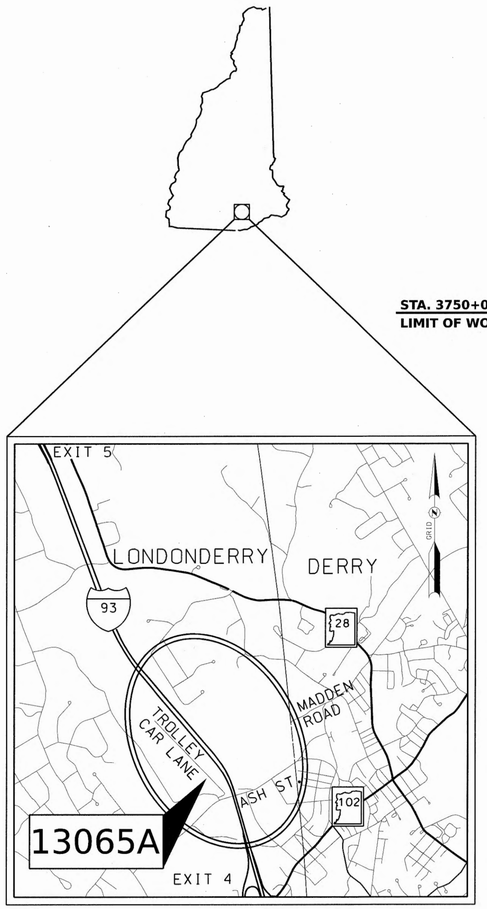
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
FEDERAL AID PROJECT

A005(073)
N.H. PROJECT NO. 13065A
INTERSTATE 93
EXIT 4A INTERCHANGE
OLDE RUM TRAIL
VOLUME 1 OF 2

DESIGN DATA

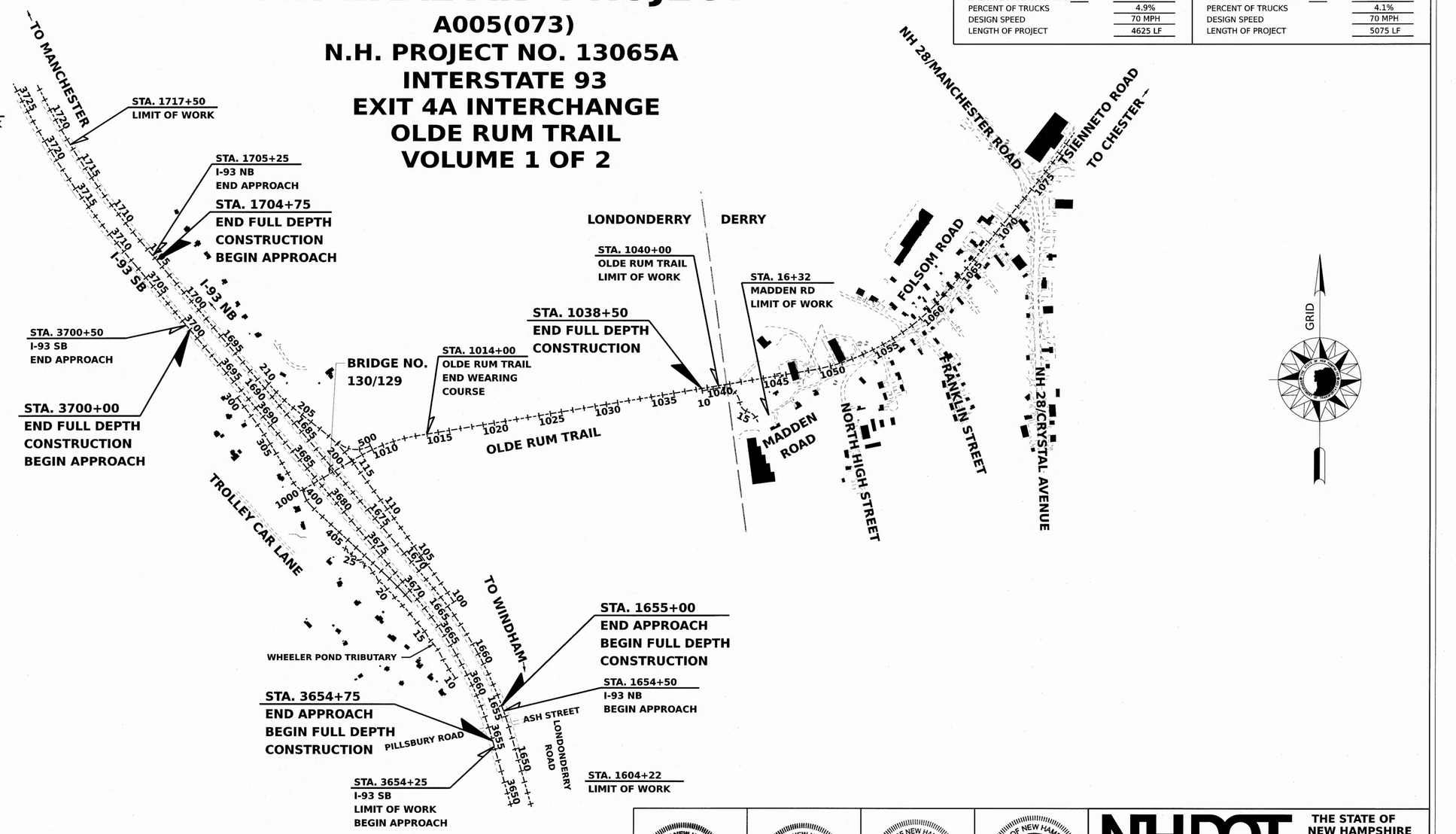
OLDE RUM TRAIL		RAMPS	
AVERAGE DAILY TRAFFIC 2025	41,330	AVERAGE DAILY TRAFFIC 2025	18,440
AVERAGE DAILY TRAFFIC 2040	53,720	AVERAGE DAILY TRAFFIC 2040	23,970
PERCENT OF TRUCKS	6.7%	PERCENT OF TRUCKS	7.5%
DESIGN SPEED	40 MPH	DESIGN SPEED	20-50 MPH
LENGTH OF PROJECT	3820 LF	LENGTH OF PROJECT	4970 LF
I-93 SOUTHBOUND		**I-93 NORTHBOUND**	
AVERAGE DAILY TRAFFIC 2025	52,300	AVERAGE DAILY TRAFFIC 2025	50,040
AVERAGE DAILY TRAFFIC 2040	67,980	AVERAGE DAILY TRAFFIC 2040	65,040
PERCENT OF TRUCKS	4.9%	PERCENT OF TRUCKS	4.1%
DESIGN SPEED	70 MPH	DESIGN SPEED	70 MPH
LENGTH OF PROJECT	4625 LF	LENGTH OF PROJECT	5075 LF



LOCATION MAP

½ ¼ 0 ½ 1 mi.

GRAPHIC SCALE



TOWNS OF LONDONDERRY AND DERRY

COUNTY OF ROCKINGHAM

SCALE: 1"=500'

GREGORY S. GOODRICH No. 12284 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE – 3/21/22	JASON M. HILTON No. 12109 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE – 3/21/22	MARK D. SUENNEN No. 11858 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE – 3/21/22	CHRISTOPHER M. BOBAY No. 9531 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE – 3/21/22
VHB Structures	VHB Highway	VHB I.T.S. & Signing	VHB Signal Systems

DRAWN BY VHB TEAM DATE 3/21/2022

CHECKED BY ENGINEERS OF RECORD DATE 3/21/2022

vhb

NHDOT

THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

For DIRECTOR OF PROJECT DEVELOPMENT — DATE 4/13/22

MUNICIPAL HIGHWAYS ENGINEER
BUREAU OF PLANNING AND COMMUNITY ASSISTANCE — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE 4/13/22

DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_FSC	A005(073)	13065A	1	733

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	INDEX OF SHEETS AND GENERAL NOTES
3	SHEET LAYOUT PLAN
4-5	STANDARD SYMBOLS
6-16	TYPICAL SECTIONS OF IMPROVEMENT
17-38	SUMMARY OF QUANTITIES
39-52	DETAILS
53-54	INTERSECTION GRADING PLAN
	BRIDGE PLANS
55-103	OLDE RUM TRAIL INTERCHANGE
	SOUND WALL PLANS
104-105	SB ON RAMP PLAN & PROFILE
106	SB OFF RAMP PLAN & PROFILE
107-109	NB ON RAMP PLAN & PROFILE
110	SB ON & SB OFF RAMP POST LOCATION TABLE
111	NB ON RAMP POST LOCATION TABLE
112-115	SOUNDWALL DETAILS
	ROADWAY PLANS AND PROFILES
116-132	GENERAL PLANS
133	NB OFF RAMP PROFILE
134	NB ON RAMP PROFILE
135	SB OFF RAMP PROFILE
136	SB ON RAMP PROFILE
137	NB ON SLIP RAMP PROFILE
138-141	OLDE RUM TRAIL PROFILE
142	MADDEN ROAD PROFILE
143-152	DRAINAGE NOTES
153-169	DRAINAGE & UTILITY PLANS
170-186	CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS
187-190	POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS
191-207	PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS
208-209	TRAFFIC SIGN SUMMARY SHEET
210-211	SIGN STRUCTURE DETAIL
212-215	OHSS CROSS SECTIONS
216-226	ITS DEVICE PLANS

SHEET NO.	DESCRIPTION
	WATER QUALITY PLANS
227-230	BMP DETAILS
231-235	BMP 1012 PLAN & PROFILE
236-254	BMP 1012 CROSS SECTIONS
255-257	BMP 1038 PLAN & PROFILE
258-268	BMP 1038 CROSS SECTIONS
269-270	BMP 1649 PLAN & PROFILE
271-275	BMP 1649 CROSS SECTIONS
276-277	BMP 1670 PLAN & PROFILE
278-287	BMP 1670 CROSS SECTIONS
288	BMP 1687 & 1691
289-290	BMP 1687 PROFILE
291-297	BMP 1687 CROSS SECTIONS
298	BMP 1691 PROFILE
299-303	BMP 1691 CROSS SECTIONS
	SIGNALIZATION PLANS
304-307	SIGNALIZATION PLANS
308	INTERCONNECT PLANS
	TRAFFIC CONTROL PLANS
309	TRAFFIC CONTROL SEQUENCING
310-319	TRAFFIC CONTROL PLANS PHASE 1
320-324	TRAFFIC CONTROL PLANS PHASE 1A
325-335	TRAFFIC CONTROL PLANS PHASE 2
336-350	TRAFFIC CONTROL PLANS PHASE 3
351-362	TRAFFIC CONTROL PLANS PHASE 3A
363-375	TRAFFIC CONTROL PLANS PHASE 4
376-381	TCP CRITICAL SECTIONS
382	SMART WORK ZONE DETAILS
383	**VOLUME 2** **CROSS SECTIONS**
384-467	I-93 NORTHBOUND
468-534	I-93 SOUTHBOUND
535-553	NB OFF RAMP
554-576	NB ON RAMP
577-594	SB OFF RAMP
595-610	SB ON RAMP
611-614	NB SLIP RAMP
615-698	OLDE RUM TRAIL
699-705	MADDEN ROAD
	STREAM RELOCATION
706-716	STREAM RELOCATION PLANS
717-733	WHEELER BROOK CROSS SECTIONS

GENERAL NOTES

1. FOR STANDARD PLANS, SEE DEPARTMENT OF TRANSPORTATION WEBSITE AT: HTTPS://WWW.NH.GOV/DOT/ORG/PROJECTDEVELOPMENT/HIGHWAYDESIGN/STANDARDPLANS/

2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.

3. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.

4. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.

5. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.

6. PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.

7. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).

8. SURVEY DATA FOR CONTRACT 13065A WAS COLLECTED BY NHDOT, FUSS & O'NEILL,AND VHB. 13065A PROJECT BASE PLAN WAS CREATED BY MERGING AERIAL SURVEY INFORMATION WITH CONTRACTS 14633D AND 14633I SUPPLEMENTED BY ON THE GROUND SURVEY BY VHB WHICH REFLECTS THE EXISTING CONDITIONS.THE COORDINATES ARE BASED ON THE NH STATE PLANE SYSTEM NAD 83(2011),ELEVATIONS ARE BASED ON NAVD 88. THE PROJECT CONTROL WAS ESTABLISHED BY NHDOT AND FUSS & O'NEILL AND PROVIDED TO VHB.

9. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

10. CONTACT NHFG IMMEDIATELY IF STATE THREATENED OR ENDANGERED SPECIES ARE ENCOUNTERED DURING SITE SURVEYS OR DURING PROJECT CONSTRUCTION. MELISSA DOPERALSKI 603-479-1129 OR NHFG WILDLIFE ADMINISTRATION AT 603-271-2461. PHOTOGRAPHS OF ANIMALS SHOULD BE TAKEN IF FEASIBLE TO HELP IN IDENTIFICATION.

11. IN ACCORDANCE WITH RECOMMENDATIONS BY THE NHFG, WILDLIFE EXCLUSIONARY FENCING WILL BE INSTALLED PRIOR TO SEPTEMBER 15TH TO EXCLUDE SNAKES FROM RETURNING TO POTENTIAL HIBERNACULA. WILDLIFE EXCLUSIONARY FENCING WILL BE INSTALLED TO INCLUDE THE WORK AREA AS WELL AS ANY MATERIAL STORAGE AREAS. WILDLIFE EXCLUSIONARY FENCING WILL BE MAINTAINED AND KEPT ON SITE THROUGH THE DURATION OF THE PROJECT AND REMOVED ONCE THE PROJECT HAS BEEN COMPLETED.

12. IN ACCORDANCE WITH RECOMMENDATIONS BY THE NHFG, ALL EROSION CONTROL MATERIALS SHALL BE 'WILDLIFE FRIENDLY'. THE TYPE OF MATERIAL SHALL BE SPECIFIED ON FINAL CONSTRUCTION PLANS.

13. THE SOUTHBOUND OFF RAMP LAYOUT INCLUDES OVERWIDENING INFRASTRUCTURE TO ACCOMODATE POTENTIAL FUTURE WIDENING FOR A TWO LANE OFF RAMP LAYOUT.THE PLANS, TYPICALS, AND CROSS SECTIONS IDENTIFY THE PROPOSED WORK ASSOCIATED WITH THIS CONTRACT, AS WELL AS THE "POTENTIAL FUTURE" LAYOUT (BY OTHERS).

14. CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER FOR APPROVAL AN ACCESS PLAN FOR ITEM 670.0491 - CONSTRUCT AND REMOVE TEMPORARY ACCESS ROAD PRIOR TO CONSTRUCTION OR ACCESS TO STREAM AREA.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:

1	2		4	5	6		8	9	10	11	12
13	14										

REVISIONS AFTER PROPOSAL

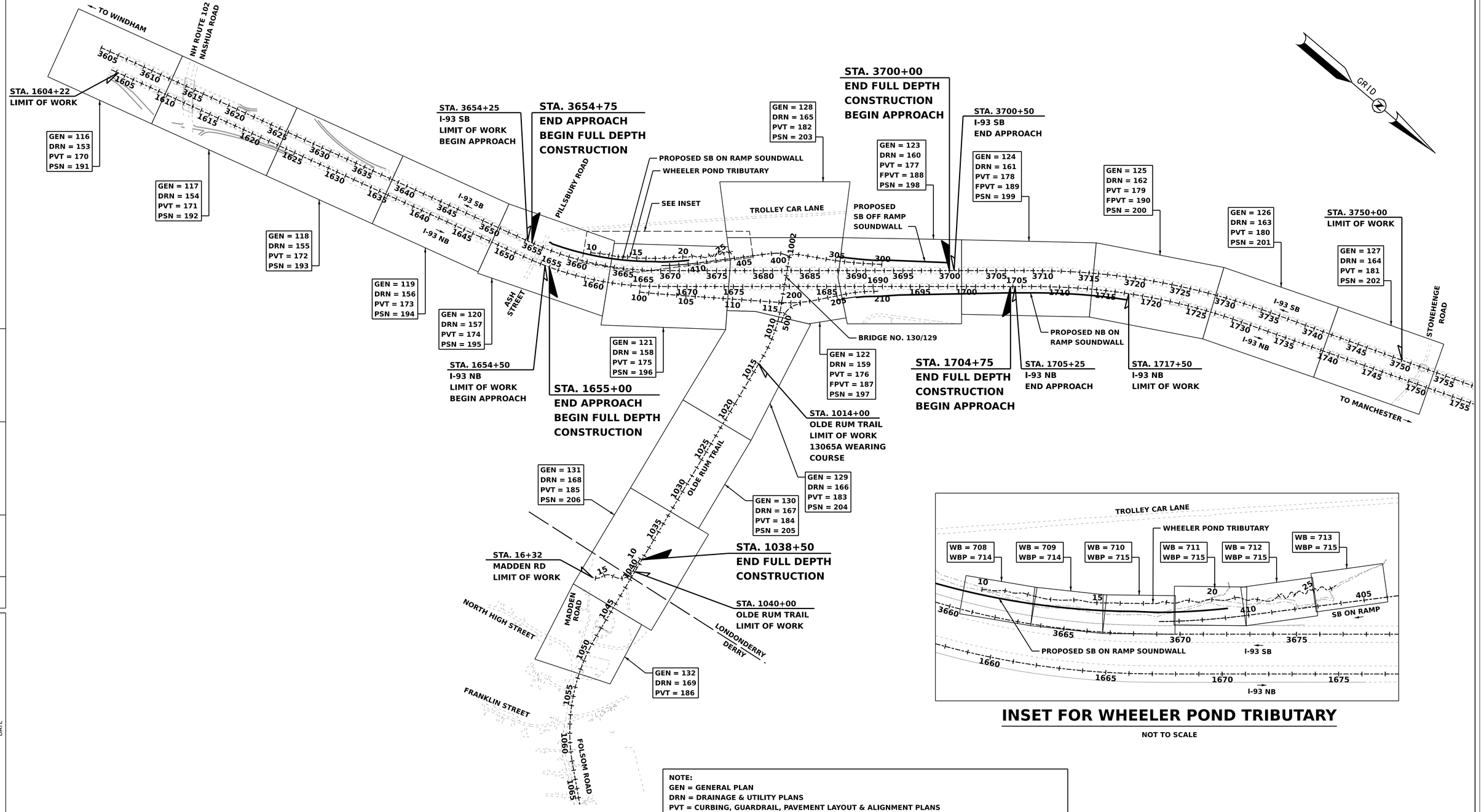
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

INDEX OF SHEETS AND GENERAL NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_index	13065A	2	733



INSET FOR WHEELER POND TRIBUTARY

NOT TO SCALE

PLAN

500 0 500 1000

SCALE IN FEET

NOTE:
GEN = GENERAL PLAN
DRN = DRAINAGE & UTILITY PLANS
PVT = CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS
FPVT = POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS
PSN = PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS
WB = WHEELER POND TRIBUTARY RELOCATION PLAN & PROFILE
WBP = WHEELER POND TRIBUTARY RELOCATION PLANTING PLAN

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SHEET LAYOUT PLAN

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_LAY	13065A	3	733

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY

TRAVELED WAY — existing roadway

(pavement removed outside slope lines)

DRIVEWAYS

(label surface type)

BUILDINGS

(building to be removed)

(label house or type of building)

FOUNDATION

(label type)

LEACH FIELD

leach field

BRIDGE CROSSINGS

STREAM

OVERPASS

STEPS AND WALK

(label type)

INTERMITTENT WATER COURSE

SHORE LINE

river/stream

pond

(label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS)

(deciduous) (coniferous) (stump)

(show station, circumference in feet & type)

TREE OR STUMP (CROSS-SECTIONS)

HEDGE

(label type)

MONITORING WELL

mon W

WELL

W

FLAG POLE

fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type)

existing — PROPOSED

bgr

cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE)

(points toward retained ground)

FENCE (LABEL TYPE)

SIGNS

(single post)

(double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl lp

BORING LOCATION

TEST PIT

INTERSTATE NUMBERED HIGHWAY — 93

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW

ORDINARY HIGH WATER — OHW

TOP OF BANK — TOB

TOP OF BANK & ORDINARY HIGH WATER — TOBOHW

NORMAL HIGH WATER — NHW

WIDTH AT BANK FULL — WBF

PRIME WETLAND — PWET

PRIME WETLAND 100' BUFFER — PWET100

NON-JURISDICTIONAL DRAINAGE AREA — DA — NJDA

COWARDIN DISTINCTION LINE — CDL

TIDAL BUFFER ZONE — TBZ

DEVELOPED TIDAL BUFFER ZONE — DTBZ

HIGHEST OBSERVABLE TIDE LINE — HOTL

MEAN HIGH WATER — MHW

MEAN LOW WATER — MLW

VERNAL POOL — VP

SPECIAL AQUATIC SITE — SAS

REFERENCE LINE — REF

WATER FRONT BUFFER — WB50

NATURAL WOODLAND BUFFER — NWB150

PROTECTED SHORELAND — PS250

INVASIVE SPECIES LABEL — I I.S. II I.S.

INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500

100 YEAR FLOODPLAIN BOUNDARY — FP100

FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 31 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

SLOPE LINE — CLEARING LINE

CLEARING LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:

ORIGINAL GROUND ELEVATION (LEFT) — 72.5

FINISHED GRADE ELEVATION (RIGHT) — 79.14

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

MODEL:	SHEET 1 OF 2	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2/25/2022	13065A_stdsymb1-2	13065A	4	733

DRAINAGE

MANHOLE

CATCH BASIN — cb

DROP INLET — di

(existing) / (PROPOSED)

DRAINAGE PIPE (existing) — DP — DP — (label size & type)

DRAINAGE PIPE (PROPOSED) — PDP — PDP

UNDERDRAIN (existing) W/ FLUSHING BASIN — DP — fb — DP — (label size & type)

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN — PDP — PDP

show direction of flow

HEADER (existing & PROPOSED) — DP — PDP — (with stone outlet protection)

END SECTION (existing & PROPOSED) — METAL or PLASTIC; RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE — PL — PL

PROPERTY LINE (COMMON OWNER) — Z — Z

TOWN LINE — BOW / CONCORD

COUNTY LINE — COOS / GRAFTON

STATE LINE — MAINE / NEW HAMPSHIRE

NATIONAL FOREST

CONSERVATION LAND — LC — LC

BENCH MARK / SURVEY DISK

BOUND — (PROPOSED) — bnd

STATE LINE/ TOWN LINE MONUMENT — S/L — T/L

NHDOT PROJECT MARKER

IRON PIPE OR PIN — ip

DRILL HOLE IN ROCK — dh

TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±

PROPERTY PARCEL NUMBER — 12

HISTORIC PROPERTY — H

UTILITIES

	existing	PROPOSED
TELEPHONE POLE		
POWER POLE		
JOINT OCCUPANCY		
MISCELLANEOUS/UNKNOWN POLE		
GUY POLE OR PUSH BRACE		
LIGHT POLE		
LIGHT ON POWER POLE		
LIGHT ON JOINT POLE		

(plot point at face not center of symbol)

POLE STATUS: REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.: R, L — P+04 25.0', T+04 25.0'

RAILROAD — (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX — jb — JB

OVERHEAD WIRE — OW — OW — (label type)

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — W — PW — PW

SEWER — S — S — PS — PS

TELEPHONE — T — T — PT — PT

ELECTRIC — E — E — PE — PE

GAS — G — G — PG — PG

LIGHTING — L — L — PL — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS — ITS — PITS — PITS

FIBER OPTIC — FO — FO — PFO — PFO

WATER SHUT OFF — WSO

GAS SHUT OFF — GSO

HYDRANT — HYD

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

UNKNOWN

WATER — MHW

TRAFFIC SIGNALS / ITS

	existing	PROPOSED
MAST ARM		30' MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER		
OPTICOM STROBE		
TRAFFIC SIGNAL		
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT		
SIGNAL CONDUIT	C — C — C	PC — PC — PC
CONTROLLER CABINET	cc	CC
METER PEDESTAL	mp	MP
PULL BOX	pb	PB
LOOP DETECTOR (QUADRUPOLE)		(label size)
LOOP DETECTOR (RECTANGULAR)		(label size)
CAMERA POLE (CCTV)		
FIBER OPTIC DELINEATOR	fod	FOD
FIBER OPTIC SPLICE VAULT		SVF
ITS EQUIPMENT CABINET	its	ITS
MOTOR VEHICLE DETECTION SYSTEM (MVDS)		
VARIABLE SPEED LIMIT SIGN		
DYNAMIC MESSAGE SIGN		
ROAD AND WEATHER INFO SYSTEM		

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS	B-1
CURB MARK NUMBER - GRANITE	G-1
CLEARING AND GRUBBING AREA	A
DRAINAGE NOTE	1
EROSION CONTROL NOTE	A
FENCING NOTE	A
GUARDRAIL NOTE	1
ITS NOTE	1
LIGHTING NOTE	A
TRAFFIC SIGNAL NOTE	1

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

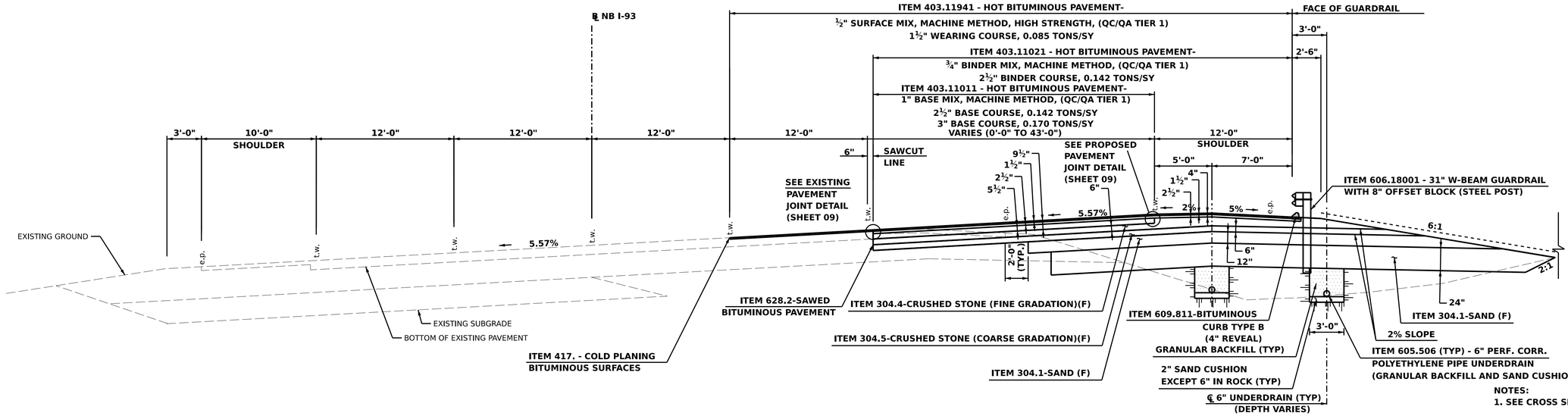
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

MODEL:	SHEET 2 OF 2	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2/25/2022	13065A_stdsymb1-2	13065A	5	733

TYPICAL SECTION OF IMPROVEMENT



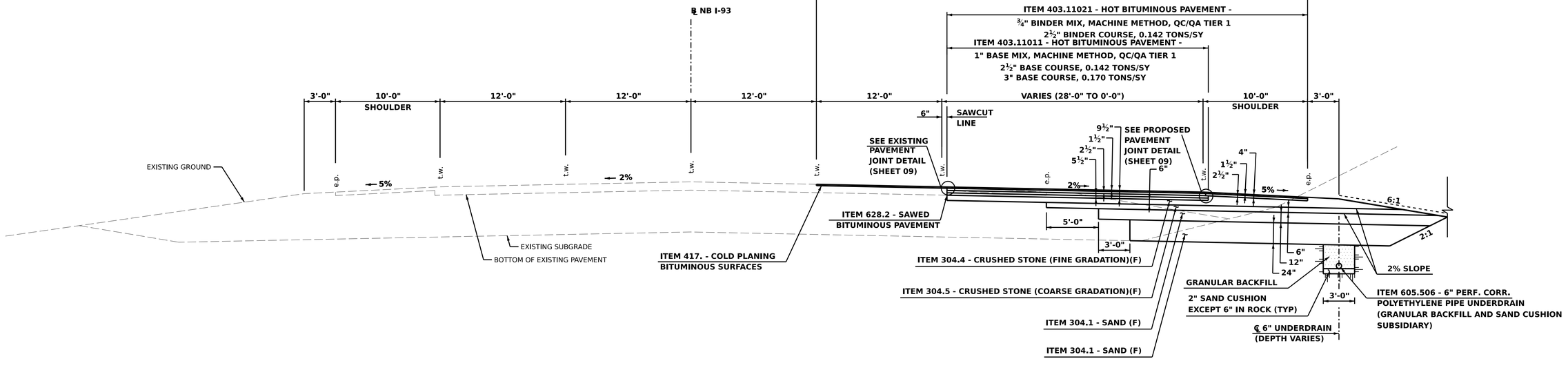
I-93 DECEL LANE AT NB OFF RAMP - STEPBOX WIDENING SECTION

STA. 1655+20 TO STA. 1664+96

NOT TO SCALE
SUPERELEVATED SECTION SHOWN

NOTES:

1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.
4. UNDERDRAIN WITHIN SHOULDER SHALL BE INSTALLED FROM STA. 1655+30.5 - STA. 1656+97.9.
5. UNDERDRAIN BEHIND GUIDE RAIL SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
   STA. 1660+00.0 - STA. 1662+50.0
   STA. 1690+60.7 - STA. 1691+50.0



I-93 ACCEL LANE AT NB ON RAMP - STEPBOX WIDENING SECTION

STA. 1690+62 TO STA. 1704+66

NOT TO SCALE

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

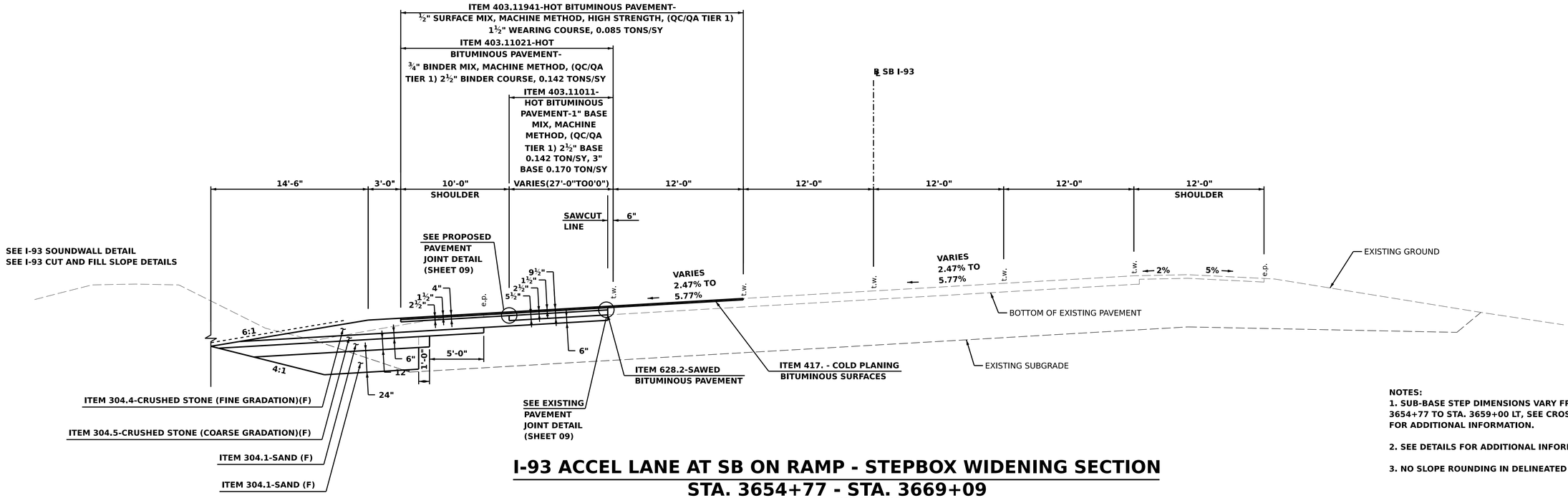
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_01	13065A	6	733

TYPICAL SECTION OF IMPROVEMENT



I-93 ACCEL LANE AT SB ON RAMP - STEPBOX WIDENING SECTION

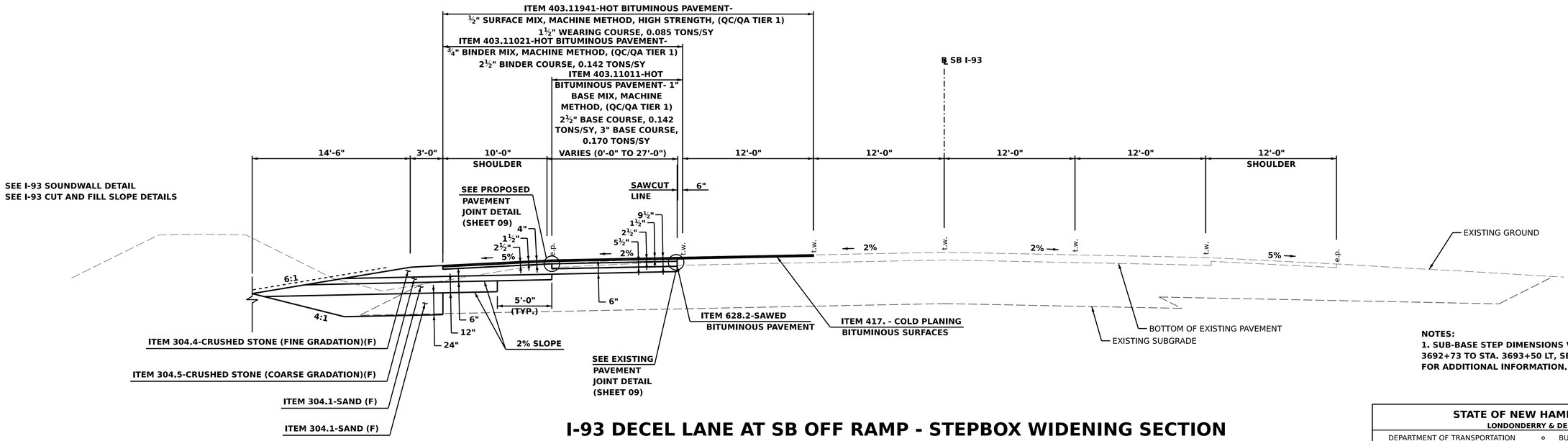
STA. 3654+77 - STA. 3669+09

NOT TO SCALE
SUPERELEVATED SECTION SHOWN

NOTES:
1. SUB-BASE STEP DIMENSIONS VARY FROM STA. 3654+77 TO STA. 3659+00 LT, SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.

2. SEE DETAILS FOR ADDITIONAL INFORMATION.

3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.



I-93 DECEL LANE AT SB OFF RAMP - STEPBOX WIDENING SECTION

STA. 3692+73 - STA. 3700+00

NOT TO SCALE

NOTES:
1. SUB-BASE STEP DIMENSIONS VARY FROM STA. 3692+73 TO STA. 3693+50 LT, SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

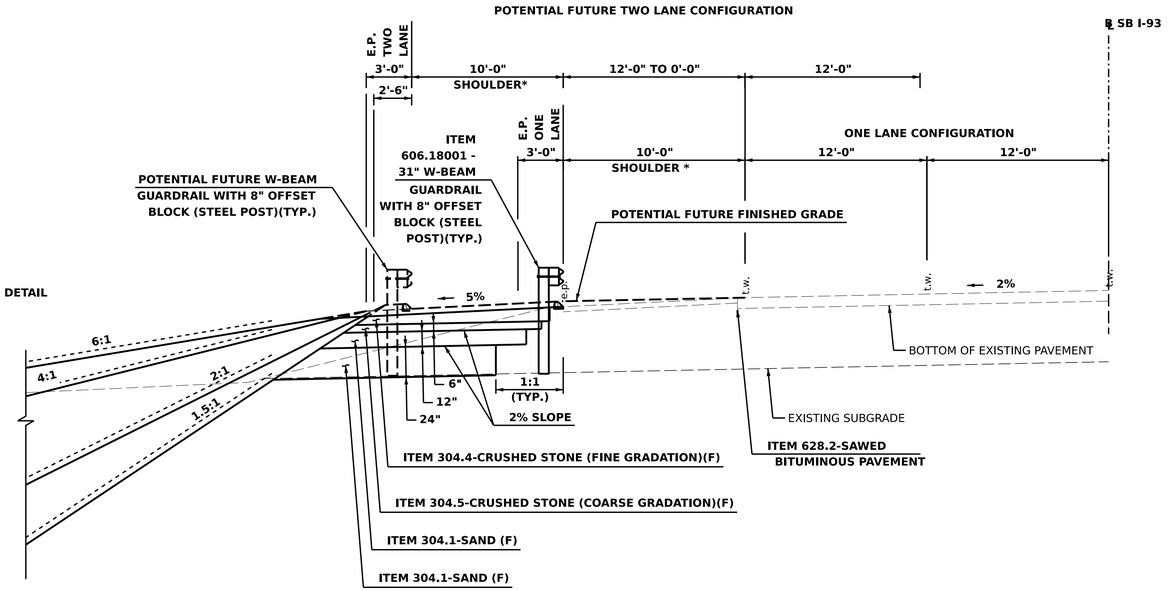
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022	DATE	
NEW DESIGN	VHB TEAM	DATE	4/12/2022	DATE	
SHEET CHECKED	J. HILTON	DATE	4/12/2022	DATE	AS BUILT DETAILS

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_02	13065A	7	733

TYPICAL SECTION OF IMPROVEMENT



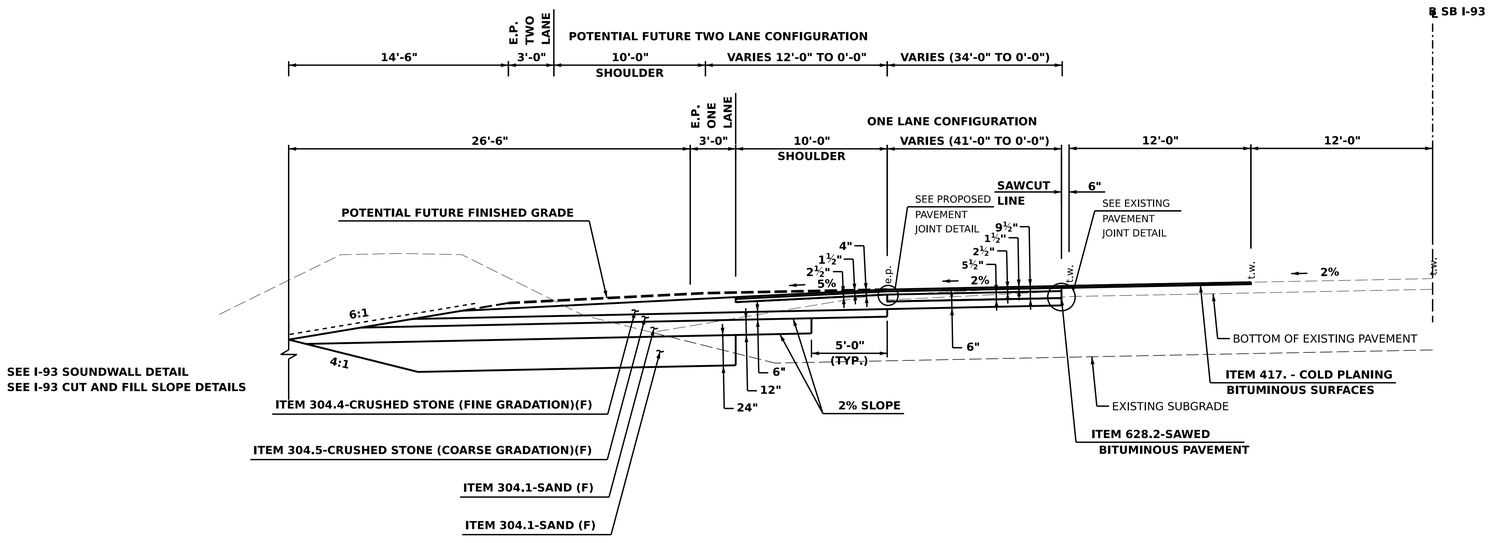
* 12'-0" IN GUARDRAIL SECTIONS

SEE I-93 CUT AND FILL SLOPE DETAILS
FILL SLOPE DETAIL AND
ARMOURED EMBANKMENT SLOPE FOR 1.5:1 SLOPE DETAIL

NOTES:
1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.
4. ITEM 647.1 - HUMUS TO BE PLACED ON SIDE SLOPES TO WITHIN 3' OF 13065A PROPOSED EDGE OF PAVEMENT. STA. 3692+73 TO 3718+90 LT.

I-93 DECEL LANE AT SB OFF RAMP - STEPBOX WIDENING SECTION
STA. 3700+00 - STA. 3718+90

NOT TO SCALE



SEE I-93 SOUNDWALL DETAIL
SEE I-93 CUT AND FILL SLOPE DETAILS

I-93 DECEL LANE AT SB OFF RAMP - STEPBOX WIDENING SECTION
STA. 3692+73 - STA. 3700+00

NOT TO SCALE

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

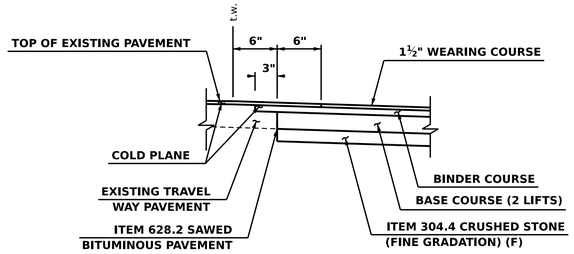
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

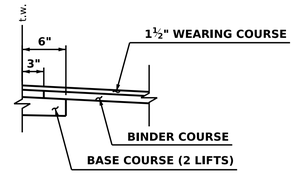
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_03	13065A	8	733

TYPICAL SECTION OF IMPROVEMENT



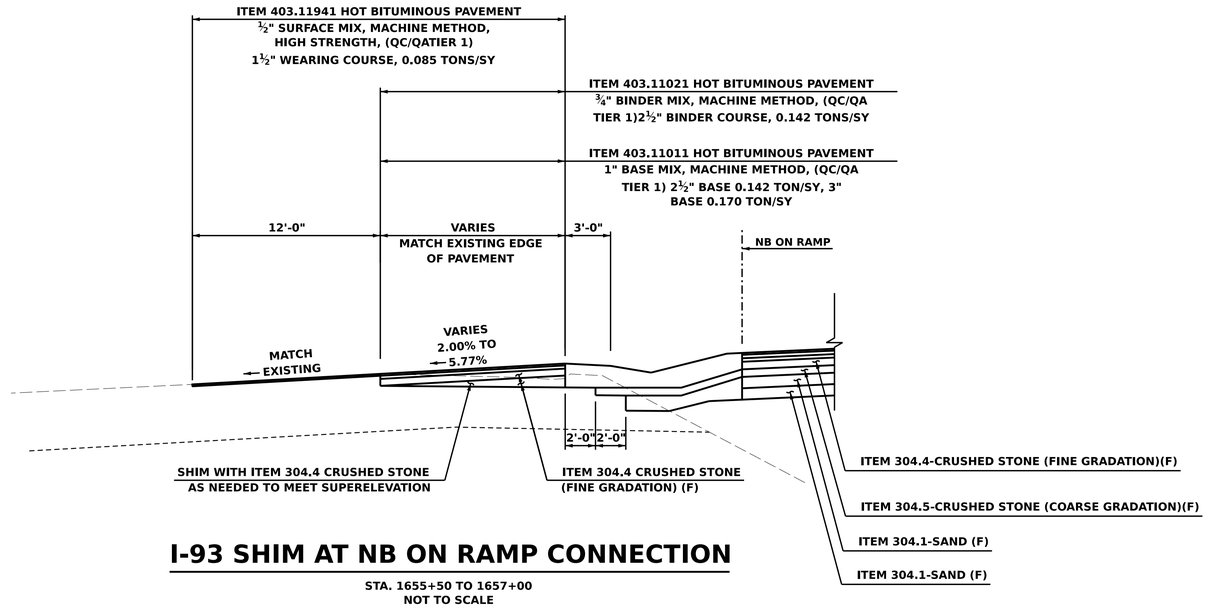
EXISTING I-93 PAVEMENT JOINT DETAIL

NOT TO SCALE



PROPOSED I-93 PAVEMENT JOINT DETAIL

NOT TO SCALE



I-93 SHIM AT NB ON RAMP CONNECTION

STA. 1655+50 TO 1657+00
NOT TO SCALE

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

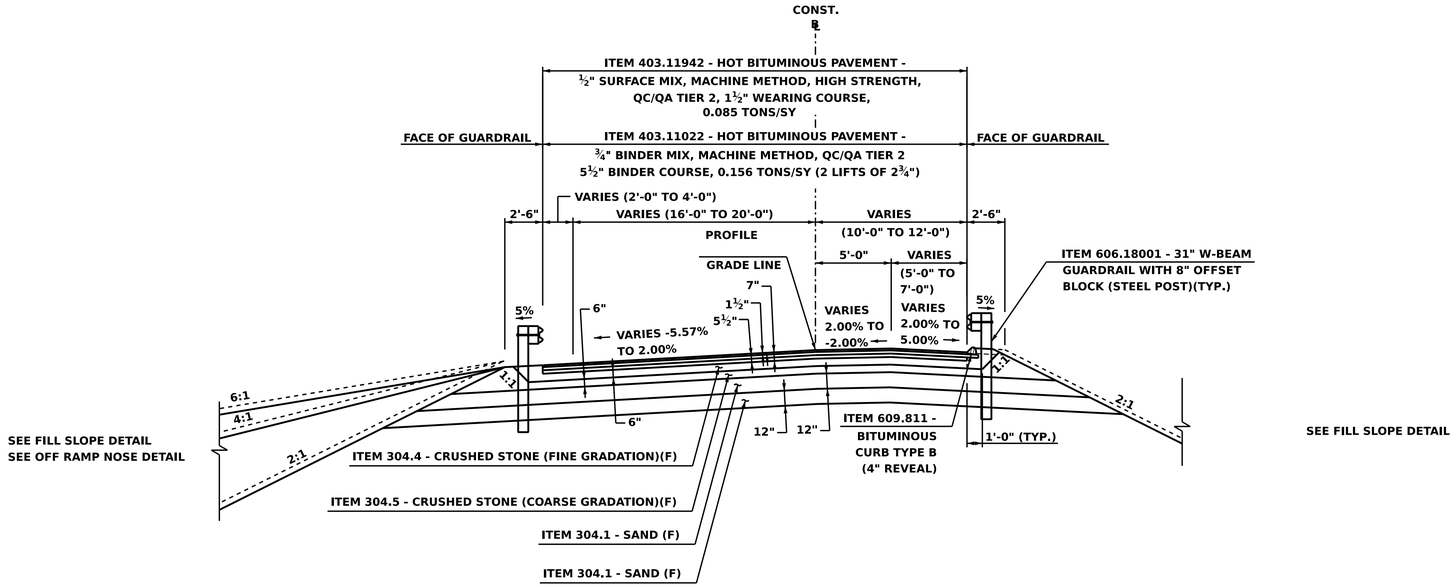
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

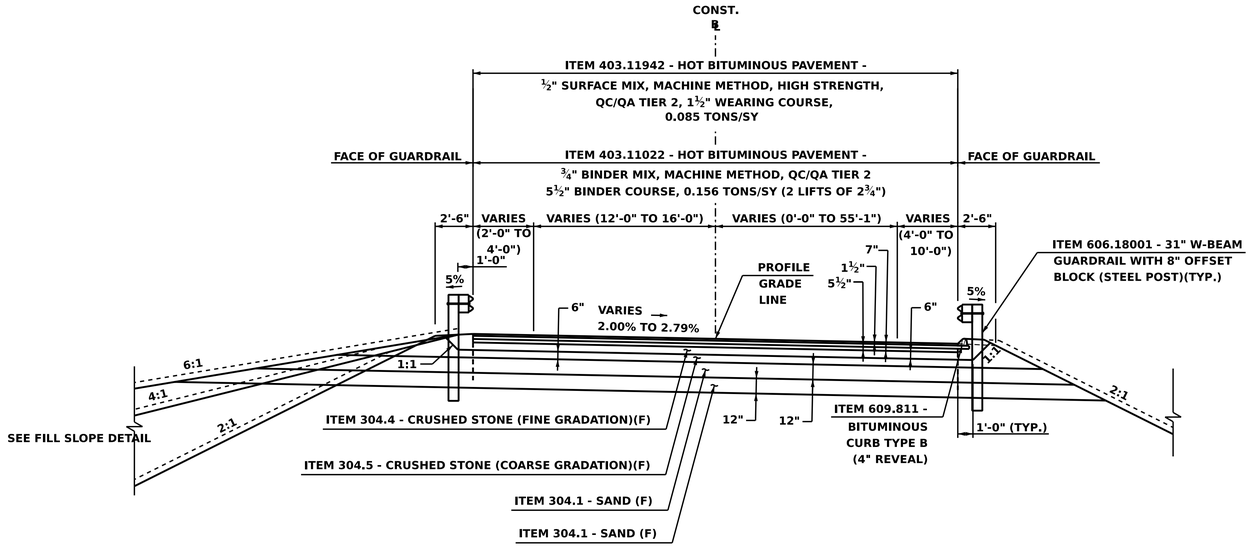
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_04	13065A	9	733

TYPICAL SECTION OF IMPROVEMENT



NB OFF RAMP
STA. 100+00 TO STA. 109+03

NOT TO SCALE



NB OFF RAMP
STA. 109+03 TO STA. 114+91

NOT TO SCALE

NOTES:

1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. SEE SLOPE ROUNDING IN DELINEATED WETLANDS.

NUMBER	DATE	DESCRIPTION	STATION

REVISIONS AFTER PROPOSAL

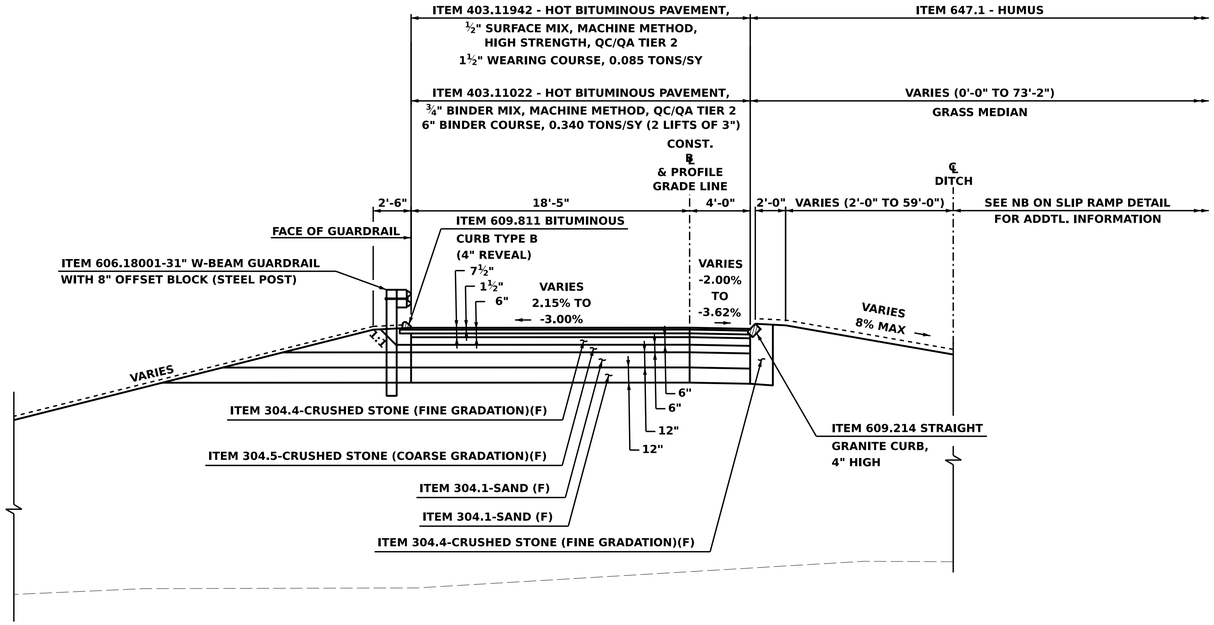
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

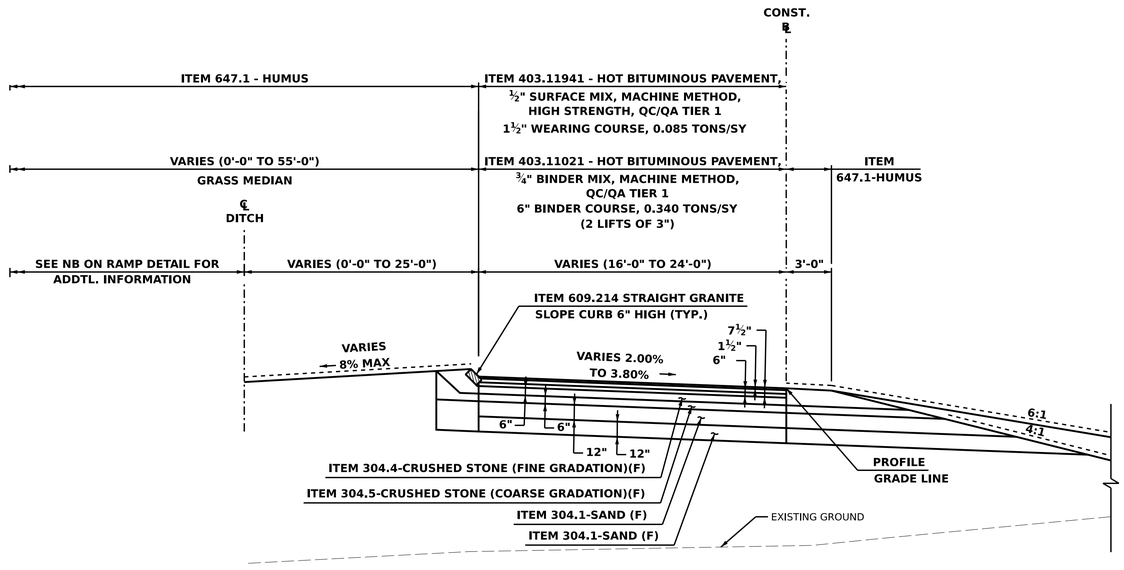
TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_05	13065A	10	733

TYPICAL SECTION OF IMPROVEMENT



NB ON RAMP
STA. 200+19 TO STA. 201+58
NOT TO SCALE



NB ON SLIP RAMP
STA. 500+00 TO STA. 503+11
NOT TO SCALE

NOTES:
1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.

NUMBER	DESCRIPTION	DATE	STATION

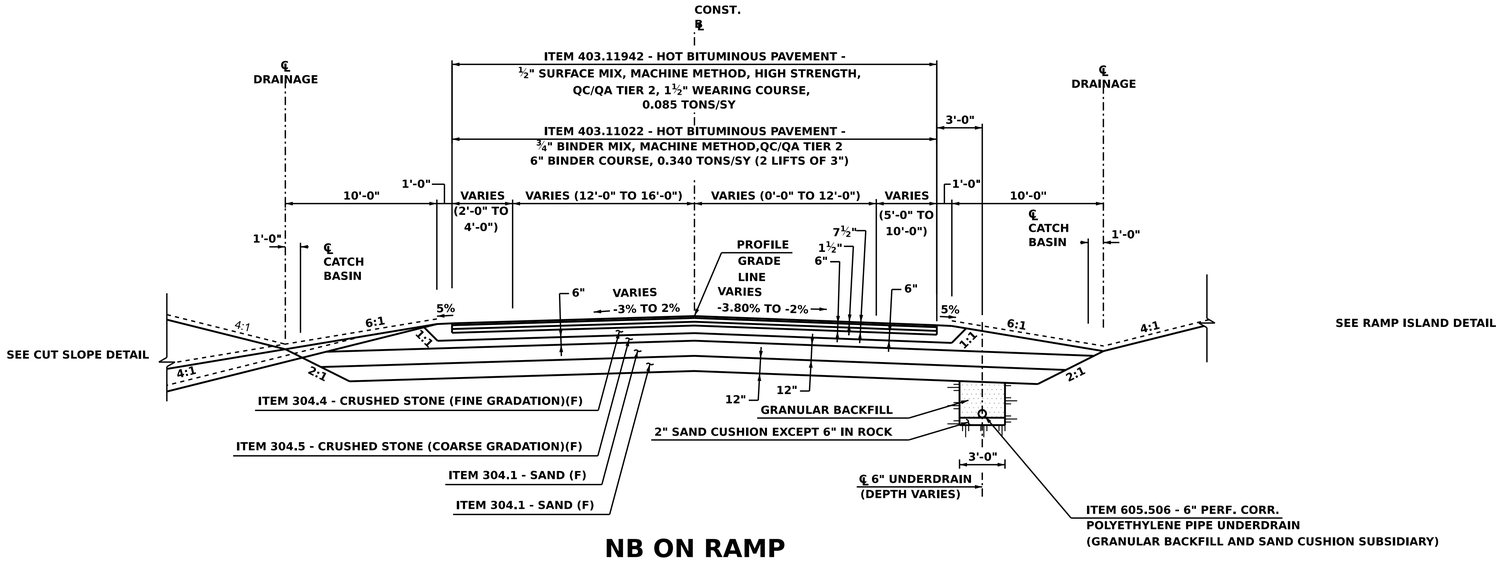
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

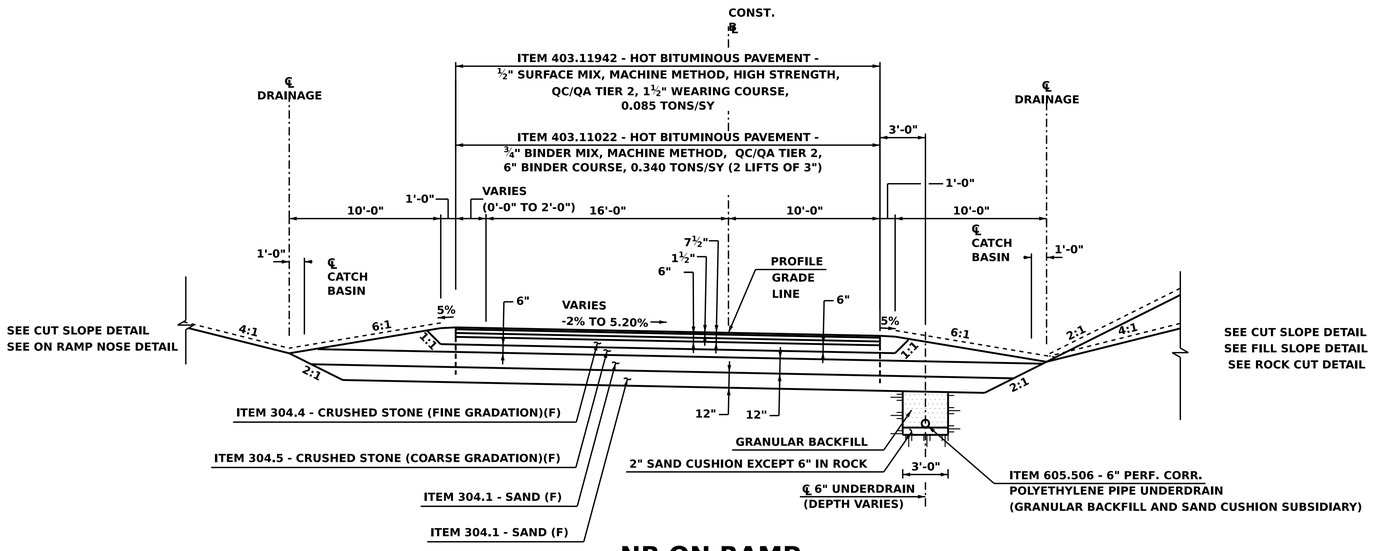
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_06	13065A	11	733

TYPICAL SECTION OF IMPROVEMENT



NB ON RAMP
STA. 201+58 TO STA. 206+85

NOT TO SCALE



NB ON RAMP
STA. 206+85 TO STA. 210+54

NOT TO SCALE

NOTES:

1. SEE CROSS SECTION FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.
4. UNDERDRAIN SHALL BE INSTALLED FROM STA. 204+00.0 - STA. 210+54.4.

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

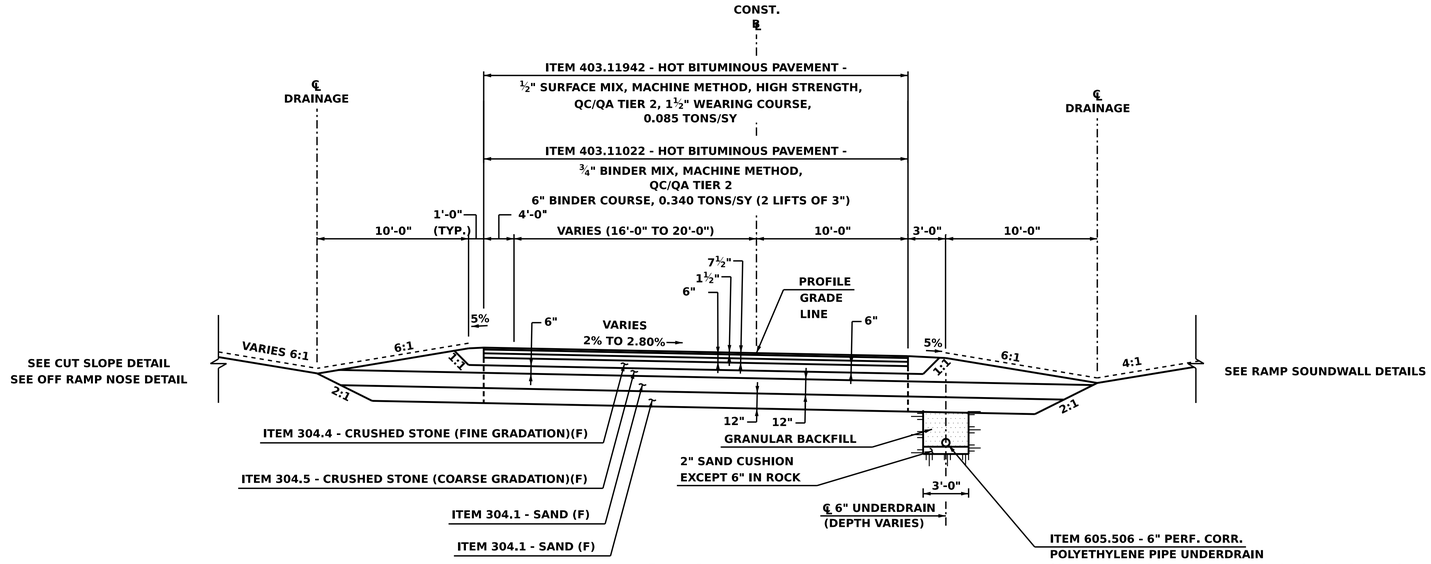
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_07	13065A	12	733

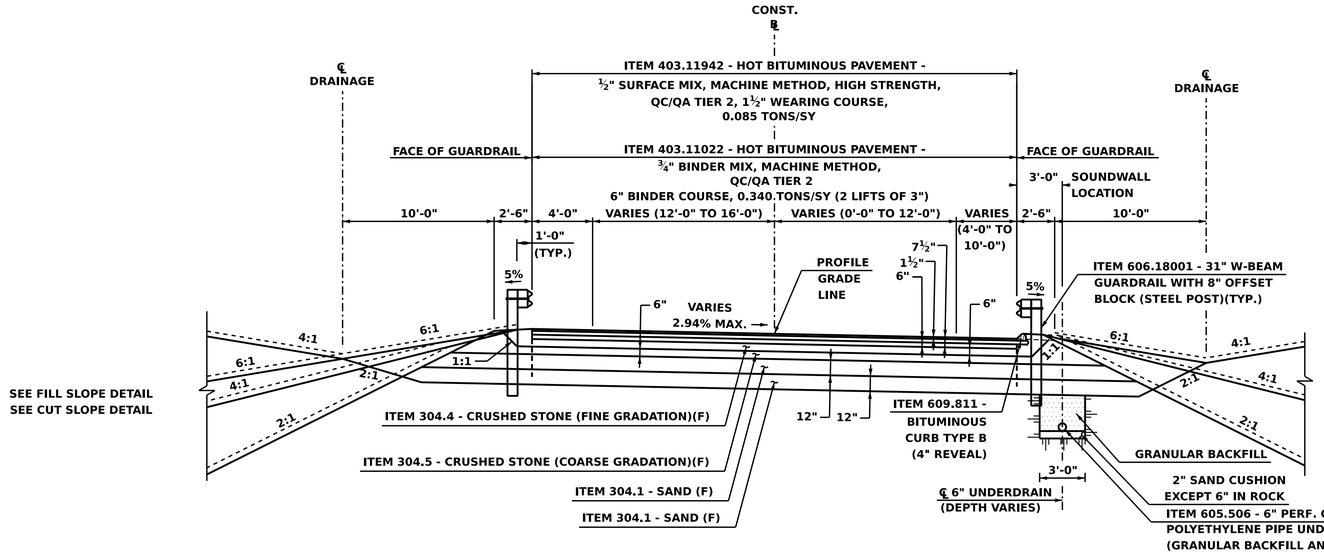
TYPICAL SECTION OF IMPROVEMENT



SB OFF RAMP

STA. 300+00 TO STA. 302+75

NOT TO SCALE



SB OFF RAMP

STA. 302+75 TO STA. 309+64

NOT TO SCALE

NOTES:

1. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.
4. UNDERDRAIN SHALL BE INSTALLED FROM STA. 302+25.0 - STA. 306+62.0.

NUMBER	DESCRIPTION	STATION	DATE
	REVISIONS AFTER PROPOSAL		

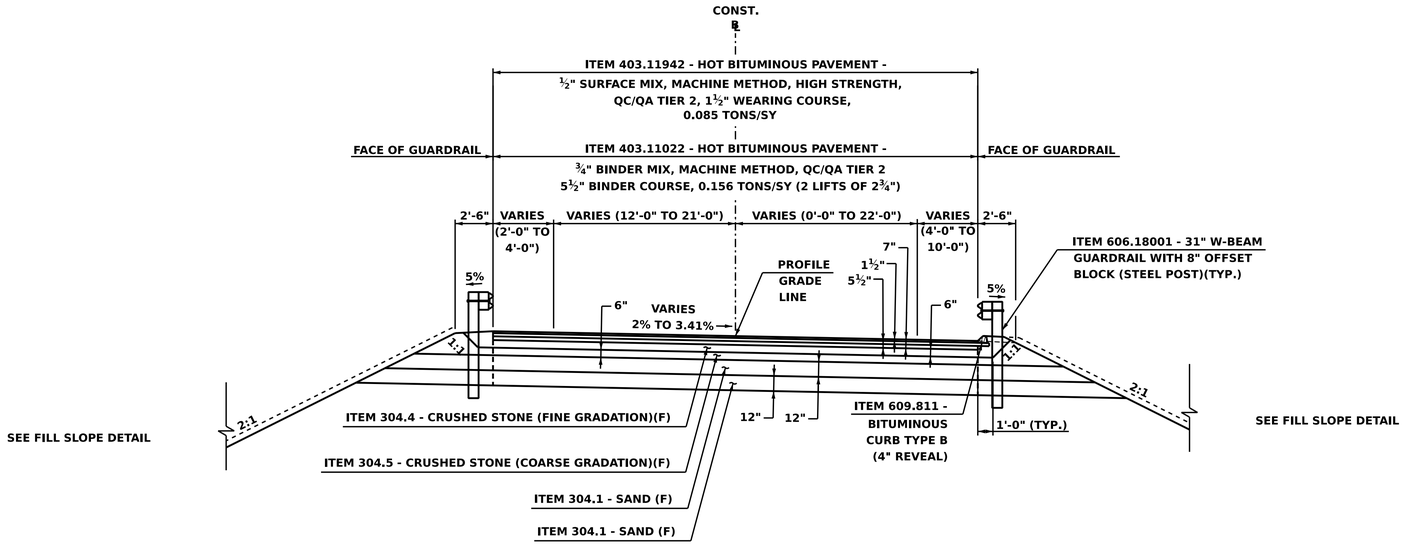
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

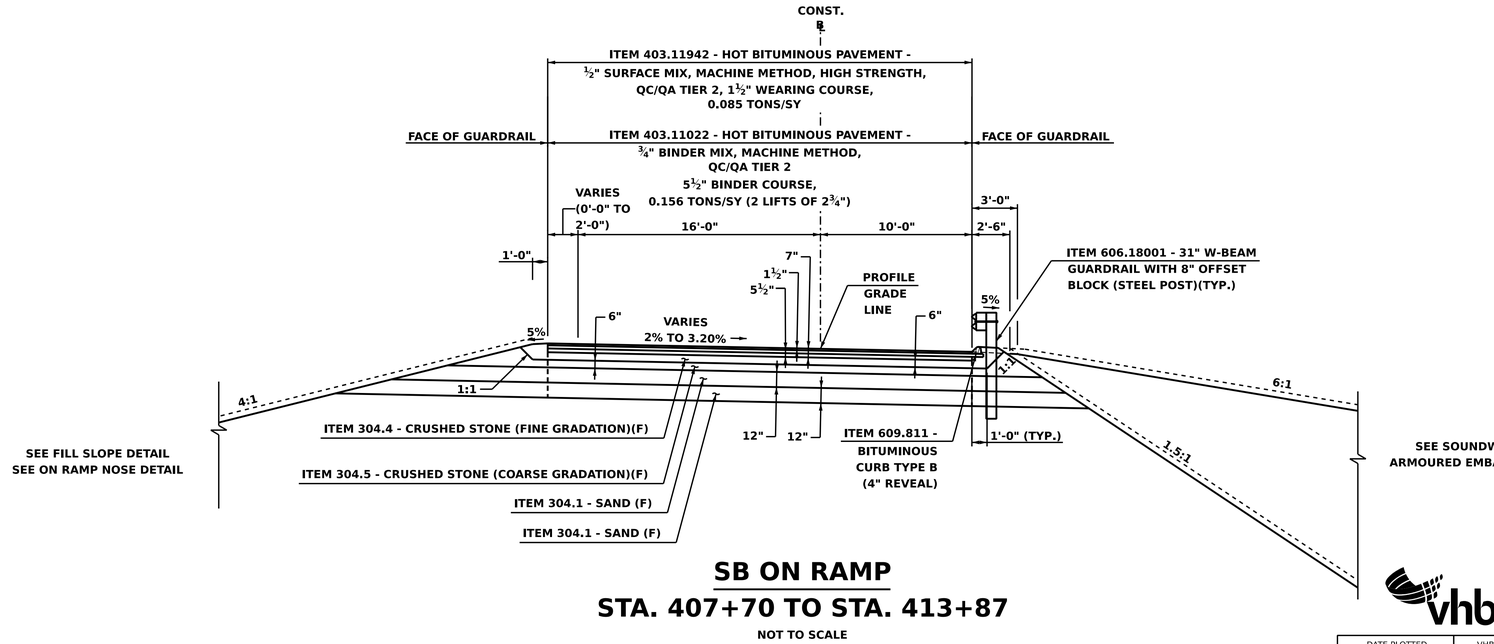
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_08	13065A	13	733

TYPICAL SECTION OF IMPROVEMENT



SB ON RAMP
STA. 400+32 TO STA. 407+70

NOT TO SCALE



SB ON RAMP
STA. 407+70 TO STA. 413+87

NOT TO SCALE

NOTES:
1. SEE CROSS SECTIONS FOR ADDITONAL INFORMATION.
2. SEE DETAILS FOR ADDITIONAL INFORMATION.
3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

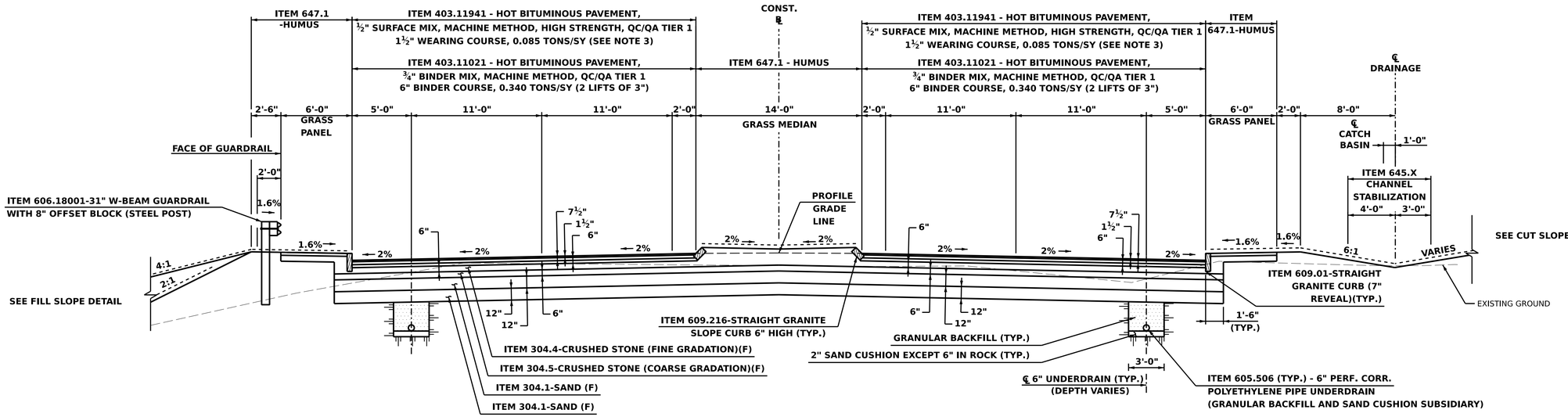
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

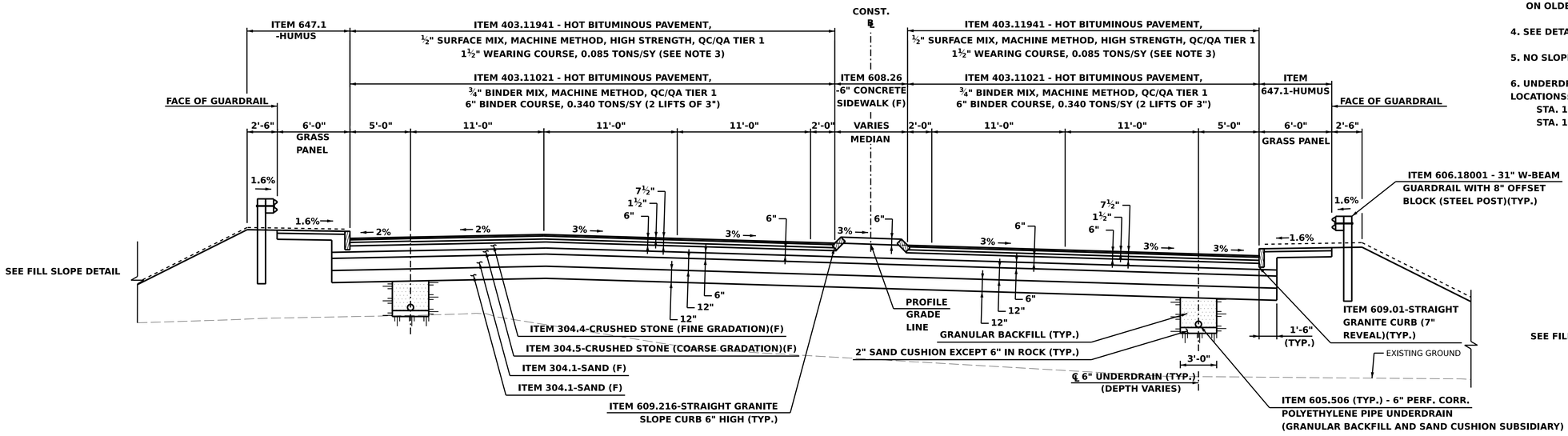
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_09	13065A	14	733

TYPICAL SECTION OF IMPROVEMENT



OLDE RUM TRAIL NORMAL CROWN SECTION
STA. 1014+81 TO STA. 1038+50

NOT TO SCALE



OLDE RUM TRAIL SUPERELEVATED SECTION
STA. 1005+93 TO STA. 1014+81

NOT TO SCALE

NOTES:

1. MEDIAN ISLANDS SHALL BE 6" CONCRETE SIDEWALK WHERE LESS THAN OR EQUAL TO 10' IN WIDTH AND GRASS WITH HUMUS AND SEED WHERE GREATER THAN 10' IN WIDTH.
2. SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.
3. HIGH STRENGTH WEARING COURSE SHALL BE PLACED ON OLDE RUM TRAIL TO STA. 1014+00.
4. SEE DETAILS FOR ADDITIONAL INFORMATION.
5. NO SLOPE ROUNDING IN DELINEATED WETLANDS.
6. UNDERDRAIN SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
   STA. 1012+82.3 - STA. 1038+25.0 RT
   STA. 1014+50.0 - STA. 1038+25.0 LT

NUMBER	DESCRIPTION	DATE	STATION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

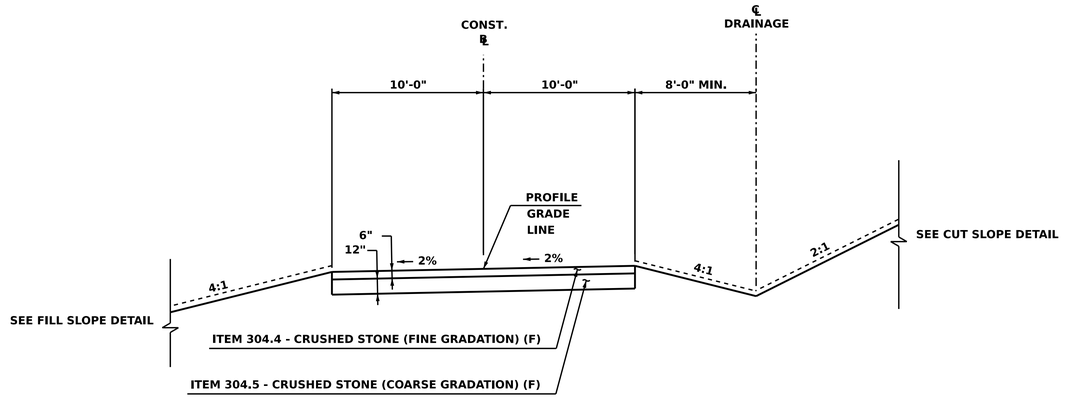
REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Typ_10	13065A	15	733

TYPICAL SECTION OF IMPROVEMENT



MADDEN ROAD

NOT TO SCALE

NOTES:
1: SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.

2: SEE DETAILS FOR ADDITIONAL INFORMATION.

3. NO SLOPE ROUNDING IN DELINEATED WETLANDS.

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	**VHB TEAM/NHDOT**	DATE **2/8/2022**
NEW DESIGN	**VHB TEAM**	DATE **4/12/2022**
SHEET CHECKED	**J. HILTON**	DATE **4/12/2022**
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TYPICAL SECTIONS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**13065A_Typ_11**	**13065A**	**16**	**733**

INCIDENTAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
201.881	INVASIVE SPECIES CONTROL TYPE I	SY	11400
201.882	INVASIVE SPECIES CONTROL TYPE II	SY	21500
202.101	DEMOLISHING BUILDINGS SUBJECT TO PRIOR REMOVAL	U	1
202.102	DEMOLISHING BUILDINGS SUBJECT TO PRIOR REMOVAL	U	1
203.5525	PORTABLE CHANGEABLE MESSAGE SIGN PLATFORM	U	4
203.55261	INSTALLATION AND REMOVAL OF SWZ - PORTABLE QUEUE TRAILER PLATFORM	U	3
203.55262	INSTALLATION AND REMOVAL OF SWZ - PORTABLE CHANGEABLE MESSAGE SIGN PLATFORM	U	9
214.	FINE GRADING	U	1
616.141	COMPUTER EQUIPMENT AND TRAFFIC SIGNAL SOFTWARE	U	1
618.61	UNIFORMED OFFICERS WITH VEHICLE	$	600000
618.7	FLAGGERS	HR	3300
619.1	MAINTENANCE OF TRAFFIC	U	1
619.25	PORTABLE CHANGEABLE MESSAGE SIGN	U	4
619.253	PORTABLE CHANGEABLE MESSAGE SIGN (UNIT WEEK)	UWK	12
619.279	AUTOMATED TRAILER-MOUNTED SPEED LIMIT SIGN	U	4
619.502	WORK ZONE ITS OPERATIONAL COSTS (WINTER)	MON	8
619.503	WORK ZONE ITS OPERATIONAL COSTS (SUMMER)	MON	19
619.51	PORTABLE QUEUE TRAILER / SENSOR (PQT)	MON	85
619.52	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)	MON	75
619.63	TRUCK-MOUNTED IMPACT ATTENUATOR, TEST LEVEL 3	U	3
619.91	RELOCATE WORK ZONE ITS DEVICE	U	25
634.	BOULDERS FOR BARRICADE	EA	22
662.282	DECOMMISSION MONITORING WELL	LF	60
670.02	SEDIMENT SUMP MEASURING BLOCK	EA	3
670.822	GNSS CONSTRUCTION INSPECTION EQUIPMENT	U	1
692.	MOBILIZATION	U	0.75*
693.	ON-THE-JOB TRAINING OF UNSKILLED WORKERS	$	1800
697.11	INVASIVE SPECIES CONTROL AND MANAGEMENT PLAN	U	1
697.31	PROJECT OPERATIONS PLAN	U	1
697.41	CRITICAL PATH METHOD (CPM) ELECTRONIC SCHEDULE	U	1
698.11	FIELD OFFICE TYPE A	MON	30
698.2	PHYSICAL TESTING LABORATORY	MON	30
699.	MISCELLANEOUS TEMPORARY EROSION AND SEDIMENT CONTROL	$	350000
1008.6	ALTERATIONS AND ADDITIONS AS NEEDED - DRINKING WATER RESOURCE PROTECTION	$	10000
1008.8	ALTERATIONS AND ADDITIONS AS NEEDED - WINTER MAINTENANCE	$	10000
1010.15	FUEL ADJUSTMENT	$	250000
1010.2	ASPHALT CEMENT ADJUSTMENT	$	109000
1010.3	QUALITY CONTROL QUALITY ASSURANCE (QC/QA) ASPHALT	$	108000

* NOT AN ITEM TOTAL

MATERIALS TO BE SALVAGED

DESCRIPTION
EXISTING FRAMES, GRATES AND GUARDRAIL TERMINAL UNITS
SHALL BE SALVAGED TO NHDOT DISTRICT 5

SUBSIDIARY ITEMS

DESCRIPTION
REMOVAL OF EXISTING R.O.W FENCE
CONNECTION OF PIPES TO EXISTING STRUCTURES
REMOVAL OF EXISTING DRAINAGE STRUCTURES IN LINE WITH PROPOSED DRAINAGE STRUCTURES
COMMON STRUCTURE EXCAVATION FOR OUTLET CONTROL STRUCTURES

NOTE : THIS LIST OF SUBSIDIARY ITEMS SHOULD NOT BE CONSIDERED A COMPLETE DIGEST OF THE SUBSIDIARY WORK PRESENT ON THIS PROJECT. REFER TO PLANS, PROPOSAL, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.

WATER DIVERSION STRUCTURES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
503.101	WATER DIVERSION STRUCTURE	U	1
503.102	WATER DIVERSION STRUCTURE	U	1
503.103	WATER DIVERSION STRUCTURE	U	1
503.104	WATER DIVERSION STRUCTURE	U	1
503.105	WATER DIVERSION STRUCTURE	U	1
503.106	WATER DIVERSION STRUCTURE	U	1
503.107	WATER DIVERSION STRUCTURE	U	1
503.109	WATER DIVERSION STRUCTURE	U	1
503.110	WATER DIVERSION STRUCTURE	U	1
503.111	WATER DIVERSION STRUCTURE	U	1
503.112	WATER DIVERSION STRUCTURE	U	1
503.113	WATER DIVERSION STRUCTURE	U	1

SEE STREAM RELOCATION PLANS FOR 503.108

EARTHWORK SUMMARY

DESCRIPTION		Total CY
Common Excavation in Sections, Including Boulders and Pavement		178337
Common Excavation in Sections, Excluding Boulders and Conc. Pavement		176210
Muck Excavation in Sections		13585
Topsoil Removed Beneath Fill Sections		11004
Total Common Excavation		200799
COMMON EXCAVATION	**ITEM 203.1**	**200800**
Muck Excavation (See Item 203.4)		10395
MUCK EXCAVATION	**ITEM 203.4**	**10400**
Common Bridge Excavation (Item 504.1 (F) and Item 504.101 From Bridge Quantities)		1678
Common Channel Excavation, Stream (See Item 207.1 From Stream Quantities)		2300
Rock Excavation in Sections (Solid)		106383
Boulders in Sections (2%)		2128
Total Rock Excavation (Item 203.2)		108511
ROCK EXCAVATION	**ITEM 203.2**	**108600**
Rock Structure Excavation from Drainage Summary		5451
ROCK STRUCTURE EXCAVATION	**ITEM 206.2**	**5500**
Rock Bridge Excavation (See Items 504.2, 504.21, 504.24 or 504.25 From Bridge Quantities)		690
Sections Fill and BMP's		320097
Topsoil Removed Before Cuts		15319
Topsoil Removed Beneath Fill Sections		11004
Muck Replacement		13585
Fill for Rock Cut Earth Berms		6608
Embankment-In-Place (Item 203.6)		366613
EMBANKMENT-IN-PLACE (F)	**ITEM 203.6**	**366700**
Gravel Backfill for Muck and Organics		3735
GRAVEL BACKFILL FOR MUCK AND UNSUITABLE MATERIAL EXCAVTION	**ITEM 203.661**	**3780**
Rock and Gravel Backfill for Muck and Organics		6660
ROCK AND GRAVEL BACKFILL FOR MUCK AND UNSUITABLE MATERIAL EXCAVATION	**ITEM 203.662**	**6680**

NON-PARTICIPATING ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	SUBTOTAL
603.00230	30" R.C. PIPE, 2000D	LF	500*
614.73118	3" PVC CONDUIT, SCHEDULE 80	LF	500**

*NOT AN ITEM TOTAL, SEE DRAINAGE TABLES
**NOT AN ITEM TOTAL, SEE SIGNAL, PULL BOX AND CONDUIT SUMMARY SHEET

ROCK SLOPE

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
203.81	PRESPLITTING HOLES	LF	5200
203.82	EXTRA DRILLED HOLES WITHOUT EXPLOSIVES	LF	1050
203.91	ROCK SCALING - HAND METHOD	HR	350
203.93	HYDROGEOLOGIST	U	1
203.941	BASELINE GROUNDWATER SAMPLING EVENT	EA	168
203.942	EXTENDED GROUNDWATER SAMPLING EVENT	EA	21
214.3	FINE GRADING EARTH BERMS IN ROCKCUTS	LF	850
224.1	HORIZONTAL DRAINS IN ROCK	LF	4200
225.2	PRESTRESSED ROCK BOLTS	LF	350
225.3	ROCK DOWELS (UNTENSIONED ROCK BOLT)	LF	500

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
1 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY01	13065A	17	733

FENCING

ITEM NO.		202.8	607.140	607.350	607.4140	607.4350	607.64318	607.64918	607.73520
ITEM	MARK NUMBER	REMOVAL OF FENCE	WOVEN WIRE FENCE, 4'-0" HIGH	CHAIN LINK FENCE WITH VINYL COATED STEEL FABRIC, 5' HIGH	POST ASSEMBLIES FOR WOVEN WIRE FENCE, 4'-0" HIGH	POST ASSEMBLIES FOR CHAIN LINK FENCE WITH VINYL CTD STL FABRIC, 5' HIGH	BAR WAY, 18 FT.	BAR WAY, 18 FT. (POWDER COATED)	20' OPENING DOUBLE GATE, CHAIN LINK VINYL COATED STEEL FABRIC, 5' HIGH
UNIT		LF	LF	LF	EA	EA	U	U	U
LOCATION									
I-93 NB		754.6							
STA. 1657+29.8, RT. 108.7' - STA. 1665+06.5, RT. 152.1'	A		813.4		3				
STA. 1016+65.0, LT. 60.0' - STA. 206+00, RT. 98.6'	F		1491.4		11				
STA. 1693+08.0, RT. 156.4' - STA. 1696+63.2, RT. 123.4'	T		380.3		3				
I-93 SB		857.5							
STA. 3657+57.5, LT. 115.3' - STA. 3658+56.3, LT. 125.2'	G		95.8		2				
STA. 3659+02.2, LT. 128.8' - STA. 3664+64.7, LT. 148.4'	H		539.1		2				
STA. 3667+18.1, LT. 152.3' - STA. 3668+38.3, LT. 152.8'	I		115.5		2				
STA. 3696+52.2, LT. 145.5' - STA.3697+23.1, LT. 145.5'	M		70.9		2				
STA. 3699+00.4, LT. 145.5' - STA.3699+36.3, LT. 145.5'	N		35.9		2				
STA. 3699+67.3, LT. 145.4' - STA. 3700+42.7, LT. 145.4'	O		75.4		2				
STA. 3701+96.1, LT. 145.4' - STA. 3703+00.0, LT. 113.7'	P		135.6		3				
I-93 NB ON RAMP									
STA. 206+00.0, RT. 98.6' - STA. 1693+08, RT. 156.4'	S			679.9		5			
I-93 NB OFF RAMP									
STA. 101+63.0, RT. 84' - STA. 102+84.8, RT. 86.4'	B		123.0		2				
STA. 109+24.0, RT. 214.3' - STA. 109+94.1, RT. 209.9'	C		70.4		2				
STA. 110+66.0, RT. 204.4' - STA. 1011+27.4, RT. 345.9'	D		128.0		3				
I-93 SB OFF RAMP		47.3							
STA. 307+91.4, RT. 102.5' - STA. 307+91.4, RT. 257.1'	R		154.7		2				
STA. 309+14.1, RT. 103.4' - STA. 309+07.1, RT. 235.3'	Q		132.6		2				
I-93 SB ON RAMP									
STA. 403+45.2, RT. 104.1' - STA. 3695+++89.0, LT. 145.5'	L		1672.4		7				
STA. 407+85.2, RT. 104.5' - STA. 410+82.0, RT. 110.6'	K		294.3		2				
STA. 410+86.7, RT. 110.7' - STA. 413+38.6, RT. 105.4'	J		243.4		2				
OLDE RUM TRAIL									
STA. 1011+53.1, RT 330.5' - 1016+65.0, RT 60.0'	E		610.1		4				
STA. 1037+82.9, LT 252.2' - STA. 1031+91.4, LT 250.8'				92		1			1
STA. 1031+91.4, LT 250.8' - STA. 1036+58.7, LT 301.0'				60		1			
STA. 1036+58.7, LT 301.0' - STA. 1036+81.1, LT 342.2'				47		1			
STA. 1036+81.1, LT 342.2' - STA. 1037+99.5, LT 413.6'				138		1			
STA. 1037+99.5, LT 413.6' - STA. 1038+62.1, LT 317.5'				115		1			
STA. 1038+62.1, LT 317.5' - STA. 1038+02.7, LT 255.1'				86		2			
MADDEN RD									
STA. 16+10.00	-						1		
B1012								1	
B1038								1	
B1649								1	
NB ON STA. 204+50								1	
SUBTOTAL		**1659.4**	**7182.2**	**1217.3**	**58.0**	**12.0**	**1.0**	**4.0**	**1.0**
ROUNDING		10.6	117.8	22.7	0.0	0.0	0.0	0.0	0.0
TOTAL		**1670**	**7300**	**1240**	**58**	**12**	**1**	**4**	**1**

CLEARING

ITEM NO.		201.1	201.6
ITEM		CLEARING AND GRUBBING (F)	CLEARING FOR FENCE LINES (F)
UNIT		A	A
LOCATION	DESIGNATED AREA		
STA. 1655+62.7, RT. TO STA. 1656+24.4, RT.	A	0.03	
STA. 1656+81.6, RT. TO STA. 1658+21.3, RT.	B	0.07	
STA. 1658+73.4, RT. TO STA. 1670+20.7, RT.	C	0.93	
STA. 1673+04.4, RT. TO STA. 1679+03.4, RT.	D	1.67	
STA. 1688+90.0, RT. TO STA. 1015+91.1, LT.	E	3.70	
STA. 207+79.7, RT. TO STA. 209+24.7, RT.	F	0.16	
STA. 1689+82.5, RT. TO STA. 1692+11.3, RT.	G	0.44	
STA. 1692+19.6, RT. TO STA. 1696+62.5 RT.	H	0.20	
STA. 1697+11.8, RT. TO STA. 1698+19.7, RT.	I	0.02	
STA. 1698+36.0, RT. TO STA. 1698+70.3, RT.	J	0.01	
STA. 3658+21.6, LT. TO STA. 3659+11.8, LT.	K	0.04	
STA. 3659+33.0, LT. TO STA. 3682+59.3, LT.	L	4.29	
STA. 401+40.1, RT. TO STA. 401+77.8, RT.	M	0.12	
STA. 3683+20.2, LT. TO STA. 3700+31.9, LT.	N	1.82	
STA. 3702+20.9, LT. TO STA. 3706+70.3, LT.	O	0.09	
STA. 3707+34.8, LT. TO STA. 3707+95.4, LT.	P	0.01	
STA. 3708+27.9, LT TO STA. 3708+98.4, LT.	Q	0.01	
STA. 3709+09.7, LT. TO STA. 3711+04.0, LT.	R	0.04	
STA. 3717+38.9, LT. TO STA. 3718+51.6, LT.	S	0.01	
STA. 1008+86.0, RT. TO STA. 1032+38.7, RT.	T	7.67	
STA. 1031+29.5, LT. TO STA. 1037+21.6, RT.	U	2.45	
STA. 1037+26.9, LT. TO STA. 1040+82.2, RT.	V	0.99	
STA. 1042+49.8, RT. TO STA. 1043+12.0, RT.	W	0.04	
STA. 1657+29.7, RT. TO STA. 1665+06.8, RT.	AA		0.06
STA. 101+63.0, RT. TO STA. 102+85.2, RT.	BB		0.01
STA. 109+23.9, RT. TO STA. 109+94.3, RT.	CC		0.01
STA. 500+89.9, RT. TO STA. 204+08.4, RT.	DD		0.03
STA. 208+20.2, RT. TO STA. 209+25.5, RT.	EE		0.01
STA. 1691+91.4, RT. TO STA. 1696+64.7, RT,	FF		0.04
STA. 3657+94.5, LT. TO STA. 3658+59.5, LT.	GG		0.01
STA. 3658+99.4, LT. TO STA. 3664+65.7, LT.	HH		0.04
STA. 3667+17.8, LT. TO STA. 3668+40.0, LT.	II		0.01
STA. 3669+53.6, LT. TO STA. 3674+96.1, LT.	JJ		0.04
STA. 402+58.4, RT. TO STA. 403+45.3, RT.	KK		0.01
STA. 401+85.8, RT. TO STA. 402+11.2, RT.	LL		0.01
STA. 308+96.0, RT. TO STA. 309+20.8, RT.	MM		0.01
STA. 307+89.9, RT. TO STA. 307+92.9, RT.	NN		0.01
STA. 302+76.4, RT. TO STA. 306+67.8, RT.	OO		0.03
STA. 300+61.4, RT. TO STA. 302+02.3, RT.	PP		0.01
STA. 3695+59.3, LT. TO STA. 3695+89.1, LT.	QQ		0.01
STA. 3696+51.6, LT. TO STA. 3697+23.7, LT.	RR		0.01
STA. 3898+98.8, LT. TO STA. 3699+40.3, LT.	SS		0.01
STA. 3699+66.3, LT. TO STA. 3700+44.4, LT.	TT		0.01
STA. 3701+94.7, LT. TO STA. 3703+01.5, LT.	UU		0.01
STA. 1010+04.7, RT. TO STA. 1011+29.3, RT.	VV		0.01
STA. 1011+50.5, RT. TO STA. 1016+66.5, RT.	WW		0.04
SUBTOTAL		**24.81**	**0.44**
ROUNDING		**0.19**	**0.01**
TOTAL		**25.0**	**0.45**

STEEL SHEETING FOR ENVIRONMENTAL PROTECTION

ITEM NO.	506.4
ITEM	STEEL SHEET PILING FOR ENVIRONMENTAL PROTECTION
UNIT	SY
LOCATION	
I-93 NB OFF RAMP	1125.4
SUBTOTAL	**1125.4**
ROUNDING	29.2
TOTAL	**1155**

COFFERDAMS

ITEM NO.	ITEM DESCRIPTION	LOCATION	UNIT
NORTHBOUND			
503.301	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 1607+00, RIGHT (OHSS FOUNDATION)	1
503.302	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 1633+00, RIGHT (OHSS FOUNDATION)	1
503.303	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 1657+18, RIGHT (OHSS FOUNDATION)	1
SOUTHBOUND			
503.304	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 3700+00, LEFT (OHSS FOUNDATION)	1
503.305	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 3721+50, LEFT (OHSS FOUNDATION)	1
503.306	COFFERDAMS WITH SHEETING LEFT IN PLACE	STA 3750+00, LEFT (OHSS FOUNDATION)	1

NOTE: SEE BRIDGE TABLE FOR ADDITIONAL COFFERDAM LOCATIONS

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
2 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY02	13065A	18	733

CURBING (1 OF 2)

ITEM NO.			609.01	609.02	609.214	609.216	609.224	609.226	609.234	609.811
ITEM	MARK NUMBER	RADIUS	STRAIGHT GRANITE CURB	CURVED GRANITE CURB	STRAIGHT GRANITE SLOPE CURB, 4" HIGH	STRAIGHT GRANITE SLOPE CURB 6" HIGH	STRAIGHT GRANITE SLOPE CURB WITH RADIAL JOINTS, 4" HIGH	STRAIGHT GRANITE SLOPE CURB WITH RADIAL JOINTS, 6" HIGH	CURVED GRANITE SLOPE CURB 4" HIGH	BITUMINOUS CURB, TYPE B (4" REVEAL)
UNIT		FT	LF	LF	LF	LF	LF	LF	LF	LF
LOCATION										
I-93 NB										
STA. 1656+73.8, RT 35.0' - STA. 1664+96.2, RT 78.2'	B-1									836.8
STA. 100+00.0, RT 12.0' - STA. 113+79.2, RT 21.7'	B-2									1390.1
STA. 200+40.2, LT 27.4' - STA. 201+99.7, LT 16.0'	B-3									159.0
STA. 113+79.2, RT 21.7' - STA. 114+25.4, RT 34.5'	V-4	179.0	48.1							
STA. 114+25.4, RT 34.5' - STA. 114+50.6, RT 45.3'	V-5	-	27.4							
STA. 1664+96.2, RT 35.2' - STA. 1665+25.9, RT 35.4'	S-1	1430.0			30.0					
STA. 1664+96.2, RT 42.2' - STA. 1665+25.8, RT 44.8'	S-2	4753.0			30.1					
STA. 1664+96.2, RT 35.2' - STA. 1664+96.2, RT 42.2'	S-3	-			7.0					
STA. 1665+25.9, RT 35.4' - STA. 1665+25.8, RT 44.8'	S-4	-			9.4					
STA. 114+61.2, RT 10.7' - STA. 114+62.6, RT 4.0'	S-5	3.5					9.6			
STA. 114+62.6, RT 4.0' - STA. 114+93.1, RT 4.0'	S-6	-			30.6					
STA. 114+61.2, RT 10.7' - STA. 114+90.5, RT 23.3'	S-7	-			31.9					
STA. 501+15.3, LT 24.0' - STA. 502+64.0, LT 16.0'	S-13	249.7			161.9					
STA. 201+57.3, RT 4.0' - STA. 201+57.6, RT 6.0'	S-14	1.0							2.9	
STA. 200+48.9, RT 4.0' - STA. 201+57.3, RT 4.0'	S-15	1400.0			108.7					
STA. 200+36.1, RT 4.0' - STA. 200+48.9, RT 4.0'	S-16	-			12.8					
STA. 1688+49.3, RT 33.2' - STA. 1688+49.3, RT 43.2'	S-20	-			10.0					
STA. 1688+49.3. RT 33.2' - STA. 1690+61.8, RT 33.3'	S-21	-			212.5					
STA. 1688+49.3, RT 43.2' - STA. 1689+51.9, RT 37.5'	S-22	1416.0			102.8					
STA. 1689+51.9, RT 37.5' - STA. 1690+61.8, RT 35.3'	S-23	-			109.9					
STA. 1690+61.8, RT 33.3' - STA. 1690+61.8, RT 35.3;	S-24	1.0							3.1	
I-93 SB										
STA. 400+01.7, RT 38.3' - STA. 411+00.0, RT 10.0'	B-4									1109.8
STA. 305+88.1, RT 16.0' - STA. 309+79.5, RT 25.1'	B-5									440.2
STA. 3669+08.5, LT 35.5' - STA. 3669+08.5, LT 37.5'	S-25	1.0							3.1	
STA. 3669+08.5, LT 37.5' - STA. 3670+89.2, LT 44.9'	S-26	3216.0			180.2					
STA. 3669+08.5, LT 35.5' - STA. 3670+89.2, LT 34.9'	S-27	-			180.4					
STA. 3670+89.2, LT 34.9' - STA. 3670+89.2, LT 44.9'	S-28	-			10.0					
STA. 3692+43.5, LT 35.8' - STA. 3692+43.5, LT 44.9'	S-29	-			9.1					
STA. 3692+43.5, LT 44.9' - STA. 3692+73.5, LT 42.7'	S-30	-			30.1					
STA. 3692+43.5, LT 35.8' - STA. 3692+73.5, LT 35.7'	S-31	-			30.0					
STA. 3692+73.5, LT 35.7' - STA. 3692+73.5, LT 42.7'	S-32	-			7.0					
CURB TABLE 1 SUBTOTAL			**75.5**	**0.0**	**1304.4**	**0.0**	**9.6**	**0.0**	**9.1**	**3935.9**

