

THE CITY OF WILLOUGHBY

RIDGE ROAD (S.R. 84)

SOIL STABILIZATION

LAKE COUNTY, OHIO

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CITY OF WILLOUGHBY OFFICIALS:

MAYOR	ROBERT FIALA
SERVICE DIRECTOR	RICH PALMISANO
FINANCE DIRECTOR	CHER HOFFMAN
LAW DIRECTOR	MIKE LUCAS

CITY OF WILLOUGHBY COUNCIL:

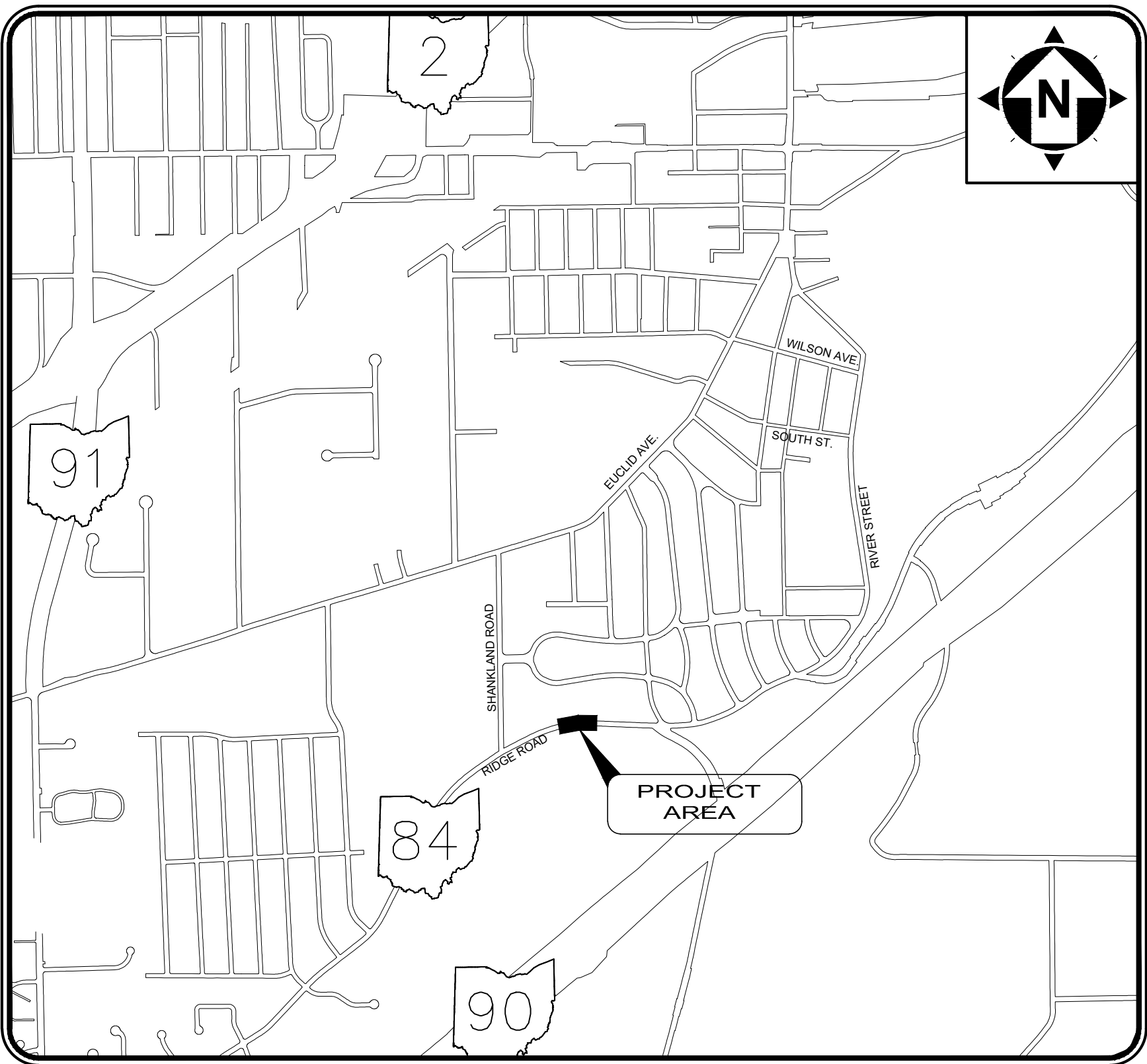
WARD 4 / PRESIDENT OF COUNCIL	ROBERT E. CARR
WARD 1	KRISTIE SIEVERS
WARD 2	KEN J. KARY
WARD 3 / VICE PRESIDENT	JOHN TOMASELLI
WARD 5	MIKE L. MERHAR
WARD 6	DANIEL J. GARRY



THE PRIMARY UTILITIES WITHIN THE CITY OF WILLOUGHBY AREA:

- CITY OF WILLOUGHBY (STORM AND SANITARY)
 - LAKE COUNTY DEPARTMENT OF UTILITIES (WATER MAINS)
 - THE ILLUMINATING COMPANY (ELECTRIC)
 - AT&T OHIO (TELECOM)
 - DOMINION ENERGY (GAS)
1. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
 2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.

JULY 2025



LOCATION MAP

NOT TO SCALE

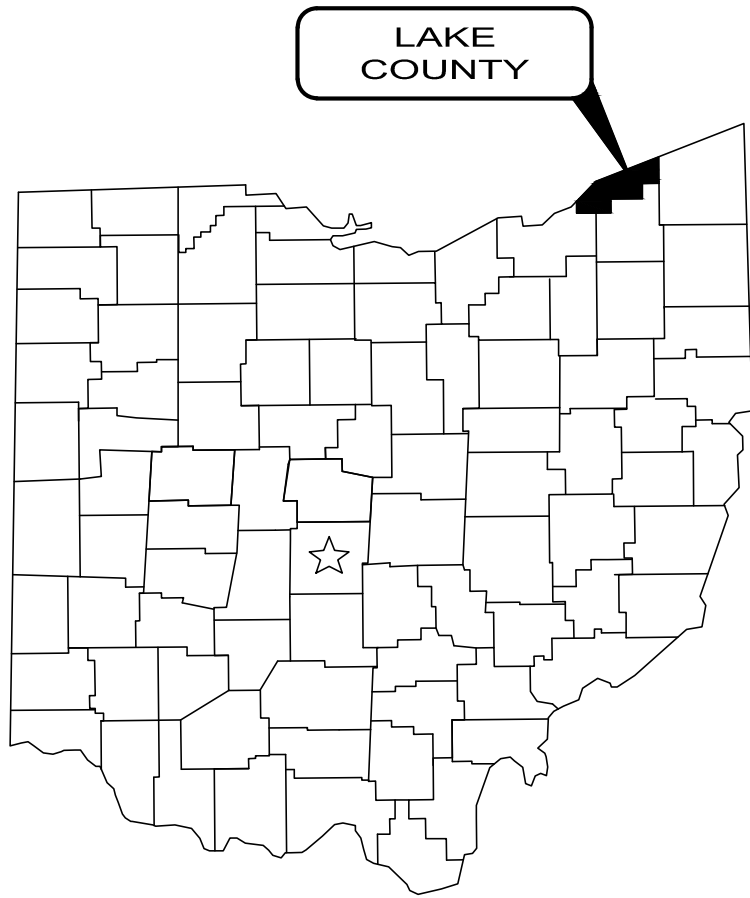
OHIO 811 DESIGN SERIAL NUMBERS & UTILITY MEMBER LIST
RIDGE ROAD NO. A414102248-00A, B412801406-00B

ENGINEER:



VERDANTAS
8150 STERLING COURT
MENTOR, OH 44060
(440) 951-9000
MICHAEL P. SASSO, P.E.

ENGINEER'S PROJECT No.240113501



ENGINEER:

VERDANTAS.
8150 STERLING COURT
MENTOR, OHIO 44060

PROJECT SITE:

THE PROJECT CONSISTS OF RIDGE
ROAD (S.R. 84) FROM ROADWAY
STA. 209+30.00 TO STA. 212+25.00



MICHAEL P. SASSO

P.E. No. 65605

DATE

verdantas

8150 STERLING COURT
MENTOR, OHIO
330-951-9000

NO	REVISION	DATE

CITY OF WILLOUGHBY RIDGE ROAD (S.R. 84) SOIL STABILIZATION	COVER SHEET
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PROJECT NO: 240113501	
DRAWING NAME	
SHEET 1	OF 12

CONTRACT SPECIFICATIONS

THE JANUARY 1, 2023 CONSTRUCTION AND MATERIAL SPECIFICATIONS, AS PUBLISHED BY THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL GOVERN ALL ASPECTS OF THE CONTRACT WORK. THE CONTRACTOR SHOULD BE FAMILIAR WITH THESE SPECIFICATIONS AND THEIR PROCEDURAL REQUIREMENTS.

STANDARD DRAWINGS

BP-5.1 DATED 7-15-22
MGS-1.1 DATED 7-21-21
MGS-2.1 DATED 1-19-18
MGS-4.3 DATED 1-18-13

O.U.P.S CALL:

THE CONTRACTOR IS RESPONSIBLE FOR CALLING THE OHIO UTILITIES PROTECTION SERVICE AT LEAST TWO DAYS BEFORE DIGGING. THE TOLL-FREE NUMBER IS (800) 362-2764.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION I63.64 O.R.C..

DESIGN DATA

CONCRETE CLASS OC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
STEEL SOLDER PILES, HP14x73 - ASTM A572, YIELD STRENGTH 50 KSI

UTILITY LINES

ALL EXPENSES INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY/SERVICE, AND THE OWNERS OF ANY OTHER UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY HAVE UTILITY LINES OR FACILITIES WITHIN THE VICINITY OF THIS PROJECT BUT WHO ARE NOT MEMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS AND OTHER LEGAL HOLIDAYS; STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION.

OHIO811: 1-800-382-2784 (CONTACT NON- MEMBERS DIRECTLY).

WORK LIMITS

ALL PHYSICAL WORK SHALL BE COMPLETED WITHIN THE TOWNSHIP RIGHT-OF-WAY ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ROAD CLOSED/MAINTENANCE OF TRAFFIC

RIDGE ROAD WILL BE CLOSED FOR A MAXIMUM OF 45 DAYS. LOCAL TRAFFIC WILL BE DETOURED. THE CONTRACTOR TO SUBMIT PLANS TO THE CITY ENGINEER FOR REVIEW.

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" - "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, GATES AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT LOCATIONS NEAR THE SLIPS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

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

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING AND OTHER TRAFFIC CONTROLS TO INSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.

ACCESS MUST BE MAINTAINED FOR RESIDENCES, EMERGENCY VEHICLES AND PEDESTRIANS INCLUDING PERSONS WITH DISABILITIES, AT ALL TIMES.

THE CITY SHALL APPROVE ALL ROAD CLOSURES AND DETOURS PRIOR TO IMPLEMENTATION.

ITEM 659 - SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE EASEMENT LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 201 - CLEARING AND GRUBBING

CONTRACTORS SHOULD INSPECT THE AREAS WHERE THE RETAINING WALLS ARE TO BE CONSTRUCTED TO FIND THE BULK OF THIS WORK. SPECIFIC TREES TO BE REMOVED HAVE NOT BEEN NOTED ON THESE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE SCOPE OF WORK REQUIRED TO CLEAR THE AREAS NEEDED TO CONSTRUCT THE VARIOUS ELEMENTS OF THIS PROJECT.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP14X73
THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBER THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT FIELD WELD OR SPLICE SOLDIER PILES; WITH PANEL SEATS BEING THE EXCEPTION.

MEASUREMENT FOR PAYMENT WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF WALL ELEVATION AND THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES - HP14X73.

SEE SHEETS 10 & 12 FOR DETAILS AND SUMMARY

ITEM 524 - DRILLED SHAFTS, 30" DIAMETER, PLUG PILES, AS PER PLAN

THESE SHAFTS ARE TO BE UN-REINFORCED NON-STRUCTURAL "PLUG PILES".

THIS WORK SHALL BE PER ITEM 524 EXCEPT REINFORCING WILL NOT BE USED IN THE SHAFT. EACH PLUG PILE SHALL BE CENTERED BETWEEN EACH REINFORCED 30" DIAMETER DRILLED SHAFT AND DRILLED TO THE TOP OF ROCK PER THE PLUG PILE DRILLED SHAFT DETAILS ON SHEET 10 AND SUMMARY ON SHEET 11-12, AND BACKFILLED WITH UN-REINFORCED CLASS OC1 CONCRETE.

SEQUENCE OF INSTALLATION

THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAT A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS REQUIREMENT IS PERMISSIBLE.

ACCESS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS. ANY TEMPORARY GRADING, AGGREGATE, DRAINAGE, SHEETING ETC. NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFT AND NO SEPARATE PAYMENT WILL BE MADE. PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND ANY SONOTUBE REQUIRED FOR FORMING THE TOPS OF THE SHAFTS. PAYMENT FOR SOIL OVERBURDEN DRILLING, WHICH IS GROUND LEVEL TO THE TOP OF THE SHAFT, SHALL BE INCLUSIVE OF ITEM 524 DRILLED SHAFTS, 30" DIAMETER, PLUG PILES, AS PER PLAN.

MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS, AS PER PLAN, WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF THE SHAFT TO THE BOTTOM OF THE SHAFT, AS DETERMINED BY THE ENGINEER.

ITEM 524 - DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN

ITEM 524 - DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SLOPE STABILITIZATION. THE 30" DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CASES. FURNISH AND INSTALL DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE SHAFTS WITHIN 3 INCHES OF THE PLAN LOCATION IN THE HORIZONTAL PLANE. IF FIELD CONDITIONS INDICATE GREATER DEPTHS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION. PLACE THE SOLDIER PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN 1" BETWEEN THE TOP AND BOTTOM.

PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF CONSTRUCTION. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS OC5 CONCRETE ACCORDING TO CMS 511. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF GROUNDWATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT, AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

SEQUENCE OF INSTALLATION

THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO REINFORCED DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN 24 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE. NO EXCAVATION SHALL BE PERFORMED IN FRONT OF THE WALL FOR 3 DAYS AFTER PLACING OF CONCRETE.

PROTECTION OF UNATTENDED OPEN SHAFTS

CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF DRILLED SHAFT EXCAVATION IF LEFT UNPOURED OVERNIGHT.

ACCESS

ANY TEMPORARY GRADING, CRANE MATS, AGGREGATE, DRAINAGE, ETC. NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. ANY FORM WORK REQUIRED TO CONSTRUCT THE TOPS OF THE DRILLED SHAFTS SHALL BE INCLUDED IN PAYMENT FOR THIS ITEM.

MEASUREMENT FOR PAYMENT OF DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF THE SHAFT TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. MEASUREMENT FOR PAYMENT OF DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, WILL ME MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF BEDROCK TO THE BOTTOM OF SHAFT, AS DETERMINED BY THE ENGINEER.

SEE SHEETS 10 & 12 FOR DETAILS AND SUMMARY.

EROSION CONTROL

ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND OTHER AREAS AS SHOWN ON PLANS SHALL BE PROPERLY RESTORED WITH 4" OF TOPSOIL, SEEDING AND MULCHING PER THE SPECIFICATIONS.

IN ALL DISTURBED AREAS, THE CONTOURS WILL BE RESTORED IN A MANNER THAT MAINTAINS EXISTING DRAINAGE PATTERNS. FOLLOWED BY SEEDING AND MULCHING. IF, DUE TO WEATHER, FINAL GRADING CANNOT BE ACCOMPLISHED IMMEDIATELY, TEMPORARY SEEDING, WITHIN THIRTY DAYS, WILL BE USED UNTIL FINAL RESTORATION CAN OCCUR.

SILT FENCING SHALL BE EXTRA STRENGTH SYNTHETIC FILTER FABRIC HAVING A MINIMUM FLOW RATE OF 0.3 GAL/SQ. FT./MINUTE AND SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0°F. TO 120°F. SEE DETAIL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING INSPECTIONS OF ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER ALL STORMS THAT PRODUCE MORE THAN ONE-HALF (1/2") INCH TOTAL RAINFALL. ANY NEEDED REPAIRS SHALL BE PERFORMED IMMEDIATELY. THE CONTRACTOR SHALL DOCUMENT ALL INSPECTIONS AND ANY REPAIRS THAT ARE DONE TO MAINTAIN EFFICIENCY.

CONTRACTOR SHALL REMOVE DAILY ALL MUD, SOIL, AND DEBRIS THAT MAY BE TRACKED ONTO EXISTING STREETS, DRIVES OR WALKS BY HIS EQUIPMENT OR THAT OF SUBCONTRACTORS OR SUPPLIERS.

THE INSTALLED EROSION CONTROL FEATURES MUST NOT ACT IN A MANNER THAT CAUSES THE AREA TO FLOOD.

THE CONTRACTOR IS TO PLUG ANY OPEN ENDS OF INSTALLED STORM SEWER AND ALL OTHER CONNECTING PIPES NOT PROTECTED BY EROSION CONTROLS, SUCH THAT AGGREGATES DO NOT CLOG THE NEW SEWER SYSTEM.

ITEM 832 - EROSION CONTROL

EROSION CONTROL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE OF LUMPS SUM.

ABBREVIATIONS:

@ - AT
CL - CENTERLINE
CLR. - CLEAR, CLEARANCE
CY - CUBIC YARD
D.S. - DRILLED SHAFT
DIA. - DIAMETER
EOP - EDGE OF PAVEMENT
EQ. SPA. - EQUAL SPACES
EX. - EXISTING
F.F. - FAR FACE
FT. - FEET
GAL - GALLONS
LS - LUMP SUM
LT. - LEFT
MIN. - MINIMUM
MISC. - MISCELLANEOUS
N.F. - NEAR FACE
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
RT. -RIGHT
SQ. - SQUARE
STA. - STATION
SY - SQUARE YARD
TR - TOWNSHIP ROAD
TYP. - TYPICAL

THE PRIMARY UTILITIES WITHIN THE CITY OF WILLOUGHBY AREA:

STORM AND SANITARY SEWERS:

CITY OF WILLOUGHBY
ONE PUBLIC SQUARE
WILLOUGHBY, OHIO 44094
PHONE: 440-951-2800
CONTACT: RICH PALMISANO

WATER MAINS:

LAKE COUNTY DEPARTMENT OF UTILITIES
ADMINISTRATION BUILDING
105 MAIN STREET
PAINESVILLE, OH 44077
PHONE: 440-350-5774
CONTACT: RANDY ROTH LISBERGER

ELECTRIC:

THE ILLUMINATING COMPANY
6896 MILLER ROAD
BRECKSVILLE, OH 44141
PHONE: 440-546-8706
CONTACT: JOHN ZASSICK

TELECOM:

AT&T OHIO
13630 LORAIN AVE.
CLEVELAND, OH 44125
PHONE: 216-534-7285
CONTACT: JAMES JANIS

GAS:

DOMINION ENERGY
ATTN: 2ND FLOOR RELOCATION DESIGN
320 SPRINGSIDE DR. SUITE 320
AKRON, OHIO 44333
EMAIL: RELOCATION@DOMINIONENERGY.COM
PHONE: 330-664-2409

ESTIMATED QUANTITIES				
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	SHEET REFERENCE
201	CLEARING AND GRUBBING	1	LUMP	
202	PAVEMENT REMOVED	820	SY	
202	CURB REMOVED	504	FT	
202	GUARDRAIL REMOVED	325	FT	
203	EXCAVATION	49	CY	
203	EMBANKMENT	40	CY	
204	SUBGRADE COMPACTION	820	SY	
204	PROOF ROLLING	1	HOURL	
452	CONCRETE APRON OR DRIVE REPLACEMENT, AS PER PLAN	76	SY	
301	ASPHALT CONCRETE BASE, PG64-22 (449)	137	CY	
304	AGGREGATE BASE	137	CY	
407	TACK COAT	99	GAL	
409	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	50	FT	
441	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) PG64-22	29	CY	
441	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 (448)	40	CY	
507	STEEL PILES, MISC.: SOLDIER PILES HP14X73	2,321	FT	2
524	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2,164	FT	2
524	DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK, AS PER PLAN	171	FT	2
524	DRILLED SHAFTS, 30" DIAMETER, PLUG PILES, AS PER PLAN	2,126	FT	2
606	GUARDRAIL TYPE MGS, AS PER PLAN	325	FT	
606	MGS ANCHOR ASSEMBLY, TYPE T	2	EACH	
609	CURB, TYPE 6	590	FT	
614	MAINTAINING TRAFFIC, AS PER PLAN	1	LUMP	2
623	CONSTRUCTION LAYOUT STAKES AND SURVEYING	1	LUMP	
624	MOBILIZATION	1	LUMP	
642	CENTERLINE DOUBLE YELLOW, TYPE 1	0.1	MI	
653	TOPSOIL FURNISHED & PLACED	13	CY	
659	SEEDING AND MULCHING, CLASS 1	115	SY	
832	EROSION CONTROL	2,000	EACH	

verdantas

8150 STERLING COURT
MENTOR, OHIO
330-951-9000

DATE

REVISION

NO

SCALE: AS SHOWN

DATE: 06/18/25

DESIGNED BY: JDB

DRAWN BY: BEK

CHECKED BY: MPS

CITY OF WILLOUGHBY
RIDGE ROAD (S.R. 84)
SOIL STABILIZATION

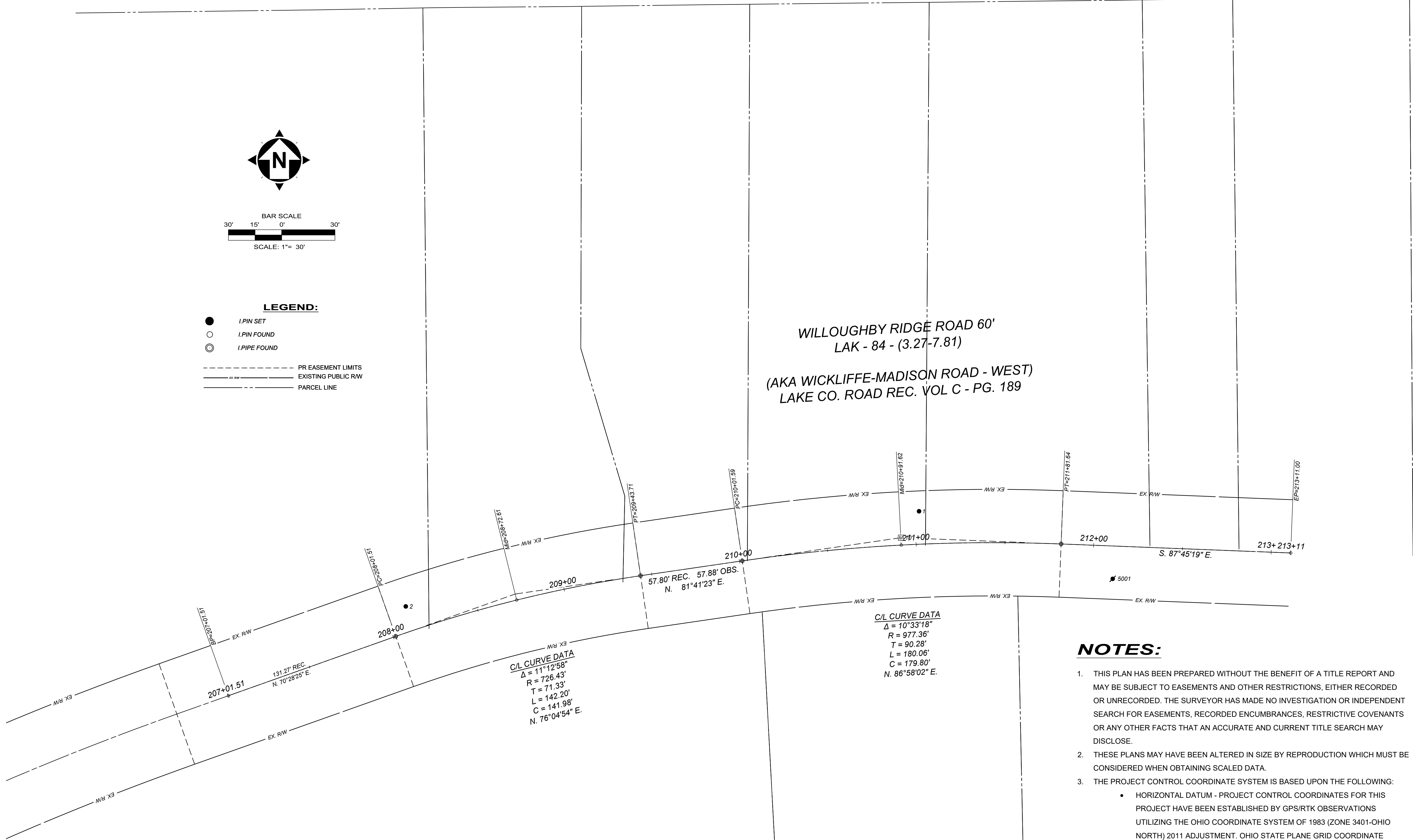
GENERAL NOTES AND
ESTIMATED QUANTITIES

PROJECT NO:
240113501

DRAWING NAME
GS

SHEET
2

OF
12



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	714854.0136	2264862.8781	731.79	Iron Pin (Set)
2	714800.4324	2264573.8949	731.27	Iron Pin (Set)
3	714843.0339	2265274.9166	729.16	Iron Pin (Set)
11	714703.0294	2264341.1318	730.60	Monument Box (Fnd)
12	714483.8974	2263915.6927	733.55	Monument Box (Fnd)
5001	714815.9908	2264971.9362	731.64	Mag Nail (Set)

NOTES:

- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS, EITHER RECORDED OR UNRECORDED. THE SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS, RECORDED ENCUMBRANCES, RESTRICTIVE COVENANTS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION WHICH MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
- THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING:
 - HORIZONTAL DATUM - PROJECT CONTROL COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS/RTK OBSERVATIONS UTILIZING THE OHIO COORDINATE SYSTEM OF 1983 (ZONE 3401-OHIO NORTH) 2011 ADJUSTMENT. OHIO STATE PLANE GRID COORDINATE VALUES ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET.
 - VERTICAL DATUM - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE SURVEY AND STREET ALIGNMENTS SHOWN HEREON WERE OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR OTHER PURPOSES. THE PROPERTY LINES SHOWN HEREON ARE SUBJECT TO AN ACCURATE BOUNDARY SURVEY AND ARE BASED ON FOUND MONUMENTS LOCATED IN THE FIELD AND BEST FIT TO THE RECORDS.
- AN ALTA/ NSPS LAND TITLE SURVEY WAS NOT PERFORMED.
- EASEMENTS, RECORD RESTRICTIONS AND SETBACKS WERE NOT ADDRESSED DURING THIS SURVEY.
- ALL DIMENSIONS GIVEN ARE EXPRESSED IN U.S. SURVEY FEET.
- THE BENCHMARK ELEVATIONS SHOWN IN THE PROJECT CONTROL TABLE ARE AT THE TOP OF THE RED CAP OF THE IRON PIN SET.
- IRON PINS SET ARE 5/8" DIAM. BY 30" LONG STEEL REINFORCING BARS WITH A RED CAP INSCRIBED WITH "CT REFERENCE"

verdantas

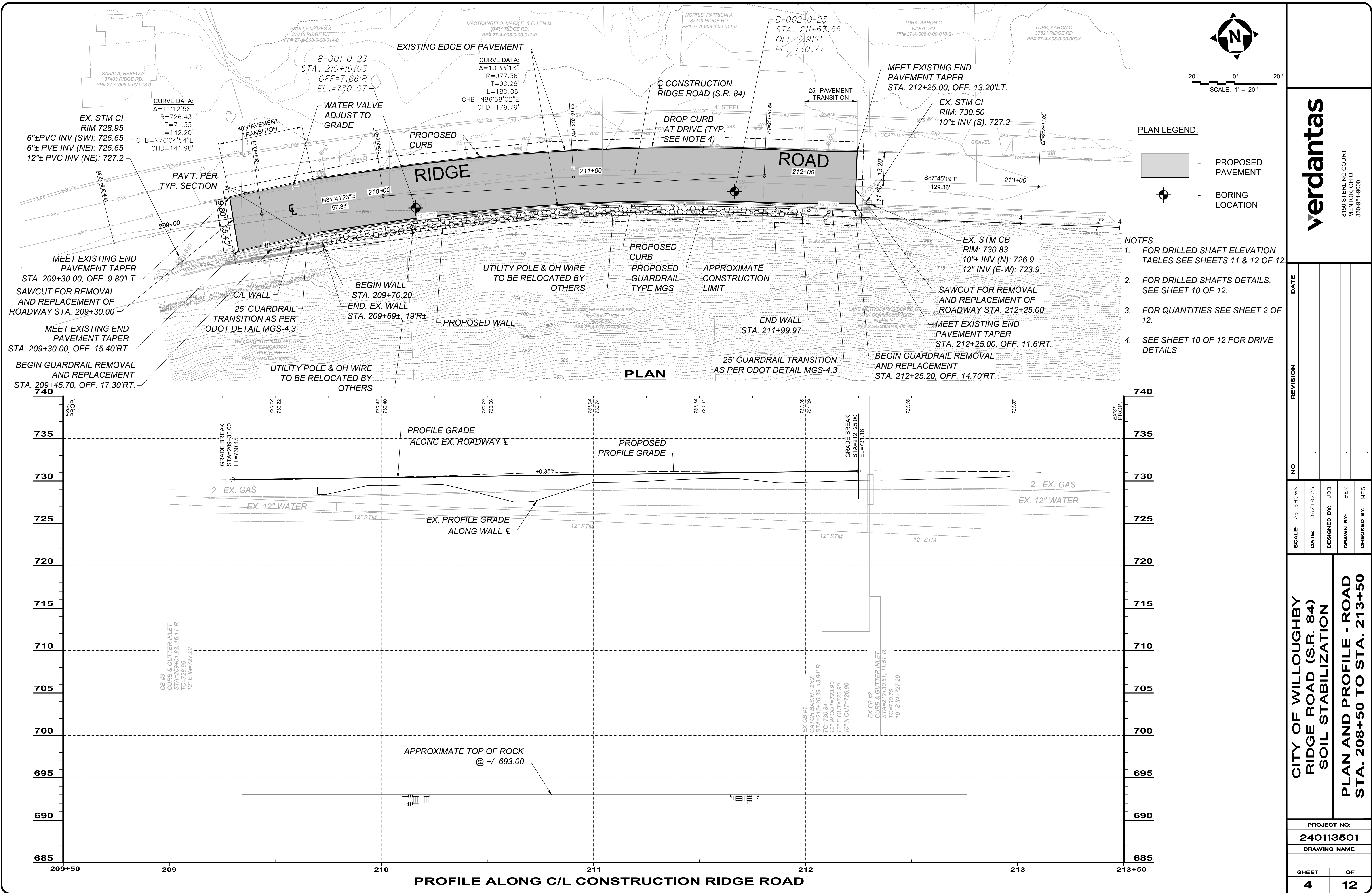
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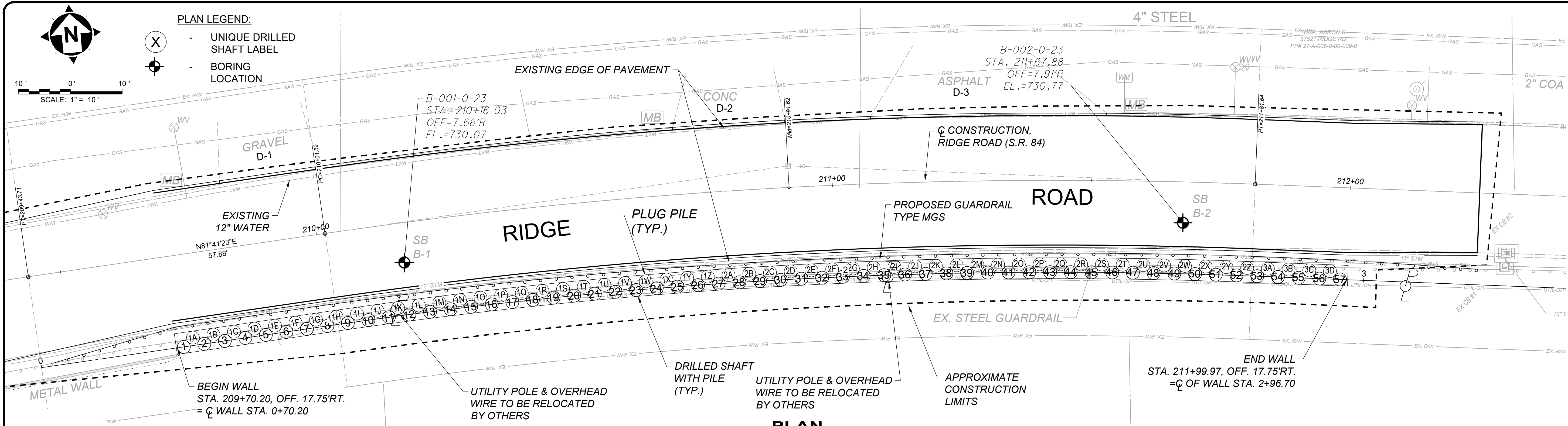
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CITY OF WILLOUGHBY
RIDGE ROAD (S.R. 84)
SOIL STABILIZATION

