | | | |
| | 3,025.2 | 13.5 | 9 | 9 | 10.4 | | | | | | | | M | | | |
| 3025 | 3,022.6 | 16.1 | 60 | 0 | 0 | | | | | | | | M | | | WEATHERED ROCK Tan-Gray, (META-SANDSTONE) |
| | | | | | | | | | | | | | | | | Boring Terminated with Standard Penetration Test Refusal at Elevation 3,022.6 ft On Crystalline Rock (META-SANDSTONE) |

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-------|---------------------------|------------|-----|---|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. RWAL15_B-2 | | STATION 353+26 | | OFFSET 1 ft RT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 2,942.2 ft | | TOTAL DEPTH 19.0 ft | | NORTHING 621,091 | | EASTING 593,556 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/11/21 | | COMP. DATE 08/11/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | L O G | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 2945 | | | | | | | | | | | | | | 2,942.2 | 0.0 | GROUND SURFACE |
| | 2,941.2 | 1.0 | 62 | 36 | 25 | | | | | | | | M | | | RESIDUAL Medium Dense to Very Dense, Gray-White, Silty, Fine to Coarse Sandy GRAVEL (A-1-a) |
| 2940 | 2,938.7 | 3.5 | 11 | 8 | 15 | | | | | | | | M | | | |
| | 2,936.2 | 6.0 | 26 | 74 | 0.4 | | | | | | | | M | | | WEATHERED ROCK Gray, (META-SANDSTONE) |
| 2935 | 2,933.7 | 8.5 | 19 | 18 | 10 | | | | | | | | M | | | RESIDUAL Medium Dense, Tan, Silty Fine SAND (A-2-4) |
| | 2,928.7 | 13.5 | 7 | 30 | 70 | 0.4 | | | | | | | M | | | WEATHERED ROCK Gray, (META-SANDSTONE) |
| 2930 | 2,923.2 | 19.0 | 100 | 0 | 0 | | | | | | | | M | | | Boring Terminated with Standard Penetration Test Refusal at Elevation 2,923.2 ft On Crystalline Rock (META-SANDSTONE) |
| 2925 | | | | | | | | | | | | | | | | |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 5/18/22

GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|---------------------------|------------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | |
| BORING NO. L_35445L | | STATION 354+45 | | OFFSET 1 ft LT | | ALIGNMENT L | | | | | | | | | |
| COLLAR ELEV. 2,950.3 ft | | TOTAL DEPTH 6.8 ft | | NORTHING 620,979 | | EASTING 593,517 | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | |
| 2955 | | | | | | | | | | | | | | | |
| 2950 | 2,949.3 | 1.0 | | | | | | | | | | | | | |
| | 2,946.8 | 3.5 | 5 | 12 | 10 | | | | | | | | | | |
| 2945 | 2,944.3 | 6.0 | 47 | 53/0.3 | | | | | | | | | | | |
| | 2,943.5 | 6.8 | 60/0.1 | | | | | | | | | | | | |
| | | | 60/0.0 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST C. Piercy | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|---------------------------|------------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | |
| BORING NO. RWAL16_B-2 | | STATION 367+50 | | OFFSET 18 ft RT | | ALIGNMENT L | | | | | | | | | |
| COLLAR ELEV. 3,043.9 ft | | TOTAL DEPTH 32.9 ft | | NORTHING 619,735 | | EASTING 593,194 | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE BRE9533 CME-550X 78% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 04/27/21 | | COMP. DATE 04/27/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | |
| 3045 | | | | | | | | | | | | | | | |
| | 3,041.6 | 2.3 | | | | | | | | | | | | | |
| 3040 | 3,040.1 | 3.8 | 27 | 19 | 11 | | | | | | | | | | |
| | 3,037.9 | 6.0 | 6 | 7 | 8 | | | | | | | | | | |
| | 3,037.9 | 6.0 | 7 | 10 | 8 | | | | | | | | | | |
| 3035 | 3,035.4 | 8.5 | | | | | | | | | | | | | |
| | 3,035.4 | 8.5 | 15 | 12 | 19 | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 3030 | 3,030.4 | 13.5 | | | | | | | | | | | | | |
| | 3,030.4 | 13.5 | 11 | 10 | 10 | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 3025 | 3,025.4 | 18.5 | | | | | | | | | | | | | |
| | 3,025.4 | 18.5 | 9 | 9 | 11 | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 3020 | 3,020.4 | 23.5 | | | | | | | | | | | | | |
| | 3,020.4 | 23.5 | 8 | 7 | 9 | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 3015 | 3,015.4 | 28.5 | | | | | | | | | | | | | |
| | 3,015.4 | 28.5 | 25 | 23 | 11 | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | 3,011.0 | 32.9 | | | | | | | | | | | | | |
| | | | 60/0.0 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ_NC_DOT.GDT 5/18/22