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
3 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY03	13065A	19	733

CURBING (2 OF 2)

ITEM NO.			609.01	609.02	609.214	609.216	609.224	609.226	609.234	609.811
ITEM	MARK NUMBER	RADIUS	STRAIGHT GRANITE CURB	CURVED GRANITE CURB	STRAIGHT GRANITE SLOPE CURB, 4" HIGH	STRAIGHT GRANITE SLOPE CURB 6" HIGH	STRAIGHT GRANITE SLOPE CURB WITH RADIAL JOINTS, 4" HIGH	STRAIGHT GRANITE SLOPE CURB WITH RADIAL JOINTS, 6" HIGH	CURVED GRANITE SLOPE CURB 4" HIGH	BITUMINOUS CURB, TYPE B (4" REVEAL)
UNIT		FT	LF	LF	LF	LF	LF	LF	LF	LF
LOCATION										
CONNECTOR										
STA. 1007+01.1, RT 35.8' - STA. 1007+04.6, RT 32.0'	V-1	3.5		5.8						
STA. 1007+04.6, RT 32.0' - STA. 1007+17.3, RT 32.0'	V-2	-	12.7							
STA. 1007+17.3, RT 32.0' - STA. 1007+20.6, RT 36.6'	V-3	3.5		6.6						
STA. 1007+46.4, RT 74.2' - STA. 1007+92.3, RT 39.1'	V-6	50.0	60.5							
STA. 1007+92.3, RT 39.1' - STA. 1009+56.0, RT 33.7'	V-7	834.0	160.0							
STA. 1007+77.5, LT 32.1' - STA. 1007+79.2, LT 38.7'	V-8	3.5		9.2						
STA. 1007+69.8, LT 32.0' - STA. 1007+77.5, LT 32.1'	V-9	1536.0	7.9							
STA. 1006+97.4, LT 32.0' - STA. 1007+69.8, LT 32.0'	V-10	-	72.6							
STA. 1006+92.5, LT 36.3' - STA. 1006+97.4, LT 32.0'	V-11	5.0		7.1						
STA. 1006+19.7, RT 32.0' - STA. 1006+77.5, RT 32.0'	V-12	-	57.8							
STA. 1006+08.9, LT 31.5' - STA. 1006+29.3, LT 31.5'	V-13	-	20.4							
STA. 1006+29.3, LT 31.5' - STA. 1006+34.3, LT 32.0'	V-14	-	5.0							
STA. 1006+34.3, LT 32.0' - STA. 1006+55.9, LT 32.0'	V-15	-	21.7							
STA. 1006+55.9, LT 32.0' - STA. 1006+60.8, LT 35.9'	V-16	5.0		6.8						
STA. 1002+14.2, RT 38.0' - STA. 1002+30.4, RT 32.0'	V-17	25.0	17.7							
STA. 1002+30.4, RT 32.0' - STA. 1002+57.7, RT 32.0'	V-18	-	27.3							
STA. 1002+14.8, LT 31.5' - STA. 1002+47.0, LT 31.5'	V-19	-	32.1							
STA. 1008+50.0, LT 42.1' - STA. 1009+08.2, LT 44.0'	V-20	230.0	60.1							
STA. 1009+08.2, LT 44.0' - STA. 1011+45.1, LT 45.7'	V-21	1547.0	244.0							
STA. 1009+56.0, RT 33.7' - STA. 1013+06.3, RT 36.0'	V-22	1484.0	342.2							
STA. 1011+45.1, LT 45.7' - STA. 1012+95.3, LT 35.8'	V-23	1537.6	154.6							
STA. 1012+95.3, LT 35.8' - STA. 1013+24.9, LT 36.0'	V-24	1536.0	30.0							
STA. 1013+06.3, RT 36.0' - STA. 1015+48.6, RT 36.0'	V-25	-	242.1							
STA. 1013+24.9, LT 36.0' - STA. 1019+43.6, LT 36.0'	V-26	-	618.7							
STA. 1016+61.8, RT 36.0' - STA. 1038+50.0, RT 36.0'	V-27	-	2188.6							
STA. 1020+56.4, LT 36.0' - STA. 1037+90.5, LT 36.0'	V-28	-	1734.2							
STA. 1038+20.5, LT 36.0' - STA. 1038+50.0, LT 36.0'	V-29	-	29.5					9.4		
STA. 1007+30.5, RT 3.0' - STA. 1007+30.5, LT 3.0'	S-8	3.0								
STA. 1007+30.5, LT 3.0' - STA. 1007+70.0, LT 3.0'	S-9	-				39.5				
STA. 1007+30.5, RT 3.0' - STA. 1007+45.6, RT 3.0'	S-10	-				15.1				
STA. 1007+70.0, LT 3.0' - STA. 1013+24.9, LT 7.0'	S-11	1507.0				556.7				
STA. 1007+45.6, RT 3.0' - STA. 1013+06.5, RT 7.0'	S-12	1513.0				559.0				
STA. 1006+14.8, RT 3.0' - STA. 1006+27.8, RT 0.9'	S-17	50.0				13.2				
STA. 1006+27.2, LT 3.0' - STA. 1006+27.8, RT 0.9'	S-18	2.0						5.7		
STA. 1006+13.7, LT 3.0' - STA. 1006+27.2, LT 3.0'	S-19	-				13.4				
STA. 1013+24.9, LT 7.0' - STA. 1015+53.0, LT 7.0'	S-33	-				228.1				
STA. 1013+06.5, RT 7.0' - STA. 1015+53.0, RT 7.0'	S-34	-				246.5				
STA. 1015+53.0. LT 7.0' - STA. 1015+53.0, RT 7.0;	S-35	7.0						22.0		
STA. 1015+94.0, LT 7.0' - STA. 1015+94.6, RT 7.0'	S-36	7.0						22.0		
STA. 1015+94.0, LT 7.0' - STA. 1020+11.0, LT 7.0'	S-37	-				417.0				
STA. 1015+94.0, RT 7.0' - STA. 1020+11.0, RT 7.0'	S-38	-				417.0				
STA. 1020+11.0, LT 7.0' - STA. 1020+11.0, RT 7.0'	S-39	7.0						22.0		
STA. 1020+52.0, RT 7.0' - STA. 1020+52.0, LT 7.0'	S-40	7.0						22.0		
STA. 1020+52.0, LT 7.0' - STA. 1038+50.0, LT 7.0'	S-41	-				1798.0				
STA. 1020+52.0, RT 7.0' - STA. 1038+50.0, RT 7.0'	S-42	-				1798.0				
TABLE 1 SUBTOTAL			75.5	0.0	1304.4	0.0	9.6	0.0	9.1	3935.9
CURB BREAKAGE (ASSUME 20%)					0.0	0.0				
CURB FOR SALVAGE (ASSUME 75% SALVAGED)										
SUBTOTAL			**6215.1**	**35.6**	**1304.4**	**6101.6**	**9.6**	**103.1**	**9.1**	**3935.8**
ROUNDING			34.9	0.4	5.6	48.4	0.4	1.9	0.9	4.2
TOTAL			**6250**	**36**	**1310**	**6150**	**10**	**105**	**10**	**3940**

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
4 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY04	13065A	20	733

PAVEMENT MARKINGS

ITEM NO.	632.0104	632.0106	632.0112	632.3104	632.3106	632.3108	632.3112	632.3118	632.32
ITEM	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	RETROREFLECTIVE PAINT PAVE. MARKING, 12" LINE	RETROREFLECT. THERMOPLAS. PAVE. MARKING, 4" LINE	RETROREFLECT. THERMOPLAS. PAVE. MARKING, 6" LINE	RETROREFLECT. THERMOPLAS. PAVE. MARKING, 8" LINE	RETROREFLECT. THERMOPLAS. PAVE. MARKING, 12" LINE	RETROREFLECT. THERMOPLAS. PAVE. MARKING, 18" LINE	RETROREFLECT. THERMOPLAS. PAVEMENT MARKING, SYMBOL OR WORD
UNIT	LF	LF	LF	LF	LF	LF	LF	LF	SF
I-93 NORTHBOUND		2837.0	1034.0						
(PERMANENT)									
I-93 SOUTHBOUND		2403.0	948.0						
(PERMANENT)									
I-93 NORTHBOUND OFF-RAMP		3843.0			277.0	28.0	408.0	43.0	151.6
(PERMANENT)									
I-93 NORTHBOUND ON-RAMP		3456.0					793.0		
(PERMANENT)									
I-93 NORTHBOUND ON-RAMP SLIP RAMP		455.0				32.0			73.3
(PERMANENT)									
I-93 SOUTHBOUND OFF-RAMP		2727.8			251.0		287.0	34.0	225.2
(PERMANENT)									
I-93 SOUTHBOUND ON-RAMP		4189.0			75.0		657.0		
(PERMANENT)									
OLDE RUM TRAIL	15168.3			680.0	77.9	37.0		66.0	191.2
(PERMANENT)									
I-93 NORTHBOUND (TCP)									
I-93 SOUTHBOUND (TCP)									
RAMPS (TCP)									
OLDE RUM TRAIL (TCP)									
SUBTOTAL	**15168.3**	**19910.8**	**1982.0**	**680.0**	**680.9**	**97.0**	**2145.0**	**143.0**	**641.3**
2 APPLICATIONS	15168.3	19910.8	1982.0						
ROUNDING	163.4	178.4	1.0	0.0	4.1	3.0	5.0	2.0	0.7
TOTAL	**30500**	**40000**	**3965**	**680**	**685**	**100**	**2150**	**145**	**642**

GUARDRAIL

ITEM NO.	ITEM NO.	202.7	203.5561	203.5562	606.012	606.1254	606.1255	606.127	606.18001	606.91	621.2	
ITEM NO.	ITEM	REMOVAL OF GUARDRAIL	EAGRT PLATFORM PREFERRED	EAGRT PLATFORM ALTERNATE	W6X9 STEEL POST REPLACEMENTS FOR BEAM GUARDRAIL POSTS	BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 3) (STEEL POST)	BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 2) (STEEL POST)	BEAM GUARDRAIL (TERMINAL UNIT TYPE G-2) (STEEL POST)	31" W-BEAM GUARDRAIL WITH 8" OFFSET BLOCK (STEEL POST)	RESETTING OR SETTING GUARDRAIL	RETROREFLECTIVE BEAM GUARDRAIL DELINEATOR	REMARK
UNIT	UNIT	LF	U	U	EA	U	U	U	LF	LF	EA	
REF. NO.	LOCATION											
	I-93 NB											
1	STA. 1604+56.4, RT - STA. 1607+18.9, RT		1			1		1	187.5		3	
2	STA. 1654+62.5, RT - STA. 1011+56.9, RT		1			1			2875.0		30	
3	STA. 1655+73.4, RT 38.9' - STA. 1676+14.5, RT 35.3'	2052.9								1637.5		
4	STA. 102+20.6, LT - STA. 114+92.4, LT			1		1			1225.0		14	
11	STA. 200+40.2, LT - STA. 202+12.2, LT							1	175.0		8	
	CONNECTOR ROAD											
2	STA. 1011+56.9, RT - STA. 1011+69.4, RT							1				
13	STA. 1009+83.3, LT - STA. 1011+33.3, LT		1				1	1	75.0		2	
	I-93 SB											
5	STA. 3655+54.1, RT - STA. 3659+66.6, RT		1			1		1	337.5		5	
6	STA. 3656+41.8, LT 37.1' TO STA. 3675+36.5, LT 39.1'	1881.3								1500.0		
7	STA. 304+85.9, RT - STA. 411+12.5, RT		1			1		1	1550.0		17	
8	STA. 1002+30.2, LT - STA. 404+69.0, LT							1	425.0		6	
9	STA. 305+81.8, LT - STA. 1002+18.8, LT		1			1			337.5		5	
10	STA. 3699+82.5, LT - STA. 3702+45.0, LT		1			1		1	187.5		3	
12	STA. 3711+29.1, LT - STA. 3723+91.6, LT		1			1		1	1200.0		13	
14	STA. 3696+22.2, LT 36.9' TO STA. 3698+67.5, LT 38.5'	245.3								187.5		
15	STA. 3711+41.4, LT. 37.0' TO STA. 3716+96.5, LT. 37.3'	557.9								437.5		
	MISCELLANEOUS LOCATIONS				155							
	SUBTRACT GUARDRAIL TO BE RESET (ITEM 606.91)								-3762.5			
	SUBTOTAL	**4737.4**	**8**	**1**	**155**	**8**	**1**	**9**	**4812.5**	**3762.5**	**106**	
	ROUNDING	12.6	0	0	0	0	0	0	37.5	12.5	4	
	TOTAL	**4750**	**8**	**1**	**155**	**8**	**1**	**9**	**4850**	**3775**	**110**	

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
5 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY05	13065A	21	733

OVERHEAD SIGN STRUCTURES (OHSS) SUMMARY SHEET

ITS REFERENCE ID	206.1 COMMON STRUCTURE EXCAVATION	206.2 ROCK STRUCTURE EXCAVATION	209.1 GRANULAR BACKFILL	508. STRUCTURAL FILL	520.2 CONCRETE CLASS B	544.1 REINFORCING STEEL (ROADWAY)	615.10001 FULL TRAFFIC SIGN STRUCTURE	615.20001 CANTILEVER TRAFFIC SIGN STRUCTURE	615.20002 CANTILEVER TRAFFIC SIGN STRUCTURE	615.20003 CANTILEVER TRAFFIC SIGN STRUCTURE	615.20004 CANTILEVER TRAFFIC SIGN STRUCTURE	615.20005 CANTILEVER TRAFFIC SIGN STRUCTURE	615.20401 RELOCATE CANTILEVER TRAFFIC SIGN STRUCTURE	615.30001 BRIDGE MOUNTED TRAFFIC SIGN STRUCTURE	DESCRIPTION
UNIT	CY	CY	CY	CY	CY	LB	U	U	U	U	U	U	U	U	
OLDE RUM TRAIL															
STA 1010+00							1								
LEFT FOUNDATION			111.0	21.9	69.0	8280									
RIGHT FOUNDATION			117.6	21.9	72.4	8688									
I-93 NORTHBOUND															
STA 1607+00	231.9		52.9	14.8	38.6	4632		1							
NB FOUNDATION															
STA 1633+00	443.2		110.6	16.2	49.6	5952			1						
NB FOUNDATION															
STA 1657+18	96.7	9.5	63.9		29.7	3564				1					
NB FOUNDATION															
I-93 SOUTHBOUND															
STA 3700+00	135.7		62.4	14.8	38.2	4584							1		RELOCATE FROM STA 3696+50
SB FOUNDATION															
STA 3721+50	170.9		77.4	16.2	45.0	5400					1				
SB FOUNDATION															
STA 3750+00	218.7		126.4	16.2	50.9	6108						1			
SB FOUNDATION															
STA 3682+95														1	SIGN MOUNTED TO NEW INTERCHANGE BRIDGE
BRIDGE MOUNTED SIGN STRUCTURE															
FROM BRIDGE SUMMARY OF QUANTITIES				446.0											
SUBTOTAL	1297.1	9.5	722.2	568.0	393.4	47,208	1	1	1	1	1	1	1	1	
ROUNDING	*	*	*	12.0	1.6	*	0	0	0	0	0	0	0	0	
TOTAL	*	*	*	**580.0**	**395.0**	*	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	

* NOT AN ITEM TOTAL, SEE DRAINAGE SUMMARY SHEET

PERMANENT SIGNING

ITEM NO.	ITEM DESCRIPTION	UNIT	I-93 NB	I-93 SB	I-93 NB OFF-RAMP	I-93 NB ON-RAMP	I-93 SB OFF-RAMP	I-93 SB ON-RAMP	OLDE RUM TRAIL	TOTAL
615.0101	TRAFFIC SIGN TYPE A	SF	23							23
615.01201	TRAFFIC SIGN TYPE A, BREAKAWAY MOUNTS	SF	37.5	37.5						75
615.014	RELOCATING TRAFFIC SIGN TYPE A	U		1						1
615.0201	TRAFFIC SIGN TYPE B	SF							10	10
615.02201	TRAFFIC SIGN TYPE B, BREAKAWAY MOUNTS	SF							10	10
615.023	REMOVING TRAFFIC SIGN TYPE B	U	1							1
615.024	RELOCATING TRAFFIC SIGN TYPE B	U	2	4						6
615.0301	TRAFFIC SIGN TYPE C	SF			22.5		31.5	24.25	11.5	90
615.03201	TRAFFIC SIGN TYPE C, BREAKAWAY MOUNTS	SF	66	25	24.25	10.15	9		41.25	176
615.0401	TRAFFIC SIGN TYPE AA	SF	532	770.25					323.5	1626
615.0501	TRAFFIC SIGN TYPE BB	SF	14.7	14.7					10	40
615.054	RELOCATING TRAFFIC SIGN TYPE BB	U	2	4						6
615.0601	TRAFFIC SIGN TYPE CC	SF	15.13		20.25		12		17.94	66

DELINEATORS

ITEM NO.	621.31	621.32
ITEM DESCRIPTION	SINGLE DELINEATOR WITH POST	DOUBLE DELINEATOR WITH POST
UNIT	EA	EA
COLOR		
WHITE	49	48
YELLOW	3	
GREEN	9	
RED		9
SUBTOTAL	61	57
ROUNDING	3	3
TOTAL	64	60

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
6 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY06	13065A	22	733

ITS DEVICES, CONDUIT, AND PULL BOX SUMMARY SHEET

ITS REFERENCE ID	APPROX. STATION	REFERENCE LINE FOR CONDUIT RUN	206.2 ROCK STRUCTURE EXCAVATION	614.0338 3-CELL FABRIC INNERDUCT FOR 3" CONDUIT	614.512 CONCRETE PULL BOX 18"	614.51821 CONCRETE FIBER OPTIC SPLICE VAULT 48"X48"X48"	614.523 MOLDED PULL BOX 17"X30"	614.529 RESET MOLDED PULL BOX	614.73114 3" PVC CONDUIT, SCHEDULE 40	614.73118 3" PVC CONDUIT, SCHEDULE 80	621.61 FIBER OPTIC DELINEATOR	677.41501 CCTV SYSTEM WITHOUT POLE	677.46501 MOTOR VEHICLE DETECTION SYSTEM (MVDS) WITHOUT POLE	677.51012 12-STRAND SINGLE MODE FIBER OPTIC CABLE	677.51072 72-STRAND SINGLE MODE FIBER OPTIC CABLE	677.53 FIBER OPTIC SPLICE	677.54101 GROUND MOUNTED ITS EQUIPMENT CABINET	677.561 FIBER OPTIC PATCH PANEL (12-POSITION)	677.5822 1 GBPS FIBER ETHERNET SWITCH	677.6301 METER AND DISCONNECT PEDESTAL	677.63017 RELOCATE METER AND DISCONNECT PEDESTAL	677.64 UNINTERRUPTIBLE POWER SUPPLY (UPS)	677.9301 3-CONDUCTOR #0 AWG CABLE	677.9304 3-CONDUCTOR #4 AWG CABLE	DESCRIPTION
		UNIT	CY	LF	EA	U	EA	EA	LF	LF	EA	U	U	LF	LF	EA	U	EA	EA	U	U	EA	LF	LF	
COMMUNICATIONS CONDUIT SYSTEM																										
101	3654+50.00, 42.0' LT	101 - 102		72											272	12									EXISTING SPLICE VAULT, PROPOSED ITS BACKBONE CONNECTION, 200 LF SLACK FIBER IN SPLICE VAULT
102	3655+01.00, 94.0', LT	102 - 103		86											86										EXISTING PULL BOX
103	3655+77.00, 133.0', LT	103 - 104		460											460										EXISTING PULL BOX
104	1652+91.00, 119.0', RT	104 - 107		50											50										EXISTING PULL BOX
105	1652+67.00, 48.0', RT	104 -105		90											380	4									EXISTING SPLICE VAULT, 200 LF SLACK FIBER IN SPLICE VAULT, TWO RUNS OF 72 STRAND FIBER
107	1653+38.00, 122.0' RT	107 - 113		480					477		2				480										EXISTING PULL BOX
112	1658+07.00, 58.0' RT	112 -113							15					40		12									GROUND MOUNTED CABINET FOR 93-N-12.5-CCTV-A-5
113	1658+15.00, 71.0' RT	113 -114	10.7	1200		1			1200		3			200	1400	74									200 LF SLACK FIBER OPTIC CABLE IN SPLICE VAULT
114	105+00.00, 25.0' RT	114 -115		933			1		933		4				933										
115	114+33.00, 67.0' RT	115 -117				1			275		1			475	200	16									200 LF SLACK FIBER OPTIC CABLE IN SPLICE VAULT OF 12F AND 72F
117	1010+37.00, 52.0' RT	117 - 118					1			111				111											
118	1010+38.00, 59.0' LT	118 - 121					1		25		1			25											
121	1010+20.00, 62.0' LT	121 - 122												25		12	1	1	1			1			NEW GROUND MOUNTED CABINET FOR 93-N-12.9-CCTV-X-5, 25 LF OF FIBER SLACK IN CABINET
127	1658+22.00, 59.0' RT												1												NEW MVDS MOUNTED TO EXISTING CCTV 93-N-12.5-CCTV-A-5
PILLSBURY ROAD POWER CONDUIT SYSTEM																									
106	1652+61.00, 53.0' RT	N/A																							EXISTING POWER CABLE SPLICED AT 108
108	1654+04.00, 39.0' RT	108 - 109			1				129														137		
109	1655+22.00, 86.0' RT	109 - 110	18.1		1				258														261		
110	1657+80.00, 91.0' RT	110 - 111	8.1		1				25														28		
111	1658+04.00, 78.0' RT	111 - 112							20												1		30		METER PEDESTAL FOR 93-N-12.5-CCTV-A-5
112	1658+07.00, 58.0' RT																								POWER SOURCE FOR GROUND MOUNTED CABINET FOR 93-N-12.5-CCTV-A-5
TROLLEY CAR LANE POWER CONDUIT SYSTEM																									
41	1007+61.00, 82.0' RT	41 - 116							275														280		SEE TRAFFIC SIGNAL PLANS
116	1010+33.00, 47.0' RT	116 - 119			1					106													109		
119	1010+33.00, 59.0' LT	119 - 120			1				9														19		
120	1010+26.00, 63.0' LT	120 - 121							10											1				15	
121	1010+20.00, 62.0' LT	121 - 122							43																POWER SOURCE FOR GROUND MOUNTED CABINET FOR 93-N-X-12.9-CCTV-X-5
122	1010+00.00, 64.7' LT											1													93-N-X-12.9-CCTV-X-5
SPARE CONDUIT SYSTEM																									
123	1009+39.00', 61.0' LT	123 - 125						1		106															
124	1009+45.00, 55.0' LT	124 - 126						1		101															
125	1009+39.00, 46.0' RT						1																		
126	1009+45.00, 46.0' RT						1																		
SUBTOTAL			36.9	3371	5	2	5	2	3694	424	11	1	1	876	4261	130	1	1	1	1	1	1	864	15	
ROUNDING			**	4	*	0	*	0	*	*	*	*	0	*	4	*	0	0	0	0	0	0	*	*	
TOTAL			****	**3375**	*	**2**	*	**2**	*	*	*	*	**1**	*	**4265**	*	**1**	**1**	**1**	**1**	**1**	**1**	*	*	

* NOT AN ITEM TOTAL; SEE SIGNAL PULL BOX CONDUIT SUMMARY SHEET.

** NOT AN ITEM TOTAL; SEE DRAINAGE SUMMARY SHEET.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE
	STATION	
	STATION	

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
7 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY07	13065A	23	733

SIGNAL PULL BOX AND CONDUIT SUMMARY SHEET

			206.2	614.511	614.512	614.523	614.73114	614.73118	616.101				616.102				
SIGNAL REFERENCE ID	APPROX. STATION	REFERENCE LINE	ROCK STRUCTURE EXCAVATION	CONCRETE PULL BOX 14"	CONCRETE PULL BOX 18"	MOLDED PULL BOX 17"X30"	3" PVC CONDUIT, SCHEDULE 40	3" PVC CONDUIT, SCHEDULE 80	CONSTRUCT CONCRETE FOUNDATION	INSTALL LOOP DETECTOR	INSTALL CONTROLLER CABINET	INSTALL DISCONNECT PEDESTAL	CONSTRUCT CONCRETE FOUNDATION	INSTALL LOOP DETECTOR	INSTALL CONTROLLER CABINET	INSTALL DISCONNECT PEDESTAL	DESCRIPTION
		UNIT	CY	EA	EA	EA	LF	LF	U				U				
		EXIT 4A SB RAMPS AT OLDE RUM TRAIL															
1	STA. 401+57, RT 375																
1-2		STA. 401+57, RT 375 TO STA. 401+55, RT 365					10										
2	STA. 401+55, RT 365					1											
2-3		STA. 401+55, RT 365 TO STA. 401+53, RT 358					8										
3	STA. 401+53, RT 358																PROPOSED METER AND DISCONNECT WITH STEP UP TRANSFORMER.
3-4		STA. 401+53, RT 358 TO STA. 401+53, RT 351					8										
4	STA. 401+53, RT 351				1												
4-5		STA. 401+53, RT 351 TO STA. 401+53, RT 311															
5	STA. 401+53, RT 311				1												
5-8		STA. 401+53, RT 311 TO STA. 401+49, RT 26					288										
8	STA. 401+49, RT 26				1												
8-9		STA. 401+49, RT 26 TO STA. 400+73, RT 33					95										
9	STA. 400+73, RT 33											1					PROPOSED ELECTRICAL DISCONNECT
9-10		STA. 400+73, RT 33 TO STA. 400+61, RT 33					14										
9-21		STA. 400+73, RT 33 TO 'STA. 400+61, RT 27					20										
10	STA. 400+61, RT 33										1						PROPOSED CONTROLLER CABINET; 25' SLACK CABLE
10-11		STA. 400+61, RT 33 TO STA. 400+55, RT 28					8										
10-12		STA. 400+61, RT 33 TO STA. 400+50, RT 39					14										
11	STA. 400+55, RT 28					1											
11-24		STA. 400+55, RT 28 TO STA. 1002+17, RT 56						66									
12	STA. 400+50, RT 39			1													
12-13		STA. 400+50, RT 39 TO STA. 400+44, RT 36					8										
12-14		STA. 400+50, RT 39 TO STA. 309+60, RT 24					69										
13	STA. 400+44, RT 36								1								TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
14	STA. 309+60, RT 24			1													
14-15		STA. 309+60, RT 24 TO STA. 309+59, RT 30					6										
14-16		STA. 309+60, RT 24 TO STA. 307+73, RT 21					198										
15	STA. 309+59, RT 30								1								TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
16	STA. 307+73, RT 21			1													
16-17		STA. 307+73, RT 21 TO STA. 305+99, RT 21					175										
17	STA. 305+99, RT 21			1						1							
17-18		STA. 305+99, RT 21 TO STA. 304+00, RT 19	4.1				198										
18	STA. 304+00, RT 19			1													
18-19		STA. 304+00, RT 19 TO STA. 301+00, RT 14	8.4				300										
19	STA. 301+00, RT 14			1													
19-20		STA. 301+00, RT 14 TO 'STA. 3695+18, LT 76					344										
20	STA. 3695+18, LT 76			1						1							
21	STA. 400+61, RT 27				1												
21-25		STA. 400+61, RT 27 TO 'STA. 1002+14, RT 61						63									
24	STA. 1002+17, RT 56					1											
24-27		STA. 1002+17, RT 56 TO 'STA. 1002+60, RT 45					45										
25	STA. 1002+14, RT 61				1												
25-26		STA. 1002+14, RT 61 TO 'STA. 1002+61, RT 50					48										
26	STA. 1002+61, RT 50				1												
26-28		STA. 1002+61, RT 50 TO 'STA. 1006+09, RT 46															
27	STA. 1002+60, RT 45					1											
27-29		STA. 1002+60, RT 45 TO 'STA. 1006+11, RT 52															
SUBTOTAL SB			12.5	7	6	4	1856	129	1				0				

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
8 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY08	13065A	24	733

SIGNAL PULL BOX AND CONDUIT SUMMARY SHEET

			621.61	671.603	677.41501	677.51012	677.53	677.6302	677.6303	677.9301	677.9304	
SIGNAL REFERENCE ID	APPROX. STATION	REFERENCE LINE	FIBER OPTIC DELINEATOR	3-INCH PVC CONDUIT, SCHEDULE 80, DIRECTIONAL	CCTV SYSTEM WITHOUT POLE	12-STRAND SINGLE MODE FIBER OPTIC CABLE	FIBER OPTIC SPLICE	METER AND DISCONNECT PEDESTAL	METER AND DISCONNECT PEDESTAL	3-CONDUCTOR #0 AWG CABLE	3-CONDUCTOR #4 AWG CABLE	DESCRIPTION
		UNIT	EA	LF	U	LF	EA	U	U	LF	LF	
	EXIT 4A SB RAMPS AT OLDE RUM TRAIL											
1	STA. 401+57, RT 375											
1-2		STA. 401+57, RT 375 TO STA. 401+55, RT 365										
2	STA. 401+55, RT 365											
2-3		STA. 401+55, RT 365 TO STA. 401+53, RT 358										
3	STA. 401+53, RT 358							1				PROPOSED METER AND DISCONNECT WITH STEP UP TRANSFORMER.
3-4		STA. 401+53, RT 358 TO STA. 401+53, RT 351								12		
4	STA. 401+53, RT 351											
4-5		STA. 401+53, RT 351 TO STA. 401+53, RT 311		40						40		
5	STA. 401+53, RT 311											
5-8		STA. 401+53, RT 311 TO STA. 401+49, RT 26								294		
8	STA. 401+49, RT 26											
8-9		STA. 401+49, RT 26 TO STA. 400+73, RT 33								97		
9	STA. 400+73, RT 33								1			PROPOSED ELECTRICAL DISCONNECT
9-10		STA. 400+73, RT 33 TO STA. 400+61, RT 33										
9-21		STA. 400+73, RT 33 TO 'STA. 400+61, RT 27								20	20	
10	STA. 400+61, RT 33		1			25	12					PROPOSED CONTROLLER CABINET; 25' SLACK CABLE
10-11		STA. 400+61, RT 33 TO STA. 400+55, RT 28				8						
10-12		STA. 400+61, RT 33 TO STA. 400+50, RT 39										
11	STA. 400+55, RT 28											
11-24		STA. 400+55, RT 28 TO STA. 1002+17, RT 56				68						
12	STA. 400+50, RT 39											
12-13		STA. 400+50, RT 39 TO STA. 400+44, RT 36										
12-14		STA. 400+50, RT 39 TO STA. 309+60, RT 24										
13	STA. 400+44, RT 36											TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
14	STA. 309+60, RT 24											
14-15		STA. 309+60, RT 24 TO STA. 309+59, RT 30										
14-16		STA. 309+60, RT 24 TO STA. 307+73, RT 21										
15	STA. 309+59, RT 30											TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
16	STA. 307+73, RT 21											
16-17		STA. 307+73, RT 21 TO STA. 305+99, RT 21										
17	STA. 305+99, RT 21											
17-18		STA. 305+99, RT 21 TO STA. 304+00, RT 19										
18	STA. 304+00, RT 19											
18-19		STA. 304+00, RT 19 TO STA. 301+00, RT 14										
19	STA. 301+00, RT 14											
19-20		STA. 301+00, RT 14 TO 'STA. 3695+18, LT 76										
20	STA. 3695+18, LT 76											
21	STA. 400+61, RT 27											
21-25		STA. 400+61, RT 27 TO 'STA. 1002+14, RT 61								63	63	
24	STA. 1002+17, RT 56											
24-27		STA. 1002+17, RT 56 TO 'STA. 1002+60, RT 45				45						
25	STA. 1002+14, RT 61											
25-26		STA. 1002+14, RT 61 TO 'STA. 1002+61, RT 50								50	50	
26	STA. 1002+61, RT 50											
26-28		STA. 1002+61, RT 50 TO 'STA. 1006+09, RT 46								370	370	
27	STA. 1002+60, RT 45		1									
27-29		STA. 1002+60, RT 45 TO 'STA. 1006+11, RT 52				358						
SUBTOTAL SB			2	40	0	504	12	1	1	946	503	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
9 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY09	13065A	25	733

SIGNAL PULL BOX AND CONDUIT SUMMARY SHEET

			206.2	614.511	614.512	614.523	614.73114	614.73118	616.101				616.102				
SIGNAL REFERENCE ID	APPROX. STATION	REFERENCE LINE	ROCK STRUCTURE EXCAVATION	CONCRETE PULL BOX 14"	CONCRETE PULL BOX 18"	MOLDED PULL BOX 17"X30"	3" PVC CONDUIT, SCHEDULE 40	3" PVC CONDUIT, SCHEDULE 80	CONSTRUCT CONCRETE FOUNDATION	INSTALL LOOP DETECTOR	INSTALL CONTROLLER CABINET	INSTALL DISCONNECT PEDESTAL	CONSTRUCT CONCRETE FOUNDATION	INSTALL LOOP DETECTOR	INSTALL CONTROLLER CABINET	INSTALL DISCONNECT PEDESTAL	DESCRIPTION
		UNIT	CY	EA	EA	EA	LF	LF	U				U				
	EXIT 4A NB RAMPS AT OLDE RUM TR																
28	STA. 1006+09, RT 46				1												
28-31		STA. 1006+09, RT 46 TO STA. 1006+72, RT 73					68										
29	STA. 1006+11, RT 52					1											
29-30		STA. 1006+11, RT 52 TO STA. 1006+79, RT 81					77										
30	STA. 1006+79, RT 81					1											
30-33		STA. 1006+79, RT 81 TO STA. 1006+63, RT 56					35										
30-115		STA. 1006+79, RT 81 TO STA. 114+33, RT 67						91									200' SLACK CABLE
31	STA. 1006+72, RT 73				1												
31-41		STA. 1006+72, RT 73 TO STA 1007+61, RT 82						90									
31-50		STA. 1006+72, RT 73 TO STA. 1006+65, RT 66					10										
32	STA. 1006+70, RT 64												1				TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
32-33		STA. 1006+70, RT 64 TO STA. 1006+63, RT 56					12										
33	STA. 1006+63, RT 56														1		PROPOSED CONTROLLER CABINET; 25' SLACK CABLE
33-34		STA. 1006+63, RT 56 TO STA. 1006+64, RT 51					6										
33-50							11										
34	STA. 1006+64, RT 51			1													
34-35		STA. 1006+64, RT 51 TO STA. 1006+56, LT 55						106									
34-39		STA. 1006+64, RT 51 TO STA. 1007+09, RT 58						45									
35	STA. 1006+56, LT 55			1													
35-36		STA. 1006+56, LT 55 TO STA. 1006+46, LT 47					13										
35-37		STA. 1006+56, LT 55 TO STA. 1006+99, LT 55						44									
36	STA. 1006+46, LT 47												1				TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
37	STA. 1006+99, LT 55			1													
37-38		STA. 1006+99, LT 55 TO STA. 1007+05, LT 44					13										
38	STA. 1007+05, LT 44												1				TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
39	STA. 1007+09, RT 58			1													
39-40		STA. 1007+09, RT 58 TO STA. 1007+11, RT 49					10										
39-42		STA. 1007+09, RT 58 TO STA. 1007+58, RT 76						53									
40	STA. 1007+11, RT 49																
41	STA 1007+61, RT 82				1												
42	STA. 1007+58, RT 76			1													
42-43		STA. 1007+58, RT 76 TO STA. 1007+96, RT 55					43										
42-44		STA. 1007+58, RT 76 TO STA 112+68, RT 22					188										
43	STA. 1007+96, RT 55												1				TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
44	STA 112+68, RT 22			1													
44-45		STA 112+68, RT 22 TO STA. 110+83, RT 20					186										
45	STA. 110+83, RT 20			1										1			
45-46		STA. 110+83, RT 20 TO STA. 107+88, RT 17					295										
46	STA. 107+88, RT 17			1													
46-47		STA. 107+88, RT 17 TO STA. 104+90, RT 15					298										
47	STA. 104+90, RT 15			1													
47-48		STA. 104+90, RT 15 TO STA. 102+24, RT 14					266										
48	STA. 102+24, RT 14			1													
48-49		STA. 102+24, RT 14 TO STA. 1664+78, RT 83					244										
49	STA. 1664+78, RT 83			1										1			
50	STA. 1006+65, RT 66																
SUBTOTAL NB			0	11	3	2	1775	429	0				1				
SUBTOTAL SB			12.5	7	6	4	1856	129	1				0				
SUBTOTAL FROM NON-PARTICIPATING ITEMS SUMMARY			0	0	0	0	0	500	0				0				
SUBTOTAL FROM LIGHTING SUMMARY SHEET			-	0	0	25	3447	472	0				0				
SUBTOTAL FROM ITS BACKBONE, DEVICES, CONDUIT, AND PULL BOX SUMMARY SHEET			-	0	5	5	3694	424	0				0				
ROUNDING			*	0	0	0	28	6	0				0				
TOTAL			*****	**18**	**14**	**36**	**10800**	**1960**	**1**				**1**				

* NOT AN ITEM TOTAL; SEE DRAINAGE SUMMARY SHEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
10 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**13065A_QTY10**	**13065A**	**26**	**733**

SIGNAL PULL BOX AND CONDUIT SUMMARY SHEET

			621.61	671.603	677.41501	677.51012	677.53	677.6302	677.6303	677.9301	677.9304	
SIGNAL REFERENCE ID	APPROX. STATION	REFERENCE LINE	FIBER OPTIC DELINEATOR	3-INCH PVC CONDUIT, SCHEDULE 80, DIRECTIONAL	CCTV SYSTEM WITHOUT POLE	12-STRAND SINGLE MODE FIBER OPTIC CABLE	FIBER OPTIC SPLICE	METER AND DISCONNECT PEDESTAL	METER AND DISCONNECT PEDESTAL	3-CONDUCTOR #0 AWG CABLE	3-CONDUCTOR #4 AWG CABLE	DESCRIPTION
		UNIT	EA	LF	U	LF	EA	U	U	LF	LF	
	EXIT 4A NB RAMPS AT OLDE RUM TR											
28	STA. 1006+09, RT 46											
28-31		STA. 1006+09, RT 46 TO STA. 1006+72, RT 73								68	68	
29	STA. 1006+11, RT 52		1									
29-30		STA. 1006+11, RT 52 TO STA. 1006+79, RT 81				79						
30	STA. 1006+79, RT 81											
30-33		STA. 1006+79, RT 81 TO STA. 1006+63, RT 56				35						
30-115		STA. 1006+79, RT 81 TO STA. 114+33, RT 67				293						200' SLACK CABLE
31	STA. 1006+72, RT 73											
31-41		STA. 1006+72, RT 73 TO STA 1007+61, RT 82								92		
31-50		STA. 1006+72, RT 73 TO STA. 1006+65, RT 66									15	
32	STA. 1006+70, RT 64											TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
32-33		STA. 1006+70, RT 64 TO STA. 1006+63, RT 56										
33	STA. 1006+63, RT 56		1			25	24					PROPOSED CONTROLLER CABINET; 25' SLACK CABLE
33-34		STA. 1006+63, RT 56 TO STA. 1006+64, RT 51										
33-50												
34	STA. 1006+64, RT 51											
34-35		STA. 1006+64, RT 51 TO STA. 1006+56, LT 55										
34-39		STA. 1006+64, RT 51 TO STA. 1007+09, RT 58										
35	STA. 1006+56, LT 55											
35-36		STA. 1006+56, LT 55 TO STA. 1006+46, LT 47										
35-37		STA. 1006+56, LT 55 TO STA. 1006+99, LT 55										
36	STA. 1006+46, LT 47											TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
37	STA. 1006+99, LT 55											
37-38		STA. 1006+99, LT 55 TO STA. 1007+05, LT 44										
38	STA. 1007+05, LT 44				1							TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
39	STA. 1007+09, RT 58											
39-40		STA. 1007+09, RT 58 TO STA. 1007+11, RT 49										
39-42		STA. 1007+09, RT 58 TO STA. 1007+58, RT 76										
40	STA. 1007+11, RT 49											
41	STA 1007+61, RT 82											
42	STA. 1007+58, RT 76											
42-43		STA. 1007+58, RT 76 TO STA. 1007+96, RT 55										
42-44		STA. 1007+58, RT 76 TO STA 112+68, RT 22										
43	STA. 1007+96, RT 55											TYPE 2 FOUNDATION WITH ANCHOR BOLTS FOR SIGNAL POLE
44	STA 112+68, RT 22											
44-45		STA 112+68, RT 22 TO STA. 110+83, RT 20										
45	STA. 110+83, RT 20											
45-46		STA. 110+83, RT 20 TO STA. 107+88, RT 17										
46	STA. 107+88, RT 17											
46-47		STA. 107+88, RT 17 TO STA. 104+90, RT 15										
47	STA. 104+90, RT 15											
47-48		STA. 104+90, RT 15 TO STA. 102+24, RT 14										
48	STA. 102+24, RT 14											
48-49		STA. 102+24, RT 14 TO STA. 1664+78, RT 83										
49	STA. 1664+78, RT 83											
50	STA. 1006+65, RT 66											
SUBTOTAL NB			2	0	1	432	24	0	0	160	83	
SUBTOTAL SB			2	40	0	504	12	1	1	946	503	
SUBTOTAL FROM NON-PARTICIPATING ITEMS SUMMARY			0	0	0	0	0	0	0	0	0	
SUBTOTAL FROM LIGHTING SUMMARY SHEET			0	41	0	0	0	0	0	0	0	
SUBTOTAL FROM ITS BACKBONE, DEVICES, CONDUIT, AND PULL BOX SUMMARY SHEET			11	0	1	876	130	0	0	864	15	
ROUNDING			0	4	0	3	0	0	0	5	4	
TOTAL			**15**	**85**	**2**	**1815**	**166**	**1**	**1**	**1975**	**605**	

* NOT AN ITEM TOTAL; SEE DRAINAGE SUMMARY SHEET

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
11 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY11	13065A	27	733

HIGHWAY LIGHTING AND CONDUIT LAYOUT

LIGHTING REFERENCE ID	APPROX. STATION	REFERENCE LINE FOR CONDUIT RUN	614.311 3" STEEL CONDUIT	614.523 MOLDED PULL BOX 17"X30"	614.73114 3" PVC CONDUIT, SCH. 40	614.73118 3" PVC CONDUIT, SCH. 80	625.005 FURNISH LED LUMINAIRE	625.2 CONCRETE LIGHT POLE BASES, TYPE B	625.53140 LIGHT POLE WITH LED LUMINAIRE (40' TALL, SINGLE HEAD)	671.603 3-INCH PVC CONDUIT, SCHEDULE 80, DIRECTIONAL BORE	REMARKS
		UNIT	LF	EA	LF	LF	EA	EA	EA	EA	
POWER CONNECTION AT TROLLEY CAR LANE											
A	STA. 401+57.00, 375.0' RT	A - 2	30								POWER CONNECTION
2	STA. 401+58.00, 358.0' RT	2 - C								41	SEE TRAFFIC SIGNALS SUMMARY FOR DETAILS
C	STA. 401+57.00, 380.0' RT	C - D		1	301						
D	STA. 401+53.00, 21.0' RT	D - E		1	89						
EXIT 4A SB ON RAMP											
E	STA. 400+73.00, 27.0' RT	E - F		1	39						
F	STA. 400+46.00, 48.0' RT	F - G		1	12						
G	STA. 400+43.00, 36.0' RT		45				1				LUMINAIRE MOUNTED TO MAST ARM
		F - H			131						
EXIT 4A SB OFF RAMP											
H	STA. 308+98.00, 26.0' RT	H - I		1	253						
I	STA. 306+46.00, 25.0' RT	I - J		1	278						
J	STA. 303+68.00, 25.0' RT	J - K		1	259						
K	STA. 301+08.00, 17.0' RT	K - L		1	289						
		K - N				44					
L	STA. 3694+55, 83.00' LT	L -M		1	12						
M	STA. 3694+67, 82.00' LT		45					1	1		
N	STA. 301+08.00, 27.0' LT	N - O		1	9						
O	STA. 301+01.00, 30.0' LT		45					1	1		
OLDE RUM TRAIL											
		E - P				63					
P	STA. 1002+13.00, 72.0' RT	P - Q		1	51						
Q	STA. 1002+61.00, 56.0' RT	Q - R		1							
R	STA. 1006+09.00, 41.0' RT	R - S		1	37						
S	STA. 1006+44.00, 48.0' RT	S - T		1		111					
T	STA. 200+70.00, 44.0' LT	T - U		1		70					
U	STA. 200+57.00, 24.0' RT	U - V		1	19						
V	STA. 200+42.00, 17.0' RT		45				1				LUMINAIRE MOUNTED TO MAST ARM
EXIT 4A NB OFF RAMP											
		S - W				70					
W	STA. 114+84.00, 15.0' RT	W - X		1		69					
X	STA. 114+48.00, 73.0' RT	X - Y		1	213						
Y	STA. 112+46.00, 27.0' RT	Y - Z		1	342						
Z	STA. 109+05.00, 23.0' RT	Z - AA		1	254						
AA	STA. 106+51.00, 19.0' RT	AA - AB		1	296						
AB	STA. 103+55.00, 18.0' RT	AB - AC		1	256						
AC	STA. 101+00.00, 19.0' RT	AC - AD		1	291						
AD	STA. 1663+10.00, 77.0' RT	AD - AE		1	8						
AE	STA. 1663+02.00, 76.0' RT		45					1	1		
		AC - AF				45					
AF	STA. 101+00.00, 26.0' LT	AF - AG		1	8						
AG	STA. 100+93.00, 29.0' LT		45					1	1		
SUBTOTAL			300	25	3447	472	2	4	4	41	
ROUNDING			0	*	*	*	0	0	0	*	
TOTAL			**300**	*****	*****	*****	**2**	**4**	**4**	*****	

* NOT AN ITEM TOTAL; SEE SIGNAL PULL BOX AND CONDUIT SUMMARY SHEET

PERMANENT CONSTRUCTION SIGN TABLE

(INCLUDED IN ITEM NO. 619.1)

SIGN NO.	DESCRIPTION	SIZE (FT) W	SIZE (FT) H	SF	NO. REQ	TOTAL AREA (SF)	PORTABLE MOUNTS	POSTS	REMARKS
G20-2a	"END ROAD WORK"	4	2	8	4	32		8	BLACK/FLUORESCENT ORANGE
W4-2R	LANE ENDS	4	4	16	4	64		8	BLACK/FLUORESCENT ORANGE
W9-1	"RIGHT LANE ENDS"	4	4	16	4	64		8	BLACK/FLUORESCENT ORANGE
W20-1e	"ROAD WORK 1 MILE"	4	4	16	4	64		8	BLACK/FLUORESCENT ORANGE
W20-1f	"ROAD WORK 1/2 MILE"	4	4	16	4	64		8	BLACK/FLUORESCENT ORANGE
R50-1	NH LAW WORK ZONE	6	4	24	4	96		8	BLACK/WHITE
	ARROW BOARD				2				

NOTE : THE ESTIMATED QUANTITIES OF "PERMANENT CONTROLS" ARE HEREBY LISTED. THE CONTRACTOR IS RESPONSIBLE FOR ALL "OPERATIONAL CONTROLS" REQUIRE UNDER SECTION 619 OF THE NHDOT STANDARD SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART VI.

TEMPORARY TRAFFIC CONTROL BARRIER

ITEM NO.	606.417	606.9523	670.104	
ITEM	PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL	TEMP. IMPACT ATTENUATION DEVICE (NON-REDIRECTIVE) TEST LEVEL 3	TEMPORARY PORTABLE LIGHTING	REMARK
UNIT	LF	U	U	
LOCATION				
I-93 NB				
PHASE 1	4500	2	2	
PHASE 1A	2125	1	1	OVERLAPPING PHASE
PHASE 2	1000	2	2	
PHASE 3	5331	2	2	
PHASE 3A	-	-	2	OVERLAPPING PHASE
PHASE 4	-	-	-	
I-93 SB				
PHASE 1	1025	1	1	
PHASE 1A	-	-	-	OVERLAPPING PHASE
PHASE 2	1410	2	2	
PHASE 3	6500	1	1	
PHASE 3A	-	-	2	OVERLAPPING PHASE
PHASE 4	-	-	-	
SUBTOTAL	**11831**	**4**	**4**	
ROUNDING	69	0	0	
TOTAL	**11900**	**4**	**4**	
	**	*	*	

* TOTAL IS MAXIMUM FOR ANY OVERLAPING PHASES (PHASE 1 AND PHASE 1A)
** TOTAL IS MAXIMUM FOR PHASE 3

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
12 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**13065A_QTY12**	**13065A**	**28**	**733**

TEMPORARY EROSION CONTROL

ITEM NO.	645.119	645.3	645.482	645.51	645.512	645.52	645.531	645.611	645.7	645.71	645.8105	645.8110	645.8205	645.8210	645.85	645.851	645.852
ITEM	MULCH WITH TACKIFIERS	EROSION STONE	STUMP GRINDINGS FOR TEMPORARY EROSION CONTROL	HAY BALES FOR TEMPORARY EROSION CONTROL	COMPOST SOCK FOR PERIMETER BERM	RYEGRASS FOR TEMPORARY EROSION CONTROL	SILT FENCE	BONDED FIBER MATRIX (BFM)	STORM WATER POLLUTION PREVENTION PLAN	MONITORING SWPPP AND EROSION AND SEDIMENT CONTROLS	EROSION CONTROL - PUMP (500 GAL/MIN DISCHARGE CAPACITY)	EROSION CONTROL - PUMP (1000 GAL/MIN DISCHARGE CAPACITY)	EROSION CONTROL - PUMP (500 GAL/MIN DISCHARGE CAPACITY)	EROSION CONTROL - PUMP (1000 GAL/MIN DISCHARGE CAPACITY)	FLOCCULANT TREATMENT SYSTEM	WATER QUALITY MONITORING FOR CONSTRUCTION STORMWATER	FLOCCULANT TREATMENT SYSTEM OPERATION
UNIT	A	TON	CY	EA	LF	LB	LF	LB	U	HR	UWK	UWK	U	U	MON	HR	HR
I-93 NB	2.43			44.00	678.30	448.60	678.30	11902.90									
(PERMANENT)																	
I-93 SB	2.94			64.00	3137.70	411.40	3137.70	15703.80									
(PERMANENT)																	
I-93 NB ON RAMP	0.98				457.90		457.90	5160.90									
(PERMANENT)																	
I-93 NB OFF RAMP	1.23				939.00		939.00	4528.10									
(PERMANENT)																	
I-93 SB ON RAMP	0.75				1472.60		1472.60	3697.80									
(PERMANENT)																	
I-93 SB OFF RAMP	0.77				713.20		713.20	3454.50									
(PERMANENT)																	
OLDE RUM TRAIL	4.01			24.00	3255.00	389.30	3255.00	20832.50									
(PERMANENT)																	
MADDEN ROAD	0.27							1528.20									
(PERMANENT)						148.60											
BMP	1.50							6714.60									
(PERMANENT)																	
TCP	7.22							25272.80									
FROM DRAINAGE SUMMARY																	
SUBTOTAL	**22.1**	**5000.0**	**800.0**	**132.0**	**10653.7**	**1397.9**	**10653.7**	**98796.1**	**1.0**	**1100.0**	**64.0**	**64.0**	**2.0**	**2.0**	**30.0**	**960.0**	**480.0**
ROUNDING	0.9	0.0	0.0	8.0	1346.3	2.1	7946.3	1203.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	20.0
TOTAL	**23**	**5000**	**800**	**140**	**12000**	**1400**	**18600**	**100000**	**1**	**1100**	**64**	**64**	**2**	**2**	**30**	**1000**	**500**

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
13 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY13	13065A	29	733

LANDSCAPING AND SLOPE PROTECTION

ITEM NO.	585.2	585.3	593.411	643.21	645.44	645.45	646.2	647.1
ITEM	STONE FILL, CLASS B	STONE FILL, CLASS C	GEOTEXTILE; PERM CONTROL CL.1, NON-WOVEN	FERTILIZER FOR REFERTILIZATION	TEMPORARY SLOPE MATTING TYPE D (WILDLIFE FRIENDLY)	PERMANENT CHANNEL MATTING TYPE A	TURF ESTABLISHMENT WITHOUT MULCH	HUMUS
UNIT	CY	CY	SY	LB	SY	SY	A	CY
I-93 NB	540.13		1084	8972.72	12525.3	5577.2	11	5164.2
I-93 SB	3402.02	388.48	6896.6	8228.8	6207.1	4332.6	9.8	4625.9
OLDE RUM TRAIL AND MADDEN ROAD				7786.0	4603.5	3332.0	9.4	4401.1
BMP				2971.4	4901.3		3.7	1700.5
FROM STREAM RELOCATION SUMMARY								360.0
FROM DRAINAGE SUMMARY								
SUBTOTAL	**3942.2**	**388.5**	**7980.6**	**27958.9**	**28237.2**	**13241.8**	**33.8**	**16251.7**
ROUNDING	*	*	69.4	41.1	262.8	258.2	1.2	1248.3
TOTAL	*****	*****	**8050**	**28000**	**28500**	**13500**	**35**	**17500**

* NOT AN ITEM TOTAL; SEE DRAINAGE SUMMARY SHEET.

SURFACING MATERIALS

ITEM NO.	304.1	304.4	304.5	403.11011	403.11021	403.11022	403.11941	403.11942	403.12	403.16	403.19	403.4	410.22	417.	417.416	608.26	608.28	628.2
ITEM	SAND (F)	CRUSHED STONE (FINE GRADATION) (F)	CRUSHED STONE (COARSE GRADATION) (F)	HBP-1" BASE MIX, MACHINE METHOD, QC/QA TIER 1	HBP-3/4" BINDER MIX, MACHINE METHOD, QC/QA TIER 1	HBP-3/4" BINDER MIX, MACHINE METHOD, QC/QA TIER 2	HBP-1/2" SURFACE MIX, MACHINE METHOD, HIGH STRENGTH, QC/QA TIER 1	HBP-1/2" SURFACE MIX, MACHINE METHOD, HIGH STRENGTH, QC/QA TIER 2	HBP-HAND METHOD	PAVEMENT JOINT ADHESIVE	HBP-TEMPORARY	MATERIAL TRANSFER VEHICLE (MTV)	ASPHALT EMULSION FOR TACK COAT	COLD PLANING BITUMINOUS SURFACES	RUMBLE STRIPS, 16" WIDE	6" CONCRETE SIDEWALK (F)	8" CONCRETE SIDEWALK (F)	SAWED BITUMINOUS PAVEMENT
UNIT	CY	CY	CY	TON	TON	TON	TON	TON	TON	LF	TON	TON	GAL	SY	LF	SY	SY	LF
I-93 NB	5727.4	1825.0	976.3	1273.1	986.9		1529.2		62.3	24972.0		3789.2	2395.4	10241.4	5045.0			2425.0
I-93 SB	9926.2	3438.1	2092.2	1177.6	865.5		1277.8		21.5	24492.0		3320.9	2066.7	8861.4	4593.0			2421.0
I-93 NB OFF RAMP	5200.4	1069.0	1422.9			1643.8		442.6		14862.0		2086.4					27.2	
I-93 NB ON RAMP	4411.4	1153.4	1219.4		117.4	1054.4	29.4	286.9		12558.0		1488.1				18.6	112.4	
I-93 SB ON RAMP	4443.6	886.8	1229.7			1414.2		381.5		12483.0		1795.7					106.5	
I-93 SB OFF RAMP	3534.3	643.5	1045.3			1061.5		287.9		10320.0		1349.4					26.9	
OLDE RUM TRAIL	18358.3	7899.3	4851.2		7543.0	255.5	750.2		226.0	15498.0	50.0	8548.7	2856.7			329.1		
MADDEN ROAD		203.7	407.4															
BMP ACCESS ROADS		1092.8																
SUBTOTAL	**51601.7**	**18211.6**	**13244.5**	**2450.7**	**9512.8**	**5429.4**	**3586.6**	**1398.9**	**309.8**	**115185.0**	**50.0**	**22378.4**	**7318.8**	**19102.8**	**9638.0**	**347.7**	**273.0**	**4846.0**
ROUNDING	8.3	13.4	5.5	74.3	37.2	20.6	13.4	31.1	15.2	34815.0	0.0	421.6	31.2	397.2	162.0	2.3	2.0	54.0
TOTAL	**51610**	**18225**	**13250**	**2525**	**9550**	**5450**	**3600**	**1430**	**325**	**150000**	**50**	**22800**	**7350**	**19500**	**9800**	**350**	**275**	**4900**

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
14 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY14	13065A	30	733

DRAINAGE SUMMARY SHEET

NOTE NO.	202.31 FILL ABANDONED PIPE (CY)	202.41 REMOVAL OF EXISTING PIPE 0-24" DIAMETER (LF)	202.42 REMOVAL OF EXISTING PIPE OVER 24" DIAMETER (LF)	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES (EA)	203.53 LOW PERMEABILITY FILL (F) (CY)	206.1 COMMON STRUCTURE EXCAVATION (CY)	206.19 COMMON STRUCTURE EXCAVATION EXPLORATORY (CY)	206.2 ROCK STRUCTURE EXCAVATION (CY)	209.1 GRANULAR BACKFILL (CY)	520.1 CONCRETE CLASS A (CY)	544.1 REINFORCING STEEL (ROADWAY) (LB)	585.2 STONE FILL, CLASS B (CY)	585.3 STONE FILL, CLASS C (CY)	593.421 GEOTEXTILE; PERM CONTROL CL.2, NON-WOVEN (SY)	603.0001 VIDEO INSPECTION (LF)	603.00215 15" R.C. PIPE, 2000D (LF)	603.00218 18" R.C. PIPE, 2000D (LF)	603.00224 24" R.C. PIPE, 2000D (LF)	603.00230 30" R.C. PIPE, 2000D (LF)	603.00236 36" R.C. PIPE, 2000D (LF)	603.00336 36" R.C. PIPE, 3000D (LF)	603.00342 42" R.C. PIPE, 3000D (LF)	603.00360 60" R.C. PIPE, 3000D (LF)	603.36115 15" ALUMINIZED STEEL END SECTION (EA)	603.36118 18" ALUMINIZED STEEL END SECTION (EA)	603.36124 24" ALUMINIZED STEEL END SECTION (EA)	603.36130 30" ALUMINIZED STEEL END SECTION (EA)	REMARKS
C1										1.7																		
C2						8.9			30.7				2.6	10.9	85.0			85.0										
C3						10.4	8.9								127.0			127.0										
C4						4.0									32.0		32.0											
C5						2.0									32.0		32.0											
C6								9.1	2.7				1.0	5.4	126.0										1			
C7								2.5					1.0	5.4	51.0										1			
C8								68.0	39.4						248.0													
C9								144.0	65.3						298.0													
C10								90.6	61.0						322.0													
C11								25.6	10.7						32.0		32.0											
C12								24.0	10.7						32.0		32.0											
C13								126.8	54.8						248.0													
C14								151.0	79.0						297.0													
C15								25.6	10.7						32.0		32.0											
C16								24.0	10.7						32.0		32.0											
C17								145.2	65.3						298.0													
C18								136.7	56.3						297.0													
C19								5.9	2.7						32.0		32.0											
C20								23.2	10.7						32.0		32.0											
C21										3.63																		
C22								151.0	79.0						297.0													
C23								19.3	10.7						32.0		32.0											
C24								6.6	10.7						32.0		32.0											
C25								25.4	10.7						32.0		32.0											
C26								26.8	10.7						32.0		32.0											
C27								85.1	51.4						298.0													
C28																												
C29								24.0	10.7						32.0		32.0											
C30								25.6	10.7						32.0		32.0											
C31								55.9	26.5						87.0													
C32								3.1							148.0		148.0											
C33								11.6	10.7						32.0		32.0											
C34									114.3	6.48	94.0		16.1	41.8	393.0							393.0							
C35						2.0									32.0		32.0											
C36								7.9	14.7						164.0													
C37						1.5									66.0													
C38									4.7						28.0													
C39															27.0													
C40															26.0		26.0											
C41															39.0		39.0											
C42									14.2						26.0													
C43															28.0													
C44									16.8						32.0													
C45								44.7	54.7						208.0													
C46															35.0		35.0											
C47									27.9						263.0													
C48															34.0		34.0											
C49															271.0			271.0										
C50															60.0			60.0										
C51										1.97	36.0		2.6	10.9	57.0	57.0												
C52															39.0													
C53															162.0													
C54									2.7						28.0													
C55															28.0													
C56									46.3	1.50	32.0	26.9			97.0													
C57															119.0													
C58																												
C59						808.1							5.4	19.1														
C60										3.24	47.0		10.3	20.9	154.0						154.0							
C61										3.24	47.0		5.8	20.9	35.0						35.0							
C62						650.3			2.7				2.6	13.0														
C63									22.6				10.2	23.3	50.0			50.0									2	
C64													29.2	59.7														
C65										0.92	11.0				17.0	17.0												
C66										1.97	36.0				59.0			59.0										
C67										2.41	24.0				105.0			105.0										
SHEET 1 SUBTOTAL	0.0	0.0	0.0	0.0	1458.4	28.8	8.9	1489.2	1063.3	27.1	327.0	26.9	86.8	231.3	6389.0	74.0	794.0	757.0	0.0	189.0	393.0	0.0	0.0	2	0	0	2	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
15 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY15	13065A	31	733

DRAINAGE SUMMARY SHEET

NOTE NO.	603.40015 15" PIPE FOR SLOPE DRAINAGE LF	603.80306 6" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.80308 8" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.82215 15" PE PIPE (TYPE S) LF	603.82218 18" PE PIPE (TYPE S) LF	603.82224 24" PE PIPE (TYPE S) LF	604.0007 POLYETHYLENE LINER EA	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER U		604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER U		604.126 CATCH BASINS TYPE B, 6-FOOT DIAMETER U		604.154 CATCH BASINS TYPE E, 4-FOOT DIAMETER U		604.155 CATCH BASINS TYPE E, 5-FOOT DIAMETER U		604.158 CATCH BASINS TYPE E, 8-FOOT DIAMETER U		604.1941 CATCH BASINS TYPE G W/SLAB TOP U		604.324 DRAINAGE MANHOLES, 4-FOOT DIAMETER U		604.325 DRAINAGE MANHOLES, 5-FOOT DIAMETER U		604.4 RECONSTRUCTING/ ADJUSTING CATCH BASIN & DROP INLET LF	604.9101 OUTLET CONTROL STRUCTURE U	604.9102 OUTLET CONTROL STRUCTURE U	604.9103 OUTLET CONTROL STRUCTURE U	604.9104 OUTLET CONTROL STRUCTURE U	604.9105 OUTLET CONTROL STRUCTURE U	604.9106 OUTLET CONTROL STRUCTURE U	605.506 6" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.508 8" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.79 UNDERDRAIN FLUSHING BASINS EA	605.82251 24" AGGREGATE UNDERDRAIN TYPE 2, WITH 6" PERF. CORR. POLYETHYLENE PIPE LF	622.1 STEEL WITNESS MARKERS EA	REMARKS
								ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST											
C1																																				
C2																								1	1.0											
C3							1					1.0	1.6																							
C4							1	1	1.4																											
C5							1	1	1.3																											
C6				126.0										1.0	1.1																				2	
C7				51.0										1.0	1.1																				2	
C8				248.0										1.0	1.1																				1	
C9				298.0										1.0	1.0																				1	
C10					322.0		1					1.0	1.4																							
C11							1	1	1.4																											
C12							1	1	1.3																											
C13				248.0										1	1.1																				1	
C14					297.0		1					1.0	1.4																							
C15							1	1	1.4																											
C16							1	1	1.3																											
C17				298.0										1	1.0																				1	
C18					297.0		1					1.0	1.4																							
C19							1	1	1.4																											
C20							1	1	1.3																											
C21																																				
C22					297.0		1					1.0	1.4																							
C23							1	1	1.4																											
C24							1	1	1.3																											
C25							1	1	1.3																											
C26							1	1	1.4																											
C27					298.0		1					1.0	1.4																							
C28																																				
C29							1	1	1.3																											
C30							1	1	1.4																											
C31					87.0		1					1.0	1.4																							
C32							1	1	1.3																											
C33							1	1	1.4																											
C34																																				
C35							1	1	1.3																											
C36					164.0		1					1.0	1.3																							
C37				66.0			1	1	1.2																											
C38				28.0			1	1	1.3																											
C39					27.0		1	1	1.3																											
C40							1	1	1.3																											
C41							1			1.0	1.3																									
C42						26.0	1			1.0	1.3																									
C43				28.0			1	1	1.2																											
C44						32.0	1			1.0	1.7																									
C45					208.0		1	1	1.3																											
C46							1	1	1.3																											
C47						263.0	1			1.0	1.4																									
C48							1	1	1.3																											
C49							1	1	1.5																											
C50							1	1	1.5																											
C51							1					1.0	1.3																						1	
C52				39.0			1	1	1.2																											
C53				162.0			1	1	1.2																											
C54				28.0			1	1	1.2																											
C55				28.0			1	1	1.2																											
C56						97.0																				1.0	2.0									1	
C57				119.0			1	1	1.3																											
C58																																				
C59																												1.0								
C60																																				
C61																										1.0	2.6									
C62																													1.0						1	
C63																																			1	
C64																																				
C65																																			1	
C66																								1	1.0											
C67																																			1	
	0			1767.0	1997.0	418.0	45	32.0	42.2	4.0	5.7	9.0	12.6	6.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	4.6	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0	0	14	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
16 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY16	13065A	32	733

DRAINAGE SUMMARY SHEET

NOTE NO.	202.31 FILL ABANDONED PIPE (CY)	202.41 REMOVAL OF EXISTING PIPE 0-24" DIAMETER (LF)	202.42 REMOVAL OF EXISTING PIPE OVER 24" DIAMETER (LF)	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES (EA)	203.53 LOW PERMEABILITY FILL (F) (CY)	206.1 COMMON STRUCTURE EXCAVATION (CY)	206.19 COMMON STRUCTURE EXCAVATION EXPLORATORY (CY)	206.2 ROCK STRUCTURE EXCAVATION (CY)	209.1 GRANULAR BACKFILL (CY)	520.1 CONCRETE CLASS A (CY)	544.1 REINFORCING STEEL (ROADWAY) (LB)	585.2 STONE FILL, CLASS B (CY)	585.3 STONE FILL, CLASS C (CY)	593.421 GEOTEXTILE; PERM CONTROL CL.2, NON-WOVEN (SY)	603.0001 VIDEO INSPECTION (LF)	603.00215 15" R.C. PIPE, 2000D (LF)	603.00218 18" R.C. PIPE, 2000D (LF)	603.00224 24" R.C. PIPE, 2000D (LF)	603.00230 30" R.C. PIPE, 2000D (LF)	603.00236 36" R.C. PIPE, 2000D (LF)	603.00336 36" R.C. PIPE, 3000D (LF)	603.00342 42" R.C. PIPE, 3000D (LF)	603.00360 60" R.C. PIPE, 3000D (LF)	603.36115 15" ALUMINIZED STEEL END SECTION (EA)	603.36118 18" ALUMINIZED STEEL END SECTION (EA)	603.36124 24" ALUMINIZED STEEL END SECTION (EA)	603.36130 30" ALUMINIZED STEEL END SECTION (EA)	REMARKS
C68										1.97	36.0				96.0			96.0									
C69													9.6	20.5													
C70													32.6	62.7													
C71													48.7	77.3										1			
BMP 1038													24.8														
N1													8.1	17.5	8.0					8.0							
N2					941.6																						
N3									57.8																		
N4								136.1	103.0						175.0												
N5								17.0	13.4						51.0												
N6						1.9		8.9							32.0												
N7								150.5	85.8						304.0												
N8																											
N9								140.0	105.0						252.0												
N10															172.0												
N11									29.7						40.0			40.0									
N12									2.7						173.0												
N13									27.8						298.0												
N14									2.7						297.0												
N15															298.0												
N16									3.6						250.0												
N17																											
N18																											
N19															8.0												
N20								68.1	63.3						253.0												
N21																											
N22								38.0	13.9						49.0	49.0											
N23								23.9	13.8						53.0												
N24								22.3	13.8						53.0												
N25								51.8	44.3						198.0												
N26								67.0	24.2						98.0												
N27										4.46	125.0	82.3											180.0				
N28								21.3	4.8						10.0												
N29						4.4									30.0			30.0									
N30									17.9	2.57	42.0	42.0			46.0				46.0								
N31										1.97	36.0	26.9			60.0			60.0									
N32								62.3							204.0												
N33					24.3					3.24	47.0		4.0	12.7	54.0				54.0								
N34						11.4			73.8	3.24	47.0		5.8	17.5	199.0						199.0						
N35								84.7							99.0			99.0									
N36													20.7	76.9	33.0												
N37								122.0	3.6						197.0												
N38						0.9			70.7						51.0			51.0									
N39								94.4	49.1						221.0												
N40									2.7				1.0	5.4	74.0									1			
N41								80.0		2.57	42.0	42.0		37.5	54.0				54.0								
N42								577.1	122.4						360.0												
N43										1.97	36.0		2.6	10.6	85.0												
N44						112.4									298.0												
N45										1.97	36.0		2.6	10.6	80.0												
N46						29.3				1.97	36.0		2.6	10.4	62.8			62.8									
N47						0.9							4.0	15.4	51.2	51.2								1			
N48					110.0	1.1				2.22																	
N49																											
N50															42.0												
S1								10.9	3.6						10.0			10.0									
S2						1.5		183.3	81.2						228.0												
S3						0.9		42.0	347.7						243.0												
S4									2.7						340.0												
S5						3.3			28.7						315.0												
SHEET 2 SUBTOTAL	0.0	0.0	0.0	0.0	1075.9	168.0	0.0	2001.6	1413.4	28.2	483.0	193.2	167.1	375.0	6605.0	100.2	0.0	448.8	154.0	8.0	199.0	180.0	0.0	2	1	0	0	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
17 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY17	13065A	33	733

DRAINAGE SUMMARY SHEET

NOTE NO.	603.40015 15" PIPE FOR SLOPE DRAINAGE	603.80306 6" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D	603.80308 8" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D	603.82215 15" PE PIPE (TYPE S)	603.82218 18" PE PIPE (TYPE S)	603.82224 24" PE PIPE (TYPE S)	604.0007 POLYETHYLENE LINER	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER		604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER		604.126 CATCH BASINS TYPE B, 6-FOOT DIAMETER		604.154 CATCH BASINS TYPE E, 4-FOOT DIAMETER		604.155 CATCH BASINS TYPE E, 5-FOOT DIAMETER		604.158 CATCH BASINS TYPE E, 8-FOOT DIAMETER		604.1941 CATCH BASINS TYPE G W/SLAB TOP		604.324 DRAINAGE MANHOLES, 4-FOOT DIAMETER		604.325 DRAINAGE MANHOLES, 5-FOOT DIAMETER		604.4 RECONSTRUCTING/ ADJUSTING CATCH BASIN & DROP INLET	604.9101 OUTLET CONTROL STRUCTURE	604.9102 OUTLET CONTROL STRUCTURE	604.9103 OUTLET CONTROL STRUCTURE	604.9104 OUTLET CONTROL STRUCTURE	604.9105 OUTLET CONTROL STRUCTURE	604.9106 OUTLET CONTROL STRUCTURE	605.506 6" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN	605.508 8" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN	605.79 UNDERDRAIN FLUSHING BASINS	605.82251 24" AGGREGATE UNDERDRAIN TYPE 2, WITH 6" PERF. CORR. POLYETHYLENE PIPE	622.1 STEEL WITNESS MARKERS	REMARKS
	LF	LF	LF	LF	LF	LF	EA	U		U		U		U		U		U		U		U		U		LF	U	U	U	U	U	U	LF	LF	EA	LF	EA	
								ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST											
C68																						1	1.0													1	
C69																																					
C70																																					
C71																																					
N1																											1.0									
N2																																					
N3							1					1.0	2.2													1.0										
N4						175.0	1	1	1.4																												
N5				51.0			1																			1.0										
N6					32.0																	1	1.3													
N7						304.0	1	1	1.5																												
N8																																					
N9						252.0	1	1	1.6																												
N10						172.0	1			1.0	1.7																										
N11																1.0	1.2																			1	
N12				173.0			1	1	1.2																												
N13				298.0			1	1	1.2																												
N14				297.0			1	1	1.2																												
N15				298.0			1	1	1.2																												
N16						250.0	1			1	1.7																										
N17																										1.0										
N18																										1.0									1	
N19					8.0									1	1.1																					1	
N20				8.0	245.0																					1.0									1	
N21																										1.0									1	
N22							1			1	1.3																										
N23				53.0			1	1	1.2																												
N24				53.0			1	1	1.1																												
N25				198.0			1	1	1.3																												
N26				98.0												1.0	1.0																			1	
N27																		1.0	1.2																	1	
N28				10.0										1	1.0																					1	
N29							1	1	1.5																												
N30																																				1	
N31																																				1	
N32				204.0										1	1.1																					1	
N33																													1.0							1	
N34																									1.0	1.8											
N35																																1.0					
N36						33.0																											1.0				
N37						197.0										1.0	1.0																			1	
N38														1	1.2																					1	
N39				221.0										1	1.0																					1	
N40				74.0										1	1.0																					2	
N41																										1.0									2	
N42						360.0										1.0	1.1																			1	
N43						85.0																															1	
N44						298.0																	1	1.5													
N45						80.0																	1	1.0													1	
N46																							1	1.9													1	
N47																				1.0	1.2																1	
N48																																					
N49							1	1	1.2																												
N50						42.0																			1.0	1.6											
S1																1.0	1.1																			1	
S2						228.0								1	1.2																					1	
S3						243.0								1	1.2																					1	
S4						340.0								1	1.0																					1	
S5						315.0										1.0	1.3																			1	
	0	0.0	0.0	2036.0	285.0	3374.0	17	12	15.6	3	4.7	1.0	2.2	9	9.8	6.0	6.7	1.0	1.2	1.0	1.2	5	6.7	2.0	3.4	7.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0	0	30	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
18 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY18	13065A	34	733

DRAINAGE SUMMARY SHEET

NOTE NO.	202.31 FILL ABANDONED PIPE CY	202.41 REMOVAL OF EXISTING PIPE 0-24" DIAMETER LF	202.42 REMOVAL OF EXISTING PIPE OVER 24" DIAMETER LF	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES EA	203.53 LOW PERMEABILITY FILL (F) CY	206.1 COMMON STRUCTURE EXCAVATION CY	206.19 COMMON STRUCTURE EXCAVATION EXPLORATORY CY	206.2 ROCK STRUCTURE EXCAVATION CY	209.1 GRANULAR BACKFILL CY	520.1 CONCRETE CLASS A CY	544.1 REINFORCING STEEL (ROADWAY) LB	585.2 STONE FILL, CLASS B CY	585.3 STONE FILL, CLASS C CY	593.421 GEOTEXTILE; PERM CONTROL CL.2, NON-WOVEN SY	603.0001 VIDEO INSPECTION LF	603.00215 15" R.C. PIPE, 2000D LF	603.00218 18" R.C. PIPE, 2000D LF	603.00224 24" R.C. PIPE, 2000D LF	603.00230 30" R.C. PIPE, 2000D LF	603.00236 36" R.C. PIPE, 2000D LF	603.00336 36" R.C. PIPE, 3000D LF	603.00342 42" R.C. PIPE, 3000D LF	603.00360 60" R.C. PIPE, 3000D LF	603.36115 15" ALUMINIZED STEEL END SECTION EA	603.36118 18" ALUMINIZED STEEL END SECTION EA	603.36124 24" ALUMINIZED STEEL END SECTION EA	603.36130 30" ALUMINIZED STEEL END SECTION EA	REMARKS
S6						4.5									42.0			42.0									
S7						0.1									48.0												
S8						1.3			10.2						31.0			31.0									
S9									165.3						271.0												
S10															297.0												
S11															298.0												
S12															299.0												
S13																											
S14																											
S15						0.8									147.0												
S16		295.0						16.4	37.0						148.0												
S17																											
S18								9.1	23.4						94.0	94.0											
S19															235.0												
S20								31.2	11.5						42.0												
S21								23.0	11.3						41.0												
S22								32.1	22.6						95.0												
S23																											
S24									14.4						42.0	42.0											
S24A									1.9	0.92	11.0		2.2	5.6	41.0												
S25																											
S26													1.0	5.4	62.0										1		
S27													1.0	5.4	60.0										1		
S28																											
S29																											
S30						6.8			24.2	2.57	36.0	21.4		15.5	60.0				60.0								
S31									25.1	1.97	36.0	7.9		7.6	61.0			61.0									
S32									123.0	3.24	47.0	60.4		20.9	192.0						192.0						
S33						3.3			13.3	1.97	36.0		2.6	10.6	79.3			79.3									
S34									3.6	2.57	42.0	42.0		16.0	11.0				11.0								
S35									8.0	0.92	11.0		1.0	5.4	38.0												
S36									4.2	3.24	47.0		5.8	21.5	13.0					13.0							
S37										7.55	162.0	182.8												47.0			
U1																											
U2																											
U3																											
U4																											
U5																											
U6																											
U7																											
U8																											
U9																											
U10																											
U11																											
U12																											
U13																											
U14																											
U15																											
U16																											
U17																											
U18																											
U19																											
U20																											
U21																											
U22																											
U23																											
U24																											
U25																											
U26																											
U27																											
U28																											
U29																											
U30																											
SHEET 3 SUBTOTAL	0.0	295.0	0.0	0.0	0.0	16.8	0.0	111.8	499.0	25.0	428.0	314.5	13.6	113.9	2747.3	136.0	0.0	213.3	71.0	13.0	192.0	0.0	47.0	0.0	2.0	0.0	0.0	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
19 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY19	13065A	35	733

DRAINAGE SUMMARY SHEET

NOTE NO.	603.40015 15" PIPE FOR SLOPE DRAINAGE LF	603.80306 6" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.80308 8" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.82215 15" PE PIPE (TYPE S) LF	603.82218 18" PE PIPE (TYPE S) LF	603.82224 24" PE PIPE (TYPE S) LF	604.0007 POLYETHYLENE LINER EA	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER U		604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER U		604.126 CATCH BASINS TYPE B, 6-FOOT DIAMETER U		604.154 CATCH BASINS TYPE E, 4-FOOT DIAMETER U		604.155 CATCH BASINS TYPE E, 5-FOOT DIAMETER U		604.158 CATCH BASINS TYPE E, 8-FOOT DIAMETER U		604.1941 CATCH BASINS TYPE G W/SLAB TOP U		604.324 DRAINAGE MANHOLES, 4-FOOT DIAMETER U		604.325 DRAINAGE MANHOLES, 5-FOOT DIAMETER U		604.4 RECONSTRUCTING/ ADJUSTING CATCH BASIN & DROP INLET LF	604.9101 OUTLET CONTROL STRUCTURE U	604.9102 OUTLET CONTROL STRUCTURE U	604.9103 OUTLET CONTROL STRUCTURE U	604.9104 OUTLET CONTROL STRUCTURE U	604.9105 OUTLET CONTROL STRUCTURE U	604.9106 OUTLET CONTROL STRUCTURE U	605.506 6" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.508 8" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.79 UNDERDRAIN FLUSHING BASINS EA	605.82251 24" AGGREGATE UNDERDRAIN TYPE 2, WITH 6" PERF. CORR. LF	622.1 STEEL WITNESS MARKERS EA	REMARKS
								ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST												
S6							1	1	1.5																											
S7				48.0										1.0	1.1																				1	
S8																1.0	1.2																		1	
S9						271.0	1			1.0	1.3																									
S10				297.0			1	1	1.2																											
S11				298.0			1	1	1.2																											
S12				299.0			1	1	1.2																											
S13																										1.0									1	
S14																										1.0									1	
S15					147.0																	1	1.3													
S16					148.0																					1.0									1	
S17																										1.0									1	
S18							1			1.0	1.4																									
S19				235.0			1	1	1.2																											
S20				42.0			1	1	1.3																											
S21				41.0			1	1	1.2																											
S22				95.0										1	1.0																				1	
S23							1																			1.0										
S24														1	1.2																				1	
S24A				41.0																															1	
S25																										1.0									1	
S26	62.0						1	1	1.0																											
S27	60.0						1	1	1.1																											
S28																										1.0									
S29																																			
S30																						1	1.7												1	
S31																						1	2.3												1	
S32																																			
S33														1	1.6																				2	
S34																																			1	
S35				38.0																															1	
S36																																			1	
S37																																			1	
U1																																297.1		1		1	
U2																																446.9		1		1	
U3																																					
U4																																					
U5																																327.7					
U6																																326.4					
U7																																302.7					
U8																																301.4					
U9																																302.7					
U10																																301.4					
U11																																302.7					
U12																																301.4					
U13																																215.1		1		1	
U14																																216.6		1		1	
U15																																330.7		1			
U16																																338.7		1			
U17																																					
U18																																302.8					
U19																																306.3					
U20																																301.3					
U21																																302.7					
U22																																170.9					
U23			10.7																																		
U24																																	180.2				
U25																																					
U26			8.6																																		
U27			25.0																																		
U28																																260.1					
U29			35.1																																		
U30																																					
	122.0	0.0	79.4	1434.0	295.0	271.0	12.0	9.0	10.9	2.0	2.7	0.0	0.0	4.0	4.9	1.0	1.2	0.0	0.0	0.0	0.0	3.0	5.3	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5955.6	180.2	6.0	0.0	22.0	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
20 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY20	13065A	36	733

DRAINAGE SUMMARY SHEET

NOTE NO.	202.31 FILL ABANDONED PIPE (CY)	202.41 REMOVAL OF EXISTING PIPE 0-24" DIAMETER (LF)	202.42 REMOVAL OF EXISTING PIPE OVER 24" DIAMETER (LF)	202.5 REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES (EA)	203.53 LOW PERMEABILITY FILL (F) (CY)	206.1 COMMON STRUCTURE EXCAVATION (CY)	206.19 COMMON STRUCTURE EXCAVATION EXPLORATORY (CY)	206.2 ROCK STRUCTURE EXCAVATION (CY)	209.1 GRANULAR BACKFILL (CY)	520.1 CONCRETE CLASS A (CY)	544.1 REINFORCING STEEL (ROADWAY) (LB)	585.2 STONE FILL, CLASS B (CY)	585.3 STONE FILL, CLASS C (CY)	593.421 GEOTEXTILE; PERM CONTROL CL.2, NON-WOVEN (SY)	603.0001 VIDEO INSPECTION (LF)	603.00215 15" R.C. PIPE, 2000D (LF)	603.00218 18" R.C. PIPE, 2000D (LF)	603.00224 24" R.C. PIPE, 2000D (LF)	603.00230 30" R.C. PIPE, 2000D (LF)	603.00236 36" R.C. PIPE, 2000D (LF)	603.00336 36" R.C. PIPE, 3000D (LF)	603.00342 42" R.C. PIPE, 3000D (LF)	603.00360 60" R.C. PIPE, 3000D (LF)	603.36115 15" ALUMINIZED STEEL END SECTION (EA)	603.36118 18" ALUMINIZED STEEL END SECTION (EA)	603.36124 24" ALUMINIZED STEEL END SECTION (EA)	603.36130 30" ALUMINIZED STEEL END SECTION (EA)	REMARKS
U31																												
U32																												
U33																												
U34																												
U35																												
U36																												
U37																												
U38																												
U40																												
U41																												
U42																												
U43																												
U44																												
U45																												
U46																												
U47																												
U48																												
U49																												
U50																												
U51																												
U52																												
U53																												
U54																												
U55																												
U56																												
U57																												
U58																												
U59																												
U60																												
U61																												
U62																												
U63																												
								1801.8																				
R1	13.7			1.0																								
R2	11.5			1.0																								
R3	13.7																											
R4		93.0																										
R5		139.0																										
R6		200.0		1.0																								
R7			32.0																									
R8		8.0		1.0																								
R9		180.0		1.0																								
R10		295.0		1.0																								
R11		16.0		1.0																								
R12		294.0		1.0																								
R13		294.0		1.0																								
R14		296.0		1.0																								
R15		46.0		1.0																								
R16		23.0		1.0																								
R17		47.0		1.0																								
R18		235.0		1.0																								
R19		14.0		1.0																								
R21		303.0		1.0																								
R22		66.0		1.0																								
R23			59.0																									
R24			47.4																									
R25		54.4		1.0																								
T1																66.0			66.0								2		
OHSS						1297.1		9.5	722.2		47300.0																		
TRAFFIC								36.9																					
NON-PARTICIPATING																500.0				500.0								
ROADWAY ITEM 585.2												3942.2																
ROADWAY ITEM 585.3													388.5															
SEE DRAINAGE ITEM 585.2						534.6																						
SEE DRAINAGE ITEM 585.3						267.5																						
SHEET 4 SUBTOTAL	38.9	2603.4	138.4	18.0	0.0	2099.2	0.0	1848.2	722.2	0.0	47300.0	3942.2	388.5	0.0	566.0	0.0	0.0	66.0	500.0	0.0	0.0	0.0	0.0	0	0	2	0	
SHEET 3 SUBTOTAL	0.0	295.0	0.0	0.0	0.0	16.8	0.0	111.8	499.0	25.0	428.0	314.5	13.6	113.9	2747.3	136.0	0.0	213.3	71.0	13.0	192.0	0.0	47.0	0.0	2.0	0.0	0.0	
SHEET 2 SUBTOTAL	0.0	0.0	0.0	0.0	1075.9	168.0	0.0	2001.6	1413.4	28.2	483.0	193.2	167.1	375.0	6605.0	100.2	0.0	448.8	154.0	8.0	199.0	180.0	0.0	2.0	1.0	0.0	0.0	
SHEET 1 SUBTOTAL	0.0	0.0	0.0	0.0	1458.4	28.8	8.9	1489.2	1063.3	27.1	327.0	26.9	86.8	231.3	6389.0	74.0	794.0	757.0	0.0	189.0	393.0	0.0	0.0	2.0	0.0	0.0	2.0	
SUBTOTAL	38.9	2898.4	138.4	18.0	2534.3	2312.8	116.0	5450.8	3697.8	80.2	48538.0	4476.8	656.0	720.2	16307.3	310.2	794.0	1485.1	725.0	210.0	784.0	180.0	47.0	4	3	2	2	
ROUNDING	0.1	1.6	1.6	0.0	15.7	187.2	34.0		202.2	2.8	52.0	73.2	44.0	4.8	92.7	4.8	31.0	4.9	5.0	5.0	30.0	5.0	3.0	0	0	0	0	
TOTAL	**39.0**	**2900.0**	**140.0**	**18.0**	**2550.0**	**2500.0**	**150.0**	**	**3900.0**	**83.0**	**48590.0**	**4550.0**	**700.0**	**725.0**	**16400**	**315**	**825**	**1490**	**730**	**215**	**814**	**185**	**50**	**4**	**3**	**2**	**2**	

* NOT AN ITEM TOTAL

** SEE EARTHWORK SUMMARY

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
21 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY21	13065A	37	733

DRAINAGE SUMMARY SHEET

NOTE NO.	603.40015 15" PIPE FOR SLOPE DRAINAGE LF	603.80306 6" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.80308 8" PLASTIC PIPE (SMOOTH INTERIOR), TYPE D LF	603.82215 15" PE PIPE (TYPE S) LF	603.82218 18" PE PIPE (TYPE S) LF	603.82224 24" PE PIPE (TYPE S) LF	604.0007 POLYETHYLENE LINER EA	604.124 CATCH BASINS TYPE B, 4-FOOT DIAMETER U		604.125 CATCH BASINS TYPE B, 5-FOOT DIAMETER U		604.126 CATCH BASINS TYPE B, 6-FOOT DIAMETER U		604.154 CATCH BASINS TYPE E, 4-FOOT DIAMETER U		604.155 CATCH BASINS TYPE E, 5-FOOT DIAMETER U		604.158 CATCH BASINS TYPE E, 8-FOOT DIAMETER U		604.1941 CATCH BASINS TYPE G W/SLAB TOP U		604.324 DRAINAGE MANHOLES, 4-FOOT DIAMETER U		604.325 DRAINAGE MANHOLES, 5-FOOT DIAMETER U		604.4 RECONSTRUCTING/ ADJUSTING CATCH BASIN & DROP INLET LF	604.9101 OUTLET CONTROL STRUCTURE U	604.9102 OUTLET CONTROL STRUCTURE U	604.9103 OUTLET CONTROL STRUCTURE U	604.9104 OUTLET CONTROL STRUCTURE U	604.9105 OUTLET CONTROL STRUCTURE U	604.9106 OUTLET CONTROL STRUCTURE U	605.506 6" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.508 8" PERF. CORR. POLYETHYLENE PIPE UNDERDRAIN LF	605.79 UNDERDRAIN FLUSHING BASINS EA	605.82251 24" AGGREGATE UNDERDRAIN TYPE 2, WITH 6" PERF. CORR. LF	622.1 STEEL WITNESS MARKERS EA	REMARKS
								ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST												
U31			15.2																																		
U32		6.5																																1		1	
U33																																		1	6.3		
U34		25.3																																			
U35		27.4																																			
U36		28.9																																			
U37		20.6																																1		1	
U38		20.3																																1			
U40			9.0																															1			
U41		19.3																																			
U42			23.5																																		
U43			26.4																															1		1	
U44		35.9																																1			
U45			34.0																																		
U46			12.6																																		
U47		9.2																																			
U48		25.4																																			
U49																																	12.4			
U50																																					
U51		15.6																																			
U52		19.0																																			
U53		15.9																																			
U54		18.8																																			
U55																																					
U56		31.2																																1		1	
U57		30.9																																1			
U58		48.9																																			
U59																																					
U60		26.7																																			
U61																																	45.2				
U62																																	46.1				
U63																																	347.7		1		
R1																																					
R2																																					
R3																																					
R4																																					
R5																																					
R6																																					
R7																																					
R8																																					
R9																																					
R10																																					
R11																																					
R12																																					
R13																																					
R14																																					
R15																																					
R16																																					
R17																																					
R18																																					
R19																																					
R21																																					
R22																																					
T1																																				2	
OHSS																																					
TRAFFIC																																					
ROADWAY ITEM 585.2																																					
ROADWAY ITEM 585.3																																					
SEE DRAINAGE ITEM 585.3																																					
SEE DRAINAGE ITEM 585.3																																					
SHEET 4 SUBTOTAL	0	425.8	120.7	0	0.0	0.0	0	0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	439.0	12.4	10	6.3	6	
SHEET 3 SUBTOTAL	122.0	0.0	79.4	1434.0	295.0	271.0	12.0	9.0	10.9	2.0	2.7	0.0	0.0	4.0	4.9	1.0	1.2	0.0	0.0	0.0	0.0	3.0	5.3	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5955.6	180.2	6.0	0.0	22.0	
SHEET 2 SUBTOTAL	0.0	0.0	0.0	2036.0	285.0	3374.0	17.0	12.0	15.6	3.0	4.7	1.0	2.2	9.0	9.8	6.0	6.7	1.0	1.2	1.0	1.2	5.0	6.7	2.0	3.4	7.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	30.0	
SHEET 1 SUBTOTAL	0.0	0.0	0.0	1767.0	1997.0	418.0	45.0	32.0	42.2	4.0	5.7	9.0	12.6	6.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	4.6	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	
SUBTOTAL	122	425.8	200.1	5237.0	2577.0	4063.0	74	53	68.7	9	13.1	10.0	14.8	19	21.1	7.0	7.9	1.0	1.2	1.0	1.2	10	14.0	4.0	8.0	14.0	1.0	1.0	1.0	1.0	1.0	1.0	6394.6	192.6	16	6.3	72	
ROUNDING	3	14.2	9.9	163.0	73.0	7.0	1	0	1.3	0	0.9	0.0	0.2	0	3.9	0.0	0.1	0.0	0.8	0.0	0.8	0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	205.4	7.4	0	3.7	0	
TOTAL	**125**	**440.0**	**210**	**5400**	**2650**	**4070**	**75**	**53**	**70**	**9**	**14**	**10**	**15**	**19**	**25**	**7**	**8**	**1**	**2**	**1**	**2**	**10**	**15**	**4**	**9**	**14**	**1**	**1**	**1**	**1**	**1**	**1**	**6600**	**200**	**16**	**10.0**	**72**	

* NOT AN ITEM TOTAL

REVISIONS AFTER PROPOSAL

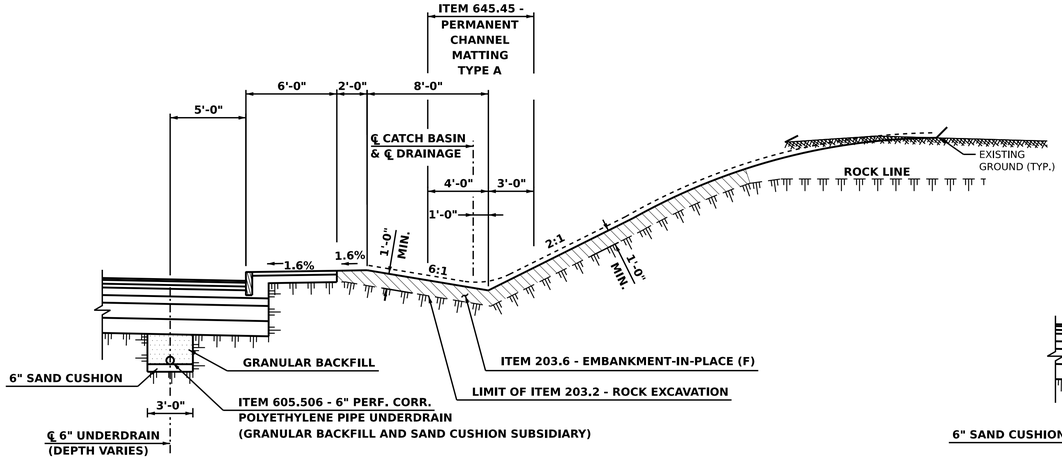
DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

QUANTITY SUMMARY
22 OF 22

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_QTY22	13065A	38	733

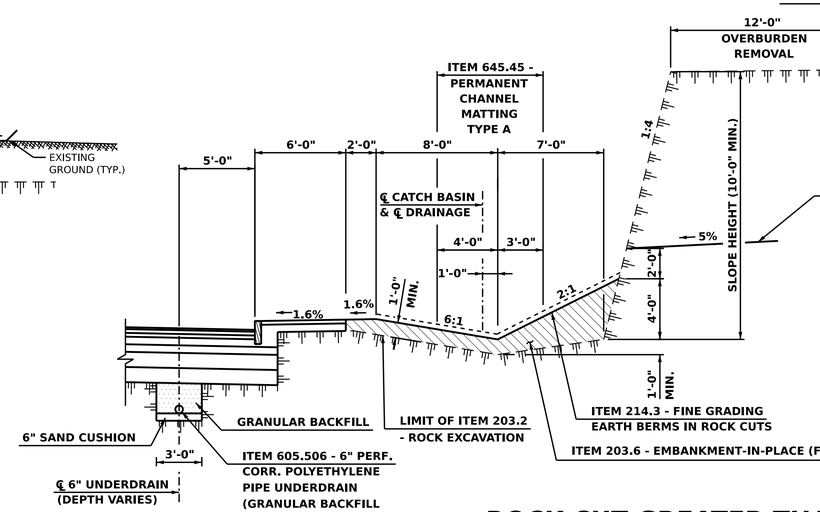


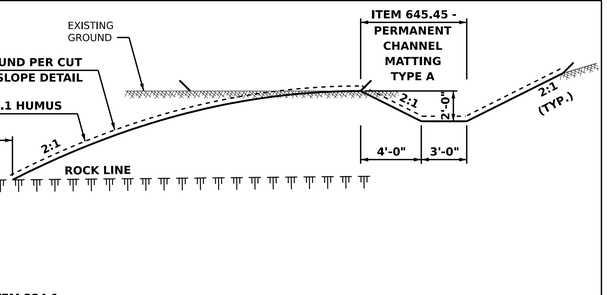
ROCK CUT LESS THAN 10' SLOPE HEIGHT

OLDE RUM TRAIL

STA. 1016+50 TO STA. 1018+75, LT
STA. 1016+50 TO STA. 1017+75, RT
STA. 1019+50 TO STA. 1025+75, RT
STA. 1019+75 TO STA. 1028+75, LT
STA. 1026+25 TO STA. 1031+75, RT
STA. 1029+50 TO STA. 1037+25, LT
STA. 1035+25 TO STA. 1036+75, RT
STA. 1039+25 TO STA. 1040+50, RT

NOT TO SCALE



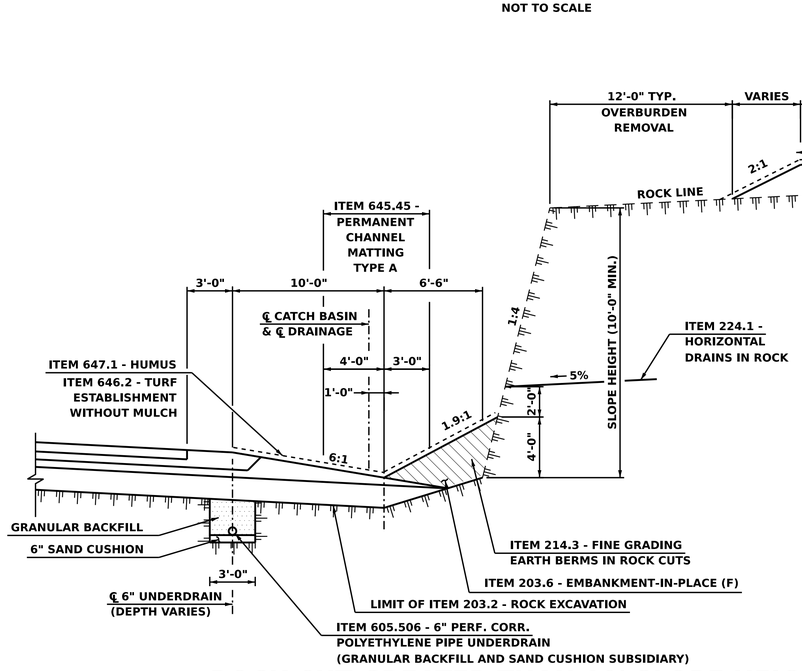


ROCK CUT GREATER THAN 10' SLOPE HEIGHT

OLDE RUM TRAIL

STA. 1031+75 TO STA. 1035+25, RT

NOT TO SCALE



ROCK CUT GREATER THAN 10' SLOPE HEIGHT

NB ON RAMP

STA. 205+95 TO STA. 210+45, RT

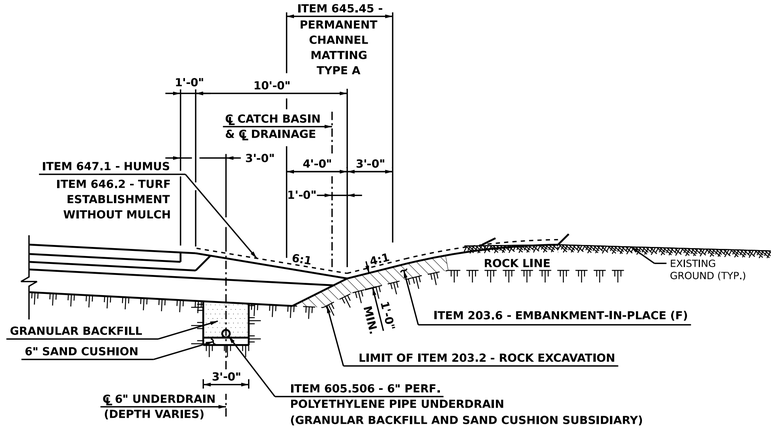
NOT TO SCALE

NOTES:

1. SEE SLOPE TREATMENT DETAILS FOR ADDITIONAL INFORMATION.
2. SEE SOUNDWALL AND STONE FILL DETAILS.

LEDGE CUT NOTES:

1. LIMITS FOR THE PRESPLIT SLOPES MAY VARY BASED ON THE CONDITIONS.
2. REMOVE ALL SOIL AND VEGETATION WITHIN THE OVERBURDEN AREA AT THE TOP OF ROCK SLOPES.
3. WITH THE EXCEPTION OF THE PROPOSED ROCK CUTS GREATER THAN 10' SLOPE HEIGHT DETAILS HERE, ALL OTHER PROPOSED CUT SLOPES IN ROCK SHALL BE EXCAVATED WITH PRODUCTION SHOTS ON A 2H:1V OR FLATTER SLOPE AND CONSTRUCTED AS RECOMMENDED IN NOTE 4 BELOW.
4. A 2H:1V OR FLATTER CUT SLOPE CONSTRUCTED IN ROCK SHALL CONSIST OF A STANDARD HUMUS THICKNESS OVERLYING 12 INCHES OF EMBANKMENT-IN-PLACE OVER 1 FOOT OVEREXCAVATED BEDROCK. GRANULAR BACKFILL SHALL BE UTILIZED ON SHALLOW ROCK SLOPES CUT ON A 2H:1V OR FLATTER SOIL SLOPE WHERE WATER IS ENCOUNTERED AT THE SURFACE OF THE CUT, RATHER THAN EMBANKMENT-IN-PLACE FOR THE 1 FOOT OVEREXCAVATION REPLACEMENT MATERIAL.
5. SEE CROSS SECTIONS FOR ACTUAL SLOPES, DEPTHS AND WIDTHS WHICH MAY VARY.
6. EXACT LOCATIONS OF HORIZONTAL DRAINS TO BE DETERMINED AND APPROVED IN THE FIELD SUBSEQUENT TO EVALUATION OF THE FINAL EXCAVATED ROCK FACE BY THE DEPARTMENT'S ENGINEERING GEOLOGIST. SEE ALSO SPECIAL PROVISIONS, SECTION 224.