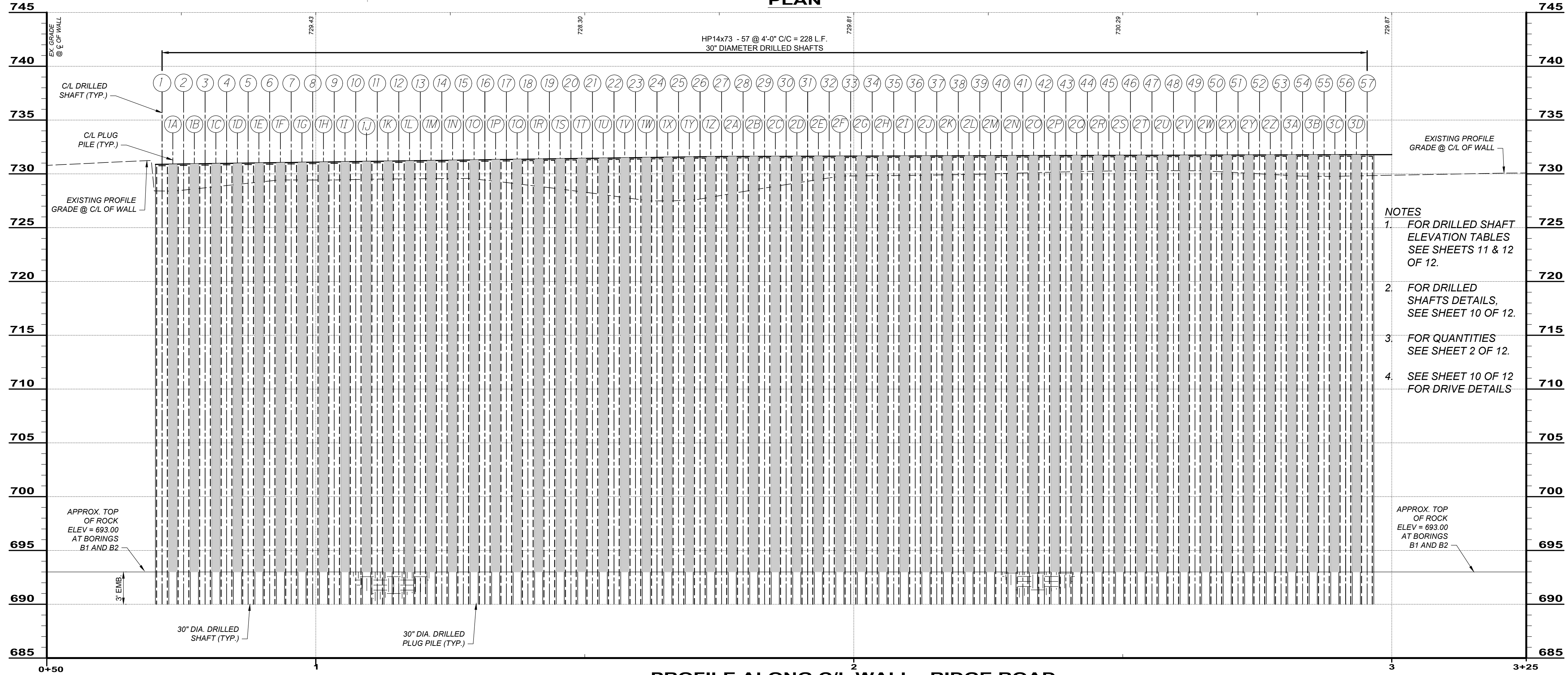
CONTROL SHEET

PROJECT NO:	
240113501	
DRAWING NAME	
SHEET	OF
3	12





PLAN



PROFILE ALONG C/L WALL - RIDGE ROAD

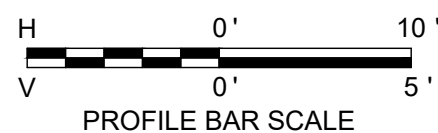
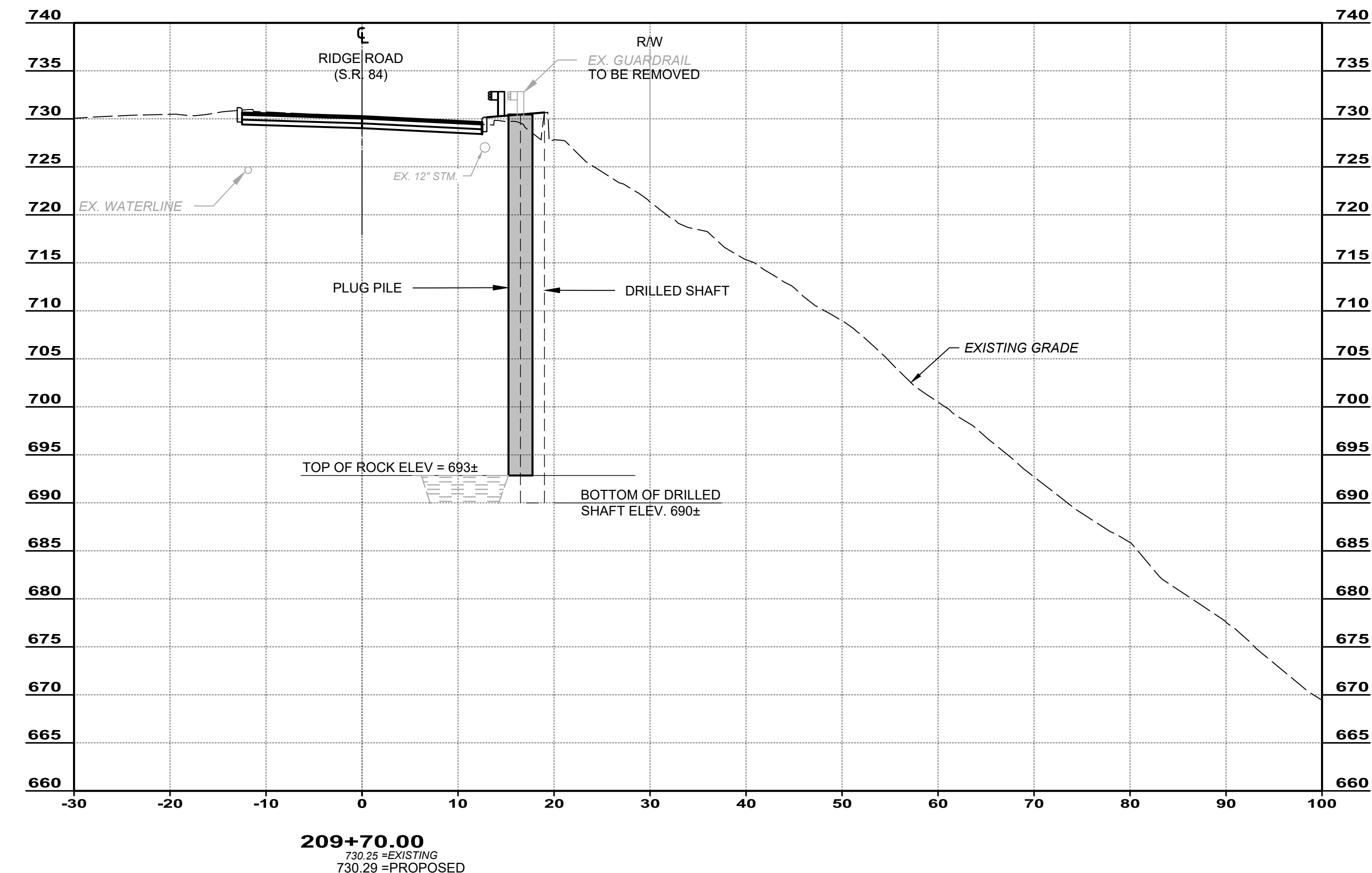
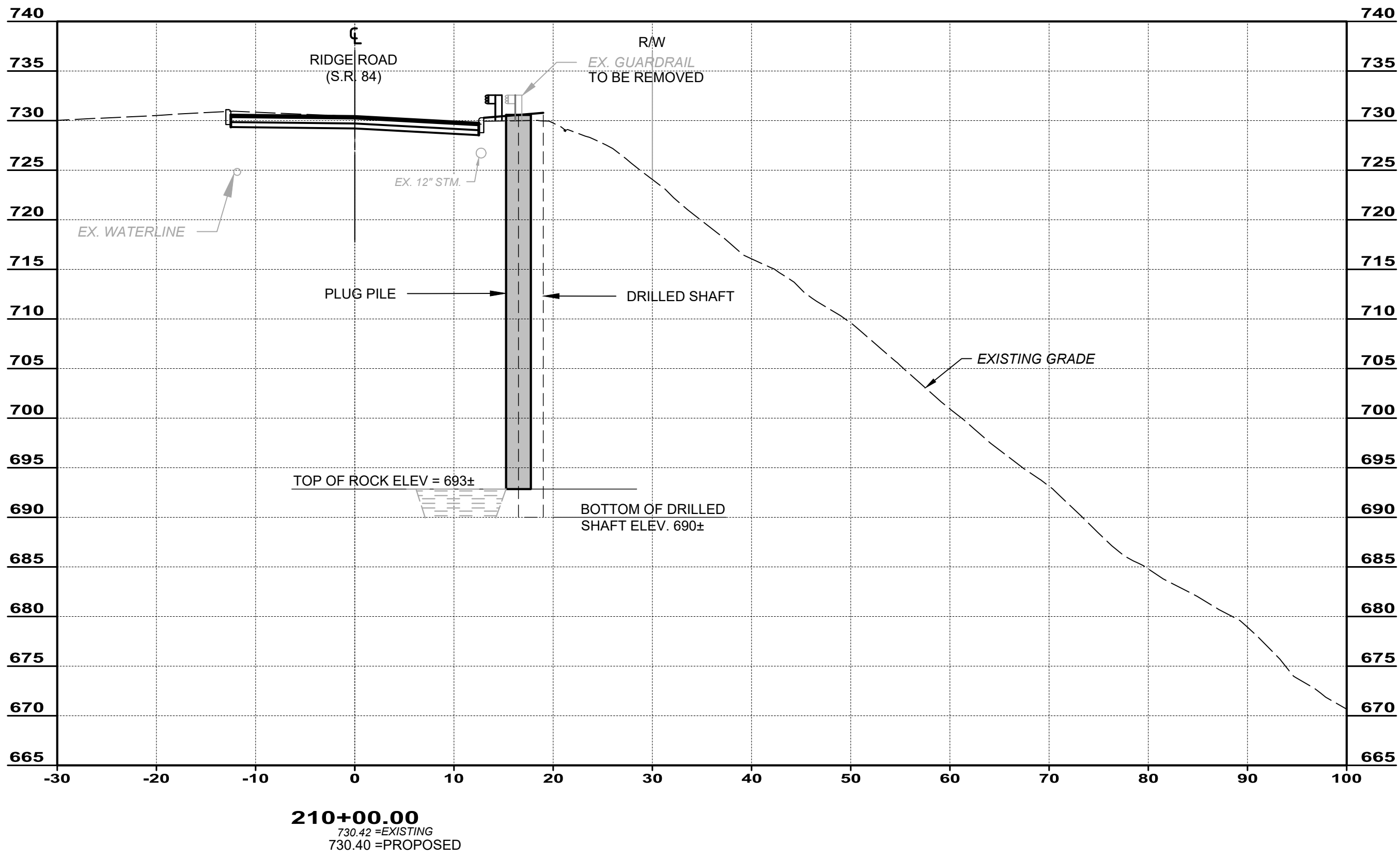
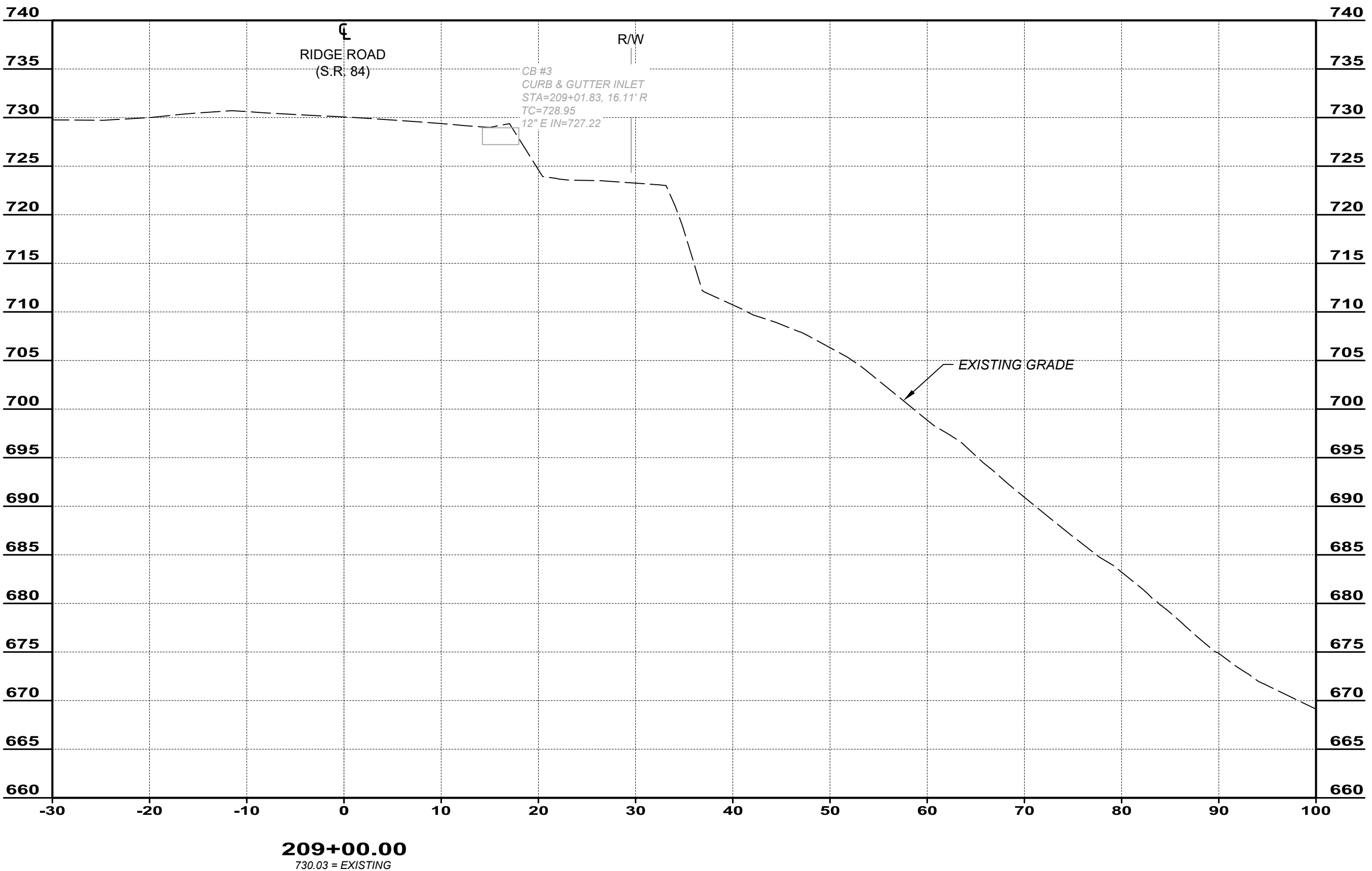
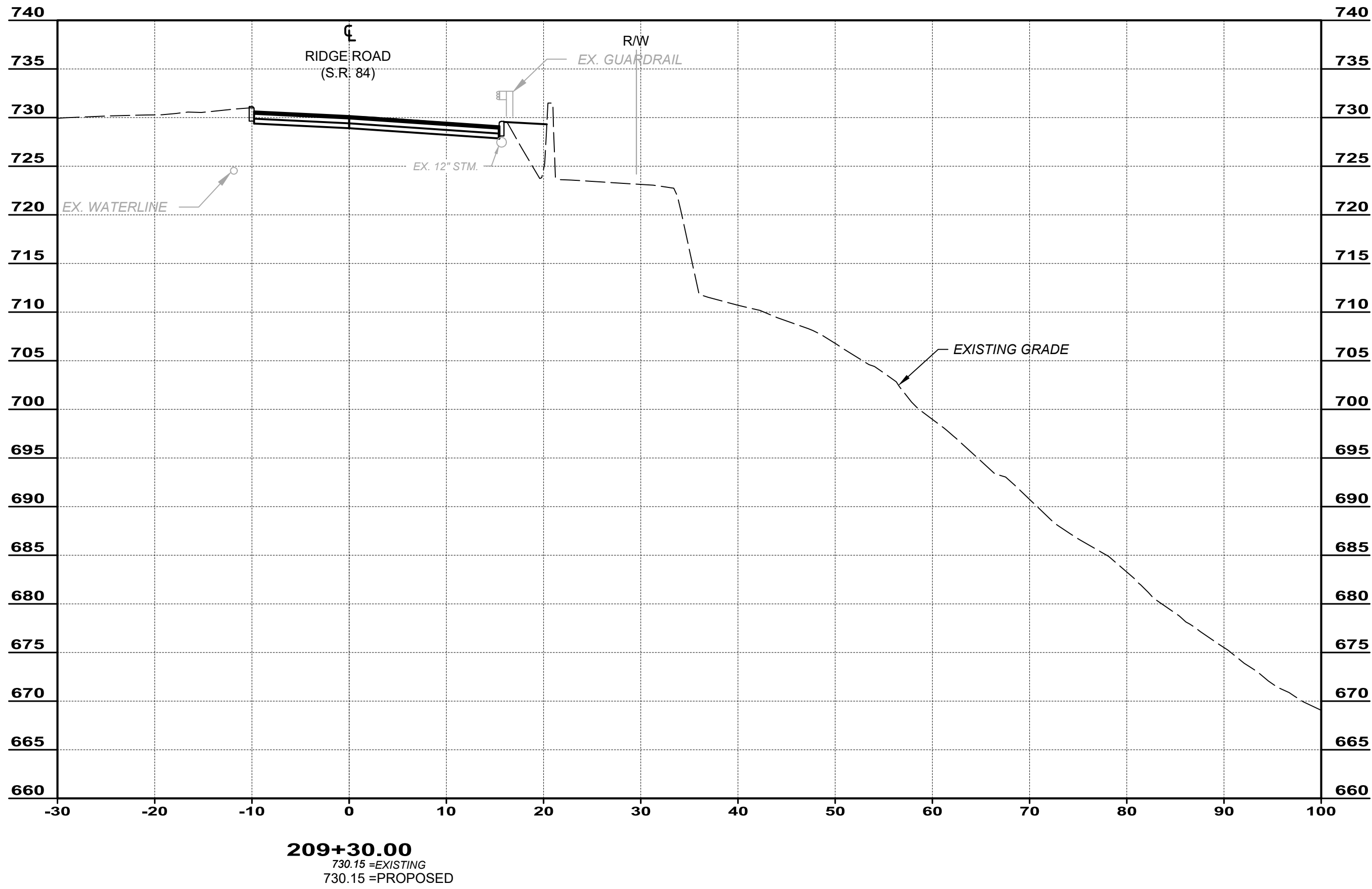
- NOTES
1. FOR DRILLED SHAFT ELEVATION TABLES SEE SHEETS 11 & 12 OF 12.
 2. FOR DRILLED SHAFTS DETAILS, SEE SHEET 10 OF 12.
 3. FOR QUANTITIES SEE SHEET 2 OF 12.
 4. SEE SHEET 10 OF 12 FOR DRIVE DETAILS