Notes -
Boulders and/or Hard Drilling encountered infrequently at the following depths:
6.0 to 6.3 ft

GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|--------|-------------------------|-----------------|----|----|-----|-----------|-----|---------------------------|------------|--|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. L_35593L | | STATION 355+93 | | OFFSET 6 ft LT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 2,961.2 ft | | TOTAL DEPTH 24.0 ft | | NORTHING 620,834 | | EASTING 593,490 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 2965 | | | | | | | | | | | | | | | | |
| 2960 | 2,960.2 | 1.0 | 9 | 9 | 33 | | | | | | | | | | | |
| | 2,957.7 | 3.5 | | 35 | 48 | 42 | | | | | | | | | | |
| 2955 | 2,955.2 | 6.0 | | 23 | 34 | 65 | | | | | | | | | | |
| | 2,952.7 | 8.5 | | 25 | 47 | 46 | | | | | | | | | | |
| 2950 | | | | | | | | | | | | | | | | |
| | 2,947.7 | 13.5 | | 55 | 45/0.3 | | | | | | | | | | | |
| 2945 | | | | | | | | | | | | | | | | |
| | 2,942.7 | 18.5 | | 65 | 35/0.1 | | | | | | | | | | | |
| 2940 | | | | | | | | | | | | | | | | |
| | 2,937.7 | 23.5 | | 100/0.5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST N. McLaren | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|---------------------------|------------|--|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. RWAL16_B-3 | | STATION 368+25 | | OFFSET 18 ft RT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 3,049.2 ft | | TOTAL DEPTH 43.7 ft | | NORTHING 619,659 | | EASTING 593,190 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE CG20446 Diedrich D50 83% 06/16/2020 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Estep | | START DATE 04/27/21 | | COMP. DATE 04/27/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 3050 | | | | | | | | | | | | | | | | |
| | 3,049.2 | | | | | | | | | | | | | | | |
| | 3,047.2 | 2.0 | | | | | | | | | | | | | | |
| 3045 | 3,045.7 | 3.5 | 66 | 28 | 21 | | | | | | | | | | | |
| | 3,043.2 | 6.0 | 4 | 6 | 7 | | | | | | | | | | | |
| 3040 | 3,040.7 | 8.5 | 100/0.3 | | | | | | | | | | | | | |
| | 3,035.7 | 13.5 | 11 | 8 | 8 | | | | | | | | | | | |
| 3035 | 3,035.7 | 13.5 | 23 | 13 | 9 | | | | | | | | | | | |
| | 3,030.7 | 18.5 | | | | | | | | | | | | | | |
| 3030 | 3,030.7 | 18.5 | 27 | 10 | 43 | | | | | | | | | | | |
| | 3,025.7 | 23.5 | | | | | | | | | | | | | | |
| 3025 | 3,025.7 | 23.5 | 8 | 10 | 10 | | | | | | | | | | | |
| | 3,020.7 | 28.5 | | | | | | | | | | | | | | |
| 3020 | 3,020.7 | 28.5 | 5 | 4 | 5 | | | | | | | | | | | |
| | 3,015.7 | 33.5 | | | | | | | | | | | | | | |
| 3015 | 3,015.7 | 33.5 | 2 | 2 | 3 | | | | | | | | | | | |
| | 3,010.7 | 38.5 | | | | | | | | | | | | | | |
| 3010 | 3,010.7 | 38.5 | 27 | 13 | 49 | | | | | | | | | | | |
| | 3,005.7 | 43.5 | | | | | | | | | | | | | | |
| | 3,005.5 | 43.7 | 60/0.0 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 5/18/22

GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|-----|---|------------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. L_35999L | | STATION 359+99 | | OFFSET 2 ft LT | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 2,990.5 ft | | TOTAL DEPTH 4.2 ft | | NORTHING 620,429 | | EASTING 593,477 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 2995 | | | | | | | | | | | | | | | | |
| 2990 | 2,989.5 | 1.0 | 2 | 7 | 13 | | | | | | | M | | GROUND SURFACE | 0.0 | |
| | 2,987.0 | 3.5 | | | | | | | | | | | | ROADWAY EMBANKMENT | | |
| | 2,986.3 | 4.2 | | | | | | | | | | | | Very Stiff, Brown-Gray, Fine Sandy SILT (A-4), with little gravel | 3.5 | |
| | | | | | | | | | | | | | | CRYSTALLINE ROCK | 4.2 | |
| | | | | | | | | | | | | | | Gray, (META-SANDSTONE) | | |
| | | | | | | | | | | | | | | Boring Terminated with Standard Penetration Test Refusal at Elevation 2,986.3 ft In Crystalline Rock (META-SANDSTONE) | | |