ROCK CUT LESS THAN 10' SLOPE HEIGHT

NB ON RAMP

STA. 203+80 TO STA. 205+95, RT

SB ON RAMP

STA. 302+20 TO STA. 306+36, RT

NOT TO SCALE

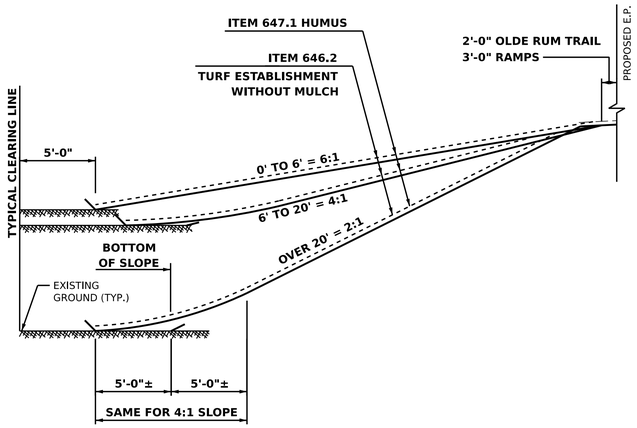
NUMBER	DESCRIPTION	DATE	STATION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

ROCK TREATMENT DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_01	13065A	39	733



FILL SLOPE DETAIL

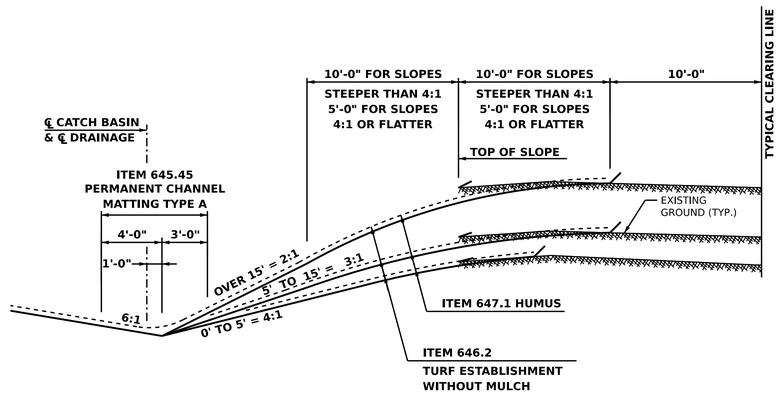
OLDE RUM TRAIL
NB OFF RAMP
NB ON RAMP
SB OFF RAMP
SB ON RAMP
MADDEN ROAD

NOT TO SCALE

SLOPE NOTES:

1. NO SLOPE ROUNDING SHALL APPLY IN WETLAND AND STREAM RESTORATION AREAS.

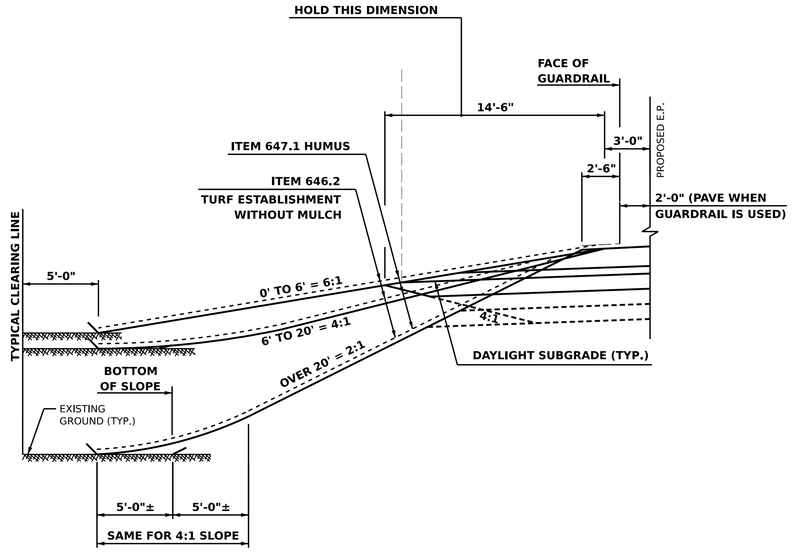
2. SEE APPLICABLE TYPICAL SECTION FOR SUBBASE DESIGN.



CUT SLOPE DETAIL

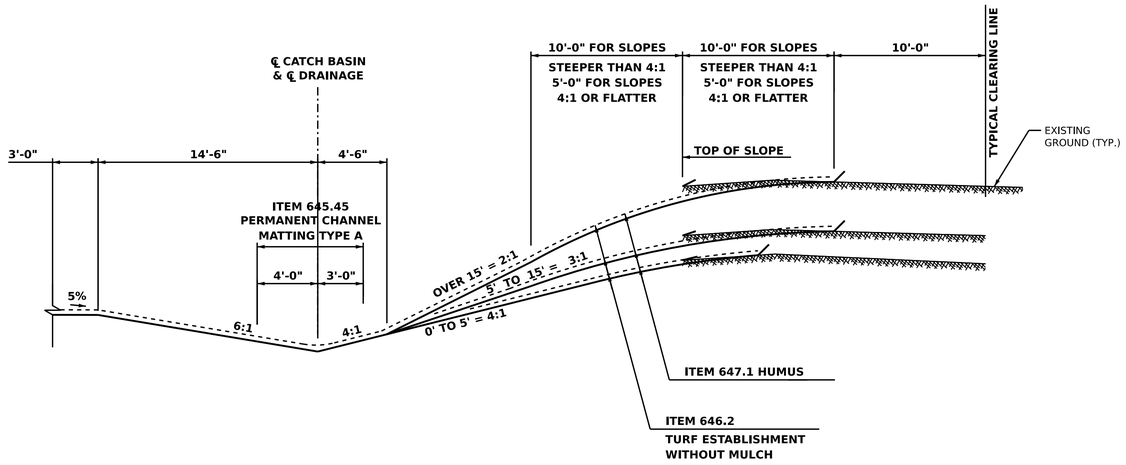
OLDE RUM TRAIL
NB OFF RAMP
NB ON RAMP
SB OFF RAMP
SB ON RAMP
MADDEN ROAD

NOT TO SCALE



I-93 NB & SB FILL SLOPE DETAIL

NOT TO SCALE



I-93 NB & SB CUT SLOPE DETAIL

NOT TO SCALE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

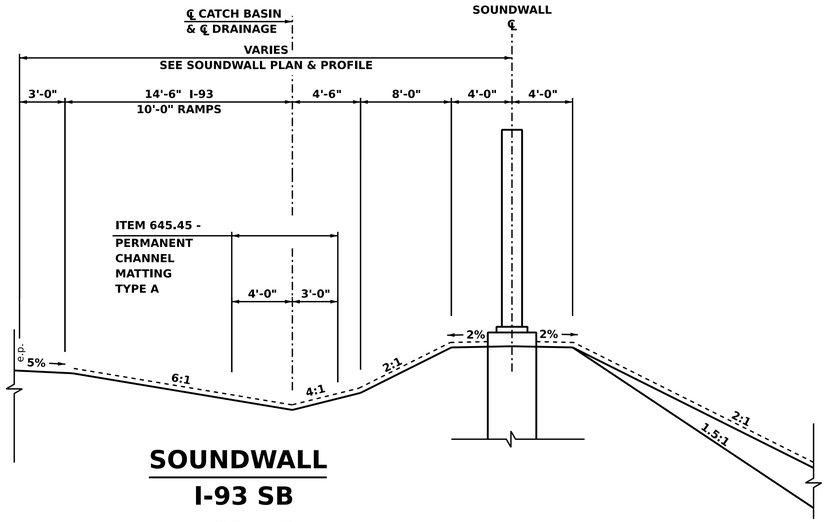
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SLOPE TREATMENT DETAILS

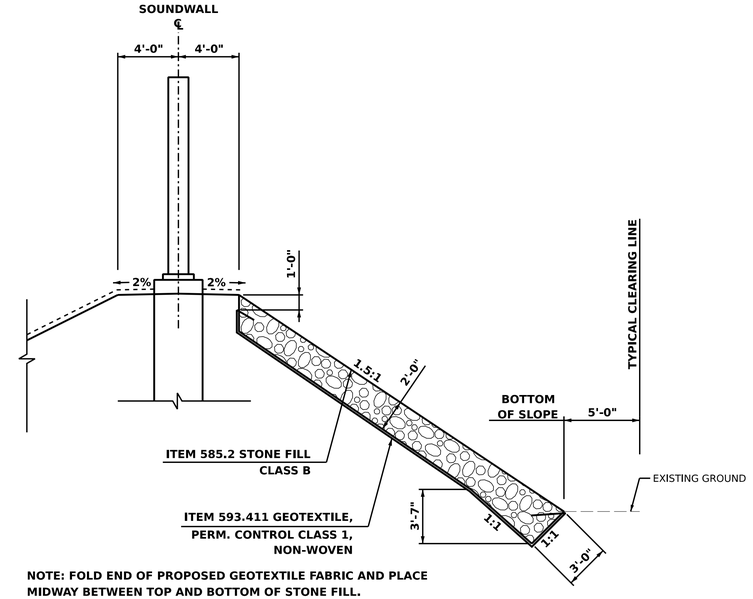
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_02	13065A	40	733



SOUNDWALL

I-93 SB
I-93 NB
NB ON RAMP
SB OFF RAMP
SB ON RAMP

NOT TO SCALE

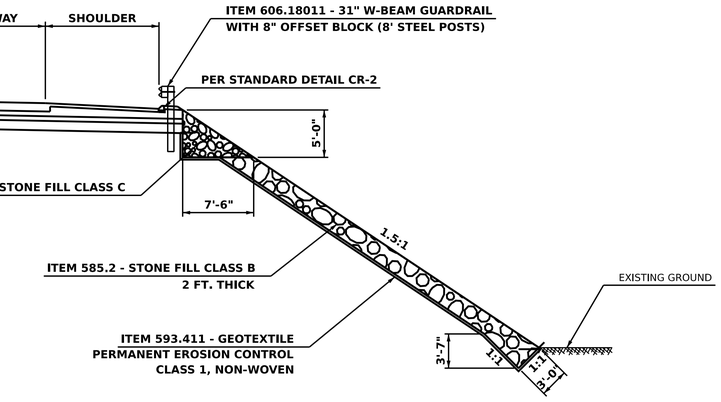


NOTE: FOLD END OF PROPOSED GEOTEXTILE FABRIC AND PLACE MIDWAY BETWEEN TOP AND BOTTOM OF STONE FILL.

SOUNDWALL - STONE SLOPE PROTECTION

I-93 SB
3656+44 TO 3669+08
3713+30 TO 3714+30
SB ON RAMP
410+00 TO 413+86.69
I-93 NB
1690+52 TO 1691+70
NB ON RAMP
209+20 TO 210+54

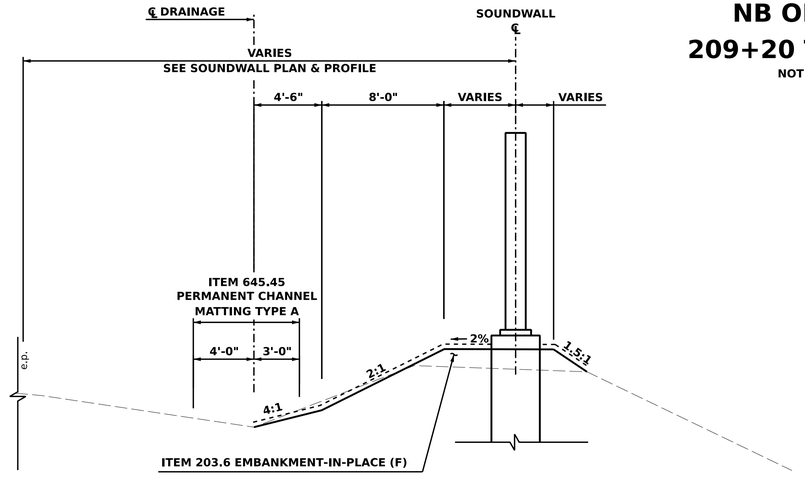
NOT TO SCALE



NOTE: FOLD END OF PROPOSED GEOTEXTILE FABRIC AND PLACE MIDWAY BETWEEN TOP AND BOTTOM OF STONE FILL.

ARMORED EMBANKMENT SLOPE
FOR 1.5:1 SIDE SLOPES
SB ON RAMP
405+25 TO 410+00

NOT TO SCALE



SOUNDWALL BERM

I-93 NB
1704+75 TO 1717+50

NOT TO SCALE

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

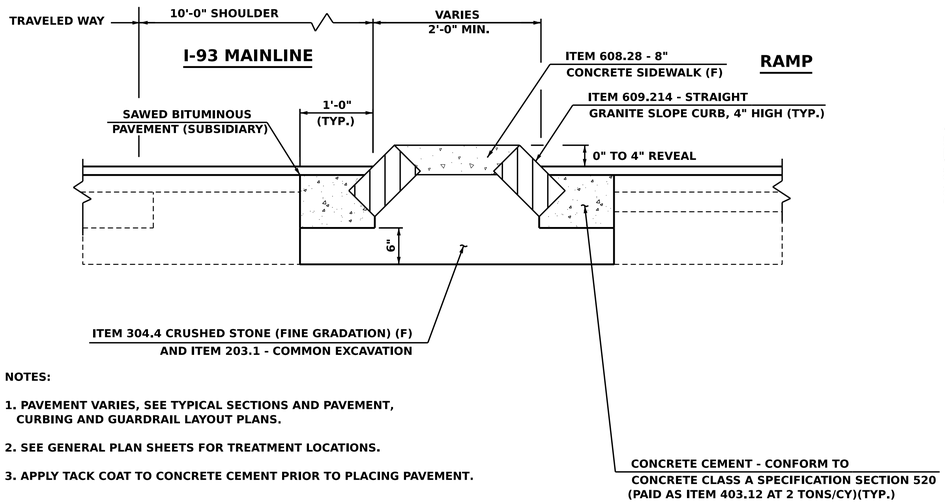
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SOUNDWALL AND STONE FILL DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_03	13065A	41	733

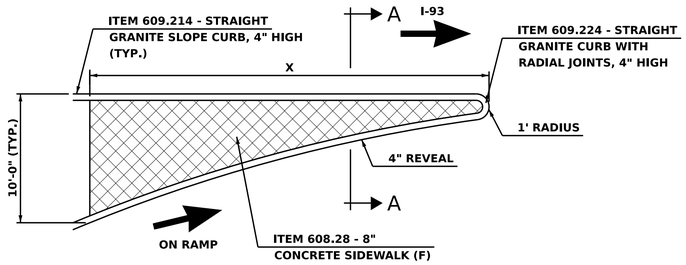


NOTES:

1. PAVEMENT VARIES, SEE TYPICAL SECTIONS AND PAVEMENT, CURBING AND GUARDRAIL LAYOUT PLANS.
2. SEE GENERAL PLAN SHEETS FOR TREATMENT LOCATIONS.
3. APPLY TACK COAT TO CONCRETE CEMENT PRIOR TO PLACING PAVEMENT.

SECTION A-A

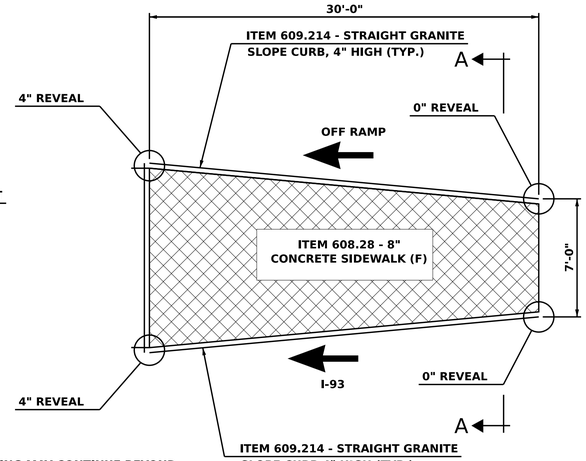
NOT TO SCALE



* CURBING MAY CONTINUE BEYOND RAISED GORE AREA, SEE PLANS

ON RAMP NOSE DETAIL

NB ON RAMP (X=213'-6")
SB ON RAMP (X=181'-4")
NOT TO SCALE



* CURBING MAY CONTINUE BEYOND RAISED GORE AREA, SEE PLANS

OFF RAMP NOSE DETAIL

NB OFF RAMP
SB OFF RAMP
NOT TO SCALE

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

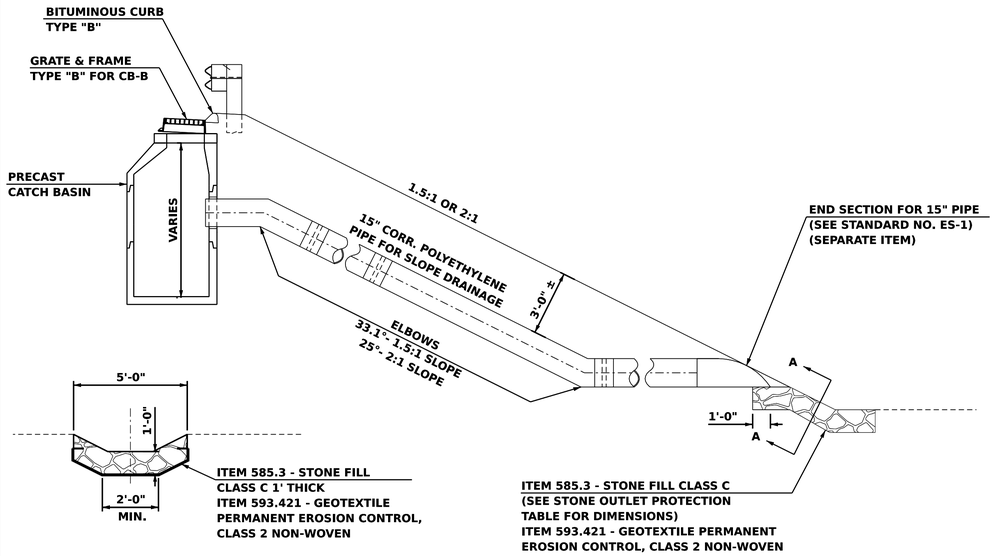
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURB DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_04	13065A	42	733

DRAINAGE NOTE	STONE CLASS	GEOTEXTILE CLASS	La (FT)	Wb (FT)	We (FT)	de (FT)	Total Area (SY)	Total Stone Class B (CY)	Total Stone Class C (CY)	REMARKS
C2	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
C6	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
C7	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
C34	C	2	12.0	9.0	17.0	1.0	17.3	0.0	5.8	
C51	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
C56	B	2	16.0	6.0	16.7	4.0	20.1	26.9	0.0	
C59	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
C61	C	2	12.0	9.0	17.0	1.0	17.3	0.0	5.8	
C62	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
N27	B	2	28.0	10.5	29.2	4.0	61.7	82.3	0.0	
N30	B	2	20.0	7.5	20.8	4.0	31.5	42.0	0.0	
N31	B	2	16.0	6.0	16.7	4.0	20.1	26.9	0.0	
N33	C	2	10.0	7.5	14.2	1.0	12.0	0.0	4.0	
N34	C	2	12.0	9.0	17.0	1.0	17.3	0.0	5.8	
N36	C	2	56.0	10.0	10.0	1.0	62.2	0.0	20.7	
N40	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
N41	B	2	20.0	7.5	20.8	4.0	31.5	42.0	0.0	
N43	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
N45	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
N46	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
N47	C	2	10.0	7.5	14.2	1.0	12.0	0.0	4.0	
S26	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
S27	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
S30	B	2	12.4	7.5	15.8	4.0	16.1	21.4	0.0	Dimensions modified to extend stone to bank of stream relocation
S31	B	2	6.5	6.0	10.4	4.0	5.9	7.9	0.0	Dimensions modified to cut stone back to bank of stream relocation
S32	B	2	24.0	9.0	25.0	4.0	45.3	60.4	0.0	
S33	C	2	8.0	6.0	11.3	1.0	7.7	0.0	2.6	
S34	B	2	20.0	7.5	20.8	4.0	31.5	42.0	0.0	
S35	C	2	5.0	3.8	7.1	1.0	3.0	0.0	1.0	
S36	C	2	12.0	9.0	17.0	1.0	17.3	0.0	5.8	
S37	B	2	40.0	15.0	41.7	4.0	125.9	167.9	0.0	



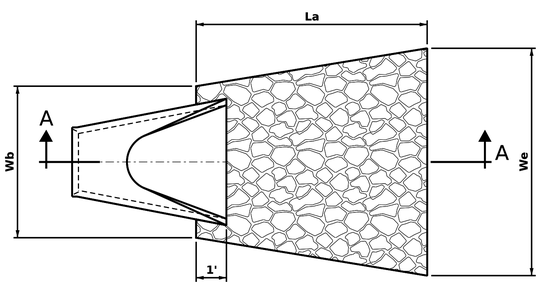
*EXCAVATION FOR STONE FILL TO BE PAID FOR UNDER ITEM 206.1 - COMMON STRUCTURE EXCAVATION

*IN AREAS OF ARMORED EMBANKMENT SLOPE THE 3'-0" OF COVER SHALL BE MEASURED FROM THE BOTTOM OF STONE FILL TO THE TOP OF PIPE.

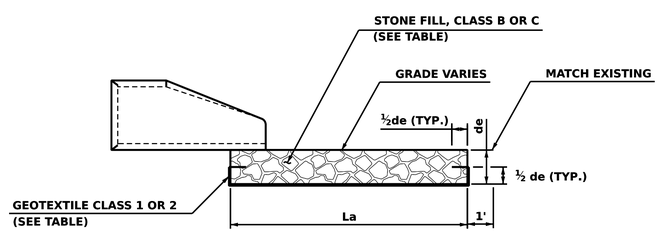
SECTION A-A

CATCH BASIN AND PIPE FOR SLOPE AND DRAINAGE

NOT TO SCALE



PLAN



SECTION A-A

*EXCAVATION FOR STONE FILL TO BE PAID FOR UNDER ITEM 206.1 - COMMON STRUCTURE EXCAVATION

DRAINAGE PIPE OUTLET PROTECTION

NOT TO SCALE

REVISIONS AFTER PROPOSAL

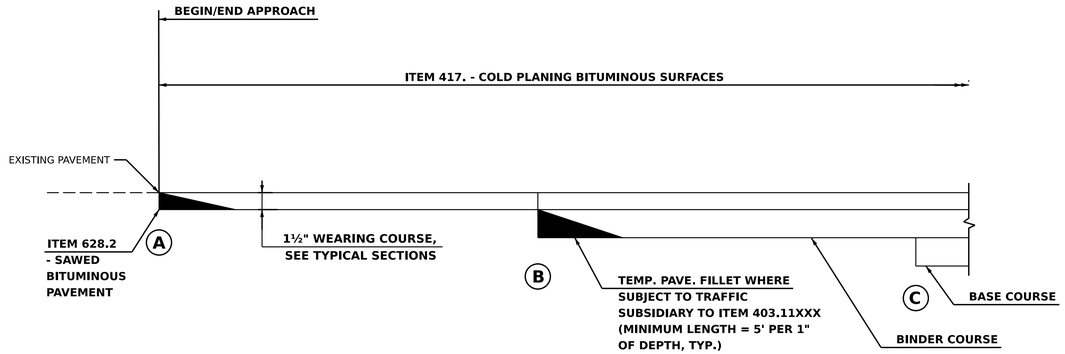
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

MISCELLANEOUS DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_05	13065A	43	733

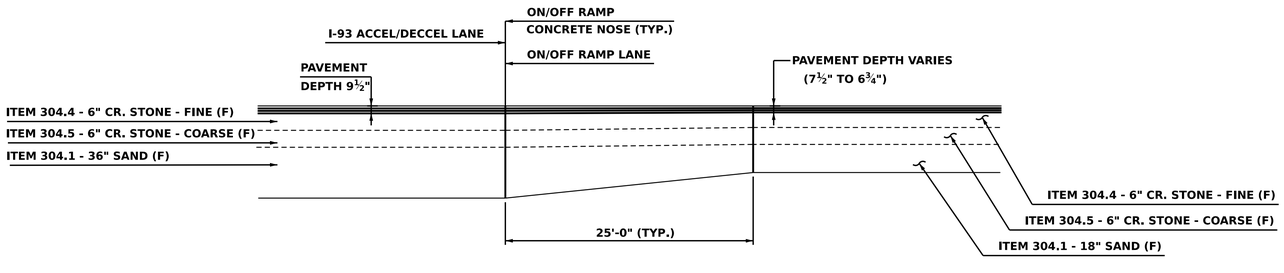


PAVEMENT INLAY TRANSITION DETAIL

(SEE PAVEMENT TRANSITION TABLE BELOW)
NOT TO SCALE

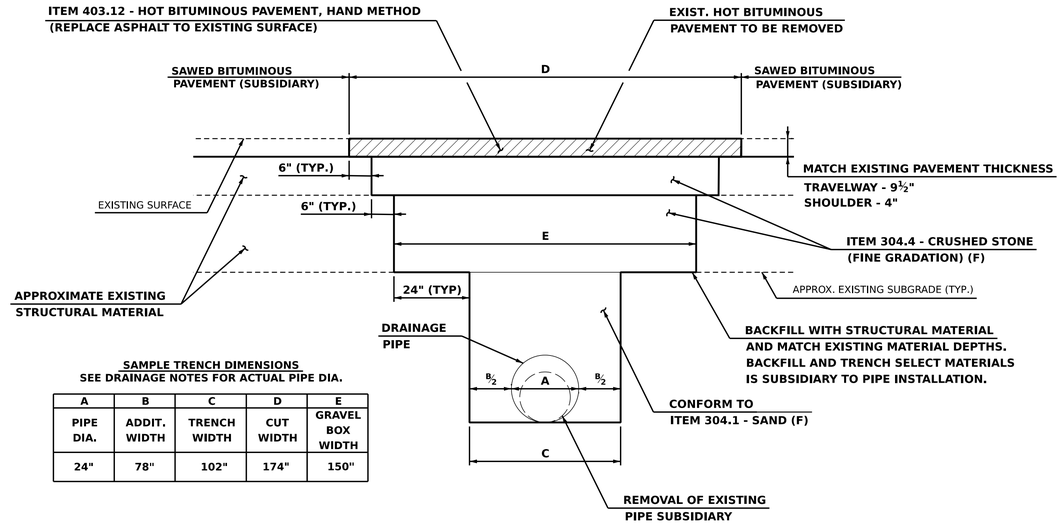
PAVEMENT TRANSITION TABLE				
LIMIT OF WORK LOCATION	STATION			
	Ⓐ	Ⓑ	Ⓒ	NOTES
I-93 NB				
BEGIN STEP BOX RT	1654+50	1654+75	1655+00	SEE INLAY TRANSITION DETAIL
END STEP BOX RT		1667+50	1667+25	SEE INLAY TRANSITION DETAIL
BEGIN STEP BOX RT		1687+50	1687+75	SEE INLAY TRANSITION DETAIL
END STEP BOX RT	1705+25	1705+00	1704+75	SEE INLAY TRANSITION DETAIL
I-93 SB				
BEGIN STEP BOX LT	3654+25	3654+50	3654+75	SEE INLAY TRANSITION DETAIL
END STEP BOX LT		3671+00	3670+75	SEE INLAY TRANSITION DETAIL
BEGIN STEP BOX LT		3690+25	3690+50	SEE INLAY TRANSITION DETAIL
END STEP BOX LT	3700+50	3700+25	3700+00	SEE INLAY TRANSITION DETAIL

PAVEMENT INLAY TRANSITION TABLE



DECEL/ACCEL PAVEMENT AND STRUCTURAL BOX TRANSITION AT RAMPS DETAIL

NOT TO SCALE



SAMPLE TRENCH DIMENSIONS
SEE DRAINAGE NOTES FOR ACTUAL PIPE DIA.

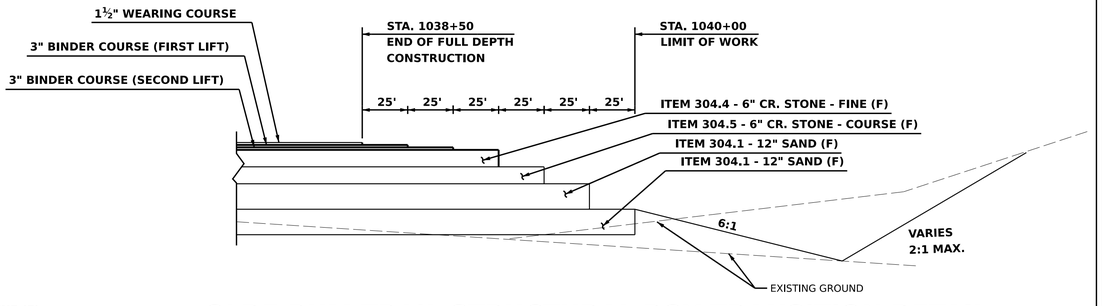
A	B	C	D	E
PIPE DIA.	ADDIT. WIDTH	TRENCH WIDTH	CUT WIDTH	GRAVEL BOX WIDTH
24"	78"	102"	174"	150"

PAVEMENT TRENCH REPAIR FOR PIPE INSTALLATION AND REMOVAL

STA. 1655+00℄ TO 1657+00℄
NOT TO SCALE

NOTES:

1. **MATCH EXISTING SELECT MATERIALS AND DEPTHS IN KIND.**
2. **SELECT MATERIALS ARE SUBSIDIARY TO PIPE PLACEMENT.**
3. **DETAIL APPLIES TO REMOVAL AND INSTALLATION OF CLOSED DRAINAGE PIPES. SEE PLAN SHEETS AND DRAINAGE NOTES FOR ADDITIONAL INFORMATION.**
4. **SEE I-93 NB DECEL LANE AT NB OFF RAMP TYPICAL SECTION FOR MORE INFORMATION**



OLDE RUM TRAIL STRUCTURAL BOX TRANSITION DETAIL

NOT TO SCALE

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

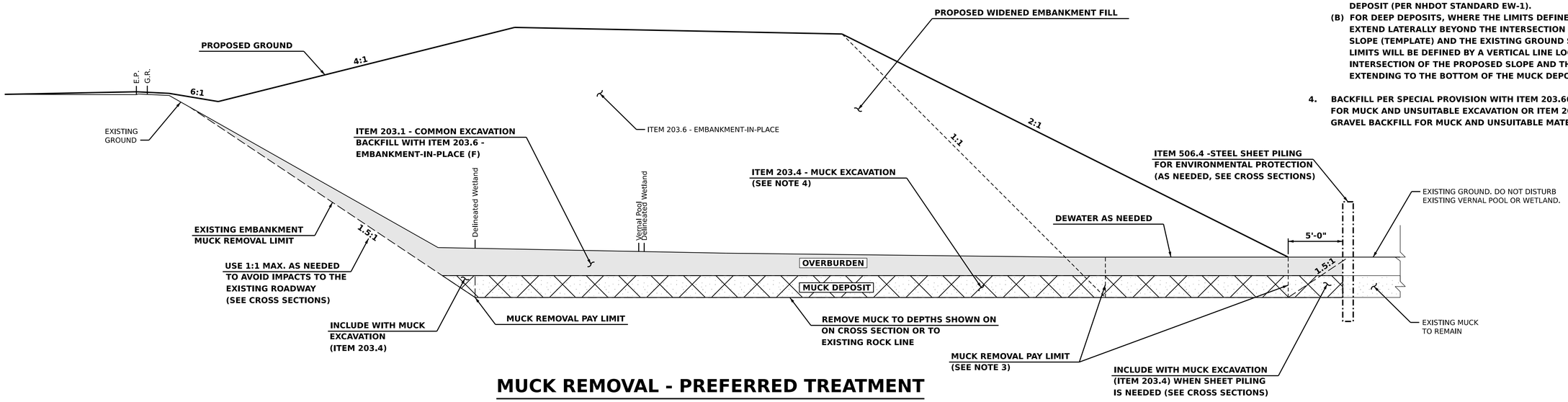
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

ROADWAY DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_06	13065A	44	733

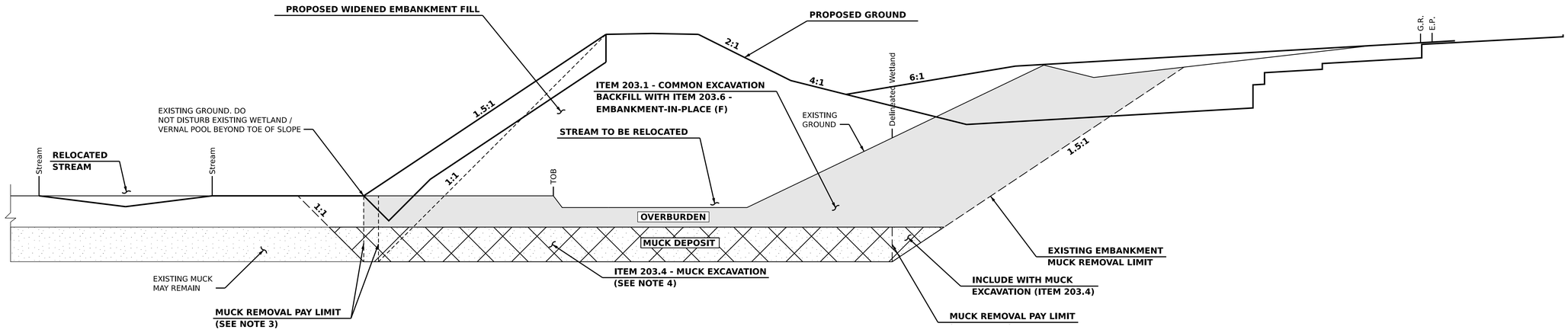
NOTES:

1. WHERE MUCK EXCAVATION IS 2 FEET IN DEPTH OR LESS, REMOVAL SHALL BE PAID FOR AS ITEM 203.1 - COMMON EXCAVATION (SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION).
2. SEE ROADWAY TYPICAL FOR ADDITIONAL INFORMATION.
3. OUTER PAY LIMIT FOR MUCK EXCAVATION:
   (A) THE OUTER PAY LIMITS ARE DEFINED AS A VERTICAL LINE LOCATED AT THE INTERSECTION OF THE 1:1 SLOPE PROJECTION FROM THE PROPOSED TEMPLATE SLOPE BREAK TO THE BOTTOM OF THE MUCK DEPOSIT (PER NHDOT STANDARD EW-1).
   (B) FOR DEEP DEPOSITS, WHERE THE LIMITS DEFINED IN (A) ABOVE EXTEND LATERALLY BEYOND THE INTERSECTION OF THE PROPOSED SLOPE (TEMPLATE) AND THE EXISTING GROUND SURFACE, THE PAY LIMITS WILL BE DEFINED BY A VERTICAL LINE LOCATED AT THE INTERSECTION OF THE PROPOSED SLOPE AND THE EXISTING GROUND, EXTENDING TO THE BOTTOM OF THE MUCK DEPOSIT.
4. BACKFILL PER SPECIAL PROVISION WITH ITEM 203.661 - GRAVEL BACKFILL FOR MUCK AND UNSUITABLE EXCAVATION OR ITEM 203.662 - ROCK AND GRAVEL BACKFILL FOR MUCK AND UNSUITABLE MATERIAL EXCAVATION.



MUCK REMOVAL - PREFERRED TREATMENT

NOT TO SCALE
(SEE NOTE 1)



MUCK REMOVAL AT STREAM RELOCATION - PREFERRED TREATMENT

I-93 SB & SB ON RAMP

NOT TO SCALE
(SB ON RAMP OPPOSITE HAND)
(SEE NOTE 1)

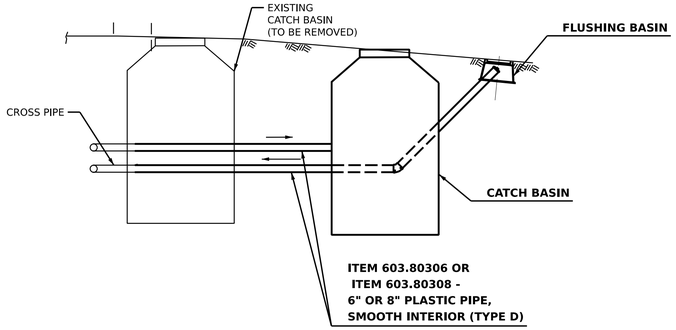
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

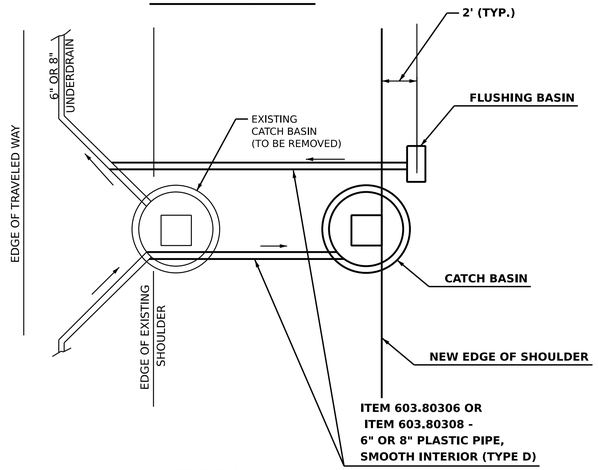
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

MUCK REMOVAL DETAILS

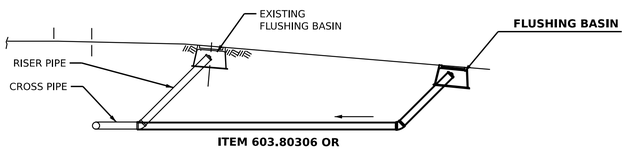
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_07	13065A	45	733



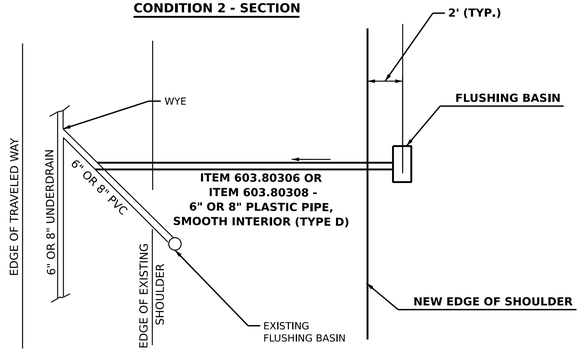
CONDITION 1 - SECTION



CONDITION 1 - PLAN



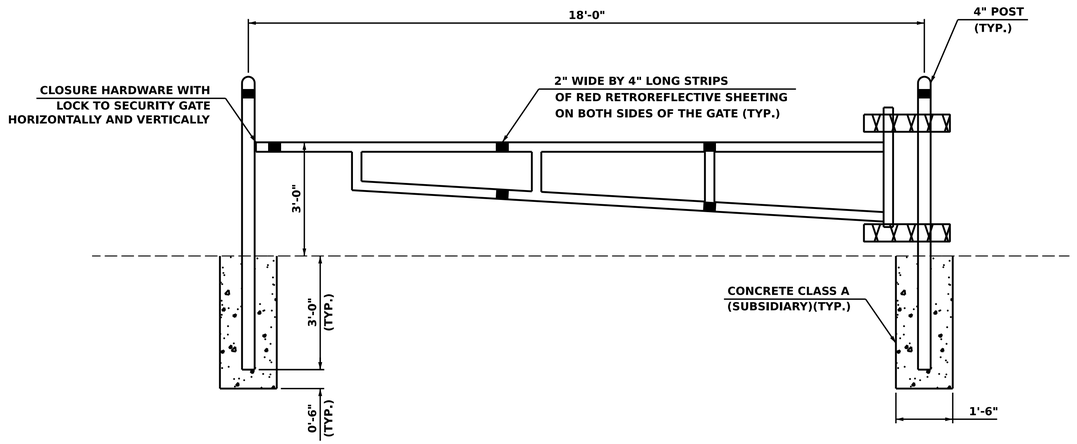
CONDITION 2 - SECTION



CONDITION 2 - PLAN

TYPICAL UNDERDRAIN EXTENSION

NOT TO SCALE

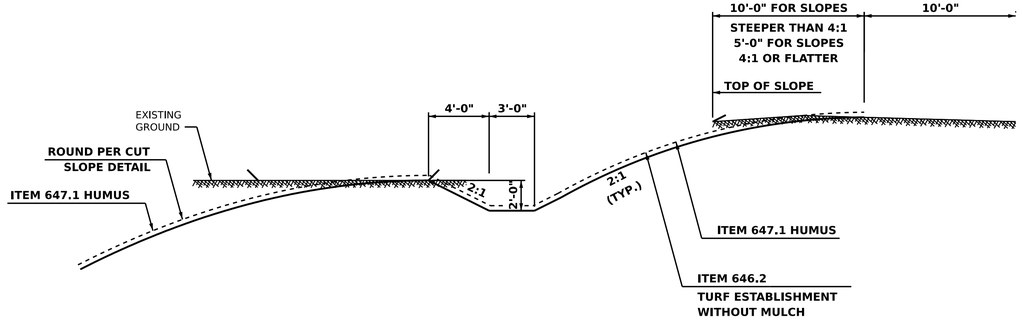


BAR-WAY GATE DETAIL

ITEM 607.64318
STA. 16+00

ITEM 607.64918
STA. 1651+98, RT
STA. 1015+89, RT
STA. 1037+96, RT
STA. 204+50, RT

NOT TO SCALE



TYPICAL CUT-OFF/SIDE SLOPE DITCH

OLDE RUM TRAIL
STA. 1035+20 TO 1037+64

NOT TO SCALE

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE
STATION		
STATION		

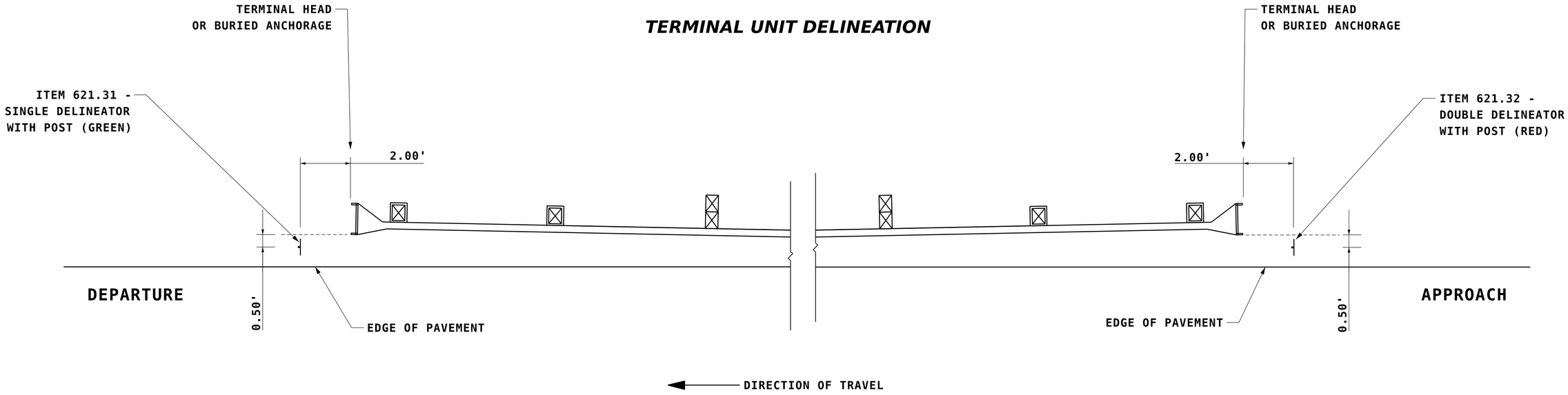
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

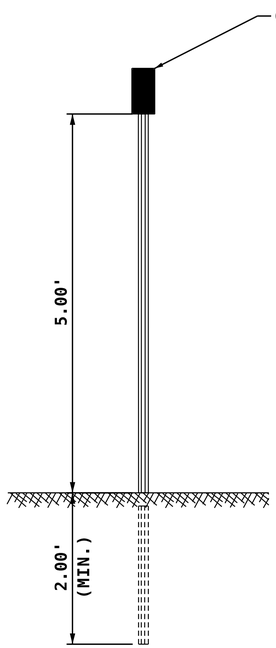
MISCELLANEOUS DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_11	13065A	46	733

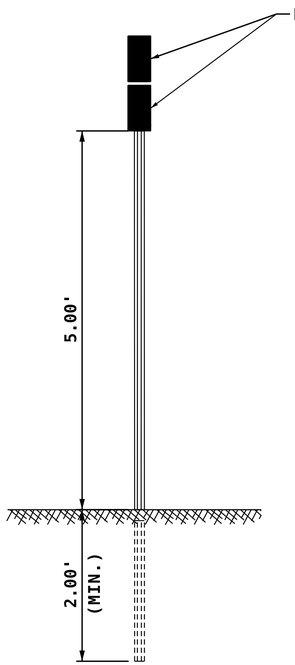
TERMINAL UNIT DELINEATION



ITEM 621.31 - SINGLE DELINEATOR WITH POST



ITEM 621.32 - DOUBLE DELINEATOR WITH POST

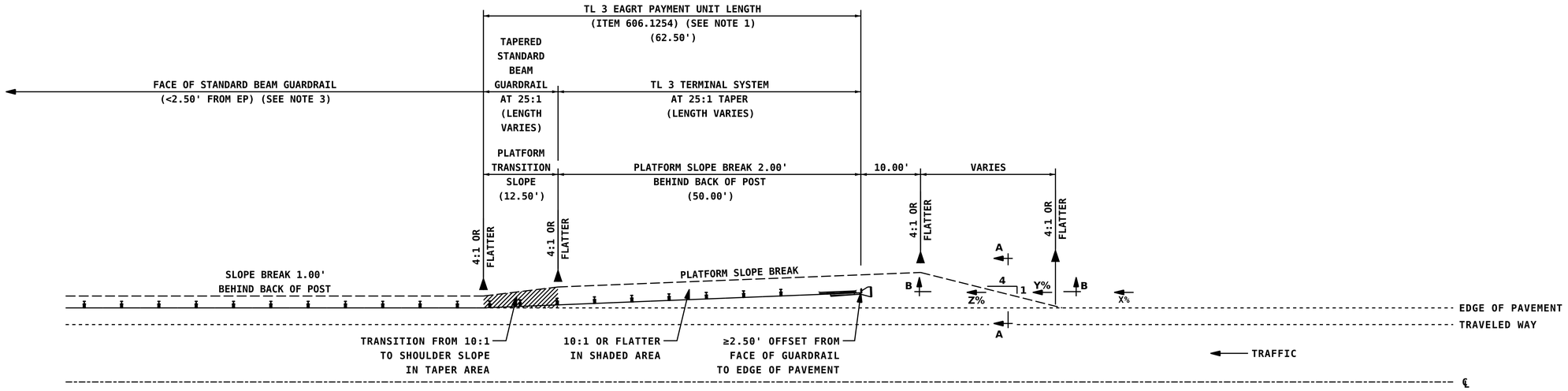


TYPICAL INSTALLATION

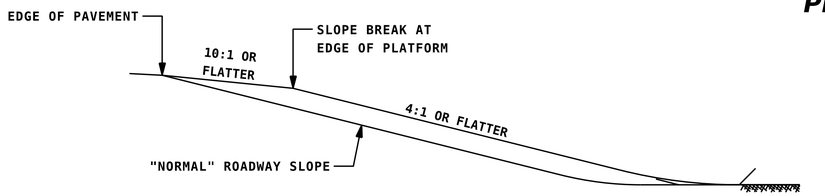
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

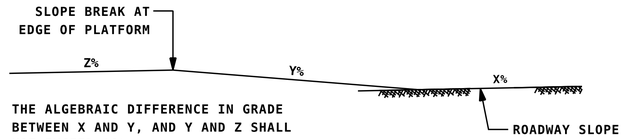
TERMINAL UNIT DELINEATION

	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
TERM-UNIT-DELINEATION	02-25-2022	13065A_term-unit	13065A	47	733



ITEM 203.5562 - EAGRT
PLATFORM ALTERNATE



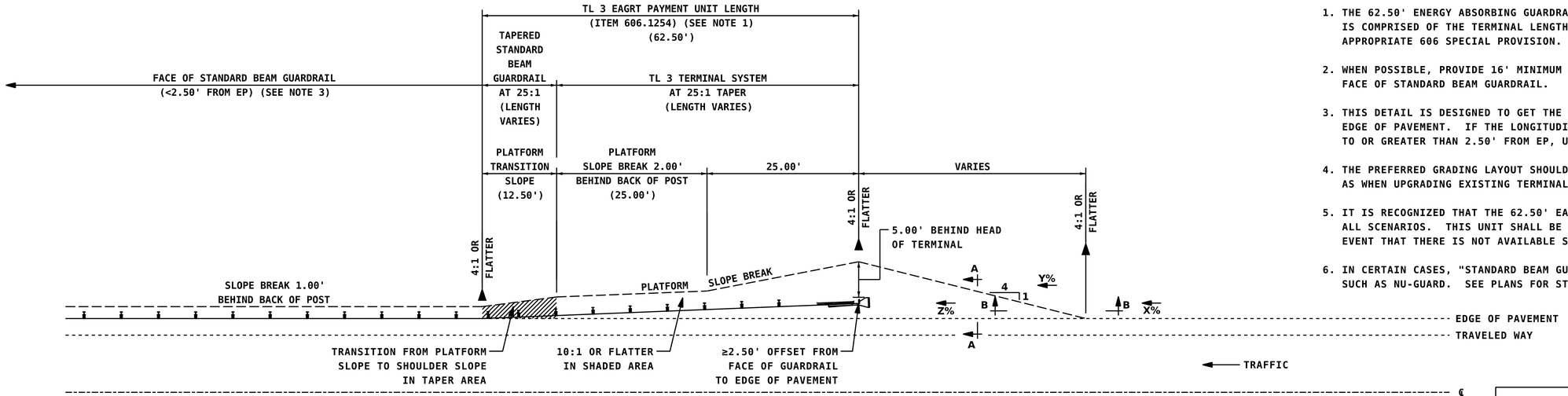


THE ALGEBRAIC DIFFERENCE IN GRADE BETWEEN X AND Y, AND Y AND Z SHALL NOT EXCEED 10%

X% = LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y% = LONGITUDINAL GRADE OF PLATFORM APPROACH
Z% = LONGITUDINAL GRADE OF PLATFORM

SECTION A-A
PLATFORM SLOPE GRADING

SECTION B-B
PLATFORM APPROACH GRADING



ITEM 203.5561 - EAGRT
PLATFORM PREFERRED

NOTES

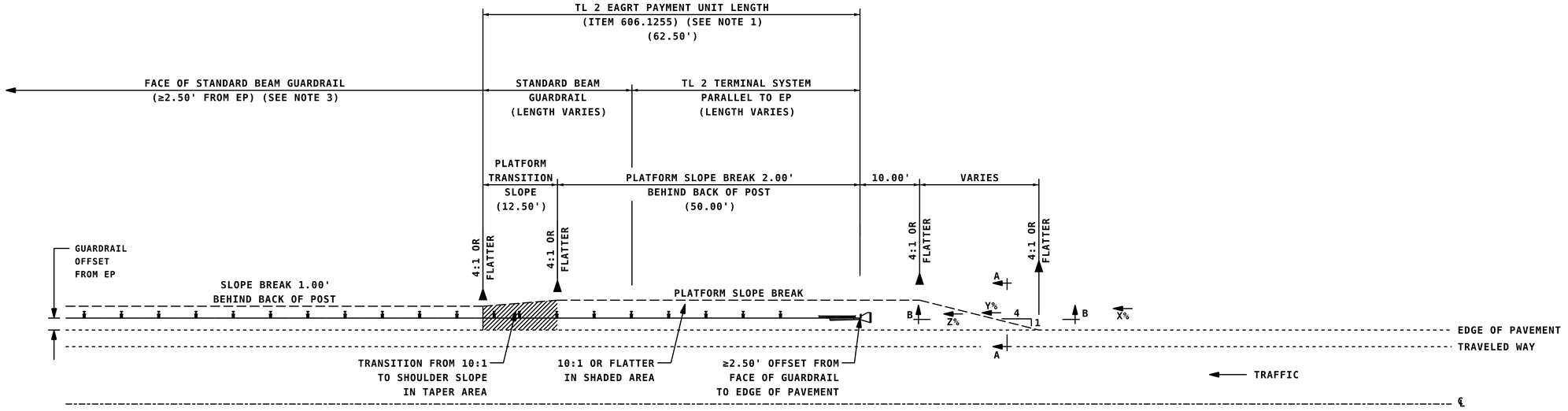
1. THE 62.50' ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT) PAYMENT UNIT LENGTH IS COMPRISED OF THE TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION.
2. WHEN POSSIBLE, PROVIDE 16' MINIMUM CLEARANCE BETWEEN ROADWAY CENTERLINE AND FACE OF STANDARD BEAM GUARDRAIL.
3. THIS DETAIL IS DESIGNED TO GET THE HEAD OF THE TERMINAL UNIT AWAY FROM THE EDGE OF PAVEMENT. IF THE LONGITUDINAL PORTION OF THE GUARDRAIL RUN IS EQUAL TO OR GREATER THAN 2.50' FROM EP, USE THE PARALLEL EAGRT DETAIL.
4. THE PREFERRED GRADING LAYOUT SHOULD BE USED ON ALL NEW CONSTRUCTION, AS WELL AS WHEN UPGRADING EXISTING TERMINALS WHEN PRACTICAL.
5. IT IS RECOGNIZED THAT THE 62.50' EAGRT PAYMENT UNIT LENGTH MAY NOT FIT ALL SCENARIOS. THIS UNIT SHALL BE PAID AS A COMPLETE INSTALLATION IN THE EVENT THAT THERE IS NOT AVAILABLE SPACE TO INSTALL PER THIS DETAIL.
6. IN CERTAIN CASES, "STANDARD BEAM GUARDRAIL" MAY BE A PROPRIETARY ITEM SUCH AS NU-GUARD. SEE PLANS FOR STANDARD BEAM GUARDRAIL TYPE.

NOT TO SCALE

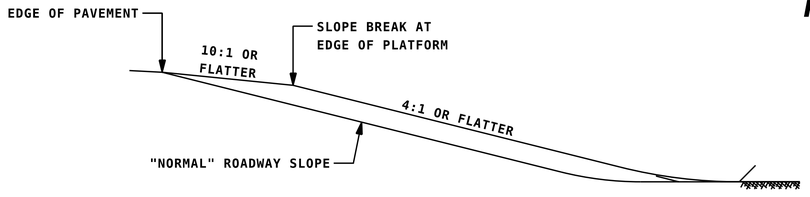
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TL 3 TAPERED EAGRT PLATFORM DETAILS FOR GUARDRAIL < 2.50' FROM EP

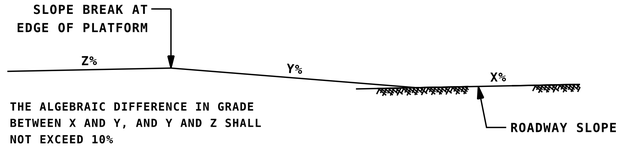
	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
TL3-Tapered-EP	02-25-2022	13065A_tl3-tap	13065A	48	733



ITEM 203.5562 - EAGRT
PLATFORM ALTERNATE



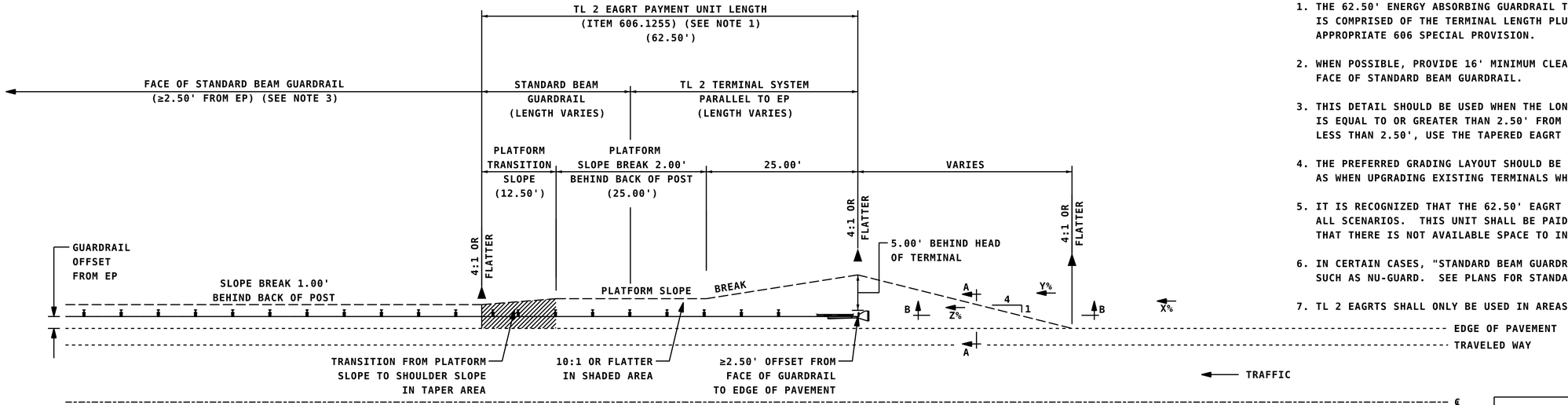
SECTION A-A
PLATFORM SLOPE GRADING



THE ALGEBRAIC DIFFERENCE IN GRADE BETWEEN X AND Y, AND Y AND Z SHALL NOT EXCEED 10%

SECTION B-B
PLATFORM APPROACH GRADING

X% = LONGITUDINAL GRADE OF ROADWAY SLOPE IN ADVANCE OF PLATFORM
Y% = LONGITUDINAL GRADE OF PLATFORM APPROACH
Z% = LONGITUDINAL GRADE OF PLATFORM



ITEM 203.5561 - EAGRT
PLATFORM PREFERRED

NOTES

1. THE 62.50' ENERGY ABSORBING GUARDRAIL TERMINAL (EAGRT) PAYMENT UNIT LENGTH IS COMPRISED OF THE TERMINAL LENGTH PLUS W-BEAM RAIL AS DESCRIBED IN THE APPROPRIATE 606 SPECIAL PROVISION.
2. WHEN POSSIBLE, PROVIDE 16' MINIMUM CLEARANCE BETWEEN ROADWAY CENTERLINE AND FACE OF STANDARD BEAM GUARDRAIL.
3. THIS DETAIL SHOULD BE USED WHEN THE LONGITUDINAL PORTION OF THE GUARDRAIL IS EQUAL TO OR GREATER THAN 2.50' FROM THE EDGE OF PAVEMENT. IF THE OFFSET IS LESS THAN 2.50', USE THE TAPERED EAGRT DETAIL.
4. THE PREFERRED GRADING LAYOUT SHOULD BE USED ON ALL NEW CONSTRUCTION, AS WELL AS WHEN UPGRADING EXISTING TERMINALS WHEN PRACTICAL.
5. IT IS RECOGNIZED THAT THE 62.50' EAGRT PAYMENT UNIT LENGTH MAY NOT FIT ALL SCENARIOS. THIS UNIT SHALL BE PAID AS A COMPLETE INSTALLATION IN THE EVENT THAT THERE IS NOT AVAILABLE SPACE TO INSTALL PER THIS DETAIL.
6. IN CERTAIN CASES, "STANDARD BEAM GUARDRAIL" MAY BE A PROPRIETARY ITEM SUCH AS NU-GUARD. SEE PLANS FOR STANDARD BEAM GUARDRAIL TYPE.
7. TL 2 EAGRTS SHALL ONLY BE USED IN AREAS WITH DESIGN SPEEDS OF 45 MPH AND UNDER.

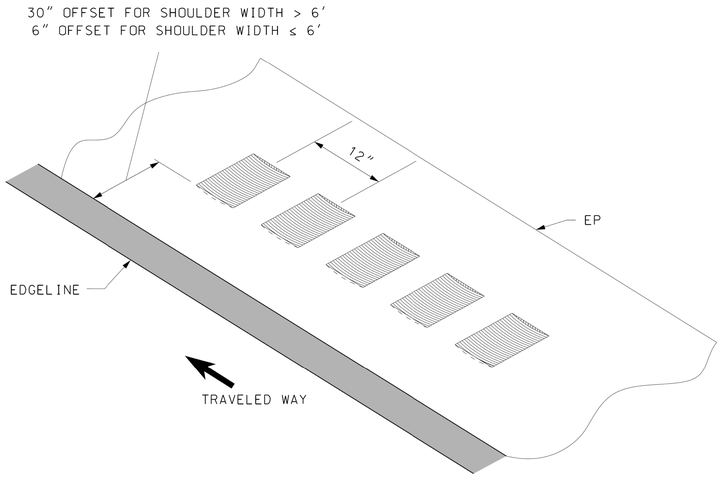
NOT TO SCALE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

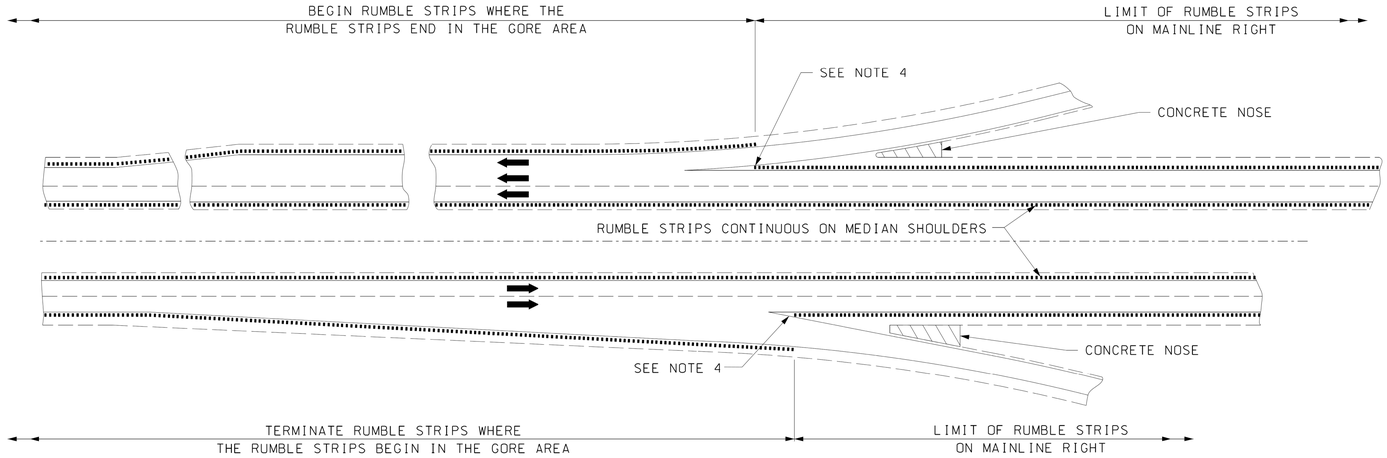
TL 2 PARALLEL EAGRT PLATFORM DETAILS FOR GUARDRAIL ≥ 2.50' FROM EP

	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
TL2-PAR-OFF	02-25-2022	13065A_tl2-par	13065A	49	733

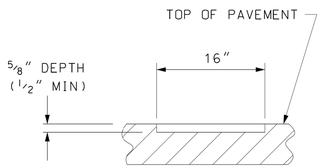
TIER 1 DIVIDED HIGHWAYS



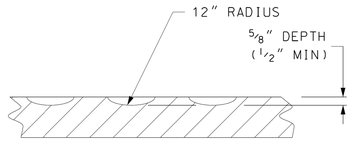
TYPICAL SHOULDER INSTALLATION
RIGHT SHOULDER DETAIL
(MEDIAN SHOULDER, OPPOSITE)



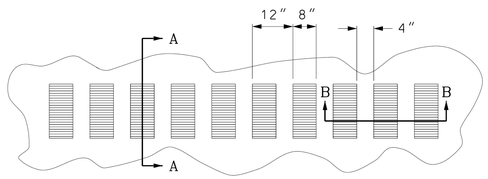
TYPICAL INTERCHANGE ON-RAMP & OFF-RAMP



SECTION A-A



SECTION B-B



PLAN

NOTES FOR DIVIDED HIGHWAYS

1. INSTALL MILLED RUMBLE STRIPS IN ACCORDANCE WITH THE PROJECT'S CONTRACT DOCUMENTS AND THE CURRENT *NHDOT RUMBLE STRIP GUIDELINES* FOUND ON THE NHDOT WEBSITE.
2. RUMBLE STRIP DETAILS ON THIS SHEET SHALL BE INSTALLED ON TIER 1 DIVIDED HIGHWAYS ONLY. RUMBLE STRIPS ON TIER 2, 3 AND 4 DIVIDED HIGHWAYS SHALL BE INSTALLED PER THE DETAILS ON THE UNDIVIDED HIGHWAYS SHEETS.
3. RUMBLE STRIPS SHALL BE INSTALLED ON RIGHT AND MEDIAN SHOULDERS WITH AND WITHOUT GUARDRAILS.
4. THERE SHALL BE NO GAP LONGITUDINALLY IN THE MAINLINE AND OFF-RAMPS AND ON-RAMPS.
5. SHOULDER RUMBLE STRIPS SHALL BE DISCONTINUED 30 FEET BEFORE AT GRADE BRIDGES AND WILL RESUME 30 FEET AFTER.
6. RUMBLE STRIPS SHALL NOT ENCROACH INTO EXISTING MAINTENANCE FACILITY DRIVEWAYS, SERVICE AREA RAMPS AND MAINTENANCE MEDIAN CROSSOVERS. DISCONTINUE RUMBLE STRIPS 150 FEET BEFORE AND RESUME 50 FEET AFTER.
7. MEDIAN CROSSOVERS:
   WHERE SHOULDER IS GREATER THAN 6 FEET, DISCONTINUE RUMBLE STRIPS 50 FEET BEFORE AND RESUME 50 FEET AFTER MEDIAN CROSSOVER. WHERE SHOULDER IS LESS THAN 6 FEET, DISCONTINUE RUMBLE STRIPS 150 FEET BEFORE AND RESUME 50 FEET AFTER MEDIAN CROSSOVER.

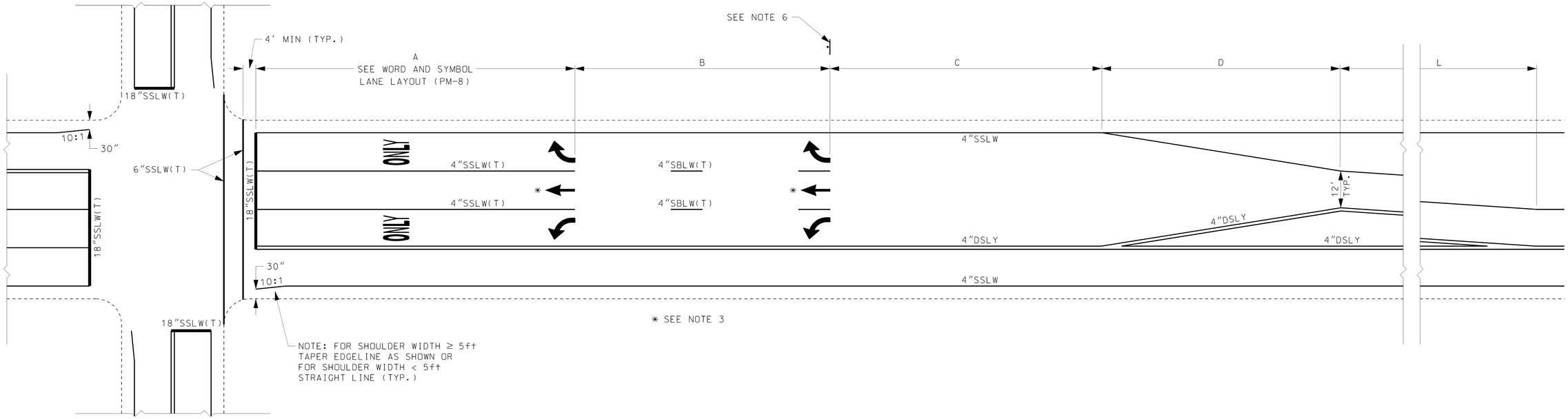
NOT TO SCALE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DIVIDED HIGHWAYS
RUMBLE STRIP DETAILS
AND LAYOUT

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
7/24/2020	13065A_NHDOT_01	13065A	50	733



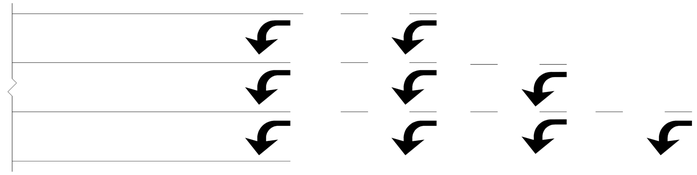
GENERAL NOTES

1. PAINTED EDGELINE REQUIRED ON CURBED SHOULDERS GREATER THAN 24".
2. ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES AND RAILROAD SYMBOLS), LANE LINES AND ALL OTHER MARKINGS NOTED WITH (T) SHALL BE THERMOPLASTIC
3. THROUGH ARROWS NOT TYPICALLY REQUIRED, SEE THE PAVEMENT MARKING PLANS FOR THE APPROPRIATE LAYOUT.
4. DIMENSION L CALCULATED BASED ON MUTCD TRANSITION TAPER FORMULAS.
5. ALL SEGMENTS A THRU L ARE REQUIRED TO ESTABLISH TURN LANES.
6. LANE USE SIGNS (R3-8 SERIES) TO BE PLACED AT UPSTREAM LEGEND ARROW ADDITIONAL SIGNS MAY BE REQUIRED FOR DOWNSTREAM GEOMETRIC CHANGES.

POSTED SPEED (mph)	TYPICAL 'B' LAYOUT			C (ft)	D (ft)	L** (ft)
	BROKEN LINES	ARROWS	LENGTH(ft)			
30	0	0	0	85	75	L=WS²/60
35	0	0	0	140	75	L=WS²/60
40	2	1	80	120	75	L=WS²/60
45	2	1	80	170	100	L=WS
50	4	2	160	165	100	L=WS
55	6	3	240	175	100	L=WS

** 100' (MIN.) IS REQUIRED IN URBAN AREAS AND 200' (MIN.) IS REQUIRED IN RURAL AREAS FOR L.

- W IS THE WIDTH OF OFFSET, IN FEET.
- S IS THE HIGHER OF THE POSTED OR STATUTORY SPEED LIMIT IN MILES PER HOUR.
- WHERE OBSERVED SPEEDS EXCEED POSTED OR STATUTORY SPEED LIMITS, LONGER TAPERS SHOULD BE USED.
- WHERE OFFSETS ARE DIFFERENT ON EITHER SIDE OF CENTERLINE, THE LONGER MEASUREMENT SHALL GOVERN THE LENGTH OF BOTH TAPERS.



BROKEN LINE/ARROW LAYOUT

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

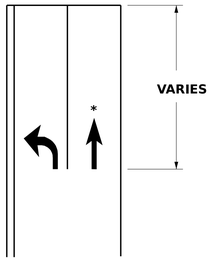
INTERSECTION DETAILS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
01/10/20	13065A_NHDOT_02	13065A	51	733

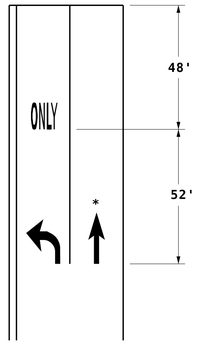
WORD AND SYMBOL LANE LAYOUT

NOT TO SCALE

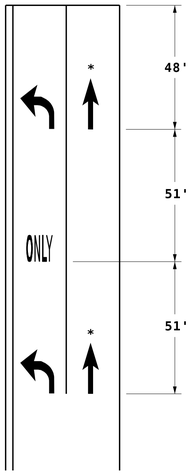
25 ft TO 75 ft LANE LINE



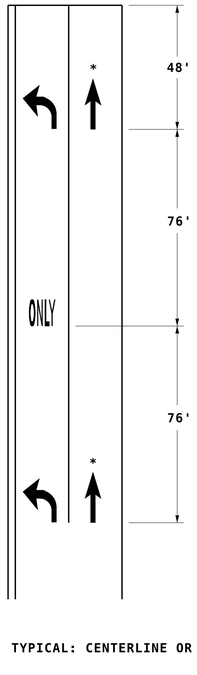
100 ft LANE LINE



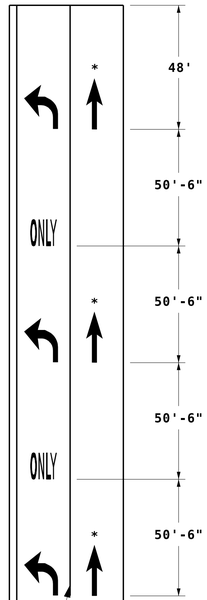
150 ft LANE LINE



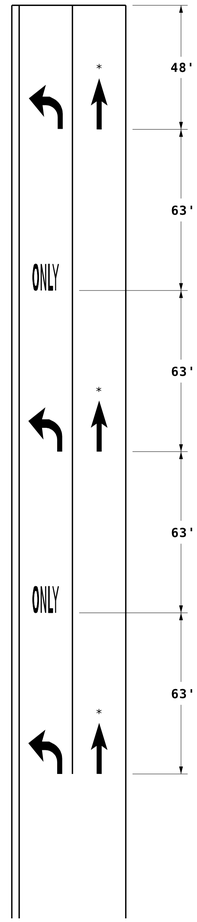
200 ft LANE LINE



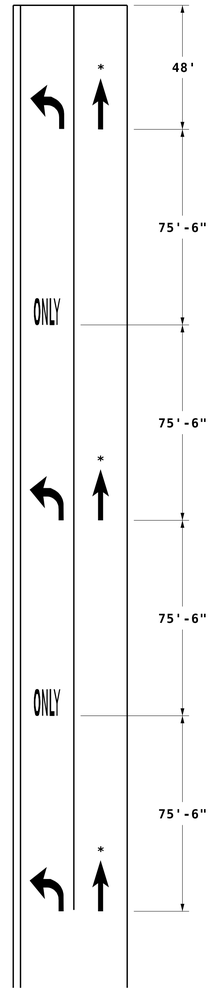
250 ft LANE LINE



300 ft LANE LINE



350 ft LANE LINE



* SEE NOTE NO. 7

GENERAL NOTES

1. WORDS AND SYMBOLS SHALL BE CENTERED LATERALLY WITHIN THE LANE. THE LONGITUDINAL DIMENSION SHALL BE PARALLEL TO THE LANE.
2. LONGITUDINAL SPACING BETWEEN SUCCESSIVE WORDS AND/OR SYMBOLS IN TURN LANES SHOULD BE IN EVEN INCREMENTS OF AT LEAST 4 TIMES AND NO GREATER THAN 10 TIMES THE HEIGHT OF THE LARGEST CHARACTER.
3. LANE LINES LONGER THAN 75' SHALL BE LAYED OUT IN MULTIPLES OF 50'.
4. LANE LINES DESIGNED TO ACCOMMODATE A CALCULATED QUEUE SHALL BE ROUNDED UP TO THE NEAREST 50'.
5. TO COMPLETE ARROW AND "ONLY" LAYOUT FOR LANE LENGTHS GREATER THAN 350': (LENGTH OF LANE LINE MINUS 48') / NUMBER OF INCREMENTS. STENCIL SERIES SHALL BEGIN AND END WITH AN ARROW.
6. THE STOP LINE MAY NOT BE PRESENT.
7. SEE THE PAVEMENT MARKING PLANS FOR THE APPROPRIATE LAYOUT, INCLUDING IF THROUGH ARROWS ARE REQUIRED.
8. WORDS, LANE LINES AND SYMBOLS SHALL BE THERMOPLASTIC (T).
9. THE SOLID LANE LINE SHALL BE A MINIMUM OF 25'.

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF TRAFFIC

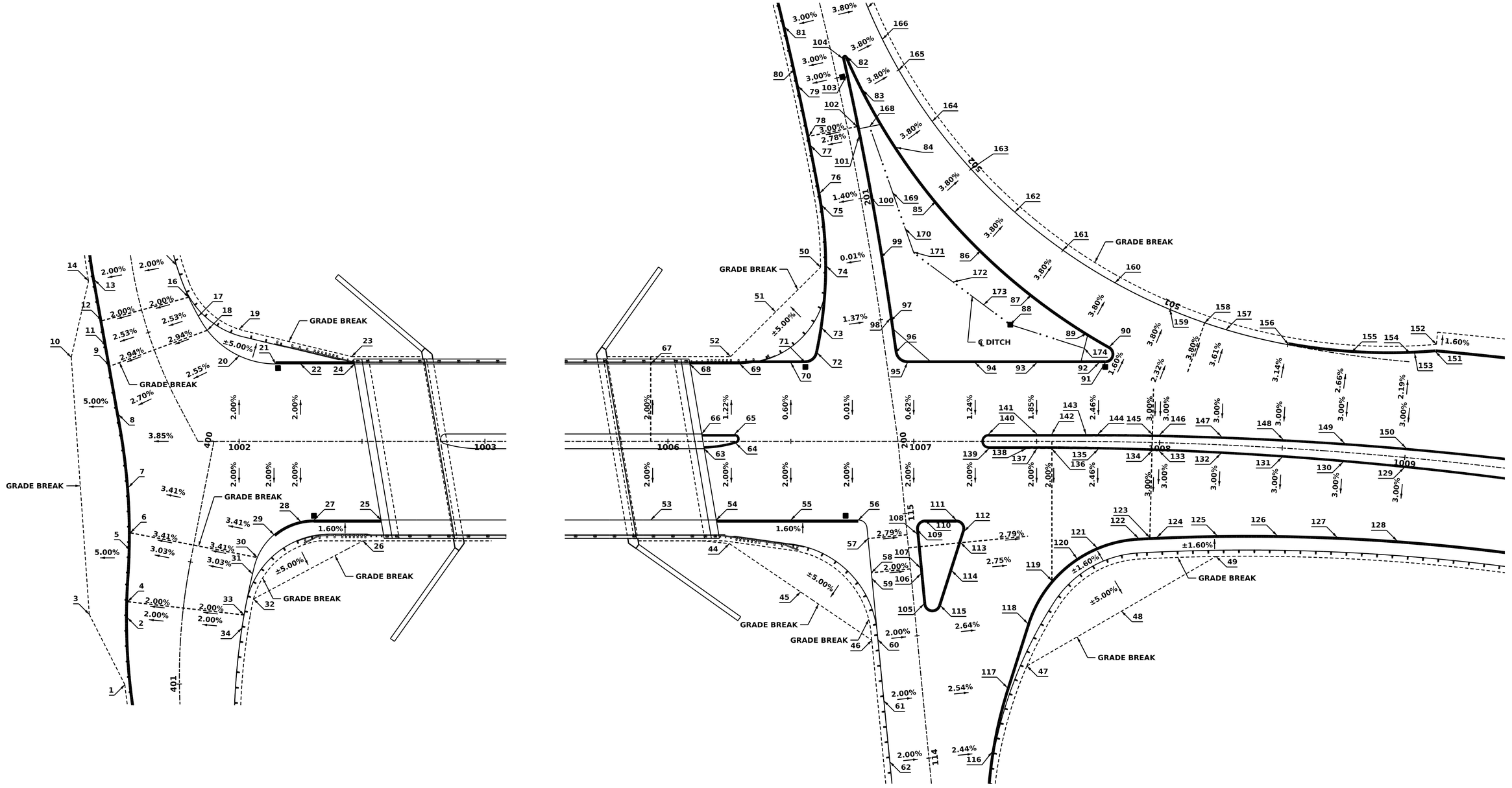
WORD AND SYMBOL LANE LAYOUT

	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
WORDS AND SYMBOLS	02-25-2022	13065A_det-ce	13065A	52	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	



50 0 50 100

SCALE IN FEET

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SB & NB RAMPS INTERSECTION GRADING PLAN

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Inter_01	13065A	53	733

SOUTHBOUND INTERSECTION

NUMBER	STATION	OFFSET		ELEVATION
1	401+00.0	22.2	RT	395.58
2	400+75.0	22.2	RT	396.42
3	400+75.0	39.8	RT	395.64
4	400+69.0	22.8	RT	396.59
5	400+50.0	25.0	RT	396.81
6	400+43.0	26.3	RT	396.86
7	400+25.0	30.5	RT	397.20
8	309+75.0	23.6	RT	397.20
9	309+57.5	19.2	RT	396.67
10	309+50.0	32.9	RT	395.82
11	309+50.0	17.9	RT	396.52
12	309+40.5	16.7	RT	396.31
13	309+25.0	16.0	RT	395.82
14	309+25.0	18.8	RT	395.70
15	309+35.0	17.8	LT	396.49
16	309+40.4	19.8	LT	397.04
17	309+50.0	21.4	LT	397.51
18	309+57.5	23.0	LT	397.90
19	309+62.6	35.2	LT	398.67
20	1002+00.0	34.8	LT	398.61
21	1002+14.8	31.5	LT	399.25
22	1002+25.0	31.5	LT	399.64
23	1002+45.8	34.5	LT	400.89
24	1002+47.0	31.5	LT	400.48
25	1002+57.7	32.0	RT	400.89
26	1002+50.3	40.5	RT	401.31
27	1002+30.4	32.0	RT	399.84
28	1002+35.0	32.6	RT	399.61
29	1002+14.2	38.0	RT	399.09
30	400+43.0	26.4	LT	398.64
31	400+50.0	25.7	LT	398.34
32	400+61.2	27.9	LT	397.74
33	400+69.0	24.9	LT	397.54
34	400+75.0	24.6	LT	397.36

NOTE: POINTS 35 THROUGH 43 NOT USED

NORTHBOUND INTERSECTION

NUMBER	STATION	OFFSET		ELEVATION
44	1006+25.0	41.6	RT	407.05
45	1006+54.0	61.3	RT	405.57
46	114+50.0	18.5	LT	404.39
47	114+33.5	43.2	RT	397.14
48	1007+85.7	68.9	RT	400.72
49	1008+25.0	45.5	RT	400.54
50	200+75.0	20.9	LT	405.85
51	200+59.5	41.8	LT	405.84
52	1006+25.5	34.5	LT	407.04
53	1005+93.0	32.0	RT	407.02
54	1006+19.7	32.0	RT	406.50
55	1006+50.0	32.0	RT	405.71
56	1006+77.5	32.0	RT	404.89
57	114+91.4	16.0	LT	404.62
58	114+77.4	16.0	LT	404.17
59	114+75.0	16.0	LT	404.12
60	114+50.0	16.0	LT	403.55
61	114+25.0	16.0	LT	402.95
62	114+00.0	16.0	LT	402.32
63	1006+14.8	3.0	RT	407.11
64	1006+37.8	0.9	RT	407.05
65	1006+27.2	3.0	LT	406.93
66	1006+37.6	0.9	LT	407.22
67	1005+93.0	31.5	LT	407.03
68	1006+08.9	31.5	LT	406.84
69	1006+29.3	31.5	LT	406.56
70	1006+50.0	32.0	LT	406.14
71	1006+55.9	32.0	LT	406.01
72	1006+60.8	35.9	LT	406.08
73	200+50.0	24.1	LT	405.75
74	200+75.0	18.4	LT	405.53
75	201+00.0	16.1	LT	405.35
76	201+05.2	16.0	LT	405.32
77	201+25.0	16.0	LT	405.10
78	201+29.0	16.0	LT	405.05
79	201+50.0	16.0	LT	404.96
80	201+57.3	16.0	LT	404.92
81	201+75.0	16.0	LT	404.78
82	502+64.1	16.0	LT	405.50
83	502+50.0	16.7	LT	405.18
84	502+25.0	18.1	LT	405.08
85	502+00.0	19.4	LT	404.71
86	501+75.0	20.8	LT	404.31
87	501+50.0	22.2	LT	403.77
88	501+50.0	37.1	LT	402.90
89	501+25.0	23.5	LT	403.29
90	501+15.3	24.0	LT	403.10
91	1007+79.2	36.7	LT	403.11
92	1007+75.0	32.1	LT	403.17
93	1007+50.0	32.0	LT	403.75
94	1007+25.0	32.0	LT	404.46
95	1006+97.4	32.0	LT	405.08
96	200+25.9	4.0	RT	405.21
97	200+48.9	4.0	RT	405.33
98	200+50.0	4.0	RT	405.33
99	200+75.0	4.0	RT	405.45
100	201+00.0	4.0	RT	405.50
101	201+25.0	4.0	RT	405.44
102	201+29.0	4.0	RT	405.42
103	201+50.0	4.0	RT	405.30
104	201.57.3	4.0	RT	405.24
105	114+62.6	4.0	RT	403.41
106	114+75.0	4.0	RT	403.69
107	114+77.4	4.0	RT	403.74
108	114+91.4	4.0	RT	404.06
109	114+93.1	4.0	RT	404.10

NUMBER	STATION	OFFSET		ELEVATION
110	1007+04.6	32.0	RT	404.07
111	1007+17.3	32.0	RT	403.69
112	1007+20.6	36.6	RT	403.50
113	114+86.0	21.4	RT	403.45
114	114+75.0	16.6	RT	403.34
115	114+61.2	10.7	RT	403.19
116	114+00.0	25.8	RT	401.37
117	114+25.4	34.5	RT	401.77
118	114+50.6	45.3	RT	402.04
119	1007+56.2	56.7	RT	402.03
120	114+75.0	67.8	RT	401.78
121	1007+75.0	43.2	RT	401.54
122	1007+92.3	39.1	RT	400.96
123	1007+97.0	38.7	RT	400.78
124	1008+00.0	38.5	RT	400.69
125	1008+25.0	37.0	RT	399.99
126	1008+50.0	35.7	RT	399.28
127	1008+75.0	34.7	RT	398.56
128	1009+00.0	34.1	RT	397.83
129	1009+00.0	4.2	RT	398.79
130	1008+75.0	4.1	RT	399.48
131	1008+50.0	3.9	RT	400.23
132	1008+25.0	3.7	RT	400.99
133	1008+00.0	3.4	RT	401.75
134	1007+97.0	3.4	RT	401.84
135	1007+75.0	3.2	RT	402.52
136	1007+56.2	3.0	RT	403.10
137	1007+50.0	3.0	RT	403.29
138	1007+45.6	3.0	RT	403.42
139	1007+30.5	3.0	RT	403.88
140	1007+30.5	3.0	LT	403.98
141	1007+50.0	3.0	LT	403.41
142	1007+56.2	3.0	LT	403.22
143	1007+70.0	3.0	LT	402.82
144	1007+75.0	3.1	LT	402.68
145	1007+97.0	3.2	LT	402.04
146	1008+00.0	3.2	LT	401.95
147	1008+25.0	-3.4	LT	401.20
148	1008+50.0	-3.6	LT	400.46
149	1008+75.0	3.8	LT	399.71
150	1009+00.0	3.9	LT	398.97
151	1009+08.2	44.0	LT	399.30
152	1009+08.2	47.1	LT	398.54
153	1009+00.0	42.6	LT	399.37
154	1008+98.2	42.4	LT	399.42
155	1008+75.0	40.7	LT	400.11
156	1008+50.0	42.1	LT	400.77
157	1008+25.0	46.9	LT	401.35
158	500+85.0	0.0	LT	401.54
159	501+00.0	0.0	LT	401.86
160	501+25.0	0.0	LT	402.39
161	501+50.0	0.0	LT	402.92
162	501+75.0	0.0	LT	403.46
163	502+00.0	0.0	LT	403.97
164	502+25.0	0.0	LT	404.34
165	502+50.0	0.0	LT	404.54
166	502+64.2	0.0	LT	404.58
167	502+78.4	0.0	LT	404.57
168	201+28.0	9	RT	405.60
169	201+00.0	13.2	RT	404.63
170	502+00.0	36.1	LT	404.10
171	200+75.0	17.4	RT	403.76
172	501+75.0	38	LT	403.40
173	200+50.0	42.4	RT	403.13
174	1007+69.2	37.9	LT	403.76

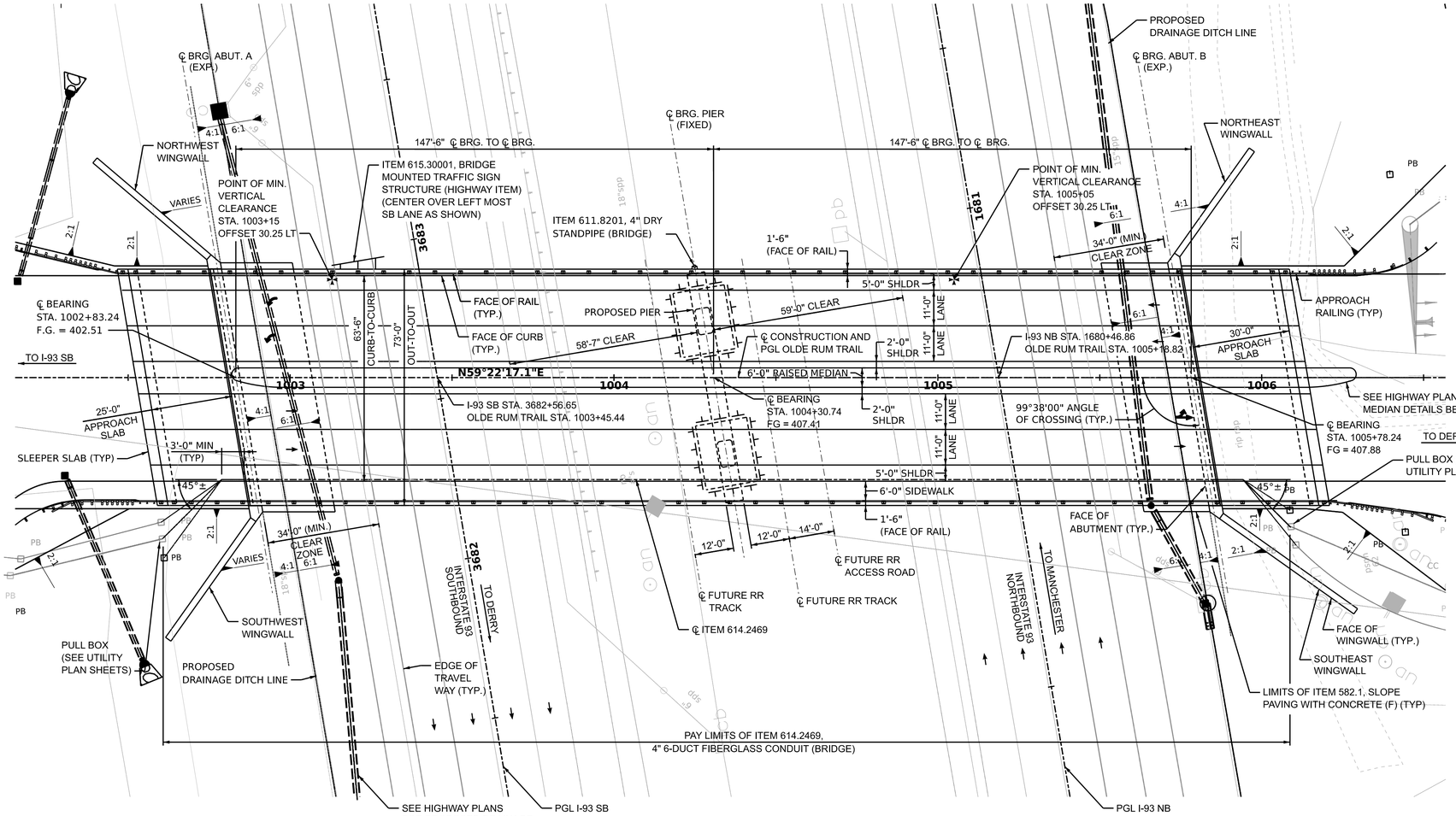
NUMBER	DESCRIPTION	STATION	DATE
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

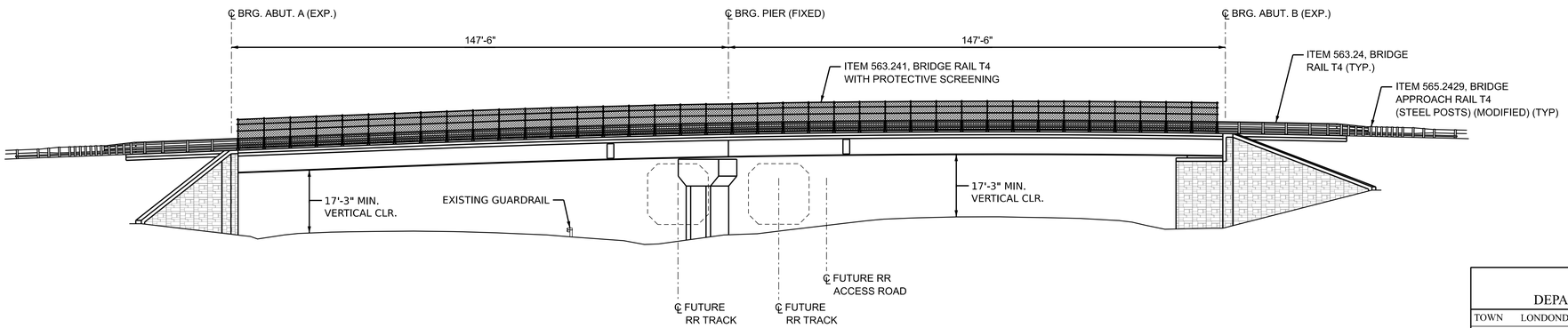
SB & NB RAMPS INTERSECTION GRADING PLAN

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Inter_01	13065A	54	733



GENERAL PLAN

SCALE: 1" = 20'



ELEVATION

SCALE: 1" = 20'

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	GENERAL PLAN AND ELEVATION
2	PROJECT NOTES AND QUANTITIES
3	PROJECT NOTES
4	SITE PLAN AND PROFILE
5	SURVEY LAYOUT
6	BORING PLAN
7-12	BORING LOGS (6 SHEETS)
13	ABUTMENT FOOTING MASONRY PLAN
14	ABUTMENT A MASONRY PLAN AND ELEVATION
15-16	ABUTMENT A REINFORCING (2 SHEETS)
17	ABUTMENT B MASONRY PLAN AND ELEVATION
18-19	ABUTMENT B REINFORCING (2 SHEETS)
20	ABUTMENT AND WINGWALL DETAILS
21	ABUTMENT AND WINGWALL REINFORCING SECTIONS
22	PIER MASONRY PLAN AND ELEVATION
23	PIER REINFORCING
24-25	BEARING DETAILS (2 SHEETS)
26	FRAMING PLAN AND GIRDER ELEVATION
27-29	STEEL DETAILS (3 SHEETS)
30	CAMBER DIAGRAM AND TABLES
31	BOTTOM OF SLAB ELEVATIONS
32	TYPICAL BRIDGE SECTION & DETAILS
33	DECK SLAB REINFORCING
34	PRECAST CONCRETE DECK PANELS
35	DECK END DIAPHRAGM MASONRY AND REINFORCING
36-37	APPROACH AND SLEEPER SLAB DETAILS (2 SHEETS)
38-39	ABUTMENT STRIP SEAL EXPANSION JOINT (2 SHEETS)
40	BRIDGE AND APPROACH RAIL LAYOUT
41	T3 STEEL BRIDGE RAIL
42	SNOW SCREEN WITH STEEL BRIDGE RAIL
43	T4 STEEL BRIDGE RAIL
44	PROTECTIVE SCREEN WITH STEEL BRIDGE RAIL
45	T3 STEEL BRIDGE APPROACH RAIL (STEEL POSTS)
46	T4 STEEL BRIDGE APPROACH RAIL (STEEL POSTS)
47	BRIDGE MOUNTED SIGN SUPPORTS (STEEL GIRDER)
48-49	REINFORCING SCHEDULE (2 SHEETS)

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

GENERAL PLAN AND ELEVATION

BRIDGE SHEET: 1 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	GSG	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

FEDERAL PROJECT NO.: A005(073)

SHEET NO.: 55

FILE NUMBER: 142-1-1

TOTAL SHEETS: 733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_PE	AS NOTED

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

DESIGN METHOD: LOAD AND RESISTANCE FACTORED DESIGN (LRFD)

DESIGN LOADING: HL-93 WITH LIVE LOAD DEFLECTION LIMITED TO L/1000

SPECIFICATIONS: AASHTO 2020 LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH ED.
NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED

FOUNDATION DATA: ABUTMENTS, PIER, NORTHWEST AND NORTHEAST WINGS:
SPREAD FOOTING SUPPORTED ON BEDROCK WITH A NOMINAL BEARING RESISTANCE OF 19 TSF IN COMBINATION WITH A RESISTANCE FACTOR OF 0.45.

SOUTHWEST AND SOUTHEAST WINGS:
SPREAD FOOTING SUPPORTED ON STRUCTURAL FILL ON UNDISTURBED SOIL OR BEDROCK WITH A NOMINAL BEARING CAPACITY OF 11 TSF IN COMBINATION WITH A RESISTANCE FACTOR OF 0.45.

REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
EPOXY COATED BARS:
CURB, SIDEWALK, MEDIAN, DECK, DECK END DIAPHRAGM, APPROACH SLABS, SLEEPER SLABS, CHEEK WALLS, ABUTMENT STEMS, WINGWALL STEMS, PIER CAP, AND PIER COLUMNS.

BLACK BARS:
ABUTMENT FOOTINGS, WINGWALL FOOTINGS, AND PIER FOOTINGS.

CONCRETE: DECK, BRUSH CURBS, SIDEWALK, MEDIAN, AND DECK END DIAPHRAGM:
ITEM 520.7002, CONCRETE BRIDGE DECK (QC/QA) (F)
4,000 PSI (AT 28 DAYS)

APPROACH SLABS AND SLEEPER SLABS:
ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F)
4,000 PSI (AT 28 DAYS) (QC/QA PERFORMANCE REQUIREMENTS WAIVED)

WINGWALLS, ABUTMENT STEMS, CHEEKWALLS, PIER COLUMNS, AND PIER CAP:
ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F)
3,000 PSI (AT 28 DAYS)

FOOTINGS (ABUTMENTS, WINGWALLS, AND PIER, EXCEPT AS NOTED OTHERWISE):
ITEM 520.211, CONCRETE CLASS B, FOOTINGS (ON ROCK)
3,000 PSI (AT 28 DAYS)

FOOTINGS (SOUTHEAST AND SOUTHWEST WINGWALLS):
ITEM 520.213, CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)
3,000 PSI (AT 28 DAYS)

TREMIE SEAL (SUB-FOOTING AT ABUTMENT A AND B):
ITEM 520.6, CONCRETE CLASS T, FOUNDATION SEAL
3,000 PSI (AT 28 DAYS)

PRESTRESSED CONCRETE: PRESTRESSED DECK PANELS (DECK):
ITEM 528.51, PRESTRESSED CONCRETE DECK PANELS (F)
8,000 PSI (AT 28 DAYS)

STRUCTURAL STEEL: AASHTO M270, GRADE 50 (ASTM A709, GRADE 50) (EXCEPT AS NOTED OTHERWISE)
AASHTO M270, GRADE HPS 70W (ASTM A709, GRADE HPS 70W)
TOP AND BOTTOM FLANGE OVER THE PIER BETWEEN BOLTED FIELD SPLICES ONLY
ALL STEEL TO BE METALIZED AND SEALED

SEISMIC: PEAK GROUND ACCELERATION (PGA) = 0.095g
SITE CLASS = C
SEISMIC ZONE = 1

GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT DIG SAFE TO SURVEY AND TAG ALL BRIDGE COPING AND UNDERGROUND LOCATIONS NEAR THE BRIDGE, FOR POSSIBLE UTILITIES.
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL ON ANY ROADWAY BELOW THE STRUCTURE. ALL COSTS INCLUDING ERECTON, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH APPROVED METHODS, SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS OF WORK BEING PERFORMED.
3. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
4. SHEAR KEYS SHALL BE 3" HIGH BY ONE-THIRD THE WIDTH OF THE WALL, CENTERED.
5. ALL EXISTING BRONZE DISCS REPRESENTING STATE BENCHMARKS OR SURVEY TRIANGULATION POINTS MUST NOT BE DISTURBED. WHEN THE WORK CALLED FOR INVOLVES DISTURBING A BRONZE DISC THE CONTRACTOR SHALL NOTIFY THE ENGINEER SUFFICIENTLY IN ADVANCE OF THE WORK TO PERMIT THE STATE TO TEMPORARLLY RELOCATE THE AFFECTED MARKER.
6. ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2' WIDE WITH PROTECTION BOARD (SUBSIDIARY), SHALL BE PLACED CENTERED OVER ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS.
7. APPLY PAVEMENT JOINT ADHESIVE ALONG ALL LONGITUDINAL JOINTS BETWEEN PAVEMENT PASSES, ALONG BRIDGE AND APPROACH CURB LINES, AND EXPANSION JOINT ARMORING PRIOR TO PLACING ALL PAVEMENT COURSES. FOR BRIDGE BASE COURSE APPLY ITEM 403.26, PAVEMENT JOINT ADHESIVE (BRIDGE BASE) AND FOR WEARING COURSE, APPLY ITEM 403.16, PAVEMENT JOINT ADHESIVE (ROADWAY ITEM).