verdantas

8150 STERLING COURT
MENTOR, OHIO
330-951-9000

DATE	REVISION	NO

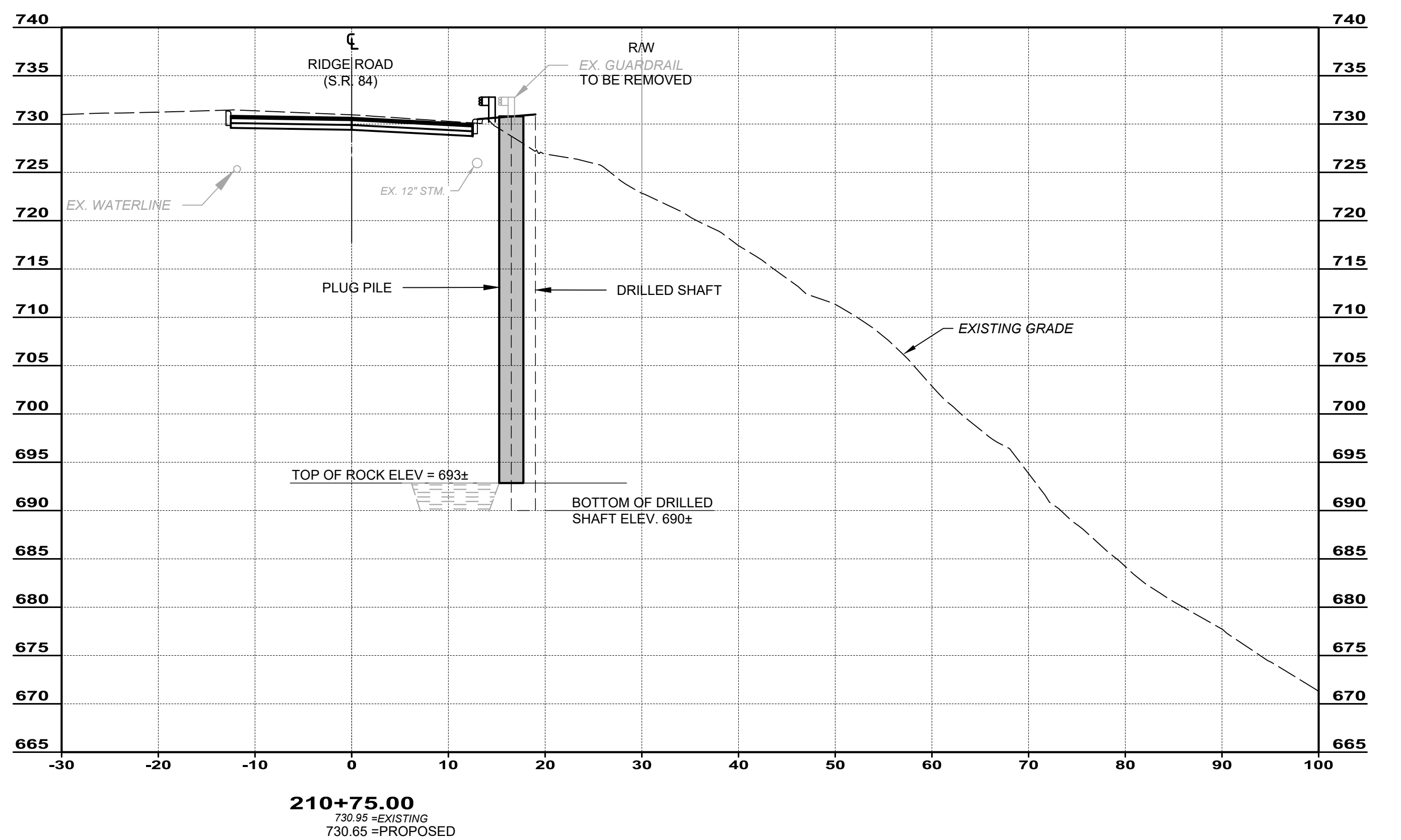
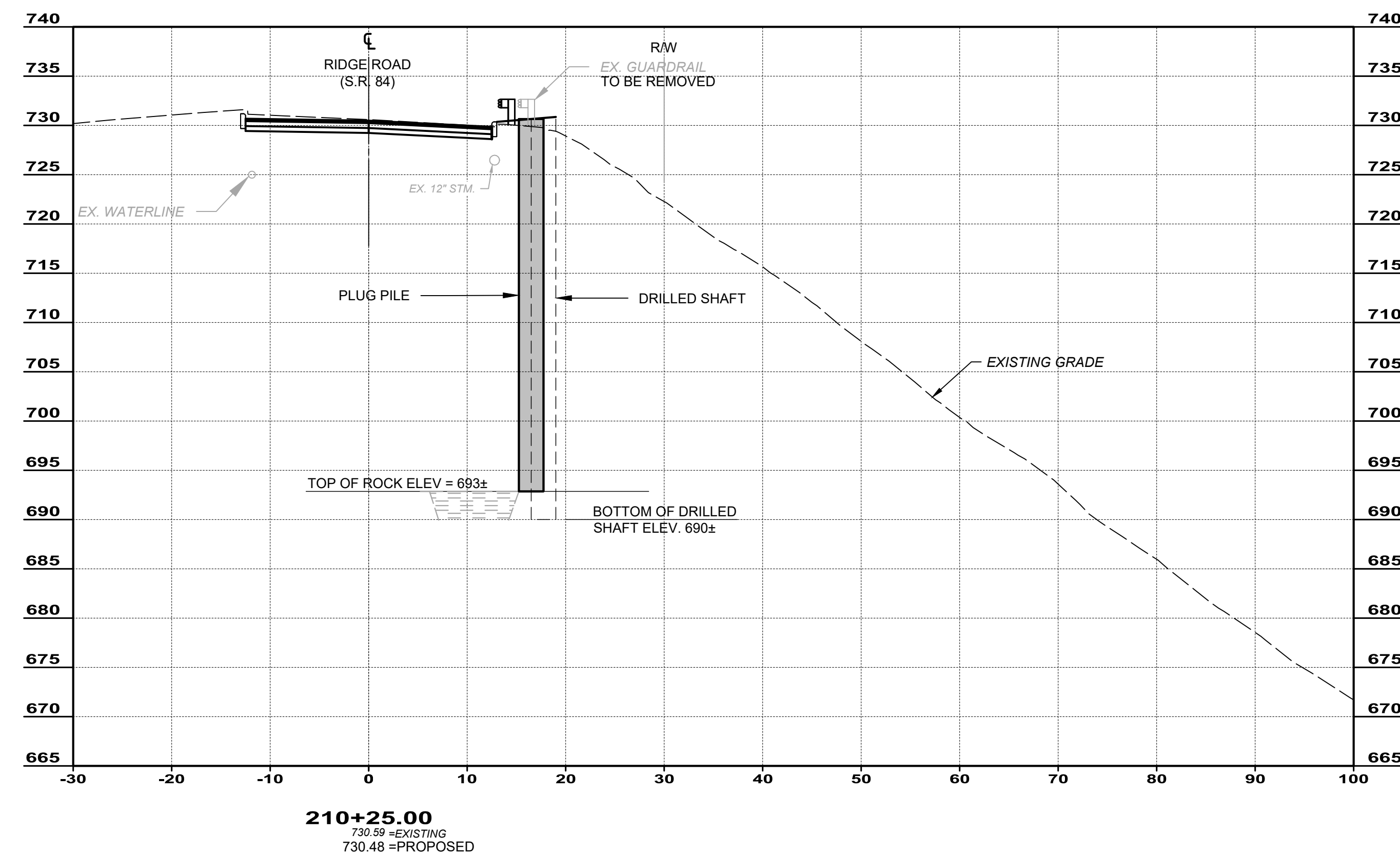
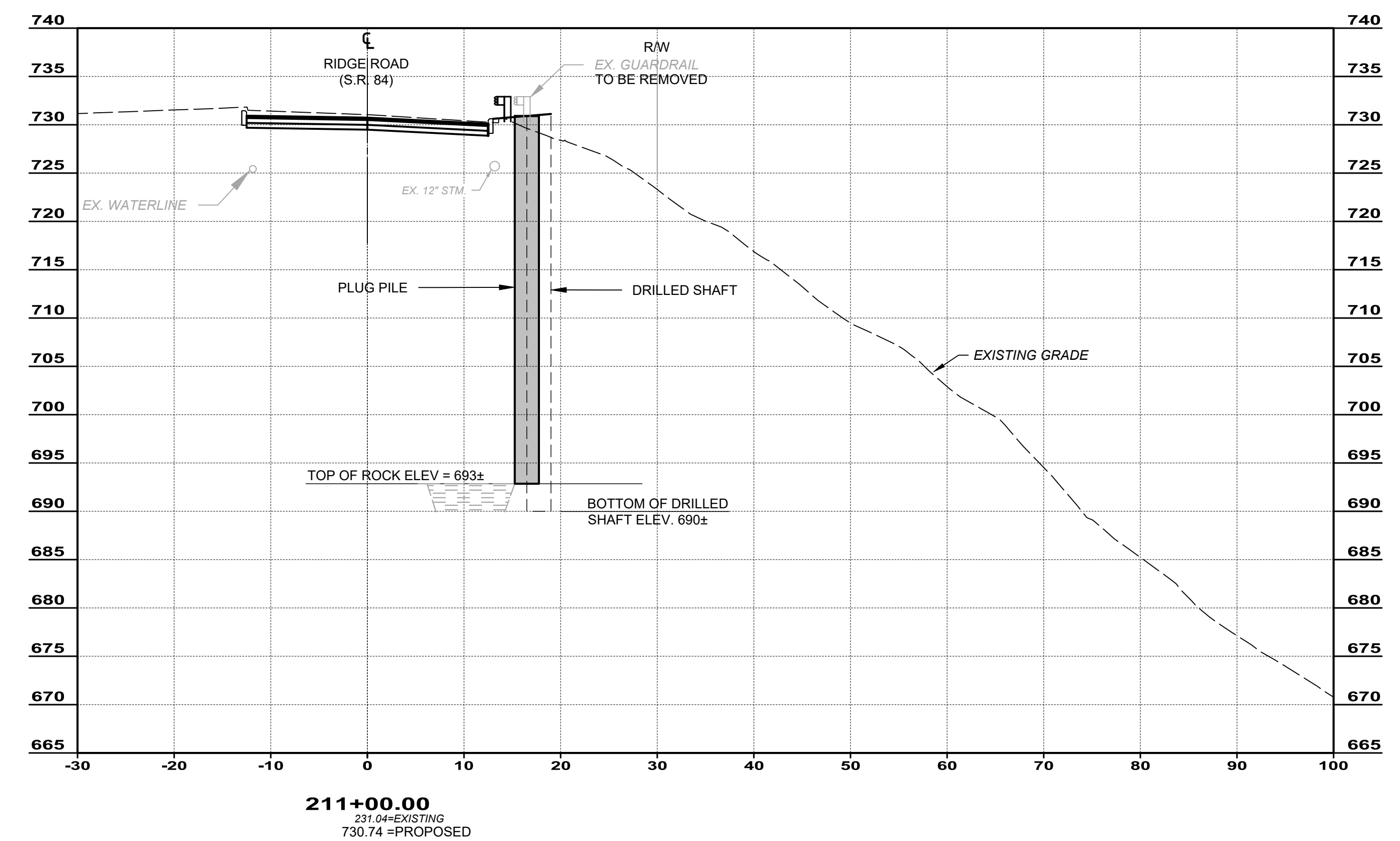
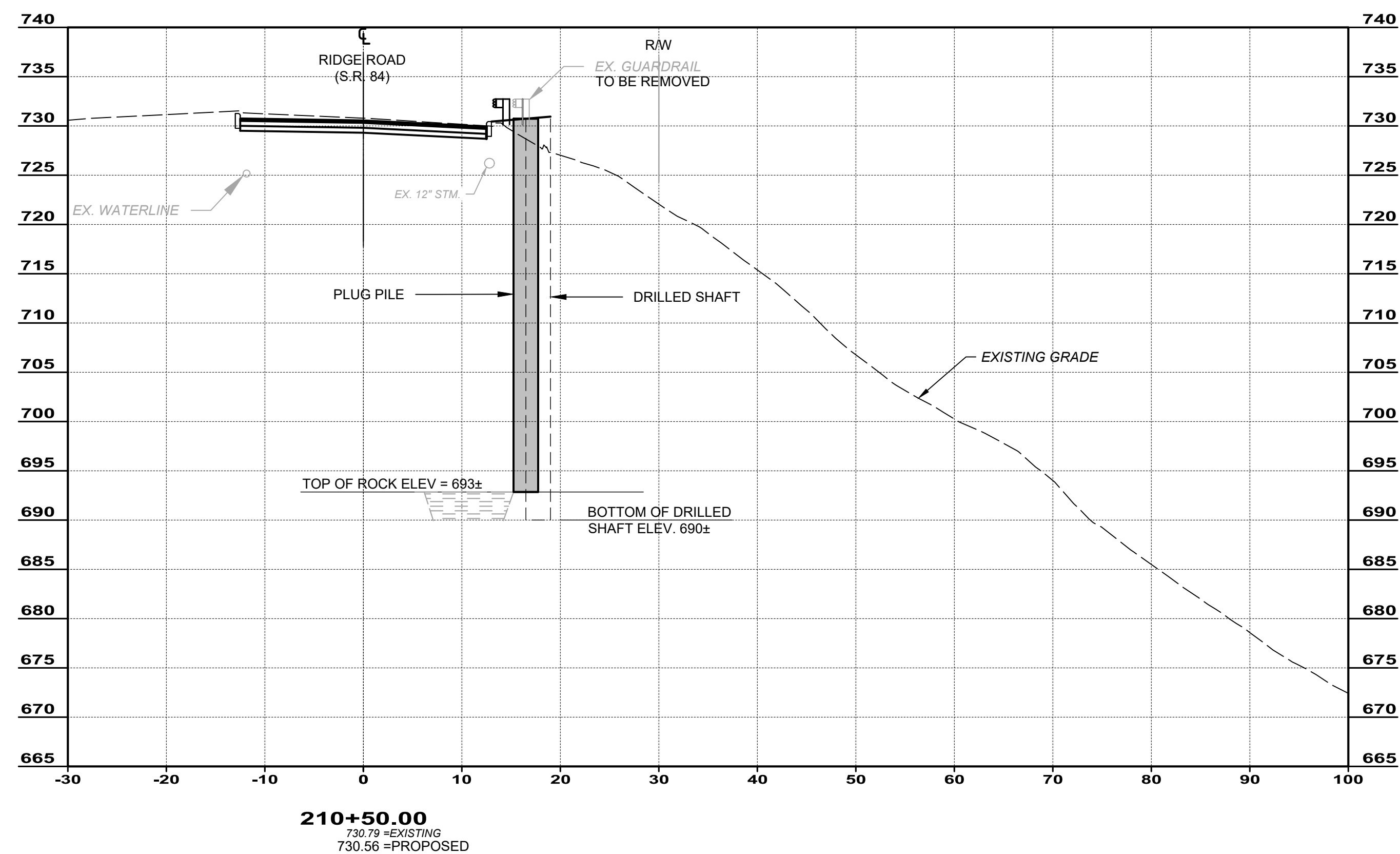
SCALE: AS SHOWN	DATE: 06/16/25	DESIGNED BY: JDB	DRAWN BY: BEK	CHECKED BY: MPS
CITY OF WILLOUGHBY RIDGE ROAD (S.R. 84) SOIL STABILIZATION				
PLAN AND PROFILE - WALL STA. 0+70.20 TO STA. 2+96.70				
PROJECT NO: 240113501				
DRAWING NAME				
SHEET 5		OF 12		