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|-------|-------------------------|-----------------|----|----|-----|-----------|-----|-----|---|------------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. L_36201 | | STATION 362+01 | | OFFSET CL | | ALIGNMENT L | | | | | | | | | | |
| COLLAR ELEV. 3,003.9 ft | | TOTAL DEPTH 17.9 ft | | NORTHING 620,239 | | EASTING 593,414 | | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION | DEPTH (ft) | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | | | | |
| 3005 | | | | | | | | | | | | | | | | |
| | 3,002.9 | 1.0 | 3 | 12 | 15 | | | | | | | | | GROUND SURFACE | 0.0 | |
| | 3,000.4 | 3.5 | 15 | 37 | 40 | | | | | | | M | | ROADWAY EMBANKMENT | | |
| | 2,997.9 | 6.0 | 25 | 12 | 19 | | | | | | | | | Very Stiff, Tan, Fine Sandy SILT (A-4), with little gravel | 3.0 | |
| | 2,995.4 | 8.5 | 85 | 15/0.1 | | | | | | | | | | RESIDUAL | | |
| | | | | | | | | | | | | | | Hard, Tan, Fine Sandy SILT (A-4), with little gravel-sized rock fragments and trace manganese oxide | 8.0 | |
| | 2,990.4 | 13.5 | 21 | 79/0.1 | | | | | | | | | | WEATHERED ROCK | | |
| | | | | | | | | | | | | | | Tan-Gray, (META-SANDSTONE) | | |
| | 2,986.0 | 17.9 | | | | | | | | | | | | Boring Terminated with Standard Penetration Test Refusal at Elevation 2,986.0 ft On Crystalline Rock (META-SANDSTONE) | 17.9 | |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 5/18/22