COFFERDAMS

1. ALL ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF N.H. THE CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR REVIEW AND DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02.
2. PER THE GEOTECHNICAL REPORT, GROUND WATER IS LIKELY TO BE OBSERVED AS HIGH AS 2 TO 4 FEET ABOVE THE TOP OF EXISTING BEDROCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING GROUNDWATER, SURFACE RUNOFF, INFILTRATION AND ANY OTHER SOURCES OF WATER BY METHODS WHICH PRESERVE THE UNDISTURBED CONDITION OF THE SUBGRADE AND PERMIT FOUNDATION CONSTRUCTION IN THE DRY. ALL COSTS FOR ANY REQUIRED SUPPORT OF EXCAVATION AND DEWATERING SHALL BE PAID FOR UNDER ITEMS 503.201, COFFERDAMS (ABUTMENT A), 503.202, COFFERDAMS (PIER) AND 503.203, COFFERDAMS (ABUTMENT B) AT RESPECTIVE SUPPORT LOCATIONS.
3. COFFERDAMS MAY BE REQUIRED AT EACH SUPPORT LOCATION TO ADEQUATELY DEWATER THE FOOTING EXCAVATION AND PERMIT FOUNDATION CONSTRUCTION IN THE DRY AS NOTED IN COFFERDAM NOTE 2. SUMP PUMPING AREAS AROUND THE ENTIRE PERIMETER MAY BE REQUIRED TO ADEQUATELY CONTROL THE WATER WITHIN THE FOOTING EXCAVATION. IT MAY BE POSSIBLE TO USE A WATER DIVERSION STRUCTURE SUCH AS A SANDBAG DIKE IN LIEU OF A SHEETED COFFERDAM AS A MEANS OF CONTROLLING THE WATER. IF WATER DIVERSION IS USED IT WILL BE PAID FOR AS A COFFERDAM.
4. CONTROL OF WATER WITHIN THE COFFERDAMS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT DISTURBANCE OF THE BEARING SOIL. PUMPING AREAS SHALL BE LOCATED OUTSIDE THE FOOTING SUPPORT LIMITS AND PROPERLY FILTERED TO PREVENT THE PUMPING OF FINES. ALL COSTS ASSOCIATED WITH DEWATERING, FILTERING AND HANDLING OF WATER SHALL BE PAID FOR UNDER THE RESPECTIVE COFFERDAM ITEMS. ALL COSTS ASSOCIATED WITH DEWATERING, FILTERING AND HANDLING OF WATER SHALL BE PAID FOR UNDER THE RESPECTIVE COFFERDAM ITEMS.
5. ANY FOUNDATION SOIL WEAKENED AS A RESULT OF INSUFFICIENT CARE TAKEN IN MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL AT THE EXPENSE OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL BE REQUIRED TO POUR SUBSTRUCTURE CONCRETE IN THE DRY.
7. DEWATERING SHALL BE CONTINUOUS UNTIL SUBSTRUCTURES ARE BACKFILLED TO THE ELEVATIONS OF THE SURROUNDING WATER TABLE, UNLESS OTHERWISE DIRECTED.
8. ALL MEANS AND METHODS ASSOCIATED WITH HANDLING WATER DURING CONSTRUCTION OF FOUNDATIONS SHALL BE LOCATED WITHIN THE LIMITS OF WORK SHOWN ON THE WETLANDS PERMIT APPROVED FOR THE PROJECT.
9. EXCAVATION BACKSLOPES BELOW IN-SERVICE ROADWAYS THAT ARE USED IN COMBINATION WITH, OR IN-PLACE OF, A COFFERDAM SHALL MEET THE FOLLOWING CRITERIA. THE CONTRACTOR SHALL BE RESPONSIBE FOR THE DESIGN AND MAINTENANCE OF ALL EXCAVATION BACKSLOPES.

   A) THE EXCAVATION BACKSLOPE SHALL BE NO STEEPER THAN 1.5H:1V. A FLATTER BACKSLOPE SHALL BE USED IF THE CONTRACTOR'S CALCULATIONS INDICATE INSUFFICIENT SLOPE STABILITY AT 1.5H:1V.

   B) FOR CASES WHERE THE EXISTING GUARDRAIL IS USED FOR TRAFFIC BARRIER ABOVE THE EXCAVATION, THE CREST OF EXCAVATED BACKSLOPES SHALL BE OFFSET A MINIMUM OF 3 FEET FROM FACE OF EXISTING GUARDRAIL. THE EXISTING GROUND SURFACES BETWEEN THE GUARDRAIL AND THE EXCAVATED BACKSLOPES SHALL BE MAINTAINED IN ITS ORIGINAL CONFIGURATION.

   C) FOR CASES WHERE CONCRETE TRAFFIC BARRIERS ARE USED IN PLACE OF EXISTING GUARDRAIL, THE CREST OF EXCAVATED BACKSLOPES SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE OUTSIDE EDGE OF THE CONCRETE BARRIER.
10. THE CONTRACTOR SHOULD BE PREPARED TO PERFORM ANY SUBSURFACE INVESTIGATIONS NEEDED FOR THE COFFERDAM DESIGN. ALL COSTS ASSOCIATED WITH THE COMPLETION OF SUBSURFACE INVESTIGATIONS, THE REDESIGN, OR THE REINSTALLATION OF COFFERDAMS DUE TO SUBSURFACE CONDITIONS ENCOUNTERED DURING THE COFFERDAM INSTALLATION THAT ARE DIFFERENT FROM WHAT THE COFFERDAM DESIGNER ASSUMED AND/OR INTERPRETED FROM THE AVAILABLE SUBSURFACE INFORMATION, SHALL BE SUBSIDIARY TO THE ASSOCIATED COFFERDAM ITEM. SECTION 102.05 SHALL BE REFERENCED REGARDING THE SUBSURFACE INFORMATION PROVIDED IN THE CONTRACT.
11. COFFERDAMS LOCATED WITHIN THE DEFLECTION DISTANCE OF THE TRAFFIC BARRIER SHALL BE DESIGNED TO WITHSTAND A TRAFFIC BARRIER COLLISION LOAD OF 2.7 K/FT APPLIED AT 32-IN. ABOVE THE GROUND SURFACE BEHIND THE COFFERDAM. THIS LOAD MAY BE REDUCED LINEARLY BY THE OFFSET OF THE BARRIER TO THE COFFERDAM (E.G., IF THE BARRIER SYSTEM HAS A 4-FT. DEFLECTION AND IT IS SET 2-FT. FROM THE FACE OF THE COFFERDAM, THE COLLISION LOAD MAY BE REDUCED BY ONE HALF). SEE BRIDGE DESIGN MANUAL CHAPTER 7 FOR TRAFFIC BARRIER DEFLECTION DISTANCES. THE COFFERDAM SHALL EXTEND UP TO A HEIGHT THAT IS EQUAL TO OR HIGHER THAN THE TOP OF THE ADJACENT TRAFFIC BARRER.

SUMMARY OF QUANTITIES (ESTIMATED)
BRIDGE 130/129

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
209.201	GRANULAR BACKFILL (BRIDGE) (F)	3,849	CY
209.4	GRANULAR BACKFILL (GRAV)	130	CY
403.21053	HBP - 3/8" MIX, MACHINE METHOD (BRIDGE BASE)	130	TON
403.26	PAVEMENT JOINT ADHESIVE (BRIDGE BASE)	3,728	LF
503.201	COFFERDAMS	1	U
503.202	COFFERDAMS	1	U
503.203	COFFERDAMS	1	U
504.101	COMMON BRIDGE EXCAVATION	1,678	CY
504.2	ROCK BRIDGE EXCAVATION	690	CY
508.	STRUCTURAL FILL	446	CY
520.0302	CONCRETE CLASS AA APPROACH SLABS (QC/QA) (F)	285	CY
520.12	CONCRETE CLASS A, ABOVE FOOTINGS (F)	958	CY
520.211	CONCRETE CLASS B, FOOTINGS (ON ROCK)	620	CY
520.213	CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)	167	CY
520.6	CONCRETE CLASS T, FOUNDATION SEAL	40	CY
520.7002	CONCRETE BRIDGE DECK (QC/QA) (F)	743	CY
528.51	PRESTRESSED CONCRETE DECK PANELS (F)	17,124	SF
✱534.3	WATER REPELLENT (SILANE/SILOXANE)	162	GAL
538.2	BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F)	66	SY
538.6	BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F)	2,282	SY
541.2	PVC WATERSTOPS, NH TYPE 2 (F)	165	LF
541.3	PVC WATERSTOPS, NH TYPE 3 (F)	104	LF
541.4	PVC WATERSTOPS, NH TYPE 4 (F)	149	LF
541.5	PVC WATERSTOPS, NH TYPE 5 (F)	149	LF
544.	REINFORCING STEEL (F)	70,109	LB
544.2	REINFORCING STEEL, EPOXY COATED (F)	287,017	LB
547	SHEAR CONNECTORS (F)	9,480	EA
548.21	ELASTOMERIC BEARING ASSEMBLIES (F)	24	EA
550.1	STRUCTURAL STEEL (F)	871,038	LB
559.41	ASPHALTIC PLUG FOR CRACK CONTROL (F)	129	LF
561.10	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	149	LF
562.1	SILICONE JOINT SEALANT (F)	118	LF
563.23	BRIDGE RAIL T3	79	LF
563.233	BRIDGE RAIL T3 WITH SNOW SCREENING	278	LF
563.24	BRIDGE RAIL T4	55	LF
563.241	BRIDGE RAIL T4 WITH PROTECTIVE SCREENING	301	LF
565.2329	BRIDGE APPROACH RAIL T3 (STEEL POSTS) (MODIFIED)	2	U
565.2429	BRIDGE APPROACH RAIL T4 (STEEL POSTS) (MODIFIED)	2	U
582.1	SLOPE PAVING WITH CONCRETE (F)	379	SY
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	61	LF
611.8201	4" DRY STANDPIPE (BRIDGE)	1	U
614.2469	4" 6-DUCT FIBERGLASS CONDUIT (BRIDGE)	350	LF
✱ 692	MOBILIZATION	0.25	U
1010.15	FUEL ADJUSTMENT	✱✱	$
1010.2	ASPHALT CEMENT ADJUSTMENT	✱✱	$
1010.41	QUALITY CONTROL QUALITY ASSURANCE (QC/QA) FOR CONCRETE	✱✱	$

✱ NOT CONTRACT ITEM TOTALS
✱✱ NOT A BID ITEM

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

PROJECT NOTES AND QUANTITIES

BRIDGE SHEET 2 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	GSG	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Notes1	AS NOTED	A005(073)	56	733

FOUNDATION ON SUBFOOTING NOTES

1. EXCEPT FOR WINGWALL FOOTINGS ON SOIL, A CONCRETE SUBFOOTING SHALL BE USED AT THE ABUTMENTS WHERE THE EXISTING BEDROCK LINE IS MORE THAN 4’-6”BELOW THE TOP OF FOOTING. NO PAYMENT WILL BE MADE FOR CONCRETE SUBFOOTINGS WHERE THE CONTRACTOR HAS REMOVED ROCK BELOW THE PAY LIMITS FOR 504.2, ROCK BRIDGE EXCAVATION, EXCEPT WHERE BEDROCK HAS BEEN REMOVED TO MINIMIZE STEEP SLOPES AS DESCRIBED IN FOUNDATION ON SUBFOOTING NOTE 4.
2. CONCRETE SUBFOOTINGS SHALL BE PAID FOR UNDER ITEM 520.6 CONCRETE CLASS T, FOUNDATION SEAL. MINIMUM SUBFOOTING THICKNESS SHALL BE 1’-0”.
3. THE TOP OF CONCRETE SUBFOOTINGS THAT ARE TO BE IN CONTACT WITH FOOTINGS SHALL RECEIVE A MINIMUM ¼”AMPLITUDE ROUGHENED SURFACE.
4. THE FINAL BEDROCK SURFACE SHALL BE NO STEEPER THAN 4H:1V AND FREE OF ANY SHARP PROTRUSIONS. TRANSVERSE AND LONGITUDINAL BEDROCK SLOPES STEEPER THAN 4H:1V SHALL BE STEPPED IN LEVEL INCREMENTS WITH A MINIMUM HORIZONTAL STEP LENGTH OF 2’, OR AS DIRECTED.
5. ALL SUBFOOTING CONCRETE SHALL BE PLACED IN THE DRY.
6. PRIOR TO PLACEMENT OF CONCRETE, THE BEDROCK SURFACE SHALL BE COMPLETELY CLEANED OF BROKEN OR LOOSE BEDROCK AND DEBRIS BY COMPRESSED AIR OR WATER. ANY OPEN JOINTS OR SEAMS SHALL BE CLEANED AND GROUTED IN ACCORDANCE WITH SECTION 504. ALL COSTS SUBSIDIARY TO ITEM 504.2, ROCK BRIDGE EXCAVATION.

FOUNDATION NOTES

1. FOR FOOTINGS BEARING ON SOIL, ALL EXISTING UNSUITABLE FILL SHALL BE REMOVED DOWN TO THE GLACIAL TILL SURFACE AND REPLACED WITH STRUCTURAL FILL. LATERAL LIMITS FOR REMOVAL OF ANY UNSUITABLE MATERIAL AND REPLACEMENT OF STRUCTURAL FILL FOR THE FOOTINGS SHALL BE A 1H:2V SLOPE EXTENDING FROM A POINT ON TOP OF THE GLACIAL TILL TO 2 FEET OUTSIDE THE PROPOSED EDGE OF FOOTING. THE MINIMUM THICKNESS OF STRUCTURAL FILL BELOW THE BOTTOM OF FOOTING SHALL BE 1’-0”.
2. AFTER EXCAVATION IS COMPLETE AND PRIOR TO BACKFILLING WITH STRUCTURAL FILL, THE EXISTING SUBGRADE MATERIAL SHALL BE PROOF COMPACTED IN ACCORDANCE WITH SPECIFICATION SECTION 508 TO DENSIFY THE SOILS DISTURBED BY EXCAVATION. IF THE SUBGRADE IS WET, THE PROOF COMPACTION SHALL BE COMPLETED WITHOUT VIBRATION. AREAS EXHIBITING WEAVING, RUTTING OR UNSTABLE SOILS SHALL BE EXCAVATED AND REPLACED WITH EITHER A MINIMUM OF 12” OF FLOWABLE FILL, OR STRUCTURAL FILL WRAPPED IN GEOTEXTILE FABRIC AS DIRECTED. ALL COSTS TO COMPACT EXISTING SUBGRADE AND REPLACE MATERIAL AS NOTED SHALL BE INCIDENTAL TO ITEM 508., STRUCTURAL FILL.
3. PRIOR TO BACK FILLING WITH STRUCTURAL FILL AND FOOTING CASTING, THE CONTRACTOR SHALL NOT ALLOW THE EXISTING SUBGRADE TO FREEZE. IF FREEZING OCCURS, THEN THE FROZEN SOILS SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL AT THE CONTRACTOR'S EXPENSE.
4. PROTRUDING BOULDERS OR COBBLES ENCOUNTERED AT THE FINAL EXCAVATION DEPTH SHALL BE REMOVED OR SPLIT TO PROVIDE A LEVEL BEARING SURFACE.
5. FOR ALL FOOTING LOCATIONS REQUIRING ROCK REMOVAL, THE REQUIRED ELEVATION FOR ROCK REMOVAL IS BETWEEN THE TOP OF LEVELING PAD AND DOWN TO A MAXIMUM OF 1 FOOT BELOW THE TOP OF THE LEVELING PAD AS SHOWN IN THE PLANS. ANY ADDITIONAL ROCK REMOVAL BELOW THIS ELEVATION WILL BE CONSIDERED AS EXCESS ROCK REMOVAL AND WILL NOT BE PAID FOR. NO PAYMENT WILL BE MADE FOR STRUCTURAL FILL OR SUBFOOTING CONCRETE THAT IS REQUIRED TO REPLACE EXCESS ROCK REMOVAL.
6. ROCK BRIDGE EXCAVATION SHALL USE MECHANICAL METHODS ONLY, NO DRILLING AND BLASTING IS PERMITTED. ALL ASSOCIATED COSTS WITH REMOVING BEDROCK TO THE ELEVATIONS AND LIMITS SHOWN ON THE PLANS WILL BE PAID FOR UNDER ITEM 504.2, ROCK BRIDGE EXCAVATION.
7. FOR ALL FOOTING LOCATIONS THAT BEAR ON ROCK OR CONCRETE SUBFOOTING, THE FOOTING THICKNESS SHALL BE AT LEAST THE MINIMUM THICKNESS SHOWN IN THE PLANS AND UP TO 1’ THICKER. REINFORCING STEEL SHALL BE DETAILED AND PLACED AS SHOWN IN THE PLANS BASED ON THE MINIMUM FOOTING THICKNESS.

REINFORCEMENT NOTES

1. REINFORCEMENT IN THE FOOTING, APPROACH SLABS, SLEEPER SLABS, AND FACE OF CONCRETE CURBS SHALL HAVE 3" CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE 2 1/2" CLEAR COVER, UNLESS OTHERWISE NOTED.
2. PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES, AND EXPANSION JOINT STEEL.
3. THE DECK AND APPROACH SLAB REINFORCING LAYOUT SHOWN ON THE CONTRACT PLANS IS BASED ON AN ASSUMED EXPANSION JOINT DESIGN. DECK REINFORCEMENT MAY REQUIRE ADJUSTMENT IN THE FIELD DURING THE INSTALLATION BASED ON DETAILS SHOWN ON THE APPROVED EXPANSION JOINT SHOP DRAWINGS.
4. REINFORCING IN TOP OF PIER CAP BEAM SHALL BE ADJUSTED TO CLEAR ANCHOR BOLTS.
5. ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2.
6. REINFORCING LEGEND:

ALT = ALTERNATE	BOT = BOTTOM	BRG = BEARING
CLR = CLEAR	DOW = DOWEL	EQ = EQUAL
FS = FAR SIDE	MAX = MAXIMUM	MC = MECHANICAL CONNECTOR
MID = MIDDLE	MIN = MINIMUM	NS = NEAR SIDE
SECT = SECTION	SP = SPACE	SPL = SPLICE
SYM = SYMMETRICAL	TYP = TYPICAL	E = EPOXY COATED
SS = STAINLESS STEEL	ES = EACH SIDE	

ABUTMENT AND WINGWALL NOTES

1. ITEM 534.3, WATER REPELLENT (SILANE/SILOXANE), SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF ABUTMENTS (INCLUDING BRIDGE SEATS), WINGS, AND DECK END DIAPHRAGM TO 1'-0" BELOW FILL LINES.
2. WEEPERS SHALL BE PLACED SYMMETRICALLY 10'-0" APART AND CENTERED AT 1'-0" ABOVE THE TOP OF FOOTINGS. WEEPERS SHALL BE 4" DIA. AND SLOPED TO DRAIN WITH A 12:1 SLOPE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F).
3. SLEEVES SHALL BE PROVIDED IN BOTH DECK END DIAPHRAGMS, BETWEEN GIRDERS #7 AND #8, TO ALLOW FOR THE INSTALLATION OF UTILITIES AND CONDUIT.
4. ON FRONT FACES OF ABUTMENTS AND WINGWALLS WHERE FORM LINER FINISH IS SPECIFIED, THE MINIMUM CLEAR COVER TO REINFORCING STEEL SHALL BE MAINTAINED FROM THE BACK FACE OF THE RUSTICATION.
5. EXPOSED FACE OF ABUTMENTS AND WINGWALLS SHALL BE CAST WITH A FORM LINER PATTERN NO. 1515 SC ASHLAR CUT STONE RANDOM PATTERN MANUFACTURED BY SPEC FORMLINERS, INC. OR APPROVED EQUAL. THE FORM LINER SHALL BE PLACED AS SHOWN ON THE PLANS AND BE SUBSIDIARY TO ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F).

PIER NOTES

1. COAT ALL SURFACES OF THE PIER ABOVE THE FOOTING, INCLUDING THE BEARING SEAT AND PEDESTALS, WITH ITEM 534.3, WATER REPELLENT (SILANE/SILOXANE).
2. ALL ANCHOR BOLTS AT THE PIER SHALL BE SET BY A TEMPLATE BEFORE CONCRETE IS PLACED. DRILLING IS NOT ALLOWED.
3. 6" CHAMFERS SHALL BE PROVIDED ON THE CORNERS OF THE PIER COLUMNS AS SHOWN IN THE PLANS. REINFORCING STEEL CLEAR COVER SHALL BE MAINTAINED AROUND THESE CHAMFERS.

STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES

1. ALL STRUCTURAL STEEL SHALL BE PAID UNDER ITEM 550.1, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, CROSS FRAMES, GUSSET PLATES, FILL PLATES, CONNECTION PLATES, SPLICE PLATES, STIFFENERS, AND FASTENERS.
2. THE NHDOT WILL INSPECT THE SHOP FABRICATION OF THE STRUCTURAL STEEL.
3. NOTCH TOUGHNESS REQUIREMENTS SHALL BE IN ACCORDANCE TO NHDOT STANDARD SPECIFICATIONS SECTION 550.2.2.3.
4. ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL (CLASS-B) MADE WITH 7/8" DIA. HIGH STRENGTH BOLTS IN 15/16" DIA. HOLES UNLESS NOTED OTHERWISE. ALL FASTENERS SHALL CONFORM TO REQUIREMENTS FOR AASHTO M164 (ASTM A325) TYPE 1, GALVANIZED.
5. DIRECT TENSION INDICATORS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.
6. THE FINAL ERECTED POSITION OF I-GIRDERS SHALL BE PLUMB AND ACHIEVED BY DETAILING FOR 'TOTAL DEAD LOAD FIT (TDLF)' CONDITION.
7. GIRDERS SHALL BE CAMBERED FOR VERTICAL CURVATURE AND TO FULL DEAD LOAD DEFLECTION. THE CAMBER SHALL BE ACHIEVED BY CUTTING THE WEB PLATE ACCORDING TO DIMENSIONS SHOWN ON THE GIRDER WEB LAYOUT IN THE CAMBER DIAGRAM AND TABLES SHEET. CAMBER TOLERANCE IS + 1 1/2", -0.
8. BEARING STIFFENERS AND THE ENDS OF GIRDERS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
9. THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF THE WELDS. ALL COSTS TO BE INCLUDED IN ITEM 550.1.
10. SHOP DRAWINGS SHALL INDICATE THE METHOD AND SEQUENCE TO BE FOLLOWED IN WELDING THE GIRDER COMPONENTS. CROSS FRAMES SHALL BE FABRICATED IN THE SHOP WITH 1/4" FILLET WELDS, UNLESS NOTED OTHERWISE. GRAVITY AXES OF THE MEMBERS SHALL INTERSECT AS NEARLY AS PRACTICABLE AT THE CENTERLINE OF THE GIRDER.
11. LOCATION OF WELDED SHOP SPLICES SHALL BE APPROVED BY THE BUREAU OF BRIDGE DESIGN. WEB SPLICES SHALL BE LOCATED A MINIMUM OF 9" FROM WELDED FLANGE SPLICES. WEB AND FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF 6" FROM TRANSVERSE STIFFENERS OR CONNECTION PLATES.
12. HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FINAL BEARING ELEVATIONS.
13. ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE PLATE GIRDERS FOR CONSTRUCTION PURPOSES WILL NOT BE PERMITTED, UNLESS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
14. THE CONTRACTOR SHALL SUBMIT A HANDLING AND ERECTION PROCEDURE TO THE ENGINEER PRIOR TO HANDLING THE STRUCTURAL STEEL IN ACCORDANCE WITH SECTIONS 550.3.14 AND 550.3.15. THE ERECTION PROCEDURE SHALL INDICATE THE LOCATION AND NUMBER OF LIFTING POINTS AS DETERMINED BY CHECKING THE L/B RATIOS IN ACCORDANCE WITH SECTION 550.3.14.2.4 TO GUARD AGAINST LATERAL BUCKLING OF THE GIRDERS. THESE DRAWINGS SHALL BE DOCUMENTED BEFORE ERECTION STARTS.
15. STEEL ERECTION SHALL NOT BE PERMITTED UNTIL THE ABUTMENTS HAVE BEEN BACKFILLED TO THE LEVEL OF THE BRIDGE SEATS.

STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES CONTINUED

16. ALL SHEAR CONNECTORS SHALL BE FIELD WELDED TO THE TOP FLANGE WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. RELOCATE SHEAR CONNECTORS AT SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FASTENERS. SPOT GRIND THE TOP OF TOP FLANGE TO BARE METAL PRIOR TO WELDING.
17. SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF GIRDERS.
18. ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH NHDOT STANDARD SPECIFICATION SECTION 550.
19. THE TOP OF THE TOP FLANGE SHALL BE METALIZED AND SEALED FULL THICKNESS EXCEPT MASK AND PRIME PAINT A 3” LONGITUDINAL STRIPE FOR EACH LINE OF SHEAR CONNECTORS. AFTER SHEAR STUD INSTALLATION, SPOT TOUCH UP BARE STEEL WITH PRIMER PAINT AFTER WELDING. ALL COSTS INCLUDED IN ITEM 550.1, STRUCTURAL STEEL (F).
20. THE BRIDGE DECK POURING SEQUENCE SHALL BE SUBMITTED IN ACCORDANCE WITH 105.02 AND SUBJECT TO APPROVAL OF THE BUREAU OF BRIDGE DESIGN. BRIDGE DECK CONCRETE SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POURING SEQUENCE.
21. ALL PLAN DIMENSIONS ARE MEASURED HORIZONTAL AT 45°F WITHOUT ACCOUNT FOR PROFILE GRADE, UNLESS OTHERWISE NOTED.
22. ALL STRUCTURAL STEEL SHALL BE COATED WITH THE DUPLEX COATING. METALIZING AND SEALER, PER SPECIFICATION SECTION 708, APPENDIX C AND SPECIAL PROVISION 550. ALL COSTS FOR METALIZING SHALL BE INCLUDED IN ITEM 550.1, STRUCTURAL STEEL (F).

APPROACH AND SLEEPER SLAB NOTES

1. APPROACH SLABS SHALL BE POURED AFTER THE CONCRETE DECK AND SLEEPER SLAB HAVE BEEN CONSTRUCTED.
2. CONCRETE FOR APPROACH SLABS AND SLEEPER SLABS SHALL BE PAID FOR UNDER ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F).
3. 3 - 1" DIA. PVC DRAINS SHALL BE INSTALLED (AT THE LOW END ONLY, BOTH CURB LINES) IN 1/2" DEPRESSION. SET PIPES TO DRAIN INTO THE UNDERDRAIN BELOW THE APPROACH SLAB.
4. UNDERDRAINS SHALL MEET THE REQUIREMENTS OF SECTION 605. UNDERDRAINS SHALL BE PERFORATED, PLACED ON A PREPARED SURFACE WITH THE PERFORATIONS FACING DOWN, AND ON A MINIMUM SLOPE OF 2%. UNDERDRAIN SHALL BE CONTINUOUS ALONG THE FULL WIDTH OF THE SLEEPER SLAB. PIPE INVERTS SHALL EXTEND A MINIMUM OF 3" BEYOND THE TOP SURFACE OF THE STONE SLOPE. WITNESS MARKERS SHALL BE PLACED AT THE OUTLET OF EACH DRAIN PIPE.
5. ITEM 534.3, WATER REPELLENT (SILANE/SILOXANE), SHALL BE APPLIED TO THE EXPOSED CONCRETE ON THE TOP OF THE SLEEPER SLAB AND THE APPROACH SLAB ARMOR.
6. THE APPROACH SLAB LENGTH AND POSITION OF SLEEPER SLAB WITH RESPECT TO ABUTMENT CENTERLINE OF BEARING SHOWN IN THE PLANS IS BASED ON AN ASSUMED MEDIAN TEMPERATURE OF 45°F, AND AN EXPANSION JOINT OPENING BETWEEN STEEL ANGLE HEADERS OF 2". THE POSITION OF THE SLEEPER SLAB SHALL BE LOCATED BASED ON THESE ASSUMPTIONS. THE ACTUAL LENGTH OF APPROACH SLAB SHALL BE ADJUSTED BASED ON THE TEMPERATURE SETTING TABLE SHOWN IN THE EXPANSION JOINT DETAILS, AND THE CONTRACTOR'S CHOSEN EXPANSION JOINT STRIP SEAL.

UTILITY NOTES

1. ALL NECESSARY MATERIAL INCLUDING CONDUIT, HANGER SYSTEMS, COUPLINGS, PULL WIRES, EXPANSION COUPLINGS, SLEEVES AND END CAPS FOR THE ITS CONDUITS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. PAY LIMITS SHALL BE FROM PULL-BOX TO PULL-BOX INCLUDING THE PORTIONS ACROSS THE BRIDGE AND ANY SWEEPS OR BENDS REQUIRED BETWEEN THE PULL-BOXES AND THE BRIDGES. ALL COSTS SHALL BE INCLUDED IN ITEM 614.2469.
2. EXPANSION COUPLINGS CAPABLE OF 2" TOTAL LONGITUDINAL MOVEMENT SHALL BE PROVIDED AT EACH ABUTMENT FOR ITS CONDUITS. COSTS SHALL BE INCLUDED IN ITEM 614.2469.
3. SEE DECK END DIAPHRAGM MASONRY AND REINFORCING SHEET FOR DECK END DIAPHRAGM UTILITY SLEEVE DETAIL, NOTES AND REQUIREMENTS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

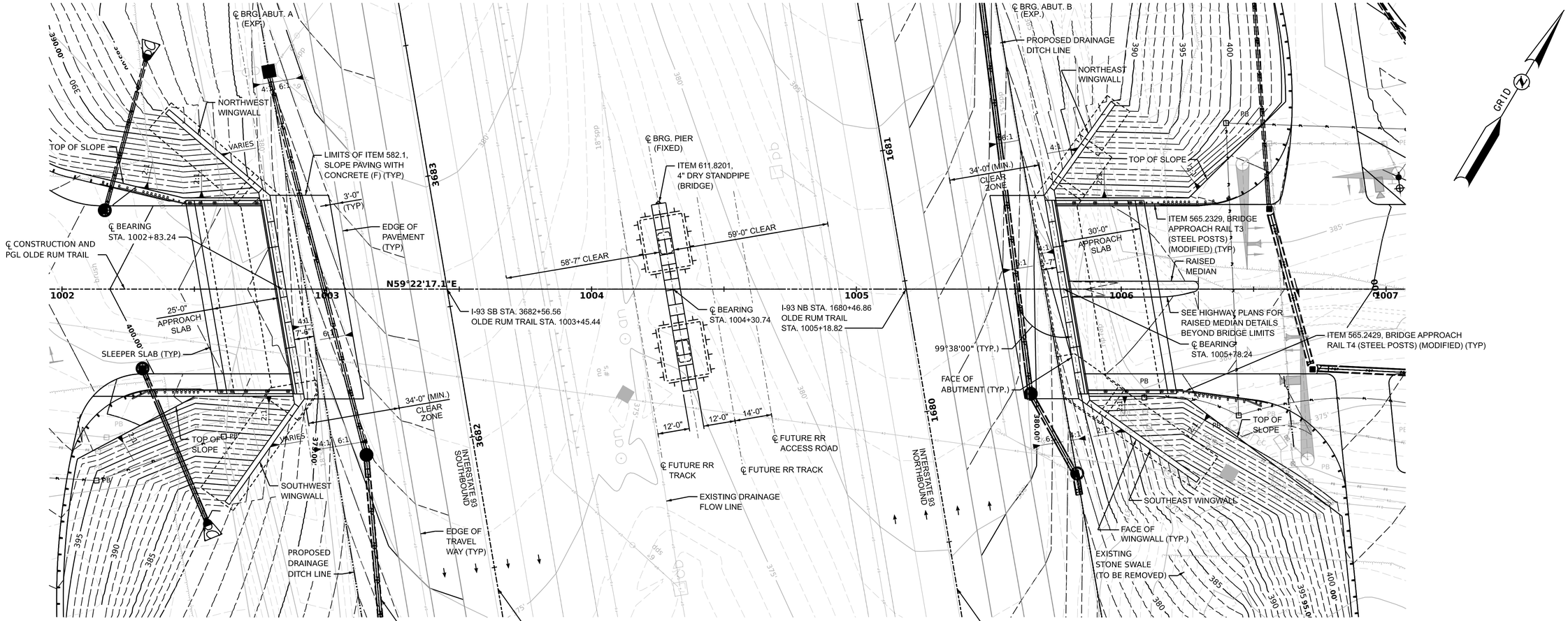
PROJECT NOTES

BRIDGE SHEET: 3 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	GSG	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		57	733

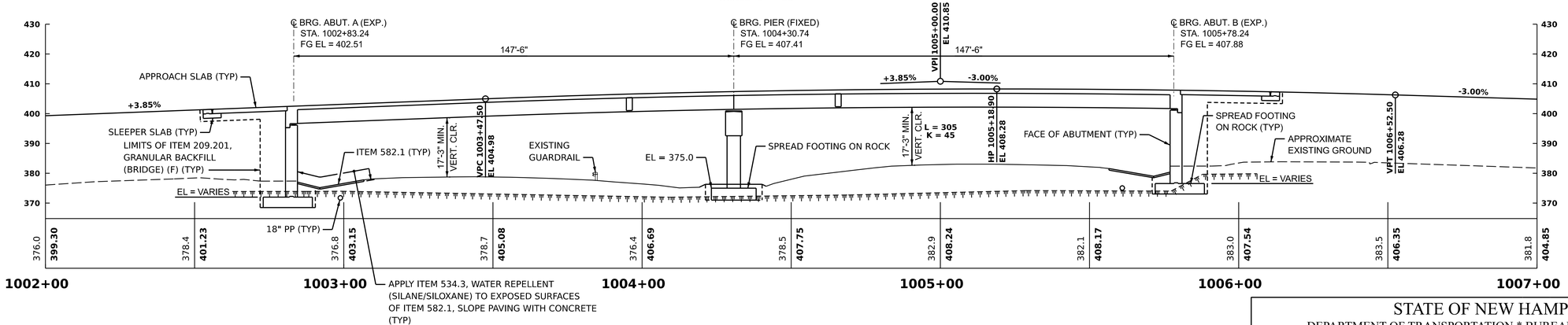
FILE NUMBER: 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Notes2	AS NOTED



SITE PLAN

SCALE: 1" = 20'



PROFILE

SCALE: 1" = 20'

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Site	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

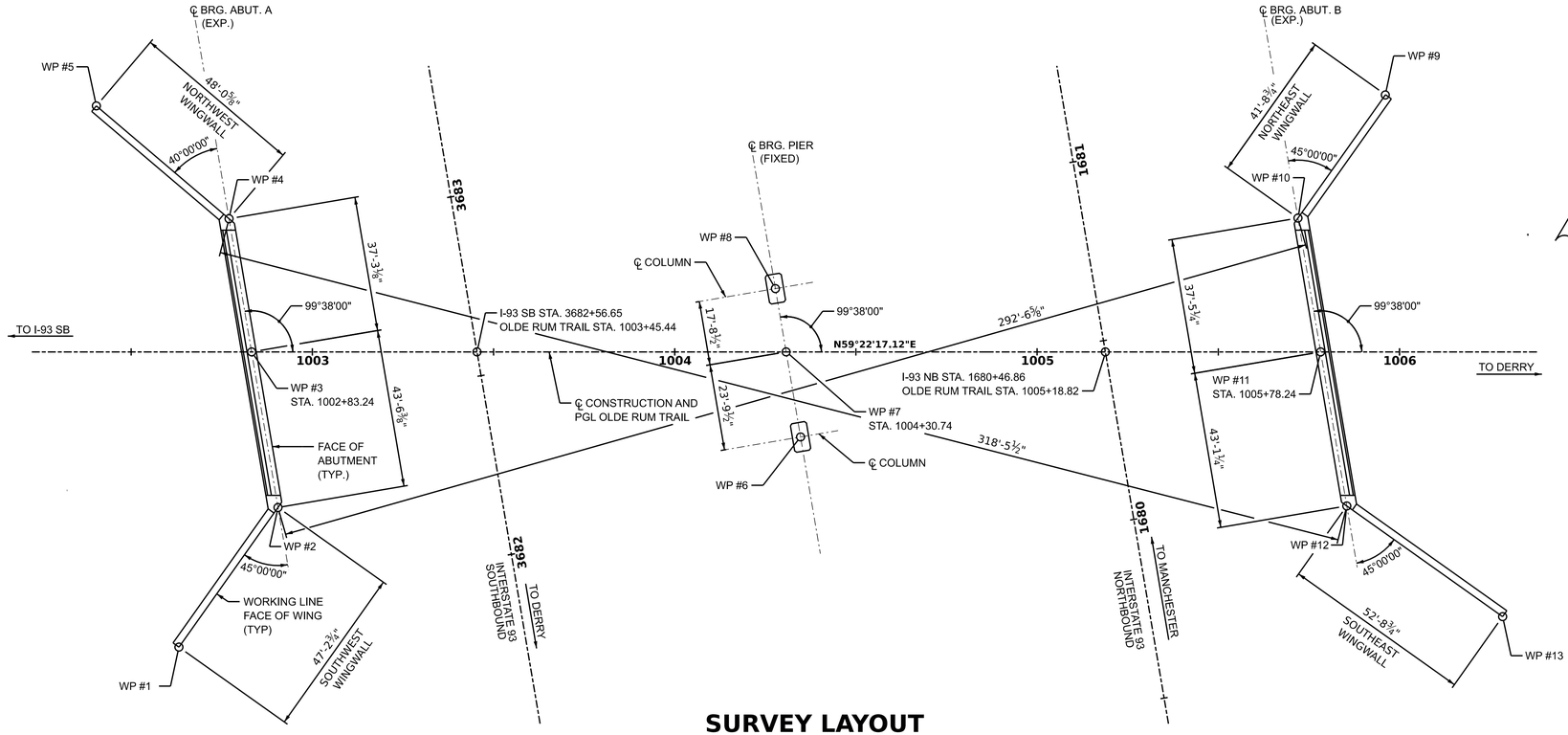
SITE PLAN AND PROFILE

BRIDGE SHEET: 4 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	MAC	2/22	CHECKED	GSG	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
ISSUE DATE			FEDERAL PROJECT NO.		
REV. DATE			A005(073)	SHEET NO. 58	TOTAL SHEETS 733

FILE NUMBER: 142-1-1

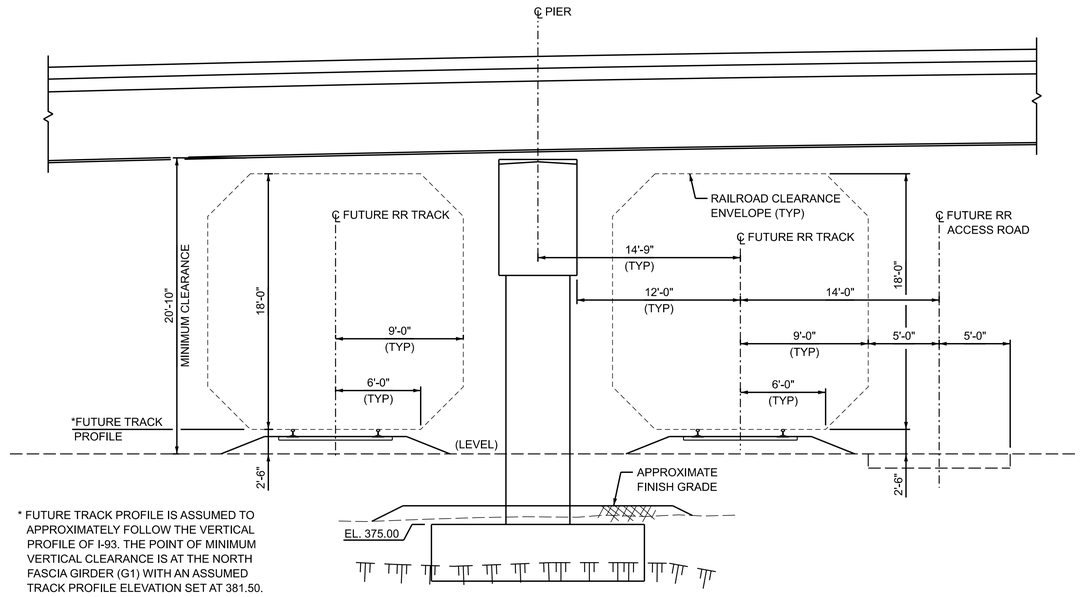


SURVEY LAYOUT

SCALE: 1" = 20'

WORKING POINT COORDINATES

WP #	NORTHING	EASTING
1	140922.6547	1068928.5788
2	140969.7255	1068932.4802
3	141002.9410	1068904.3494
4	141031.3715	1068880.2711
5	141039.4998	1068832.9081
6	141059.9316	1069046.6483
7	141078.0879	1069031.2714
8	141091.6001	1069019.8276
9	141223.3958	1069137.4428
10	141181.8062	1069133.9957
11	141153.2348	1069158.1934
12	141120.3431	1069186.0500
13	141115.9874	1069238.6020



* FUTURE TRACK PROFILE IS ASSUMED TO APPROXIMATELY FOLLOW THE VERTICAL PROFILE OF I-93. THE POINT OF MINIMUM VERTICAL CLEARANCE IS AT THE NORTH FASCIA GIRDER (G1) WITH AN ASSUMED TRACK PROFILE ELEVATION SET AT 381.50.

FUTURE RAIL CLEARANCE ENVELOPE

NOT TO SCALE

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Survey	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

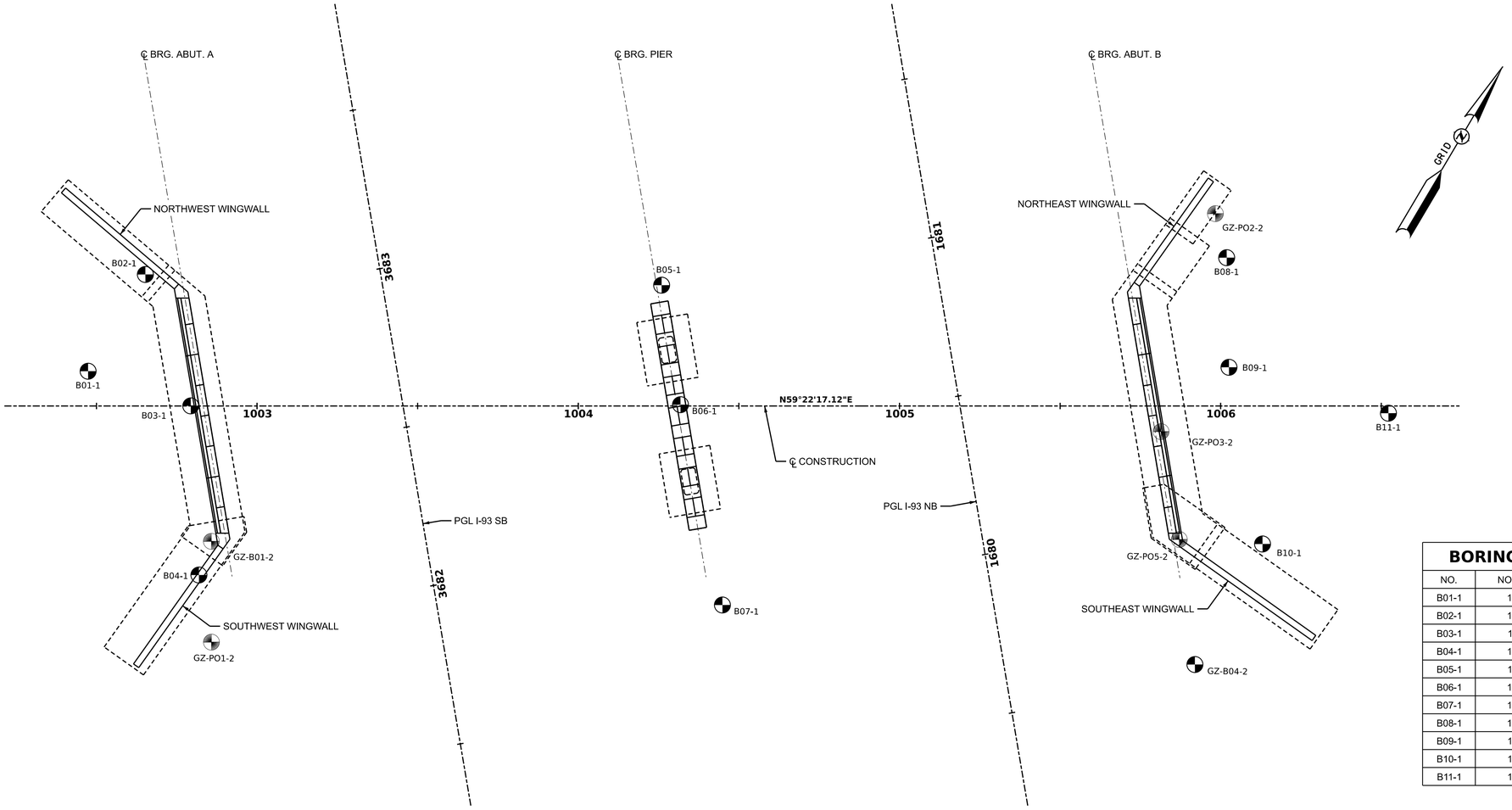
SURVEY LAYOUT

BRIDGE SHEET 5 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	GSG	2/22
	DRAWN	KDW	2/22	CHECKED	LSC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	59	733

FILE NUMBER 142-1-1



BORING PLAN

SCALE: 1" = 20'

BORING LOCATIONS		
NO.	NORTHING	EASTING
B01-1	140994	1068868
B02-1	141029	1068868
B03-1	141001	1068901
B04-1	140957	1068930
B05-1	141108	1069008
B06-1	141079	1069032
B07-1	141032	1069075
B08-1	141205	1069155
B09-1	141176	1069173
B10-1	141134	1069210
B11-1	141189	1069223

BORING/PROBE LOCATIONS		
NO.	NORTHING	EASTING
GZ-B01-2	140968	1068928
GZ-P01-2	140941	1068944
GZ-P02-2	141215	1069145
GZ-P03-2	141148	1069165
GZ-P05-2	141122	1069187
GZ-B04-2	141091	1069211

BORING NOTES:

1. BORINGS INDICATED THUS ⊠ WERE MADE BY NEW ENGLAND BORING CONTRACTORS AND RECORDED BY GZA IN SEPTEMBER 2021. BORINGS INDICATED THUS ⊠ WERE MADE BY NEW ENGLAND BORING CONTRACTORS AND RECORDED BY GOLDER ASSOCIATES FROM APRIL TO MAY OF 2019. FIGURES IN THE "BLOWS PER 0.5 FT" COLUMN INDICATED THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. STANDARD SPLIT SPOON SAMPLER 6 INCHES, USING A 140 LB. WEIGHT FALLING 30 INCHES.
2. BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.
3. THE SOILS REPORT IS AVAILABLE IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE. SEE PROSECUTION OF WORK FOR MORE INFORMATION.
4. WATER LEVELS INDICATED THUS ▽ WERE MEASURED AT THE TIME OF EXPLORATION. THE WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE, RAINFALL, OR OTHER FACTORS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING PLAN

BRIDGE SHEET 6 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	LSC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE			FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE			A005(073)	60	733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Bor1	AS NOTED

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. **B01-1**
SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 380.3
START/END 5/3/19 / 5/3/19
DRILLER Pete LaBossiere NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1068868/140994

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/3/19	1:24 pm	8.3	372.0	4.25	19.5	SIZE I.D. (in):	1.375	4	1.875
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

NW WINGWALL
TOP OF FOOTING
EL = 378.50

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1			0.0		
			4	S1	0.7 [35]		Top 0.3'; Loose, dark brown, damp, silty FINE SAND, trace organics, poorly graded Bottom 0.4'; Loose, reddish brown, damp, FINE SAND, some fine to medium subrounded gravel, some silt, poorly graded	
			2			2.0		
			5					
			7				Dense, light brown, damp, FINE SAND, little fine gravel, little silt, poorly graded. Weathered rock in tip of shoe	
			13	S2	1.4 [78]		-GLACIOFLUVIAL-	
			28					
			50/0.3			3.8		
			50/0.3	S3	0.3 [100]	4.0 4.3	Very dense, brownish gray, wet, FINE SAND, trace silt, poorly graded. Weathered rock disintegrated to sand; foliation structure preserved	
5	4.5	375.8				4.5	-APPROXIMATE BEDROCK SURFACE-	
				C1	1.6 [32]		Medium strong (R3), moderately weathered, dark gray, SCHIST, fractures oriented 70-90° from boring orientation, 3.8 fractures per foot (avg.), fracture spacing 0.1'-0.6' RQD: 0.6 / 5.0 = 12%	
10						9.5		
				C2	2.7 [54]		Strong (R4), fresh, dark gray, SCHIST, fractures oriented 80° from boring orientation, 0.74 fractures per foot (avg.), fracture spacing 0.1'-2.3', quartz veins 1/8"-1" thick thoughout RQD: 2.3 / 5.0 = 46%	
15						14.5		
				C3	5.0 [100]		Strong (R4), fresh, dark gray, SCHIST, fractures oriented 30-90° from boring orientation, 1.00 fracture per foot (avg.), fracture spacing 0.1'-1.5', quartz veins 1/8"-1" thick thoughout. Fracture at 2.3' from top of run (16.8' bgs) filled with sandy material RQD: 4.7 / 5.0 = 94%	
20						19.5		
							Bottom of Exploration @ 19.5 ft (El. 360.8)	
25							Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. **B02-1**
SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 381.3
START/END 5/2/19 / 5/2/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1068868/141029

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/2/19	10:53 am	3.0	378.3	6.3	12	SIZE I.D. (in):	1.375	4	1.875
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

ABUT A
TOP OF FOOTING
EL = 372.75

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			2			0.0		
			7	S1	1.2 [60]		Medium dense, medium brown, moist, MEDIUM-FINE SAND, little fine gravel, trace silt, well graded	
			10			2.0		
			16	S2	0.6 [75]	2.0 2.8	Very dense, grayish brown, damp, MEDIUM-FINE SAND, trace fine gravel, well graded	
			17				-GLACIOFLUVIAL-	
			50/0.3			4.0		
			25	S3	1.3 [65]		Dense, grayish brown, wet, MEDIUM-FINE SAND, some angular fine to medium gravel, trace silt, well graded	
			30					
			16	S4	0.4 [133]	6.0 6.3	Very dense, grayish brown, wet, MEDIUM-FINE SAND, little subangular fine to medium gravel, well graded	
			14				-APPROXIMATE BEDROCK SURFACE-	
5	6.3	375.0	50/0.3			7.0		
				C1	4.9 [98]		Strong (R4), fresh, dark gray, medium grained, SCHIST, strongly foliated, fractures oriented 80-90° from boring orientation, 1.4 fractures per foot (avg.), fracture spacing 0.1'-1.3', quartz veins 1/8"-1" thick throughout RQD: 4.5 / 5.0 = 90%	
10						12.0		
							Bottom of Exploration @ 12.0 ft (El. 369.3)	
15							Note: Boring backfilled with cuttings to ground surface	
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. **B03-1**
SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 379.9
START/END 5/2/19 / 5/2/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1068901/141001

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/2/19	1:33 pm	6.9	373.0	4	20	SIZE I.D. (in):	1.375	4	1.875
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			3			0.0		
			5	S1	0.6 [30]		Loose, medium brown, moist, COARSE-FINE SAND, trace fine gravel, well graded -GLACIAL TILL-	
			5			2.0		
			5				Top 0.5'; Medium dense, medium brown, moist, COARSE-FINE SAND, trace fine with medium gravel, well graded Bottom 0.6'; Medium dense, light brown, moist, FINE SAND, little fine gravel, poorly graded	
			5	S2	1.1 [55]			
			12					
			15			4.0		
			50/0.3	S3	0.3 [100]	4.0 4.3	Very dense, light brown, moist, FINE SAND, little angular fine gravel, poorly graded	
5	4.3	375.6				5.0	-APPROXIMATE BEDROCK SURFACE-	
				C1	1.0 [20]		Medium strong (R3), moderately weathered, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 30-90° from boring orientation, core completely broken RQD: 0 / 5.0 = 0%	
10						10.0		
				C2	4.4 [88]		Medium strong (R3), slightly weathered, dark gray, medium grained, SCHIST, strongly foliated, fractures oriented 20-80° from boring orientation, 1.6 fractures per foot (avg.), fracture spacing 0.1'-1.1', quartz veins 1/16"-1/4" thick thoughout, quartz vein 1" thick at 1.3' from top of run (11.3' bgs) RQD: 2.4 / 5.0 = 48%	
15						15.0		
				C3	5.0 [100]		Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 30-90° from boring orientation, 1.00 fracture per foot (avg.), fracture spacing 0.2'-1.2', quartz veins 1/16"-1/4" thick thoughout RQD: 4.7 / 5.0 = 94%	
20						20.0		
							Bottom of Exploration @ 20.0 ft (El. 359.9)	
25							Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:51 PM TB-12
TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:52 PM TB-12
TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:53 PM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING LOGS (1 OF 6)

BRIDGE SHEET 7 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	LSC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Bor2	AS NOTED

ISSUE DATE
REV. DATE
FEDERAL PROJECT NO. A005(073)
SHEET NO. 61
TOTAL SHEETS 733

SW WINGWALL
BOTTOM OF FOOTING
EL = 369.25

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B04-1
SHEET NO. 1 OF 1
STA. OFF.
BASELINE
ELEVATION (ft) 378.5
START/END 5/2/19 / 5/3/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1068930/140957

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/3/19	7:16 am	0.7	377.8	13.5	14	SIZE I.D. (in):	1.375	4	1.875
5/3/19	7:44 am	7.7	370.8	13.5	19	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			4			0.0		
			4	S1	1.4 [70]		Medium dense, medium brown, wet, COARSE-FINE SAND, little fine to medium gravel, trace silt, trace organics, well graded	
			8			2.0		
			11					
			15			2.0		
			18	S2	1.0 [50]		Dense, medium brown, moist, MEDIUM-FINE SAND, trace fine gravel, trace silt, well graded	
			25				-GLACIOFLUVIAL-	
			24			4.0		
			32					
5			34	S3	0.7 [35]		Very dense, light gray, wet, silty FINE SAND, little fine gravel, trace clay, poorly graded	
			33				Top 0.4"; Very dense, light gray, wet, gravelly COARSE-FINE SAND, trace silt, well graded	
			32			6.0	Bottom 0.4"; Very dense, brownish gray, wet, FINE SAND, some silt, little gravel, poorly graded	
			48	S4	0.8 [100]	6.8		
			50/0.3					
			24			8.0		
			20	S5	0.3 [15]		Dense, grayish brown, wet, sandy COARSE-FINE GRAVEL, little silt, well graded	
			11					
			9			10.0		
			5	S6	1.6 [80]		Top 1'; Loose, grayish brown, wet, sandy MEDIUM-FINE GRAVEL, trace silt, well graded	
			4				Bottom 0.6"; Loose, dark brown, wet, SILT, trace fine gravel, trace organics, nonplastic	
			4			12.0		
10			10	S7	0.9 [69]		Very dense, grayish brown, wet, sandy MEDIUM-FINE GRAVEL, trace silt, well graded	
			14			13.3		
	13.3	365.2	50/0.3				-APPROXIMATE BEDROCK SURFACE-	
						14.0		
				C1	4.2 [84]		Strong (R4), fresh, dark gray, medium grained, SCHIST, strongly foliated, fractures oriented 30-50° from boring orientation, 0.95 fractures per foot (avg.), fracture spacing 0.3'-2.1', quartz veins 1/8"-1/2" thick thoughout	
15							RQD: 3.4 / 5.0 = 68%	
						19.0		
20							Bottom of Exploration @ 19.0 ft (El. 359.5)	
							Note: Boring backfilled with cuttings to ground surface	
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

PIER
TOP OF FOOTING
EL = 375.00

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B05-1
SHEET NO. 1 OF 1
STA. OFF.
BASELINE
ELEVATION (ft) 377.2
START/END 5/1/19 / 5/1/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069008/141108

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/1/19	12:02 pm	4.2	373.0	5.3	10.5	SIZE I.D. (in):	1.375	4	1.875
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.6	376.6	WOH			0.0		
			2	S1	1.0 [53]		Top 0.6'; Medium dense, dark brown, damp, silty FINE SAND, trace organics, poorly graded TOPSOIL	
			11			2.0	Bottom 0.4"; Medium dense, brownish gray, dry, FINE SAND, some angular fine to coarse gravel, little silt, poorly graded	
			9					
			11	S2	0.6 [30]		Medium dense, gray, dry, angular gravelly FINE SAND, poorly graded	
			13				-SUBSOIL-	
			8			4.0		
			12					
5	5.3	371.9	5	S3	0.7 [54]		Very dense, medium brown, wet, FINE SAND, some silt, some angular fine to coarse gravel, poorly graded	
			8			5.3		
			50/0.3				-APPROXIMATE BEDROCK SURFACE-	
						5.5		
				C1	5.0 [100]		Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 30-70° from boring orientation, 1.00 fractures per foot (avg.), fracture spacing 0.1-2.9', quartz veins 1/16"-1/4" thick thoughout	
10							RQD: 4.2 / 5.0 = 84%	
						10.5		
15							Bottom of Exploration @ 10.5 ft (El. 366.7)	
							Note: Boring backfilled with cuttings and sand to ground surface	
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

PIER
TOP OF FOOTING
EL = 375.00

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B06-1
SHEET NO. 1 OF 1
STA. OFF.
BASELINE
ELEVATION (ft) 376.4
START/END 5/1/19 / 5/1/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069032/141079

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/1/19	10:21 am	3.3	373.1	3	8	SIZE I.D. (in):	1.375	4	1.875
						HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.5	375.9	WOH			0.0		
			4	S1	1.2 [60]		Top 0.5'; Medium dense, dark brown, damp, sandy SILT, trace gravel, trace organics, nonplastic TOPSOIL	
			12			2.0	Bottom 0.7'; Medium dense, grayish brown, damp, MEDIUM-FINE SAND, trace gravel, trace silt, well graded	
			23				-SUBSOIL-	
			4			2.0		
	3.0	373.4	25	S2	0.9 [69]		Very dense, gray, dry, FINE SAND, some angular fine to coarse gravel, poorly graded	
			50/0.3			3.0	-APPROXIMATE BEDROCK SURFACE-	
5						3.3		
				C1	4.9 [98]		Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 20-90° from boring orientation, 0.4 fractures per foot (avg.), fracture spacing 1.2'-2.9', quartz veins 1/16"-1/8" thick thoughout	
							RQD: 4.2 / 5.0 = 84%	
10						8.0		
							Bottom of Exploration @ 8.0 ft (El. 368.4)	
							Note: Boring backfilled with cuttings and sand to ground surface	
15								
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:54 PM TB-12

TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:55 PM TB-12

TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:50:56 PM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING LOGS (2 OF 6)

BRIDGE SHEET 8 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED MAC	2/22	CHECKED	LSC	2/22
	DRAWN BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)	62	733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Bor3	AS NOTED

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B07-1

SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 375.1
START/END 5/1/19 / 5/1/19
DRILLER Matt Soucy (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069075/141032

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
						SIZE I.D. (in):	1.375	4	1.875
5/1/19	8:40 am	3.0	372.1	3	9.7	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL, (in):	30	Mobile B53	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			6			0.0		
			35	S1	1.2 [60]		Dense, grayish brown, dry, FINE SAND, little silt, trace gravel, trace organics, poorly graded	
			15				-TOPSOIL-	
	2.0	373.1	19			2.0		
	2.5	372.6	50/0.4	S2	0.4 [100]	2.0 2.4	Very dense, grayish brown, dry, FINE SAND, little gravel, little silt, poorly graded	
5							-SUBSOIL-	
						3.0	-APPROXIMATE BEDROCK SURFACE-	
				C1	4.4 [88]		Strong (R4), very slightly weathered, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 10-85° from boring orientation including near vertical fracture from 1.5'-3.3' from top of run (4.5'-6.3' bgs), 2.3 fracture per foot (avg.), fracture spacing 0.1'-0.5', quartz veins 1/16"-1/4" thick thoughout RQD: 2.2 / 5.0 = 44%	
10						8.0		
				C2	1.6 [94]	8.0 9.7	Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 70-90° from boring orientation, 1.3 fractures per foot (avg.), fracture spacing 0.1'-1.1', quartz veins 1/16"-1/8" thick thoughout RQD: 1.1 / 1.7 = 65%	
15							Bottom of Exploration @ 9.7 ft (El. 365.4)	
20							Note: Boring backfilled with cuttings to ground surface	
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

NE WINGWALL
TOP OF FOOTING
EL = 384.75

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B08-1

SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 387.7
START/END 4/12/19 / 4/12/19
DRILLER Bub Thompson (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069155/141205

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
						SIZE I.D. (in):	1.375	4	1.875
4/12/19	8:40 am	11.4	376.3	3.8	15	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL, (in):	30	Mobile B57	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.4	387.3	3			0.0		
			7	S1	1.6 [80]		Top 0.4'; Medium dense, dark brown, dry, FINE SAND, little silt, trace gravel, trace organics, poorly graded TOPSOIL	
			9				Bottom 1.2'; Medium dense, reddish brown, dry, FINE SAND, some gravel, poorly graded	
			11			2.0		
			17	S2	2.0 [111]	2.0	-FILL-	
			22				Very dense, grayish brown, dry, gravelly FINE SAND, poorly graded	
			49					
5	3.8	383.9	50/0.3			3.8		
	4.3	383.4	50/0.3	S3	0.3 [100]	4.0 4.3	Very dense, gray, damp, FINE SAND, little fine gravel, trace silt, poorly graded	
							-GLACIOFLUVIAL-	
						5.0	-APPROXIMATE BEDROCK SURFACE-	
				C1	2.7 [54]		Very weak (R1) (top 2.3') to weak (R2) (bottom 0.4'), highly to completely weathered (top 2.3') to moderately weathered (bottom 0.4'), dark gray to brown, medium grained, SCHIST, moderately foliated, fractures oriented 30-90° from boring orientation, 3.3 fractures per foot (avg.), fracture spacing 0.05'-1.15'. Top 0.3' has disintegrated with fracture and foliation structure preserved RQD: 1.5 / 5.0 = 30%	
10						10.0		
				C2	4.8 [96]		Strong (R4), very slightly weathered (top 1.7') to fresh (bottom 3.1'), dark gray, medium grained SCHIST, moderately foliated, fractures oriented 40-80° from boring orientation, 2.7 fractures per foot (avg.), fracture spacing 0.1'-1.1', quartz veins 1/16"-1/8" thick throughout. 1" vugs at 10.4' and 10.6' bgs RQD: 3.4 / 5.0 = 68%	
15						15.0		
20							Bottom of Exploration @ 15.0 ft (El. 372.7)	
25							Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

ABUT B
TOP OF FOOTING
EL = 376.50

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B09-1

SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 385.7
START/END 4/11/19 / 4/11/19
DRILLER Bub Thompson (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069173/141176

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
						SIZE I.D. (in):	1.375	4	1.875
4/11/19	2:22 pm	4.0	381.7	5.75	16	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL, (in):	30	Mobile B57	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.5	385.2	1			0.0		
			5	S1	1.4 [70]		Top 0.5'; Medium dense, dark brown, damp, FINE SAND, some silt, trace gravel, trace organics, poorly graded TOPSOIL	
			8				Bottom 0.9'; Medium dense, reddish brown, dry, FINE SAND, little gravel, little silt, poorly graded	
			8			2.0		
			12	S2	1.4 [70]	2.0	-GLACIOFLUVIAL-	
			13				Top 0.2'; Dense, reddish brown, dry, FINE SAND, little gravel, little silt, poorly graded	
			18				Bottom 1.2'; Dense, brownish gray, dry, MEDIUM SAND, some fine to coarse angular micaceous gravel, poorly graded	
5			18			4.0		
			14	S3	1.1 [61]	4.0	Very dense, medium brown, moist, MEDIUM-FINE SAND, some angular gravel up to 1" diameter, trace silt, well graded. Weathered, strongly foliated, gray, micaceous schist in bottom of shoe	
			18					
			34					
	5.8	379.9	50/0.3			5.8	-APPROXIMATE BEDROCK SURFACE-	
				C1	1.7 [43]	6.0	Strong (R4), slightly weathered, dark gray, medium grained, SCHIST, moderately foliated, core completely broken RQD: 0 / 4.0 = 0%	
10						10.0		
				C2	1.1 [110]	10.0 11.0	Strong (R4), slightly weathered, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 20-80° from boring orientation, 3.6 fractures per foot (avg.), fracture spacing 0.1'-0.4' RQD: 0 / 1.0 = 0%	
				C3	5.0 [100]		Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 20-80° from boring orientation, 2 fractures per foot (avg.), fracture spacing 0.15'-1.4', quartz veins 1/16"-1/8" thick throughout RQD: 3.8 / 5.0 = 76%	
15						16.0		
20							Bottom of Exploration @ 16.0 ft (El. 369.7)	
25							Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

I:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 1/28/2020 12:50:57 PM TB-12
I:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 1/28/2020 12:50:58 PM TB-12
I:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190\67_NHDOT_I93EXIT4A.GPJ 1/28/2020 12:50:59 PM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING LOGS (3 OF 6)

BRIDGE SHEET 9 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	LSC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Bor4	AS NOTED	REV. DATE	A005(073)	63	733

SE WINGWALL
BOTTOM OF FOOTING
EL = 376.50

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B10-1
SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 379.6
START/END 4/11/19 / 4/11/19
DRILLER Bub Thompson (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069210/141134

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
						SIZE I.D. (in):	1.375	4	1.875
4/11/19	11:32 am	11.5	368.1	6.25	22	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B57	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.5	379.1	1 5 11 25	S1	1.8 [90]	0.0 2.0	Top 0.5'; Medium dense, dark brown, damp, FINE SAND, little silt, trace organics, poorly graded TOPSOIL Bottom 1.3'; Medium dense, reddish brown, dry, FINE SAND, some silt, little gravel, poorly graded	
			26 10 11 12	S2	1.7 [85]	2.0 4.0	-SUBSOIL- Top 0.9'; Medium dense, brownish gray, dry, MEDIUM SAND, some angular fine to medium gravel, poorly graded Bottom 0.8'; Medium dense, light brown, damp, FINE SAND, little silt, trace gravel, poorly graded	
5			10 42 41 36	S3	1.1 [55]	4.0 6.0	Very dense, medium brown, moist, MEDIUM-FINE SAND, some angular fine to medium gravel, little silt, poorly graded	
	6.3	373.3	50/0.3	S4	0.2 [67]	6.0 6.3 7.0	Very dense, medium brown, moist, FINE SAND, little silt, trace gravel, poorly graded -APPROXIMATE BEDROCK SURFACE-	
10				C1	1.2 [24]	12.0	Strong (R4), slightly weathered, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 70-80° from boring orientation, 3.3 fractures per foot (avg.), fracture spacing 0.1'-0.3'. Sand seam at 7.6' bgs RQD: 0 / 5.0 = 0%	
15				C2	3.5 [70]	17.0	Strong (R4), very slightly weathered (top 1.8') to fresh (bottom 1.7'), dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 30-80° from boring orientation, 4.3 fractures per foot (avg.), fracture spacing 0.1'-0.7'. Quartz veins 1/8"-1/4" thick throughout. Sand seam at 13.1' bgs. Fracture surfaces are sandy RQD: 1.1 / 5.0 = 22%	
20				C3	4.3 [86]	22.0	Strong (R4), fresh, dark gray, medium grained, SCHIST, moderately foliated, fractures oriented 30-85° from boring orientation, 2.1 fractures per foot (avg.), fracture spacing 0.1'-1.3', quartz veins 1/16"-1/2" thick throughout. Sand seam at 20.6' bgs RQD: 2.8 / 5.0 = 56% 7.6'-19.5'; Driller noted losing water to formation rapidly 19.5'-22'; Total loss of coring water to formation	
25							Bottom of Exploration @ 22.0 ft (El. 357.6) Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION I-93 (Exit 4A)

BORING NO. B11-1
SHEET NO. 1 OF 1
STA. _____ OFF. _____
BASELINE _____
ELEVATION (ft) 383.2
START/END 4/12/19 / 4/12/19
DRILLER Bub Thompson (NEBC)
INSPECTOR Karen Roth (Golder)
CLASSIFIER KAR
EAST/NORTH (ft) 1069223/141189

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
						SIZE I.D. (in):	1.375	4	1.875
4/12/19	11:42 am	12.8	370.4	9.3	20	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B57	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.3	382.9	2 3 3 3	S1	0.9 [45]	0.0 2.0	Top 0.3'; Loose, dark brown, moist, sandy SILT, some organics, non-plastic TOPSOIL Bottom 0.8'; Loose, dry, reddish brown, MEDIUM-FINE SAND, little gravel, little silt, poorly graded	
			7 7 17 47	S2	1.3 [65]	2.0 4.0	-SUBSOIL- Medium dense, light brown to gray, dry, gravelly COARSE-FINE SAND, well graded (gravel is subangular and up to 1.5" diameter)	
5			32 30 16 17	S3	1.1 [55]	4.0 6.0	Dense, medium brown, dry, FINE SAND, little gravel, little silt, poorly graded	
			15 21 20 25	S4	1.4 [70]	6.0 8.0	Dense, medium to light brown, damp, COARSE-FINE SAND, trace fine gravel, trace silt, well graded. Thin laminations (1/16") of light brown coarse sand and medium brown finer sand	
			35 48 50/0.3	S5	1.0 [77]	8.0 9.3	Top 0.3'; Very dense, light brown, moist, FINE SAND, some silt, trace gravel, poorly graded Bottom 0.7'; Very dense, dark gray, moist, MEDIUM-FINE SAND, trace gravel, well graded	
10	9.3	373.9				10.0	Weathered bedrock disintegrated to sand; foliation structure and quartz veins 1/8" thick were preserved 9.3'-10'; Driller noted drilling felt soft -APPROXIMATE BEDROCK SURFACE-	
				C1	3.3 [66]	15.0	Weak (R2) (top 2.7') to extremely weak (R0) (bottom 0.6'), moderately (top 2.7') to highly (bottom 0.6') weathered, dark gray to brown, medium grained, SCHIST, moderately foliated, fractures oriented 10-80° from boring orientation, 3.0 fractures per foot (avg.), fracture spacing 0.1'-0.8'. Bottom 0.6' is disintegrated into clayey sand; fracture structure is preserved RQD: 1.1 / 5.0 = 22%	
15								
20				C2	4.9 [98]	20.0	Strong (R4), fresh, dark gray, medium grained, strongly foliated, SCHIST, fractures oriented 10-75° from boring orientation, 1.6 fractures per foot (avg.), fracture spacing 0.2'-1'. Quartz veins 1/16"-1/4" thick throughout. Reddish brown staining on fracture surfaces RQD: 4.0 / 5.0 = 80%	
25							Bottom of Exploration @ 20.0 ft (El. 363.2) Note: Boring backfilled with cuttings to ground surface	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190G7_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:51:00 PM TB-12
S:\MATERIALS-RESEARCH\GEOTECHNICAL\GT PROJECTS\DERRY\DERRY-LONDONDERRY 13065 (EXIT 4A)\DATA REPORT\GINTCOPIES\191190G7_NHDOT_I93EXIT4A.GPJ 12/8/2020 12:51:01 PM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING LOGS (4 OF 6)

BRIDGE SHEET 10 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
		DESIGNED	MAC	2/22	CHECKED	LSC	2/22
		DRAWN	BJM	2/22	CHECKED	MAC	2/22
		QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Bor5	AS NOTED	REV. DATE	A005(073)	64	733

ABUT A TOP OF FOOTING EL = 372.75

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. GZ-BO1-2
SHEET NO. 1 OF 2
STA. 3682+25 OFF. LT 66
BASELINE I-93 Southbound
ELEVATION (ft) 378.2
START/END 9/3/21 / 9/3/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1068928/140968

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NV2
						SIZE I.D. (in):	1.375	4	1.99
9/3/21	10:30 am	12.0	366.2	11.0	29.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.1	378.1	2			0.0	- TOPSOIL -	
			4	S-1	1.6 [80]		Top 1": Brown, MEDIUM-FINE SAND, little silt, with rootlets, Dry	
			9				- FILL -	
			12			2.0	Bottom 19": Medium dense, brown, MEDIUM-FINE SAND, little silt, trace gravel. Dry	
5			15			4.0		
			20	S-2	1.6 [80]		Dense, brown, COARSE-FINE SAND, some silt, little to trace gravel. Moist	
			17					
			38			6.0		
	7.5	370.7					- GLACIAL LACUSTRINE DEPOSIT -	
10			5			9.0		
			6	S-3	0.8 [53]		Very dense, red-brown, COARSE-FINE SAND, some to little silt, trace gravel. Moist	
			75/6"			10.5		
	10.5	367.7					- APPROXIMATE BEDROCK SURFACE -	
							Split spoon refusal at 10.5'. Advanced roller cone to 13.0'; dark gray rocks in wash return. Set up to core at 13.0'.	
15				C-1	1.6 [53]	13.0	Hard, fresh to moderately weathered, aphanitic, gray, SCHIST. From 13.0'-15.4': Rock is fractured to gravel-size pieces. From 15.4'-16.0': One vertical joint, planar, smooth, fresh, tight. One horizontal joint, planar, rough, fresh, tight to partially open. RQD = 0/3=8%	
						16.0		
				C-2	2.6 [65]		Hard, fresh to moderately weathered, aphanitic, gray, SCHIST. Joints are close, horizontal to low angle, planar, rough to smooth, fresh, tight. From 17.0'-19.0': Rock is fractured to gravel-size pieces. From 19.0'-20.0': One vertical joint, planar, smooth, discolored, tight. RQD = 0.75/4=19%	
20						20.0		
				C-3	4.3 [86]		Hard, fresh, aphanitic to fine grained, gray, SCHIST. Primary joints are very close to close, horizontal to low angle, planar to undulating, rough to smooth, fresh, tight to open. Secondary joints are moderately spaced, moderately dipping to vertical, planar, rough to smooth, fresh to decomposed, tight. RQD = 3.9/5=78%	
25						25.0		
				C-4	4.0 [100]		Hard, fresh, aphanitic to fine grained, gray, SCHIST. Joints are close to moderately spaced, horizontal, planar, rough to smooth, fresh, tight. RQD = 3.6/4=91%	
						29.0		

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\JOINT PROJECT DATABASES\09 (2023)\13.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:36 AM TB-12

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. GZ-BO1-2
SHEET NO. 2 OF 2
STA. 3682+25 OFF. LT 66
BASELINE I-93 Southbound
ELEVATION (ft) 378.2

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30							Bottom of Exploration @ 29.0 ft (El. 349.2)	
							1. Boring backfilled with cuttings to ground surface.	
							2. Water level measured immediately after completion of drilling.	
35							3. Wash return contained petroleum odor.	

TEST BORING REPORT

GZA GeoEnvironmentalInc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. GZ-BO4-2
SHEET NO. 1 OF 1
STA. 1679+55 OFF. RT 58
BASELINE I-93 Northbound
ELEVATION (ft) 376.9
START/END 9/2/21 / 9/2/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1069211/141091

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NV2
						SIZE I.D. (in):	1.375	4	1.99
9/2/21	1:00 pm	17.3	359.6	7.0	19.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.3	376.6	2			0.0	- TOPSOIL -	
			2	S-1	1.1 [55]		Top 4": Dark brown, MEDIUM-FINE SAND, some gravel, some silt, little roots. Moist	
			2				- FILL -	
			5			2.0	Bottom 9": Loose, FINE SAND, some gravel, little silt. Moist	
5			18			4.0		
			15	S-2	1.0 [50]		Medium dense, orange-brown, FINE SAND, little silt, trace gravel. Moist	
			15					
			16			6.0		
			7	S-3	0.8 [62]		Very dense, brown, COARSE-FINE SAND, little silt.	
	7.3	369.6	16			7.3		
			60/4"/0.3				- APPROXIMATE BEDROCK SURFACE -	
							Split spoon refusal at 7.3'. Advanced roller cone to 9.0'. Dark gray rock in wash return. Set up to core at 9.0'.	
10						9.0		
				C-1	4.0 [80]		Hard, fresh to slightly weathered, aphanitic to fine grained, gray, SCHIST. Primary joints are very close to moderately spaced, high angle to vertical, stepped to planar, smooth, fresh to discolored, very tight to tight. Secondary joints are very close to close, low angle to moderately dipping, planar, rough to smooth, fresh to discolored, tight to partially open. RQD = 2.16/4.5=48%	
						14.0		
15				C-2	4.5 [100]		Hard, fresh to slightly weathered, aphanitic to fine grained, gray, SCHIST. Primary joints are very close to close, high angle to vertical, stepped to planar, smooth, fresh to discolored, very tight to tight, with silt infilling. Secondary joints are close to moderately spaced, low angle to moderately dipping, planar to undulating, smooth to rough, fresh to discolored, tight to open. RQD = 3.05/5.0=61%	
				C-3	0.5 [100]	18.5	Hard, fresh to slightly weathered, aphanitic to fine grained to medium grained, gray, SCHIST. Primary joints are close, high angle, planar, smooth, discolored, tight. One horizontal joint, undulating, rough, fresh, tight. RQD = 0/0.5=0%	
20						19.0		
							Bottom of Exploration @ 19.0 ft (El. 357.9)	
							1. Boring backfilled with cuttings to ground surface.	
							2. Water level measured immediately after completion of drilling.	
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\JOINT PROJECT DATABASES\09 (2023)\13.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:39 AM TB-12

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. GZ-PO1-2
SHEET NO. 1 OF 1
STA. 3681+94 OFF. LT 71
BASELINE I-93 Southbound
ELEVATION (ft) 376.6
START/END 9/3/21 / 9/3/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1068944/140941

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	4	
9/3/21	11:15 am	10.3	366.3	-	16.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							Auger spoils consisted of brown, MEDIUM-FINE SAND, little silt, little gravel.	
5								
	9.0	367.6						
10							Encountered auger resistance at 9.0', probable cobbles.	
15							-APPROXIMATE BEDROCK SURFACE -	
							Bottom of Exploration @ 16.0 ft (El. 360.6)	
							1. Boring backfilled with auger spoils to ground surface.	
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\JOINT PROJECT DATABASES\09 (2023)\13.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:40 AM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BORING LOGS (5 OF 6)

BRIDGE SHEET 11 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	LSC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		65	733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Bor6	AS NOTED

NE WINGWALL
TOP OF FOOTING
EL = 384.75

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. **GZ-PO2-2**
SHEET NO. 1 OF 1
STA. 1680+93 OFF. RT 89
BASELINE I-93 Northbound
ELEVATION (ft) 387.2
START/END 9/2/21 / 9/2/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1069145/141215

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	4	
9/2/21	9:23 am	Dry		-	7.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							Auger spoils consist of brown, FINE SAND, little gravel, little silt. Dry	
5								
							- APPROXIMATE BEDROCK SURFACE -	
10							Bottom of Exploration @ 7.0 ft (El. 380.2) 1. Boring backfilled with cuttings to ground surface.	
15								
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\GINT PROJECT DATABASES\09.0023113.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:41 AM TB-12

ABUT B
TOP OF FOOTING
EL = 376.50

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. **GZ-PO3-2**
SHEET NO. 1 OF 1
STA. 1680+29 OFF. RT 61
BASELINE I-93 Northbound
ELEVATION (ft) 379.2
START/END 9/2/21 / 9/2/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1069165/141148

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	4	
9/2/21	10:00 am	Dry		-	5.1	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							Auger spoils consist of brown, FINE SAND, little gravel, little silt. Dry	
5								
							- APPROXIMATE BEDROCK SURFACE -	
10							Bottom of Exploration @ 5.1 ft (El. 374.1) 1. Drilled at 11° angle. 2. Boring backfilled with cuttings to ground surface.	
15								
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\GINT PROJECT DATABASES\09.0023113.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:41 AM TB-12

ABUT B
TOP OF FOOTING
EL = 376.50

TEST BORING REPORT

GZA GeoEnvironmental, Inc. for NH DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT NAME **I-93 EXIT 4A DERRY 13065A** BRIDGE NO. N/A
DESCRIPTION I-93 Exit 4A

BORING NO. **GZ-PO5-2**
SHEET NO. 1 OF 1
STA. 1679+94 OFF. RT 60
BASELINE I-93 Northbound
ELEVATION (ft) 377.6
START/END 9/2/21 / 9/2/21
DRILLER M. Soucy (NEBC)
INSPECTOR L. Navarrete (GZA)
CLASSIFIER L. Navarrete (GZA)
EAST/NORTH (ft) 1069187/141122

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	
						SIZE I.D. (in):	1.375	4	
9/2/21	10:30 am	Dry		-	7.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	Mobile B-53 ATV	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0							Auger spoils consist of brown, FINE SAND, little gravel, little silt. Dry	
5								
							- APPROXIMATE BEDROCK SURFACE -	
10							Bottom of Exploration @ 7.0 ft (El. 370.6) 1. Drilled at 13° angle. 2. Boring backfilled with cuttings to ground surface.	
15								
20								
25								

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot (N)	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
> 30	Hard

NON-COHESIVE SOILS	
Blows/foot (N)	Apparent Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TB-12 P:\GINT PROJECT DATABASES\09.0023113.00 NHDOT I-93 DERRY BORINGS.GPJ 3/1/2022 9:33:42 AM TB-12

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

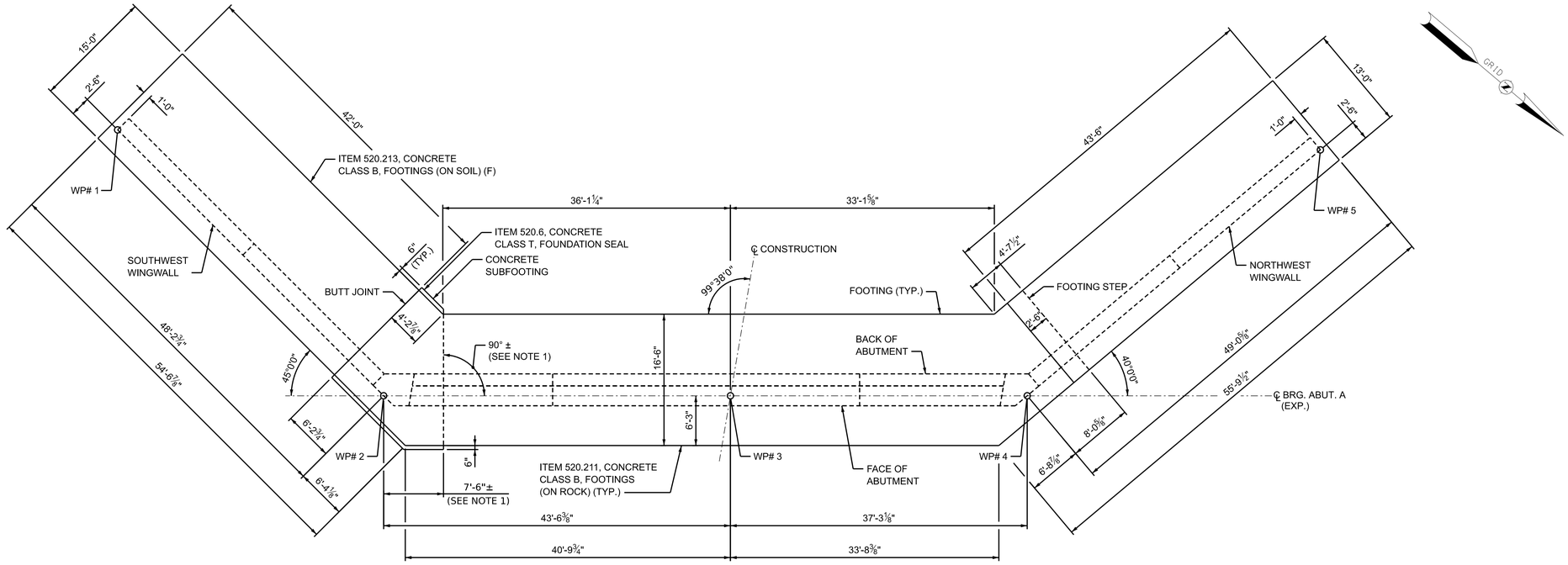
BORING LOGS (6 OF 6)

BRIDGE SHEET 12 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
		DESIGNED	MAC	2/22	CHECKED	LSC	2/22
		DRAWN	BJM	2/22	CHECKED	MAC	2/22
		QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		A005(073)		66	

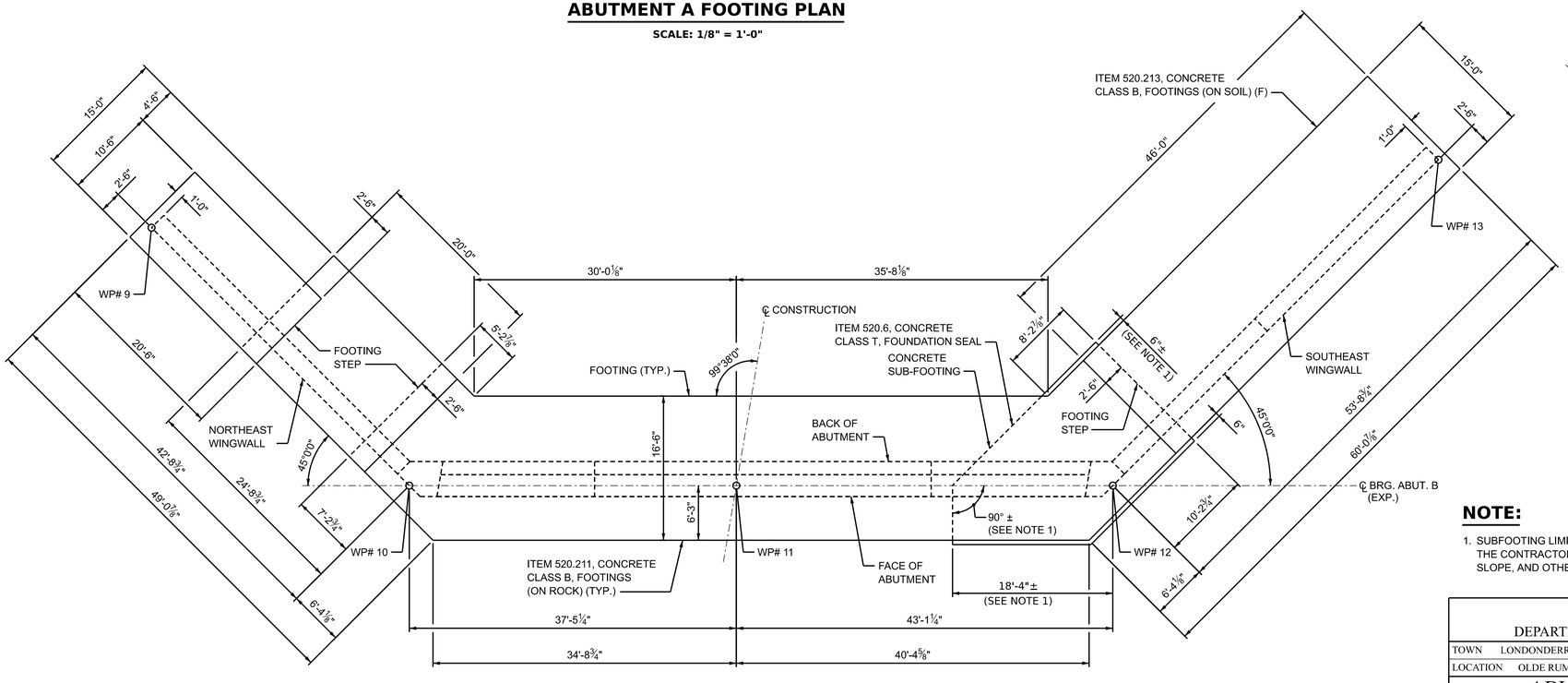
FILE NUMBER 142-1-1
TOTAL SHEETS 733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Bor7	AS NOTED



ABUTMENT A FOOTING PLAN

SCALE: 1/8" = 1'-0"



ABUTMENT B FOOTING PLAN

SCALE: 1/8" = 1'-0"

NOTE:

1. SUBFOOTING LIMITS SHOWN AS "+/-" ARE APPROXIMATE AND BASED ON INTERPRETED BORING LOGS. THE CONTRACTOR MAY ADJUST THESE LIMITS AS REQUIRED AND DIRECTED TO MEET THICKNESS, SLOPE, AND OTHER SUBFOOTING REQUIREMENTS SPECIFIED IN THE PROJECT NOTES.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

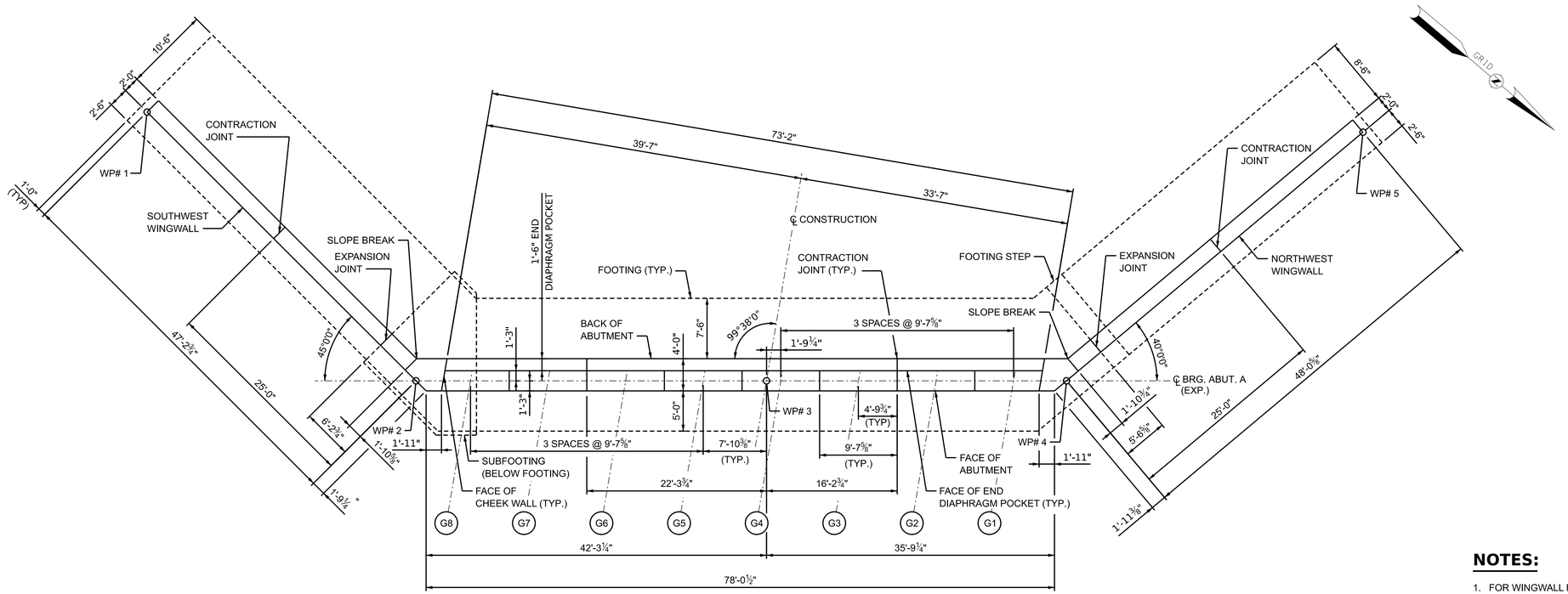
ABUTMENT FOOTING MASONRY PLAN

BRIDGE SHEET 13 OF 49

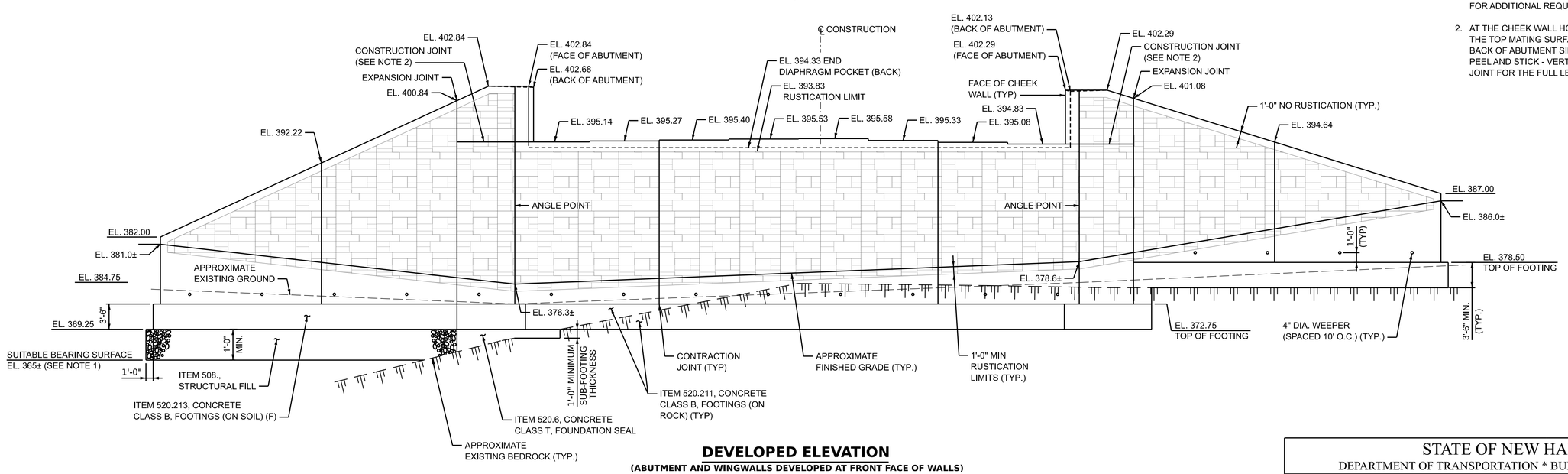
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Abutfoot	AS NOTED	REV. DATE	A005(073)	67	733



PLAN
SCALE: 1/8" = 1'-0"



DEVELOPED ELEVATION
(ABUTMENT AND WINGWALLS DEVELOPED AT FRONT FACE OF WALLS)
SCALE: 1/8" = 1'-0"

NOTES:

1. FOR WINGWALL FOOTINGS ON SOIL, ELEVATION OF SUITABLE BEARING MATERIAL SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE COMPACTED PRIOR TO PLACING STRUCTURAL FILL. SEE FOUNDATION NOTES ON THE PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS.
2. AT THE CHEEK WALL HORIZONTAL CONSTRUCTION JOINTS, ROUGHEN THE TOP MATING SURFACE TO 1/4" MINIMUM AMPLITUDE. ON THE BACK OF ABUTMENT SIDE, APPLY ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2'-0" WIDE, CENTERED ON JOINT FOR THE FULL LENGTH OF JOINT.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutA	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

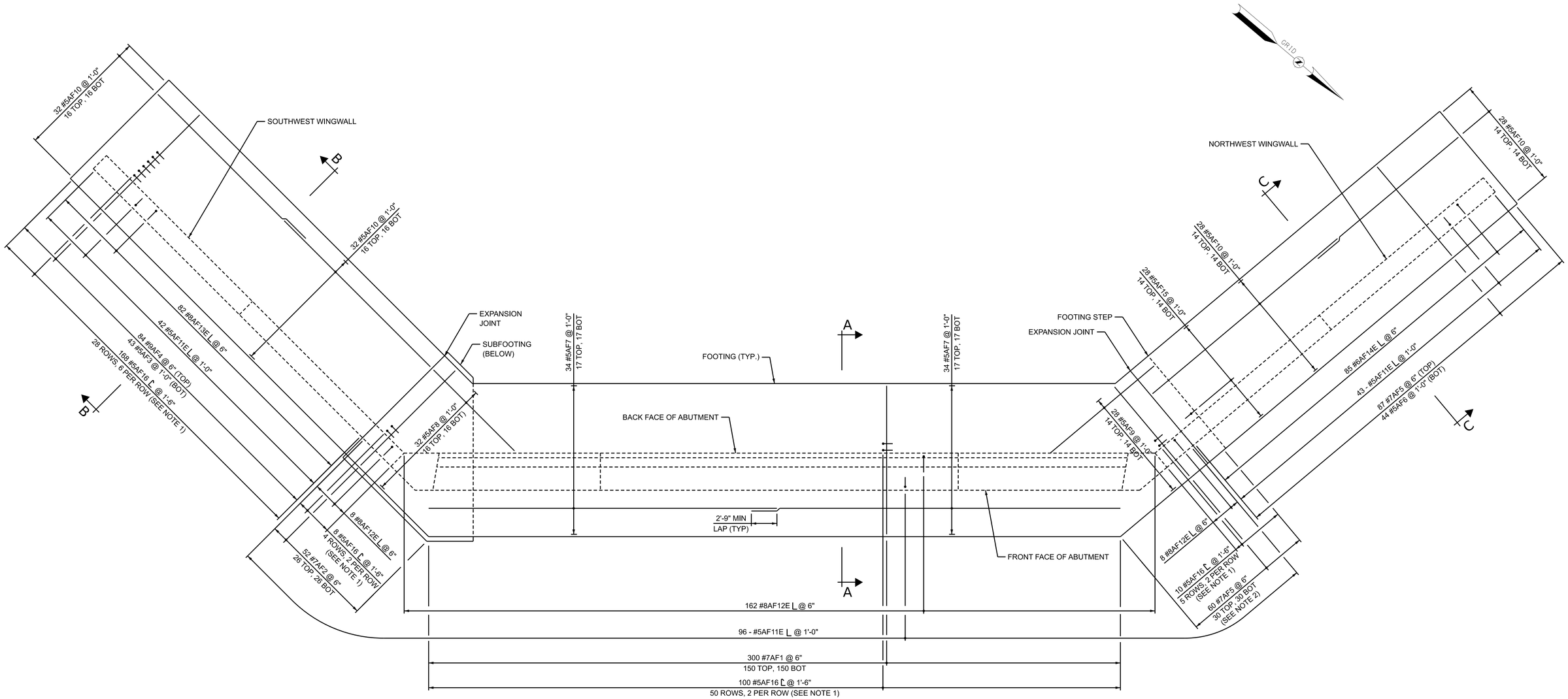
ABUTMENT A MASONRY PLAN AND ELEVATION

BRIDGE SHEET 14 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		A005(073)	68	733



FOOTING PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. FOR SECTION A-A, B-B, C-C, AND STIRRUP DETAIL, SEE ABUTMENT AND WINGWALL REINFORCING SECTIONS SHEET.
2. SEE ABUTMENT A REINFORCING (2 OF 2) SHEET FOR ADDITIONAL BARS IN FOOTING STEP.
3. SPACINGS SHOW ARE MAXIMUM SPACINGS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT A REINFORCING (1 OF 2)

BRIDGE SHEET: 15 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

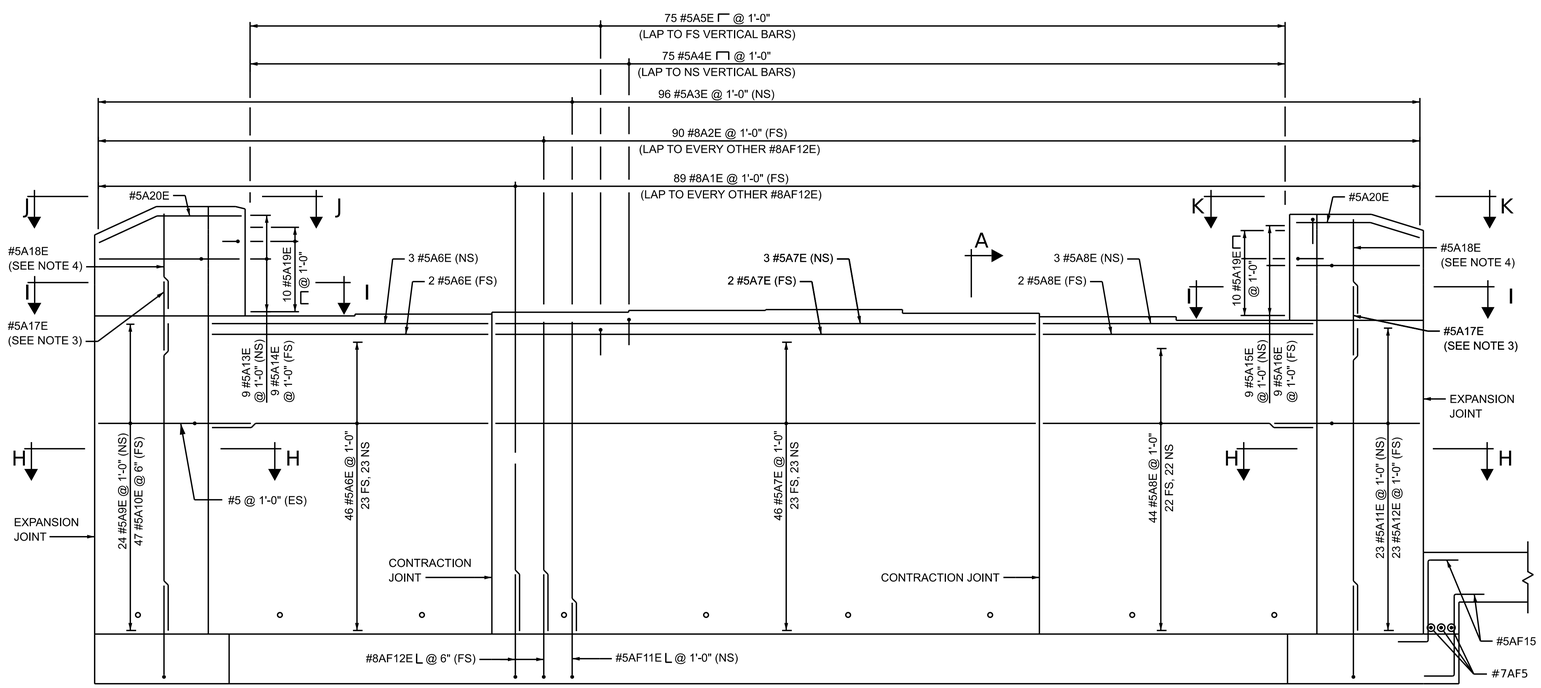
FEDERAL PROJECT NO.: A005(073)

SHEET NO.: 69

TOTAL SHEETS: 733

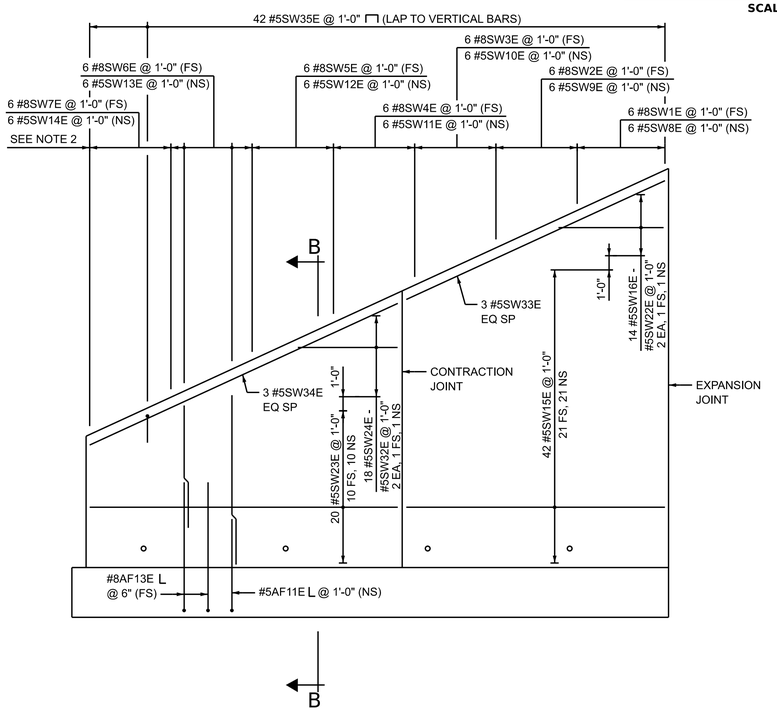
FILE NUMBER: 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutA_Rein1	AS NOTED



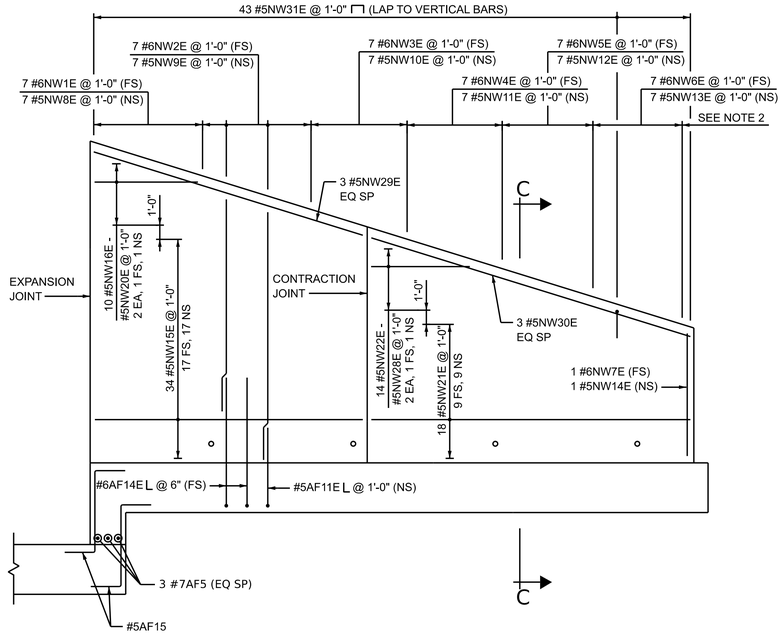
DEVELOPED ABUTMENT ELEVATION

SCALE: 3/16" = 1'-0"



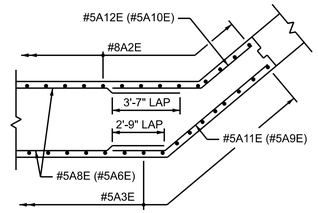
SOUTHWEST WINGWALL

SCALE: 3/16" = 1'-0"



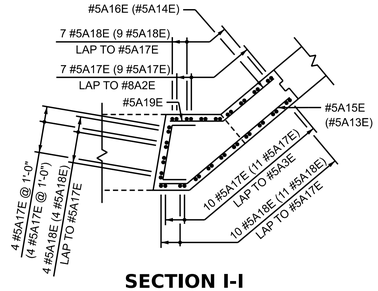
NORTHWEST WINGWALL

SCALE: 3/16" = 1'-0"



SECTION H-H

SCALE: 1/4" = 1'-0"

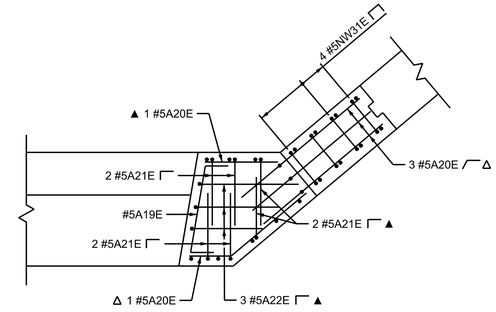


SECTION I-I

SCALE: 1/4" = 1'-0"

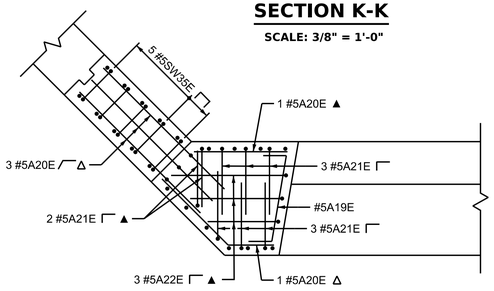
ABUTMENT CORNER REINFORCING

(NORTHWEST CORNER SHOWN, SOUTHWEST SIMILAR EXCEPT OPPOSITE HAND)
(WHEN DIFFERENT, BARS IN SOUTHWEST CORNER ARE SHOWN IN PARENTHESIS)



SECTION K-K

SCALE: 3/8" = 1'-0"



SECTION J-J

SCALE: 3/8" = 1'-0"

▲ DENOTES BARS TO BE CUT IN FIELD, AS REQUIRED
Δ DENOTES BARS TO BE BENT IN FIELD, AS REQUIRED

NOTES:

1. FOR SECTION D-D, E-E, F-F, G-G, STIRRUP DETAIL, AND VERTICAL REINFORCING BAR LAP LENGTHS, SEE ABUTMENT AND WINGWALL REINFORCING SECTIONS SHEET.
2. LAP #6 AND #8 VERTICAL BARS IN FAR SIDE OF WINGWALLS TO EVERY OTHER #6AF14E AND #8AF13E RESPECTIVELY.
3. THE BOTTOM OF #8A17E SHALL HAVE A 2'-1" EMBEDMENT INTO THE BRIDGE SEAT OR A 2'-1" LAP TO THE TOP OF #8A2E AND #5A3E, AS APPLICABLE.
4. #5A18E SHALL BE ADJUSTED TO REACH THE TOP OF CHEEK WALL. THERE SHALL BE A MINIMUM LAP OF 2'-1" BETWEEN #5A18E AND #5A17E.
5. ALL SPACINGS SHOWN ARE MAXIMUM SPACINGS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT A REINFORCING (2 OF 2)

BRIDGE SHEET 16 OF 49

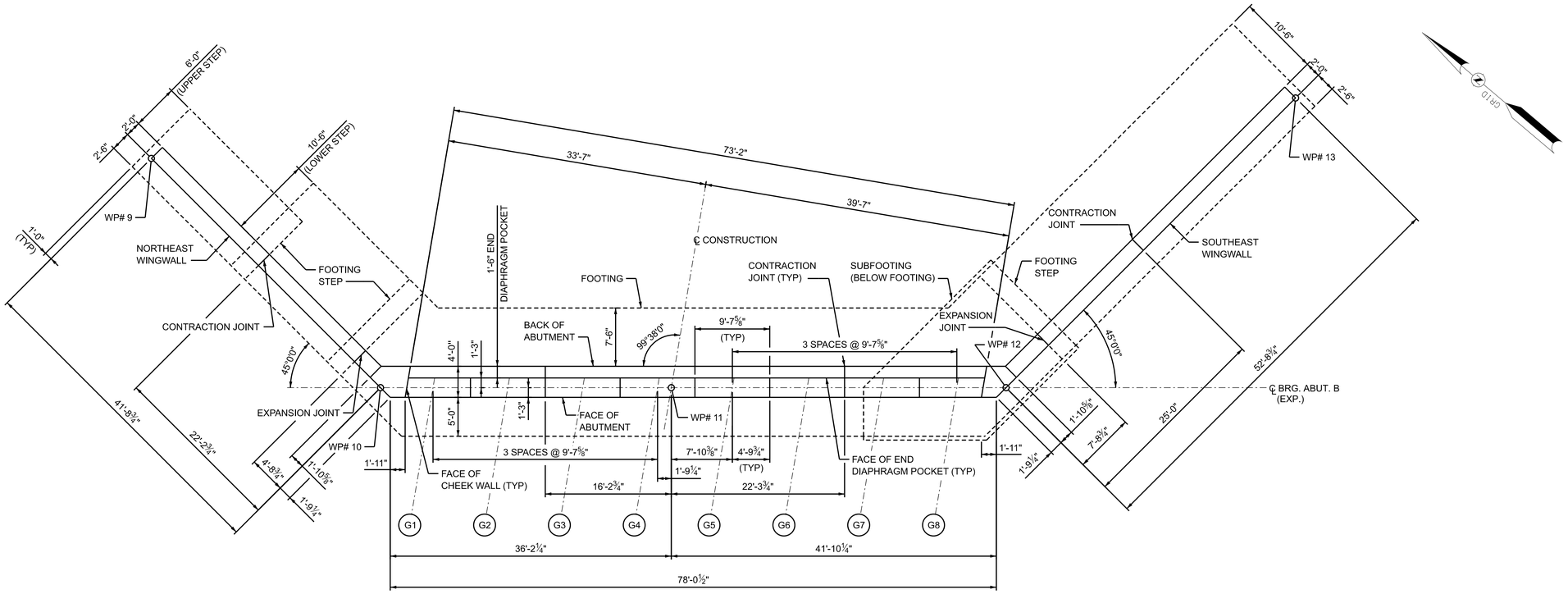
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TSP	2/22	CHECKED	KCD	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
ISSUE DATE					
REV. DATE					

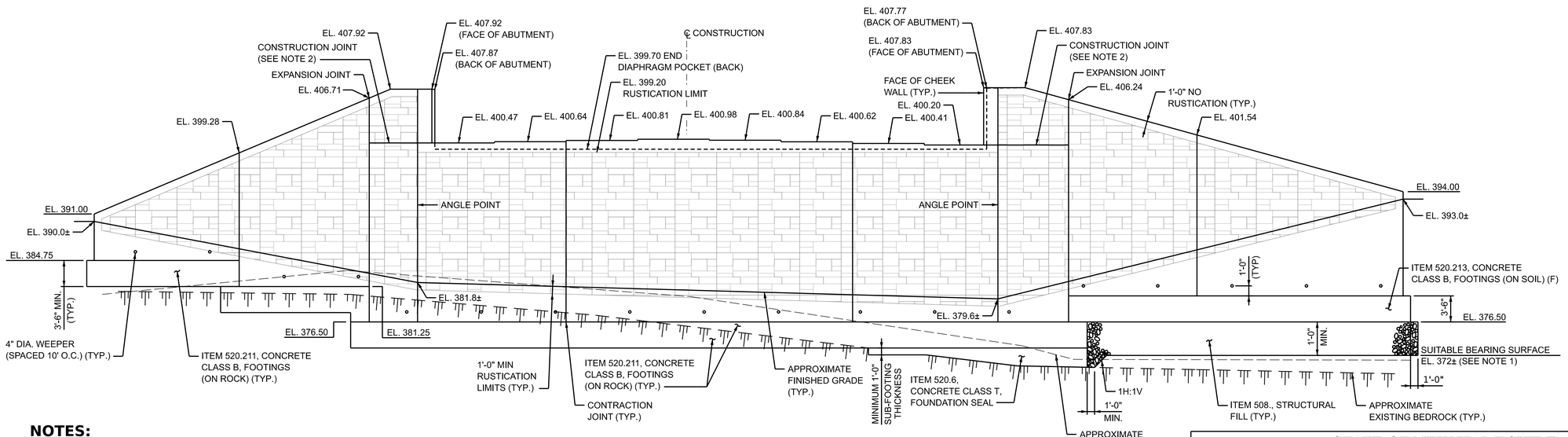
FEDERAL PROJECT NO. A005(073) | SHEET NO. 70 | TOTAL SHEETS 733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutA_Rein2	AS NOTED



PLAN
SCALE: 1/8" = 1'-0"



DEVELOPED ELEVATION
(ABUTMENT AND WINGWALLS DEVELOPED AT FRONT FACE OF WALLS)
SCALE: 1/8" = 1'-0"

NOTES:

1. FOR WINGWALL FOOTINGS ON SOIL, ELEVATION OF SUITABLE BEARING MATERIAL SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE COMPACTED PRIOR TO PLACING STRUCTURAL FILL. SEE FOUNDATION NOTES ON THE PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS.