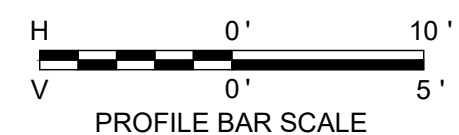
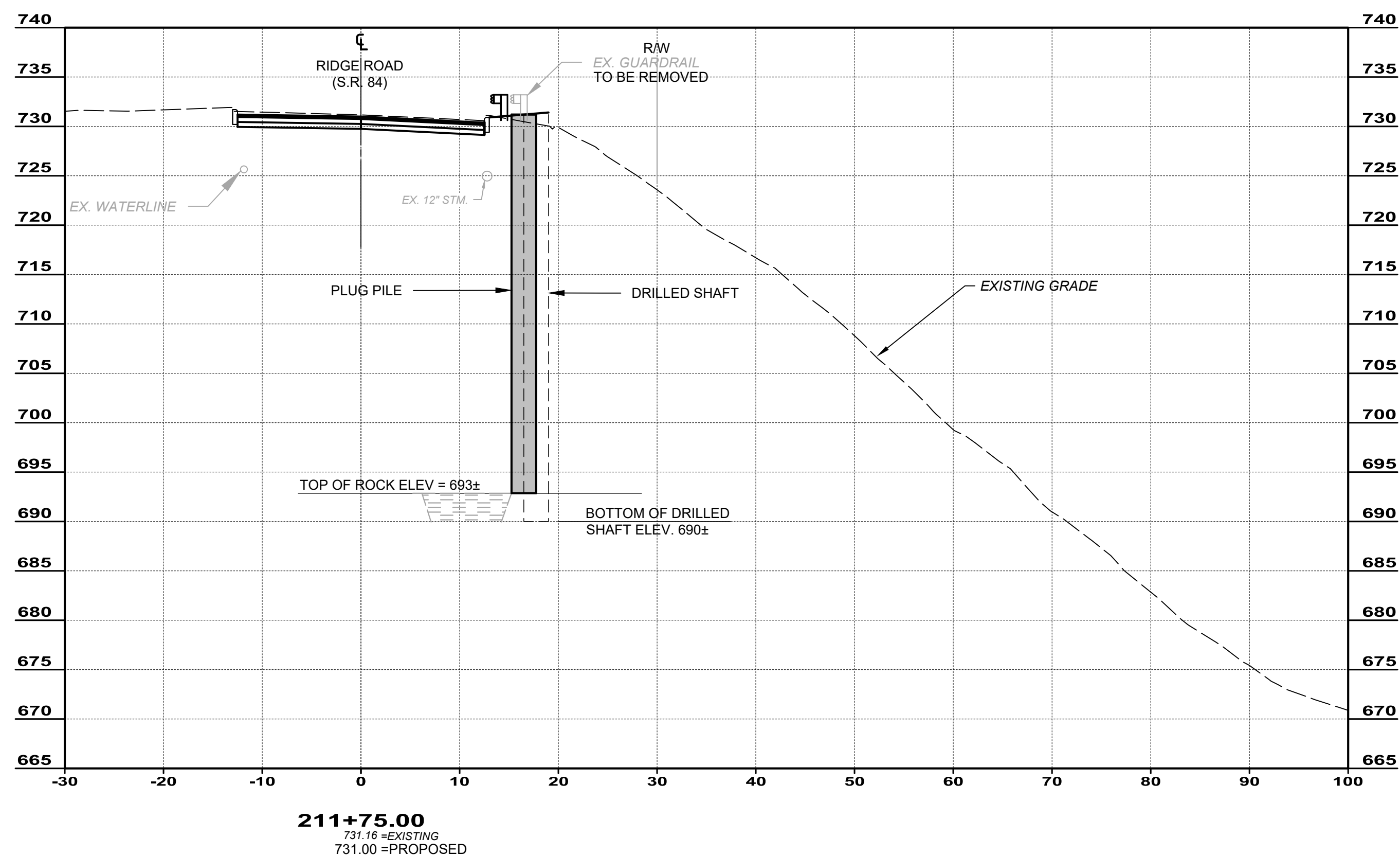
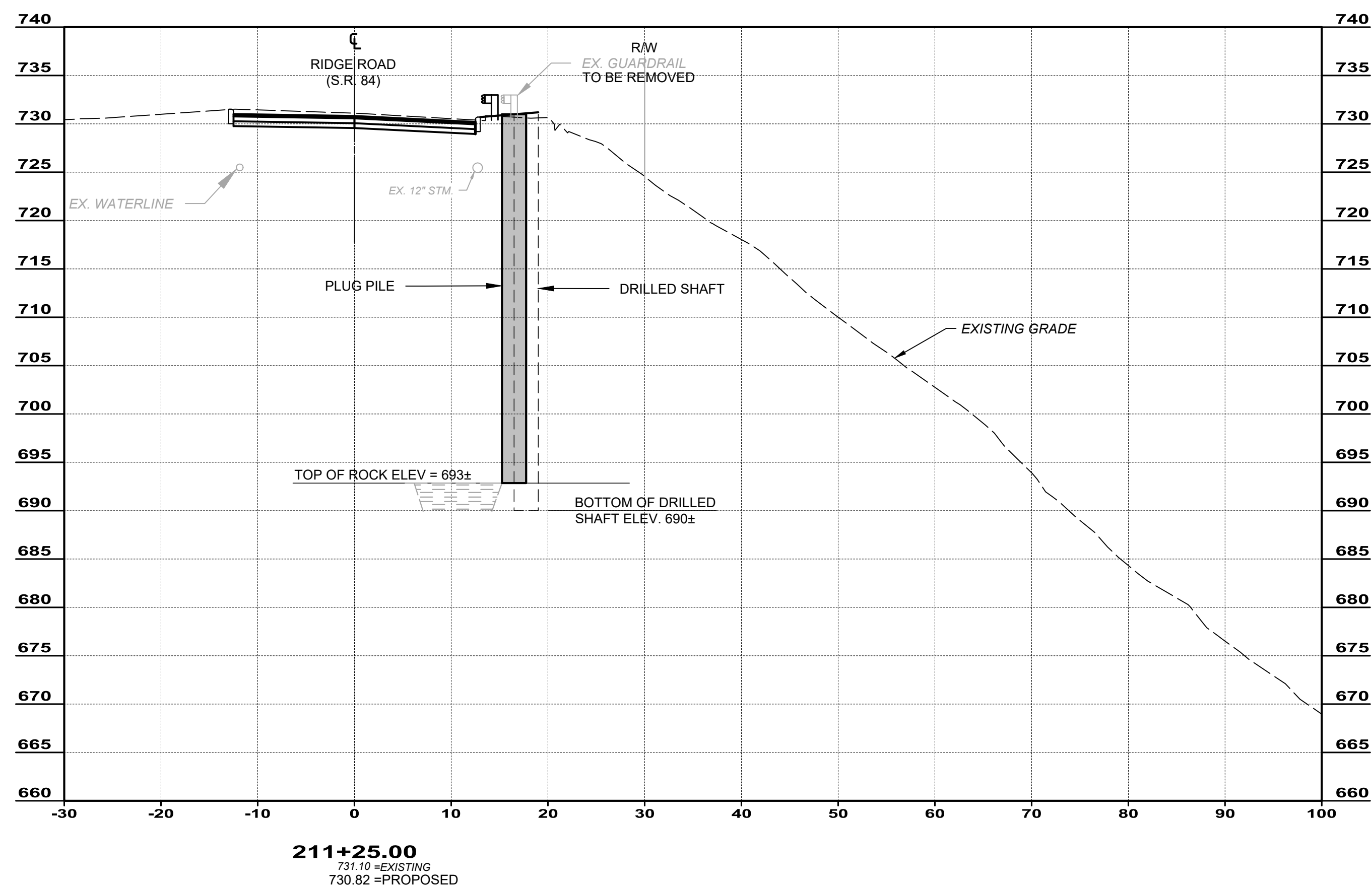
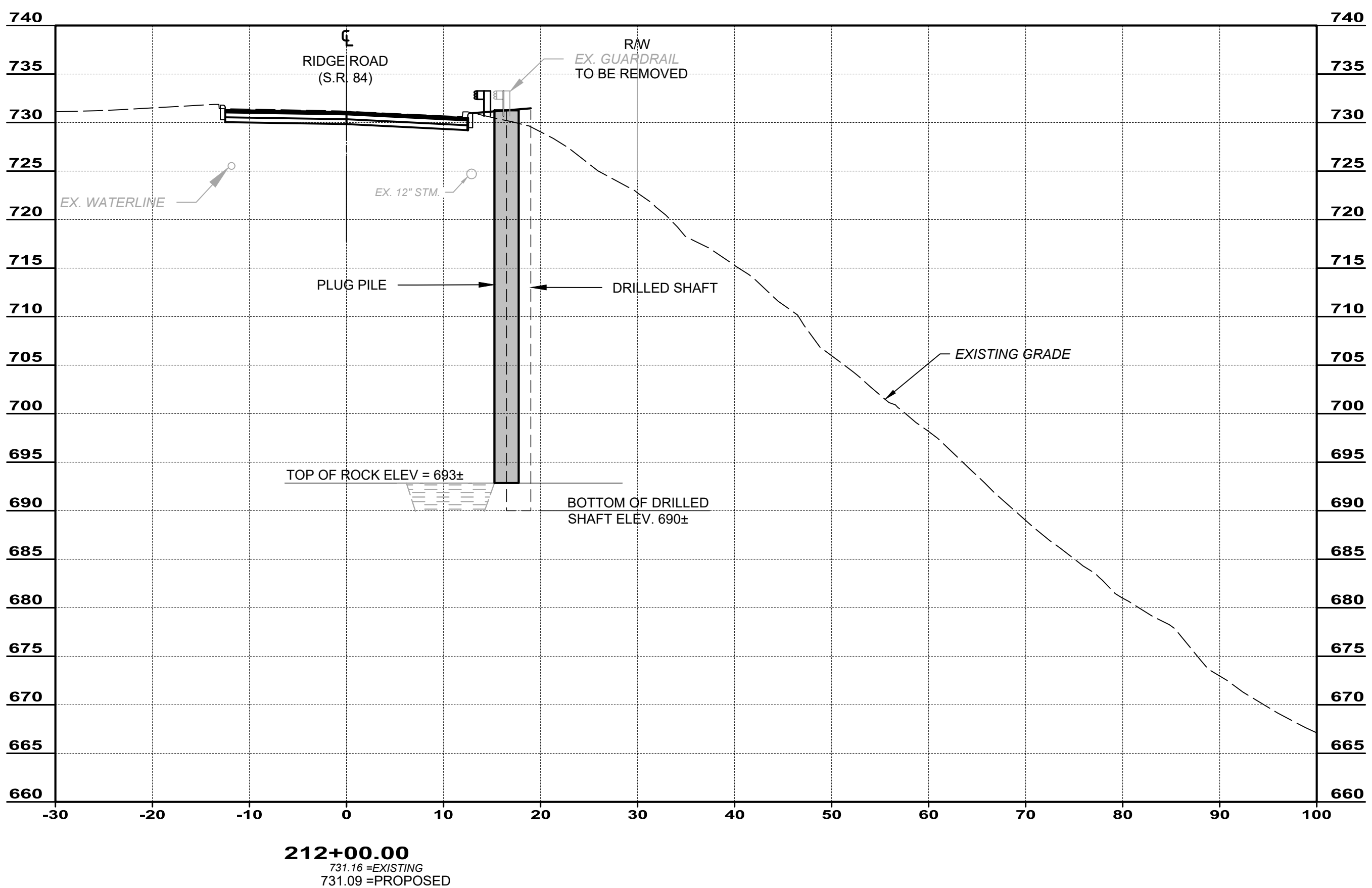
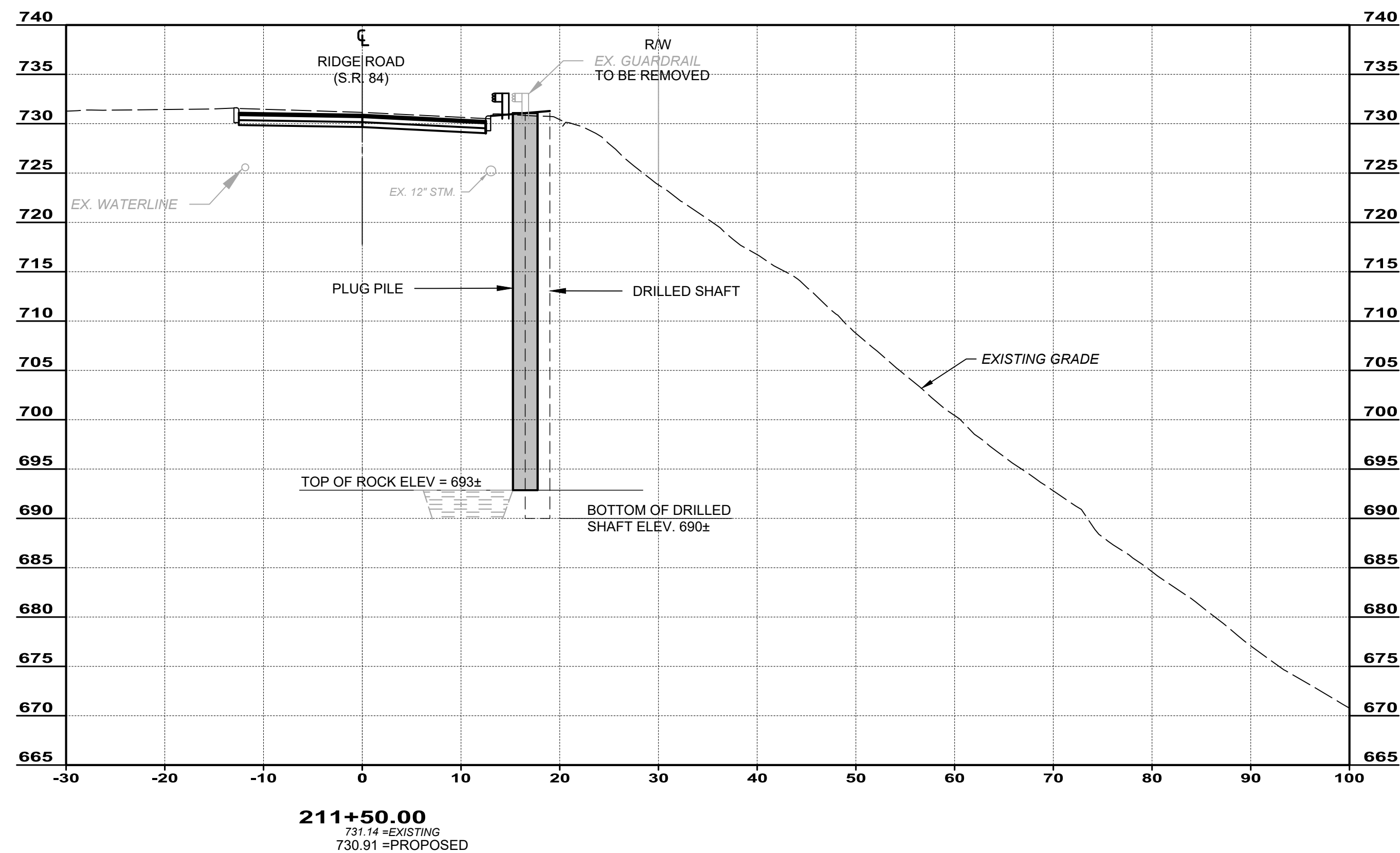