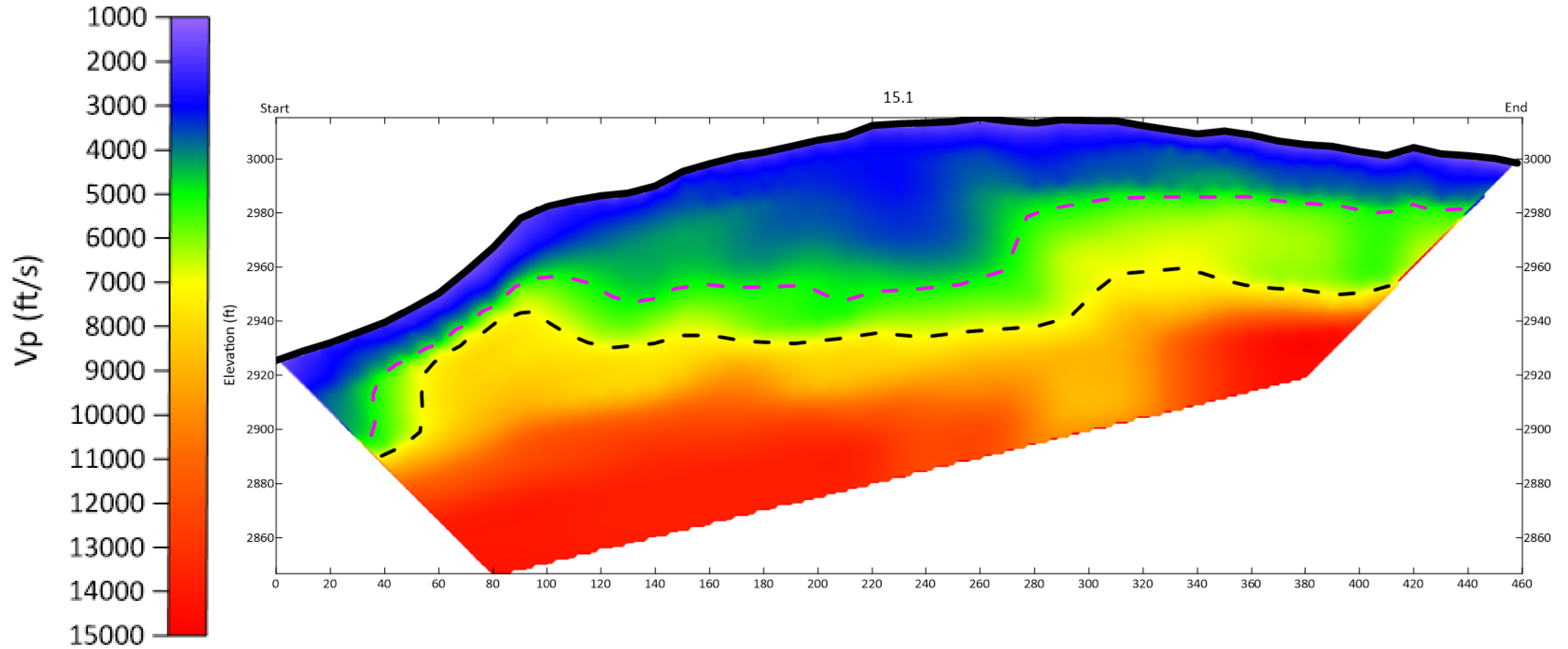
GEOTECHNICAL BORING REPORT

BORE LOG

| WBS 32572.1.FS10 | | TIP A-0009CB | | COUNTY GRAHAM | | GEOLOGIST D. Goodnight | | | | | | | | | | |
|---|-----------------|---------------------|------------|--------------------------|--------|-------------------------|-----------------|----|----|-----|-----------|-----|---------------------------|------------|------|--|
| SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail | | | | | | | GROUND WTR (ft) | | | | | | | | | |
| BORING NO. L_36501L | | STATION 365+01 | | OFFSET 4 ft LT | | ALIGNMENT L | 0 HR. 20.3 | | | | | | | | | |
| COLLAR ELEV. 3,023.6 ft | | TOTAL DEPTH 23.5 ft | | NORTHING 619,971 | | EASTING 593,281 | 24 HR. 2.7 | | | | | | | | | |
| DRILL RIGHAMMER EFF./DATE FIVE9553 CME-550X 80% 03/12/2021 | | | | DRILL METHOD H.S. Augers | | HAMMER TYPE Automatic | | | | | | | | | | |
| DRILLER J. Phillips | | START DATE 08/12/21 | | COMP. DATE 08/12/21 | | SURFACE WATER DEPTH N/A | | | | | | | | | | |
| ELEV (ft) | DRIVE ELEV (ft) | DEPTH (ft) | BLOW COUNT | | | BLOWS PER FOOT | | | | | SAMP. NO. | LOG | SOIL AND ROCK DESCRIPTION | | | |
| | | | 0.5ft | 0.5ft | 0.5ft | 0 | 25 | 50 | 75 | 100 | | | ELEV. (ft) | DEPTH (ft) | | |
| 3025 | | | | | | | | | | | | | | 3,023.6 | 0.0 | GROUND SURFACE |
| | 3,022.6 | 1.0 | 3 | 3 | 6 | 9 | | | | | | | | | | RESIDUAL Stiff to Hard, Tan, Fine Sandy SILT (A-4) |
| 3020 | 3,020.1 | 3.5 | 9 | 19 | 20 | 39 | | | | | | | | | | |
| | 3,017.6 | 6.0 | 19 | 31 | 65 | | | | | | | | | | | |
| 3015 | 3,015.1 | 8.5 | 17 | 27 | 18 | | | | | | | | | | | |
| | 3,010.1 | 13.5 | 17 | 30 | 70/0.3 | | | | | | | | | | | |
| 3010 | 3,010.1 | 13.5 | 17 | 30 | 70/0.3 | | | | | | | | | 3,009.6 | 14.0 | WEATHERED ROCK Tan, (MICA SCHIST) |
| | 3,005.1 | 18.5 | 100/0.2 | | | | | | | | | | | | | |
| 3005 | 3,005.1 | 18.5 | 100/0.2 | | | | | | | | | | | | | |
| | 3,000.1 | 23.5 | 60/0.0 | | | | | | | | | | | 3,000.1 | 23.5 | Boring Terminated with Standard Penetration Test Refusal at Elevation 3,000.1 ft On Crystalline Rock (MICA SCHIST) |