2. AT THE CHEEK WALL HORIZONTAL CONSTRUCTION JOINTS, ROUGHEN THE TOP MATING SURFACE TO 1/4" MINIMUM AMPLITUDE. ON THE BACK OF ABUTMENT SIDE, APPLY ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2'-0" WIDE, CENTERED ON JOINT FOR THE FULL LENGTH OF JOINT.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutB	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT B MASONRY PLAN AND ELEVATION

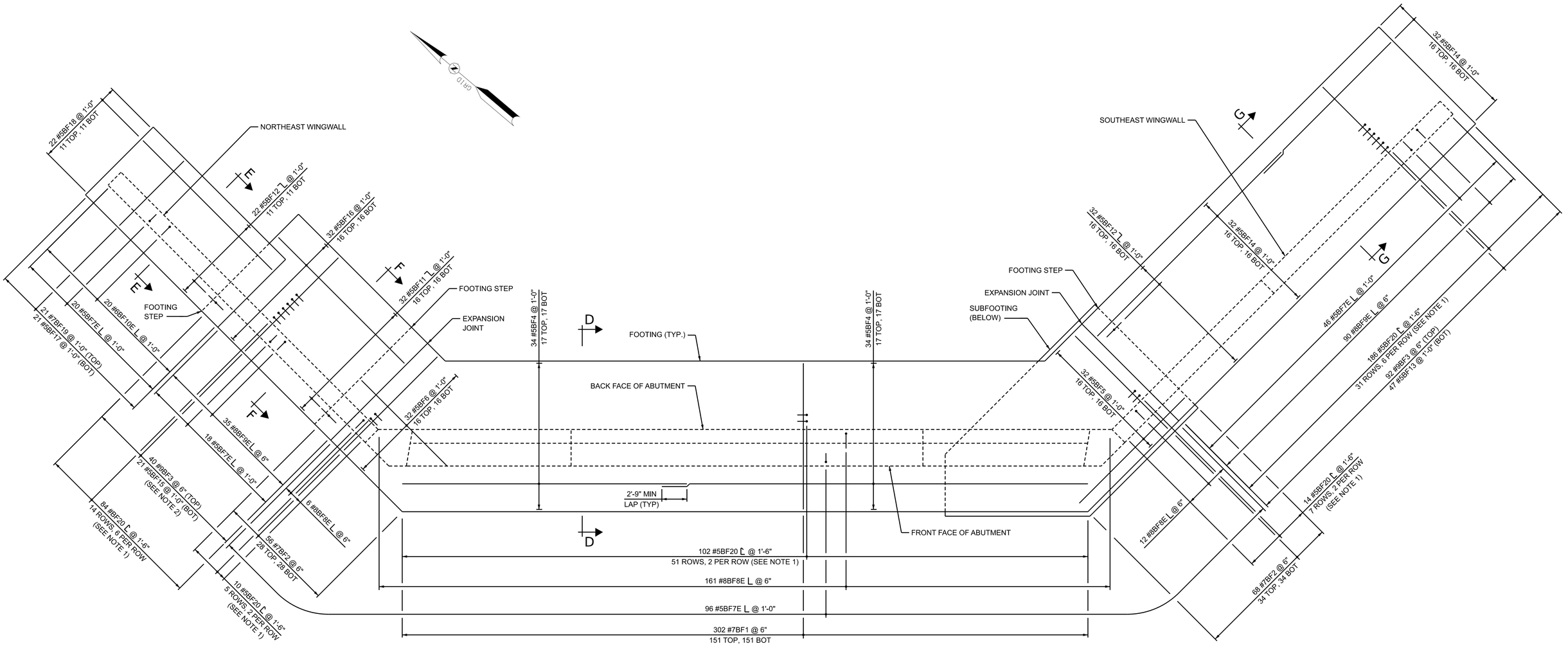
BRIDGE SHEET: 17 OF 49

REVISIONS AFTER PROPOSAL

	BY	DATE		BY	DATE
DESIGNED	TSP	2/22	CHECKED	MAC	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	71	733

FILE NUMBER: 142-1-1



FOOTING PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. FOR SECTION D-D, E-E, F-F, G-G, AND STIRRUP DETAIL SEE ABUTMENT AND WINGWALL REINFORCING SECTIONS SHEET.
2. SEE ABUTMENT B REINFORCING DETAILS (2 OF 2) FOR ADDITIONAL BARS IN FOOTING STEP.
3. ALL SPACINGS SHOWN ARE MAXIMUM SPACINGS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT B REINFORCING (1 OF 2)

BRIDGE SHEET: 18 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

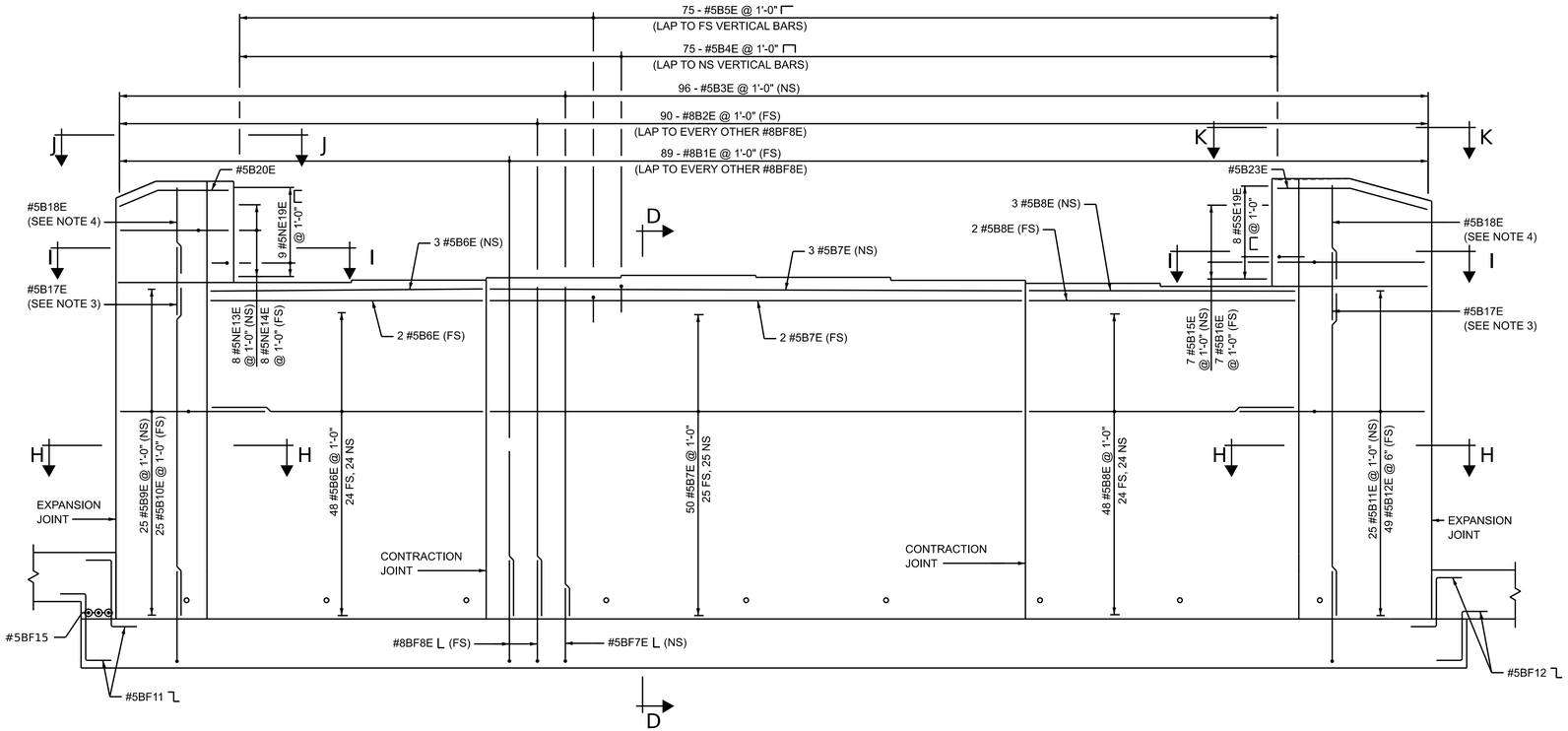
FILE NUMBER: 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutB_Rein1	AS NOTED

FEDERAL PROJECT NO.: A005(073)

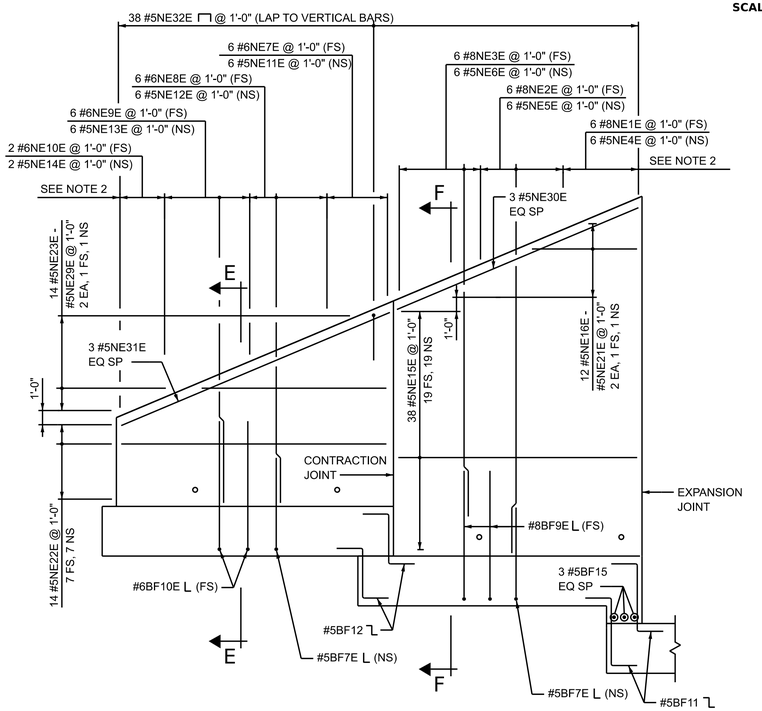
SHEET NO.: 72

TOTAL SHEETS: 733



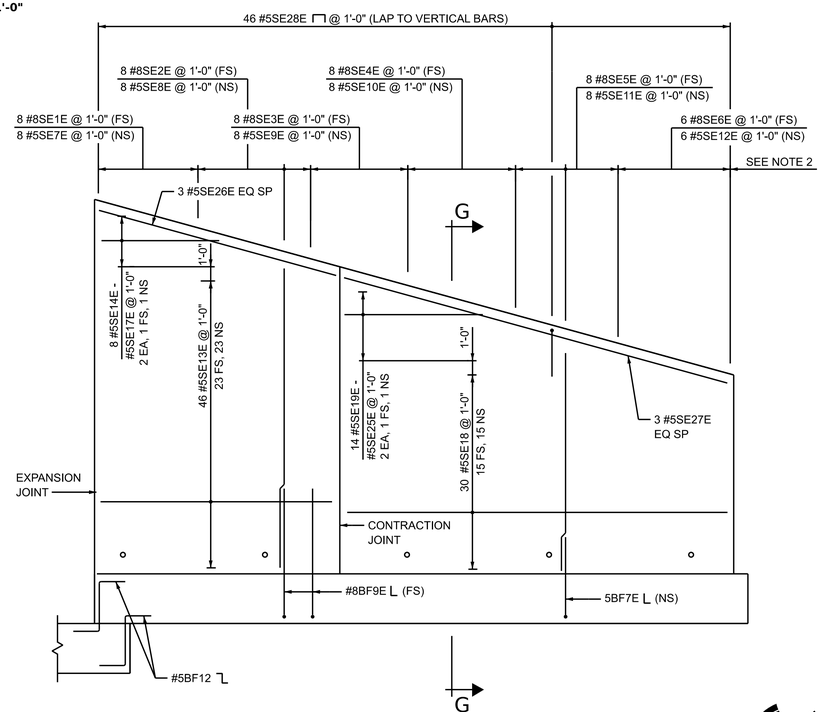
DEVELOPED ABUTMENT ELEVATION

SCALE: 3/16" = 1'-0"



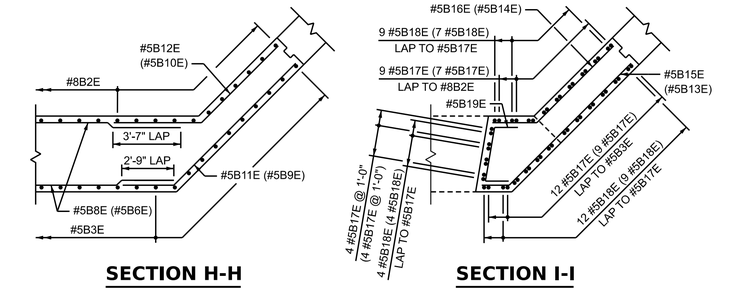
NORTHEAST WINGWALL

SCALE: 3/16" = 1'-0"



SOUTHEAST WINGWALL

SCALE: 3/16" = 1'-0"



SECTION H-H

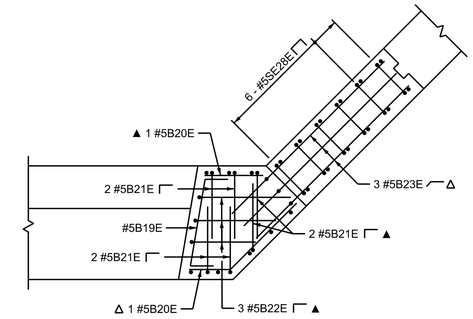
SCALE: 1/4" = 1'-0"

SECTION I-I

SCALE: 1/4" = 1'-0"

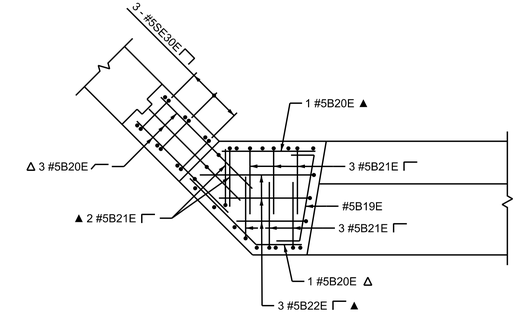
ABUTMENT CORNER REINFORCING

(SOUTHEAST CORNER SHOWN, NORTHEAST SIMILAR EXCEPT OPPOSITE HAND)
(WHEN DIFFERENT, BARS IN NORTHEAST CORNER ARE SHOWN IN PARENTHESIS)



SECTION K-K

SCALE: 3/8" = 1'-0"



▲ DENOTES BARS TO BE CUT IN FIELD, AS REQUIRED
Δ DENOTES BARS TO BE BENT IN FIELD, AS REQUIRED

SECTION J-J

SCALE: 3/8" = 1'-0"

NOTES:

1. FOR SECTION D-D, E-E, F-F, G-G, STIRRUP DETAIL, AND VERTICAL REINFORCING BAR LAP LENGTHS, SEE ABUTMENT AND WINGWALL REINFORCING SECTIONS SHEET.
2. LAP #6 AND #8 VERTICAL BARS IN FAR SIDE OF WINGWALLS TO EVERY OTHER #6BF10E AND #8BF9E RESPECTIVELY.
3. THE BOTTOM OF #5B17E SHALL HAVE A 2'-1" EMBEDMENT INTO THE BRIDGE SEAT OR 2'-1" LAP TO THE TOP OF #8B2E OR #5B3E, AS APPLICABLE.
4. #5B18E SHALL BE ADJUSTED TO REACH THE TOP OF CHEEK WALL. THERE SHALL BE A MINIMUM LAP OF 2'-1" BETWEEN #5B18E AND #5B17E.
5. ALL SPACINGS SHOWN ARE MAXIMUM SPACINGS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT B REINFORCING (2 OF 2)

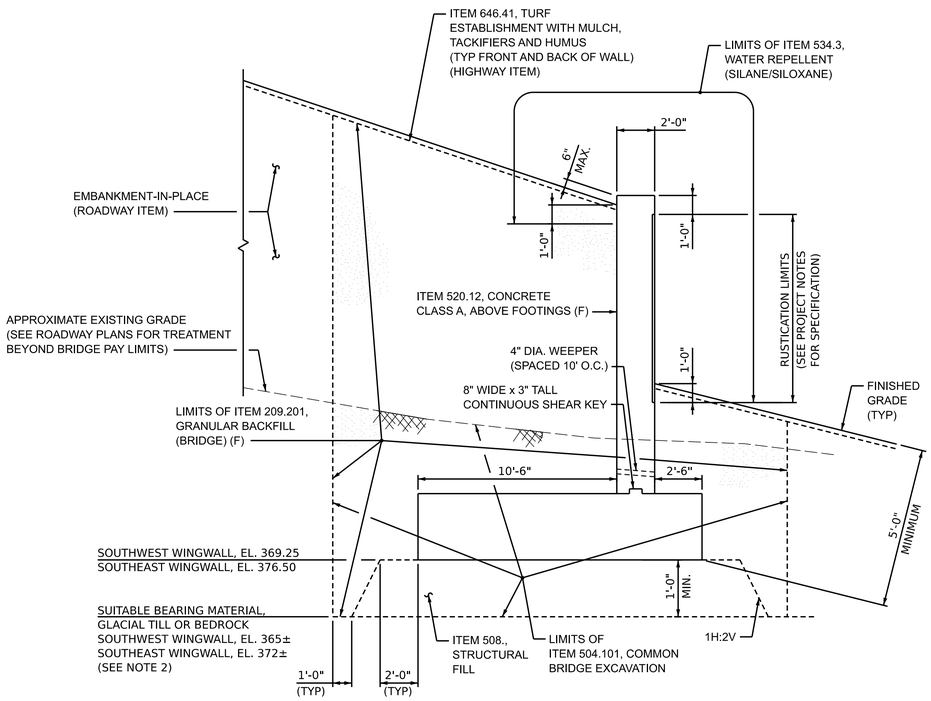
BRIDGE SHEET 19 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

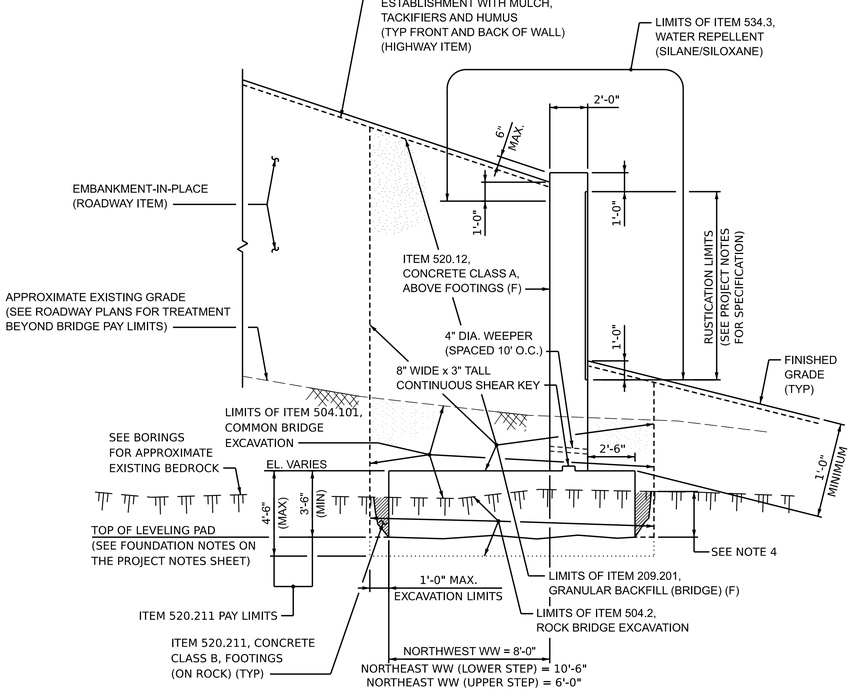
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	73	733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_AbutB_Rein2	AS NOTED



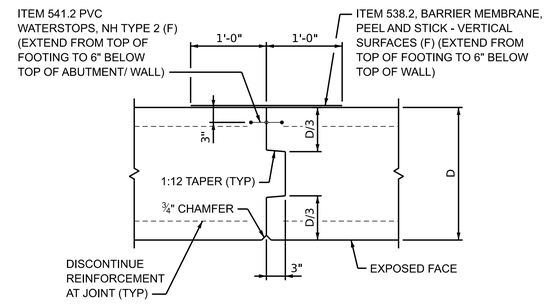
TYPICAL WINGWALL ON SOIL SECTION

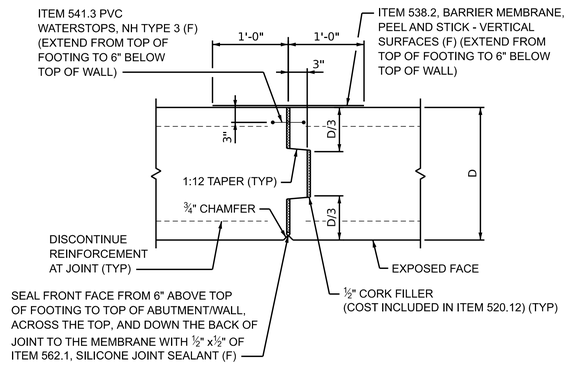
(SOUTHWEST WINGWALL SHOWN, SOUTHEAST WINGWALL SIMILAR)
SCALE: 1/4" = 1'-0"



TYPICAL WINGWALL ON BEDROCK SECTION

(NORTHWEST WINGWALL SHOWN, NORTHEAST WINGWALL SIMILAR)
SCALE: 1/4" = 1'-0"



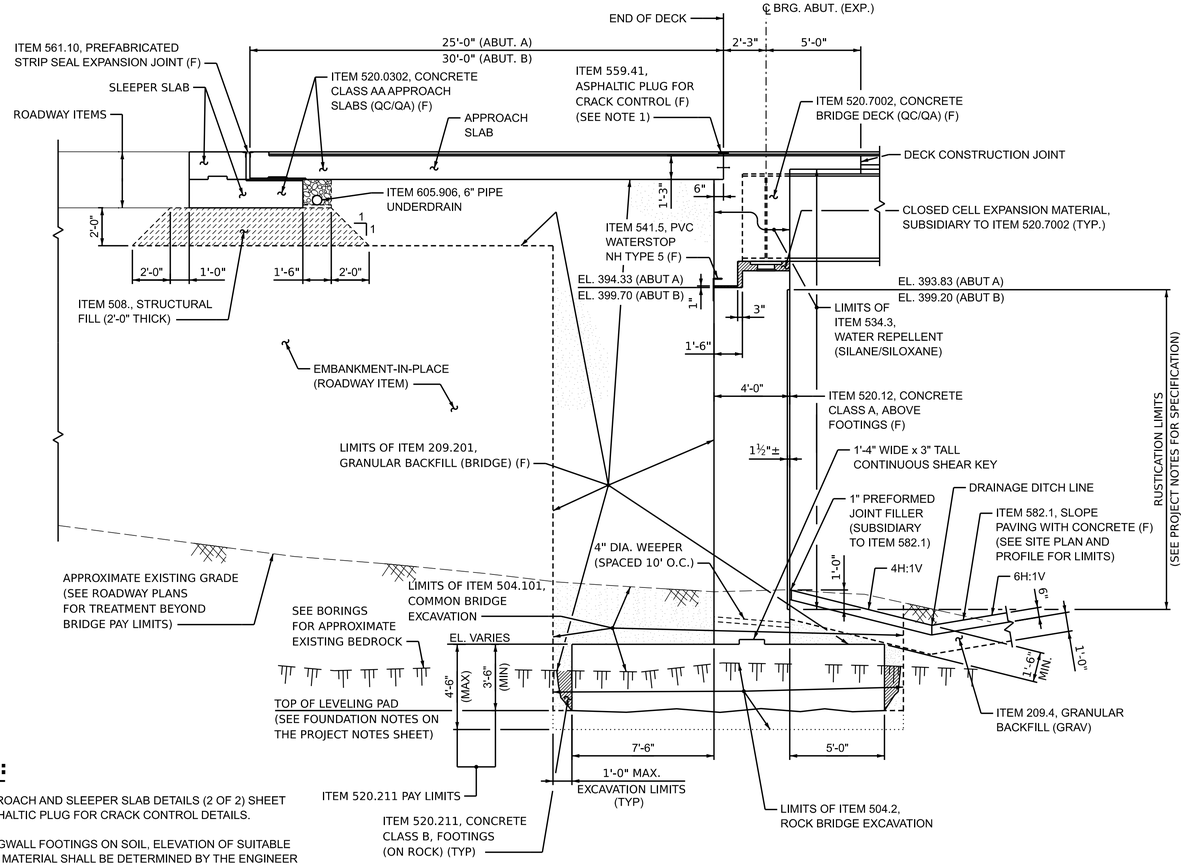


CONTRACTION JOINT

NOT TO SCALE

EXPANSION JOINT

NOT TO SCALE



TYPICAL ABUTMENT SECTION

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR)
SCALE: 1/4" = 1'-0"

NOTES:

1. SEE APPROACH AND SLEEPER SLAB DETAILS (2 OF 2) SHEET FOR ASPHALTIC PLUG FOR CRACK CONTROL DETAILS.
2. FOR WINGWALL FOOTINGS ON SOIL, ELEVATION OF SUITABLE BEARING MATERIAL SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE COMPACTED PRIOR TO PLACING STRUCTURAL FILL. SEE FOUNDATION NOTES ON THE PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE APPROACH AND SLEEPER SLAB DETAILS (1 OF 2) SHEET FOR SLEEPER SLAB MASONRY DIMENSIONS AND POSITIONING WITH RESPECT TO ABUTMENT CENTERLINE OF BEARING.
4. FOR WINGWALL FOOTINGS ON ROCK, EITHER EMBED THE FOOTING A MINIMUM OF 6" INTO BEDROCK, OR SUPPLY (2) #8 REINFORCING STEEL DOWELS FOR EVERY 10' OF LONGITUDINAL WALL LENGTH THAT DOES NOT MEET THE EMBEDMENT CRITERIA. DOWELS SHALL BE CORED A MINIMUM OF 2' INTO BEDROCK AND SET WITH AN APPROVED HIGH STRENGTH NON-SHRINK GROUT. DOWELS SHALL EXTEND A MINIMUM OF 2' INTO FOOTING. ALL COSTS SUBSIDIARY TO ITEM 520.211, CONCRETE CLASS B, FOOTINGS (ON ROCK).

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT AND WINGWALL DETAILS

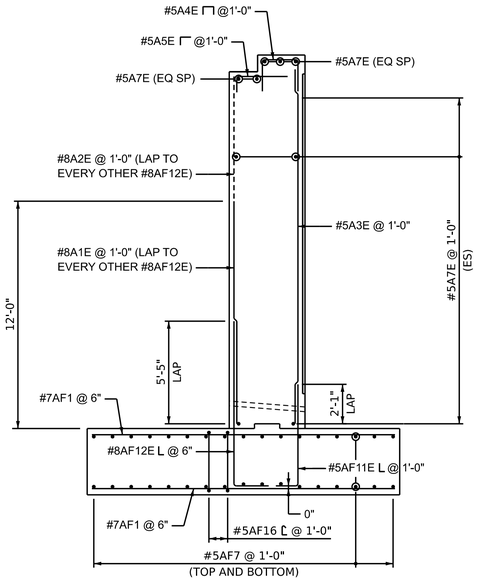
BRIDGE SHEET 20 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	MAC	2/22
	DRAWN	KDW	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			A005(073)		74

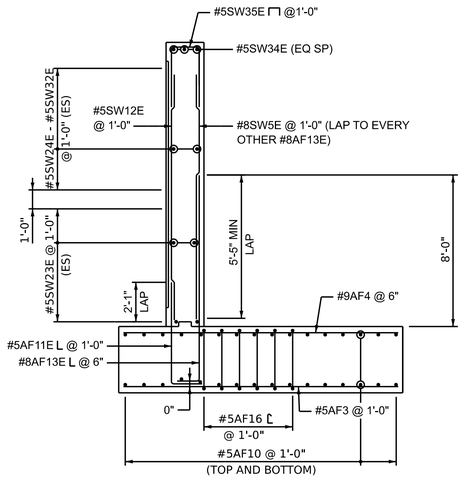
TOTAL SHEETS 733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Abut	AS NOTED



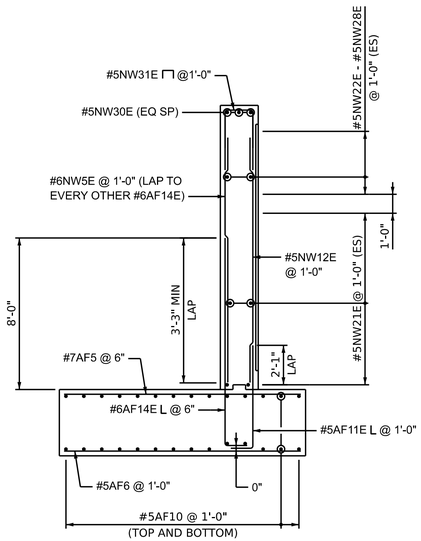
SECTION A-A

ABUTMENT A
SCALE: 1/4" = 1'-0"



SECTION B-B

SOUTHWEST WINGWALL
SCALE: 1/4" = 1'-0"

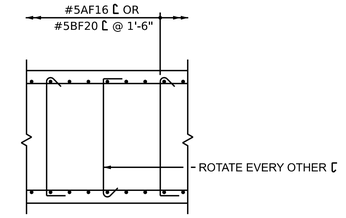


SECTION C-C

NORTHWEST WINGWALL
SCALE: 1/4" = 1'-0"

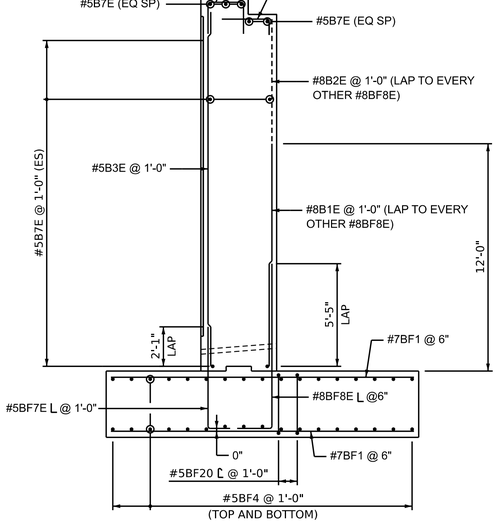
NOTES:

1. CONCRETE CLEAR COVER SHALL BE 3" ALL AROUND THE FOOTING AND 2½" ELSEWHERE UNLESS NOTED OTHERWISE. 2½" CLEAR COVER SHALL BE MAINTAINED BEHIND THE RUSTICATION.
2. ALL SPACINGS SHOWN ARE MAXIMUM SPACINGS.



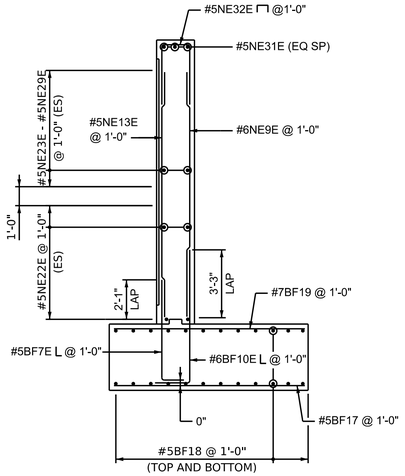
FOOTING STIRRUP DETAIL

SECTION CUT PARALLEL TO BACK FACE OF ABUTMENT/WINGWALL
NOT TO SCALE



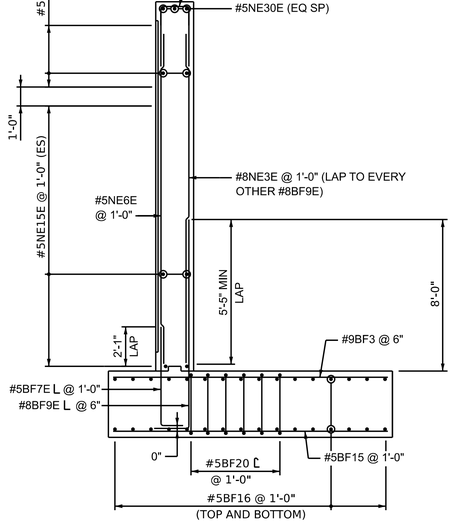
SECTION D-D

ABUTMENT B
SCALE: 1/4" = 1'-0"



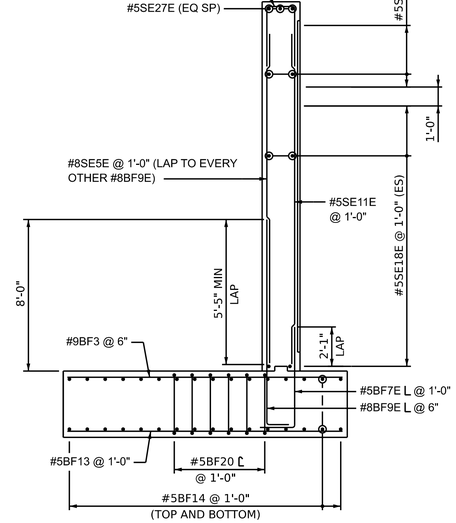
SECTION E-E

NORTHEAST WINGWALL
SCALE: 1/4" = 1'-0"



SECTION F-F

NORTHEAST WINGWALL
SCALE: 1/4" = 1'-0"



SECTION G-G

SOUTHEAST WINGWALL
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT AND WINGWALL REINFORCING SECTIONS

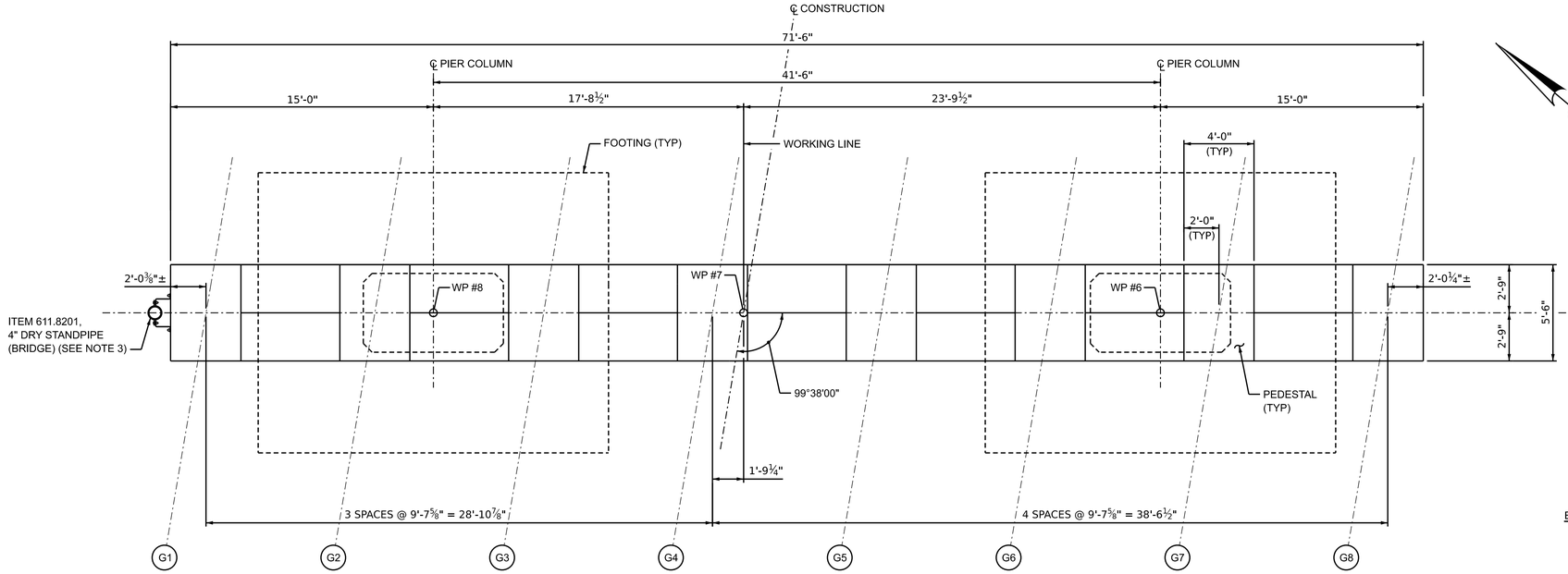
BRIDGE SHEET: 21 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	TSP	2/22	CHECKED	KCD	2/22
DRAWN	KDW	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER: 142-1-1

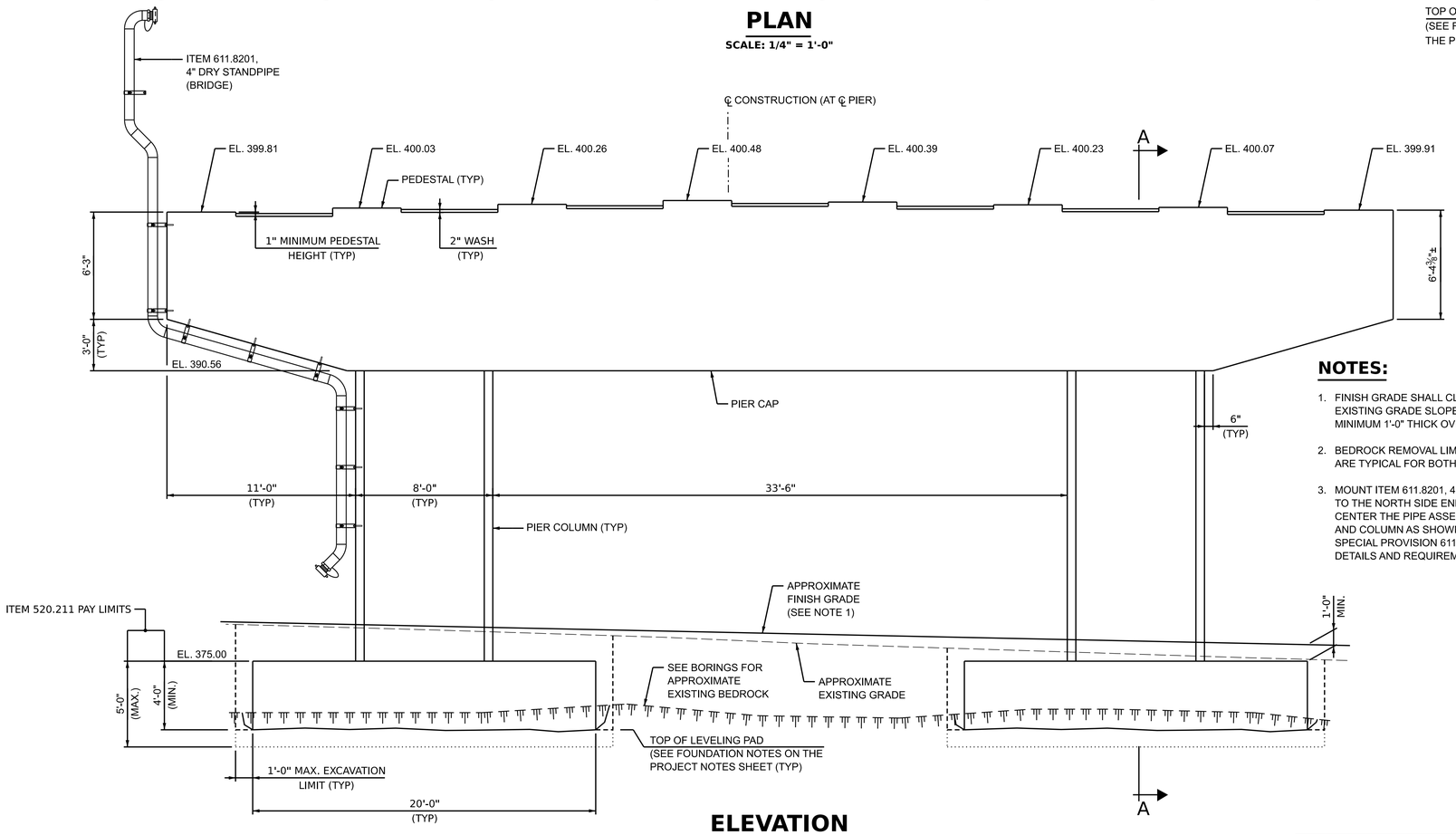
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Abut_Rein	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	75	733



PLAN

SCALE: 1/4" = 1'-0"

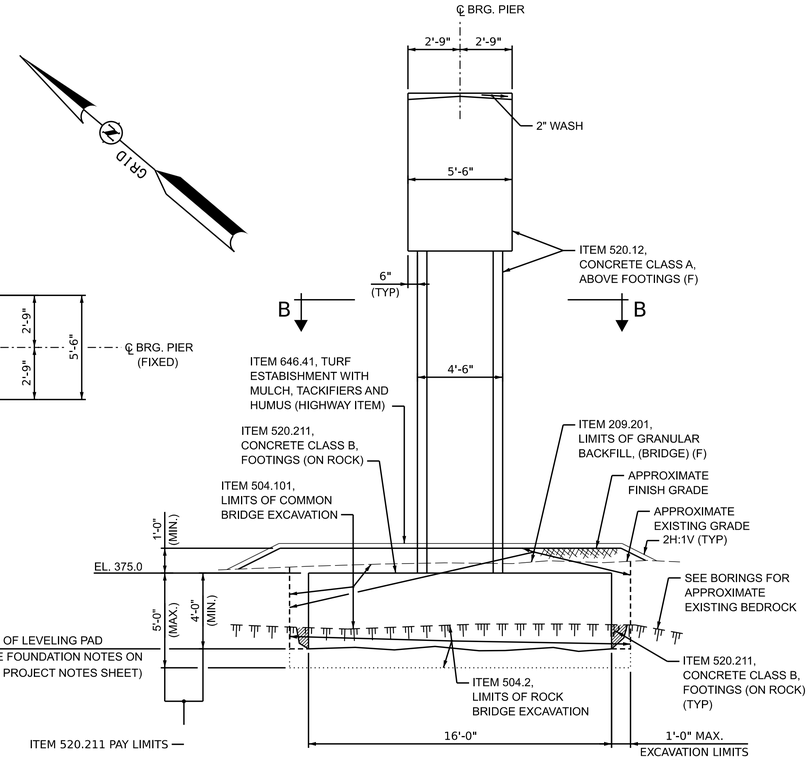


ELEVATION

SCALE: 1/4" = 1'-0"

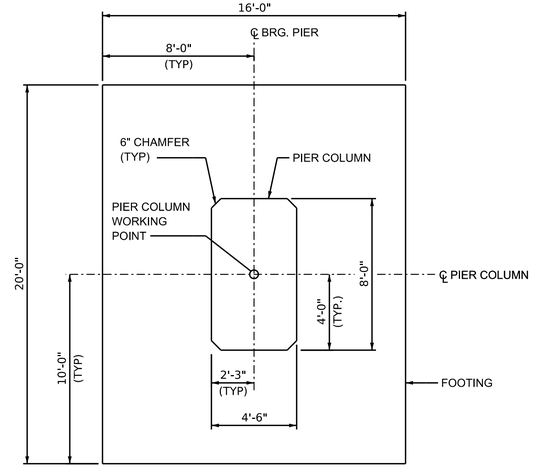
NOTES:

1. FINISH GRADE SHALL CLOSELY FOLLOW EXISTING GRADE SLOPES AND SHALL BE MINIMUM 1'-0" THICK OVER TOP OF FOOTING.
2. BEDROCK REMOVAL LIMITS SHOWN IN ELEVATION ARE TYPICAL FOR BOTH PIER FOOTINGS.
3. MOUNT ITEM 611.8201, 4" DRY STANDPIPE (BRIDGE) TO THE NORTH SIDE END OF OF PIER AS SHOWN. CENTER THE PIPE ASSEMBLY ON THE PIER CAP AND COLUMN AS SHOWN IN PLAN. REFER TO SPECIAL PROVISION 611.8201 FOR ADDITIONAL DETAILS AND REQUIREMENTS



SECTION A-A

SCALE: 1/4" = 1'-0"



SECTION B-B

(TYPICAL BOTH PIER COLUMNS)
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

PIER MASONRY PLAN AND ELEVATION

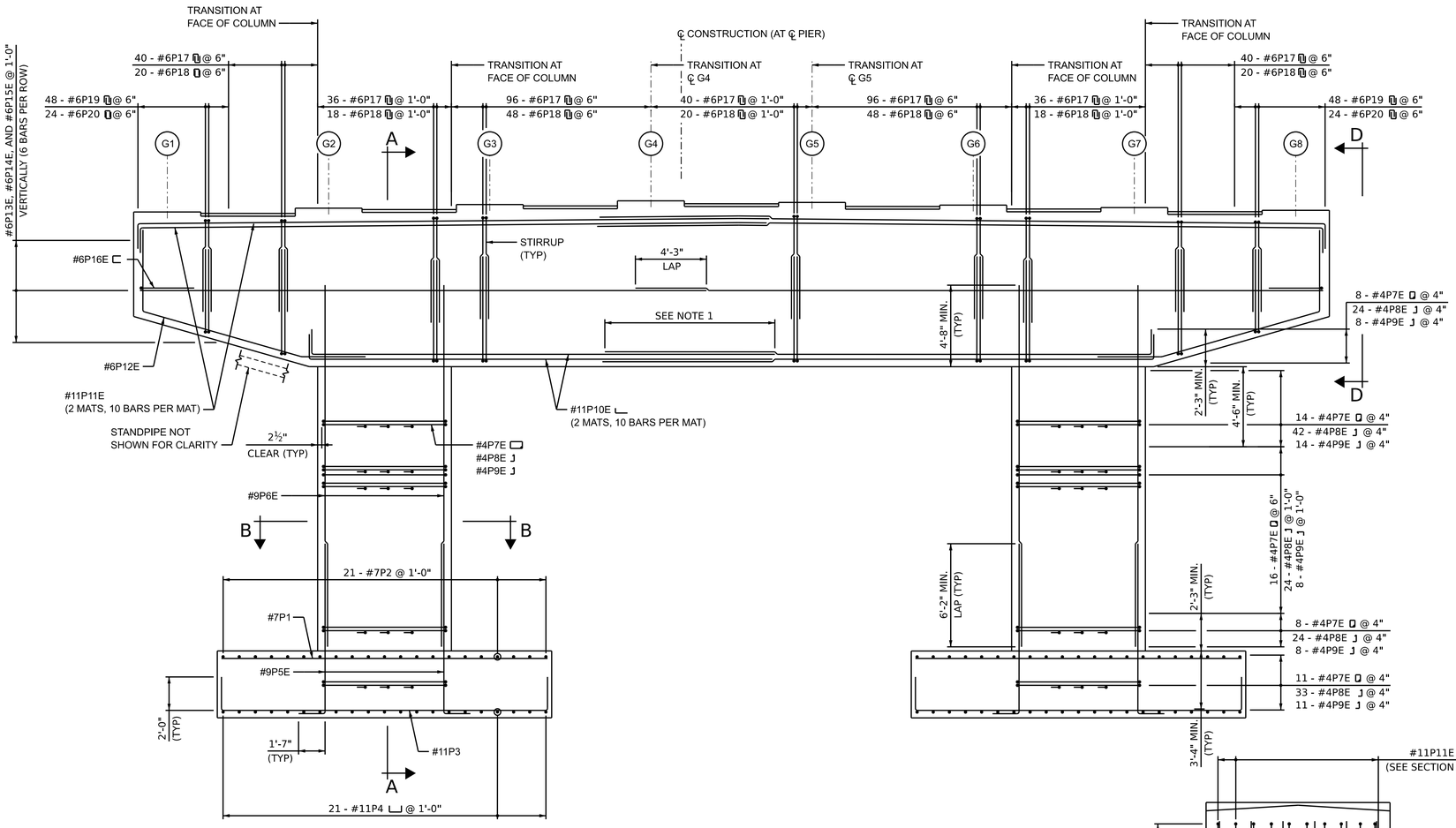
BRIDGE SHEET: 22 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	KCD	2/22	CHECKED	MAC	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER: 142-1-1

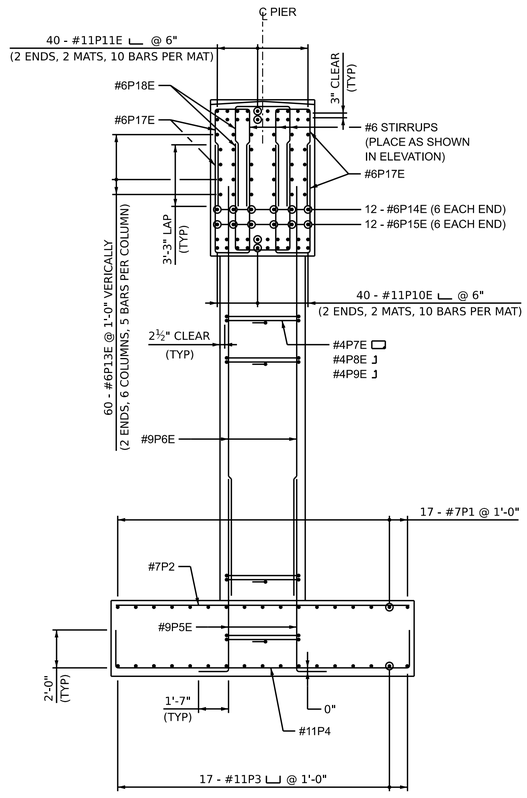
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Pier_01	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	76	733



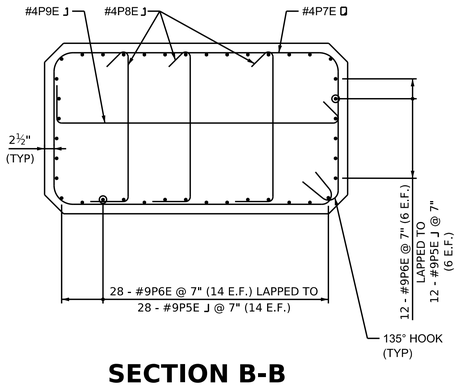
PIER ELEVATION

SCALE: 1/4" = 1'-0"



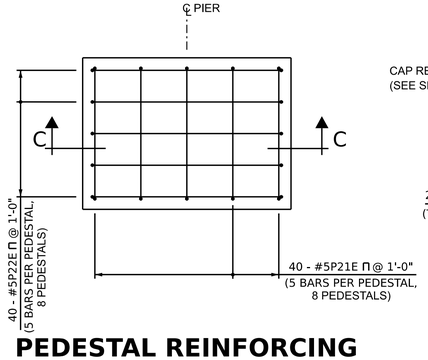
SECTION A-A

SCALE: 1/4" = 1'-0"



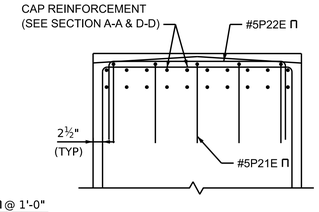
SECTION B-B

SCALE: 1/2" = 1'-0"



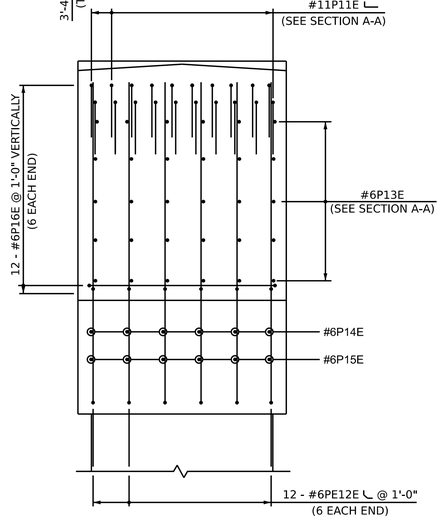
PEDESTAL REINFORCING

SCALE: 1/2" = 1'-0"



SECTION C-C

SCALE: 1/2" = 1'-0"



SECTION D-D

(SHEAR STIRRUPS 6P19E AND 6P20E NOT SHOWN FOR CLARITY)
SCALE: 1/2" = 1'-0"

NOTES:

1. LAP SPLICE LENGTH REQUIRED FOR #11 BARS IS 10'-2". IN LIEU OF LAPS, THE CONTRACTOR MAY PROPOSE EPOXY COATED MECHANICAL CONNECTORS CONFORMING TO SECTION 544 OF THE SPECIFICATION. ALL COSTS SUBSIDIARY TO ITEM 544.2, REINFORCING STEEL, EPOXY COATED (F).
2. CONCRETE CLEAR COVER SHALL BE 3" ALL AROUND FOOTINGS AND 2-1/2" ELSEWHERE UNLESS NOTED OTHERWISE.
3. REINFORCING MARKS AND QUANTITIES INDICATED IN FOOTING AND COLUMN SECTIONS ARE TYPICAL PER COLUMN AND FOOTING.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

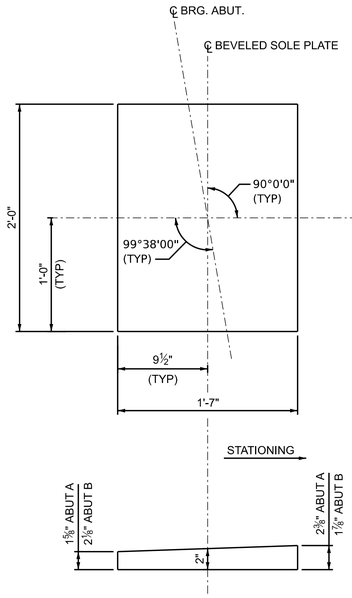
TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

PIER REINFORCING

BRIDGE SHEET: 23 OF 49
FILE NUMBER: 142-1-1

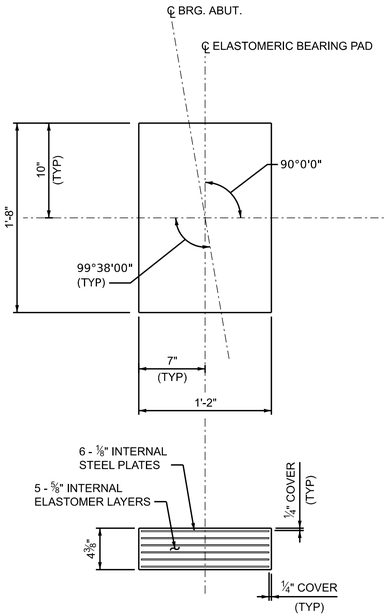
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KCD	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Pier_02	AS NOTED	A005(073)	77	733



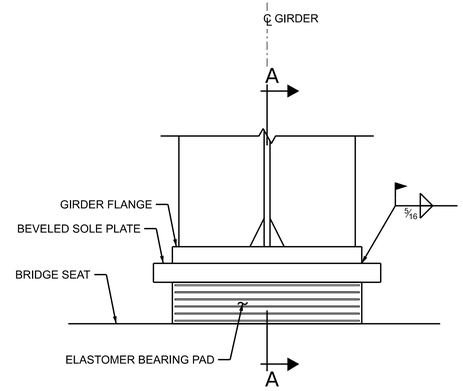
BEVELED SOLE PLATE

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR)
SCALE: 1 1/2" = 1'-0"



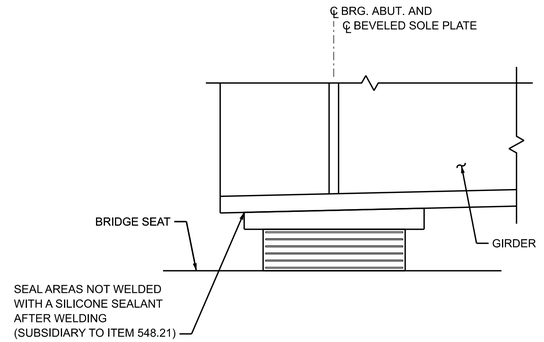
ELASTOMERIC BEARING PAD

SCALE: 1 1/2" = 1'-0"



ELEVATION

SCALE: 1 1/2" = 1'-0"



SECTION A-A

SCALE: 1 1/2" = 1'-0"

EXPANSION BEARING - ABUTMENT

8 REQUIRED EACH ABUTMENT (16 TOTAL)

ELASTOMERIC BEARING NOTES:

1. BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, SOLE PLATES, ANCHOR RODS, NUTS, WASHERS, AND SHEAR PLATES SHALL BE PAID AS ITEM 548.21, ELASTOMERIC BEARING ASSEMBLIES (F).
2. ELASTOMERIC BEARING PADS SHALL BE VIRGIN NATURAL RUBBER WITH A SHEAR MODULUS OF 0.150 KSI (±15%) AND A MINIMUM LOW-TEMPERATURE GRADE 4.
3. ANCHOR RODS AND NUTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232 (ASTM A153). ANCHOR RODS SHALL BE ASTM F1554 GRADE 105 ALL THREAD ROD. NUTS SHALL CONFORM TO ASTM A563 HEAVY HEX NUT.
4. SOLE PLATES AND SHEAR PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50).
5. STEEL LAMINATES FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO ASTM A1011 WITH A MINIMUM GRADE OF 36.
6. AFTER SOLE PLATE FABRICATION IS COMPLETE AND AFTER THE ELASTOMERIC PAD IS VULCANIZED TO THE SOLE PLATE; ALL EXPOSED STEEL SURFACES SHALL BE METALIZED EXCEPT FOR 1" WIDE STRIPS WHERE THE SOLE PLATE WILL BE FIELD WELDED TO THE GIRDER FLANGE. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND COAT BARE STEEL AND DAMAGED METALIZED SURFACES PER SECTION 550.2.9.1 AND SPECIFICATION 708, APPENDIX C, SECTION 3.8.
7. AFTER THE GIRDERS HAVE BEEN WELDED TO ALL BEARING SOLE PLATES, THE GIRDER ENDS SHALL BE JACKED AND THE ABUTMENT BEARINGS RETURNED TO PLUMB (UNDEFORMED SHAPE) AT 60°F ±10°F AS DIRECTED BY THE ENGINEER. ALL COSTS SUBSIDIARY TO ITEM 548.21.
8. THE FABRICATOR SHALL CLEARLY MARK THE BEARING ASSEMBLIES TO ENSURE PROPER ORIENTATION IN THE FIELD.
9. THE CONTINUOUS WELD CONNECTING THE BOTTOM FLANGE OF GIRDERS TO THE TOP OF THE SOLE STEEL PLATES SHALL BE ALLOWED TO COOL AFTER EACH PASS. THE TEMPERATURE OF THE STEEL ADJACENT TO THE ELASTOMER SHALL NOT EXCEED 200°F (TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURES AND TEMPERATURE INDICATING CRAYON, OR OTHER DEVICES APPROVED BY THE ENGINEER). ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
10. THE GIRDER BOTTOM FLANGE SHALL NOT BE FIELD WELDED TO THE TOP OF THE STEEL SOLE PLATE UNTIL AFTER THE CONCRETE DECK IS POURED.
11. FOLLOWING THE MANUFACTURE OF ELASTOMERIC BEARINGS AND VERIFICATION OF THE INTERNAL STEEL LAMINATES, THE PIN GROOVE OPENING SHALL BE COATED WITH AN APPROVED ASPHALTIC SEALER AND THE SPACE FILLED WITH SILICONE CAULKING.
12. APPLY AN APPROVED SEALANT ALONG THE TRANSVERSE EDGES UP AND AROUND TO THE FILLET WELD TERMINATION ON THE SOLE PLATE. COST SHALL BE INCLUDED IN ITEM 548.21.
13. BEARING HEIGHT SHOWN ON THE PLANS IS FOR THE NO-LOAD CONDITION. FOR COMPRESSIVE DEFLECTION DUE TO DEAD LOAD SEE THE BEARING DESIGN AND DEFLECTION TABLE.

BEARING DESIGN LOADS AND DEFLECTION
(SERVICE I LIMIT STATE - DESIGN METHOD A)

	COMPRESSIVE LOAD (KIPS)				INITIAL TOTAL DL COMPRESSIVE DEFLECTION (IN)
	DC	DW	LL W/0 IMPACT	TOTAL	
ABUTMENT A	145	12	113	270	0.069
PIER	340	41	235	616	0.049
ABUTMENT B	145	12	113	270	0.069

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Brg01	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

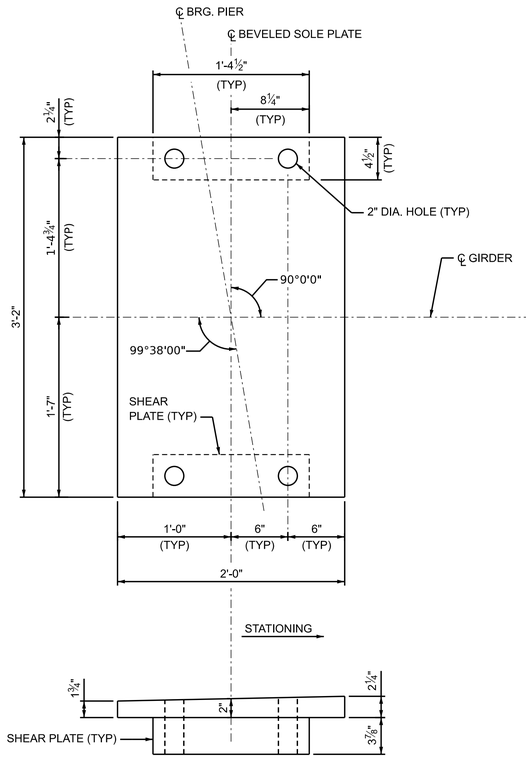
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BEARING DETAILS (1 OF 2)

BRIDGE SHEET: 24 OF 49

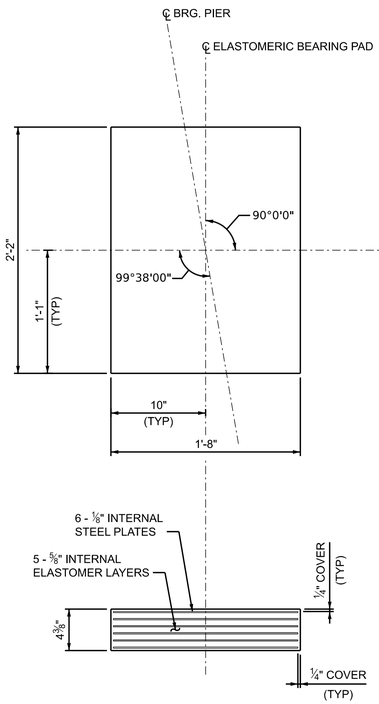
REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	MAC	2/22	CHECKED	LSC	2/22
			DRAWN	BJM	2/22	CHECKED	MAC	2/22
			QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
			ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
			REV. DATE		A005(073)		78	733

FILE NUMBER: 142-1-1



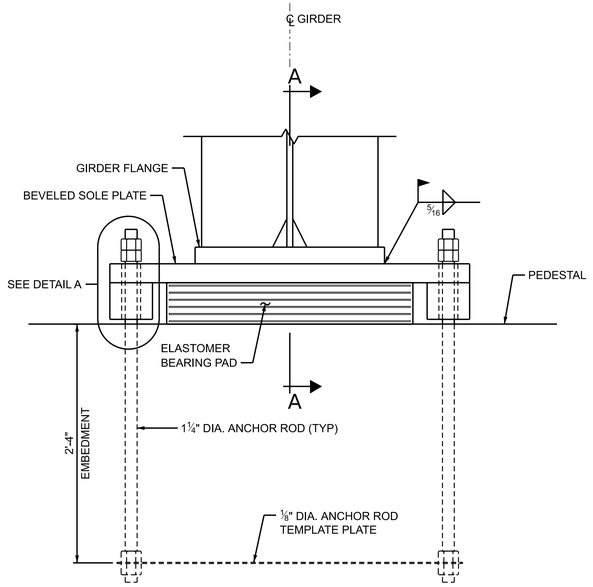
BEVELED SOLE PLATE

SCALE: 1 1/2" = 1'-0"



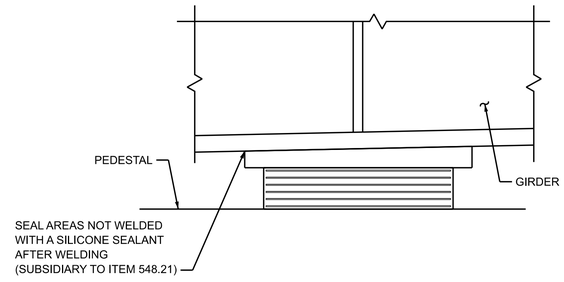
ELASTOMERIC BEARING PAD

SCALE: 1 1/2" = 1'-0"



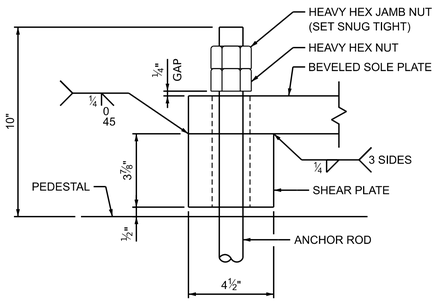
ELEVATION

SCALE: 1 1/2" = 1'-0"



SECTION A-A

SCALE: 1 1/2" = 1'-0"



DETAIL A

NOT TO SCALE

FIXED BEARING - PIER

8 TOTAL REQUIRED

NOTE:

1. SEE BEARING DETAILS (1 OF 2) FOR ELASTOMERIC BEARING NOTES.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Brg02	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

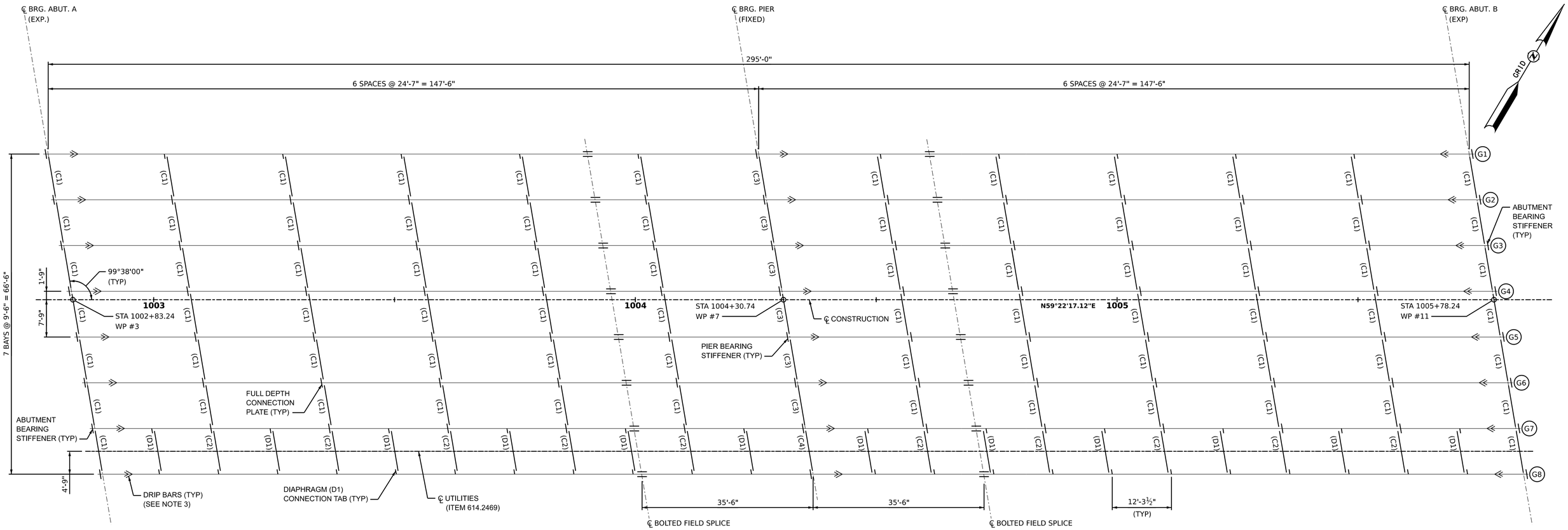
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BEARING DETAILS (2 OF 2)

BRIDGE SHEET 25 OF 49

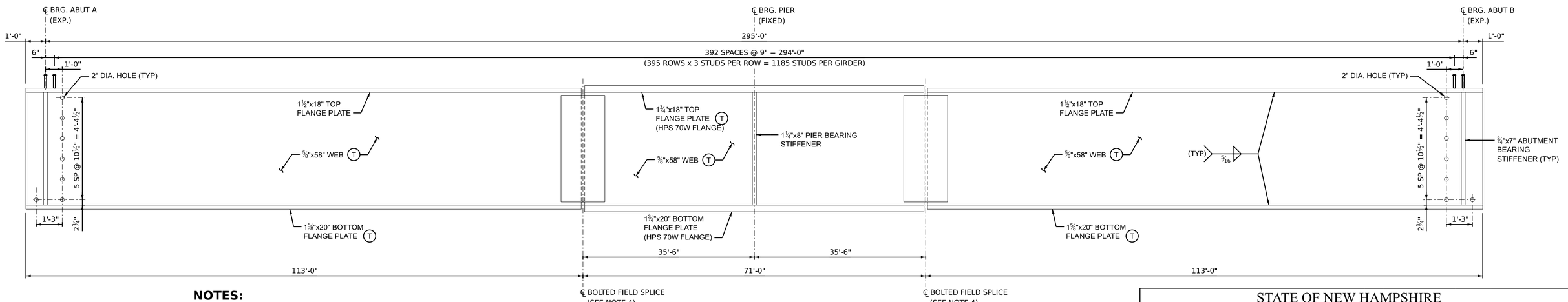
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	LSC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		79	733

FILE NUMBER 142-1-1



FRAMING PLAN

SCALE: 1" = 10'



NOTES:

1. SEE PROJECT NOTES AND QUANTITIES SHEET FOR STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES.
2. SEE STEEL DETAILS (1 OF 3) FOR CROSS FRAME DETAILS.
3. SEE STEEL DETAILS (2 OF 3) FOR MISCELLANEOUS STEEL DETAILS INCLUDING DRIP BAR DETAIL.
4. SEE STEEL DETAILS (3 OF 3) FOR BOLTED FIELD SPLICE DETAILS.
5. ALL WELDS TO BE MADE WITH E70XX ELECTRODES.

(T) NOTCH TOUGHNESS REQUIREMENTS OF NHDOT STANDARD SPECIFICATIONS 550.2.2 APPLY

GIRDER ELEVATION

(CONNECTION PLATES AND FLANGE SPLICE PLATES NOT SHOWN)
NOT TO SCALE

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Frame	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

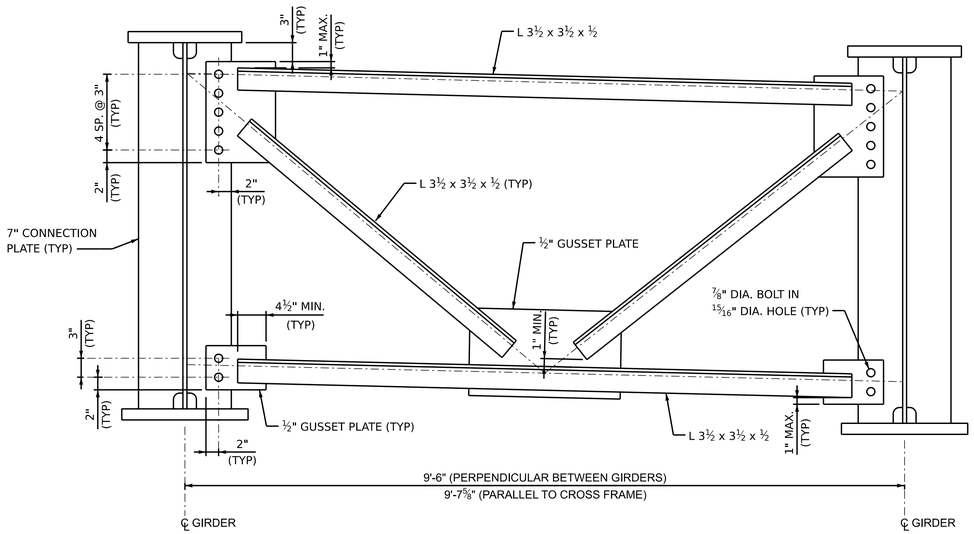
FRAMING PLAN AND GIRDER ELEVATION

BRIDGE SHEET 26 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		A005(073)		80	

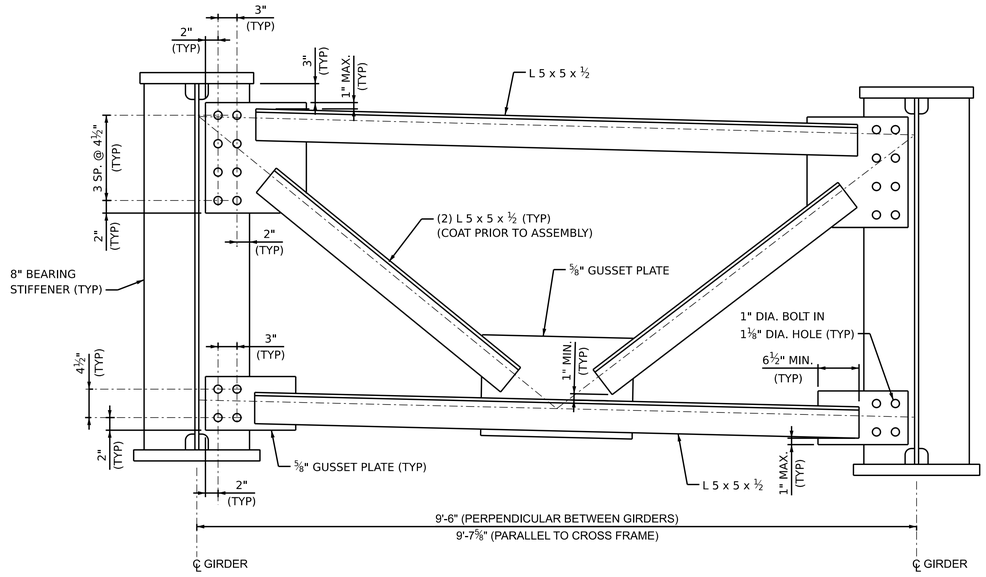
FILE NUMBER 142-1-1

TOTAL SHEETS 733



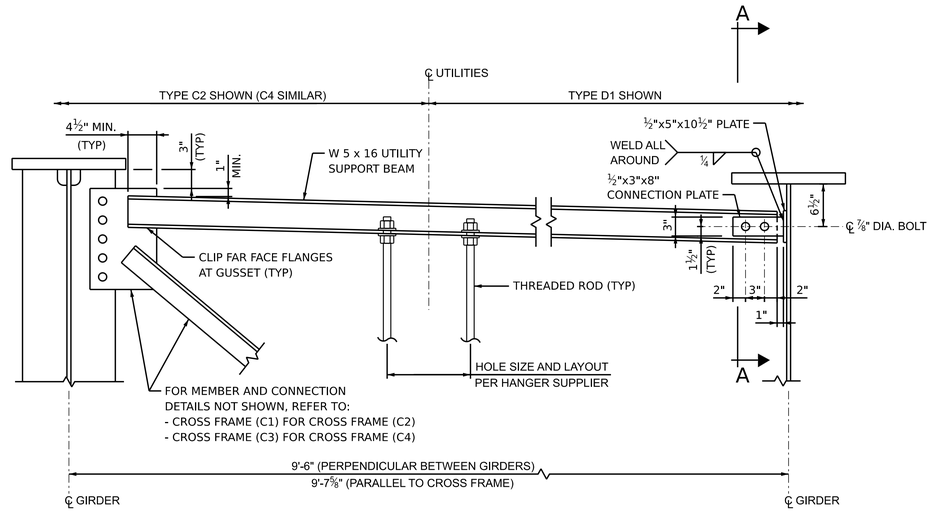
INTERMEDIATE CROSS FRAME (C1)

SCALE: 1" = 1'-0"



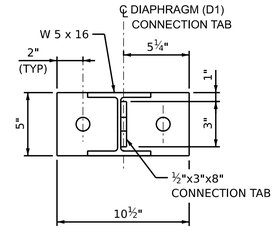
PIER CROSS FRAME (C3)

SCALE: 1" = 1'-0"



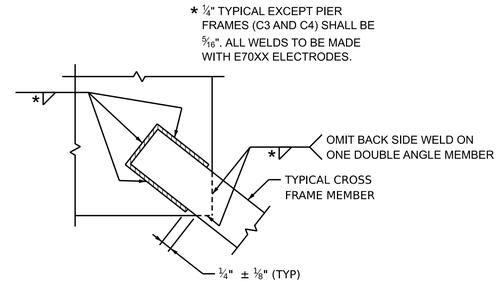
CROSS FRAME WITH UTILITY SUPPORT DETAIL TYPE (C2, C4, AND D1)

SCALE: 1" = 1'-0"



SECTION A-A

(FLANGE AND WEB NOT SHOWN)
NOT TO SCALE



TYPICAL WELD AND TERMINATION DETAIL FOR CROSS FRAMES

NOT TO SCALE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

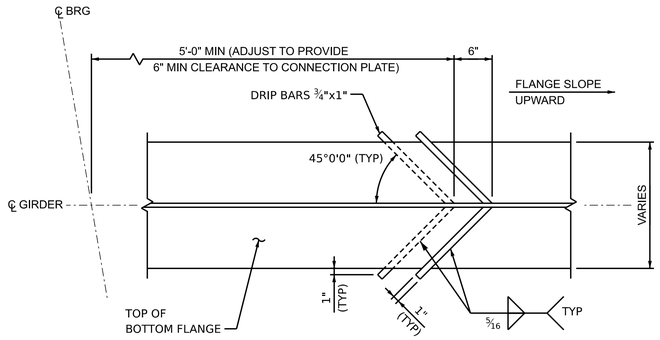
STEEL DETAILS (1 OF 3)

BRIDGE SHEET 27 OF 49

FILE NUMBER 142-1-1

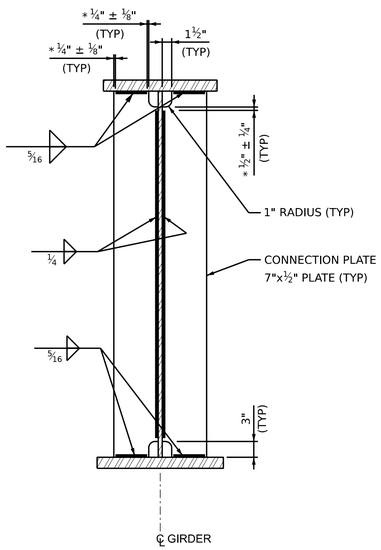
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	KCD	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_Steeldt1	AS NOTED	REV. DATE	A005(073)	81	733



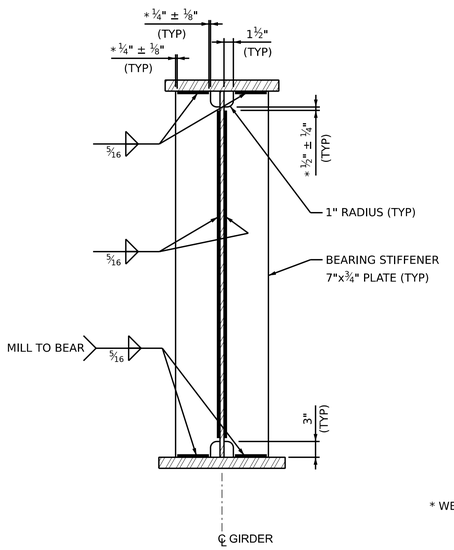
DRIP BAR DETAIL

(SEE FRAMING PLAN FOR LOCATION AND ORIENTATION)
SCALE: 1" = 1'-0"

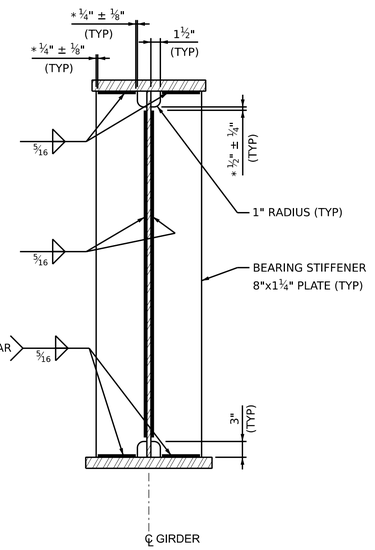


CONNECTION PLATE

SCALE: 1" = 1'-0"

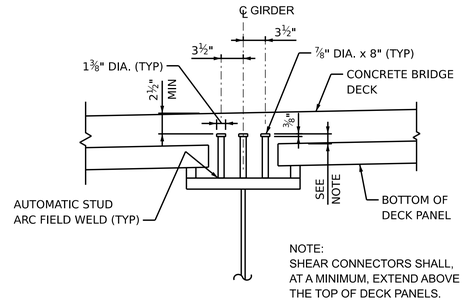


ABUTMENTS



PIER

* WELD TERMINATION



SHEAR CONNECTOR DETAIL

SCALE: 1" = 1'-0"

BEARING STIFFENER

SCALE: 1" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

STEEL DETAILS (2 OF 3)

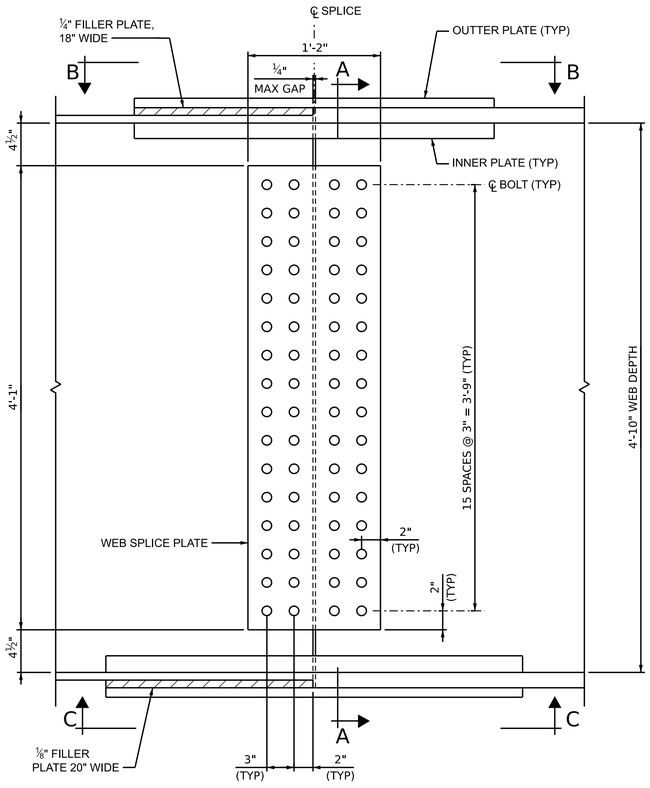
BRIDGE SHEET 28 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAW	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

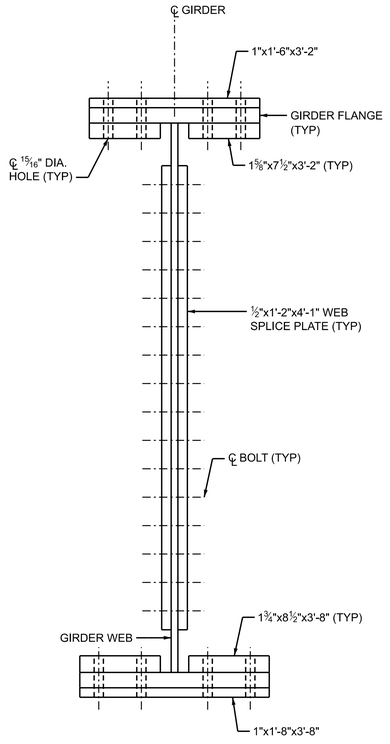
FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
A005(073)	82	733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Steeldt2	AS NOTED

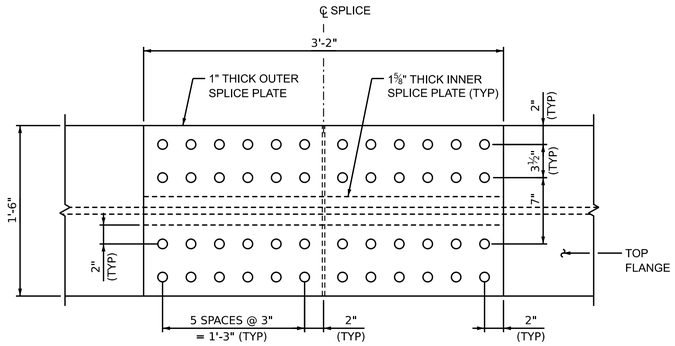


ELEVATION

(SHEAR CONNECTORS NOT SHOWN)

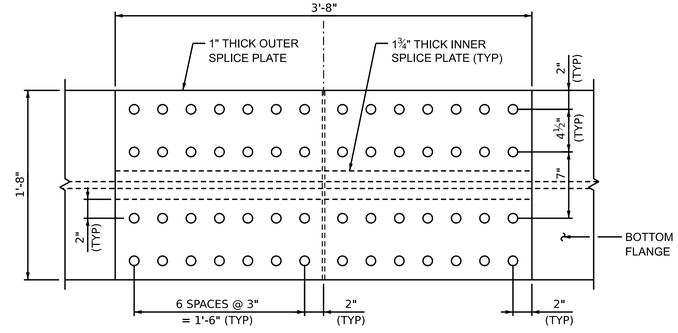


SECTION A-A



VIEW B-B (TOP)

(SHEAR CONNECTORS NOT SHOWN)



VIEW C-C (BOTTOM)

NOTES:

1. SEE PROJECT NOTES AND QUANTITIES SHEET FOR STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES.
2. INSTALL WEB BOLTS ON GIRDERS 1 AND 8 WITH BOLT HEADS ON THE EXTERIOR FACE.