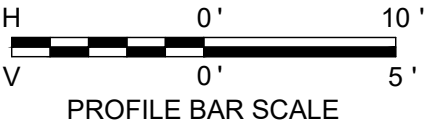
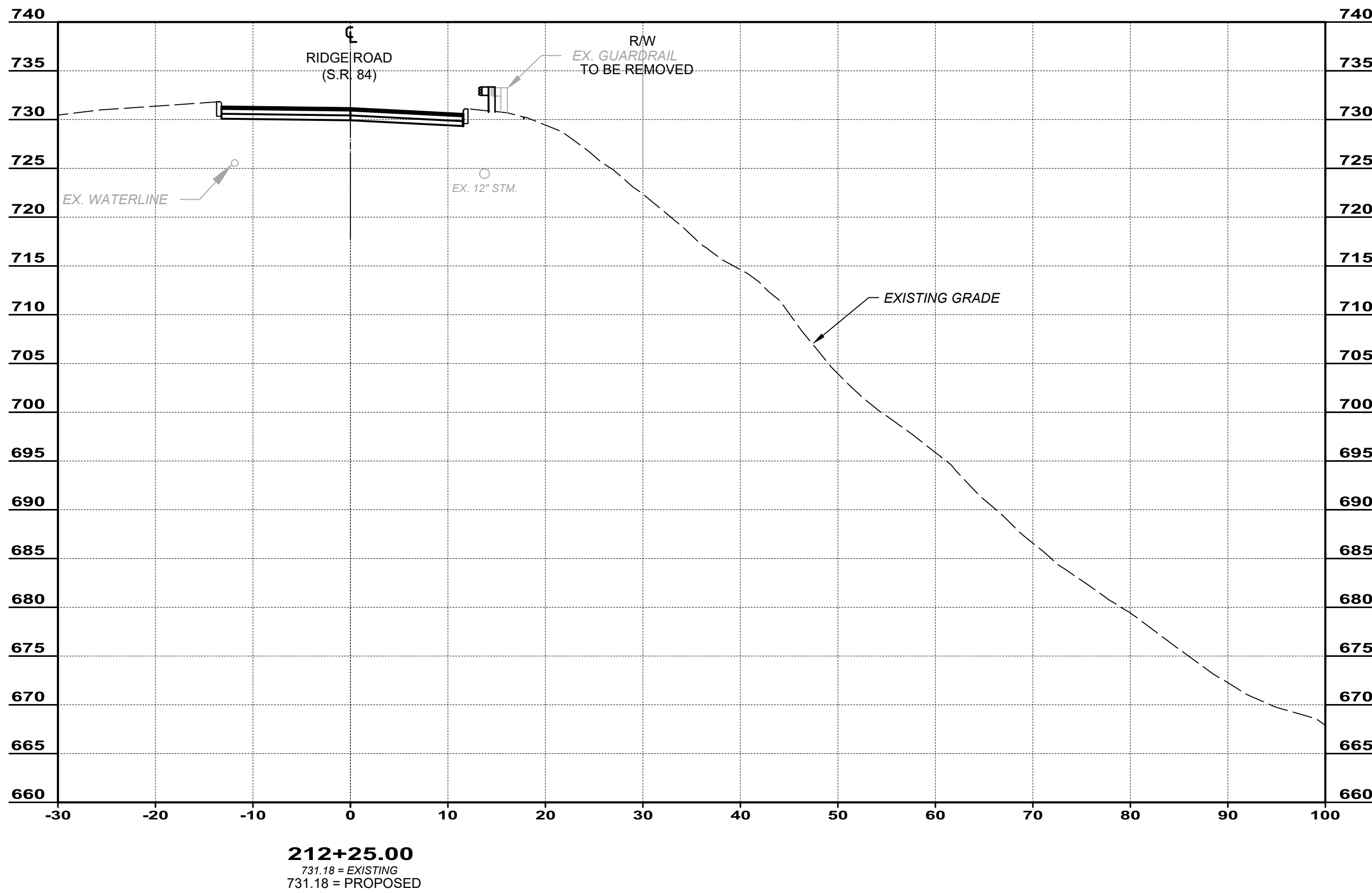
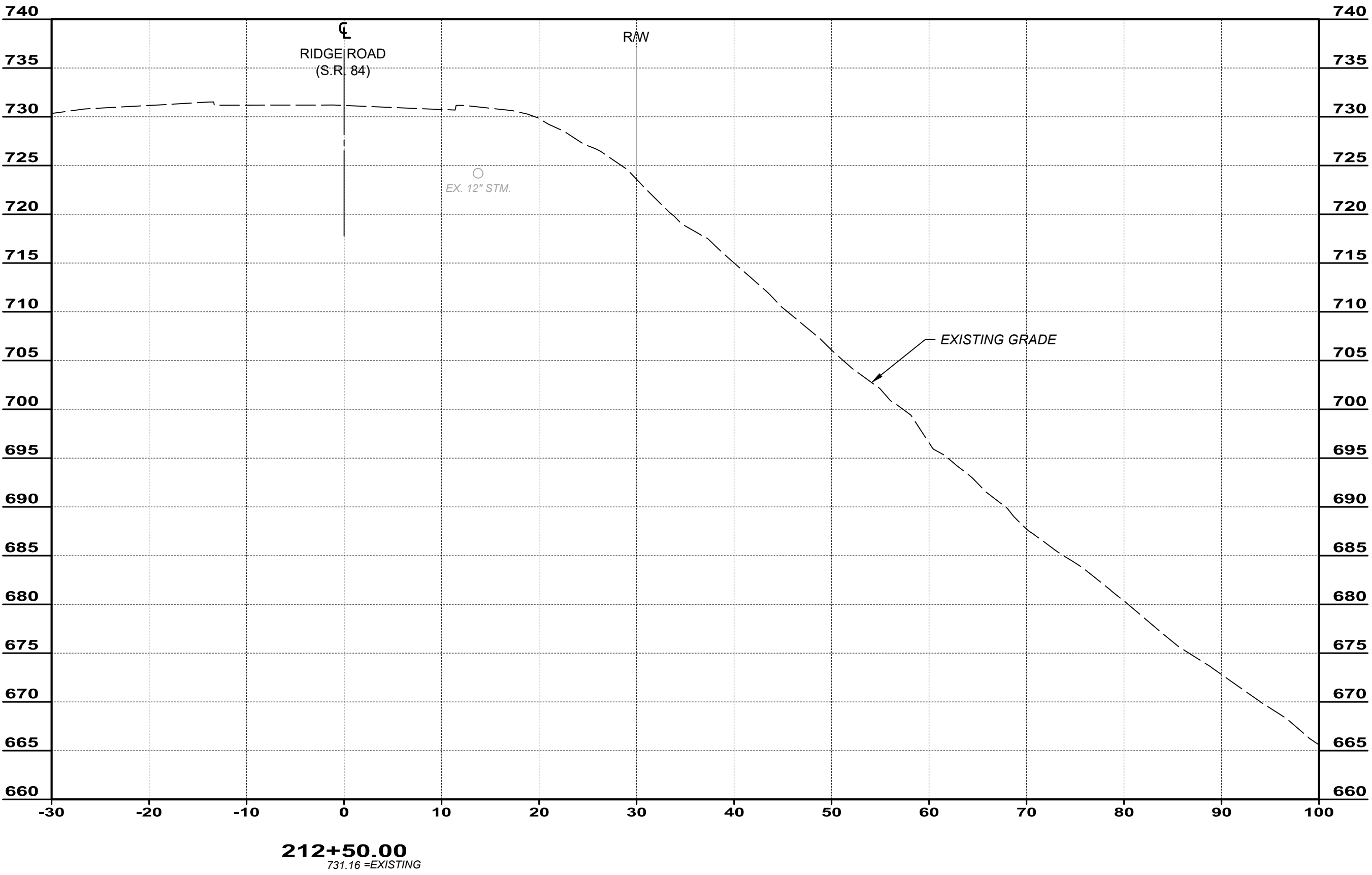
NO	REVISION	DATE

SCALE: AS SHOWN	DATE: 06/18/25	DESIGNED BY: JDB	DRAWN BY: BEK	CHECKED BY: MPS
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PROJECT NO: 240113501	
DRAWING NAME	
SHEET 6	OF 12





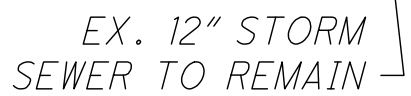


NO	REVISION	DATE
1		
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SCALE: AS SHOWN	DATE: 06/18/25
DESIGNED BY: JDB	DRAWN BY: BEK
CHECKED BY: MPS	

CITY OF WILLOUGHBY
RIDGE ROAD (S.R. 84)
SOIL STABILIZATION
CROSS SECTIONS
STA. 212+25 TO STA. 212+50

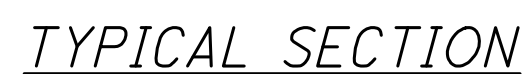
PROJECT NO: 240113501	
DRAWING NAME	
SHEET 9	OF 12



LEGEND:

- NOTES:

1. FOR PLAN AND PROFILE OF ROADWAY AND WALL, SEE SHEET 4 & 5 OF 12.
2. FOR DRILLED SHAFTS ELEVATIONS, SEE SHEET 11 & 12 OF 12.
3. FOR GENERAL NOTES, SEE SHEET 2 OF 12.