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 5/18/22

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.1

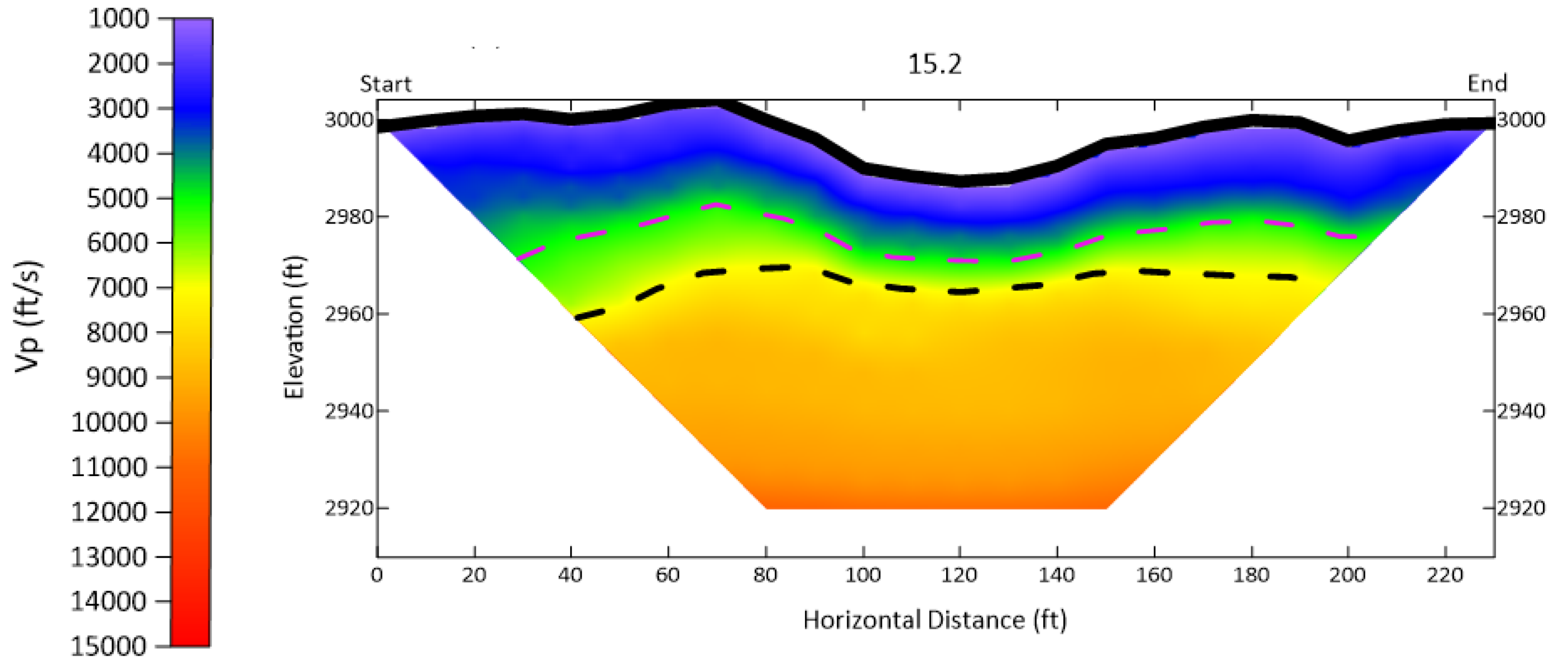


GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.2