BOLTED FIELD SPLICE DETAILS

SCALE: 1 1/2" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

STEEL DETAILS (3 OF 3)

BRIDGE SHEET 29 OF 49

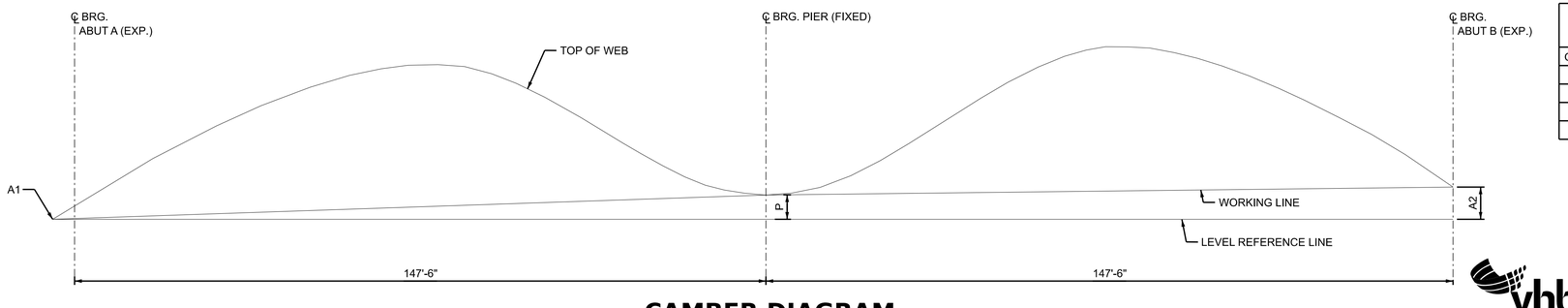
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAW	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		83	733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Steel02	AS NOTED

CAMBER TABLE @ 1/20TH POINTS (INCHES)

	POINT ON GIRDER	SPAN NO 1																				SPAN NO 2																					
		℄ BRG ABUT A	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	℄ BRG PIER	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	℄ BRG ABUT B
GIRDER 1	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.160	0.313	0.454	0.577	0.679	0.756	0.807	0.830	0.827	0.798	0.744	0.670	0.579	0.476	0.367	0.260	0.161	0.078	0.021	0.000	0.021	0.078	0.161	0.260	0.367	0.476	0.579	0.670	0.744	0.798	0.827	0.830	0.807	0.756	0.679	0.577	0.454	0.313	0.160	0.000
	CONCRETE SLAB	0.000	0.412	0.807	1.169	1.486	1.747	1.946	2.077	2.138	2.129	2.054	1.916	1.725	1.490	1.225	0.946	0.669	0.414	0.201	0.055	0.000	0.055	0.201	0.414	0.669	0.946	1.225	1.490	1.725	1.916	2.054	2.129	2.138	2.077	1.946	1.747	1.486	1.169	0.807	0.412	0.000
	SUPERIMPOSED DL	0.000	0.098	0.191	0.277	0.353	0.415	0.462	0.494	0.509	0.507	0.489	0.457	0.412	0.357	0.294	0.227	0.161	0.100	0.049	0.013	0.000	0.013	0.049	0.100	0.161	0.227	0.294	0.357	0.412	0.457	0.489	0.507	0.509	0.494	0.462	0.415	0.353	0.277	0.191	0.098	0.000
	TOTAL DEFLECTION	0.000	0.683	1.336	1.936	2.460	2.894	3.223	3.441	3.542	3.528	3.403	3.176	2.860	2.471	2.032	1.569	1.110	0.687	0.334	0.091	0.000	0.091	0.334	0.687	1.110	1.569	2.032	2.471	2.860	3.176	3.403	3.528	3.542	3.441	3.223	2.894	2.460	1.936	1.336	0.683	0.000
	VERTICAL CURVE ORDINATE	0.000	0.411	0.822	1.233	1.644	2.055	2.466	2.877	3.288	3.699	4.085	4.336	4.440	4.398	4.210	3.875	3.393	2.765	1.990	1.068	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.094	2.158	3.169	4.105	4.949	5.689	6.318	6.830	7.227	7.488	7.512	7.300	6.870	6.242	5.444	4.503	3.451	2.324	1.159	0.000	1.484	2.973	4.425	5.801	7.066	8.189	9.141	9.896	10.432	10.732	10.784	10.578	10.110	9.380	8.391	7.151	5.674	3.975	2.075	0.000
GIRDER 2	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.093	0.183	0.265	0.337	0.396	0.442	0.472	0.486	0.485	0.468	0.437	0.394	0.341	0.281	0.217	0.154	0.095	0.046	0.013	0.000	0.013	0.046	0.095	0.154	0.217	0.281	0.341	0.394	0.437	0.468	0.485	0.486	0.472	0.442	0.396	0.337	0.265	0.183	0.093	0.000
	TOTAL DEFLECTION	0.000	0.751	1.470	2.129	2.706	3.183	3.545	3.784	3.896	3.880	3.743	3.493	3.145	2.718	2.235	1.725	1.221	0.755	0.368	0.100	0.000	0.100	0.368	0.755	1.221	1.725	2.235	2.718	3.145	3.493	3.743	3.880	3.896	3.784	3.545	3.183	2.706	2.129	1.470	0.751	0.000
	VERTICAL CURVE ORDINATE	0.000	0.428	0.856	1.285	1.713	2.141	2.569	2.997	3.425	3.854	4.234	4.470	4.560	4.503	4.299	3.949	3.453	2.809	2.019	1.083	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.179	2.326	3.413	4.419	5.323	6.114	6.781	7.321	7.734	7.976	7.963	7.705	7.220	6.534	5.674	4.673	3.565	2.387	1.183	0.000	1.493	3.006	4.493	5.911	7.222	8.392	9.387	10.181	10.749	11.072	11.136	10.932	10.454	9.701	8.680	7.397	5.867	4.108	2.143	0.000
GIRDER 3	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.170	0.333	0.482	0.613	0.721	0.803	0.858	0.884	0.881	0.850	0.794	0.716	0.620	0.511	0.395	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.395	0.511	0.620	0.716	0.795	0.850	0.881	0.884	0.858	0.803	0.721	0.613	0.482	0.333	0.170	0.000
	TOTAL DEFLECTION	0.000	0.827	1.619	2.346	2.982	3.507	3.906	4.170	4.293	4.277	4.125	3.850	3.467	2.997	2.465	1.903	1.347	0.833	0.406	0.111	0.000	0.111	0.406	0.833	1.346	1.903	2.465	2.997	3.467	3.850	4.125	4.277	4.293	4.170	3.906	3.507	2.982	2.346	1.619	0.827	0.000
	VERTICAL CURVE ORDINATE	0.000	0.446	0.891	1.337	1.783	2.228	2.674	3.120	3.565	4.011	4.379	4.601	4.676	4.605	4.387	4.022	3.511	2.853	2.049	1.098	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.273	2.510	3.683	4.765	5.735	6.580	7.290	7.859	8.288	8.505	8.451	8.143	7.601	6.851	5.925	4.857	3.686	2.454	1.208	0.000	1.503	3.044	4.571	6.037	7.400	8.621	9.666	10.503	11.106	11.455	11.533	11.329	10.840	10.063	9.004	7.673	6.084	4.258	2.220	0.000
GIRDER 4	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.170	0.333	0.482	0.613	0.721	0.803	0.858	0.884	0.881	0.850	0.794	0.716	0.620	0.511	0.395	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.395	0.511	0.620	0.716	0.795	0.850	0.881	0.884	0.858	0.803	0.721	0.613	0.482	0.333	0.170	0.000
	TOTAL DEFLECTION	0.000	0.827	1.619	2.346	2.982	3.507	3.906	4.170	4.293	4.277	4.125	3.850	3.467	2.997	2.465	1.903	1.347	0.833	0.406	0.111	0.000	0.111	0.406	0.833	1.346	1.903	2.465	2.997	3.467	3.850	4.125	4.277	4.293	4.170	3.906	3.507	2.982	2.346	1.619	0.827	0.000
	VERTICAL CURVE ORDINATE	0.000	0.464	0.927	1.391	1.854	2.318	2.781	3.245	3.708	4.167	4.521	4.729	4.790	4.704	4.472	4.093	3.568	2.896	2.077	1.112	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.291	2.546	3.736	4.836	5.825	6.687	7.415	8.001	8.444	8.647	8.579	8.257	7.701	6.937	5.996	4.914	3.729	2.483	1.222	0.000	1.503	3.044	4.571	6.037	7.400	8.621	9.666	10.503	11.106	11.455	11.533	11.329	10.840	10.063	9.004	7.673	6.084	4.258	2.220	0.000
GIRDER 5	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.170	0.333	0.482	0.613	0.721	0.803	0.858	0.884	0.881	0.850	0.794	0.716	0.620	0.511	0.395	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.395	0.511	0.620	0.716	0.795	0.850	0.881	0.884	0.858	0.803	0.721	0.613	0.482	0.333	0.170	0.000
	TOTAL DEFLECTION	0.000	0.827	1.619	2.346	2.982	3.507	3.906	4.170	4.293	4.277	4.125	3.850	3.467	2.997	2.465	1.903	1.347	0.833	0.406	0.111	0.000	0.111	0.406	0.833	1.346	1.903	2.465	2.997	3.467	3.850	4.125	4.277	4.293	4.170	3.906	3.507	2.982	2.346	1.619	0.827	0.000
	VERTICAL CURVE ORDINATE	0.000	0.482	0.963	1.445	1.927	2.409	2.890	3.372	3.854	4.320	4.660	4.854	4.901	4.801	4.555	4.162	3.623	2.937	2.105	1.126	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.309	2.583	3.791	4.909	5.916	6.797	7.542	8.147	8.596	8.785	8.704	8.368	7.798	7.020	6.065	4.969	3.770	2.510	1.236	0.000	1.503	3.044	4.571	6.037	7.400	8.621	9.666	10.503	11.106	11.455	11.533	11.329	10.840	10.063	9.004	7.673	6.084	4.258	2.220	0.000
GIRDER 6	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.170	0.333	0.482	0.613	0.721	0.803	0.858	0.884	0.881	0.850	0.794	0.716	0.620	0.511	0.395	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.395	0.511	0.620	0.716	0.795	0.850	0.881	0.884	0.858	0.803	0.721	0.613	0.482	0.333	0.170	0.000
	TOTAL DEFLECTION	0.000	0.827	1.619	2.346	2.982	3.507	3.906	4.170	4.293	4.277	4.125	3.850	3.467	2.997	2.465	1.903	1.347	0.833	0.406	0.111	0.000	0.111	0.406	0.833	1.346	1.903	2.465	2.997	3.467	3.850	4.125	4.277	4.293	4.170	3.906	3.507	2.982	2.346	1.619	0.827	0.000
	VERTICAL CURVE ORDINATE	0.000	0.500	1.001	1.501	2.001	2.501	3.002	3.502	4.002	4.468	4.795	4.975	5.009	4.896	4.636	4.230	3.677	2.978	2.132	1.139	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.327	2.620	3.847	4.983	6.008	6.908	7.672	8.295	8.745	8.920	8.825	8.476	7.892	7.101	6.133	5.024	3.811	2.537	1.250	0.000	1.503	3.044	4.571	6.037	7.400	8.621	9.666	10.503	11.106	11.455	11.533	11.329	10.840	10.063	9.004	7.673	6.084	4.258	2.220	0.000
GIRDER 7	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.188	0.368	0.534	0.678	0.798	0.889	0.949	0.976	0.972	0.938	0.875	0.788	0.681	0.560	0.432	0.306	0.189	0.092	0.025	0.000	0.025	0.092	0.189	0.306	0.432	0.560	0.681	0.788	0.875	0.938	0.972	0.976	0.949	0.889	0.798	0.678	0.534	0.368	0.188	0.000
	CONCRETE SLAB	0.000	0.485	0.949	1.374	1.747	2.054	2.288	2.442	2.514	2.504	2.415	2.253	2.028	1.752	1.441	1.112	0.787	0.487	0.237	0.065	0.000	0.065	0.237	0.487	0.787	1.112	1.441	1.752	2.028	2.253	2.415	2.504	2.514	2.442	2.288	2.054	1.747	1.374	0.949	0.485	0.000
	SUPERIMPOSED DL	0.000	0.170	0.333	0.482	0.613	0.721	0.803	0.858	0.884	0.881	0.850	0.794	0.716	0.620	0.511	0.395	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.395	0.511	0.620	0.716	0.795	0.850	0.881	0.884	0.858	0.803	0.721	0.613	0.482	0.333	0.170	0.000
	TOTAL DEFLECTION	0.000	0.827	1.619	2.346	2.982	3.507	3.906	4.170	4.293	4.277	4.125	3.850	3.467	2.997	2.465	1.903	1.347	0.833	0.406	0.111	0.000	0.111	0.406	0.833	1.346	1.903	2.465	2.997	3.467	3.850	4.125	4.277	4.293	4.170	3.906	3.507	2.982	2.346	1.619	0.827	0.000
	VERTICAL CURVE ORDINATE	0.000	0.519	1.038	1.558	2.077	2.596	3.115	3.634	4.153	4.613	4.926	5.093	5.114	4.988	4.715	4.296	3.730	3.017	2.158	1.152	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.346	2.657	3.903	5.058	6.103	7.021	7.804	8.447	8.889	9.052	8.944	8.581	7.984	7.180	6.198	5.076	3.850	2.564	1.263	0.000	1.503	3.044	4.571	6.037	7.400	8.621	9.666	10.503	11.106	11.455	11.533	11.329	10.840	10.063	9.004	7.673	6.084	4.258	2.220	0.000
GIRDER 8	STEEL DL	0.000	0.173	0.338	0.490	0.622	0.732	0.815	0.870	0.896	0.892	0.860	0.803	0.723	0.624	0.513	0.396	0.280	0.173	0.084	0.023	0.000	0.023	0.084	0.173	0.280	0.396	0.513	0.624	0.723	0.803	0.860	0.892	0.896	0.870	0.815	0.732	0.622	0.490	0.338	0.173	0.000
	PRECAST DECK PANEL DL	0.000	0.160	0.313	0.454	0.577	0.679	0.756	0.807	0.830	0.827	0.798	0.744	0.670	0.579	0.476	0.367	0.260	0.161	0.078	0.021	0.000	0.021	0.078	0.161	0.260	0.367	0.476	0.579	0.670	0.744	0.798	0.827	0.830	0.807	0.756	0.679	0.577	0.454	0.313	0.160	0.000
	CONCRETE SLAB	0.000	0.412	0.807	1.169	1.486	1.747	1.946	2.077	2.138	2.129	2.054	1.916	1.725	1.490	1.225	0.946	0.669	0.414	0.201	0.055	0.000	0.055	0.201	0.414	0.669	0.946	1.225	1.490	1.725	1.916	2.054	2.129	2.138	2.077	1.946	1.747	1.486	1.169	0.807	0.412	0.000
	SUPERIMPOSED DL	0.000	0.178	0.348	0.504	0.641	0.754	0.840	0.897	0.925	0.922	0.890	0.831	0.749	0.648	0.534	0.413	0.292	0.181	0.088	0.024	0.000	0.024	0.088	0.181	0.292	0.413	0.534	0.648	0.749	0.831	0.890	0.922	0.925	0.897	0.840	0.754	0.641	0.504	0.348	0.178	0.000
	TOTAL DEFLECTION	0.000	0.763	1.493	2.163	2.749	3.233	3.601	3.844	3.958	3.943	3.803	3.550	3.197	2.763	2.273	1.755	1.242	0.768	0.374	0.102	0.000	0.102	0.374	0.768	1.242	1.755	2.273	2.763	3.197	3.550	3.803	3.943	3.958	3.844	3.601	3.233	2.749	2.163	1.493	0.763	0.000
	VERTICAL CURVE ORDINATE	0.000	0.538	1.077	1.615	2.154	2.692	3.230	3.769	4.306	4.754	5.054	5.209	5.216	5.077	4.792	4.360	3.781	3.055	2.184	1.165	0.000	1.393	2.639	3.738	4.691	5.497	6.157	6.670	7.036	7.256	7.329	7.256	7.036	6.670	6.157	5.497	4.691	3.738	2.639	1.393	0.000
	TOTAL CAMBER	0.000	1.301	2.570	3.778	4.903	5.925	6.832	7.613	8.264	8.696	8.858	8.758	8.413	7.840	7.064	6.114	5.022	3.824	2.558	1.267	0.000	1.495	3.013	4.506	5.932	7.252	8.429	9.433	10.233	10.806	11.133	11.199	10.994	10.514	9.758	8.730	7.440	5.901	4.131	2.155	0.000



CAMBER DIAGRAM

NOT TO SCALE

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Camber	AS NOTED

TABLE OF CAMBER DIMENSIONS (FT)

GIRDER	A1	P	A2	GIRDER	A1	P	A2
1	0.00	4.99	5.64	5	0.00	4.88	5.31
2	0.00	4.97	5.56	6	0.00	4.84	5.23
3	0.00	4.94	5.48	7	0.00	4.81	5.14
4	0.00	4.91	5.39	8	0.00	4.78	5.06

CAMBER TABLE NOTES:

1. CONCRETE SLAB VALUES ARE DUE TO FULL 8½" CONCRETE DECK DEAD LOAD.
2. TOTAL DEFLECTION VALUES ARE THE SUM OF STEEL DL, CONCRETE SLAB AND SUPERIMPOSED DL VALUES.

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

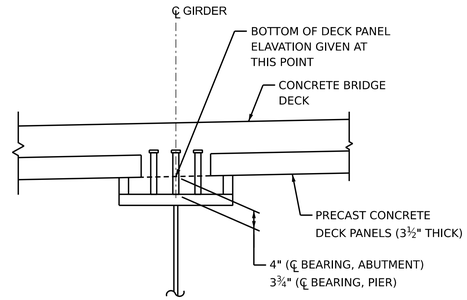
CAMBER DIAGRAM AND TABLES

BRIDGE SHEET: 30 OF 49

| REVISIONS AFTER PROPOSAL | | BY |

ELEVATIONS AT BOTTOM OF PRECAST CONCRETE DECK PANELS

	SPAN NO 1																					SPAN NO 2																						
GIRDER	℄ BRG ABUT A	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	℄ BRG PIER	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	℄ BRG ABUT B
1	400.79	401.11	401.44	401.76	402.07	402.39	402.69	402.99	403.28	403.56	403.83	404.09	404.33	404.55	404.76	404.95	405.13	405.30	405.47	405.62	405.78	405.93	406.08	406.23	406.37	406.50	406.61	406.72	406.80	406.87	406.93	406.96	406.97	406.97	406.95	406.90	406.84	406.76	406.67	406.55	406.43
2	401.04	401.37	401.70	402.03	402.35	402.66	402.97	403.27	403.56	403.84	404.11	404.36	404.60	404.81	405.01	405.20	405.38	405.54	405.70	405.85	406.00	406.15	406.31	406.45	406.59	406.72	406.84	406.94	407.03	407.10	407.15	407.18	407.20	407.19	407.16	407.11	407.04	406.96	406.85	406.73	406.60
3	401.29	401.63	401.96	402.30	402.62	402.94	403.25	403.55	403.84	404.13	404.39	404.64	404.87	405.08	405.27	405.45	405.62	405.78	405.93	406.08	406.23	406.38	406.53	406.67	406.81	406.94	407.06	407.17	407.26	407.33	407.38	407.41	407.42	407.41	407.38	407.32	407.25	407.15	407.04	406.91	406.77
4	401.54	401.88	402.22	402.55	402.87	403.19	403.50	403.80	404.10	404.38	404.64	404.89	405.11	405.32	405.51	405.69	405.85	406.01	406.16	406.30	406.45	406.60	406.74	406.89	407.03	407.15	407.27	407.37	407.46	407.53	407.57	407.60	407.61	407.60	407.56	407.50	407.43	407.33	407.21	407.08	406.94
5	401.48	401.82	402.16	402.49	402.82	403.13	403.44	403.75	404.04	404.32	404.58	404.82	405.05	405.25	405.44	405.61	405.78	405.93	406.07	406.22	406.36	406.50	406.65	406.79	406.93	407.05	407.17	407.27	407.35	407.41	407.46	407.49	407.49	407.47	407.43	407.37	407.29	407.20	407.08	406.94	406.79
6	401.36	401.69	402.03	402.36	402.69	403.01	403.32	403.62	403.91	404.19	404.45	404.69	404.91	405.11	405.30	405.47	405.63	405.78	405.92	406.06	406.20	406.34	406.49	406.62	406.76	406.88	406.99	407.09	407.17	407.23	407.27	407.30	407.30	407.28	407.24	407.18	407.09	406.99	406.87	406.73	406.58
7	401.23	401.57	401.90	402.23	402.56	402.88	403.19	403.49	403.78	404.06	404.32	404.55	404.77	404.97	405.15	405.32	405.48	405.63	405.77	405.90	406.04	406.18	406.32	406.46	406.59	406.71	406.82	406.91	406.99	407.05	407.09	407.11	407.11	407.09	407.04	406.98	406.89	406.79	406.66	406.52	406.37
8	401.10	401.43	401.76	402.09	402.41	402.73	403.04	403.34	403.63	403.90	404.16	404.39	404.61	404.81	404.99	405.16	405.32	405.47	405.61	405.75	405.88	406.02	406.15	406.28	406.41	406.52	406.62	406.71	406.78	406.84	406.87	406.89	406.89	406.86	406.82	406.75	406.67	406.57	406.44	406.31	406.16



PARTIAL DEPTH DECK PANEL HAUNCH DETAIL

NOT TO SCALE

DECK ELEVATION NOTE:

1. AFTER THE STRUCTURAL STEEL IS ERECTED BUT BEFORE THE DECK PANELS ARE SET, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF THE GIRDER TO THE BOTTOM OF THE DECK PANEL AT THE CENTERLINE OF THE GIRDER, SEE ELEVATION TABLE AND PARTIAL DEPTH DECK PANEL HAUNCH DETAIL ON THIS SHEET.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Panel	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BOTTOM OF SLAB ELEVATIONS

BRIDGE SHEET: 31 OF 49

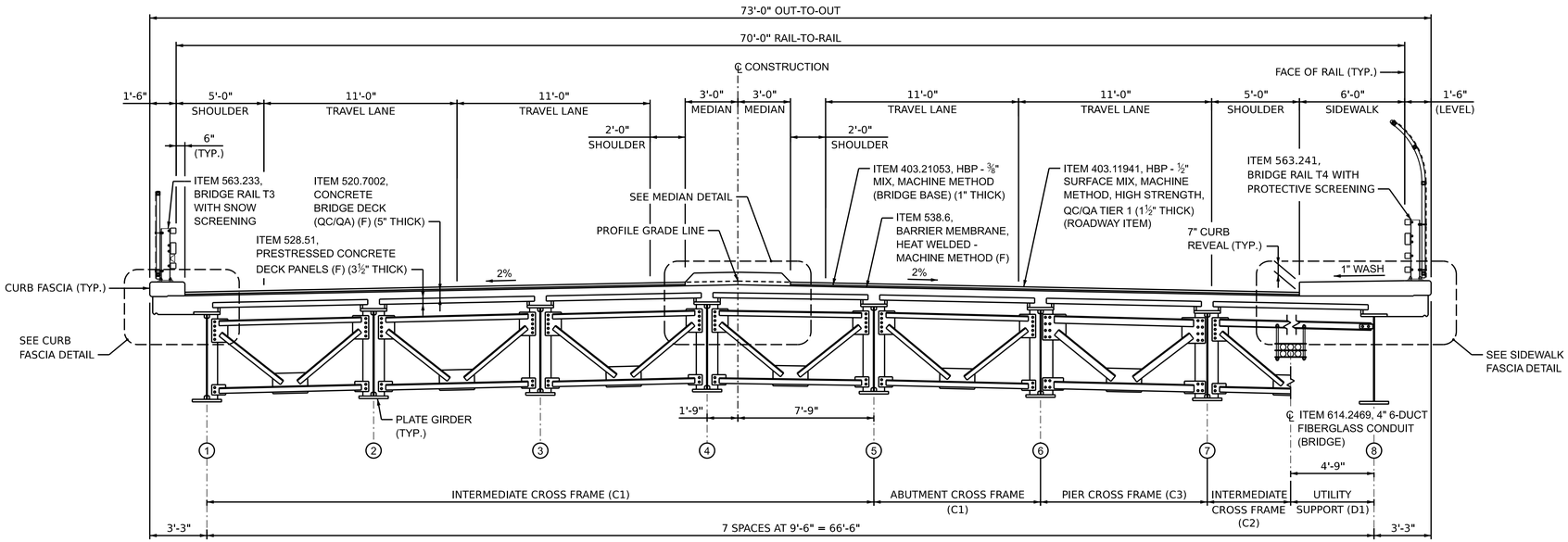
FILE NUMBER: 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSB/JGM	2/22	CHECKED	GSG	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

FEDERAL PROJECT NO. A005(073)

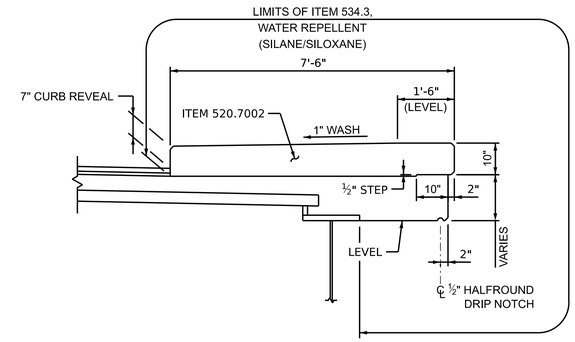
SHEET NO. 85

TOTAL SHEETS 733



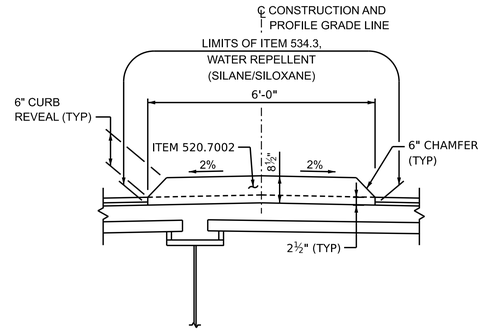
TYPICAL BRIDGE SECTION

SCALE: 1/4" = 1'-0"



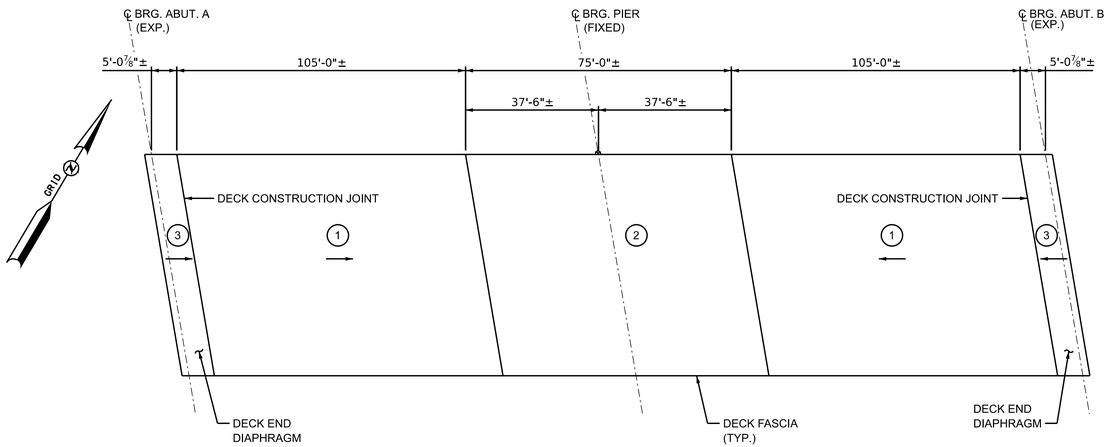
SIDEWALK FASCIA DETAIL

SCALE: 1/2" = 1'-0"



MEDIAN DETAIL

SCALE: 1/2" = 1'-0"

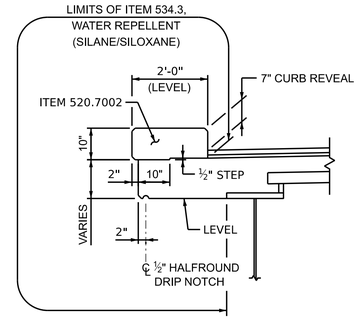


DECK POUR SEQUENCE

NOT TO SCALE

DECK POUR NOTES:

1. DECK SLAB AREAS SHALL BE PLACED IN A SEQUENCE STARTING WITH POUR 1. POUR 2 AND POUR 1 MAY BE PLACED DURING A SINGLE PLACEMENT OPERATION AS LONG AS, DURING PLACEMENT, POUR 2 DOES NOT ADVANCE AHEAD OF POUR 1. IF POUR 2 AND POUR 1 ARE NOT PLACED IN A SINGLE OPERATION, POUR 2 SHALL NOT BE STARTED UNTIL 72 HOURS AFTER COMPLETION OF POUR 1. POUR 3 SHALL NOT BE STARTED UNTIL 72 HOURS AFTER THE COMPLETION OF POUR 2.
2. DURING A SINGLE PLACEMENT OPERATION, THE CONTRACTOR SHALL ENSURE THAT THE CONCRETE IN ALL AREAS REMAINS PLASTIC UNTIL THE LAST CONCRETE IS PLACED.
3. ONCE THE PLACING OF A SLAB HAS BEEN STARTED, IT SHALL BE COMPLETED WITHOUT INTERRUPTION.
4. AN ALTERNATIVE SEQUENCE MAY BE PROPOSED AND SUBSTITUTED WITH THE APPROVAL OF THE BUREAU OF BRIDGE DESIGN.
5. SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF THE GIRDERS.



CURB FASCIA DETAIL

SCALE: 1/2" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

TYPICAL BRIDGE SECTION & DETAILS

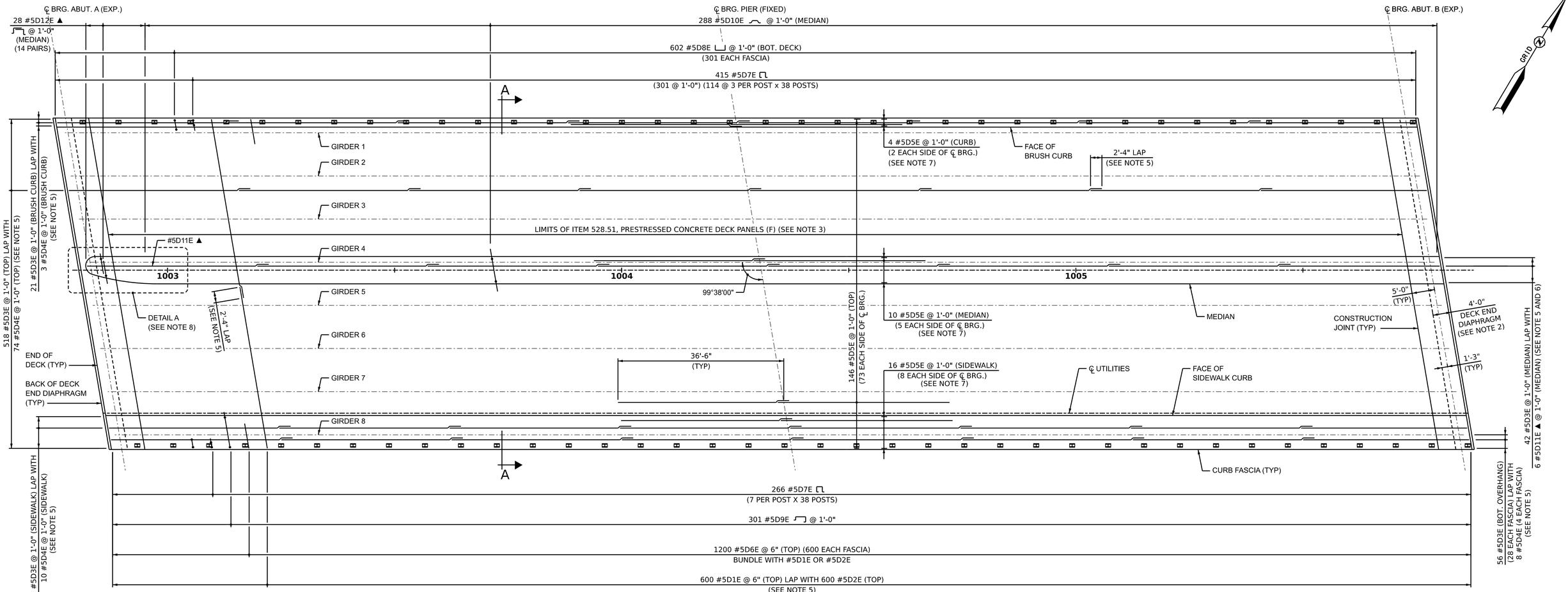
BRIDGE SHEET 32 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

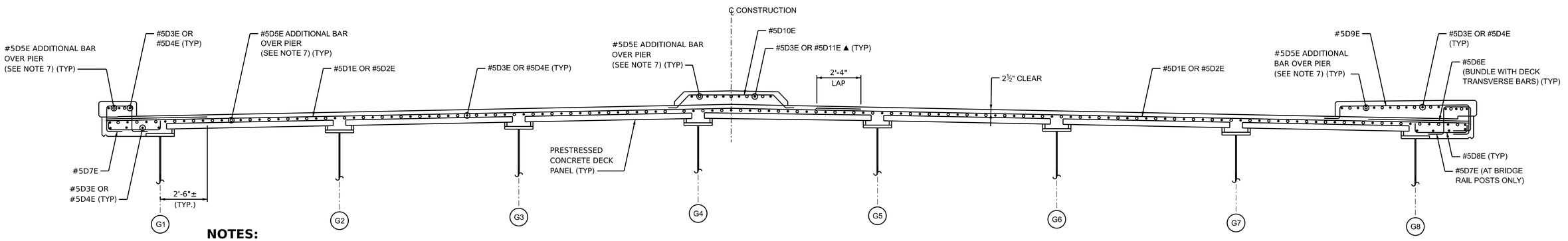
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_BTyp	AS NOTED

FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
A005(073)	86	733



DECK PLAN

SCALE: 3/32" = 1'-0"



SECTION A-A

SCALE: 3/8" = 1'-0"

NOTES:

1. CONCRETE CLEAR COVER AT FACE OF CURBS SHALL BE 3", AND 2½" ELSEWHERE UNLESS NOTED OTHERWISE.
2. SEE DECK END DIAPHRAGM MASONRY AND REINFORCING SHEET FOR DECK END DIAPHRAGM REINFORCING DETAILS.
3. PRESTRESSED CONCRETE DECK PANELS SHALL BE DETAILED BY THE CONTRACTOR AND BE PLACED BETWEEN ALL GIRDERS TO THE LIMITS SHOWN IN PLAN. THE END PANELS SHALL BE SKEWED SUCH THAT THEY ARE PARALLEL TO THE CENTERLINE OF BEARING.
4. SEE DECK END DIAPHRAGM MASONRY AND REINFORCING SHEET FOR BOTTOM BARS DETAILED ABOVE THE DECK END DIAPHRAGM.
5. ALTERNATE BARS TO STAGGER LAPS BETWEEN ADJACENT BARS.
6. BARS TO BE CUT TO FIT IN THE FIELD AS NEEDED TO WORK WITH MEDIAN GEOMETRY.
7. ADDITIONAL BARS OVER PIER SHALL BE SPACED AT 1'-0" AND PLACED TO ALTERNATE WITH THE MAIN LONGITUDINAL DECK STEEL.
8. FOR DETAIL A, SEE DECK END DIAPHRAGM MASONRY AND REINFORCING SHEET.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_DeckRein	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

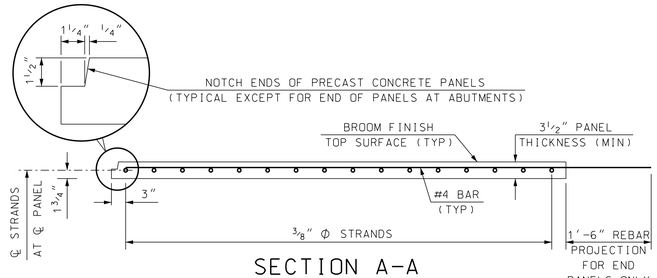
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

DECK SLAB REINFORCING

BRIDGE SHEET 33 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		87	733



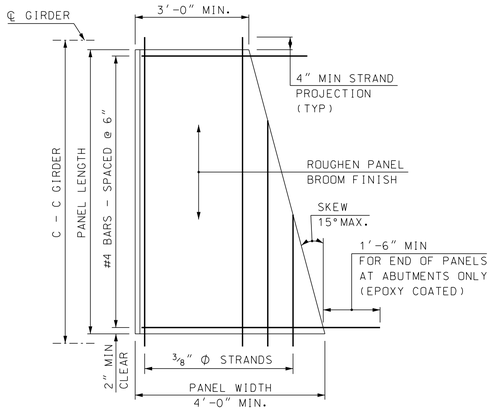
SECTION A-A

SCALE: 3/4" = 1'-0"

TABLE A - DECK PANEL DESIGN (STEEL-GIRDER)					
C-C GIRDER SPACING	PANEL THICKNESS	f'ci (PSI)	f'c (PSI)	STRAND SPACING	TOTAL STRANDS PER 8 FT. PANEL
≤8'-0"	3 1/2"	4000	6000	8"	12
8'-6"	3 1/2"	4800	6000	6"	16
9'-0"	3 1/2"	4800	6000	6"	16
9'-6"	3 1/2"	6000	8000	5"	19
10'-0"	3 1/2"	6000	8000	5"	19

DESIGN CRITERIA USED TO DEVELOP TABLE A:

DESIGN CODE	=	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2014 W/ INTERIMS
LIVE LOAD	=	HL-93 OR HS25
ALLOWABLE TENSION IN CONCRETE	=	$0.19\sqrt{f'c}$
MAXIMUM INITIAL COMPRESSION	=	0.19f'ci
C-I-P DECK THICKNESS	=	5" (w/ asphalt overlay) or 6 1/2" (bare deck)
PAVEMENT THICKNESS	=	2 1/2" or 0" (bare deck)
STEEL FLANGE WIDTH	=	12"
GROUT DAM WIDTH	=	1 1/2"
GROUT BED THICKNESS	=	2 1/2"



PRESTRESSED CONCRETE DECK PANEL NOTES

(1) PRESTRESSING STRANDS SHALL BE 3/8 in. DIAMETER, GRADE 270 SEVEN WIRE LOW-RELAXATION TYPE, CONFORMING TO THE REQUIREMENTS OF ASTM A416. ALL STRANDS SHALL BE PULLED TO HAVE A NET TENSION OF 17.2 KIPS PER STRAND AFTER ALLOWING FOR CHUCK SLIPPAGE.

(2) THE MILD REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) GRADE 60. MILD REINFORCEMENT FOR THE END PANELS SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF ASTM A775 AND D3963.

(3) THE TOP SURFACE OF THE DECK PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 0.06 in. BROOM THE SURFACE PARALLEL TO THE STRAND.

(4) THE GROUT DAM SHALL BE A RIGID MATERIAL THAT PROVIDES A VARIABLE DEPTH AND IS BONDED TO THE BEAM TO RETAIN THE GROUT DURING PLACEMENT. THE MATERIAL AND ADHESIVE SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR. SEE SECTION 528.

(5) PANEL LIFTING LOCATIONS SHOWN ARE ADVISORY ONLY. ACTUAL LIFTING LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR AND INDICATED ON THE SHOP DRAWINGS.

(6) CORROSION INHIBITOR (CALCIUM NITRITE) ADMIXTURE SHALL BE USED.

(7) SEE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR SECTIONS 520 AND 528 FOR ADDITIONAL INFORMATION.

(8) IF LEVELING SCREWS ARE USED, THEY SHALL BE COMPLETELY REMOVED AFTER THE GROUTING OPERATIONS AND PRIOR TO DECK PLACEMENT. HOLES LEFT BY LEVELING SCREWS SHALL BE FILLED WITH AN APPROVED GROUT PRIOR TO DECK PLACEMENT. THE LEVELING SCREW LOCATIONS SHALL NOT INTERFERE WITH THE LOCATION OF THE GROUT DAM.

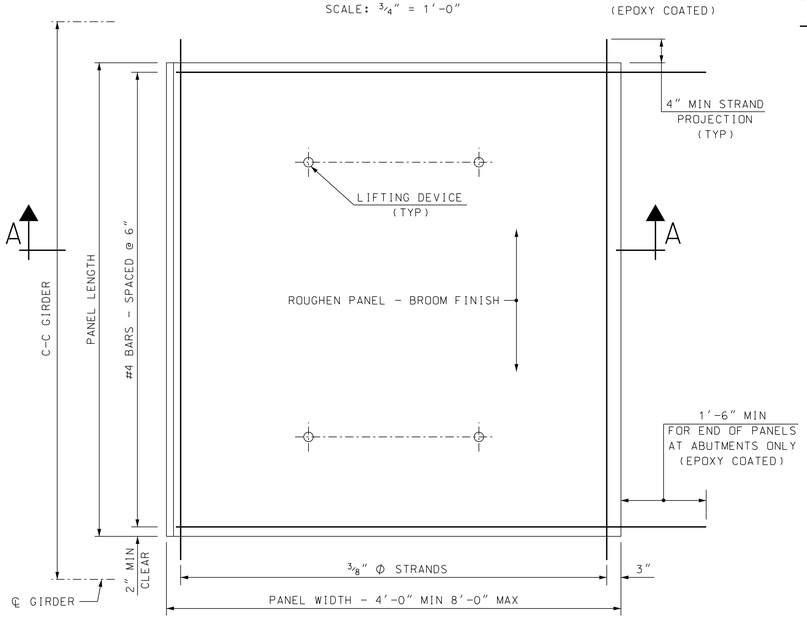
(9) TEMPORARY BRACING BETWEEN ENDS OF PANELS SHALL BE INSTALLED AS REQUIRED TO PREVENT PANEL MOVEMENT TRANSVERSE TO THE GIRDERS.

(10) SHOP DRAWINGS SHOWING THE LAYOUT AND CONSTRUCTION DETAILS OF THE DECK PANELS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH THE SPECIAL PROVISION.

(11) THE FOLLOWING DECK PANEL DESIGN INFORMATION SHALL BE USED FOR THIS PROJECT:

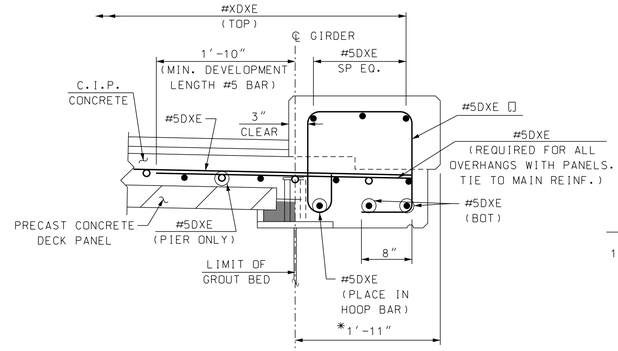
C-C GIRDER SPACING = 9'-6"
GIRDER FLANGE WIDTH = 18"
ASSUMED GROUT DAM WIDTH = 1.5"
PANEL LENGTH = 8'-7" (NOTE: IF THE CONTRACTOR PROPOSES A GROUT DAM WIDTH THAT EXCEEDS THE ASSUMED WIDTH, PANEL LENGTH SHALL BE INCREASED AS REQURIED TO PROVIDE A 2" MIN. GROUT BED WIDTH.)

PANEL THICKNESS = 3.5"
CONCRETE STRENGTH f'c = 8.000 PSI AT 28 DAYS
f'ci = 6.000 PSI AT RELEASE
STRAND SPACING = 5"
TOTAL NUMBER OF STRANDS REQUIRED PER 8' PANEL WIDTH = 19



DECK PANEL DETAIL

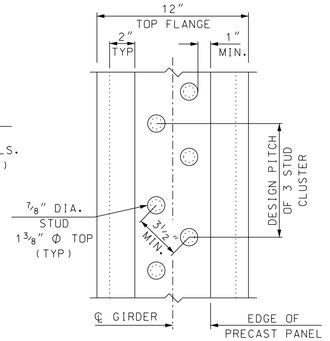
SCALE: 3/4" = 1'-0"



* DETAIL SHOWN FOR DECK OVERHANG LESS THAN 2'-6"

STEEL GIRDER OVERHANG DETAIL

SCALE: 1" = 1'-0"



STAGGERED STUD DETAIL

SCALE: 2" = 1'-0"

CAST-IN-PLACE CONCRETE NOTES

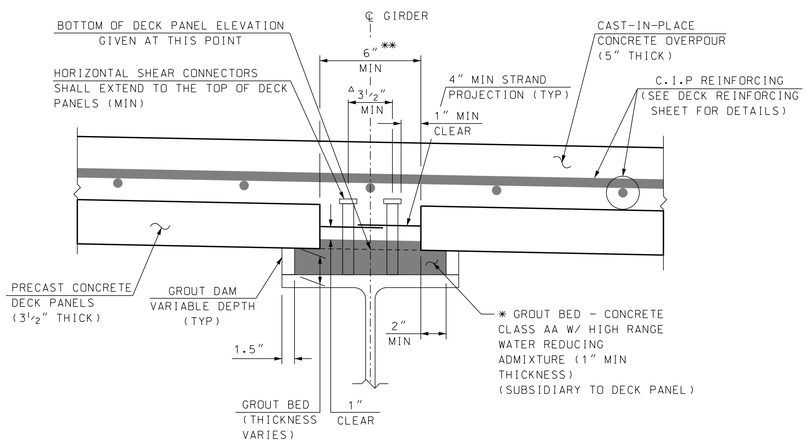
(1) CAST-IN-PLACE CONCRETE STRENGTH f'c = 4.000 PSI AT 28 DAYS

(2) CAST-IN-PLACE REINFORCING SHALL CONFORM TO AND FOLLOW THE LAYOUT OF THE TOP MAT REINFORCING SHOWN ON THE DECK REINFORCING SHEET.

DECK SLAB ELEVATION NOTES

(1) AFTER THE GIRDERS ARE ERECTED AND BEFORE PRECAST DECK PANELS ARE SET, ELEVATIONS ON THE TOP FLANGE OF GIRDERS SHALL BE OBTAINED AT THE POINTS INDICATED IN "BOTTOM OF SLAB ELEVATIONS TABLE" DETAILED IN THE PLANS AND GIRDER HAUNCH DETAIL THIS SHEET.

(2) THE BOTTOM OF SLAB ELEVATIONS SHALL BE ADJUSTED (REDUCED) BY THE DIFFERENCE BETWEEN THE CAST-IN-PLACE DECK THICKNESS AND TOTAL COMPOSITE DECK THICKNESS.



* ENSURE GROUT FLOWS UNDER PANEL FOR COMPLETE BEARING
** 5" MIN. FOR 12" FLANGE
Δ STAGGER STUDS IF FLANGE < 14" OR 3 STUDS PER ROW REQUIRED

STEEL GIRDER HAUNCH DETAIL

SCALE: 2" = 1'-0"

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_DeckPanel	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

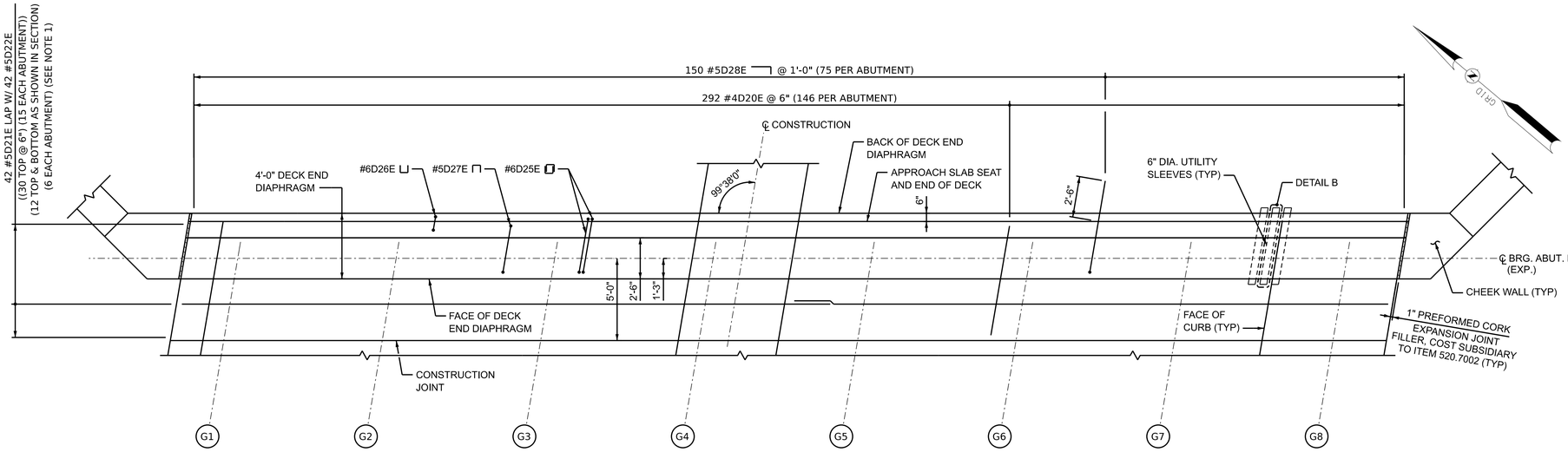
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

PRECAST CONCRETE DECK PANELS

BRIDGE SHEET: 34 OF 49

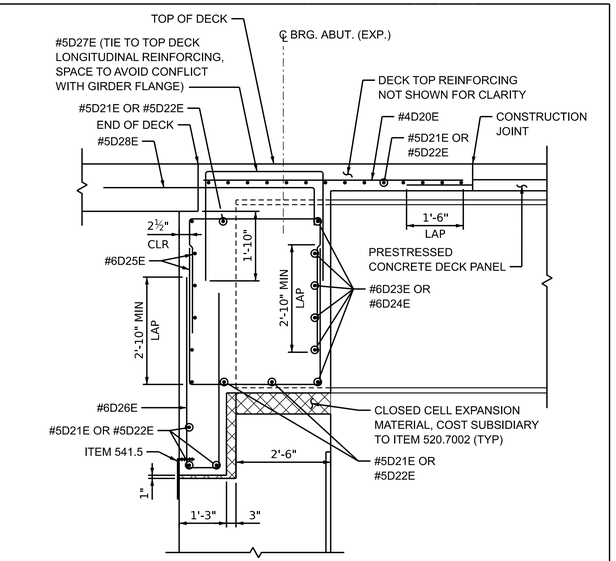
FILE NUMBER: 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NHDOT	4/02	CHECKED	NHDOT	12/17
	DRAWN	NHDOT	12/10	CHECKED	NHDOT	12/17
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A005(073)		88	733



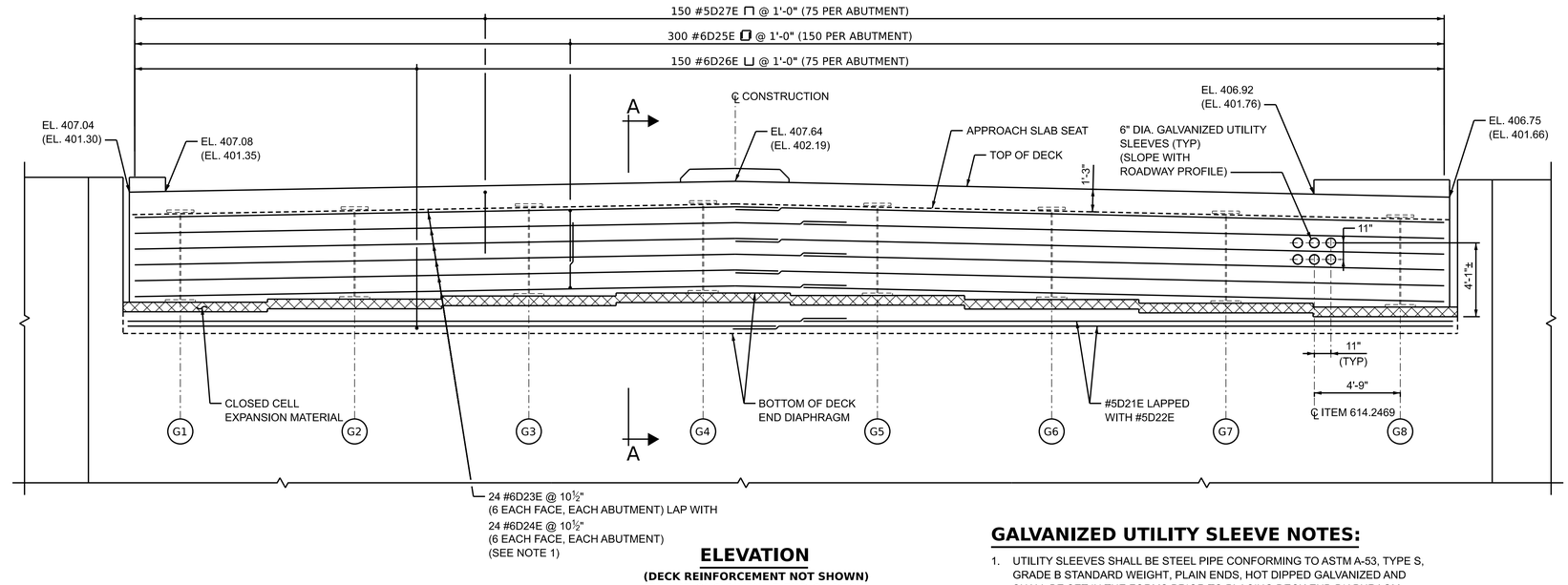
PLAN

(ABUTMENT B SHOWN, ABUTMENT A SIMILAR OPPOSITE HAND)
SCALE: 1/4" = 1'-0"



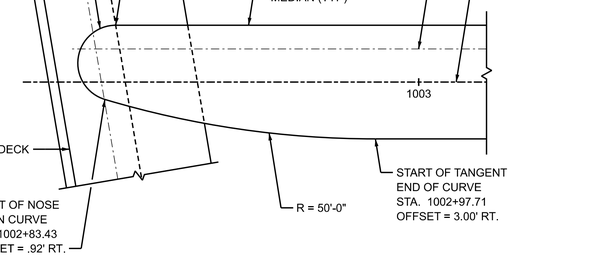
SECTION A-A

(BEARING NOT SHOWN)
SCALE: 1/2" = 1'-0"



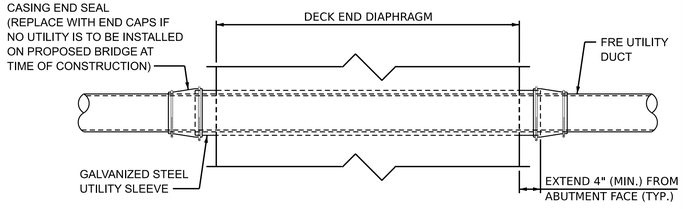
ELEVATION

(DECK REINFORCEMENT NOT SHOWN)
(ELEVATIONS GIVEN AT END OF DECK)
(ABUTMENT B ELEVATIONS SHOWN, ABUTMENT A ELEVATIONS SHOWN IN PARENTHESES)
SCALE: 1/4" = 1'-0"



DETAIL A

SCALE: 1/4" = 1'-0"



DETAIL B - UTILITY SLEEVE DETAIL

SCALE: 1" = 1'-0"

NOTES:

1. ALTERNATE BARS TO STAGGER LAPS BETWEEN ADJACENT BARS.

GALVANIZED UTILITY SLEEVE NOTES:

1. UTILITY SLEEVES SHALL BE STEEL PIPE CONFORMING TO ASTM A-53, TYPE S, GRADE B STANDARD WEIGHT, PLAIN ENDS, HOT DIPPED GALVANIZED AND SHALL BE SET IN THE FORMS PRIOR TO PLACING DECK END DIAPHRAGM CONCRETE. ALL COSTS FOR PIPE, GALVANIZING, PLACING, EXPANSION COUPLINGS AND END SEALS SHALL BE SUBSIDIARY TO ITEM 614.2469, 4" 6-DUCT FIBERGLASS CONDUIT (BRIDGE).

2. THE DECK END DIAPHRAGM MOVES ALONG THE BRIDGE LONGITUDINAL AXIS DURING NORMAL THERMAL EXPANTION/CONTRACTION CYCLES. THE TOTAL FACTORED MOVEMENT RANGE EXPECTED TO OCCUR IS 1-3/4". THE CONTRACTOR SHALL PROVIDE MEANS OF ALLOWING THIS MOVEMENT TO OCCUR WITHOUT MOVING OR DAMAGING THE FRE UTILITY DUCTS THROUGH USE OF EXPANSION COUPLINGS, FLEXIBLE END SEALS OR OTHER APPROVED MEANS.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_EndDiaph	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

DECK END DIAPHRAGM MASONRY AND REINFORCING

BRIDGE SHEET 35 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
			DESIGNED	TSP	2/22
			DRAWN	BJM	2/22
			QUANTITIES	AMM	2/22
			ISSUE DATE		
			REV. DATE		

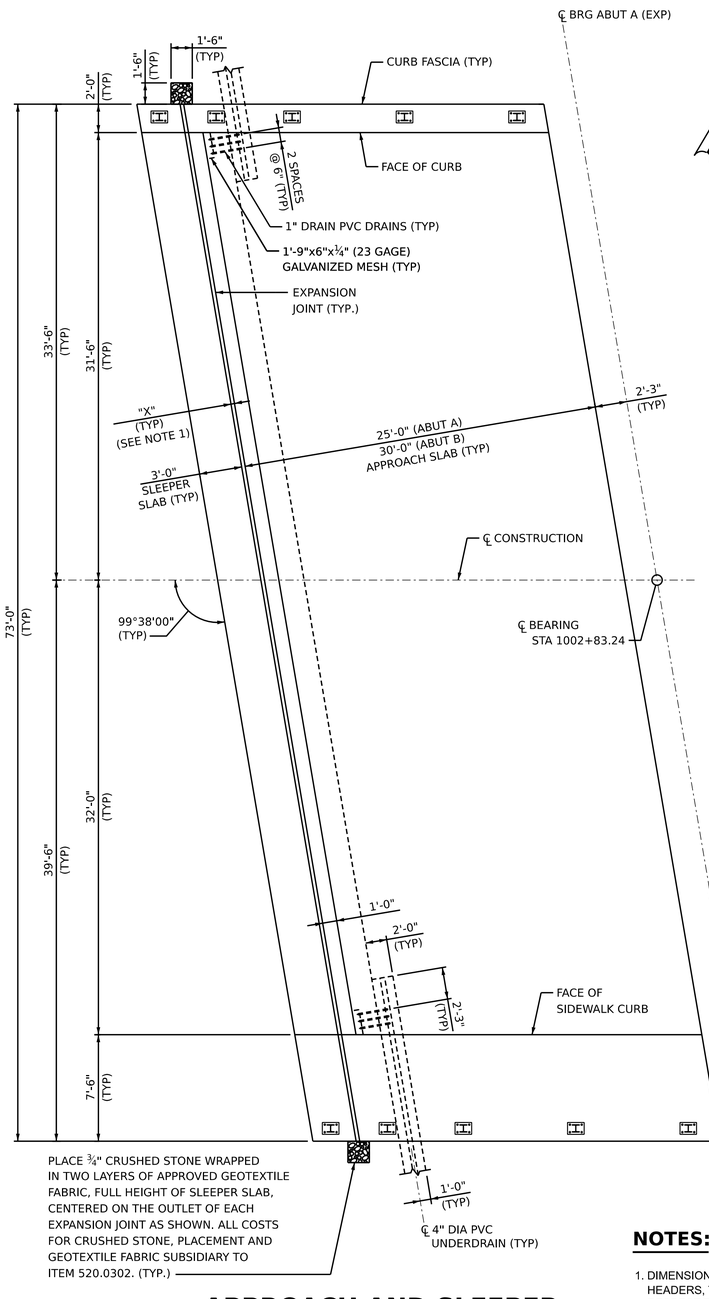
CHECKED	KCD	2/22
CHECKED	MAC	2/22
CHECKED	JAW	2/22

FEDERAL PROJECT NO. A005(073)

FILE NUMBER 142-1-1

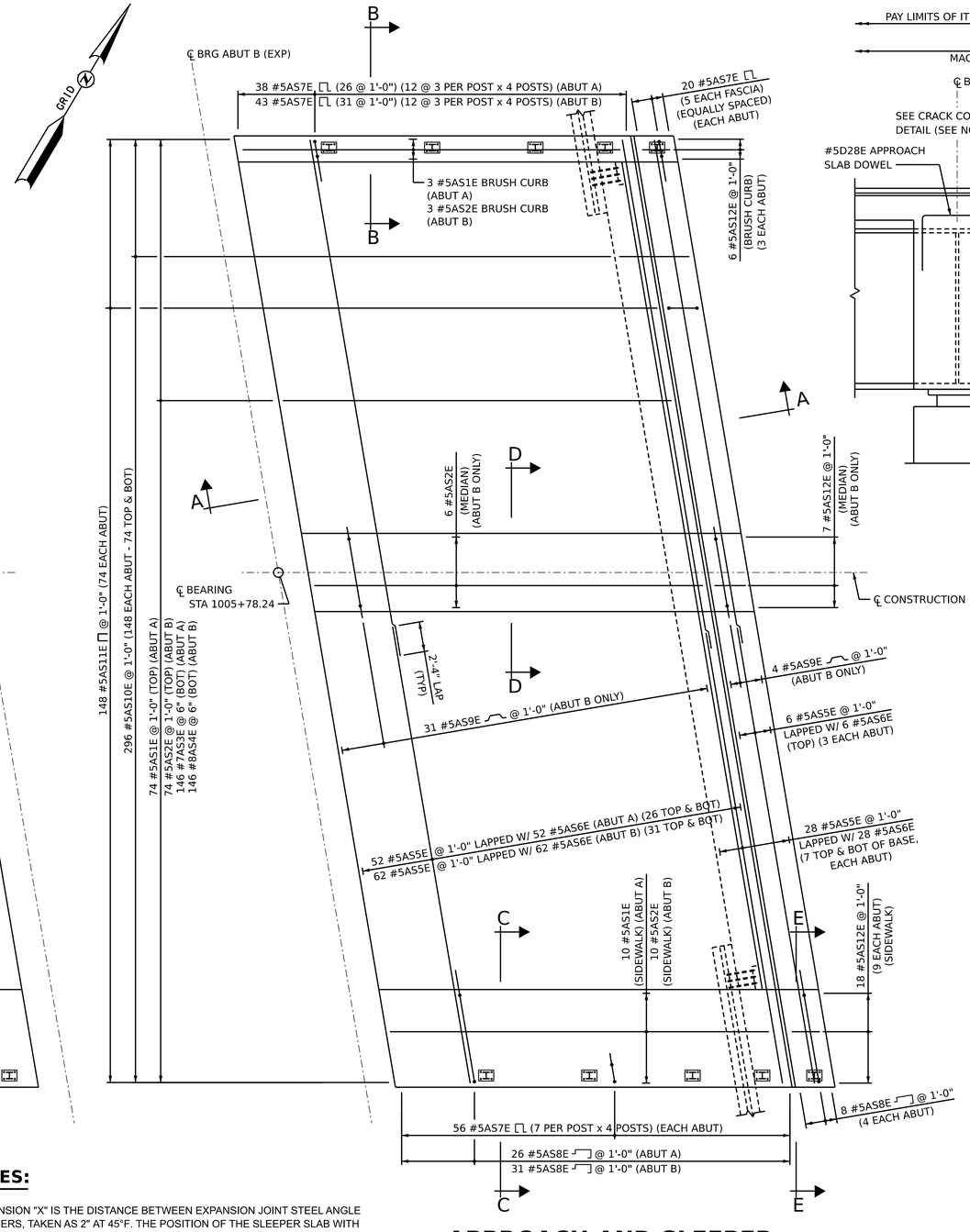
SHEET NO. 89

TOTAL SHEETS 733



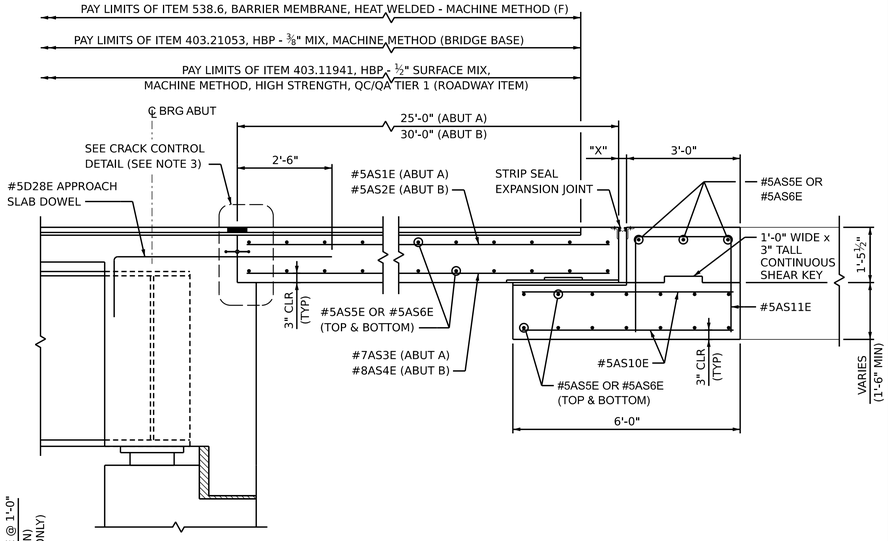
APPROACH AND SLEEPER SLAB MASONRY

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR)
SCALE: 3/16" = 1'-0"



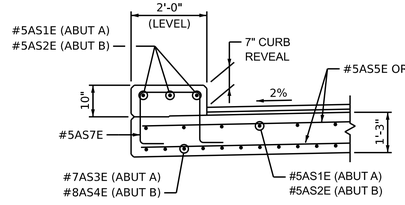
APPROACH AND SLEEPER SLAB REINFORCEMENT

(ABUTMENT B SHOWN, ABUTMENT A SIMILAR WITH NO MEDIAN)
SCALE: 3/16" = 1'-0"



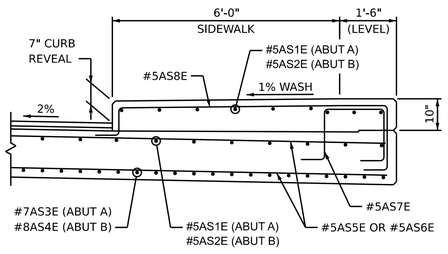
SECTION A-A

SCALE: 1/2" = 1'-0"



SECTION B-B

SCALE: 1/2" = 1'-0"



SECTION C-C

SCALE: 1/2" = 1'-0"

NOTES:

1. DIMENSION "X" IS THE DISTANCE BETWEEN EXPANSION JOINT STEEL ANGLE HEADERS, TAKEN AS 2" AT 45°F. THE POSITION OF THE SLEEPER SLAB WITH RESPECT TO CENTERLINE OF BEARING SHALL BE LOCATED BASED ON "X" = 2" AND THE APPROACH SLAB LENGTH SHOWN. THE DIMENSION "X" AND ACTUAL APPROACH SLAB LENGTH SHALL BE DETERMINED BY THE TEMPERATURE ADJUSTMENT TABLE SHOWN ON THE ABUTMENT STRIP SEAL EXPANSION JOINT (1 OF 2) SHEET AT THE TIME OF APPROACH SLAB CASTING.
2. CONCRETE CLEAR COVER SHALL BE MINIMUM 3" ALL AROUND THE SLEEPER SLAB AND APPROACH SLAB.
3. SEE APPROACH AND SLEEPER SLAB DETAILS (2 OF 2) SHEET FOR SECTION D-D, E-E, AND CRACK CONTROL JOINT DETAILS.
4. ALTERNATE BARS TO STAGGER LAPS BETWEEN ADJACENT BARS.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Slab	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

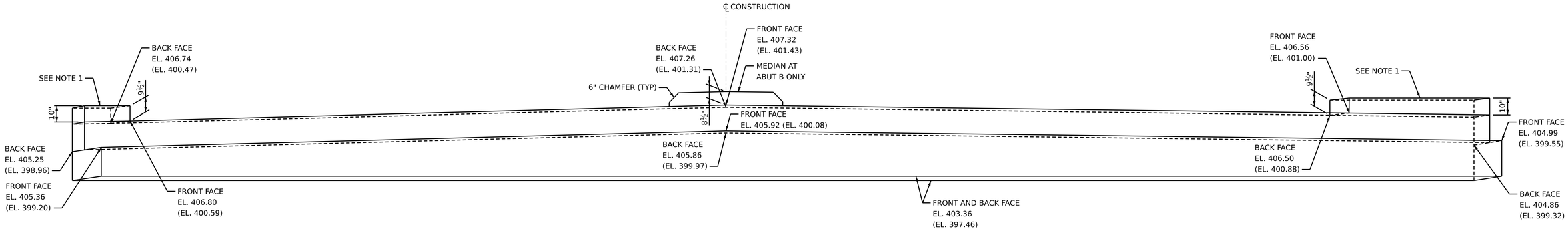
APPROACH AND SLEEPER SLAB DETAILS (1 OF 2)

BRIDGE SHEET 36 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	KCD	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE					
	REV. DATE					

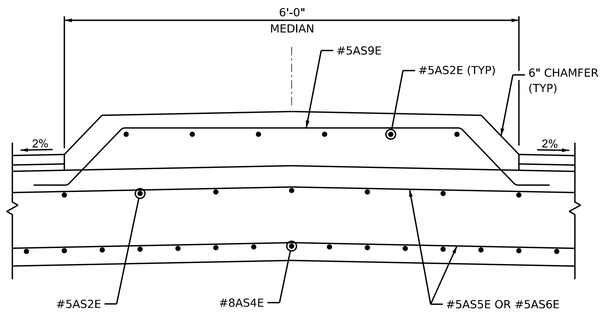
FEDERAL PROJECT NO. A005(073) | SHEET NO. 90 | TOTAL SHEETS 733

FILE NUMBER 142-1-1



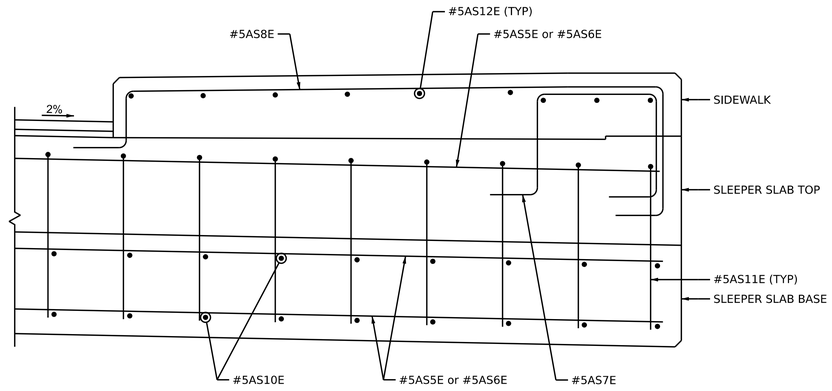
SLEEPER SLAB ELEVATION

(ABUT B ELEVATIONS SHOWN, ABUT A ELEVATIONS SHOWN IN PARENTHESES)
SCALE: 3/8" = 1'-0"



SECTION D-D

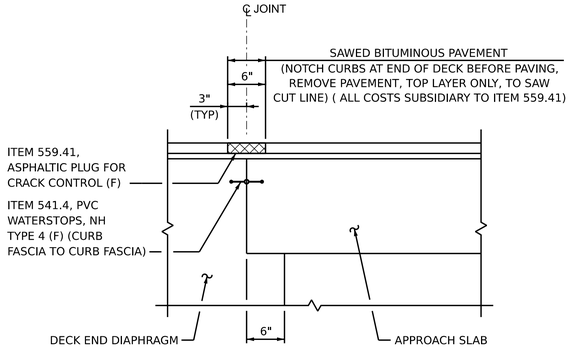
(ABUTMENT B ONLY)
SCALE: 1" = 1'-0"



SECTION E-E

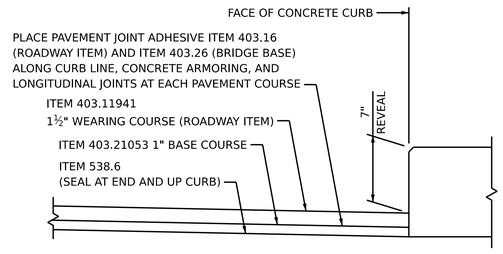
SCALE: 1" = 1'-0"

SECTION THROUGH SLEEPER AT SIDEWALK SHOWN, REINFORCING IN SECTION THROUGH SLEEPER AT MEDIAN AND CURB SIMILAR.



CRACK CONTROL DETAIL

SCALE: 1" = 1'-0"



CURB DETAIL

SCALE: 1 1/2" = 1'-0"

NOTE:

1. THE TOP OF CURB, SIDEWALK, AND MEDIAN SHALL BE SLOPED AS SHOWN IN THE TYPICAL BRIDGE SECTION ON THE TYPICAL BRIDGE SECTION & DETAILS SHEET.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY | BRIDGE NO. 130/129 | STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

APPROACH AND SLEEPER SLAB DETAILS (2 OF 2)

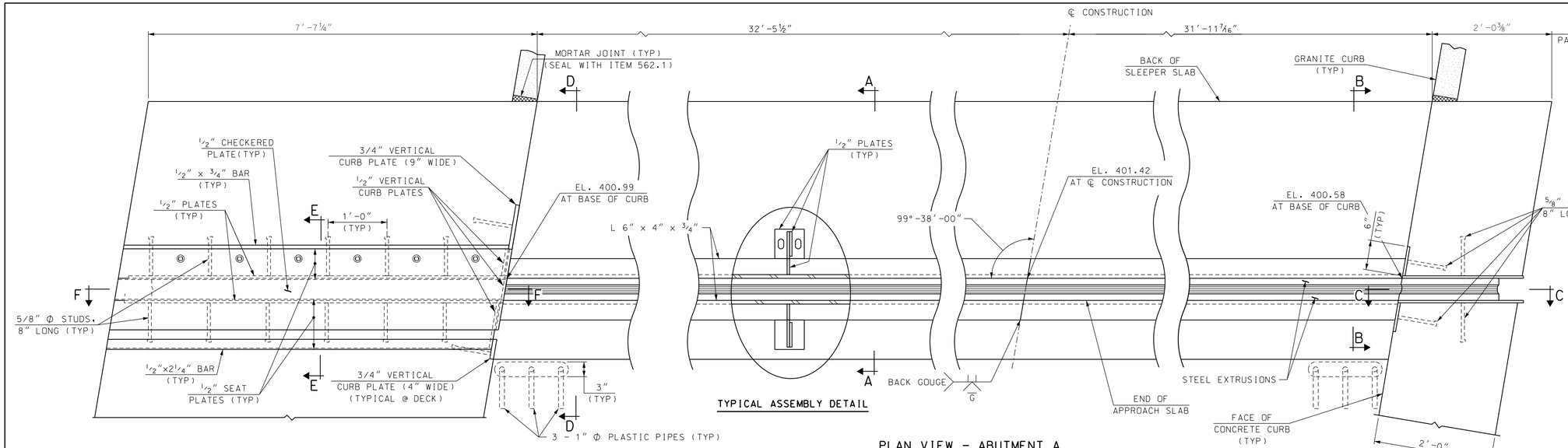
BRIDGE SHEET: 37 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TSB/JGM	2/22	CHECKED	GSG	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
REV. DATE			A005(073)		91

FILE NUMBER: 142-1-1
TOTAL SHEETS: 733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_Sleeper	AS NOTED

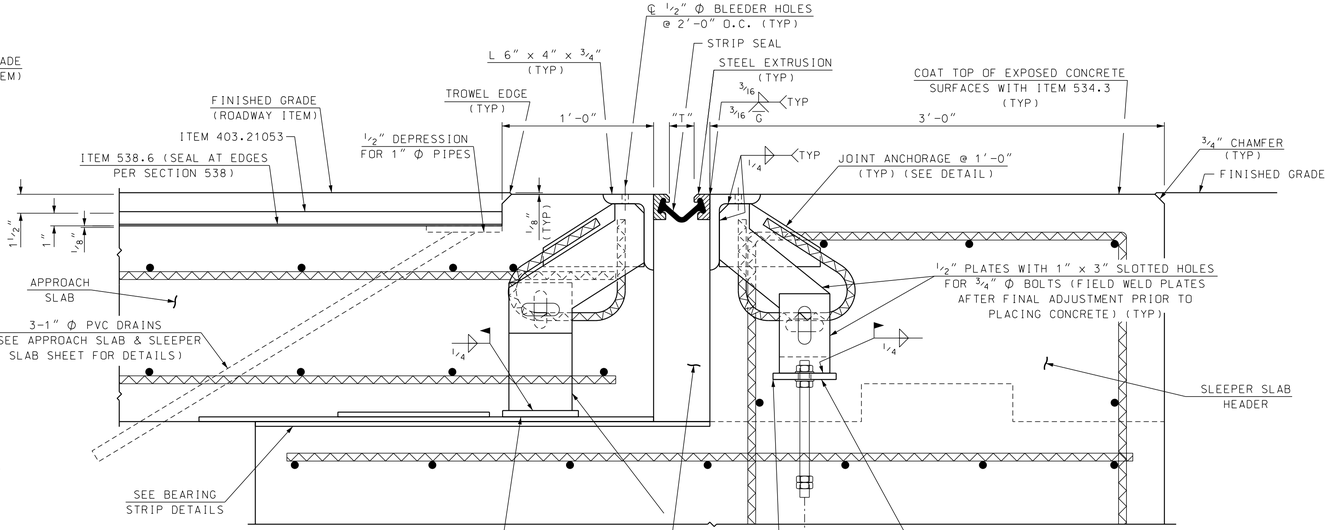


TYPICAL ASSEMBLY DETAIL

ANCHOR DETAILS (SKEWED)

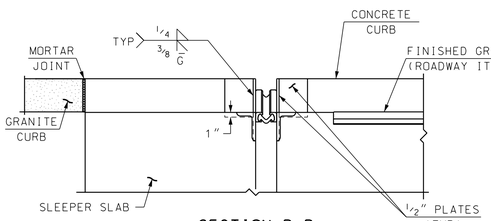
PLAN VIEW – ABUTMENT A

SCALE: 1″ = 1′-0″



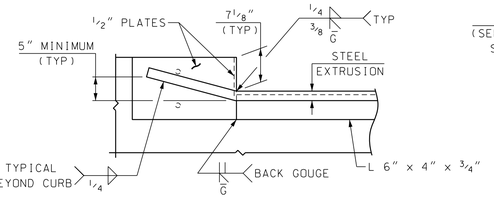
SECTION A-A

SCALE: 2″ = 1′-0″



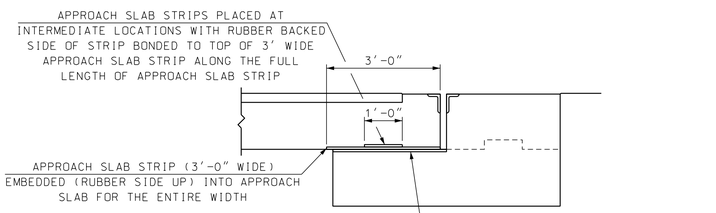
SECTION B-B

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR BUT OPPOSITE HAND)
SCALE: ¾″ = 1′-0″



SECTION C-C

SCALE: ¾″ = 1′-0″



BEARING STRIPS SHALL BE RUBBER BACKED UHMW-PE, ¼″ MINIMUM THICK (⅜″ MAXIMUM). SEE QUALIFIED PRODUCTS LIST, SECTION 520, FOR MATERIALS AND BONDING AGENT. ALL COSTS SUBSIDIARY TO ITEM 520.0302.

BEARING STRIP DETAILS

NOT TO SCALE

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	2⅜″
35°F	2⅛″
50°F	1 15/16″
65°F	1¾″
80°F	1 9/16″
95°F	1⅜″

TEMPERATURE ADJUSTMENT NOTES

1. "T" DIMENSIONS ARE PERPENDICULAR TO FACE SLEEPER SLAB.
2. MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1¾″ (APPROXIMATELY 65°F OR LESS).
3. VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING THE APPROACH SLAB.

EXPANSION JOINT NOTES

(1) ALL EXPANSION JOINT STEEL, INCLUDING ANCHORS, SHALL BE GALVANIZED. STEEL ANGLES SHALL BE ASTM A572 GRADE 50. MINOR STEEL PLATES MAY CONFORM TO ASTM A36. THE ENTIRE ASSEMBLY, INCLUDING STRIP SEAL, SHALL BE PAID FOR AS ITEM 561.10, PREFABRICATED STRIP SEAL EXPANSION JOINT (F).

(2) SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.

(3) EXPANSION JOINT OPENING SHALL BE ADJUSTED TO TEMPERATURE ANTICIPATED JUST PRIOR TO POURING DECK BLOCKOUT. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR. SEE TEMPERATURE ADJUSTMENT TABLE & NOTES.

(4) STRIP SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED. SEAL SHALL BE INSTALLED IN THE FIELD BY THE CONTRACTOR, IN ACCORDANCE WITH THE MANUFACTURER OF THE SEAL, USING AN APPROVED TOOL THAT WILL NOT DAMAGE THE SEAL.

(5) JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE NORMAL TO GRADE AFTER JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE. STEEL ANGLES AND EXTRUSIONS SHALL BE ASSEMBLED WITH A CONSTANT JOINT OPENING TO ENSURE PROPER PERFORMANCE AND WATER TIGHTNESS.

(6) THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER THE SLEEPER SLAB BASE HAS BEEN CONSTRUCTED AND BACKFILLED, AND APPROACH SLAB GRADING HAS BEEN SET.

(7) IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE SLEEPER SLAB, REMOVE SHIPPING DEVICES AND GRIND SMOOTH ANY WELDS ON EXPOSED SURFACES. REPAIR ANY DAMAGE TO GALVANIZED SURFACES IN ACCORDANCE WITH SECTION 550.

(8) PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.

(9) THE STRIP SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 2.02 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE AN SE-400 SEAL BY WATSON BOWMAN OR A2R-400 BY D.S. BROWN, AS NOTED IN THE QPL.

(10) ELEVATIONS SHOWN AT TOP OF ANGLES ARE ⅛″ LOWER THAN PROPOSED FINISHED ROADWAY GRADE.

(11) NO "LOW PROFILE" STEEL EXTRUSIONS SHALL BE ALLOWED. SEE QPL FOR APPROVED PRODUCTS.

(12) PRIOR TO INSTALLING THE SEAL, ALL TEMPORARY FORM WORK SHALL BE REMOVED. STEEL ANGLES AND EXTRUSIONS SHALL BE MAINTAINED FREE FROM DIRT, WATER AND ANY OTHER LOOSE DEBRIS, WITH THE USE OF COMPRESSED AIR, TO ENSURE PROPER FIT OF THE SEAL. CARE SHALL BE TAKEN NOT TO DAMAGE GALVANIZED SURFACES.

(13) SEE ABUTMENT STRIP SEAL EXPANSION JOINT (2 OF 2) FOR SECTIONS D-D, E-E AND F-F.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

ABUTMENT STRIP SEAL EXPANSION JOINT (1 OF 2)

BRIDGE SHEET 38 OF 49

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	MAC	2/22	CHECKED	GSG	2/22
		DRAWN	BJM	2/22	CHECKED	MAC	2/22
		QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
		ISSUE DATE					
		REV. DATE					

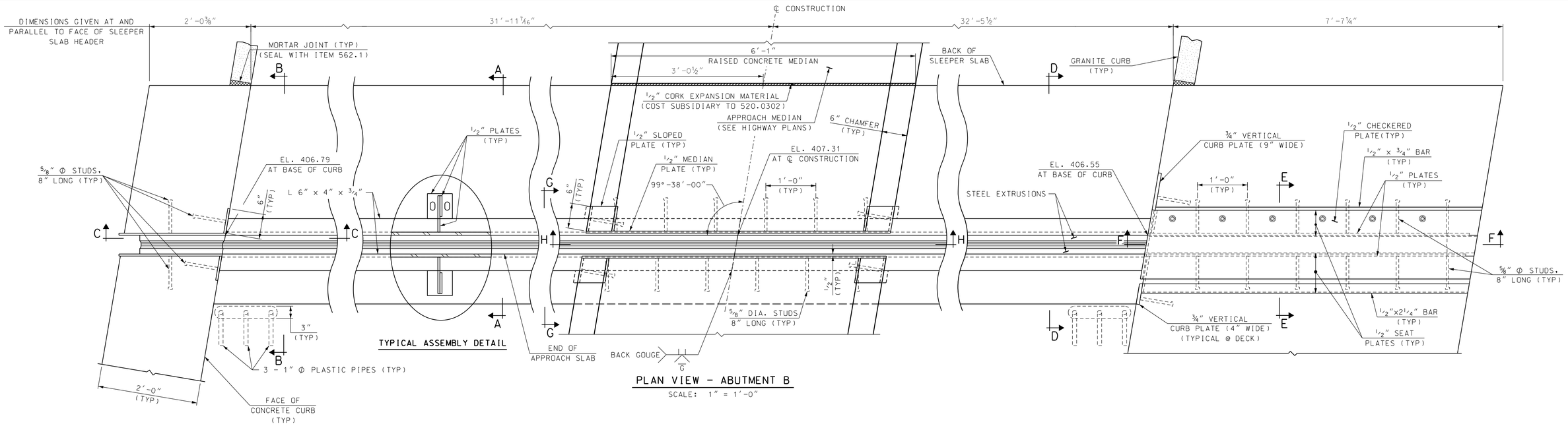
FILE NUMBER 142-1-1

FEDERAL PROJECT NO. A005(073)

SHEET NO. 92

TOTAL SHEETS 733

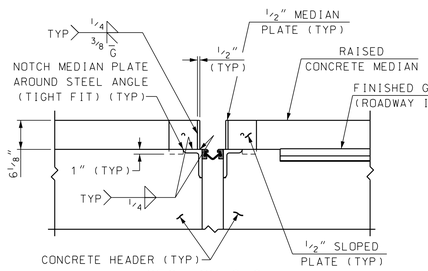
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_StripSeal	AS NOTED



TYPICAL ASSEMBLY DETAIL

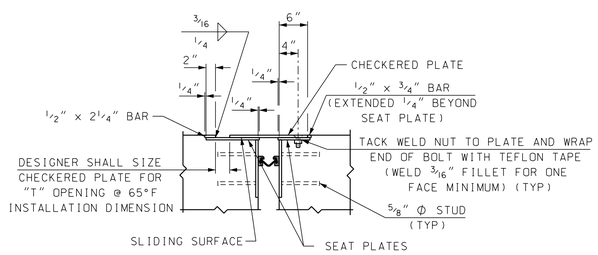
PLAN VIEW - ABUTMENT B

SCALE: 1″ = 1′-0″



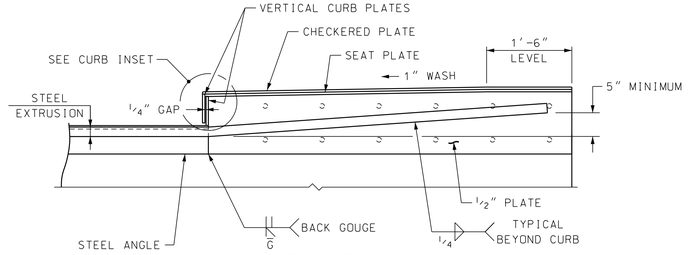
SECTION G-G

SCALE: 3/4″ = 1′-0″



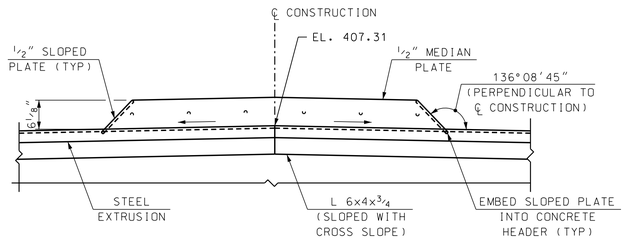
SECTION E-E

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR BUT OPPOSITE HAND)
SCALE: 3/4″ = 1′-0″



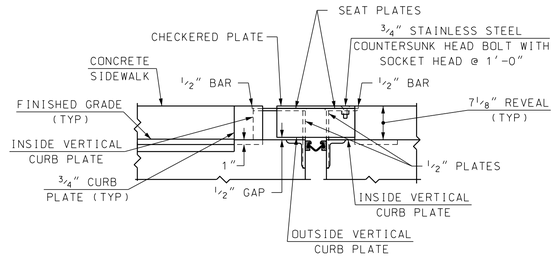
SECTION F-F

SCALE: 3/4″ = 1′-0″



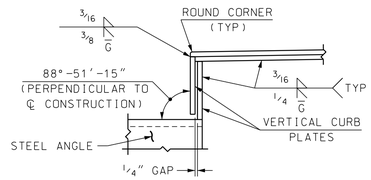
SECTION H-H

SCALE: 3/4″ = 1′-0″



SECTION D-D

(ABUTMENT A SHOWN, ABUTMENT B SIMILAR BUT OPPOSITE HAND)
SCALE: 3/4″ = 1′-0″



CURB INSET

NOT TO SCALE

NOTES

(1) SEE ABUTMENT STRIP SEAL EXPANSION JOINT SHEET (1 OF 2) FOR SECTIONS A-A, B-B, C-C, AND EXPANSION JOINT NOTES.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_StripSeal2	AS NOTED

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

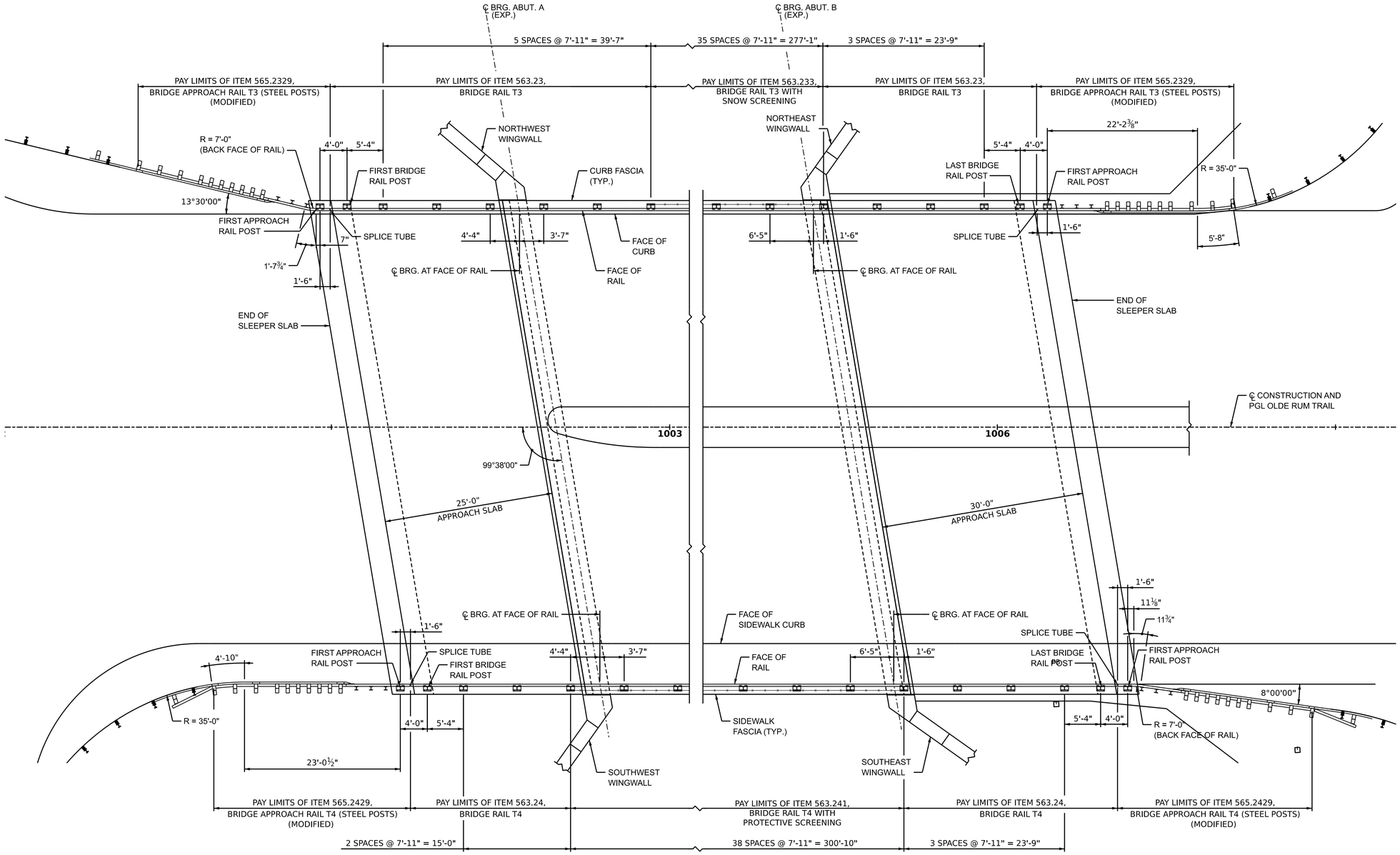
ABUTMENT STRIP SEAL EXPANSION JOINT (2 OF 2)

BRIDGE SHEET: 39 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	GSG	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			A005(073)		93

FILE NUMBER: 142-1-1

TOTAL SHEETS: 733



BRIDGE AND APPROACH RAIL LAYOUT PLAN

(DIMENSIONS GIVEN AT FACE OF RAIL)
SCALE: 1/8" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A
LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BRIDGE AND APPROACH RAIL LAYOUT

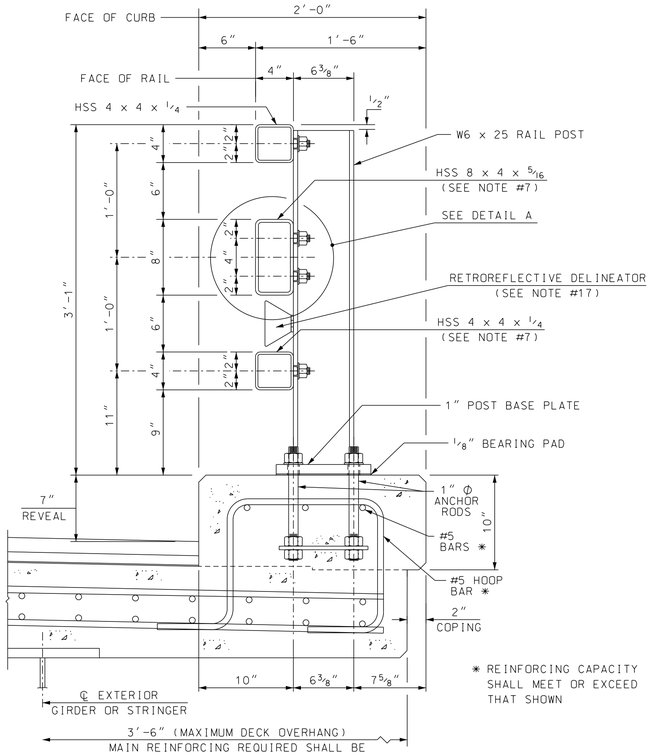
BRIDGE SHEET 40 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	LSC	2/22	CHECKED	MAC	2/22
DRAWN	BJM	2/22	CHECKED	MAC	2/22
QUANTITIES	AMM	2/22	CHECKED	JAW	2/22

FILE NUMBER 142-1-1

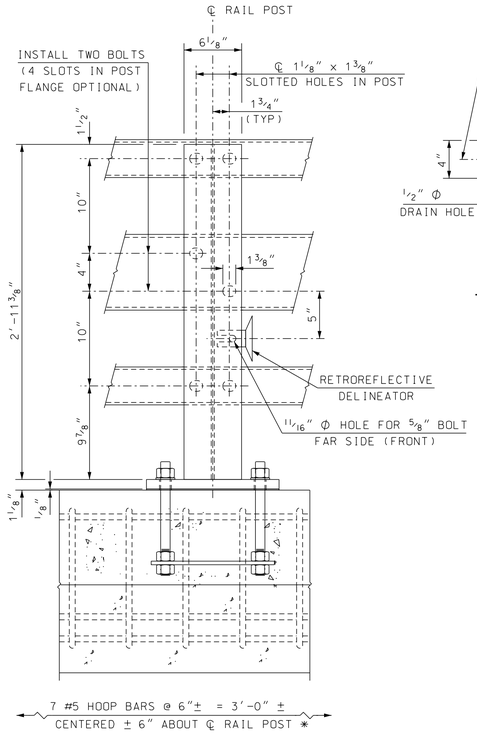
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_BRail	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A005(073)	94	733

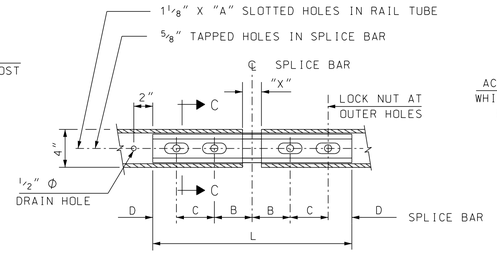


* REINFORCING CAPACITY SHALL MEET OR EXCEED THAT SHOWN

SECTION VIEW

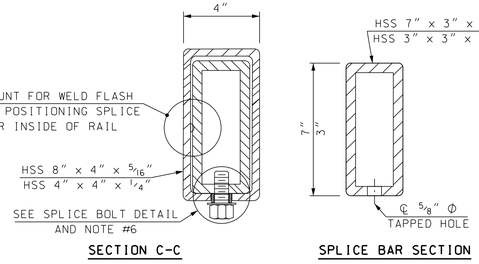


BACK ELEVATION VIEW



RAIL SPLICE (BOTTOM VIEW)

SCALE: 1 1/2" = 1'-0"

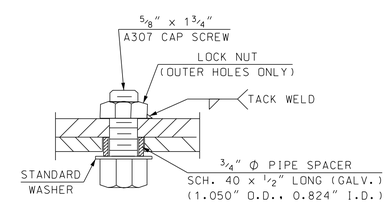


SECTION C-C

SPLICE BAR SECTION

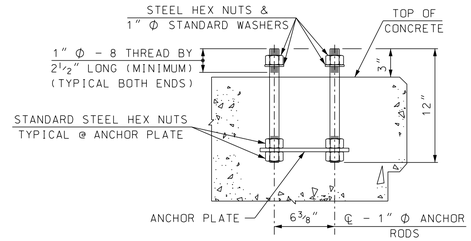
RAIL SPLICE DETAILS

SCALE: 3" = 1'-0"



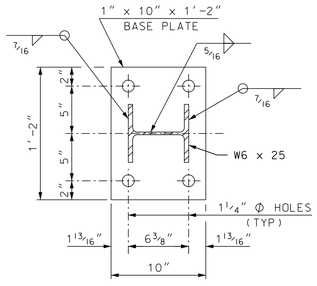
SPLICE BOLT DETAIL

SCALE: 6" = 1'-0"



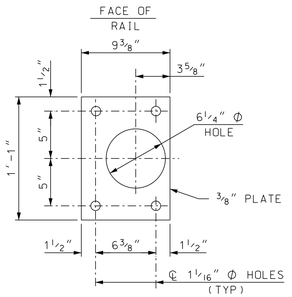
POST ANCHOR ASSEMBLY

SCALE: 1 1/2" = 1'-0"



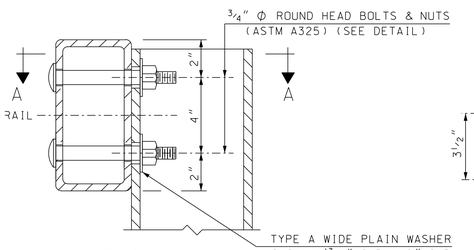
POST BASE PLATE

SCALE: 1 1/2" = 1'-0"



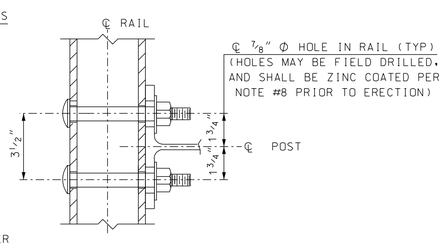
ANCHOR PLATE

SCALE: 1 1/2" = 1'-0"



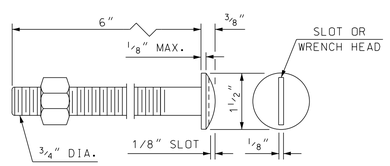
DETAIL A

SCALE: 3" = 1'-0"



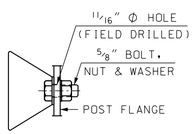
SECTION A-A

SCALE: 3" = 1'-0"



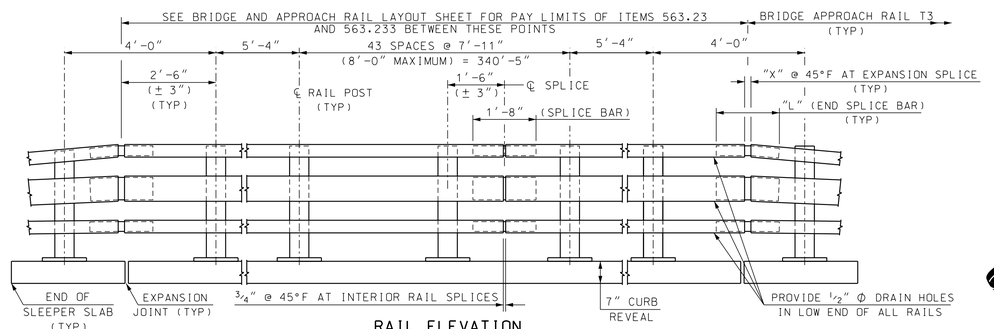
A325 ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"



DELINEATOR MOUNTING

NOT TO SCALE



RAIL ELEVATION

SCALE: 1/2" = 1'-0"

SPLICE BAR DIMENSION TABLE							
	T	A	B	C	D	X	L
	INTERIOR	2 1/2"	4"	4"	2"	3/4"	1'-8"
**	≤ 3 1/4"	2 1/2"	4"	4"	2"	2"	1'-8"
**	3 1/4" < T ≤ 5 1/4"	3 1/2"	5"	5"	2 1/2"	3"	2'-1"

T = TOTAL MOVEMENT OF BRIDGE
** = END SPLICE BAR

RAIL NOTES

(1) ITEM 563.23, BRIDGE RAIL T3, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR RODS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STUDS, STRUCTURAL TUBING, SPLICE BARS, PIPE SPACERS, ALL APPURTENANCES, AND GALVANIZING.

(2) BRIDGE RAIL POSTS SHALL BE SET NORMAL (90 DEGREES) TO THE PROFILE GRADE, EXCEPT ON GRADES OVER 5% WHERE POSTS SHALL BE SET VERTICAL.

(3) ENDS OF RAIL TUBE SECTIONS SHALL BE SAWED OR MILLED AND SHALL BE TRUE AND SMOOTH. ALL CUT EDGES OF ALL MATERIAL SHALL BE GROUND SMOOTH.

(4) EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.

(5) BOLT HOLES SHALL BE DRILLED OR PUNCHED. FLAME CUTTING MAY BE USED TO FINISH SLOTTED HOLES IF MECHANICALLY GUIDED.

(6) AT INTERIOR SPLICES, PIPE SPACERS SHALL BE USED ON ONLY ONE SIDE OF THE SPLICE TO ALLOW MOVEMENT ON THAT SIDE. AT EXPANSION SPLICES, AND AT AT END SPLICES, PIPE SPACERS SHALL BE USED ON BOTH SIDES OF THE SPLICE TO ALLOW MOVEMENT ON EACH SIDE. ALL RAILS IN A SPLICE SHALL RECIEVE THE SAME TREATMENT.

(7) MILL OR SHOP TRANSVERSE WELDS SHALL NOT BE PERMITTED ON ANY RAIL ELEMENT. RAIL ELEMENTS USED ON CURVES SHALL USE 3/8" WALL TUBES AND SHALL BE SHOP FORMED TO THE REQUIRED CURVATURE (SEE SECTION 563.3.2.1).

(8) NO PUNCHING, DRILLING, CUTTING OR WELDING SHALL BE PERMITTED AFTER GALVANIZING, EXCEPT AS ALLOWED IN DETAIL A, AND FOR INSTALLATION OF DELINEATORS. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING A MINIMUM 92% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING, ACCORDING TO SECTION 550.2.9.1 AND ASTM A780.

(9) NUTS FOR 1" Ø THREADED ANCHOR RODS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

(10) THREADS FOR ANCHOR RODS MAY BE ROLLED OR CUT. IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, ROD DIAMETER SHALL NOT BE LESS THAN ROOT DIAMETER OF THREADS.

(11) THIS BRIDGE RAIL SYSTEM IS IN COMPLIANCE WITH T2 STEEL BRIDGE RAIL WHICH WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-4 PER FHWA LETTER HMHS-B50, MARCH 11, 1999.

MATERIAL NOTES

(12) STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B, STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH REQUIREMENTS OF 15 FT. LBS. AT 0°F. FOR ASTM A500, GRADE B, THE TEST SAMPLES SHALL BE TAKEN AFTER FORMING THE TUBES. CHARPY V-NOTCH IS NOT REQUIRED FOR SPLICE TUBES.