8'-0" MIN.
MATCH EX.
IF GREATER

EXIST. DRIVE

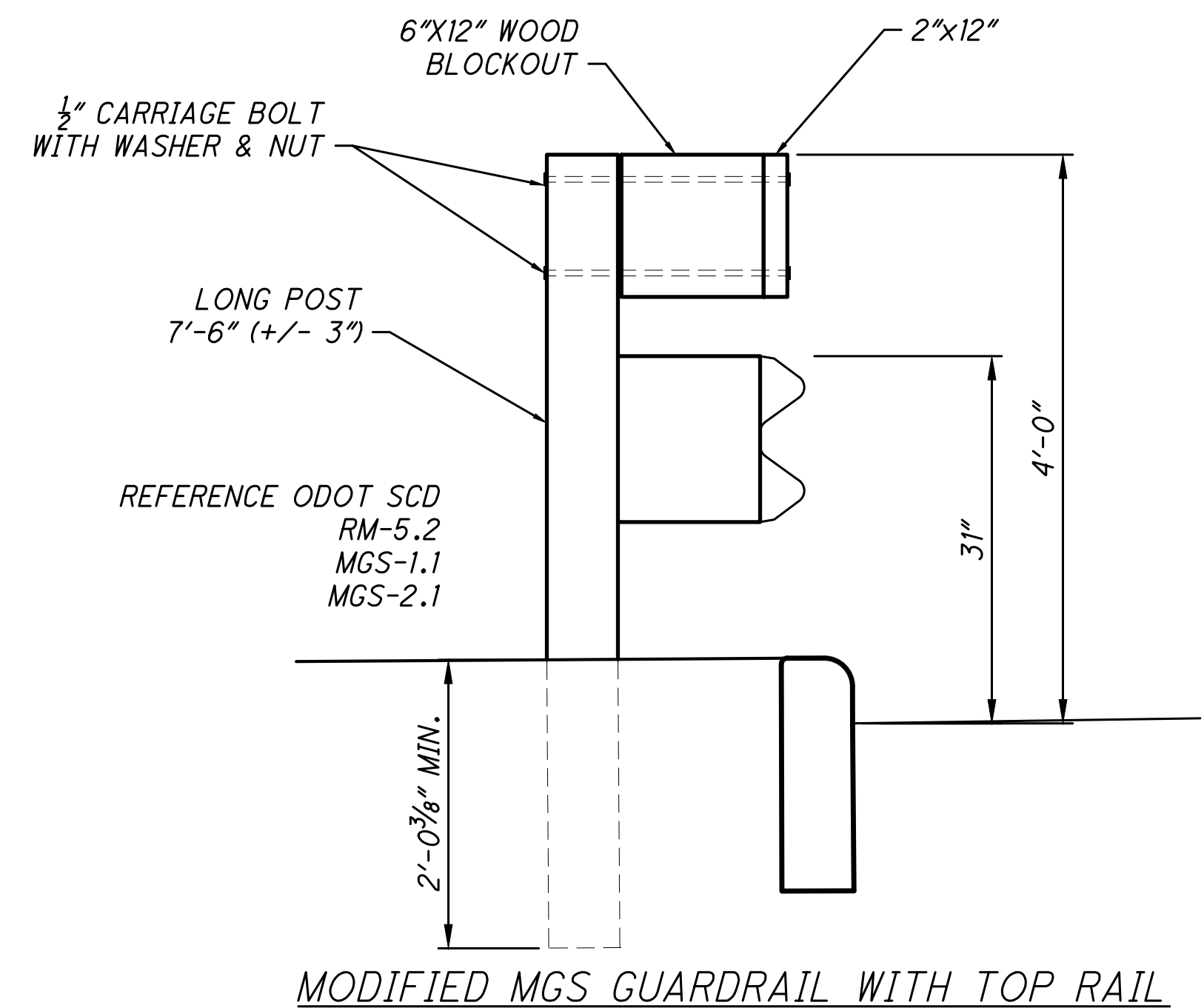
ITEM 452 - 6" NON-REINFORCED
CONCRETE PAVEMENT, CLASS
OC MS, RESIDENTIAL DRIVE

BACK EDGE
OF CURB

18" DROP CURB
TRANSITION (TYP.)
SEE DETAIL ON
ODOT SCD BP-4.1

W2

W1



H:\240113501\DWG\SHEETS\C_240113501_ TYPICAL-CHARTS.DWG - TYPICAL - 7/18/2025 11:16:47 AM - BRIAN KEL

DRILLED SHAFT SUMMARY TABLE									
DRILLED SHAFT NO.	CL WALL STATION	RIDGE ROAD PGE	OFFSET* (FT)	ITEM 524 DRILLED SHAFT, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN (FT.)	ITEM 524 DRILLED SHAFT, 30" DIAMETER, INTO BEDROCK, AS PER PLAN (FT.)	TOP OF STEEL PILE (ELEV.)	BOTTOM OF PILE (ELEV.)	TOP OF SHAFT (ELEV.)	TOTAL STEEL PILE LENGTH
	0+30.00	730.15	GRADE BREAK						
1	0+71.45	730.30	17.75	37.57	3.00	730.32	690.00	730.57	40.32
2	0+75.45	730.31	17.75	37.58	3.00	730.33	690.00	730.58	40.33
3	0+79.45	730.32	17.75	37.59	3.00	730.34	690.00	730.59	40.34
4	0+83.45	730.34	17.75	37.61	3.00	730.36	690.00	730.61	40.36
5	0+87.45	730.35	17.75	37.62	3.00	730.37	690.00	730.62	40.37
6	0+91.45	730.37	17.75	37.64	3.00	730.39	690.00	730.64	40.39
7	0+95.45	730.38	17.75	37.65	3.00	730.40	690.00	730.65	40.40
8	0+99.45	730.40	17.75	37.66	3.00	730.41	690.00	730.66	40.41
9	1+03.45	730.41	17.75	37.68	3.00	730.43	690.00	730.68	40.43
10	1+07.45	730.42	17.75	37.69	3.00	730.44	690.00	730.69	40.44
11	1+11.45	730.44	17.75	37.71	3.00	730.46	690.00	730.71	40.46
12	1+15.45	730.45	17.75	37.72	3.00	730.47	690.00	730.72	40.47
13	1+19.45	730.47	17.75	37.74	3.00	730.49	690.00	730.74	40.49
14	1+23.45	730.48	17.75	37.75	3.00	730.50	690.00	730.75	40.50
15	1+27.45	730.49	17.75	37.76	3.00	730.51	690.00	730.76	40.51
16	1+31.45	730.51	17.75	37.78	3.00	730.53	690.00	730.78	40.53
17	1+35.45	730.52	17.75	37.79	3.00	730.54	690.00	730.79	40.54
18	1+39.45	730.54	17.75	37.81	3.00	730.56	690.00	730.81	40.56
19	1+43.45	730.55	17.75	37.82	3.00	730.57	690.00	730.82	40.57
20	1+47.45	730.56	17.75	37.83	3.00	730.58	690.00	730.83	40.58
21	1+51.45	730.58	17.75	37.85	3.00	730.60	690.00	730.85	40.60
22	1+55.45	730.59	17.75	37.86	3.00	730.61	690.00	730.86	40.61
23	1+59.45	730.61	17.75	37.88	3.00	730.63	690.00	730.88	40.63
24	1+63.45	730.62	17.75	37.89	3.00	730.64	690.00	730.89	40.64
25	1+67.45	730.64	17.75	37.90	3.00	730.65	690.00	730.90	40.65
26	1+71.45	730.65	17.75	37.92	3.00	730.67	690.00	730.92	40.67
27	1+75.45	730.66	17.75	37.93	3.00	730.68	690.00	730.93	40.68
28	1+79.45	730.68	17.75	37.95	3.00	730.70	690.00	730.95	40.70
29	1+83.45	730.69	17.75	37.96	3.00	730.71	690.00	730.96	40.71
30	1+87.45	730.71	17.75	37.98	3.00	730.73	690.00	730.98	40.73
31	1+91.45	730.72	17.75	37.99	3.00	730.74	690.00	730.99	40.74
32	1+95.45	730.73	17.75	38.00	3.00	730.75	690.00	731.00	40.75
33	1+99.45	730.75	17.75	38.02	3.00	730.77	690.00	731.02	40.77
34	2+03.45	730.76	17.75	38.03	3.00	730.78	690.00	731.03	40.78
35	2+07.45	730.78	17.75	38.05	3.00	730.80	690.00	731.05	40.80
36	2+11.45	730.79	17.75	38.06	3.00	730.81	690.00	731.06	40.81
37	2+15.45	730.80	17.75	38.07	3.00	730.82	690.00	731.07	40.82
38	2+19.45	730.82	17.75	38.09	3.00	730.84	690.00	731.09	40.84
39	2+23.45	730.83	17.75	38.10	3.00	730.85	690.00	731.10	40.85
40	2+27.45	730.85	17.75	38.12	3.00	730.87	690.00	731.12	40.87
41	2+31.45	730.86	17.75	38.13	3.00	730.88	690.00	731.13	40.88
42	2+35.45	730.88	17.75	38.14	3.00	730.89	690.00	731.14	40.89
43	2+39.45	730.89	17.75	38.16	3.00	730.91	690.00	731.16	40.91
44	2+43.45	730.90	17.75	38.17	3.00	730.92	690.00	731.17	40.92
45	2+47.45	730.92	17.75	38.19	3.00	730.94	690.00	731.19	40.94

DRILLED SHAFT SUMMARY TABLE									
DRILLED SHAFT NO.	CL WALL STATION	RIDGE ROAD PGE	OFFSET* (FT)	ITEM 524 DRILLED SHAFT, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN (FT.)	ITEM 524 DRILLED SHAFT, 30" DIAMETER, INTO BEDROCK, AS PER PLAN (FT.)	TOP OF STEEL PILE (ELEV.)	BOTTOM OF PILE (ELEV.)	TOP OF SHAFT (ELEV.)	TOTAL STEEL PILE LENGTH
46	2+51.45	730.93	17.75	38.20	3.00	730.95	690.00	731.20	40.95
47	2+55.45	730.95	17.75	38.22	3.00	730.97	690.00	731.22	40.97
48	2+59.45	730.96	17.75	38.23	3.00	730.98	690.00	731.23	40.98
49	2+63.45	730.97	17.75	38.24	3.00	730.99	690.00	731.24	40.99
50	2+67.45	730.99	17.75	38.26	3.00	731.01	690.00	731.26	41.01
51	2+71.45	731.00	17.75	38.27	3.00	731.02	690.00	731.27	41.02
52	2+75.45	731.02	17.75	38.29	3.00	731.04	690.00	731.29	41.04
53	2+79.45	731.03	17.75	38.30	3.00	731.05	690.00	731.30	41.05
54	2+83.45	731.04	17.75	38.31	3.00	731.06	690.00	731.31	41.06
55	2+87.45	731.06	17.75	38.33	3.00	731.08	690.00	731.33	41.08
56	2+91.45	731.07	17.75	38.34	3.00	731.09	690.00	731.34	41.09
57	2+95.45	731.09	17.75	38.36	3.00	731.11	690.00	731.36	41.11
	3+21.73	731.18	GRADE BREAK						
				2164.00	171.00				2321.00

*OFFSET IS FROM CENTERLINE OF RIDGE ROAD (S.R. 84) TO CENTERLINE OF WALL

NOTES:

1. OFFSET IS FROM CENTERLINE OF RIDGE ROAD TO CENTERLINE OF WALL
2. QUANTITIES AND ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO EXACT LOCATIONS OF TOP OF ROCK FOUND ON SITE.