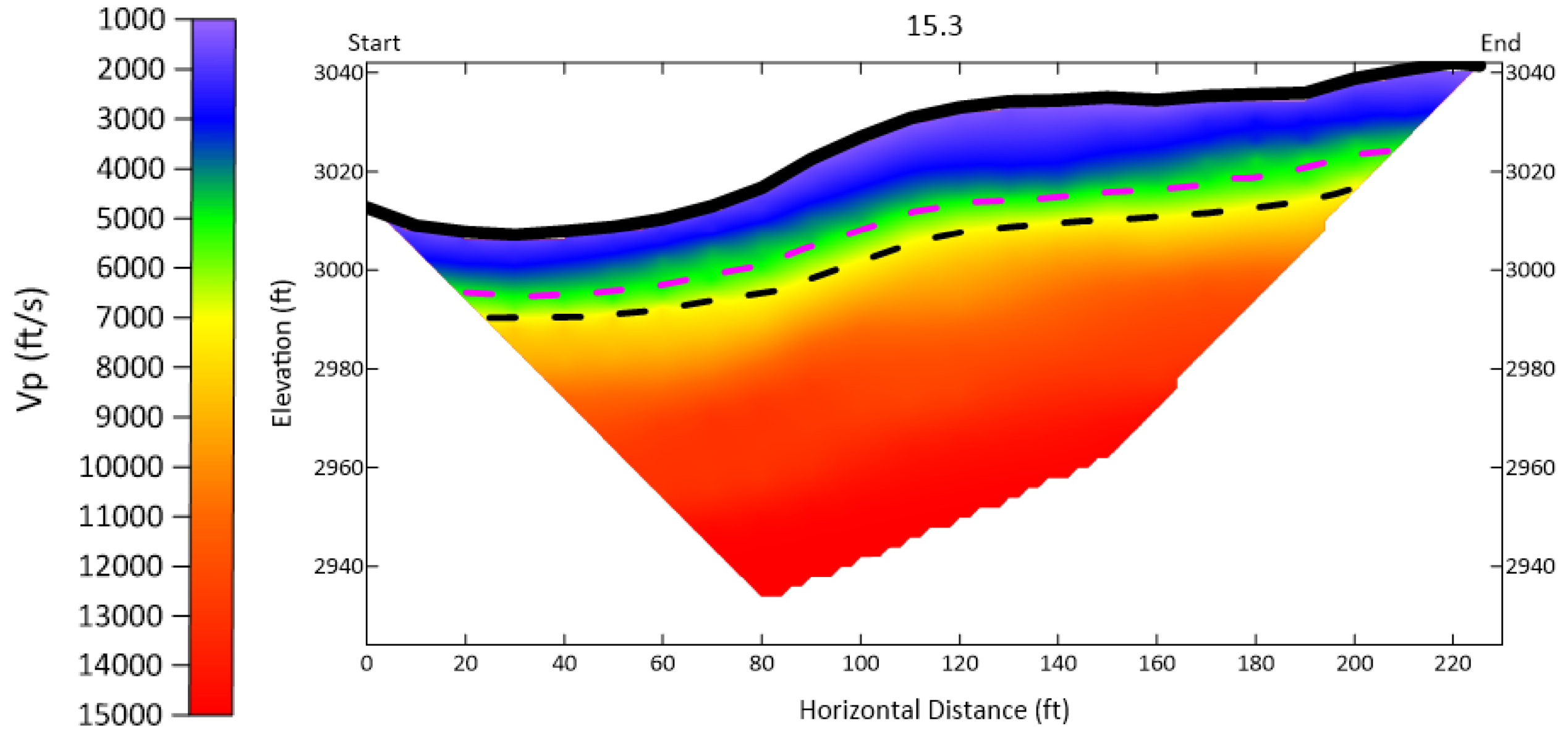


GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.3

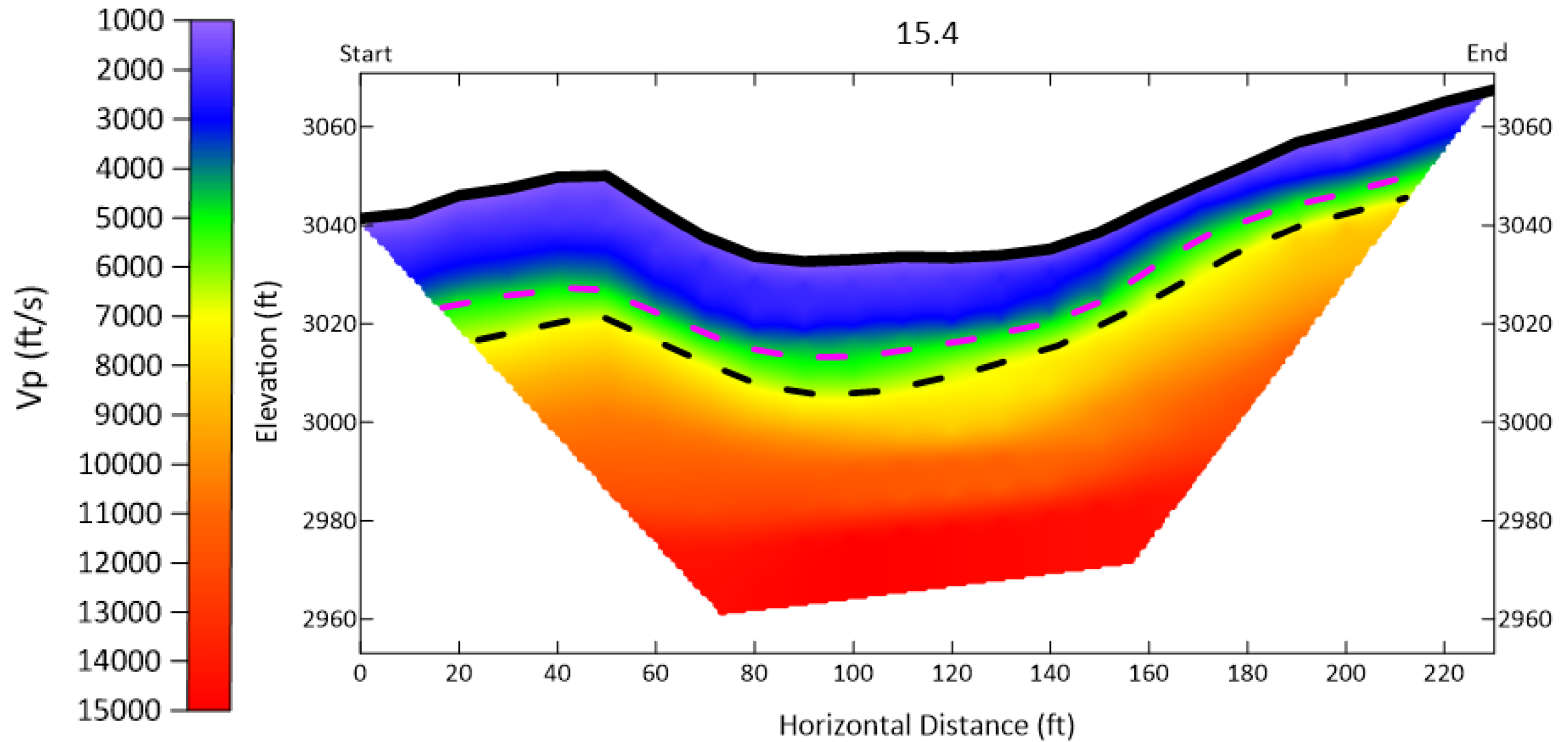


GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.4

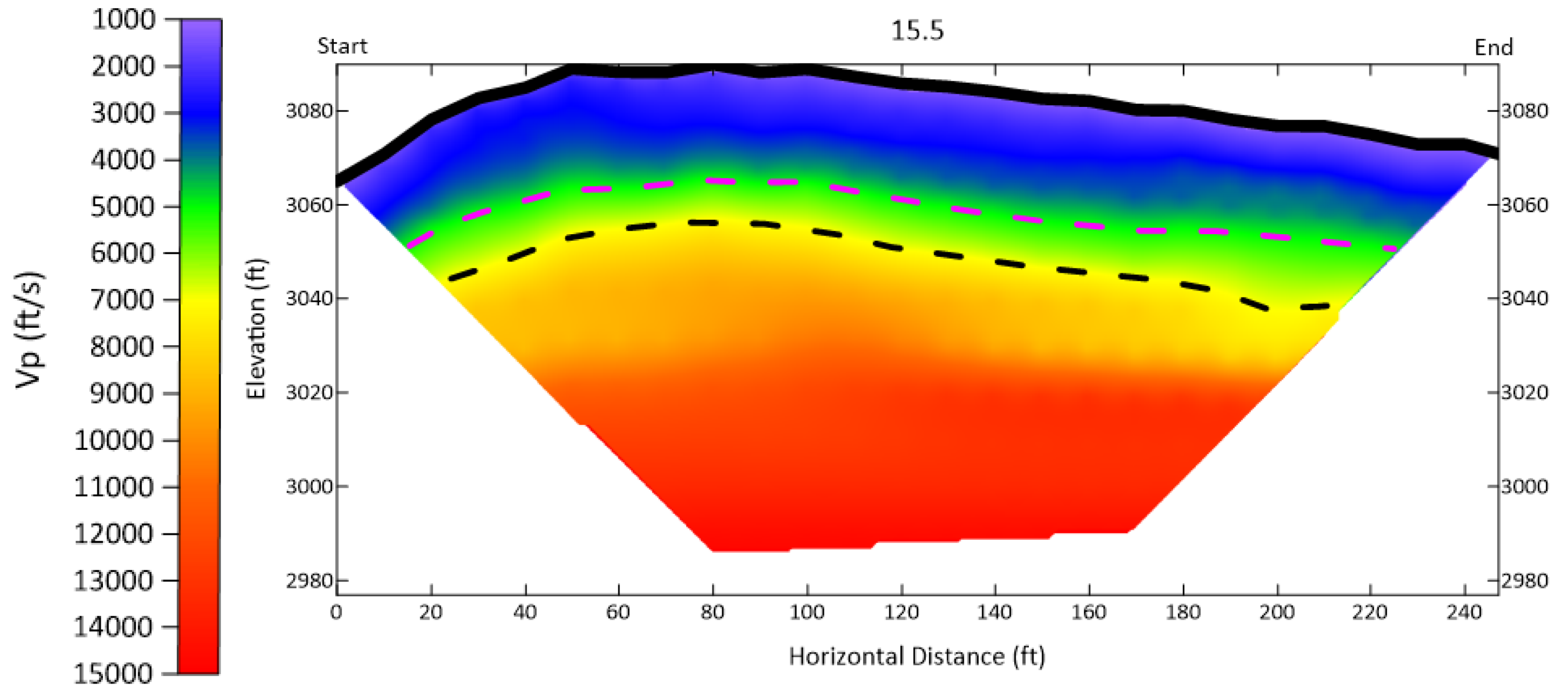


GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.5

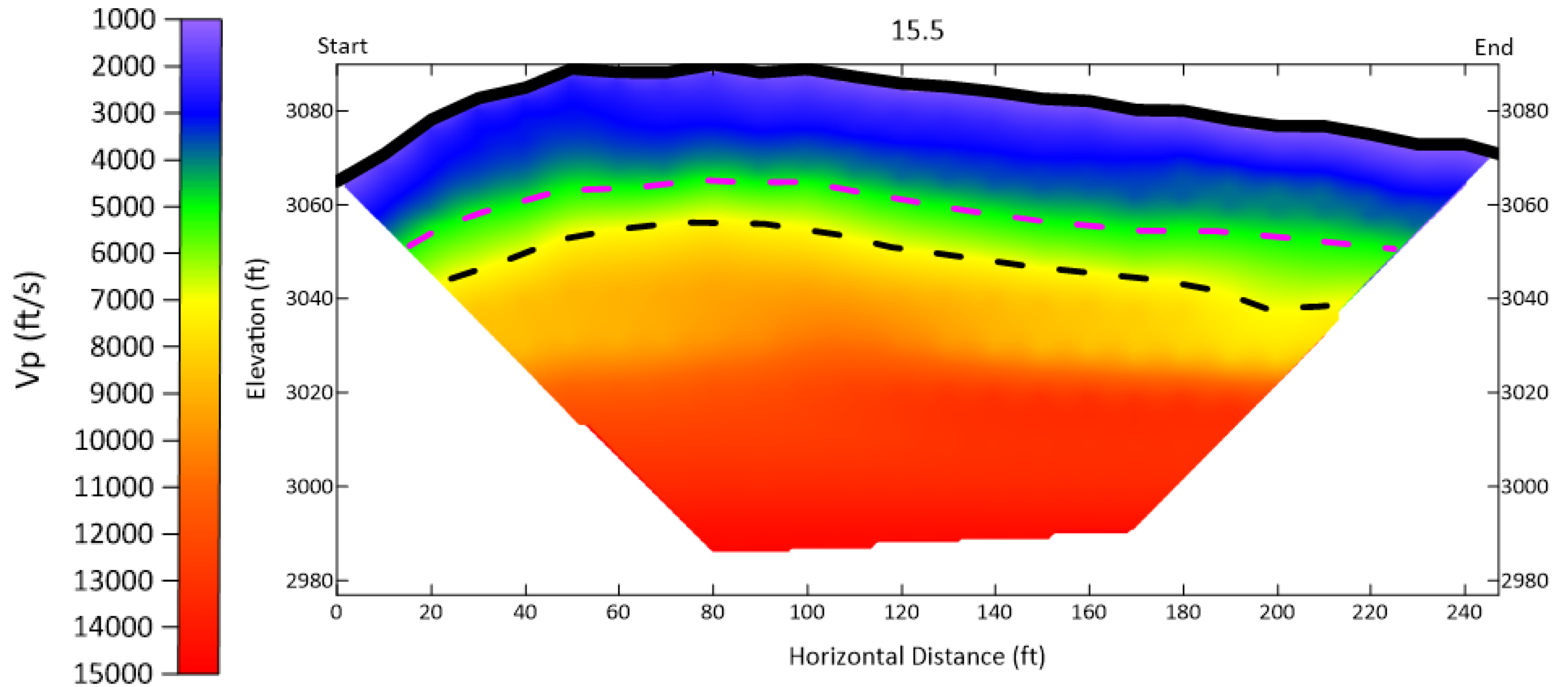


GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC

GEOPHYSICAL TEST RESULTS – SEISMIC REFRACTION LINE 15.5



GEOPHYSICAL TESTING PERFORMED BY GEL SOLUTIONS. REFERENCE "SEISMIC REFRACTION SURVEY FOR EVALUATION OF ROCK" DATED 10/01/2021

CG2 ESTIMATED WAVE SPEED FOR WEATHERED ROCK: 4,500 FT/SEC

CG2 ESTIMATED WAVE SPEED FOR CRYSTALLINE ROCK: 7,500 FT/SEC