(13) RAIL POSTS AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50, EXCEPT ANCHOR PLATES MAY BE ASTM A36.

(14) DETAIL A BOLTS SHALL BE ASTM A325 OR A449. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND ASTM 563 GRADE A RESPECTIVELY OR BETTER, EXCEPT THAT ASTM A307 NUTS MAY BE USED ON THE BOTTOM OF ANCHOR ASSEMBLY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.22. ANCHOR RODS SHALL CONFORM TO ASTM A449.

(15) ALL STEEL COMPONENTS (EXCEPT STAINLESS) SHALL BE GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). THE GALVANIZING KETTLE SHALL HAVE 0.05 TO 0.09 PERCENT NICKEL. GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED. IF PAINTING IS REQUIRED SEE SPECIAL PROVISIONS FOR 708.

(16) PREFORMED BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.

(17) RETROREFLECTIVE DELINEATORS, BOLTS, NUTS, WASHERS AND FIELD DRILLING OF POSTS, INCLUDING GALVANIZING TOUCH-UP, SHALL BE SUBSIDIARY TO ITEM 563.23. SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (DL-1) FOR ADDITIONAL DETAILS AND SPACING.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

T3 STEEL BRIDGE RAIL

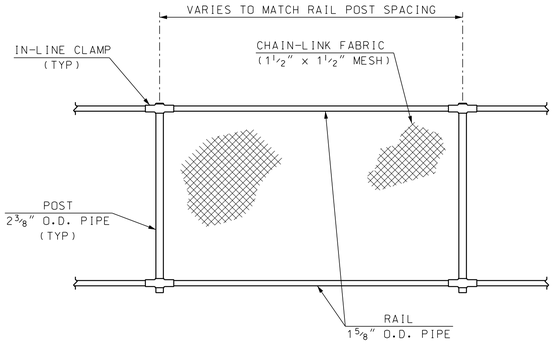
BRIDGE SHEET 41 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
	DRAWN	PJP	10/05	CHECKED	JSZ	10/05
	QUANTITIES			CHECKED		
	ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE	2/16/21	A005(073)		95	733

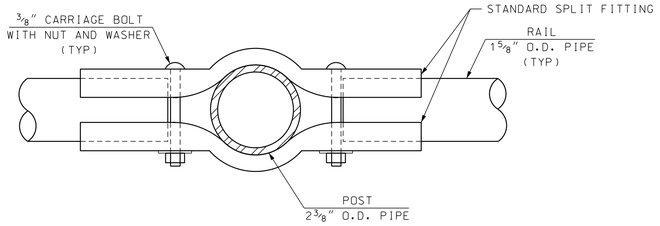
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_T3_BR-RAIL	AS NOTED

vhb



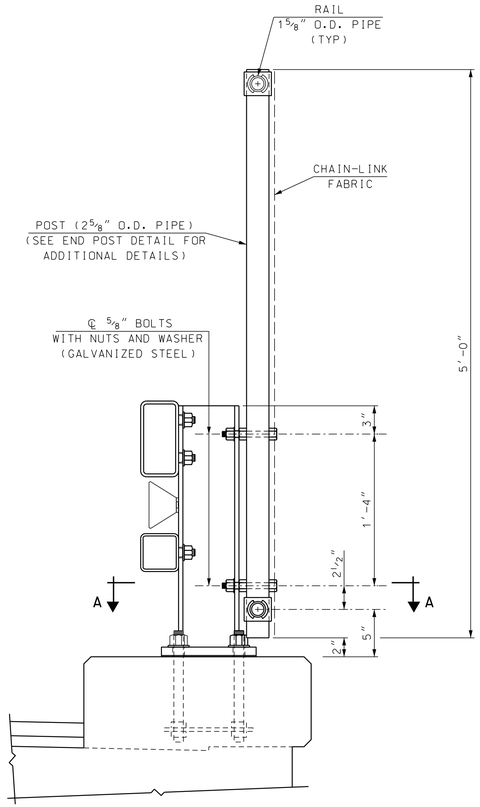
ELEVATION - SNOW SCREENING

SCALE: 1/2" = 1'-0"



IN-LINE CLAMP DETAIL

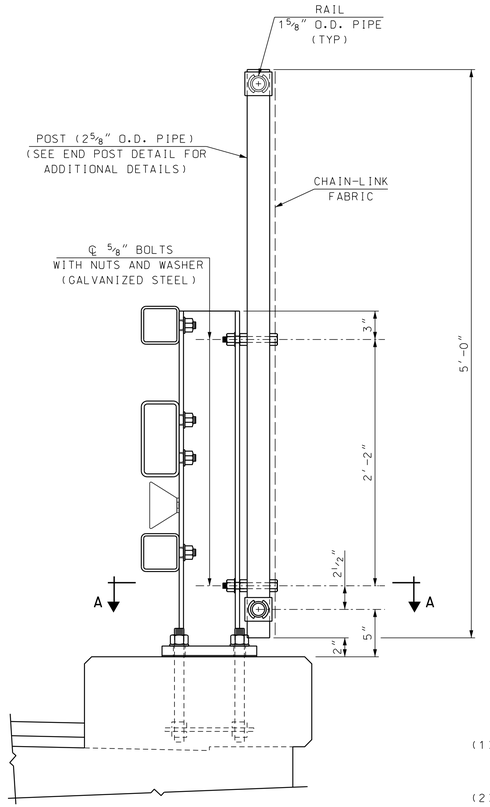
SCALE: 6" = 1'-0"



TYPICAL SECTION

(T2 BRIDGE RAIL)

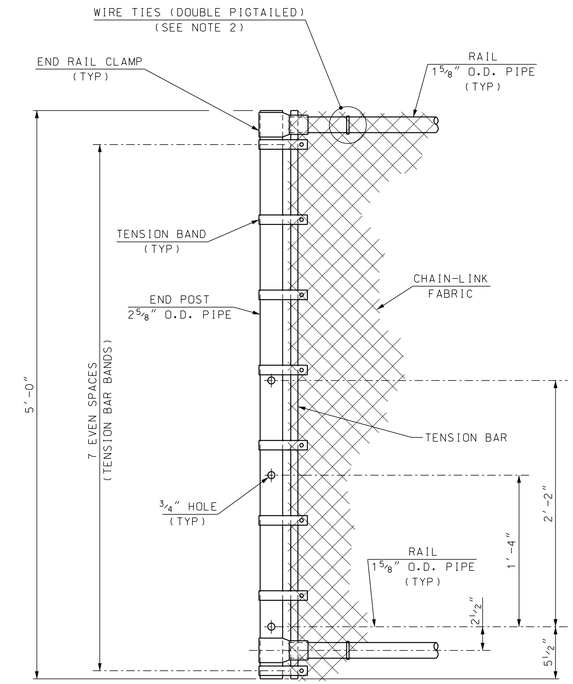
SCALE: 1 1/2" = 1'-0"



TYPICAL SECTION

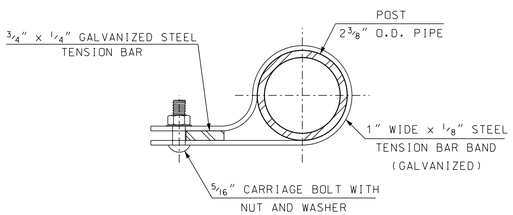
(T3 BRIDGE RAIL)

SCALE: 1 1/2" = 1'-0"



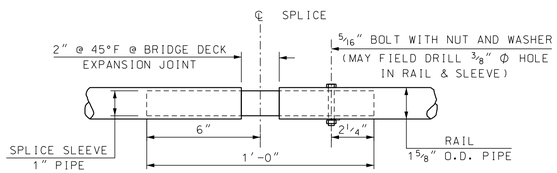
END POST DETAIL

SCALE: 1 1/2" = 1'-0"



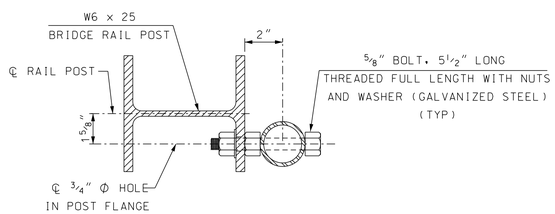
TENSION BAND DETAIL

SCALE: 6" = 1'-0"



RAIL SPLICE DETAIL

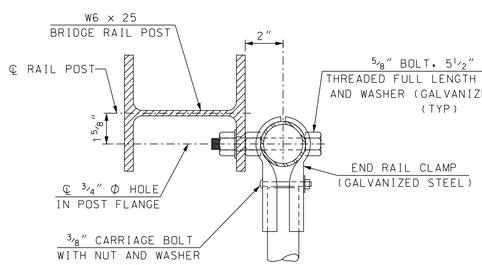
SCALE: 3" = 1'-0"



SECTION A-A

(AT INTERIOR POST)

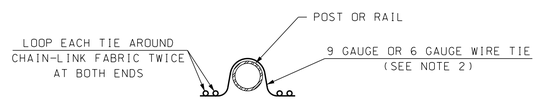
SCALE: 3" = 1'-0"



SECTION A-A

(AT END POST)

SCALE: 3" = 1'-0"



DOUBLE PIGTAILED TIE

NOT TO SCALE

GENERAL NOTES

(1) CHAIN-LINK FABRIC SHALL BE 9 GAUGE STEEL, ALUMINUM-COATED CONFORMING TO ASHTO M 181, TYPE II (ASTM A 491). CHAIN-LINK FABRIC SHALL BE KNUCKLED ON TOP AND BOTTOM. THE SIZE OF WIRE MESH (FABRIC) SHALL BE 1 1/2".

(2) WIRE TIES SHALL BE STANDARD ROUND 9 GAUGE ALUMINUM-COATED STEEL OR 6 GAUGE ALUMINUM ALLOY CONFORMING TO ASTM F 626. ALL TIES SHALL BE WRAPPED AROUND CHAIN-LINK FABRIC TWICE (DOUBLE PIGTAILED) AT BOTH ENDS. SPACE TIES @ 6" O.C. TO BOTTOM RAIL AND @ 12" O.C. TO ALL POSTS AND OTHER RAILS.

(3) POSTS AND RAIL PIPES SHALL BE HOT-DIP GALVANIZED STEEL CONFORMING TO AASHTO M 181, GRADE 1 (ASTM F 1083). ALL PIPES SHALL BE SCHEDULE 40, STANDARD WEIGHT.

(4) TENSION BARS, BAR BANDS, IN-LINE CLAMPS AND END RAIL CLAMPS SHALL BE STEEL. STEEL COMPONENTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE. ALL BAR BANDS SHALL HAVE A BEVELED EDGE.

(5) ALL BOLTS AND NUTS SHALL BE STEEL CONFORMING TO ASTM A 307 AND ASTM A 563 GRADE A RESPECTIVELY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF ANSI B18.22. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE.

(6) RAIL SPLICES SHALL BE PROVIDED AT BRIDGE DECK EXPANSION JOINT(S) AND BRIDGE RAIL SPLICES AS DIRECTED BY THE CONTRACT ADMINISTRATOR.

(7) RAIL MAY BE FIELD CUT (SAWN) TO FIT POST SPACING. GALVANIZED RAIL, CUT OR DRILLED AS ALLOWED, SHALL BE TOUCHED-UP IN ACCORDANCE WITH 563.3.2.2.3.

(8) ALL COSTS FOR CHAIN-LINK FABRIC, POSTS, RAILS AND APPURTENANCES SHALL BE INCLUDED IN ITEM 563.223. BRIDGE RAIL T2 WITH SNOW SCREENING, OR ITEM 563.233. BRIDGE RAIL T3 WITH SNOW SCREENING, AS APPLICABLE.

(9) SEE BRIDGE RAIL SHEET FOR ADDITIONAL DETAILS.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

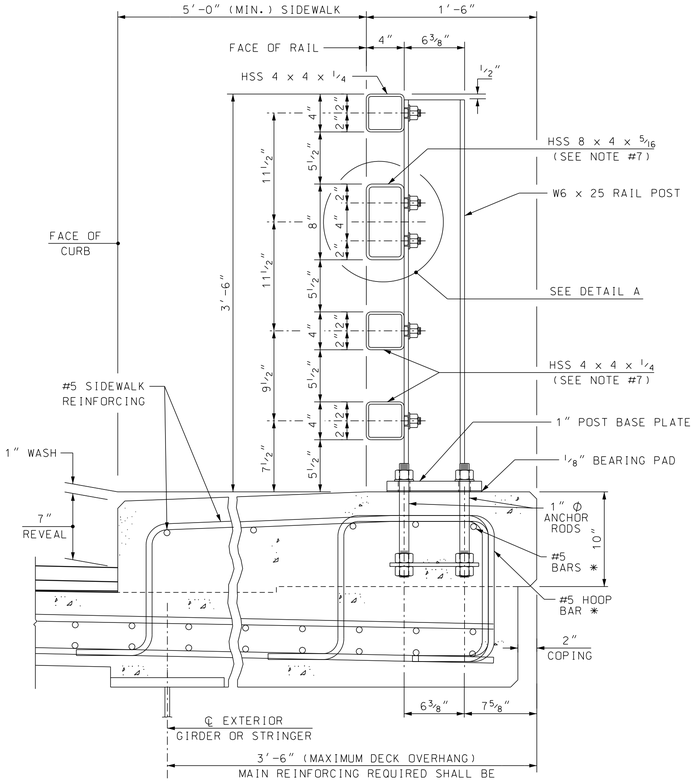
SNOW SCREEN WITH STEEL BRIDGE RAIL

BRIDGE SHEET 42 OF 49

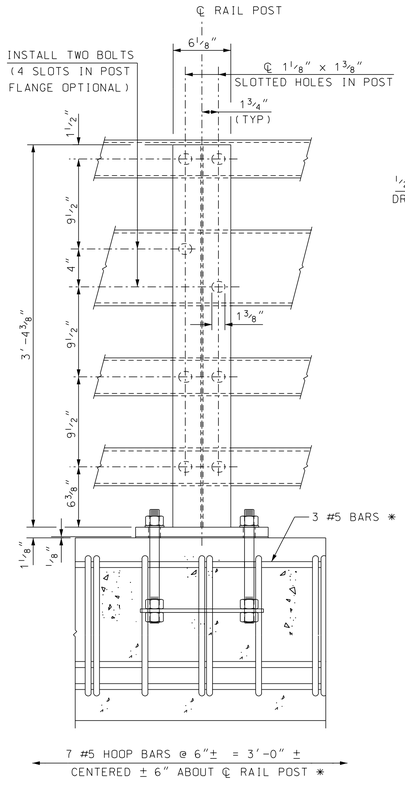
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NHDOT	8/10	CHECKED	NHDOT	8/10
	DRAWN	PJP	8/10	CHECKED	MGL	8/10
	QUANTITIES			CHECKED		

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE	2/98	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
XX	13065A_SnowScreen	AS NOTED	REV. DATE	11/1/16	A005(073)	96	733



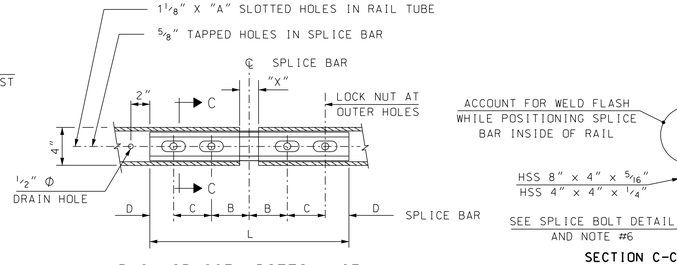
SECTION VIEW



BACK ELEVATION VIEW

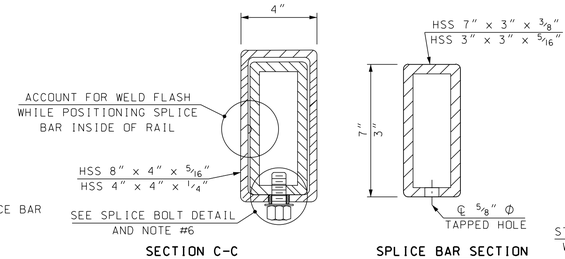
POST ASSEMBLY

SCALE: 1 1/2" = 1'-0"



RAIL SPLICE (BOTTOM VIEW)

SCALE: 1 1/2" = 1'-0"



SECTION C-C

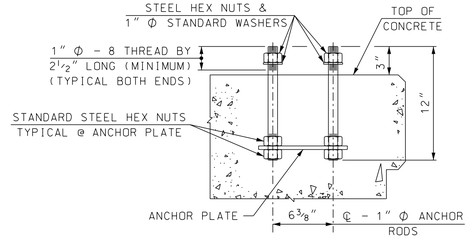
SPLICE BAR SECTION

RAIL SPLICE DETAILS

SCALE: 3" = 1'-0"

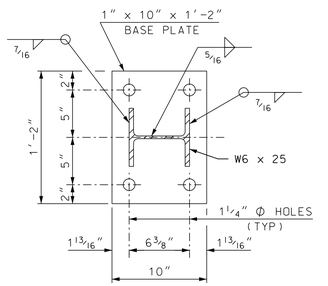
SPLICE BOLT DETAIL

SCALE: 6" = 1'-0"



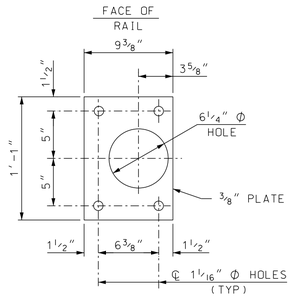
POST ANCHOR ASSEMBLY

SCALE: 1 1/2" = 1'-0"



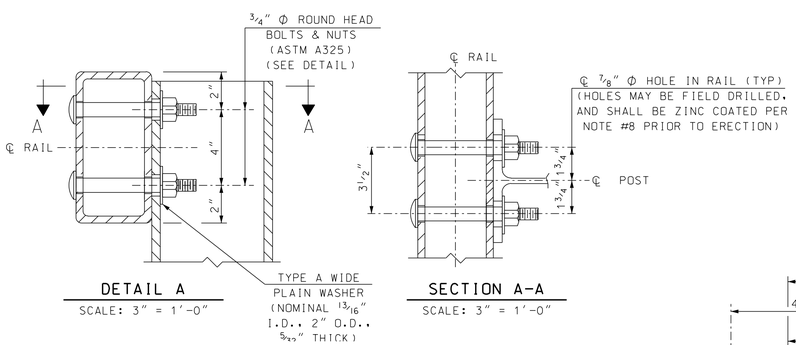
POST BASE PLATE

SCALE: 1 1/2" = 1'-0"



ANCHOR PLATE

SCALE: 1 1/2" = 1'-0"

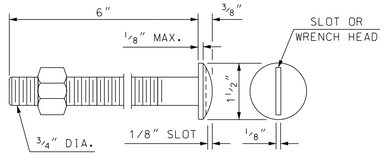


DETAIL A

SCALE: 3" = 1'-0"

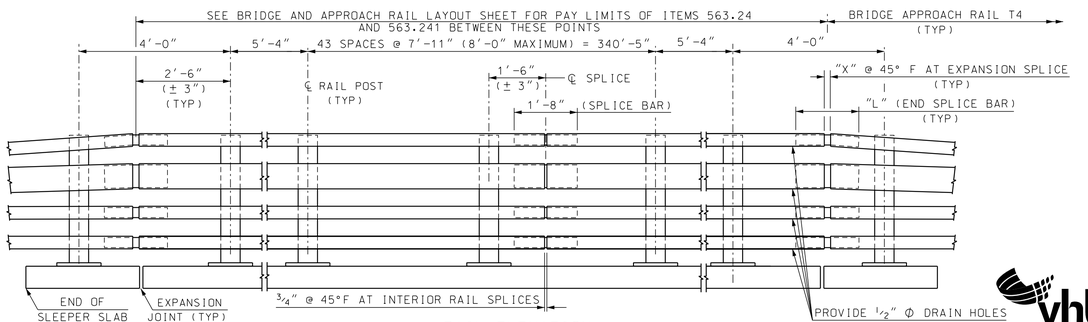
SECTION A-A

SCALE: 3" = 1'-0"



A325 ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"



RAIL ELEVATION

SCALE: 1/2" = 1'-0"

SPLICE BAR DIMENSION TABLE						
T	A	B	C	D	X	L
INTERIOR	2 1/2"	4"	4"	2"	3/4"	1'-8"
** ≤ 3 1/4"	2 1/2"	4"	4"	2"	2"	1'-8"
** 3 1/4" < T ≤ 5 1/4"	3 1/2"	5"	5"	2 1/2"	3"	2'-1"

T = TOTAL MOVEMENT OF BRIDGE
** = END SPLICE BAR

RAIL NOTES

(1) ITEM 563.24, BRIDGE RAIL T4, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR RODS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STUDS, STRUCTURAL TUBING, SPLICE BARS, PIPE SPACERS, ALL APPURTENANCES, AND GALVANIZING.

(2) BRIDGE RAIL POSTS SHALL BE SET NORMAL (90 DEGREES) TO THE PROFILE GRADE, EXCEPT ON GRADES OVER 5% WHERE POSTS SHALL BE SET VERTICAL.

(3) ENDS OF RAIL TUBE SECTIONS SHALL BE SAWED OR MILLED AND SHALL BE TRUE AND SMOOTH. ALL CUT EDGES OF ALL MATERIAL SHALL BE GROUND SMOOTH.

(4) EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.

(5) BOLT HOLES SHALL BE DRILLED OR PUNCHED. FLAME CUTTING MAY BE USED TO FINISH SLOTTED HOLES IF MECHANICALLY GUIDED.

(6) AT INTERIOR SPLICES, PIPE SPACERS SHALL BE USED ON ONLY ONE SIDE OF THE SPLICE TO ALLOW MOVEMENT ON THAT SIDE. AT EXPANSION SPLICES, AND AT AT END SPLICES, PIPE SPACERS SHALL BE USED ON BOTH SIDES OF THE SPLICE TO ALLOW MOVEMENT ON EACH SIDE. ALL RAILS IN A SPLICE SHALL RECIEVE THE SAME TREATMENT.

(7) MILL OR SHOP TRANSVERSE WELDS SHALL NOT BE PERMITTED ON ANY RAIL ELEMENT. RAIL ELEMENTS USED ON CURVES SHALL USE 3/8" WALL TUBES AND SHALL BE SHOP FORMED TO THE REQUIRED CURVATURE (SEE SECTION 563.3.2.1).

(8) NO PUNCHING, DRILLING, CUTTING OR WELDING SHALL BE PERMITTED AFTER GALVANIZING, EXCEPT AS ALLOWED IN DETAILS A. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING A MINIMUM 92% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING, ACCORDING TO SECTION 550.2.9.1 AND ASTM A780.

(9) NUTS FOR 1" Φ THREADED ANCHOR RODS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

(10) THREADS FOR ANCHOR RODS MAY BE ROLLED OR CUT. IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, ROD DIAMETER SHALL NOT BE LESS THAN ROOT DIAMETER OF THREADS.

(11) THIS BRIDGE RAIL SYSTEM WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-4 PER FHWA LETTER HMHS-B50, MARCH 11, 1999.

MATERIAL NOTES

(12) STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B, STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH REQUIREMENTS OF 15 FT. LBS. AT 0°F. FOR ASTM A500, GRADE B, THE TEST SAMPLES SHALL BE TAKEN AFTER FORMING THE TUBES. CHARPY V-NOTCH IS NOT REQUIRED FOR SPLICE TUBES.

(13) RAIL POSTS AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50, EXCEPT ANCHOR PLATES MAY BE ASTM A36.

(14) DETAIL A BOLTS SHALL BE ASTM A325 OR A449. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND ASTM 563 GRADE A RESPECTIVELY OR BETTER, EXCEPT THAT ASTM A307 NUTS MAY BE USED ON THE BOTTOM OF ANCHOR ASSEMBLY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.22. ANCHOR RODS SHALL CONFORM TO ASTM A449.

(15) ALL STEEL COMPONENTS (EXCEPT STAINLESS) SHALL BE GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). THE GALVANIZING KETTLE SHALL HAVE 0.05 TO 0.09 PERCENT NICKEL. GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED. IF PAINTING IS REQUIRED SEE SPECIAL PROVISIONS FOR 708.

(16) PREFORMED BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

T4 STEEL BRIDGE RAIL

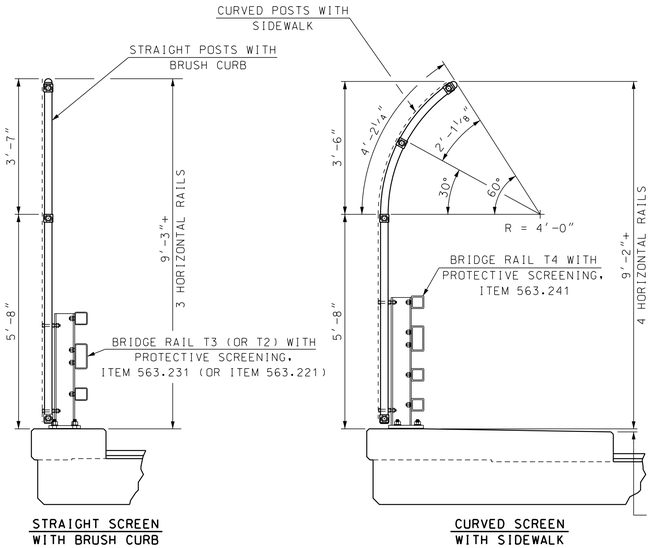
BRIDGE SHEET 43 OF 49

FILE NUMBER 142-1-1

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
	DRAWN	PJP	10/05	CHECKED	JSZ	10/05
	QUANTITIES			CHECKED		
	ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE	2/16/21	A005(073)		97	733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_T4_BR-RAIL	AS NOTED

vhb

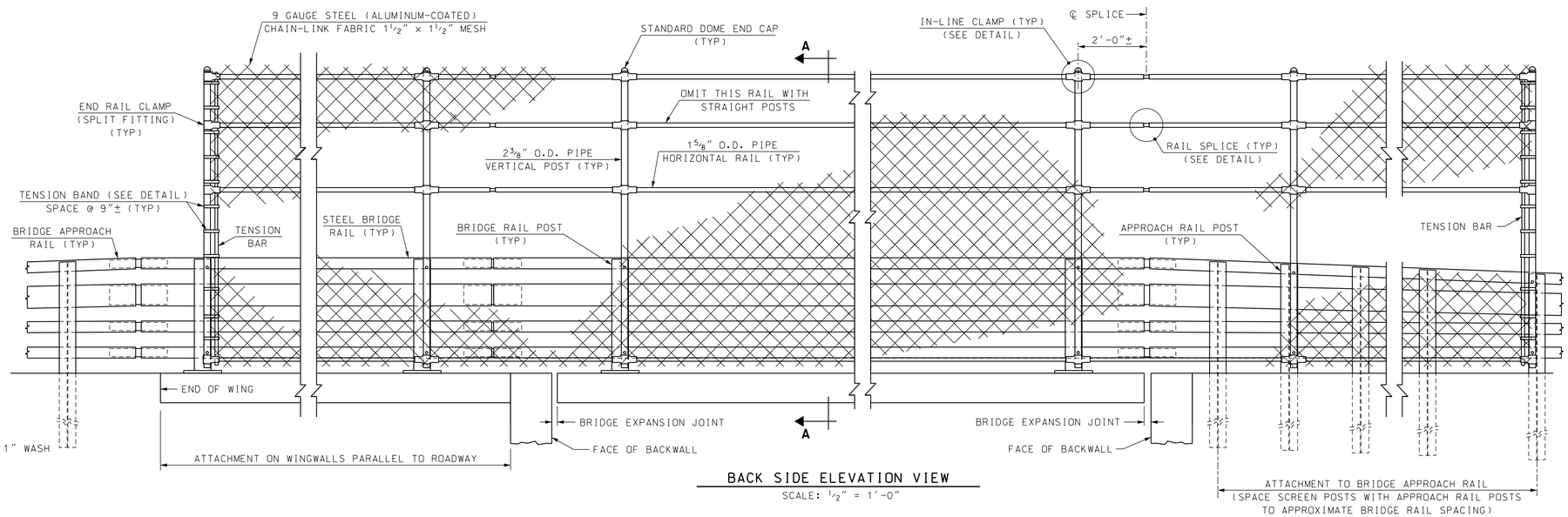


STRAIGHT SCREEN WITH BRUSH CURB

CURVED SCREEN WITH SIDEWALK

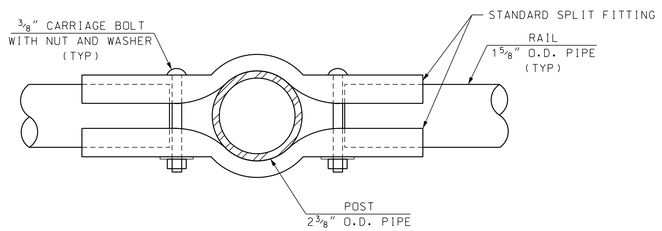
SECTION A-A

SCALE: ½" = 1'-0"



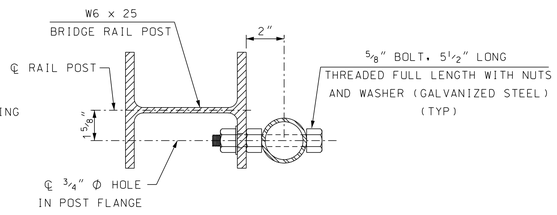
BACK SIDE ELEVATION VIEW

SCALE: ½" = 1'-0"



IN-LINE CLAMP DETAIL

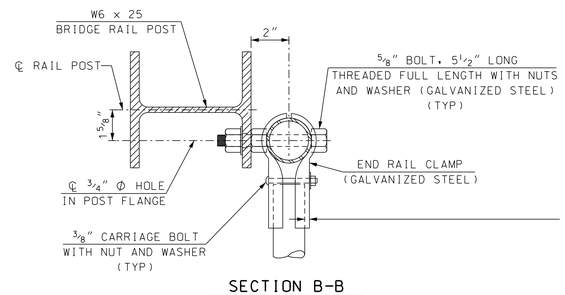
SCALE: 6" = 1'-0"



SECTION B-B

(AT INTERIOR POST)

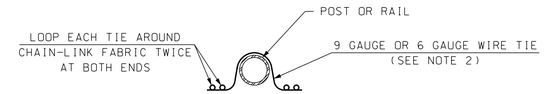
SCALE: 3" = 1'-0"



SECTION B-B

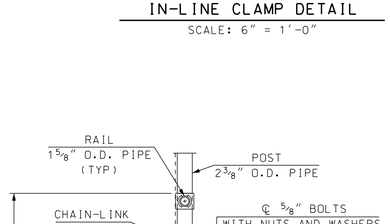
(AT END POST)

SCALE: 3" = 1'-0"

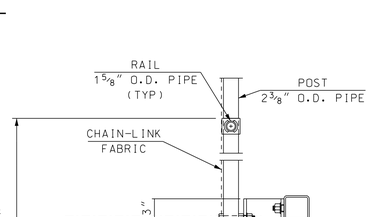


DOUBLE PIGTAILED TIE

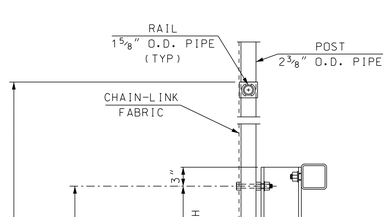
NOT TO SCALE



T2 RAIL



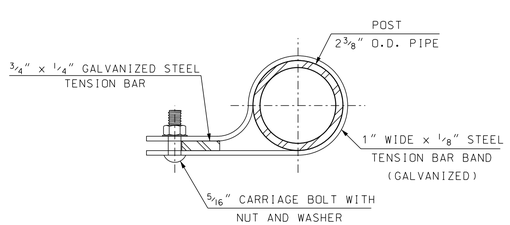
T3 RAIL



T4 RAIL

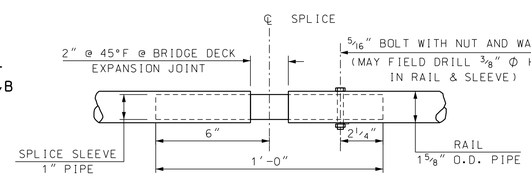
POST CONNECTION DETAILS

SCALE: 1" = 1'-0"



TENSION BAND DETAIL

SCALE: 6" = 1'-0"



RAIL SPLICE DETAIL

SCALE: 3" = 1'-0"

GENERAL NOTES

(1) CHAIN-LINK FABRIC SHALL BE 9 GAUGE STEEL, ALUMINUM-COATED CONFORMING TO ASHTO M 181, TYPE II (ASTM A 491). CHAIN-LINK FABRIC SHALL BE KNUCKLED ON TOP AND BOTTOM. THE SIZE OF WIRE MESH (FABRIC) SHALL BE 1½".

(2) WIRE TIES SHALL BE STANDARD ROUND 9 GAUGE ALUMINUM-COATED STEEL OR 6 GAUGE ALUMINUM ALLOY CONFORMING TO ASTM F 626. ALL TIES SHALL BE WRAPPED AROUND CHAIN-LINK FABRIC TWICE (DOUBLE PIGTAILED) AT BOTH ENDS. SPACE TIES @ 6" O.C. TO BOTTOM RAIL AND @ 12" O.C. TO ALL POSTS AND OTHER RAILS.

(3) POSTS AND RAIL PIPES SHALL BE HOT-DIP GALVANIZED STEEL CONFORMING TO AASHTO M 181, GRADE 1 (ASTM F 1083). ALL PIPES SHALL BE SCHEDULE 40, STANDARD WEIGHT.

(4) TENSION BARS, BAR BANDS, IN-LINE CLAMPS AND END RAIL CLAMPS SHALL BE STEEL. STEEL COMPONENTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE. ALL BAR BANDS SHALL HAVE A BEVELED EDGE.

(5) ALL BOLTS AND NUTS SHALL BE STEEL CONFORMING TO ASTM A 307 AND ASTM A 563 GRADE A RESPECTIVELY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF ANSI B18.22. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE.

(6) RAIL SPLICES SHALL BE PROVIDED AT BRIDGE DECK EXPANSION JOINT(S) AND BRIDGE RAIL SPLICES AS DIRECTED BY THE CONTRACT ADMINISTRATOR.

(7) RAIL MAY BE FIELD CUT (SAWN) TO FIT POST SPACING. GALVANIZED RAIL, CUT OR DRILLED AS ALLOWED, SHALL BE TOUCHED-UP IN ACCORDANCE WITH 563.3.2.2.3.

(8) ALL COSTS FOR CHAIN-LINK FABRIC, POSTS, RAILS AND APPURTENANCES SHALL BE INCLUDED IN ITEM 563.221 (OR ITEM 563.231, OR ITEM 563.241), BRIDGE RAIL T2 (OR T3, OR T4) WITH PROTECTIVE SCREENING, AS APPLICABLE.

(9) SEE BRIDGE RAIL AND BRIDGE APPROACH RAIL SHEETS FOR ADDITIONAL DETAILS.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

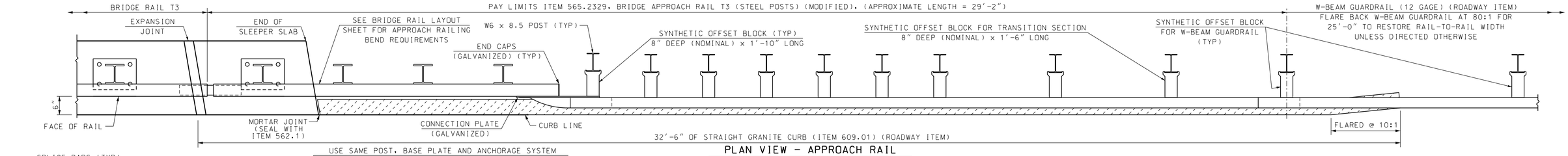
PROTECTIVE SCREEN WITH STEEL BRIDGE RAIL

BRIDGE SHEET 44 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NHDOT	9/98	CHECKED	CMW	10/98
DRAWN	GMC/PJP	12/06	CHECKED	PJP/DLS	12/06
QUANTITIES			CHECKED		
ISSUE DATE	11/98	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE	11/1/16	A005(073)		98	733

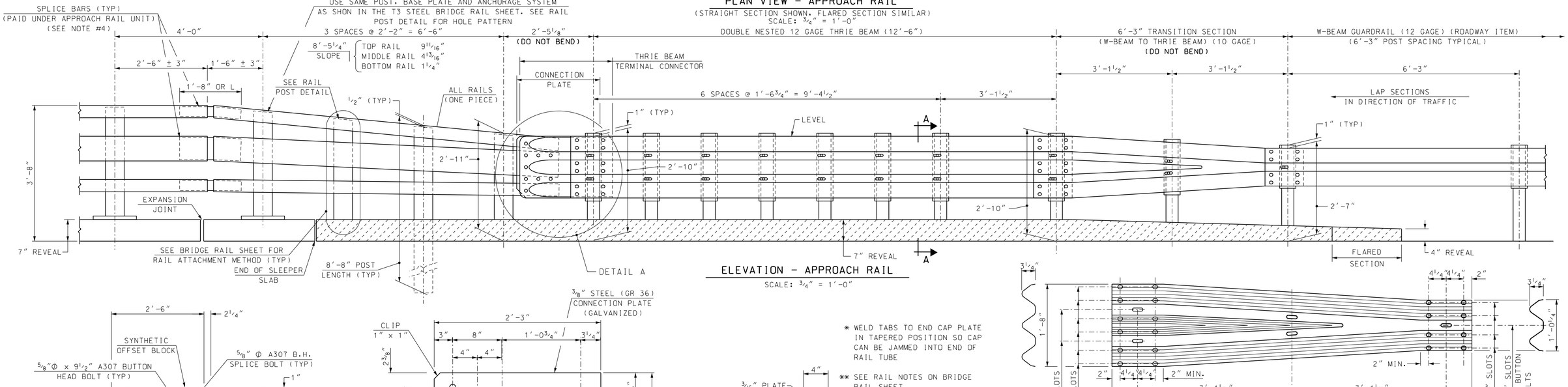
FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_PROSCREEN	AS NOTED



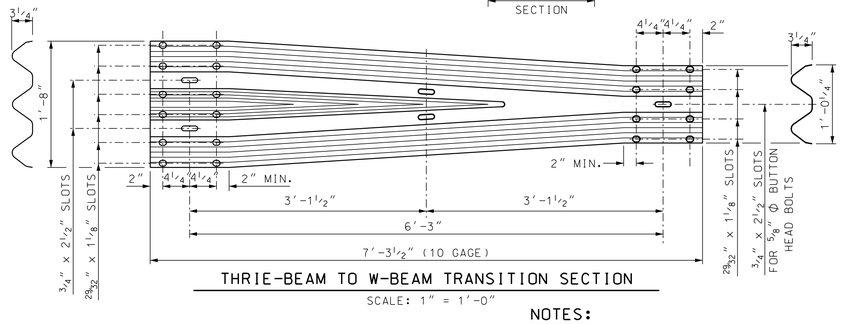
PLAN VIEW – APPROACH RAIL

(STRAIGHT SECTION SHOWN, FLARED SECTION SIMILAR)
SCALE: 3/4" = 1'-0"



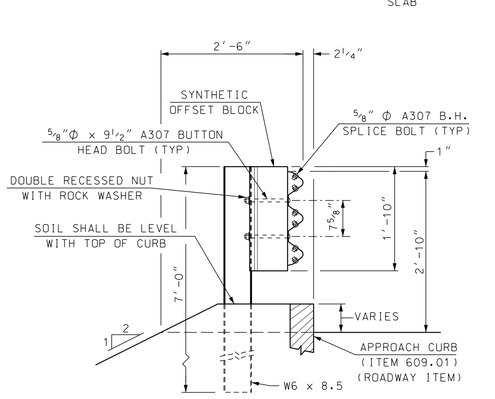
ELEVATION – APPROACH RAIL

SCALE: 3/4" = 1'-0"



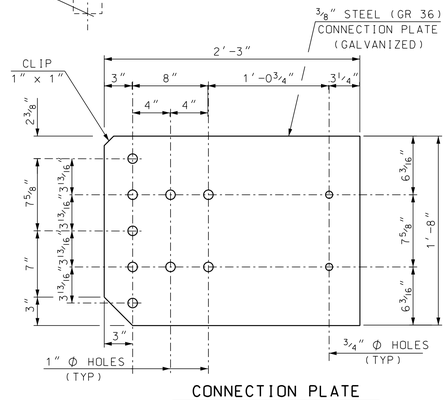
THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE: 1" = 1'-0"



SECTION A-A (POST RAIL ASSEMBLY)

SCALE: 3/4" = 1'-0"

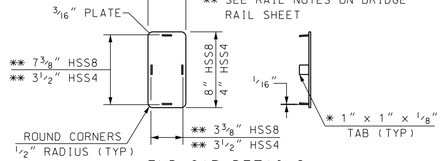


CONNECTION PLATE

SCALE: 1 1/2" = 1'-0"

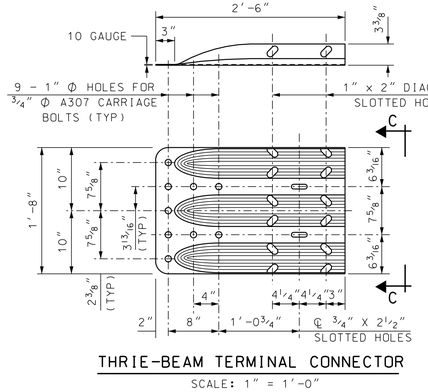
* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE

** SEE RAIL NOTES ON BRIDGE RAIL SHEET



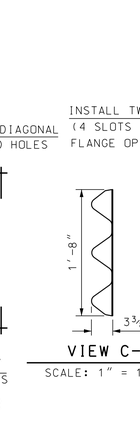
END CAP DETAILS

SCALE: 1 1/2" = 1'-0"



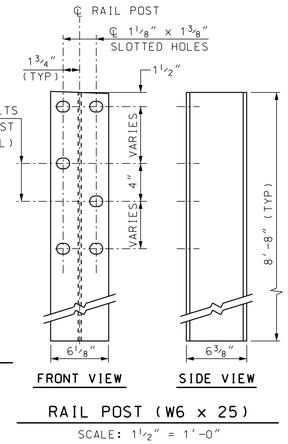
THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"



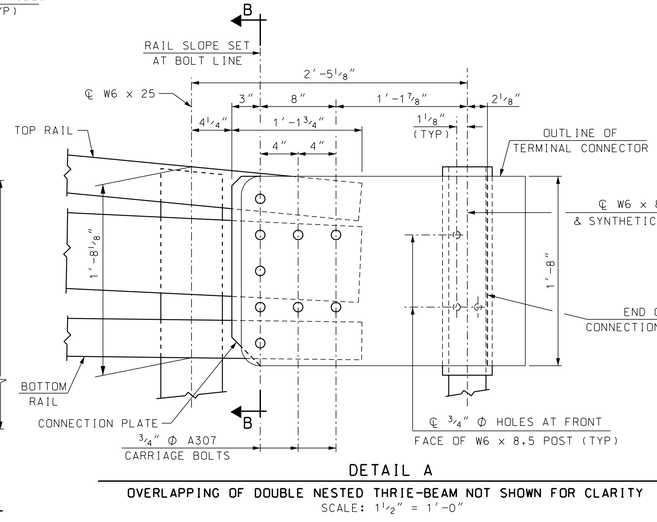
VIEW C-C

SCALE: 1" = 1'-0"



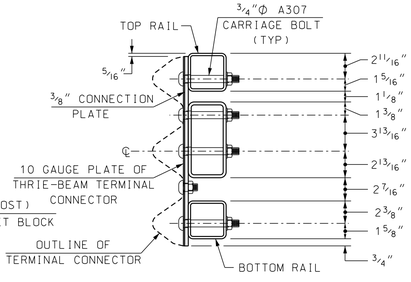
RAIL POST (W6 x 25)

SCALE: 1 1/2" = 1'-0"



DETAIL A

OVERLAPPING OF DOUBLE NESTED THRIE-BEAM NOT SHOWN FOR CLARITY
SCALE: 1 1/2" = 1'-0"



SECTION B-B (CONNECTION PLATE)

SCALE: 1 1/2" = 1'-0"

NOTES:

(1) ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSIONS, SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED. SEE BRIDGE RAIL SHEET FOR NOTES AND ADDITIONAL INFORMATION.

(2) W6 x 25 POSTS SHALL BE THE SAME MATERIAL AS THE BRIDGE RAIL POSTS. W6 x 8.5 POSTS SHALL BE THE SAME AS W-BEAM GUARDRAIL POSTS.

(3) CARRIAGE BOLTS SHALL BE ASTM A307, AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).

(4) WELD BARS ADJUSTED FOR SLOPE & BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

(5) THIS BRIDGE RAIL TRANSITION SYSTEM WAS SUCCESSFULLY CRASH TESTED IN APRIL 2005 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-3 PER FHWA LETTER HSSD/B-146.

(6) ALL COMPONENTS, EXCEPT TUBULAR RAIL, SHALL CONFORM TO SECTION 606 OF NHDOT SPECIFICATIONS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

T3 STEEL BRIDGE APPROACH RAIL (STEEL POSTS)

BRIDGE SHEET 45 OF 49

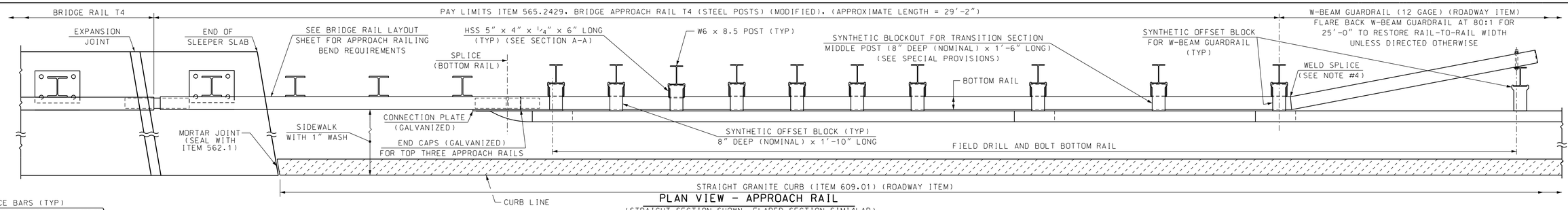
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
	DRAWN	PJP	10/05	CHECKED	JSZ	10/05
	QUANTITIES			CHECKED		
	ISSUE DATE	11/15/05		FEDERAL PROJECT NO.		
	REV. DATE	2/16/21		A005(073)		

FILE NUMBER 142-1-1

SHEET NO. 99

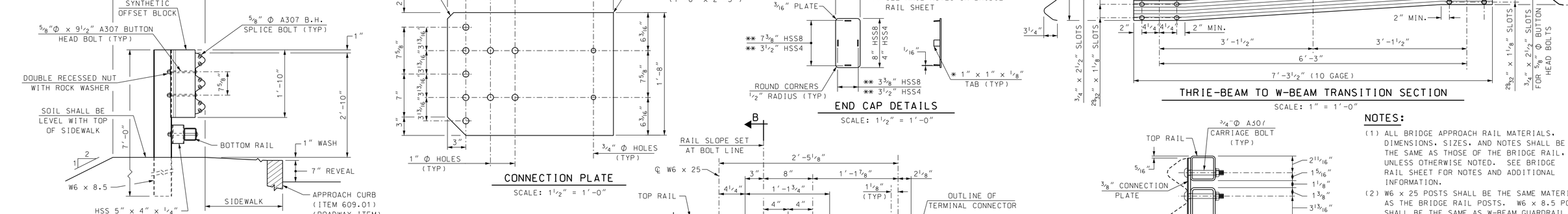
TOTAL SHEETS 733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	3065A_T3SP_APPRAIL	AS NOTED



PLAN VIEW - APPROACH RAIL

(STRAIGHT SECTION SHOWN, FLARED SECTION SIMILAR)
SCALE: 3/4" = 1'-0"



ELEVATION - APPROACH RAIL

SCALE: 3/4" = 1'-0"

SECTION A-A (POST RAIL ASSEMBLY)

SCALE: 3/4" = 1'-0"

CONNECTION PLATE

SCALE: 1 1/2" = 1'-0"

END CAP DETAILS

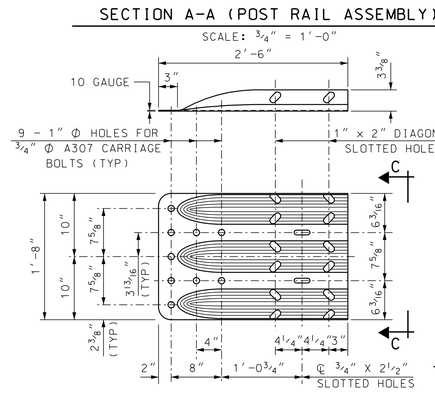
SCALE: 1 1/2" = 1'-0"

* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE

** SEE RAIL NOTES ON BRIDGE RAIL SHEET

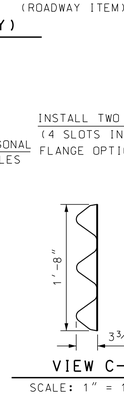
THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE: 1" = 1'-0"



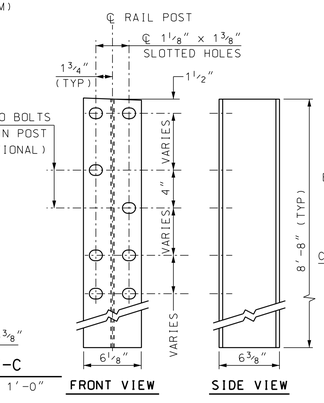
THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"



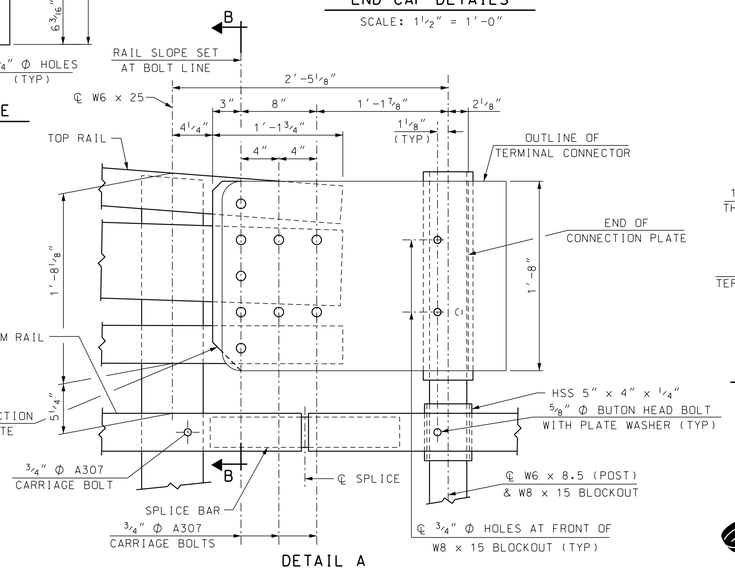
VIEW C-C

SCALE: 1" = 1'-0"



RAIL POST (W6 x 25)

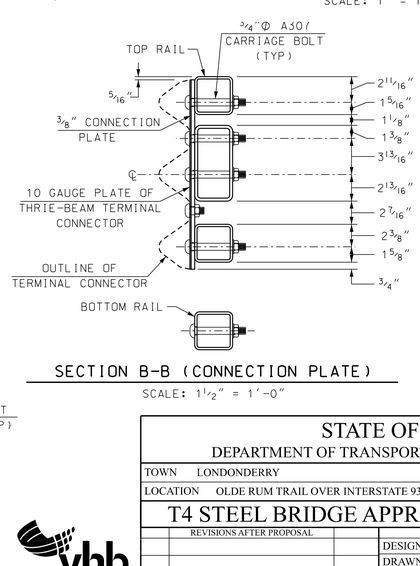
SCALE: 1 1/2" = 1'-0"



DETAIL A

OVERLAPPING OF DOUBLE NESTED THRIE-BEAM NOT SHOWN FOR CLARITY

SCALE: 1 1/2" = 1'-0"



SECTION B-B (CONNECTION PLATE)

SCALE: 1 1/2" = 1'-0"

NOTES:

(1) ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSIONS, SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED. SEE BRIDGE RAIL SHEET FOR NOTES AND ADDITIONAL INFORMATION.

(2) W6 x 25 POSTS SHALL BE THE SAME MATERIAL AS THE BRIDGE RAIL POSTS. W6 x 8.5 POSTS SHALL BE THE SAME AS W-BEAM GUARDRAIL POSTS.

(3) CARRIAGE BOLTS SHALL BE ASTM A307, AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).

(4) WELD BARS ADJUSTED FOR SLOPE OR BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

(5) THIS BRIDGE RAIL TRANSITION SYSTEM WAS SUCCESSFULLY CRASH TESTED IN APRIL 2005 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-3 PER FHWA LETTER HSSD/B-146.

(6) ALL COMPONENTS, EXCEPT TUBULAR RAIL, SHALL CONFORM TO SECTION 606 OF NHDOT SPECIFICATIONS.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

T4 STEEL BRIDGE APPROACH RAIL (STEEL POSTS)

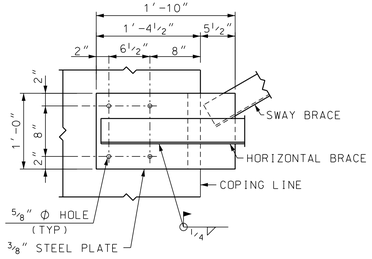
BRIDGE SHEET 46 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
	DRAWN	PJP	10/05	CHECKED	JSZ	10/05
	QUANTITIES			CHECKED		

FILE NUMBER 142-1-1

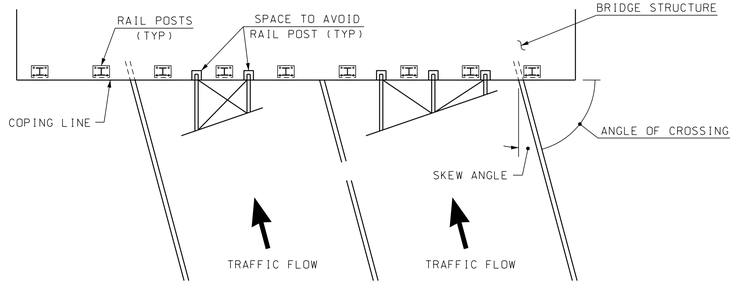
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	2/16/21	A005(073)	100	733

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	3065A_T4SP_APPRAIL	AS NOTED



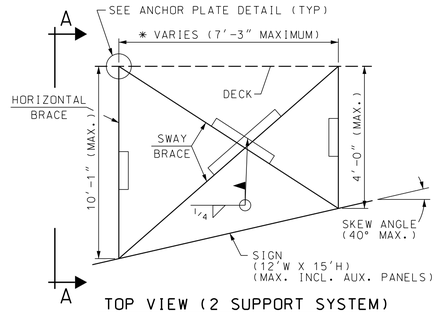
ANCHOR PLATE DETAIL (PLAN VIEW)

SCALE: 1" = 1'-0"



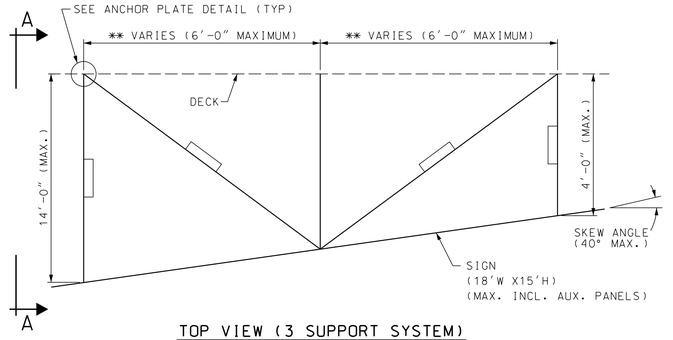
PLAN VIEW

NOT TO SCALE



TOP VIEW (2 SUPPORT SYSTEM)

NOT TO SCALE

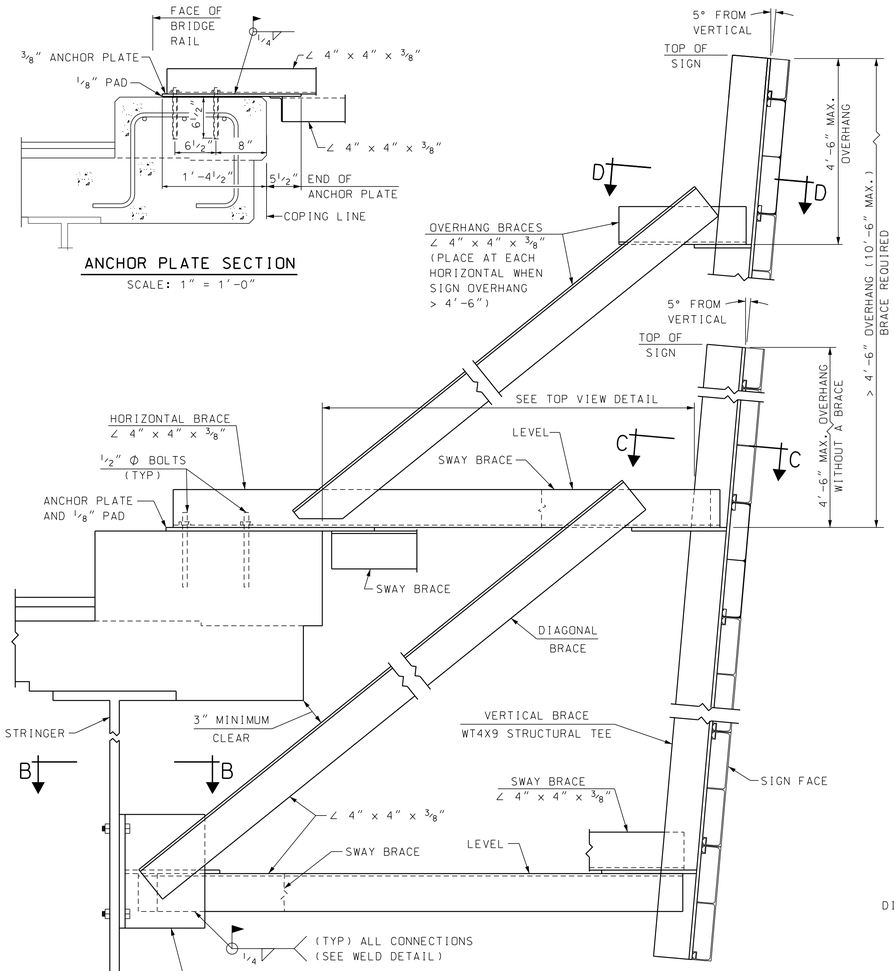


TOP VIEW (3 SUPPORT SYSTEM)

NOT TO SCALE

ANCHOR PLATE SECTION

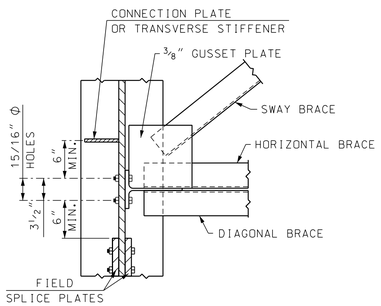
SCALE: 1" = 1'-0"



WT9x23 (OR EQUAL STRUCTURAL TEE) ATTACH TO STRINGER WEB WITH FOUR 7/8" Ø HIGH-STRENGTH BOLTS IN 15/16" Ø HOLES. FIELD DRILLED (USING WT AS A TEMPLATE) AS APPROVED BY THE ENGINEER. HOLES SHALL BE A MINIMUM 6" CLEAR FROM STRINGER CROSS-FRAME CONNECTION PLATES, TRANSVERSE STIFFENERS, OR FIELD SPLICE PLATES.

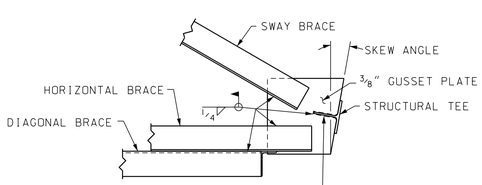
VIEW A-A

NOT TO SCALE



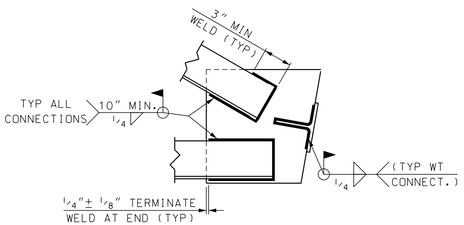
SECTION B-B

SCALE: 1" = 1'-0"



SECTION C-C

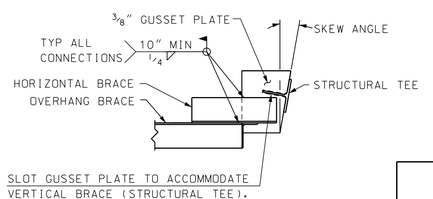
SCALE: 1" = 1'-0"



WELD DETAIL

(ALL MEMBER CONNECTIONS)

SCALE: 1 1/2" = 1'-0"



SECTION D-D

SCALE: 1" = 1'-0"

GENERAL NOTES

(1) ALL WORK AND MATERIALS ON THIS SHEET SHALL BE PAID UNDER ITEM 615.30001. EXISTING SIGN SUPPORTS SHALL BE REMOVED AS PART OF ITEM 502.

(2) ALL STRUCTURAL STEEL SHALL BE AASHTO DESIGNATION M223 (ASTM A572) GRADE 50, GALVANIZED.

(3) ALL BOLTS AND RELATED HARDWARE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M164 (ASTM A325) TYPE 1 (GALV.). ALL BOLTS SHALL BE SLIP CRITICAL (CLASS B), 7/8"Ø HIGH STRENGTH IN 15/16"Ø HOLES.

(4) PREFORMED ELASTOMERIC BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.

(5) THE NEW SIGN(S) SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.

(6) FIELD WELDING SHALL BE IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATION SECTION 550.

(7) GALVANIZING SHALL BE IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATION SECTION 550. PRIOR TO FIELD WELDING, GRIND OFF GALVANIZING. REPAIR GALVANIZING WITH APPROVED MATERIALS PER NHDOT STANDARD SPECIFICATION SECTION 550.2.9.1.

DESIGN CRITERIA

(1) SPECIFICATIONS: AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST ED. 2015 AS AMENDED
NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED.

(2) DESIGN LOADING: WIND PRESSURE = 48 PSF (2-SUPPORT), 46 PSF (3-SUPPORT)
WIND SPEED = 130 MPH
SIGN WEIGHT = 5 PSF (INCLUDES WT4X9)
STEEL YIELD STRENGTH (Fy) = 50 KSI

(3) DESIGN DIMENSIONS: MAXIMUM DIMENSIONS AND SKEWS AS SHOWN ON PLAN.

SUPPORT SYSTEM NOTES

* (1) DISTANCE BETWEEN HORIZONTAL MEMBERS SHALL BE 60% OF SIGN WIDTH ON CENTER FOR SIGNS WITH WIDTHS ≤ 12'-0" (TWO SUPPORT SYSTEM).

** (2) DISTANCE BETWEEN HORIZONTAL MEMBERS SHALL BE ONE-THIRD OF SIGN WIDTH ON CENTER FOR SIGN WIDTHS 12'-0" TO 18'-0" (THREE SUPPORT SYSTEM).

(3) THE SIGN SUPPORT MEMBERS HAVE BEEN SIZED USING THE DESIGN CRITERIA NOTED ON THIS PLAN.

(4) DIAGONAL SWAY BRACE MEMBERS SHALL BE ∠ 4" x 4" x 3/8" (TWO MEMBERS ON TOP AND TWO MEMBERS ON BOTTOM).

(5) IF THE SIGN EXTENDS > 4.5' FROM THE TOP HORIZONTAL, OVERHANG BRACES (∠4" X 4" X 3/8") SHALL BE PLACED AT EACH HORIZONTAL AS SHOWN IN VIEW A-A.

(6) THE CONTRACTOR SHALL DETERMINE THE LENGTHS OF THE MEMBERS TO PROVIDE BRIDGE CLEARANCE AND TO ACCOMMODATE SKEW ANGLE.

(7) THE FACE OF ALL STRUCTURAL TEES SHALL LIE IN THE SAME PLANE.

(8) THE SUPPORT MEMBERS SHALL BE DETAILED TO PROVIDE A LEVEL SIGN POSITION, REGARDLESS OF THE GRADE OF THE BRIDGE STRUCTURE. THE DETAILING OF THE SUPPORT MEMBERS SHALL PROVIDE ADEQUATE SPACE FOR PAINTING (IF REQUIRED) AND INSPECTION OF THE BEAMS.

(9) THE CONTRACTOR SHALL TAKE ALL MEASUREMENTS NECESSARY TO ENSURE THE PROPER ATTACHMENT AND MIN. CLEAR DISTANCES OF THE PROPOSED SIGN TO THE BRIDGE STRUCTURE.

(10) NO PART OF THE SIGN STRUCTURE SHALL PROJECT BELOW THE BOTTOM FLANGE OF THE BRIDGE GIRDER OR REDUCE THE STRUCTURE'S VERTICAL CLEARANCE.

(11) THE LOCATION OF THE PROPOSED SIGN ON THE BRIDGE STRUCTURE SHALL BE CENTERED WITHIN THE TRAVEL LANES, SUBJECT TO THE APPROVAL OF THE ENGINEER.

(12) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE SIGN SUPPORTS TO THE BUREAU OF BRIDGE DESIGN FOR APPROVAL.

ANCHOR PLATE NOTES

(1) 1/2" Ø HIGH STRENGTH GALVANIZED ANCHOR BOLTS 8" LONG (1 1/2" ABOVE TOP OF CONCRETE) WITH STANDARD GALVANIZED NUT AND WASHER IN DRILLED HOLE. THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT AFTER THE ANCHOR BOLT IS INSTALLED (TYPICAL). THE ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A449.

(2) FOR A C.I.P CONCRETE COPING, THE 1/2" Ø HIGH STRENGTH GALVANIZED BOLTS SHALL BE SET IN PLACE BEFORE PLACEMENT OF CONCRETE.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY BRIDGE NO. 130/129 STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

BRIDGE-MOUNTED SIGN SUPPORTS (STEEL GIRDER)

BRIDGE SHEET 47 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	NHDOT	2/22	CHECKED GSG	2/22
	DRAWN	PJP	12/06	CHECKED PAB/DAJN	6/2021
	QUANTITIES			CHECKED	
	ISSUE DATE	1/90	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE	6/2021	A005(073)	101	733

FILE NUMBER 142-1-1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_signdet	AS NOTED

ABUTMENT A FOOTING — BRIDGE SHEET 15 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
AF1	#7	16.00	300	—													
AF2	#7	14.50	52	—													
AF3	#5	14.50	43	—													
AF4	#9	14.50	84	—													
AF5	#7	12.50	150	—													
AF6	#5	12.50	44	—													
AF7	#5	39.00	68	—													
AF8	#5	12.00	32	—													
AF9	#5	14.25	28	—													
AF10	#5	23.17	120	—													
AF11E	#5	6.42	181	N8		5.58	0.83										EPOXY
AF12E	#8	10.25	179	N8		8.92	1.33										EPOXY
AF13E	#8	12.58	82	N8		11.25	1.33										EPOXY
AF14E	#6	7.75	85	N8		6.75	1.00										EPOXY
AF15	#5	7.42	28	20		0.83	5.75	0.83									
AF16	#5	3.96	286	N5		3.00	0.46	0.50									

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	9105	0	15185	0	4141	0	0	0	0	28431
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	1212	989	0	7653	0	0	0	0	0	9854
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT A — BRIDGE SHEET 16 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
A1E	#8	12.00	89	—													EPOXY
A2E	#8	20.58	90	—													EPOXY
A3E	#5	21.58	96	—													EPOXY
A4E	#5	5.13	75	S5	0.00	1.58	1.96	1.58			0.00						EPOXY
A5E	#5	3.33	75	N8		2.50	0.83										EPOXY
A6E	#5	19.50	51	—													EPOXY
A7E	#5	38.08	51	—													EPOXY
A8E	#5	19.08	49	—													EPOXY
A9E	#5	10.50	24	N7			2.75	7.75				1.94		1.94			EPOXY
A10E	#5	9.25	47	N7			5.08	4.17				3.60		3.60			EPOXY
A11E	#5	10.00	23	N7			2.75	7.25				1.77		2.10			EPOXY
A12E	#5	9.08	23	N7			5.58	3.50				3.58		4.27			EPOXY
A13E	#5	9.25	9	N7			1.50	7.75				1.06		1.06			EPOXY
A14E	#5	7.67	9	N7			3.50	4.17				2.48		2.48			EPOXY
A15E	#5	8.75	9	N7			1.50	7.25				0.96		1.15			EPOXY
A16E	#5	6.17	9	N7			2.67	3.50				1.71		2.04			EPOXY
A17E	#5	6.58	45	—													EPOXY
A18E	#5	5.25	45	—													EPOXY
A19E	#5	5.29	20	N4		0.83	3.63	0.83				3.58		0.60			EPOXY
A20E	#5	6.17	10	—													EPOXY
A21E	#5	3.58	14	N8		2.75	0.83										EPOXY
A22E	#5	5.08	6	N8		4.25	0.83										EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	9147	0	0	7797	0	0	0	0	0	16944
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

NORTHWEST WINGWALL — BRIDGE SHEET 16 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
NW1E	#6	20.00	7	—													EPOXY
NW2E	#6	17.67	7	—													EPOXY
NW3E	#6	15.33	7	—													EPOXY
NW4E	#6	13.00	7	—													EPOXY
NW5E	#6	10.67	7	—													EPOXY
NW6E	#6	8.33	7	—													EPOXY
NW7E	#6	6.00	1	—													EPOXY
NW8E	#5	20.00	7	—													EPOXY
NW9E	#5	17.67	7	—													EPOXY
NW10E	#5	15.33	7	—													EPOXY
NW11E	#5	13.00	7	—													EPOXY
NW12E	#5	10.67	7	—													EPOXY
NW13E	#5	8.33	7	—													EPOXY
NW14E	#5	6.00	1	—													EPOXY
NW15E	#5	19.00	34	—													EPOXY
NW16E	#5	15.96	2	—													EPOXY
NW17E	#5	12.92	2	—													EPOXY
NW18E	#5	9.88	2	—													EPOXY
NW19E	#5	6.83	2	—													EPOXY
NW20E	#5	3.79	2	—													EPOXY
NW21E	#5	22.58	18	—													EPOXY
NW22E	#5	19.58	2	—													EPOXY
NW23E	#5	16.58	2	—													EPOXY
NW24E	#5	13.58	2	—													EPOXY
NW25E	#5	10.58	2	—													EPOXY
NW26E	#5	7.58	2	—													EPOXY
NW27E	#5	4.58	2	—													EPOXY
NW28E	#5	1.58	2	—													EPOXY
NW29E	#5	20.08	3	—													EPOXY
NW30E	#5	23.83	3	—													EPOXY
NW31E	#5	7.46	47	S5	0.00	3.00	1.46	3.00			0.00						EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	2485	903	0	0	0	0	0	0	0	3388
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SOUTHWEST WINGWALL — BRIDGE SHEET 16 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
SW1E	#8	25.25	6	—													EPOXY
SW2E	#8	22.50	6	—													EPOXY
SW3E	#8	19.75	6	—													EPOXY
SW4E	#8	17.00	6	—													EPOXY
SW5E	#8	14.25	6	—													EPOXY
SW6E	#8	11.50	6	—													EPOXY
SW7E	#8	8.75	6	—													EPOXY
SW8E	#5	25.25	6	—													EPOXY
SW9E	#5	22.50	6	—													EPOXY
SW10E	#5	19.75	6	—													EPOXY
SW11E	#5	17.00	6	—													EPOXY
SW12E	#5	14.25	6	—													EPOXY
SW13E	#5	11.50	6	—													EPOXY
SW14E	#5	8.75	6	—													EPOXY
SW15E	#5	18.33	42	—													EPOXY
SW16E	#5	16.13	2	—													EPOXY
SW17E	#5	13.92	2	—													EPOXY
SW18E	#5	11.71	2	—													EPOXY
SW19E	#5	9.50	2	—													EPOXY
SW20E	#5	7.29	2	—													EPOXY
SW21E	#5	5.08	2	—													EPOXY
SW22E	#5	2.88	2	—													EPOXY
SW23E	#5	21.75	20	—													EPOXY
SW24E	#5	19.54	2	—													EPOXY
SW25E	#5	17.33	2	—													EPOXY
SW26E	#5	15.13	2	—													EPOXY
SW27E	#5	12.92	2	—													EPOXY
SW28E	#5	10.71	2	—													EPOXY
SW29E	#5	8.50	2	—													EPOXY
SW30E	#5	6.29	2	—													EPOXY
SW31E	#5	4.08	2	—													EPOXY
SW32E	#5	1.88	2	—													EPOXY
SW33E	#5	20.25	3	—													EPOXY
SW34E	#5	24.08	3	—													EPOXY
SW35E	#5	7.96	49	S5	0.00	3.25	1.46	3.25				0.00					EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	2887	0	0	1906	0	0	0	0	0	4793
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT B FOOTING — BRIDGE SHEET 18 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
BF1	#7	16.00	302	—													
BF2	#7	14.50	124	—													
BF3	#9	14.50	132	—													
BF4	#5	39.00	68	—													
BF5	#5	16.00	32	—													
BF6	#5	13.00	32	—													
BF7E	#5	6.42	180	N8		5.58	0.83										EPOXY
BF8E	#8	10.25	179	N8		8.92	1.33										EPOXY
BF9E	#8	12.58	125	N8		11.25	1.33										EPOXY
BF10E	#6	7.75	20	N8		6.75	1.00										EPOXY
BF11	#5	6.42	32	20		0.83	4.75	0.83									
BF12	#5	5.17	54	20		0.83	3.50	0.83									
BF13	#5	14.50	47	—													
BF14	#5	24.42	64	—													
BF15	#5	14.50	24	—													
BF16	#5	19.50	32	—													
BF17	#5	10.00	21	—													
BF18	#5	20.00	22	—													
BF19	#7	10.00	21	—													
BF20	#5	3.96	396	N5		3.00	0.46	0.50									

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	9908	0	13981	0	6508	0	0	0	0	30396
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	1205	233	0	9097	0	0	0	0	0	10535
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES

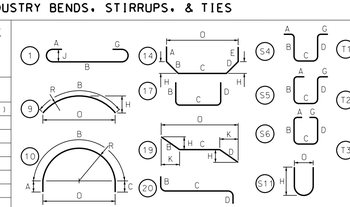
RECOMMENDED END HOOKS ALL GRADES (IN)

BAR SIZE	D Ø	180° HOOKS A.G	180° HOOKS J	90° HOOKS A.G
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	12
#7	5 1/4	10	7	14
#8	6	11	8	16
#9	9 1/2	15	11 3/4	19
#10	10 3/4	17	13 1/4	22
#11	12	19	14 3/4	24
#14	18 1/4	27	21 3/4	31

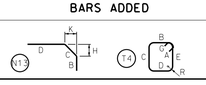
STIRRUP & TOE HOOK DIMENSIONS ALL GRADES (IN)

BAR SIZE	D Ø	90° HOOKS A.G	135° HOOKS A.G	135° HOOKS H(appr)
#3	1 1/2	4	4	2 1/2
#4	2	4 1/2	4 1/2	3
#5	2 1/2	6	5 1/2	3 3/4
#6	4 1/2	12	7 3/4	4 1/2
#7	5 1/4	14	9	5 1/4
#8	6	16	10 1/4	6

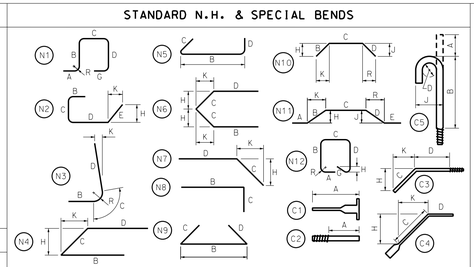
NOTE: D = finished inside bend d of hook. For additional data on standard bar bends not shown on this sheet see current CRSI Manual.



BARS ADDED



STANDARD N.H. & SPECIAL BENDS



NOTES:
1. FIGURES IN CIRCLE SHOW TYPE OF BEND.
2. UNLESS OTHERWISE DESIGNATED. ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT". AASHTO M 31-94 (ASTM A615).
3. FOR TYPICAL BENDING DETAILS. RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE REFER TO THE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD. AS REQUIRED.
△ DENOTES BARS TO BE BENT IN FIELD.

ASTM STANDARD REINFORCING BARS

BAR SIZE	WEIGHT LBS/FT	DIAM IN	CROSS SECT AREA IN²
#3	0.376	0.375	0.11
#4	0.668	0.500	0.20
#5	1.043	0.625	0.31
#6	1.502	0.750	0.44
#7	2.044	0.875	0.60
#8	2.670	1.000	0.79
#9	3.400	1.128	1.00
#10	4.303	1.270	1.27
#11	5.313	1.410	1.56
#14	7.650	1.693	2.25
#18	13.600	2.257	4.00

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_reinsch	AS NOTED

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY — BRIDGE NO. 130/129 — STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

REINFORCING SCHEDULE (1 OF 2)

BRIDGE SHEET 48 OF 49

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED	MAC	2/22
	DRAWN	BJM	2/22	CHECKED	MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED	JAW	2/22
	ISSUE DATE			FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE			A005(073)	102	733

FILE NUMBER 142-1-1

ABUTMENT B — BRIDGE SHEET 19 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
B1E	#8	12.00	89	—													EPOXY
B2E	#8	22.25	90	—													EPOXY
B3E	#5	23.25	96	—													EPOXY
B4E	#5	4.63	75	S5	0.00	1.33	1.96	1.33			0.00						EPOXY
B5E	#5	3.33	75	N8		2.50	0.83										EPOXY
B6E	#5	19.50	53	—													EPOXY
B7E	#5	38.08	55	—													EPOXY
B8E	#5	19.08	53	—													EPOXY
B9E	#5	9.00	25	N7			2.75	6.25				1.94		1.94			EPOXY
B10E	#5	7.75	25	N7			5.08	2.67				3.60		3.60			EPOXY
B11E	#5	12.00	25	N7			2.75	9.25				1.94		1.94			EPOXY
B12E	#5	10.75	49	N7			5.08	5.67				3.60		3.60			EPOXY
B13E	#5	7.75	8	N7			1.50	6.25				1.06		1.06			EPOXY
B14E	#5	6.17	8	N7			3.50	2.67				2.48		2.48			EPOXY
B15E	#5	10.75	7	N7			1.50	9.25				1.06		1.06			EPOXY
B16E	#5	7.83	7	N7			2.17	5.67				1.54		1.54			EPOXY
B17E	#5	6.17	45	—													EPOXY
B18E	#5	5.58	45	—													EPOXY
B19E	#5	5.29	17	N4		0.83	3.63	0.83				3.58		0.60			EPOXY
B20E	#5	5.00	7	—													EPOXY
B21E	#5	3.58	14	N8		2.75	0.83										EPOXY
B22E	#5	5.08	6	N8		4.25	0.83										EPOXY
B23E	#5	7.67	3	—													EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	9608	0	0	8198	0	0	0	0	0	17807
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SOUTHEAST WINGWALL — BRIDGE SHEET 19 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
SE1E	#8	23.67	8	—													EPOXY
SE2E	#8	21.50	8	—													EPOXY
SE3E	#8	19.33	8	—													EPOXY
SE4E	#8	17.17	8	—													EPOXY
SE5E	#8	15.00	8	—													EPOXY
SE6E	#8	12.83	6	—													EPOXY
SE7E	#5	23.67	8	—													EPOXY
SE8E	#5	21.50	8	—													EPOXY
SE9E	#5	19.33	8	—													EPOXY
SE10E	#5	17.17	8	—													EPOXY
SE11E	#5	15.00	8	—													EPOXY
SE12E	#5	12.83	6	—													EPOXY
SE13E	#5	16.83	46	—													EPOXY
SE14E	#5	13.13	2	—													EPOXY
SE15E	#5	9.42	2	—													EPOXY
SE16E	#5	5.71	2	—													EPOXY
SE17E	#5	2.00	2	—													EPOXY
SE18E	#5	27.25	30	—													EPOXY
SE19E	#5	23.54	2	—													EPOXY
SE20E	#5	19.83	2	—													EPOXY
SE21E	#5	16.13	2	—													EPOXY
SE22E	#5	12.42	2	—													EPOXY
SE23E	#5	8.71	2	—													EPOXY
SE24E	#5	5.00	2	—													EPOXY
SE25E	#5	1.29	2	—													EPOXY
SE26E	#5	17.42	3	—													EPOXY
SE27E	#5	28.33	3	—													EPOXY
SE28E	#5	7.46	52	S5	0.00	3.00	1.46	3.00			0.00						EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	3339	0	0	2270	0	0	0	0	0	5610
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

NORTHEAST WINGWALL — BRIDGE SHEET 19 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
NE1E	#8	22.75	6	—													EPOXY
NE2E	#8	20.25	6	—													EPOXY
NE3E	#8	17.75	6	—													EPOXY
NE4E	#5	22.75	6	—													EPOXY
NE5E	#5	20.25	6	—													EPOXY
NE6E	#5	17.75	6	—													EPOXY
NE7E	#6	11.75	6	—													EPOXY
NE8E	#6	9.25	6	—													EPOXY
NE9E	#6	6.75	6	—													EPOXY
NE10E	#6	4.25	2	—													EPOXY
NE11E	#5	11.75	6	—													EPOXY
NE12E	#5	9.25	6	—													EPOXY
NE13E	#5	6.75	6	—													EPOXY
NE14E	#5	4.25	2	—													EPOXY
NE15E	#5	17.08	38	—													EPOXY
NE16E	#5	14.71	2	—													EPOXY
NE17E	#5	12.33	2	—													EPOXY
NE18E	#5	9.96	2	—													EPOXY
NE19E	#5	7.58	2	—													EPOXY
NE20E	#5	5.21	2	—													EPOXY
NE21E	#5	2.83	2	—													EPOXY
NE22E	#5	19.08	14	—													EPOXY
NE23E	#5	16.71	2	—													EPOXY
NE24E	#5	14.33	2	—													EPOXY
NE25E	#5	11.96	2	—													EPOXY
NE26E	#5	9.58	2	—													EPOXY
NE27E	#5	7.21	2	—													EPOXY
NE28E	#5	4.83	2	—													EPOXY
NE29E	#5	2.46	2	—													EPOXY
NE30E	#5	18.58	3	—													EPOXY
NE31E	#5	20.75	3	—													EPOXY
NE32E	#5	7.79	41	S5	0.00	3.17	1.46	3.17			0.00						EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	2224	263	0	973	0	0	0	0	0	3460
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

PIER — BRIDGE SHEET 23 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
P1	#7	19.50	34	—													
P2	#7	15.50	42	—													
P3	#11	23.50	34	17		2.00	19.50	2.00									
P4	#11	19.50	42	17		2.00	15.50	2.00									
P5E	#9	11.75	80	N8		10.17	1.58										EPOXY
P6E	#9	20.25	80	—													EPOXY
P7E	#4	24.08	114	T4	0.38	4.08	7.58	4.08	7.58		0.38				0.67		EPOXY
P8E	#4	4.83	294	N5		4.08	0.38	0.38									EPOXY
P9E	#4	8.33	98	N5		7.58	0.38	0.38									EPOXY
P10E	#11	32.33	40	N8		30.33	2.00										EPOXY
P11E	#11	42.67	40	N8		40.67	2.00										EPOXY
P12E	#6	19.67	12	N13		5.67	10.72	3.25				3.00		10.29			EPOXY
P13E	#6	37.17	60	—													EPOXY
P14E	#6	35.67	12	—													EPOXY
P15E	#6	32.17	12	—													EPOXY
P16E	#6	6.92	14	17		1.00	4.92	1.00									EPOXY
P17E	#6	14.17	384	17		6.25	1.67	6.25									EPOXY
P18E	#6	15.17	192	17		6.25	2.67	6.25									EPOXY
P19E	#6	12.17	96	17		5.25	1.67	5.25									EPOXY
P20E	#6	13.17	48	17		5.25	2.67	5.25									EPOXY
P21E	#5	7.75	40	17		2.08	3.58	2.08									EPOXY
P22E	#5	8.75	40	17		2.08	4.58	2.08									EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	2686	0	0	0	8596	0	0	11282
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	3328	688	20324	0	0	8704	0	15939	0	0	48983
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

DECK — BRIDGE SHEET 33 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D1E	#5	40.00	600	—													EPOXY
D2E	#5	35.67	600	—													EPOXY
D3E	#5	40.00	707	—													EPOXY
D4E	#5	36.00	95	—													EPOXY
D5E	#5	37.67	176	—													EPOXY
D6E	#5	5.67	1200	—													EPOXY
D7E	#5	5.50	681	S5	0.83	1.25	1.33	1.25				0.83					EPOXY
D8E	#5	4.58	602	17		0.83	2.92	0.83									EPOXY
D9E	#5	10.67	301	S5	0.83	1.25	6.92	0.83				0.83					EPOXY
D10E	#5	8.08	288	N11	0.83	0.92	4.58	0.92	0.83				0.71	0.71	0.54	0.54	EPOXY
D11EΔ	#5	40.00	6	—													EPOXY
D12EΔ	#5	5.25	28	N11	0.83	0.92	3.50	0.00	0.00				0.71	0.00	0.54	0.00	EPOXY
D20E	#4	6.92	292	—													EPOXY
D21E	#5	40.00	42	—													EPOXY
D22E	#5	35.67	42	—													EPOXY
D23E	#6	40.00	24	—													EPOXY
D24E	#6	36.17	24	—													EPOXY
D25E	#6	11.00	300	17		3.67	3.67	3.67									EPOXY
D26E	#6	11.00	150	17		5.08	0.83	5.08									EPOXY
D27E	#5	8.92	150	17		2.92	3.08	2.92									EPOXY
D28E	#5	6.75	150	N8		0.83	5.92										EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	1350	113158	10181	0	0	0	0	0	0	0	124689
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH SLAB — BRIDGE SHEET 36 OF 49

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
AS1E	#5	24.83	87	—													EPOXY
AS2E	#5	29.92	93	—													EPOXY
AS3E	#7	24.83	146	—													EPOXY
AS4E	#8	29.92	146	—													EPOXY
AS5E	#5	40.00	148	—													EPOXY
AS6E	#5	35.92	148	—													EPOXY
AS7E	#5	6.17	157	S5	0.83	1.50	1.50	1.50				0.83					EPOXY
AS8E	#5	11.25	65	S5	0.83	1.67	7.08	0.83				0.83					EPOXY
AS9E	#5	8.08	35	N11	0.83	0.92	4.58	0.92	0.83				0.71	0.71	0.54	0.54	EPOXY
AS10E	#5	5.58	296	—													EPOXY
AS11E	#5	7.33	148	17		2.42	2.50	2.42									EPOXY
AS12E	#5	2.50	32	—													EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	21880	0	7410	11663	0	0	0	0	0	40954
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

GRAND SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	19013	0	31852	0	10649	0	8596	0	0	70109
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	4678	167833	32893	7410	49557	8704	0	15939	0	0	287017
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES

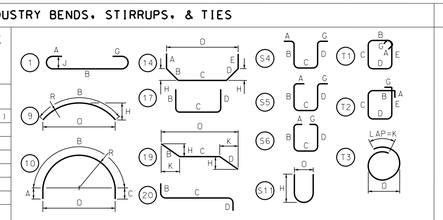
RECOMMENDED END HOOKS ALL GRADES (IN)

BAR SIZE	D Ø	180° HOOKS A.G	180° HOOKS J	90° HOOKS A.G
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	12
#7	5 1/4	10	7	14
#8	6	11	8	16
#9	9 1/2	15	11 3/4	19
#10	10 3/4	17	13 1/4	22
#11	12	19	14 3/4	24
#14	18 1/4	27	21 3/4	31

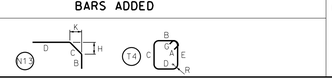
STIRRUP & TOE HOOK DIMENSIONS ALL GRADES (IN)

BAR SIZE	D Ø	90° HOOKS A.G	135° HOOKS A.G	135° HOOKS H(appr)
#3	1 1/2	4	4	2 1/2
#4	2	4 1/2	4 1/2	3
#5	2 1/2	6	5 1/2	3 3/4
#6	4 1/2	12	7 3/4	4 1/2
#7	5 1/4	14	9	5 1/4
#8	6	16	10 1/4	6

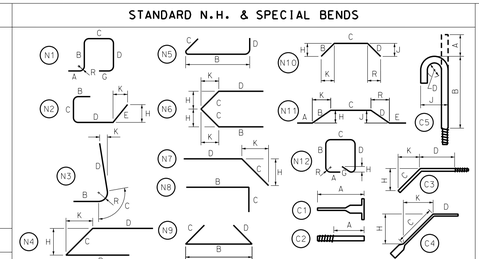
NOTE: D = finished inside bend d of hook. For additional data on standard bar bends not shown on this sheet see current CRSI Manual.



BARS ADDED



STANDARD N.H. & SPECIAL BENDS



NOTES:
1. FIGURES IN CIRCLE SHOW TYPE OF BEND.
2. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31-94 (ASTM A615).
3. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE REFER TO THE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD, AS REQUIRED.
Δ DENOTES BARS TO BE BENT IN FIELD.

ASTM STANDARD REINFORCING BARS

BAR SIZE	WEIGHT LBS/FT	DIAM IN	CROSS SECT AREA IN²
#3	0.376	0.375	0.11
#4	0.668	0.500	0.20
#5	1.043	0.625	0.31
#6	1.502	0.750	0.44
#7	2.044	0.875	0.60
#8	2.670	1.000	0.79
#9	3.400	1.128	1.00
#10	4.303	1.270	1.27
#11	5.313	1.410	1.56
#14	7.650	1.693	2.25
#18	13.600	2.257	4.00

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	13065A_reinsch2	AS NOTED

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LONDONDERRY — BRIDGE NO. 130/129 — STATE PROJECT 13065A

LOCATION OLDE RUM TRAIL OVER INTERSTATE 93

REINFORCING SCHEDULE (2 OF 2)

BRIDGE SHEET 49 OF 49

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	MAC	2/22	CHECKED MAC	2/22
	DRAWN	BJM	2/22	CHECKED MAC	2/22
	QUANTITIES	AMM	2/22	CHECKED JAW	2/22

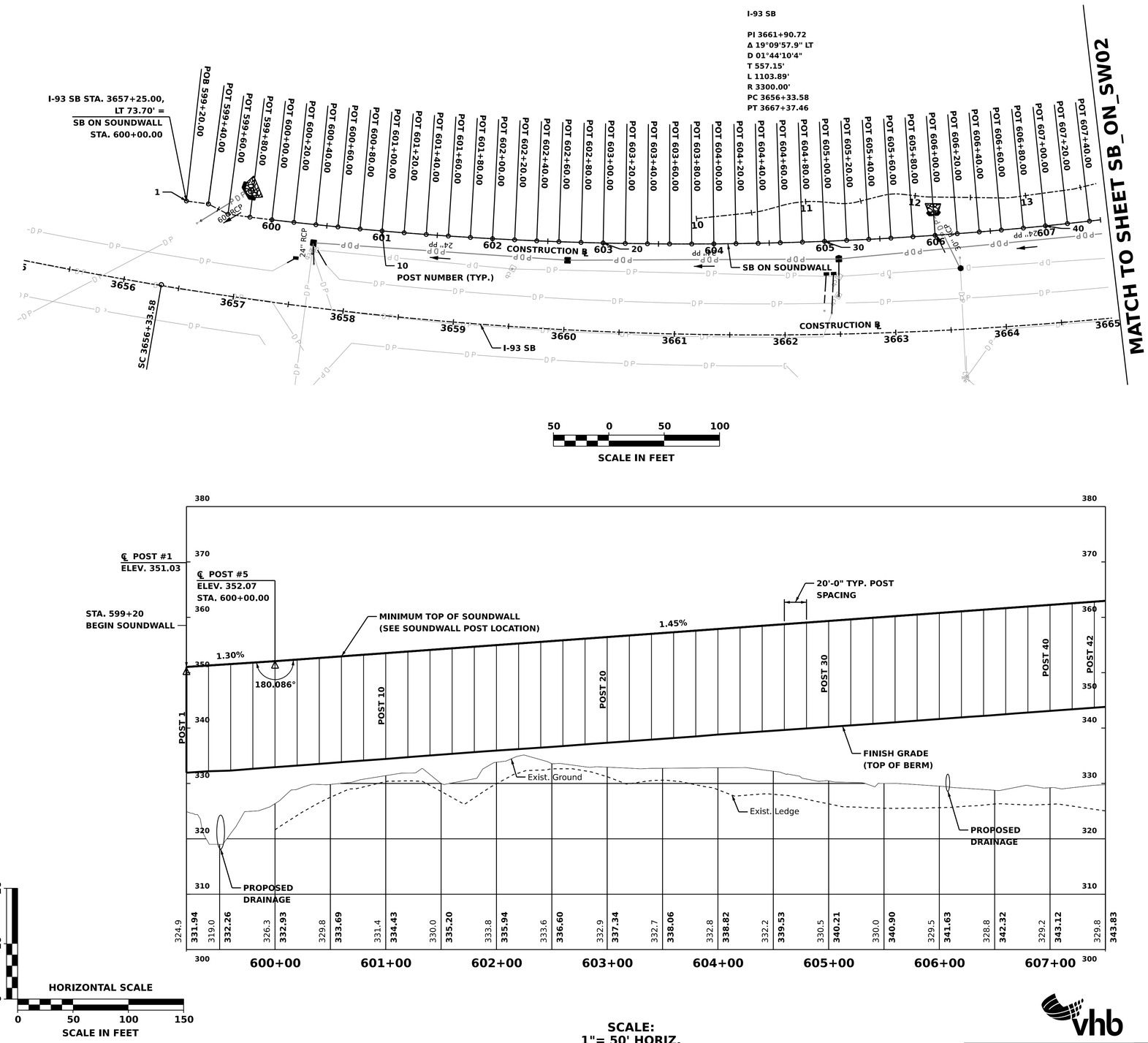
ISSUE DATE
REV. DATE

FEDERAL PROJECT NO. A005(073)

SHEET NO. 103

TOTAL SHEETS 733

FILE NUMBER 142-1-1



NUMBER	DATE	STATION

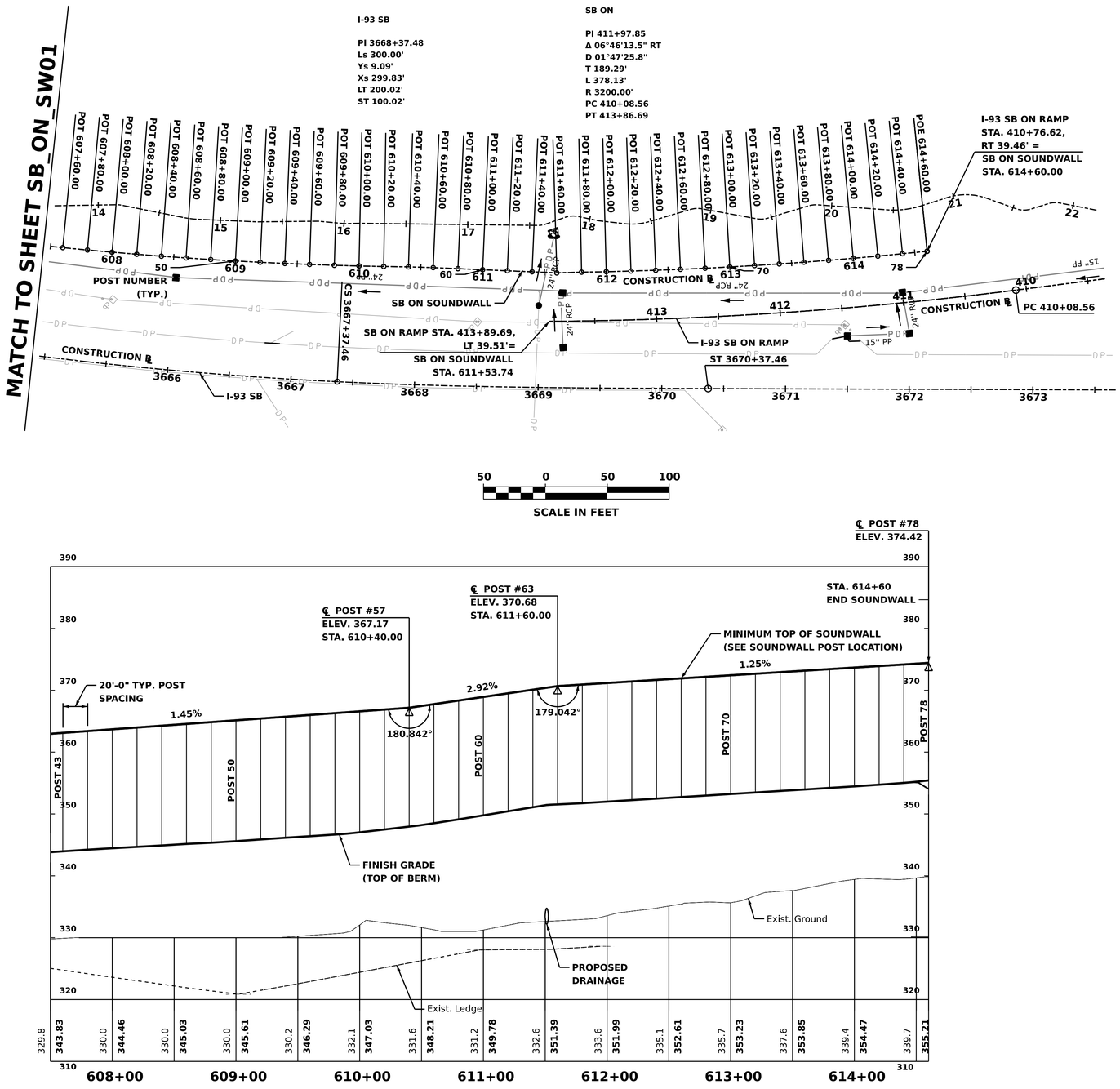
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SOUTHBOUND ON RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SB_On_SW01	13065A_SW_SB_On	13065A	104	733



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

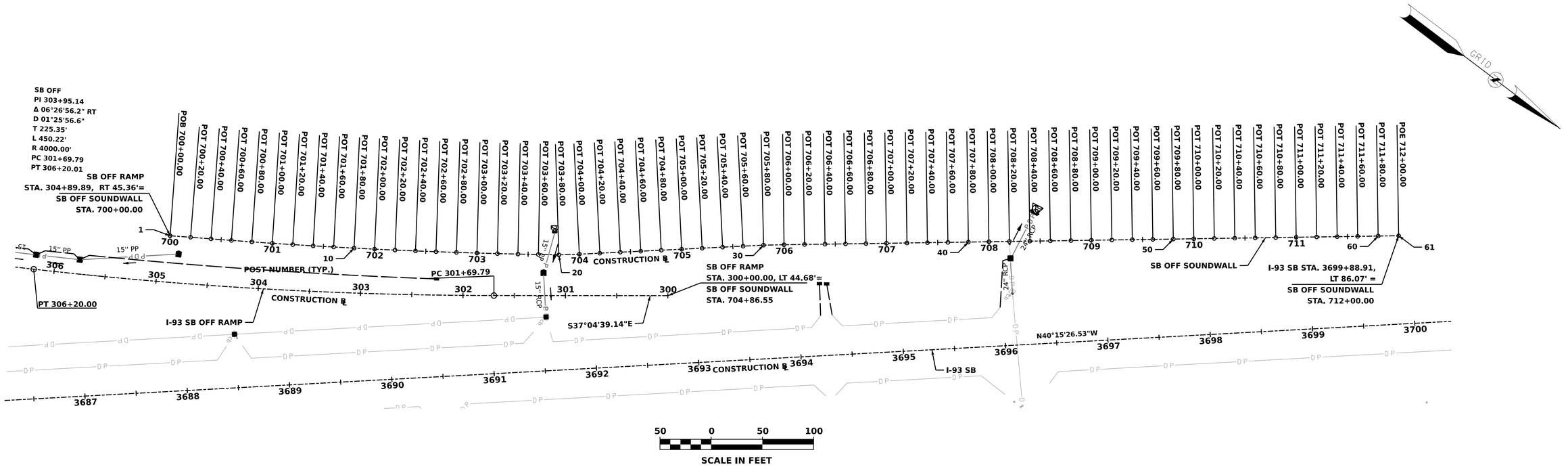
NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

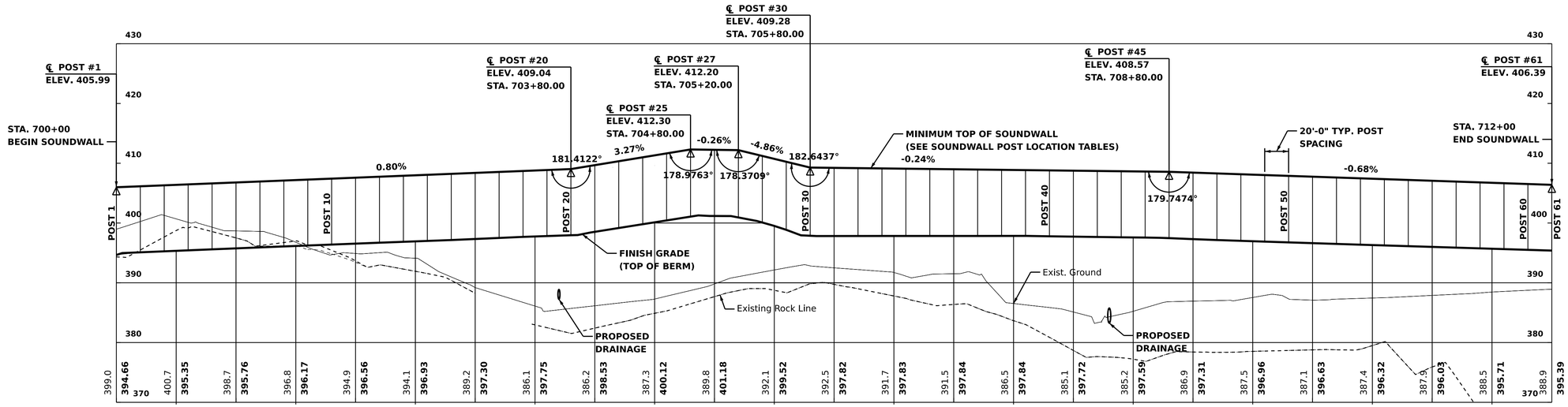
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SOUTHBOUND ON RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SB_On_SW02	13065A_SW_SB_On	13065A	105	733





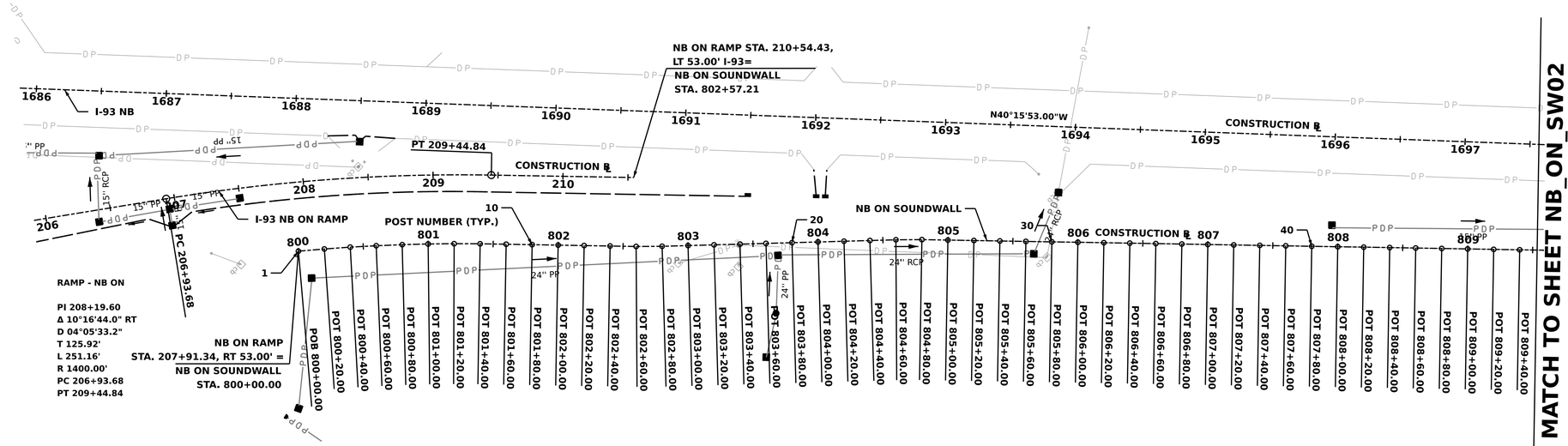
NUMBER	DESCRIPTION	DATE	STATION

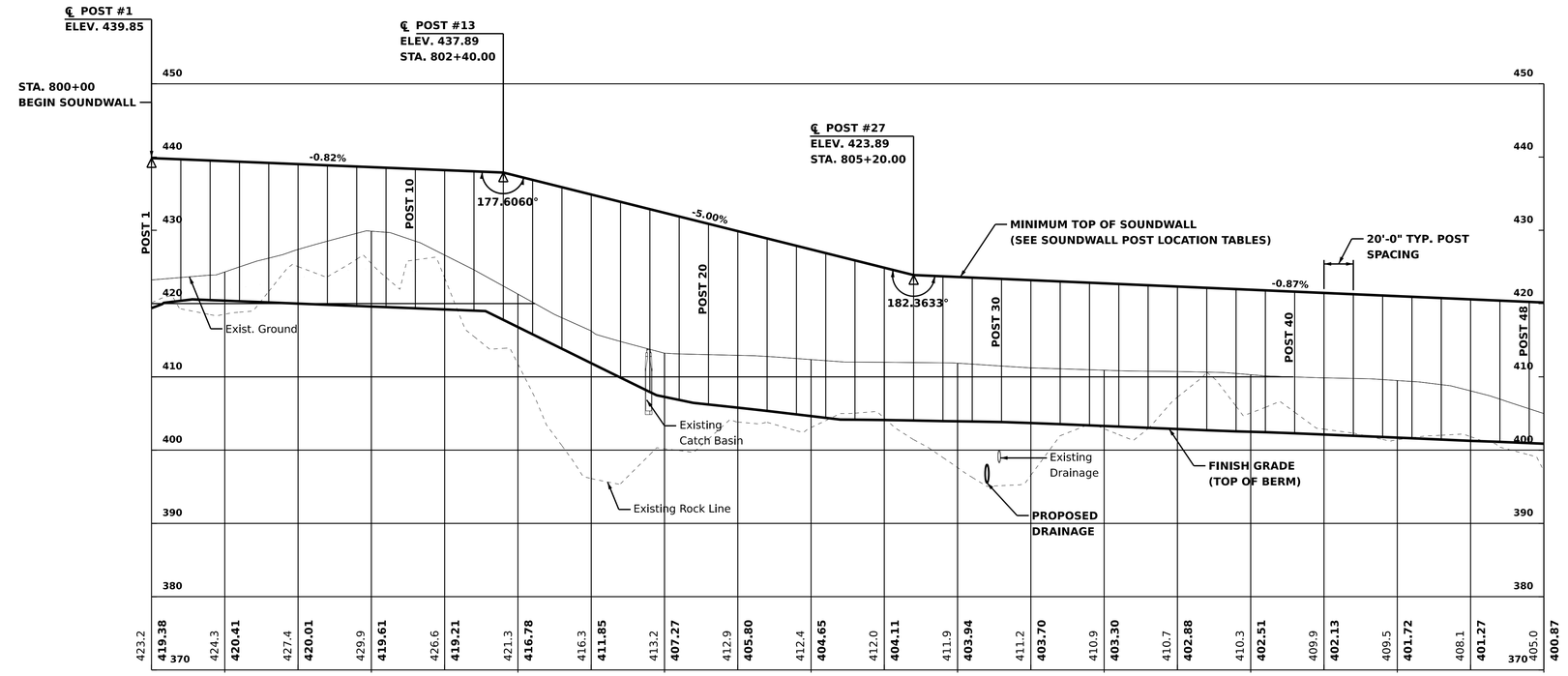
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SOUTHBOUND OFF RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SB_Off_SW03	13065A_SW_SB_Off	13065A	106	733





SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

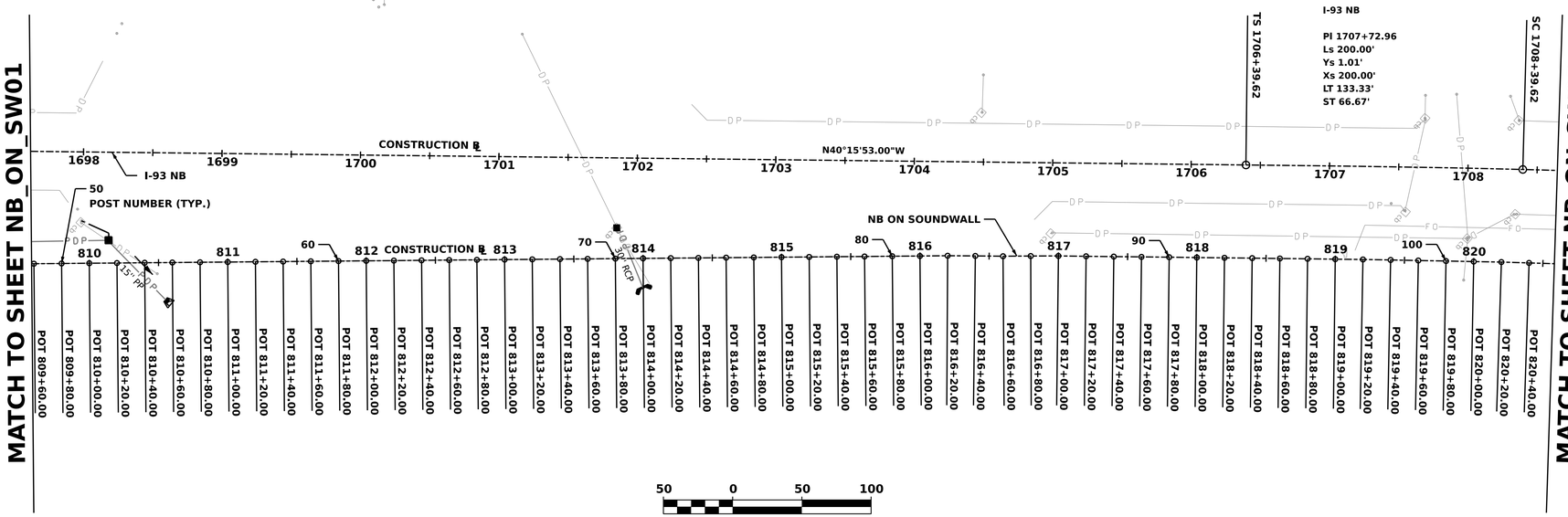
NUMBER	DATE	STATION	DESCRIPTION

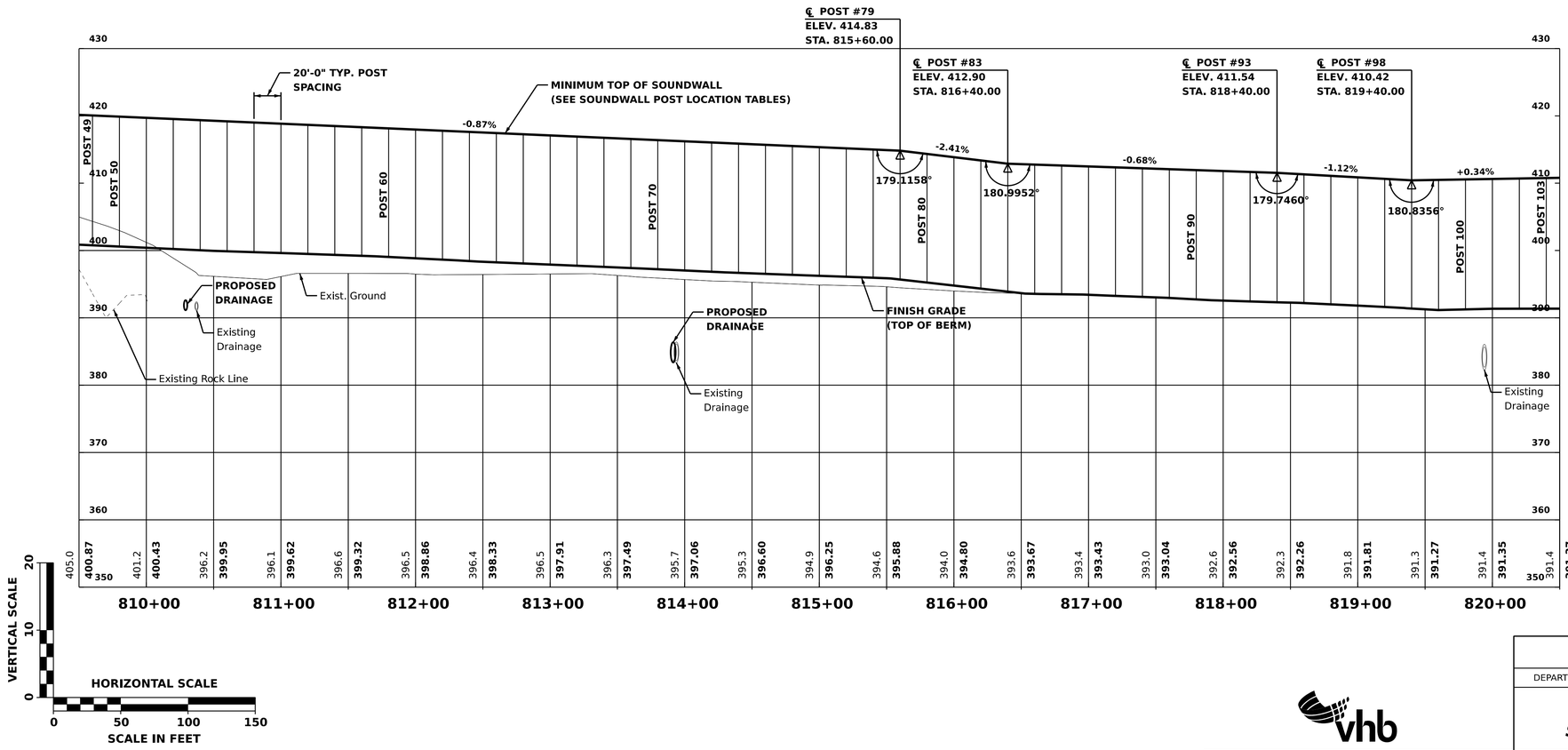
REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NORTHBOUND ON RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	NB On_SW01	13065A_SW_NB_On	13065A	107	733





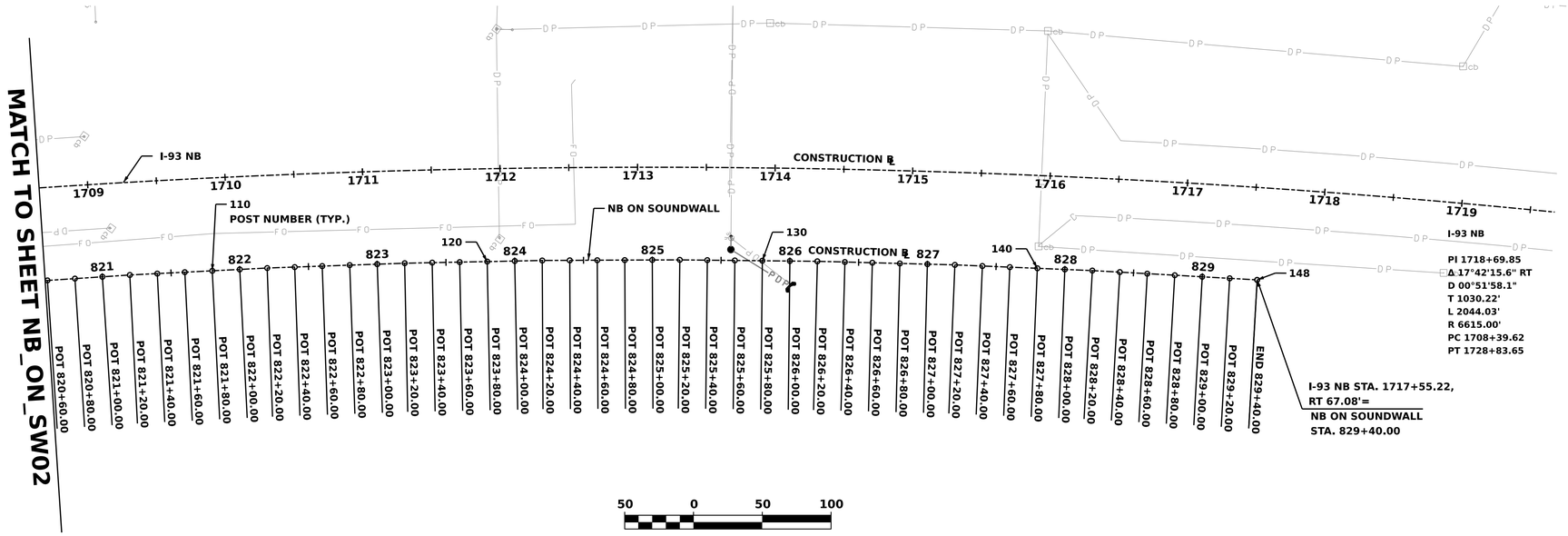
	NUMBER	DATE	DESCRIPTION
REVISIONS AFTER PROPOSAL			
STATION			

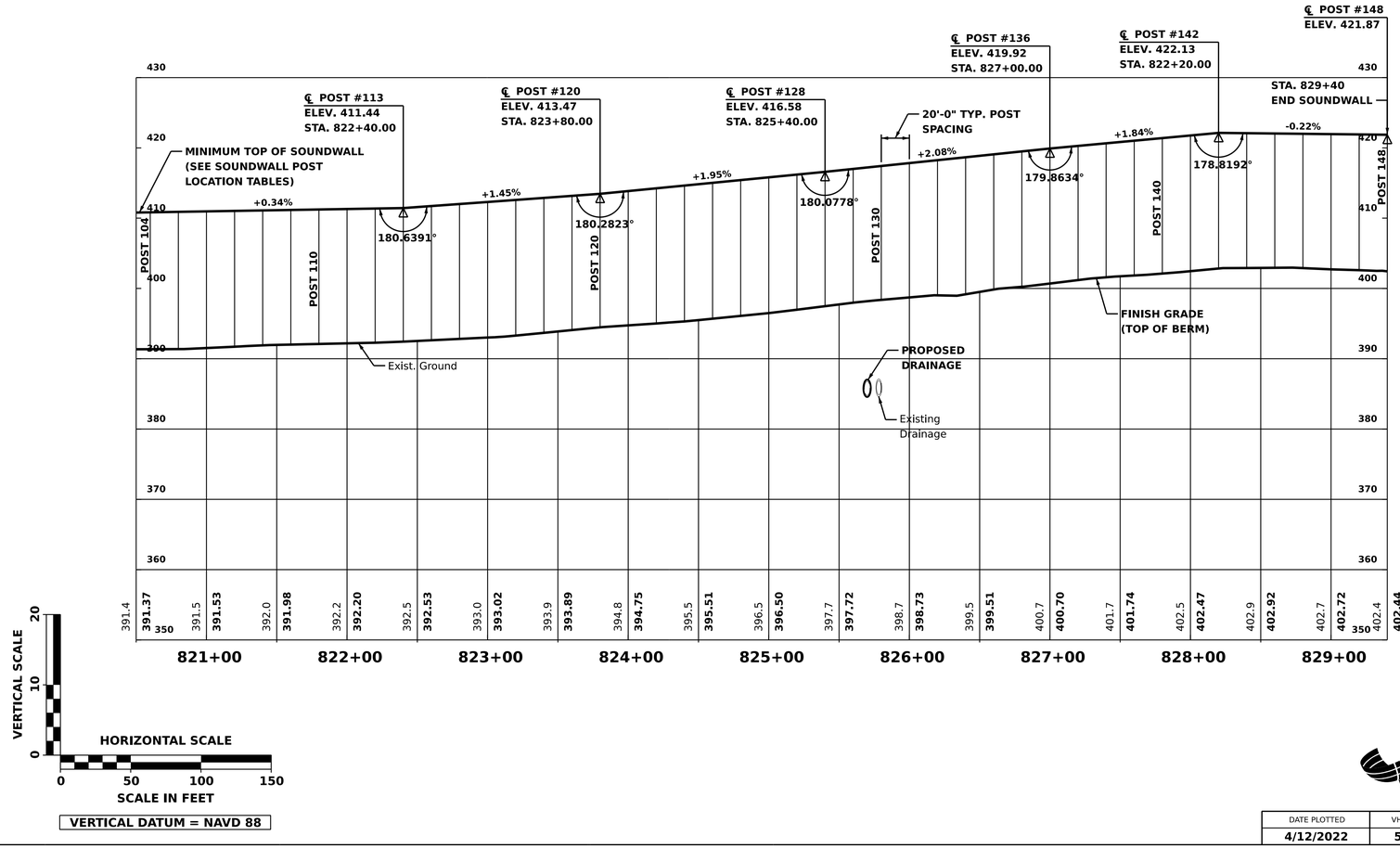
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NORTHBOUND ON RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	NB On_SW02	13065A_SW_NB_On	13065A	108	733





REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NORTHBOUND ON RAMP SOUNDWALL PLAN & PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	NB On_SW03	13065A_SW_NB_On	13065A	109	733

SOUTHBOUND ON RAMP SOUNDWALL POST LOCATIONS

POST NUMBER	SOUNDWALL STATION	ROADWAY		WORKING POINT		ANGLE BETWEEN PANELS AT POST (DEGREE, MIN, SEC.)	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL (FT)	MIN. WALL HEIGHT (FT)
		STATION	OFFSET (FT)	NORTHING	EASTING					
1	599+20.00	3656+44.23	79.03 LT	138887.6639	1070374.8420	199°42'4.39"	324.9	331.94	351.03	19.10
2	599+40.00	3656+64.72	79.46 LT	138906.4482	1070367.9754	160°0'0.00"	319.3	332.20	351.29	19.09
3	599+60.00	3656+84.10	73.01 LT	138926.4478	1070367.8432	179°22'21.95"	321.0	332.32	351.55	19.23
4	599+80.00	3657+04.55	73.30 LT	138945.1960	1070360.8786	179°34'8.09"	325.0	332.64	351.81	19.17
5	600+00.00	3657+25.00	73.69 LT	138963.8669	1070353.7093	179°38'39.69"	326.3	332.93	352.07	19.14
6	600+20.00	3657+45.45	74.11 LT	138982.4832	1070346.3997	179°38'39.69"	329.0	333.22	352.37	19.14
7	600+40.00	3657+65.91	74.52 LT	139001.0539	1070338.9747	179°38'39.69"	329.8	333.53	352.66	19.13
8	600+60.00	3657+86.37	74.93 LT	139019.5781	1070331.4346	179°38'39.69"	330.0	333.84	352.95	19.10
9	600+80.00	3658+06.83	75.35 LT	139038.0551	1070323.7796	179°38'39.69"	330.8	334.15	353.24	19.08
10	601+00.00	3658+27.30	75.76 LT	139056.4843	1070316.0101	179°38'39.69"	331.4	334.43	353.53	19.10
11	601+20.00	3658+47.76	76.18 LT	139074.8649	1070308.1263	179°38'39.69"	331.9	334.74	353.82	19.07
12	601+40.00	3658+68.23	76.59 LT	139093.1962	1070300.1286	179°38'39.69"	331.6	335.05	354.11	19.06
13	601+60.00	3658+88.70	77.01 LT	139111.4775	1070292.0173	179°38'39.69"	330.1	335.35	354.40	19.05
14	601+80.00	3659+09.18	77.42 LT	139129.7082	1070283.7926	179°38'39.69"	330.8	335.65	354.69	19.04
15	602+00.00	3659+29.66	77.83 LT	139147.8874	1070275.4550	179°38'39.69"	333.8	335.94	354.98	19.04
16	602+20.00	3659+50.14	78.25 LT	139166.0145	1070267.0047	179°38'39.69"	334.9	336.20	355.27	19.07
17	602+40.00	3659+70.62	78.66 LT	139184.0888	1070258.4420	179°38'39.69"	334.3	336.47	355.56	19.09
18	602+60.00	3659+91.10	79.08 LT	139202.1096	1070249.7673	179°38'39.69"	333.5	336.73	355.85	19.12
19	602+80.00	3660+11.59	79.49 LT	139220.0762	1070240.9809	179°38'39.69"	333.0	337.05	356.14	19.09
20	603+00.00	3660+32.08	79.91 LT	139237.9879	1070232.0832	179°38'39.69"	332.9	337.34	356.43	19.09
21	603+20.00	3660+52.58	80.32 LT	139255.8441	1070223.0744	179°38'39.69"	332.7	337.61	356.72	19.11
22	603+40.00	3660+73.07	80.74 LT	139273.6440	1070213.9550	179°38'39.69"	332.7	337.91	357.01	19.10
23	603+60.00	3660+93.57	81.15 LT	139291.3870	1070204.7253	179°38'39.69"	332.8	338.19	357.30	19.11
24	603+80.00	3661+14.07	81.57 LT	139309.0723	1070195.3856	179°38'39.69"	332.8	338.49	357.59	19.11
25	604+00.00	3661+34.58	81.98 LT	139326.6993	1070185.9364	179°38'39.69"	332.8	338.82	357.88	19.06
26	604+20.00	3661+55.08	82.39 LT	139344.2673	1070176.3779	179°38'39.69"	332.9	339.11	358.17	19.06
27	604+40.00	3661+75.59	82.81 LT	139361.7757	1070166.7105	179°38'39.69"	332.5	339.39	358.46	19.07
28	604+60.00	3661+96.10	83.22 LT	139379.2237	1070156.9347	179°42'8.92"	331.8	339.66	358.75	19.09
29	604+80.00	3662+16.62	83.64 LT	139396.6107	1070147.0507	179°31'41.23"	330.8	339.93	359.04	19.12
30	605+00.00	3662+37.14	84.03 LT	139413.9461	1070137.0766	179°42'8.92"	330.5	340.21	359.33	19.12
31	605+20.00	3662+57.65	84.46 LT	139431.1988	1070126.9601	179°38'39.69"	330.2	340.50	359.62	19.13
32	605+40.00	3662+78.18	84.88 LT	139448.3987	1070116.7541	179°38'39.69"	329.5	340.76	359.91	19.15
33	605+60.00	3662+98.70	85.29 LT	139465.5350	1070106.4415	179°38'39.69"	330.0	341.05	360.21	19.16
34	605+80.00	3663+19.23	85.70 LT	139482.6069	1070096.0228	179°38'39.69"	329.8	341.34	360.50	19.15
35	606+00.00	3663+39.76	86.11 LT	139499.6138	1070085.4983	179°38'39.69"	329.5	341.63	360.79	19.15
36	606+20.00	3663+60.29	86.53 LT	139516.5551	1070074.8685	179°38'39.69"	329.2	341.91	361.08	19.16
37	606+40.00	3663+80.83	86.94 LT	139533.4300	1070064.1337	179°38'39.69"	328.9	342.19	361.37	19.18
38	606+60.00	3664+01.37	87.35 LT	139550.2380	1070053.2943	179°38'39.69"	328.9	342.49	361.66	19.17
39	606+80.00	3664+21.91	87.76 LT	139566.9784	1070042.3509	179°38'39.69"	329.6	342.83	361.95	19.12
40	607+00.00	3664+42.45	88.17 LT	139583.6505	1070031.3037	179°38'39.69"	329.2	343.12	362.24	19.12
41	607+20.00	3664+63.00	88.58 LT	139600.2538	1070020.1533	179°38'39.69"	329.2	343.40	362.53	19.12
42	607+40.00	3664+83.55	88.99 LT	139616.7875	1070008.9000	179°38'39.69"	329.7	343.69	362.82	19.13
43	607+60.00	3665+04.10	89.40 LT	139633.2511	1069997.5444	179°38'39.69"	329.9	343.96	363.11	19.15
44	607+80.00	3665+24.65	89.81 LT	139649.6438	1069986.0867	179°38'39.69"	330.0	344.22	363.40	19.18
45	608+00.00	3665+45.21	90.22 LT	139665.9651	1069974.5275	179°38'39.69"	330.0	344.46	363.69	19.23
46	608+20.00	3665+65.77	90.62 LT	139682.2144	1069962.8673	179°38'39.69"	330.0	344.68	363.98	19.30
47	608+40.00	3665+86.33	91.03 LT	139698.3910	1069951.1064	179°38'39.69"	330.0	344.91	364.27	19.36
48	608+60.00	3666+06.89	91.44 LT	139714.4942	1069939.2453	179°38'39.69"	330.0	345.15	364.56	19.41
49	608+80.00	3666+27.46	91.85 LT	139730.5235	1069927.2845	179°38'39.69"	330.0	345.36	364.85	19.49
50	609+00.00	3666+48.03	92.25 LT	139746.4783	1069915.2244	179°38'39.69"	330.0	345.61	365.14	19.54
51	609+20.00	3666+68.60	92.66 LT	139762.3579	1069903.0655	179°38'39.69"	330.0	345.89	365.43	19.55
52	609+40.00	3666+89.18	93.06 LT	139778.1617	1069890.8083	179°38'39.69"	330.1	346.16	365.72	19.56
53	609+60.00	3667+09.75	93.47 LT	139793.8892	1069878.4533	179°38'32.45"	330.4	346.41	366.01	19.60
54	609+80.00	3667+30.34	93.87 LT	139809.5396	1069866.0008	179°37'38.78"	330.6	346.67	366.30	19.64
55	610+00.00	3667+50.91	94.28 LT	139825.1120	1069853.4509	179°39'59.17"	332.1	347.03	366.59	19.56
56	610+20.00	3667+71.45	94.69 LT	139840.6025	1069840.8001	180°53'7.82"	332.4	347.50	366.88	19.39
57	610+40.00	3667+91.94	95.11 LT	139856.0191	1069828.0592	180°40'27.14"	332.0	347.96	367.17	19.21
58	610+60.00	3668+12.41	95.12 LT	139871.6307	1069815.5581	180°0'0.00"	331.3	348.51	367.76	19.25
59	610+80.00	3668+32.83	94.81 LT	139887.3884	1069803.2416	180°0'0.00"	331.0	349.14	368.34	19.21
60	611+00.00	3668+53.20	94.41 LT	139903.1460	1069790.9251	180°0'1.47"	331.2	349.78	368.93	19.14
61	611+20.00	3668+73.53	93.93 LT	139918.9037	1069778.6086	180°0'0.11"	332.0	350.43	369.51	19.08
62	611+40.00	3668+93.82	93.38 LT	139934.6614	1069766.2922	175°55'11.02"	332.5	351.09	370.10	19.01
63	611+60.00	413+80.37	39.19 RT	139950.4192	1069753.9758	180°31'22.53"	332.7	351.54	370.68	19.14
64	611+80.00	413+60.12	39.50 RT	139965.2606	1069740.5694	179°38'14.73"	333.0	351.74	370.93	19.19
65	612+00.00	413+39.87	39.50 RT	139980.2238	1069727.2990	179°38'14.73"	333.6	351.99	371.18	19.19
66	612+20.00	413+19.62	39.50 RT	139995.1027	1069713.9342	179°38'14.73"	334.3	352.24	371.43	19.19
67	612+40.00	412+99.37	39.50 RT	140009.8967	1069700.4755	179°38'14.73"	334.8	352.49	371.68	19.19
68	612+60.00	412+79.12	39.50 RT	140024.6053	1069686.9234	179°38'14.73"	335.4	352.73	371.93	19.19
69	612+80.00	412+58.87	39.50 RT	140039.2278	1069673.2786	179°38'14.73"	335.7	352.98	372.18	19.20
70	613+00.00	412+38.62	39.50 RT	140053.7637	1069659.5415	179°38'14.73"	335.7	353.23	372.43	19.20
71	613+20.00	412+18.37	39.50 RT	140068.2123	1069645.7126	179°38'14.73"	336.8	353.48	372.68	19.20
72	613+40.00	411+98.12	39.50 RT	140082.5732	1069631.7927	179°38'14.73"	337.5	353.72	372.93	19.20
73	613+60.00	411+77.87	39.50 RT	140096.8457	1069617.7821	179°38'14.73"	338.0	353.97	373.18	19.21
74	613+80.00	411+57.62	39.50 RT	140111.0292	1069603.6815	179°38'14.73"	338.8	354.22	373.43	19.21
75	614+00.00	411+37.37	39.50 RT	140125.1232	1069589.4914	179°38'14.73"	339.4	354.47	373.68	19.21
76	614+20.00	411+17.12	39.50 RT	140139.1272	1069575.2124	179°45'25.83"	339.5	354.73	373.93	19.19
77	614+40.00	410+96.87	39.50 RT	140153.0405	1069560.8451	180°0'0.00"	339.4	355.03	374.18	19.14
78	614+60.00	410+76.62	39.45 RT	140166.8928	1069546.4189	-	339.8	355.42	374.42	19.00

SOUTHBOUND OFF RAMP SOUNDWALL POST LOCATIONS

POST NUMBER	SOUNDWALL STATION	ROADWAY		WORKING POINT		ANGLE BETWEEN PANELS AT POST (DEGREE, MIN, SEC.)	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL (FT)	MIN. WALL HEIGHT (FT)
		STATION	OFFSET (FT)	NORTHING	EASTING					
1	700+00.00	304+89.89	45.35 RT	141344.8741	1068496.5636	180°25'31.66"	399.0	394.66	405.99	11.32
2	700+20.00	304+69.66	45.48 RT	141361.6464	1068485.6691	179°47'6.96"	400.3	395.09	406.15	11.05
3	700+40.00	304+49.43	45.36 RT	141378.4992	1068474.8995	179°47'10.09"	401.3	395.26	406.31	11.04
4	700+60.00	304+29.20	45.21 RT	141395.3115	1068464.0668	179°47'10.09"	400.1	395.43	406.47	11.04
5	700+80.00	304+08.97	45.04 RT	141412.0832	1068453.1714	179°47'10.09"	399.3	395.60	406.63	11.03
6	701+00.00	303+88.74	44.84 RT	141428.8141	1068442.2135	179°47'10.09"	398.7	395.76	406.79	11.02
7	701+20.00	303+68.52	44.61 RT	141445.5040	1068431.1932	179°47'10.09"	398.6	395.93	406.95	11.02
8	701+40.00	303+48.30	44.36 RT	141462.1527	1068420.1107	179°47'10.08"	397.6	396.09	407.11	11.02
9	701+60.00	303+28.07	44.08 RT	141478.7599	1068408.9661	179°46'59.20"	395.9	396.25	407.27	11.02
10	701+80.00	303+07.86	43.77 RT	141495.3254	1068397.7596	179°47'13.82"	394.7	396.40	407.43	11.03
11	702+00.00	302+87.64	43.44 RT	141511.8483	1068386.4905	179°47'16.29"	394.9	396.56	407.59	11.03
12	702+20.00	302+67.42	43.08 RT	141528.3292	1068375.1601	179°47'10.18"	395.0	396.71	407.75	11.04
13	702+40.00	302+47.21	42.70 RT	141544.7681	1068363.7688	179°47'10.17"	394.2	396.86	407.91	11.05
14	702+60.00	302+27.00	42.29 RT	141561.1644	1068352.3161	179°47'10.17"	393.1	397.01	408.07	11.07
15	702+80.00	302+06.79	41.85 RT	141577.5178	1068340.8024	179°47'3.30"	391.0	397.15	408.23	11.08
16	703+00.00	301+86.59	41.38 RT	141593.8281	1068329.2277	179°46'51.87"	389.2	397.30	408.39	11.09
17	703+20.00	301+66.42	40.9 RT	141610.0947	1068317.5917	179°51'3.65"	388.0	397.49	408.55	11.06
18	703+40.00	301+46.42	40.45 RT	141626.3168	1068305.8936	179°50'11.04"	386.7	397.68	408.71	11.03
19	703+60.00	301+26.43	40.05 RT	141642.5083	1068294.1534	177°12'35.33"	385.2	397.82	408.87	11.05
20	703+80.00	301+06.43	39.72 RT	141658.6663	1068282.3669	178°57'29.46"	385.7	397.96	409.04	11.07
21	704+00.00	300+86.44	40.35 RT	141674.2314	1068269.8079	180°0'0.00"	386.2	398.53	409.69	11.16
22	704+20.00	300+66.47	41.35 RT	141689.5655	1068256.9680	180°0'0.00"	386.6	399.17	410.34	11.18
23	704+40.00	300+46.49	42.35 RT	141704.8997	1068244.1281	180°0'0.00"	387.0	399.80	411.00	11.20
24	704+60.00	300+26.52	43.35 RT	141720.2339	1068231.2882	180°0'0.00"	387.8	400.43	411.65	11.22
25	704+80.00	300+06.54	44.35 RT	141735.5680	1068218.4482	180°0'0.00"	388.7	401.07	412.30	11.24
26	705+00.00	3692+89.40	111.22 LT	141750.9022	1068205.6083	180°0'0.00"	389.8	401.18	412.25	11.07
27	705+20.00	3693+09.40	111.11 LT	141766.2363	1068192.7684	180°0'0.00"	391.0	400.93	412.20	11.27
28	705+40.00	3693+29.40	111.00 LT	141781.5705	1068179.9284	180°0'0.00"	391.8	400.09	411.23	11.13
29	705+60.00	3693+49.40	110.89 LT	141796.9046	1068167.0885	181°34'14.43"	392.5	398.87	410.26	11.39
30	705+80.00	3693+69.40	110.78 LT	141812.2388	1068154.2486	180°32'37.61"	392.8	397.87	409.28	11.41
31	706+00.00	3693+89.39	110.12 LT	141827.9191	1068141.8338	179°52'39.28"	392.5	397.82	409.24	11.41
32	706+20.00	3694+09.37	109.27 LT	141843.7166	1068129.5684	179°59'0.76"	392.2	397.83	409.19	11.36
33	706+40.00	3694+29.36	108.46 LT	141859.4878	1068117.2692	180°0'0.00"	391.9	397.83	409.14	11.31
34	706+60.00	3694+49.34	107.66 LT	141875.2555	1068104.9656	180°0'0.00"	391.1	397.83	409.09	11.26
35	706+80.00	3694+69.33	106.86 LT	141891.0231	1068092.6619	180°0'0.00"	391.4	397.84	409.05	11.21
36	707+00.00	3694+89.31	106.06 LT	141906.7908	1068080.3582	180°0'0.00"	391.5	397.84	409.00	11.16
37	707+20.00	3695+09.29	105.26 LT	141922.5585	1068068.0545	180°0'0.00"	391.4	397.84	408.95	11.11
38	707+40.00	3695+29.28	104.46 LT	141938.3262	1068055.7509	180°0'0.00"	387.5	397.84	408.90	11.06
39	707+60.00	3695+49.26	103.66 LT	141954.0938	1068043.4472	180°0'0.00"	386.3	397.85	408.85	11.01
40	707+80.00	3695+69.25	102.86 LT	141969.8615	1068031.1435	180°0'0.00"	385.9	397.79	408.81	11.02
41	708+00.00	3695+89.23	102.06 LT	141985.6292	1068018.8399	180°0'0.00"	385.1	397.72	408.76	11.03
42	708+20.00	3696+09.21	101.26 LT	142001.3969	1068006.5362	180°0'0.00"	383.3	397.67	408.71	11.04
43	708+40.00	3696+29.20	100.46 LT	142017.1646	1067994.2325	180°0'0.00"	384.7	397.62	408.66	11.05
44	708+60.00	3696+49.18	99.66 LT	142032.9322	1067981.9288	180°0'0.00"	385.8	397.57	408.61	11.05
45	708+80.00	3696+69.17	98.86 LT	142048.6999	1067969.6252	180°0'0.00"	386.8	397.47	408.57	11.10
46	709+00.00	3696+89.15	98.06 LT	142064.4676	1067957.3215	180°0'0.00"	386.9	397.31	408.43	11.12
47	709+20.00	3697+09.13	97.26 LT	142080.2353	1067945.0178	180°0'0.00"	387.0	397.15	408.30	11.15
48	709+40.00	3697+29.12	96.46 LT	142096.0029	1067932.7142	180°0'0.00"	387.2	397.02	408.16	11.14
49	709+60.00	3697+49.10	95.67 LT	142111.7706	1067920.4105	180°0'0.00"	387.9	396.90	408.02	11.13
50	709+80.00	3697+69.09	94.87 LT	142127.5383	1067908.1068	180°0'0.00"	387.3	396.77	407.89	11.12
51	710+00.00	3697+89.07	94.07 LT	142143.3060	1067895.8031	180°0'0.00"	387.1	396.63	407.75	11.12
52	710+20.00	3698+09.05	93.27 LT	142159.0737	1067883.4995	180°0'0.00"	387.3	396.51	407.62	11.11
53	710+40.00	3698+29.04	92.47 LT	142174.8413	1067871.1958	180°0'0.00"	387.4	396.38	407.48	11.10
54	710+60.00	3698+49.02	91.67 LT	142190.6090	1067858.8921	180°0'0.00"	387.5	396.26	407.34	11.08
55	710+80.00	3698+69.01	90.87 LT	142206.3767	1067846.5885	180°0'0.00"	387.7	396.15	407.21	11.06
56	711+00.00	3698+88.99	90.07 LT	142222.1444	1067834.2848	180°0'0.00"	387.9	396.03	407.07	11.04
57	711+20.00	3699+08.97	89.27 LT	142237.9120	1067821.9811	180°0'0.00"	388.1	395.90	406.94	11.03
58	711+40.00	3699+28.96	88.47 LT	142253.6797	1067809.6774	180°0'0.00"	388.3	395.78	406.80	11.02
59	711+60.00	3699+48.94	87.67 LT	142269.4474	1067797.3738	180°0'0.00"	388.6	395.65	406.66	11.02
60	711+80.00	3699+68.93	86.87 LT	142285.2151	1067785.0701	180°0'0.00"	388.7	395.52	406.53	11.01
61	712+00.00	3699+88.91	86.07 LT	142300.9828	1067772.7664	-	388.9	395.39	406.39	11.00

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

POST LOCATION TABLES

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SW_Tables_01	13065A_SW_Tables	13065A	110	733

NORTHBOUND ON RAMP SOUNDWALL POST LOCATIONS

POST NUMBER	SOUNDWALL STATION	ROADWAY		WORKING POINT		ANGLE BETWEEN PANELS AT POST	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL (FT)	MIN. WALL HEIGHT (FT)
		STATION	OFFSET (RIGHT)	NORTHING	EASTING					
1	800+00.00	208+00.00	-53.00	141783.8289	1068699.8903	180°51'2.60"	423.4	420.10	439.40	19.29
2	800+20.00	208+20.79	-53.00	141797.4911	1068685.2840	180°51'2.60"	423.7	421.01	440.08	19.07
3	800+40.00	208+41.57	-53.00	141811.3687	1068670.8821	180°51'2.60"	424.2	421.75	440.77	19.02
4	800+60.00	208+62.36	-53.00	141825.4585	1068656.6879	180°51'2.60"	425.6	422.42	441.46	19.04
5	800+80.00	208+83.15	-53.00	141839.7576	1068642.7045	180°51'2.60"	426.6	423.10	442.15	19.05
6	801+00.00	209+03.94	-53.00	141854.2627	1068628.9348	180°51'1.02"	427.9	423.77	442.83	19.06
7	801+20.00	209+24.72	-53.00	141868.9706	1068615.3821	180°23'54.53"	429.0	424.44	443.52	19.08
8	801+40.00	209+45.49	-53.00	141883.8780	1068602.0491	180°0'0.00"	429.9	424.80	444.21	19.41
9	801+60.00	209+65.49	-53.00	141898.8778	1068588.8201	180°0'0.00"	429.3	424.93	444.89	19.96
10	801+80.00	209+85.49	-53.00	141913.8776	1068575.5912	180°0'0.00"	427.8	424.06	443.30	19.24
11	802+00.00	210+05.49	-53.00	141928.8774	1068562.3622	180°0'0.00"	425.8	421.08	441.70	20.63
12	802+20.00	210+25.49	-53.00	141943.8772	1068549.1332	180°0'0.00"	423.7	418.13	440.11	21.98
13	802+40.00	210+45.49	-53.00	141958.8770	1068535.9042	177°34'20.02"	421.5	415.72	438.51	22.79
14	802+60.00	1690+73.87	104.03	141973.8768	1068522.6752	179°51'14.49"	419.3	414.73	436.92	22.19
15	802+80.00	1690+93.83	102.79	141988.3028	1068508.8227	180°0'0.00"	417.3	413.33	435.32	22.00
16	803+00.00	1691+13.78	101.49	142002.6934	1068494.9335	180°0'0.00"	415.5	410.33	433.73	23.40
17	803+20.00	1691+33.74	100.19	142017.0840	1068481.0443	180°0'0.00"	414.4	407.94	432.13	24.20
18	803+40.00	1691+53.70	98.89	142031.4746	1068467.1551	180°0'0.00"	413.3	406.95	430.54	23.59
19	803+60.00	1691+73.66	97.60	142045.8653	1068453.2659	180°0'0.00"	413.1	406.49	428.94	22.46
20	803+80.00	1691+93.62	96.30	142060.2559	1068439.3767	180°0'0.00"	413.0	406.05	427.35	21.29
21	804+00.00	1692+13.57	95.00	142074.6465	1068425.4875	180°0'0.00"	412.9	405.61	425.75	20.14
22	804+20.00	1692+33.53	93.70	142089.0371	1068411.5983	180°0'0.00"	412.7	405.16	424.16	19.00
23	804+40.00	1692+53.49	92.41	142103.4277	1068397.7091	182°21'14.84"	412.4	404.69	424.00	19.31
24	804+60.00	1692+73.45	91.11	142117.8184	1068383.8199	180°13'10.63"	412.1	404.22	423.84	19.63
25	804+80.00	1692+93.44	90.63	142132.7673	1068370.5335	180°0'0.00"	412.0	404.14	423.69	19.54
26	805+00.00	1693+13.44	90.23	142147.7671	1068357.3045	180°0'0.00"	412.0	404.09	423.53	19.44
27	805+20.00	1693+33.43	89.83	142162.7669	1068344.0755	180°0'0.00"	411.9	404.02	423.37	19.35
28	805+40.00	1693+53.43	89.43	142177.7667	1068330.8465	180°0'0.00"	411.9	403.94	423.21	19.27
29	805+60.00	1693+73.43	89.03	142192.7665	1068317.6176	180°0'0.00"	411.6	403.88	423.05	19.17
30	805+80.00	1693+93.42	88.63	142207.7663	1068304.3886	180°0'0.00"	411.4	403.77	422.90	19.12
31	806+00.00	1694+13.42	88.23	142222.7661	1068291.1596	180°0'0.00"	411.2	403.64	422.74	19.10
32	806+20.00	1694+33.41	87.83	142237.7659	1068277.9306	180°0'0.00"	411.1	403.48	422.58	19.11
33	806+40.00	1694+53.41	87.43	142252.7657	1068264.7016	180°0'0.00"	410.9	403.31	422.42	19.11
34	806+60.00	1694+73.41	87.03	142267.7655	1068251.4726	180°0'0.00"	410.8	403.14	422.27	19.12
35	806+80.00	1694+93.40	86.63	142282.7653	1068238.2437	180°0'0.00"	410.8	402.97	422.11	19.14
36	807+00.00	1695+13.40	86.23	142297.7651	1068225.0147	180°0'0.00"	410.7	402.80	421.95	19.15
37	807+20.00	1695+33.39	85.83	142312.7649	1068211.7857	180°0'0.00"	410.6	402.64	421.79	19.16
38	807+40.00	1695+53.39	85.43	142327.7647	1068198.5567	180°0'0.00"	410.3	402.52	421.64	19.12
39	807+60.00	1695+73.39	85.03	142342.7645	1068185.3277	180°0'0.00"	410.1	402.39	421.48	19.09
40	807+80.00	1695+93.38	84.63	142357.7643	1068172.0987	180°0'0.00"	409.9	402.22	421.32	19.10
41	808+00.00	1696+13.38	84.23	142372.7641	1068158.8698	180°0'0.00"	409.8	402.06	421.16	19.10
42	808+20.00	1696+33.37	83.83	142387.7639	1068145.6408	180°0'0.00"	409.7	401.89	421.00	19.11
43	808+40.00	1696+53.37	83.43	142402.7638	1068132.4118	180°0'0.00"	409.5	401.73	420.85	19.12
44	808+60.00	1696+73.37	83.03	142417.7636	1068119.1828	180°0'0.00"	409.2	401.56	420.69	19.13
45	808+80.00	1696+93.36	82.63	142432.7634	1068105.9538	180°0'0.00"	408.7	401.37	420.53	19.17
46	809+00.00	1697+13.36	82.23	142447.7632	1068092.7248	180°0'0.00"	407.7	401.21	420.37	19.16
47	809+20.00	1697+33.35	81.83	142462.7630	1068079.4959	180°0'0.00"	406.4	401.06	420.22	19.16
48	809+40.00	1697+53.35	81.43	142477.7628	1068066.2669	180°0'0.00"	405.1	400.89	420.06	19.17
49	809+60.00	1697+73.35	81.04	142492.7626	1068053.0379	180°0'0.00"	403.8	400.72	419.90	19.19
50	809+80.00	1697+93.34	80.64	142507.7624	1068039.8089	180°0'0.00"	402.3	400.54	419.74	19.20
51	810+00.00	1698+13.34	80.24	142522.7622	1068026.5799	180°0'0.00"	400.3	400.35	419.59	19.23
52	810+20.00	1698+33.33	79.84	142537.7620	1068013.3510	180°0'0.00"	397.8	400.16	419.43	19.27
53	810+40.00	1698+53.33	79.44	142552.7618	1068000.1220	180°0'0.00"	396.2	399.96	419.27	19.31
54	810+60.00	1698+73.33	79.04	142567.7616	1067986.8930	180°0'0.00"	395.9	399.82	419.11	19.30
55	810+80.00	1698+93.32	78.64	142582.7614	1067973.6640	180°0'0.00"	395.7	399.70	418.96	19.26
56	811+00.00	1699+13.32	78.24	142597.7612	1067960.4350	180°0'0.00"	396.5	399.57	418.80	19.22
57	811+20.00	1699+33.31	77.84	142612.7610	1067947.2060	180°0'0.00"	396.6	399.45	418.64	19.19
58	811+40.00	1699+53.31	77.44	142627.7608	1067933.9771	180°0'0.00"	396.6	399.33	418.48	19.15
59	811+60.00	1699+73.31	77.04	142642.7606	1067920.7481	180°0'0.00"	396.6	399.16	418.32	19.17
60	811+80.00	1699+93.30	76.64	142657.7604	1067907.5191	180°0'0.00"	396.6	398.97	418.17	19.19
61	812+00.00	1700+13.30	76.24	142672.7602	1067894.2901	180°0'0.00"	396.4	398.78	418.01	19.22
62	812+20.00	1700+33.29	75.84	142687.7600	1067881.0611	180°0'0.00"	396.4	398.57	417.85	19.28
63	812+40.00	1700+53.29	75.44	142702.7598	1067867.8321	180°0'0.00"	396.4	398.34	417.69	19.35
64	812+60.00	1700+73.29	75.04	142717.7596	1067854.6032	180°0'0.00"	396.5	398.17	417.54	19.37
65	812+80.00	1700+93.28	74.64	142732.7594	1067841.3742	180°0'0.00"	396.5	398.00	417.38	19.38
66	813+00.00	1701+13.28	74.24	142747.7592	1067828.1452	180°0'0.00"	396.5	397.84	417.22	19.38
67	813+20.00	1701+33.27	73.84	142762.7590	1067814.9162	180°0'0.00"	396.6	397.67	417.06	19.39
68	813+40.00	1701+53.27	73.44	142777.7588	1067801.6872	180°0'0.00"	396.3	397.50	416.91	19.40
69	813+60.00	1701+73.27	73.04	142792.7586	1067788.4583	180°0'0.00"	396.0	397.33	416.75	19.42
70	813+80.00	1701+93.26	72.64	142807.7584	1067775.2293	180°0'0.00"	395.8	397.16	416.59	19.43
71	814+00.00	1702+13.26	72.24	142822.7582	1067762.0003	180°0'0.00"	395.6	396.99	416.43	19.44
72	814+20.00	1702+33.25	71.84	142837.7580	1067748.7713	180°0'0.00"	395.4	396.78	416.27	19.49
73	814+40.00	1702+53.25	71.44	142852.7578	1067735.5423	180°0'0.00"	395.3	396.61	416.12	19.51
74	814+60.00	1702+73.25	71.04	142867.7576	1067722.3133	180°0'0.00"	395.1	396.47	415.96	19.49

POST NUMBER	SOUNDWALL STATION	ROADWAY		WORKING POINT		ANGLE BETWEEN PANELS AT POST	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL (FT)	MIN. WALL HEIGHT (FT)
		STATION	OFFSET (RIGHT)	NORTHING	EASTING					
75	814+80.00	1702+93.24	70.64	142882.7574	1067709.0844	180°0'0.00"	395.0	396.33	415.80	19.48
76	815+00.00	1703+13.24	70.24	142897.7572	1067695.8554	180°0'0.00"	394.8	396.19	415.64	19.46
77	815+20.00	1703+33.23	69.84	142912.7570	1067682.6264	180°0'0.00"	394.8	396.05	415.49	19.44
78	815+40.00	1703+53.23	69.44	142927.7568	1067669.3974	180°0'0.00"	394.6	395.89	415.09	19.19
79	815+60.00	1703+73.23	69.04	142942.7566	1067656.1684	180°0'0.00"	394.4	395.75	414.69	18.94
80	815+80.00	1703+93.22	68.64	142957.7564	1067642.9394	180°9'39.04"	394.1	395.60	414.29	18.69
81	816+00.00	1704+13.22	68.24	142972.7562	1067629.7105	181°0'41.82"	393.9	395.39	413.89	18.49
82	816+20.00	1704+33.22	67.89	142987.7931	1067616.5236	179°36'25.44"	393.7	395.22	413.48	18.27
83	816+40.00	1704+53.22	67.90	143003.0604	1067603.6043	179°14'33.30"	393.6	395.05	413.08	18.04
84	816+60.00	1704+73.21	67.78	143018.2388	1067590.5807	180°44'31.74"	393.5	393.54	412.91	19.37
85	816+80.00	1704+93.21	67.38	143033.2437	1067577.3575	180°22'53.37"	393.5	393.49	412.74	19.25
86	817+00.00	1705+13.21	67.25	143048.4186	1067564.3297	180°0'0.00"	393.4	393.36	412.57	19.21
87	817+20.00	1705+33.21	67.25	143063.6800	1067551.4033	180°0'0.00"	393.2	393.20	412.39	19.20
88	817+40.00	1705+53.21	67.25	143078.9413	1067538.4769	180°0'0.00"	393.1	393.05	412.22	19.17
89	817+60.00	1705+73.21	67.25	143094.2026	1067525.5505	180°0'0.00"	392.9	392.87	412.05	19.18
90	817+80.00	1705+93.21	67.25	143109.4639	1067512.6241	180°1'1.92"	392.6	392.65	411.88	19.23
91	818+00.00	1706+13.21	67.25	143124.7253	1067499.6977	180°1'46.69"	392.5	392.50	411.70	19.20
92	818+20.00	1706+33.21	67.26	143139.9905	1067486.7759	180°0'0.00"	392.4	392.37	411.53	19.16
93	818+40.00	1706+53.22	67.27	143155.2624	1067473.8620	180°0'0.00"	392.3	392.27	411.36	19.09
94	818+60.00	1706+73.24	67.28	143170.5343	1067460.9481	179°59'59.99"	392.1	392.11	411.19	19.07
95	818+80.00	1706+93.28	67.29	143185.8062	1067448.0341	180°8'19.09"	391.9	391.92	411.01	19.09
96	819+00.00	1707+13.35	67.27	143201.0780	1067435.1202	180°14'19.87"	391.7	391.73	410.84	19.11
97	819+20.00	1707+33.43	67.28	143216.3811	1067422.2433	180°0'0.00"	391.5	391.53	410.67	19.14
98	819+40.00	1707+53.54	67.35	143231.7378	1067409.4303	180°0'0.00"	391.3	391.28	410.50	19.21
99	819+60.00	1707+73.67	67.38	143247.0944	1067396.6172	180°0'0.00"	391.2	391.20	410.32	19.13
100	819+80.00	1707+93.82	67.37	143262.4511	1067383.8042	180°16'55.53"	391.3	391.30	410.37	19.07
101	820+00.00	1708+13.98	67.32	143277.8077	1067370.9912	180°29'9.52"	391.4	391.36	410.41	19.05
102	820+20.00	1708+34.17	67.30	143293.2272	1067358.2539	180°0'0.00"	391.4	391.37	410.45	19.08
103	820+40.00	1708+54.38	67.40	143308.7543	1067345.6479	180°0'0.00"	391.4	391.37	410.49	19.12
104	820+60.00	1708+74.58	67.44	143324.2813	1067333.0419	180°0'0.00"	391.4	391.37	410.53	19.16
105	820+80.00	1708+94.79	67.42	143339.8083	1067320.4359	180°19'16.80"	391.4	391.42	410.57	19.15
106	821+00.00	1709+15.00	67.34	143355.3353	1067307.8299	180°33'12.69"	391.6	391.61	410.72	19.12
107	821+20.00	1709+35.20	67.30	143370.9328	1067295.3111	180°0'0.00"	391.8	391.80	410.88	19.08
108	821+40.00	1709+55.41	67.40	143386.6505	1067282.9437	180°0'0.00"	392.0	391.97	411.03	19.06
109	821+60.00	1709+75.61	67.44	143402.3682	1067270.5762	180°0'0.00"	392.1	392.06	411.18	19.12
110	821+80.00	1709+95.82	67.42	143418.0859	1067258.2087	180°19'11.15"	392.1	392.15	411.33	19.19
111	822+00.00	1710+16.02	67.34	143433.8035	1067245.8413	180°33'2.72"	392.2	392.24	411.49	19.25
112	822+20.00	1710+36.23	67.30	143449.5900	1067233.5617	180°0'0.00"	392.3	392.34	411.64	19.30
113	822+40.00	1710+56.44	67.40	143465.4938	1067221.4345	180°0'0.00"	392.5	392.52	411.79	19.27
114	822+60.00	1710+76.64	67.44	143481.3976	1067209.3072	180°0'0.00"	392.7	392.71	412.15	19.44
115	822+80.00	1710+96.85	67.42	143497.3013	1067197.1800	180°19'27.81"	392.9	392.90	412.51	19.61
116	823+00.00	1711+17.05	67.33	143513.2051	1067185.0527	180°33'31.18"	393.1	393.11	412.87	19.76
117	823+20.00	1711+37.26	67.30	143529.1773	1067173.0157	180°0'0.00"	393.5	393.47	413.23	19.77
118	823+40.00	1711+57.46	67.40	143545.2661	1067161.1350	180°0'0.00"	393.9	393.85	413.59	19.74
119	823+60.00	1711+77.67	67.44	143561.3548	1067149.2543	180°0'0.00"	394.2	394.24	413.95	19.71
120	823+80.00	1711+97.88	67.42	143577.4436	1067137.3736	180°19'11.73"	394.6	394.59	414.31	19.72
121	824+00.00	1712+18.08	67.33	143593.5324	1067125.4929	180°33'3.25"	394.9	394.87	414.67	19.81
122	824+20.00	1712+38.29	67.30	143609.6873	1067113.7022	180°0'0.00"	395.1	395.14	415.03	19.89
123	824+40.00	1712+58.49	67.40	143625.9548	1067102.0674	180°0'0.00"	395.5	395.47	415.39	19.92
124	824+60.00	1712+78.70	67.44	143642.2222	1067090.4326	180°0'0.00"	395.9	395.87	415.75	19.88
125	824+80.00	1712+98.90	67.42	143658.4897	1067078.7978	180°19'19.49"	396.3	396.27	416.11	19.84
126	825+00.00	1713+19.11	67.33	143674.7572	1067067.1630	180°33'16.39"	396.7	396.69	416.47	19.79
127	825+20.00	1713+39.32	67.30	143691.0899	1067055.6198	180°0'0.00"	397.2	397.18	416.83	19.65
128	825+40.00	1713+59.52	67.40	143707.5335	1067044.2353	180°0'0.00"	397.7	397.68	417.19	19.51
129	825+60.00	1713+79.73	67.44	143723.9771	1067032.8507	180°0'0.00"	398.2	398.15	417.55	19.40
130	825+80.00	1713+99.93	67.42	143740.4206	1067021.4661	180°19'17.02"	398.5	398.53	417.91	19.39
131	826+00.00	1714+20.14	67.34	143756.8642	1067010.0816	180°33'11.89"	398.9	398.88	418.27	19.40
132	826+20.00	1714+40.34	67.30	143773.3714	1066998.7894	180°0'0.00"	399.0	398.99	418.63	19.65
133	826+40.00	1714+60.55	67.40	143789.9869	1066987.6572	180°0'0.00"	399.4	399.45	419.00	19.55
134	826+60.00	1714+80.76	67.44	143806.6024	1066976.5250	180°0'0.00"	400.0	400.04	419.36	19.31
135	826+80.00	1715+00.96	67.42	143823.2179	1066965.3928	180°19'17.10"	400.4	400.42	419.72	19.30
136	827+00.00	1715+21.17	67.34	143839.8333	1066954.2606	180°33'11.81"	400.9	400.90	420.08	19.17
137	827+20.00	1715+41.37	67.30	143856.5110	1066943.2218	180°0'0.00"	401.4	401.40	420.44	19.04
138	827+40.00	1715+61.58	67.40	143873.2945	1066932.3445	180°0'0.00"	401.7	401.72	420.80	19.08
139	827+60.00	1715+81.78	67.44	143890.0779	1066921.4672	180°0'0.00"	401.9	401.95	421.16	19.21
140	827+80.00	1716+01.99	67.42	143906.8614	1066910.5900	180°19'17.47"	402.3	402.26	421.52	19.26
141	828+00.00	1716+22.20	67.34	143923.6449	1066899.7127	180°33'12.21"	402.6	402.62	421.88	19.25
142	828+20.00	1716+42.40	67.30	143940.4891	1066888.9298	180°0'0.00"	402.9	402.90	422.24	19.33
143	828+40.00	1716+62.61	67.40	143957.4368	1066878.3101	180°0'0.00"	402.9	402.92	422.14	19.23
144	828+60.00	1716+82.81	67.44	143974.3844	1066867.6904	180°0'0.00"	403.0	402.95	422.05	19.10
145	828+80.00	1717+03.02	67.42	143991.3320	1066857.0706	180°0'0.00"	402.8	402.82	421.96	19.14
146	829+00.00	1717+23.22	67.34	144008.2796	1066846.4509	180°0'0.00"	402.7	402.67	421.87	19.20
147	829+20.00	1717+43.43	67.19	144025.2272	1066835.8312	180°0'0.00"	402.5	402.54	421.77	19.24
148	829+40.00	1717+63.63	66.99	144042.1748	1066825.2115	-	402.3	402.27	421.68	19.41

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

POST LOCATION TABLES

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SW_Tables_02	13065A_SW_Tables	13065A	111	733

GENERAL NOTES

1. ITEM 529.6. PRECAST CONCRETE SOUND ABATEMENT WALL (F) SHALL INCLUDE. ALL PRECAST CONCRETE SOUNDWALL PANELS. POSTS. LEVELING PANELS. STEEL BASE PLATES. ANCHOR RODS. CLOSED CELL EXPANSION MATERIAL. AND ALL HARDWARE AND INCIDENTAL MATERIALS NECESSARY FOR CONSTRUCTION OF THE SOUNDWALL AS DETAILED ON THE PLANS.
2. SEE SECTION 529 SPECIAL PROVISION FOR ADDITIONAL INFORMATION AND REQUIRMENTS.
3. THE ANGLE BETWEEN THE PRECAST CONCRETE POST AND WALL PANEL SHALL NOT EXCEED 10 DEGREES. POSTS SHALL BE HORIZONTALLY ALIGNED TO ACHIEVE THE PROPOSED WALL ALIGNMENT WITH ANGLE POINTS NOT TO EXCEED 20 DEGREES.
4. TRANSITIONS IN TOP OF WALL ELEVATION SHALL BE AS DETAILED ON THE PLANS.
   A. WHERE THE TOP OF WALL ELEVATION IS THE SAME ON BOTH SIDES OF A POST. THE MAXIMUM ALLOWABLE DISTANCE FROM THE TOP OF WALL TO TOP OF POST SHALL BE 6".
   B. WHERE THE TOP OF WALL ELEVATION VARIES ON BOTH SIDES OF A POST THE MAXIMUM ALLOWABLE DISTANCE FROM THE TOP OF WALL TO TOP OF POST SHALL BE 12".
5. ALL PANELS SHALL BE 4'-0" TALL. EXCEPT FOR THE UPPER TWO PANELS BETWEEN EACH POST. WHICH SHALL VARY IN HEIGHT TO ACHIEVE THE DESIRED TOP OF WALL ELEVATION.
6. FOR LAYOUT OF SOUNDWALL (INCLUDING POST/SHAFT NUMBERS. WORKING POINT COORDINATES. AND WALL ELEVATIONS). SEE PLAN SHEETS INCLUDED ELSEWHERE IN THIS CONTRACT.
7. VERTICAL REINFORCING STEEL FOR THE POSTS SHALL HAVE THE LAST 5" THREADED. ANCHOR RODS SHALL HAVE THE FIRST 8" AND LAST 3" THREADED. THREADING SHALL BE TO THE SIZE SPECIFIED ON THE PLANS AND IN ACCORDANCE WITH SECTION 550.
8. COAT ALL PRECAST SURFACES (SOUNDWALL PANELS. POSTS. AND LEVELING PANELS) WITH WATER REPELLENT (SILANE-SILOXANE) IN ACCORDANCE WITH SECTION 534. ALL COSTS SUBSIDIARY TO ITEM 529.6.
9. CLEAR COVER FOR REINFORCEMENT SHALL BE AS SHOWN ON THE PLANS.
10. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED $^{3}/_{4}$" UNLESS OTHERWISE NOTED.
11. PRECAST CONCRETE SOUNDWALL PANELS SHALL HAVE A SC - ASHLAR ARCHITECTURAL FINISH ON BOTH FACES. CAST USING PATTERN NO. 1515 FORM LINERS BY SPEC FORMLINERS. INC. PRECAST CONCRETE LEVELING PANELS SHALL BE CAST SMOOTH. SEE SECTION 529 SPECIAL PROVISION FOR MORE INFORMATION.
12. LIFTING POINTS AND DEVICES SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL. ALL UPWARD FACING RECESSES FOR LIFTING DEVICES SHALL BE FILLED WITH AN APPROVED NON-SHRINK GROUT AFTER OR DURING ERECTION.

DESIGN CRITERIA

(1) SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. 9TH ED., 2020. SECTION 15
NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED.
SPECIAL PROVISION SECTION 529 - PRECAST CONCRETE SOUND ABATEMENT WALL

(2) DESIGN LOADING: WIND PRESSURE = 47 PSF (FACTORED)
WHERE:
V = 125 MPH (AASHTO FIG. 3.8.1.1.2-1)
Kz(c) = 1.14 GROUND SURFACE ROUGHNESS CATEGORY C. OPEN TERRIAN
(TOP OF WALL MEASURED 60 FT ABOVE LOW GROUND SURFACE.
TO REPRESENT A 25 FT SOUNDWALL ON A 35 FT HIGH MSE WALL)
G = 0.85
C_D = 1.2

(3) DESIGN DIMENSIONS: MAXIMUM WALL HEIGHT = 25'-0"
MAXIMUM POST SPACING = 20'-0"

(4) MATERIALS:
A. CONCRETE FOR THE SOUNDWALL PANELS. POSTS. AND LEVELING PANELS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4.000 PSI AND SHALL CONFORM TO SECTION 520 FOR CLASS AA CONCRETE UNLESS NOTED OTHERWISE. ALL PRECAST CONCRETE SHALL HAVE CORROSION INHIBITOR (CALCIUM NITRATE) ADMIXTURE ADDED AT A RATE OF 3 GALLONS PER CUBIC YARD.

B. ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M 31. (ASTM A615) GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO AASHTO M55.

C. VERTICAL REINFORCING STEEL FOR THE POSTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 529 SPECIAL PROVISION. TIE BARS IN POSTS SHALL BE GALVANIZED OR EPOXY COATED IN ACCORDANCE WITH SECTION 544. REINFORCING BARS AND WELDED WIRE FABRIC IN THE SOUNDWALL PANELS AND LEVELING PANELS SHALL BE BLACK (UNCOATED) STEEL.

D. STRUCTURAL STEEL FOR BASE PLATES SHALL CONFORM TO ASTM A572. GRADE 50 AND BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SPECIAL PROVISION SECTION 529.

E. ANCHOR RODS SHALL CONFORM TO AASHTO M 31 (ASTM A615). GRADE 60 AND SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.ANCHOR RODS SHALL BE GALVANIZED IN ACCORDANCE WITH SPECIAL PROVISION SECTION 529.

F. NUTS SHALL CONFORM TO ASTM A563. GRADE DH AND WASHERS SHALL BE HARDENED AND CONFORM TO ASTM F436. TYPE 1. ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH SPECIAL PROVISION SECTION 529.

PRECAST CONCRETE TOLERANCES

(1) POST DIMENSIONAL TOLERANCES: TOTAL HEIGHT = $\pm^{1}/_{2}$"
FLANGE WIDTH = $\pm^{1}/_{4}$"
WEB THICKNESS = $\pm^{1}/_{4}$"
SLOT DEPTH AND LOCATION = $\pm^{1}/_{8}$"
VERTICAL SWEEP POSTS ≤ 15.0' = $\pm^{1}/_{8}$"
VERTICAL SWEEP POSTS 15.1' TO 25.0' = $\pm^{1}/_{4}$"

(2) PANEL DIMENSIONAL TOLERANCES: LENGTH AND HEIGHT = $\pm^{1}/_{4}$"
STRUCTURAL THICKNESS = $+^{1}/_{4}$", -0"
HORIZONTAL SWEEP = $\pm^{1}/_{2}$"
VERTICAL CAMBER = $+^{3}/_{8}$", -0"
OUT OF SQUARE = $^{1}/_{8}$" PER 10', WITH $^{3}/_{8}$" MAX.

DRILLED SHAFT NOTES

1. DRILLED SHAFT CONSTRUCTION METHODS. CONCRETE. AND REINFORCING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SECTION 509 SPECIAL PROVISION.
2. SEE PRECAST CONCRETE SOUNDWALL (4 OF 4) SHEET FOR DRILLED SHAFT AND ROCK SOCKET LENGTHS.
3. WHERE FILL EMBANKMENT IS TO BE CONSTRUCTED ABOVE THE EXISTING GROUND. THE EMBANKMENT SHALL BE BUILT PRIOR TO CONSTRUCTING THE SHAFTS. PLACEMENT AND COMPACTION OF THE FILL SHALL BE IN ACCORDANCE WITH SECTION 203.
4. CONCRETE FOR THE DRILLED SHAFTS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI CLASS A CONCRETE AND SHALL CONFORM TO SECTION 520 UNLESS NOTED OTHERWISE.
5. ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M 31. GRADE 60. ALL REINFORCING STEEL SHALL BE A MINIMUM OF 3" CLEAR FROM CONCRETE SURFACES UNLESS NOTED OTHERWISE.
6. COAT CONCRETE SURFACES OF THE DRILLED SHAFTS TO 1'-0" BELOW FINISHED GRADE WITH WATER REPELLENT (SILIANE-SILOXANE) IN ACCORDANCE WITH SECTION 534. ALL COSTS SUSIDIARY TO ITEM 509.2. DRILLED SHAFT.

SUMMARY OF SOUNDWALL QUANTITIES

ITEM NO.	ITEM DESCRIPTION	SOUNDWALL LOCATION & QUANTITY				
		SB ON RAMP	SB OFF RAMP	NB ON RAMP	PROJECT TOTAL	UNIT
509.1	MOBILIZATION AND DEMOBILIZATION OF DRILLED SHAFT DRILLING EQUIPMENT	0.33	0.33	0.34	1	UNIT
509.2	DRILLED SHAFT	960	590	2020	3570	LF
509.3	OBSTRUCTION REMOVAL	185	115	395	695	LF
509.4	ROCK SOCKET EXCAVATION	205	85	300	590	LF
529.6	PRECAST CONCRETE SOUND ABATEMENT WALL (F)	29790	13460	57960	101210	SF

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

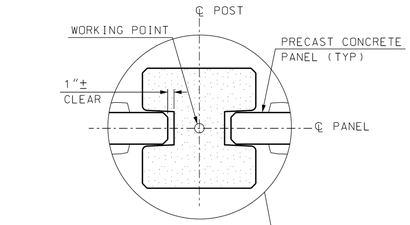
TOWN | BRIDGE NO. | STATE PROJECT
LOCATION

PRECAST CONCRETE SOUNDWALL (1 OF 4)

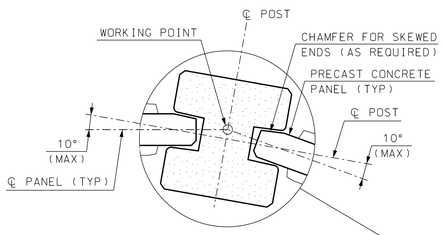
BRIDGE SHEET OF FILE NUMBER

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	AMM	11/2021	CHECKED	JGM	11/2021
	DRAWN	BJM	04/2022	CHECKED	JGM/LRL	04/2022
	QUANTITIES			CHECKED		
	ISSUE DATE			FEDERAL PROJECT NO.		
	REV. DATE					

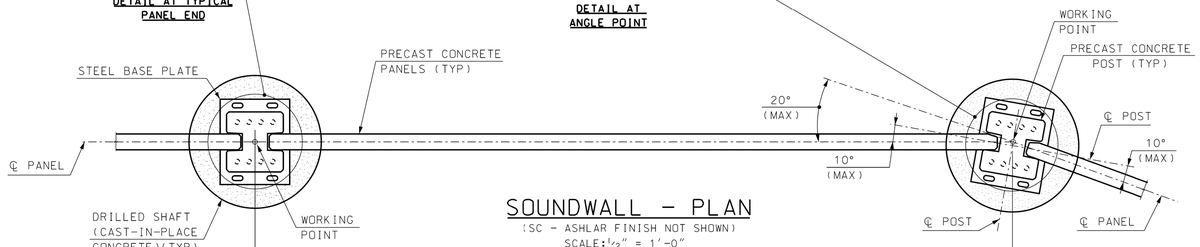
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	SHEET NO.	TOTAL SHEETS
English/SNDWALL	13065A_SW_DET1	AS NOTED	112	733



DETAIL AT TYPICAL PANEL END

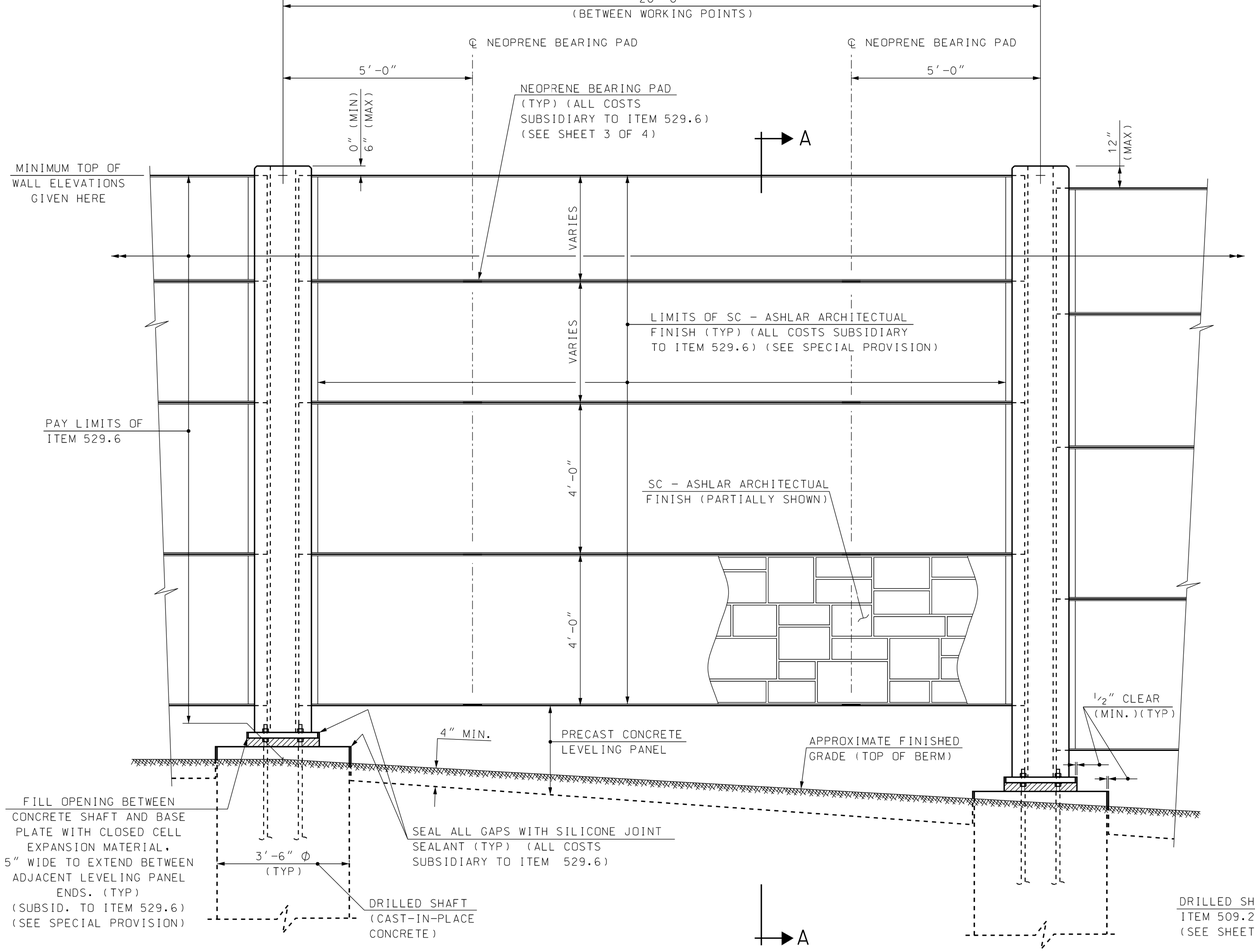


DETAIL AT ANGLE POINT



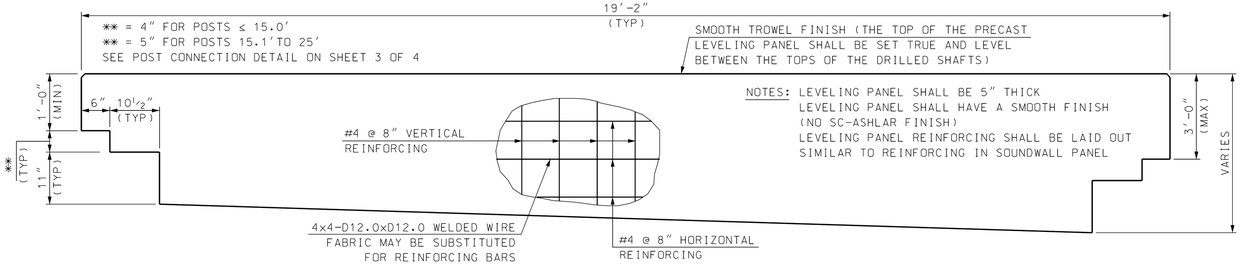
SOUNDWALL - PLAN

(SC - ASHLAR FINISH NOT SHOWN)
SCALE: 1/2" = 1'-0"



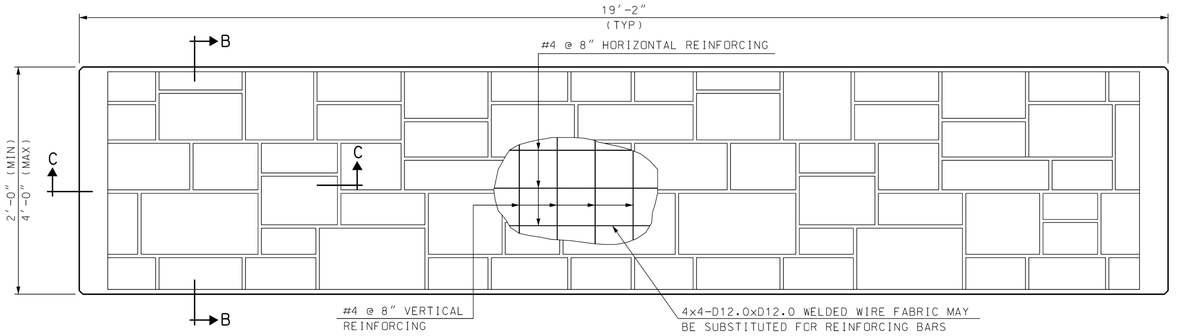
SOUNDWALL - ELEVATION

(SC - ASHLAR FINISH PARTIALLY SHOWN)
SCALE: 1/2" = 1'-0"



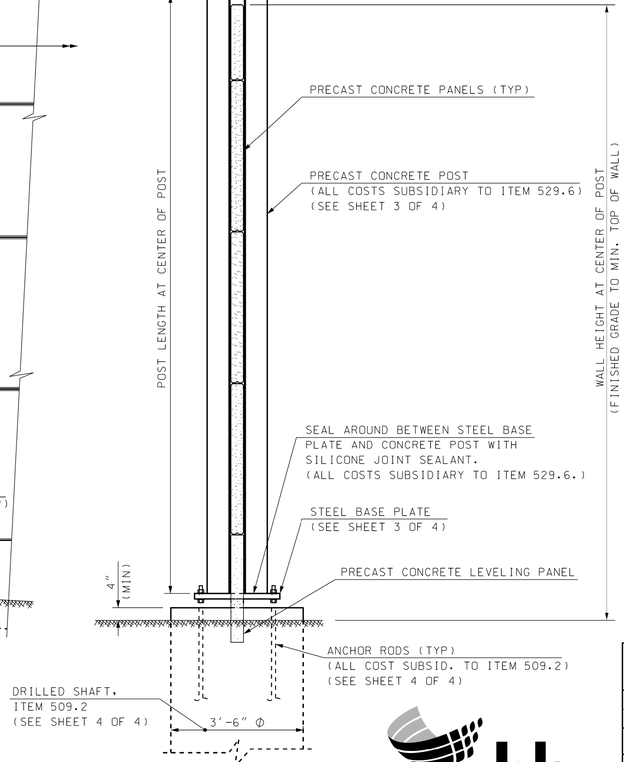
PRECAST CONCRETE LEVELING PANEL DETAIL

SCALE: 3/4" = 1'-0"



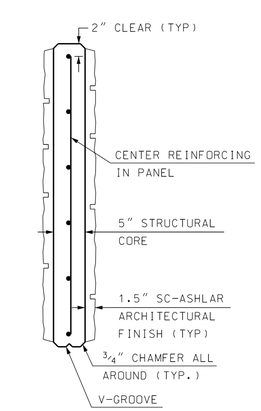
PRECAST CONCRETE SOUNDWALL PANEL DETAIL

SCALE: 3/4" = 1'-0"



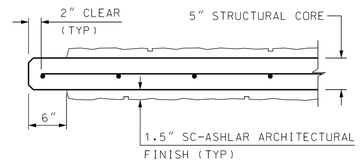
SECTION A-A

(SC - ASHLAR FINISH NOT SHOWN)
SCALE: 1/2" = 1'-0"



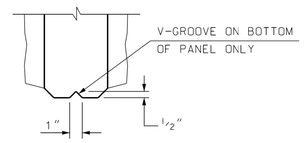
SECTION B-B

SCALE: 1" = 1'-0"



SECTION C-C

SCALE: 1" = 1'-0"



V-GROOVE DETAIL

SCALE: 2" = 1'-0"

NOTES:

1. SEE PRECAST CONCRETE SOUNDWALL (1 OF 4) SHEET FOR NOTES AND DESIGN CRITERIA.
2. REINFORCING SPACING SHOWN IS MAXIMUM. REINFORCING SHALL BE EQUALLY SPACED TO MAINTAIN 2 INCHES BETWEEN EDGE OF PANEL AND FIRST REINFORCING BAR.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/SNDWALL	13065A_SW_DET2	AS NOTED

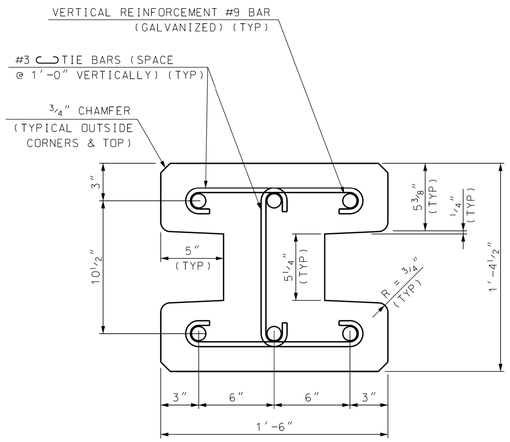
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN | BRIDGE NO. | STATE PROJECT
LOCATION

PRECAST CONCRETE SOUNDWALL (2 OF 4)

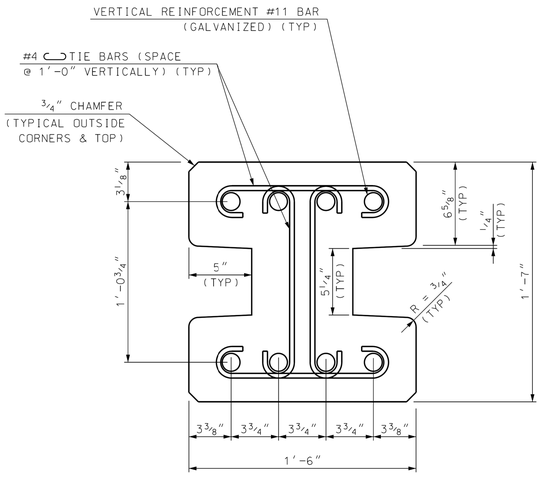
BRIDGE SHEET OF FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED AMM	11/2021	CHECKED JGM		11/2021
	DRAWN BJM	04/2022	CHECKED JGM/LRL		04/2022
	QUANTITIES		CHECKED		
	ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE			113	733



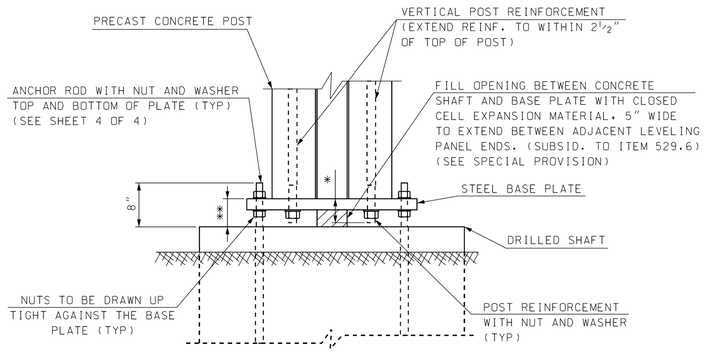
POST SECTION DETAIL FOR POST LENGTHS ≤ 15.0'

SCALE: 2" = 1'-0"



POST SECTION DETAIL FOR POST LENGTHS 15.1'TO 25.0'

SCALE: 2" = 1'-0"



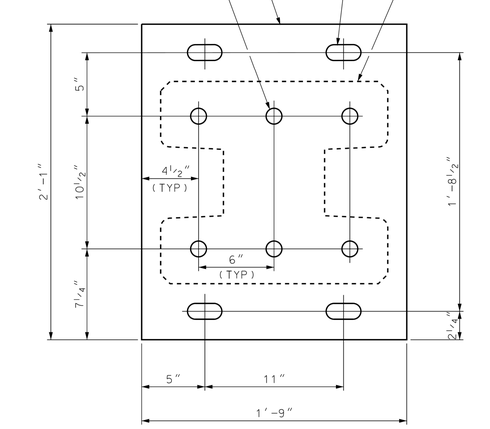
* THREADS OF THE VERTICAL POST REINFORCEMENT SHALL EXTEND BEYOND THE BOTTOM OF THE POST:
3 1/2" FOR FOR POSTS ≤ 15.0'
4 1/2" FOR POSTS 15.1'TO 25.0'
THE LAST 5" OF THE VERTICAL POST REINFORCEMENT SHALL BE THREADED FOR BOTH POSTS.

** DISTANCE BETWEEN TOP OF DRILLED SHAFT AND TOP OF BASE PLATE:
4" FOR POSTS ≤ 15.0'
5" FOR POSTS 15.1'TO 25.0'

THREAD SIZES SHALL BE : 1 1/8" - 7 UNC FOR #9 BARS
1 3/8" - 6 UNC FOR #11 BAR

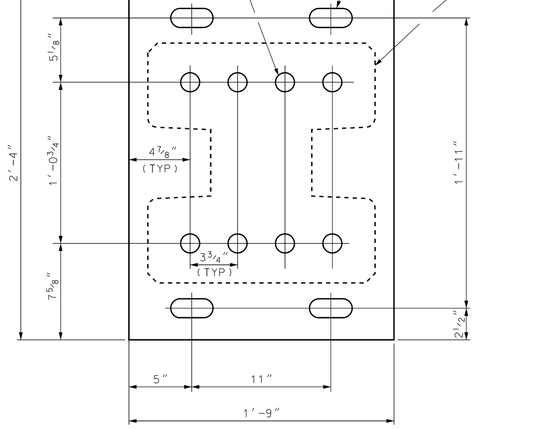
POST CONNECTION DETAIL

SCALE: 1"=1'-0"



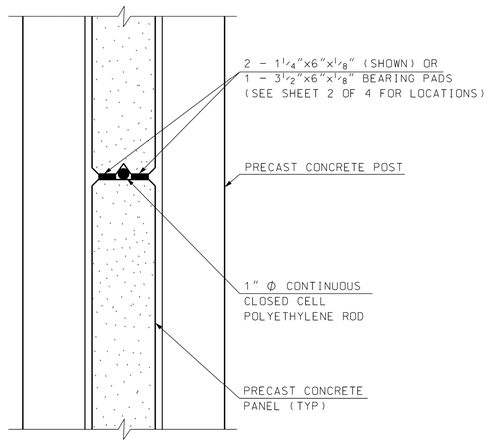
POST BASE PLATE DETAIL FOR POST LENGTHS ≤ 15.0'

SCALE: 2" = 1'-0"



POST BASE PLATE DETAIL FOR POST LENGTHS 15.1'TO 25.0'

SCALE: 2" = 1'-0"



PANEL JOINT DETAIL

(SC - ASHLAR ARCHITECTURAL FINISH NOT SHOWN)
SCALE: 2" = 1'-0"

NOTES:

1. SEE PRECAST CONCRETE SOUNDWALL (1 OF 4) SHEET FOR NOTES AND DESIGN CRITERIA.
2. POLYETHYLENE ROD AND BEARING PADS SHALL BE ATTACHED TO BOTTOM OF PANEL USING SPRAY ADHESIVE OR SIMILAR DURING ERECTION.

vhb

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/SNDWALL	13065A_SW_DET3	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN | BRIDGE NO. | STATE PROJECT

LOCATION

PRECAST CONCRETE SOUNDWALL (3 OF 4)

BRIDGE SHEET OF

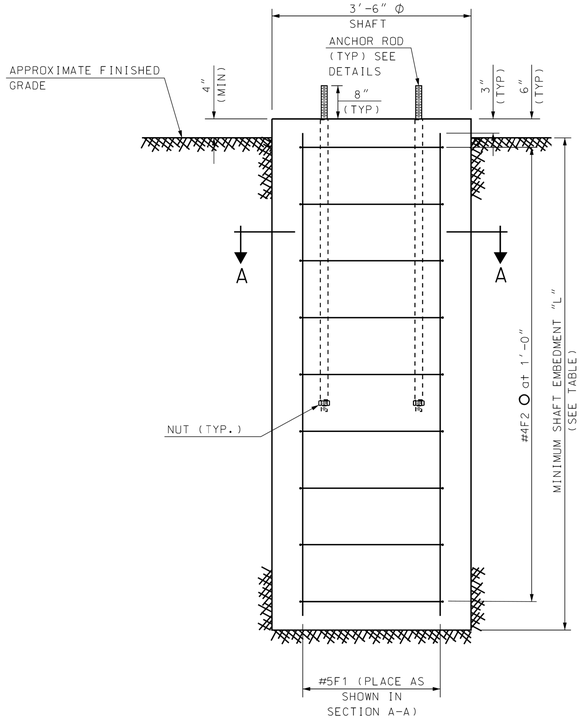
REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	AMM	11/2021	CHECKED	JGM	11/2021
DRAWN	BJM	04/2022	CHECKED	JGM/LRL	04/2022
QUANTITIES			CHECKED		
ISSUE DATE					
REV. DATE					

FEDERAL PROJECT NO.

SHEET NO. 114

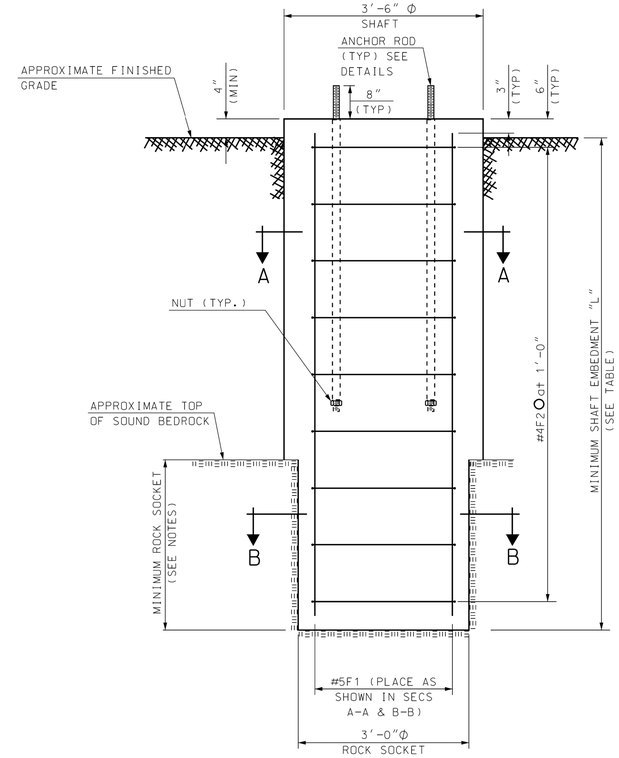
TOTAL SHEETS 733

FILE NUMBER



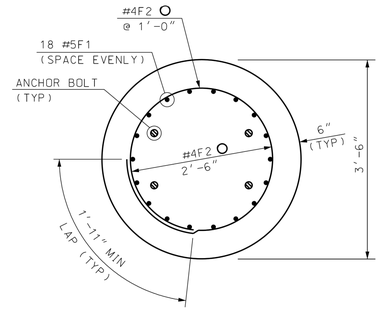
ELEVATION - DRILLED SHAFT IN SOIL

SCALE: 3/4"=1'-0"



ELEVATION - DRILLED SHAFT IN ROCK

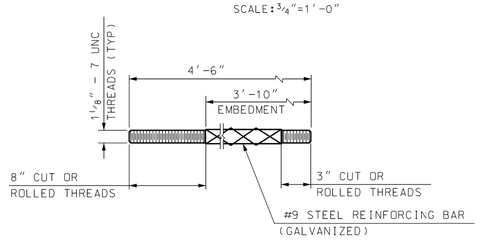
SCALE: 3/4"=1'-0"



SECTION A-A

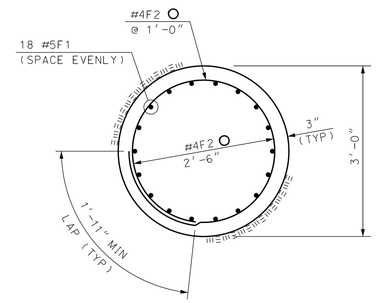
(IN SOIL)

SCALE: 3/4"=1'-0"



ANCHOR ROD DETAIL FOR POST LENGTH ≤ 15.0'

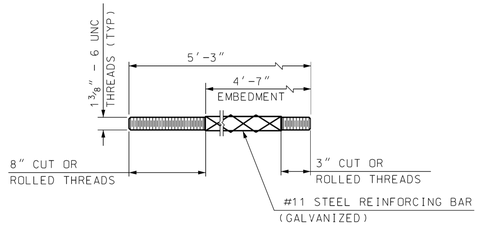
NOT TO SCALE



SECTION B-B

(IN ROCK)

SCALE: 3/4"=1'-0"



ANCHOR ROD DETAIL FOR POST LENGTH 15.1'TO 25.0'

NOT TO SCALE

ESTIMATED SHAFT LENGTH TABLES

(FOR POST/SHAFT NUMBERS SEE PLAN SHEETS INCLUDED ELSEWHERE IN THIS CONTRACT)

SB ON RAMP

POST/SHAFT NUMBERS	MIN. SHAFT EMBED. "L"	MIN. ROCK SOCKET LENGTH	NUMBER OF POSTS/SHAFTS
1 TO 6	12'-0"	4'-0"	6
7 TO 23	6'-0"	6'-0"	17
24 TO 42	12'-0"	4'-0"	19
43 TO 78	20'-0"	---	36

SB OFF RAMP

POST/SHAFT NUMBERS	MIN. SHAFT EMBED. "L"	MIN. ROCK SOCKET LENGTH	NUMBER OF POSTS/SHAFTS
1 TO 14	6'-0"	6'-0"	14
15 TO 61	12'-0"	---	47

NB ON RAMP

POST/SHAFT NUMBERS	MIN. SHAFT EMBED. "L"	MIN. ROCK SOCKET LENGTH	NUMBER OF POSTS/SHAFTS
1 TO 13	6'-0"	6'-0"	13
14 TO 18	12'-0"	4'-0"	5
19 TO 51	6'-0"	6'-0"	33
52 TO 69	20'-0"	---	18
70 TO 76	18'-0"	---	7
77 TO 108	20'-0"	---	32
109 TO 114	18'-0"	---	6
115 TO 148	20'-0"	---	34

DRILLED SHAFT LENGTH NOTES:

1. THE BEDROCK SURFACE AND OVERBURDEN MATERIALS VARY GREATLY THROUGHOUT THE PROJECT CORRIDOR. MULTIPLE SUBSURFACE CONDITIONS ARE ANTICIPATED DURING SHAFT CONSTRUCTION. INCLUDING BUT NOT LIMITED TO:

   A. BEDROCK AT OR NEAR FINISH GRADE.

   B. NATURALLY DEPOSITED MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OVERLAYING BEDROCK.

   C. EMBANKMENT-IN-PLACE OVERLAYING NATURALLY DEPOSITED MATERIAL.

   D. MUCK REMOVED AND REPLACED WITH EMBANKMENT-IN-PLACE UNDER THIS CONTRACT.

   E. ROCK AND GRAVEL BACKFILL FOR MUCK EXCAVATION AND/OR EMBANKMENT-IN-PLACE PLACED UNDER PREVIOUS CONTRACTS. OBSTRUCTIONS. INCLUDING BOULDERS LARGER THAN 3 FEET IN DIAMETER. ARE ANTICIPATED WITHIN LAYERS OF ROCK AND GRAVEL BACKFILL FOR MUCK EXCAVATION.

2. THE ESTIMATED SHAFT LENGTHS IN THE TABLES ABOVE ARE FOR REFERENCE ONLY. THE ACTUAL LENGTH OF EACH SHAFT SHALL BE DETERMINED IN-FIELD BASED ON THE IN-SITU SUBSURFACE CONDITIONS AND THE CRITERIA LISTED BELOW. SEE PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

   A. A 6 FOOT MINIMUM ROCK SOCKET IS REQUIRED WHERE THERE IS LITTLE OR NOT OVERBURDEN AT PROPOSED GRADE.

   FOR SB ON RAMP AND NB ON RAMP ONLY:

   B. A 4 FOOT MINIMUM ROCK SOCKET IS REQUIRED WHERE A MINIMUM OF 8 FEET OF MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OR COMPACTED EMBANKMENT-IN-PLACE OVERLAY BEDROCK.

   C. NO ROCK SOCKET IS REQUIRED WHERE:

      i. 20 FEET MINIMUM OF MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OR COMPACTED EMBANKMENT-IN-PLACE IS PRESENT (20 FOOT MINIMUM EMBEDMENT REQUIRED).

      ii. 18 FEET MINIMUM OF MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OR COMPACTED EMBANKMENT-IN-PLACE OVERLAYS ROCK AND GRAVEL BACKFILL FOR MUCK EXCAVATION (18 FOOT MINIMUM EMBEDMENT REQUIRED).

   FOR SB OFF RAMP ONLY:

   D. A 4 FOOT MINIMUM ROCK SOCKET IS REQUIRED WHERE A MINIMUM OF 6 FEET OF MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OR COMPACTED EMBANKMENT-IN-PLACE OVERLAY BEDROCK.

   E. NO ROCK SOCKET IS REQUIRED WHERE:

      i. 12 FEET MINIMUM OF MEDIUM DENSE TO VERY DENSE GLACIOFLUVIAL. GLACIAL OUTWASH. AND GLACIAL TILL DEPOSITS OR COMPACTED EMBANKMENT-IN-PLACE IS PRESENT (12 FOOT MINIMUM EMBEDMENT REQUIRED).

ESTIMATED SHAFT QUANTITIES

(PER INSTALLED FOOT OF 3'-6"Φ SHAFT)

ITEM	UNIT	QUANTITY
CONCRETE CLASS A	CY/LF	0.36
REINFORCING STEEL	LB/LF	25.34

FOR INFORMATION ONLY. ALL COST INCLUDED IN ITEM 509.2.

SHAFT REINFORCING SCHEDULE

BAR MARK	SIZE	UNBENT LENGTH	TYPE
F1	#5	L-6"	——
F2	#4	9'-10"	◯

NOTE:

1. SEE PRECAST CONCRETE SOUNDWALL (1 OF 4) SHEET FOR NOTES AND DESIGN CRITERIA.

vhb

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN | BRIDGE NO. | STATE PROJECT

LOCATION

PRECAST CONCRETE SOUNDWALL (4 OF 4)

BRIDGE SHEET OF FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	AMM	11/2021	CHECKED	JGM	11/2021
DRAWN	BJM	04/2022	CHECKED	JGM/LRL	04/2022
QUANTITIES			CHECKED		

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/SNDWALL	13065A_SW_DET4	AS NOTED

ISSUE DATE | REV. DATE | FEDERAL PROJECT NO. | SHEET NO. 115 | TOTAL SHEETS 733

GRID

MAINTENANCE ACCESS

DB3607-B01

DB3607-B04

DB3607-B02

BOTTOM
ELEV=281

DB3607-B03

3604 3605 3606 3607 3608 I-93 SB 3609 3610 3611 3612

1604 1605 1606 1607 1608 1609

I-93 NB

"I93
mm 11.6"

STA. 1604+22
LIMIT OF WORK

ITEM 615.20001
FURNISH AND INSTALL NEW CANTILEVER SIGN STRUCTURE WITH GO-1 AT STA 1607+00

"west 102"
east 102"

I-93 NB EXIT 4 OFF-RAMP

MATCH TO SHEET GEN02

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

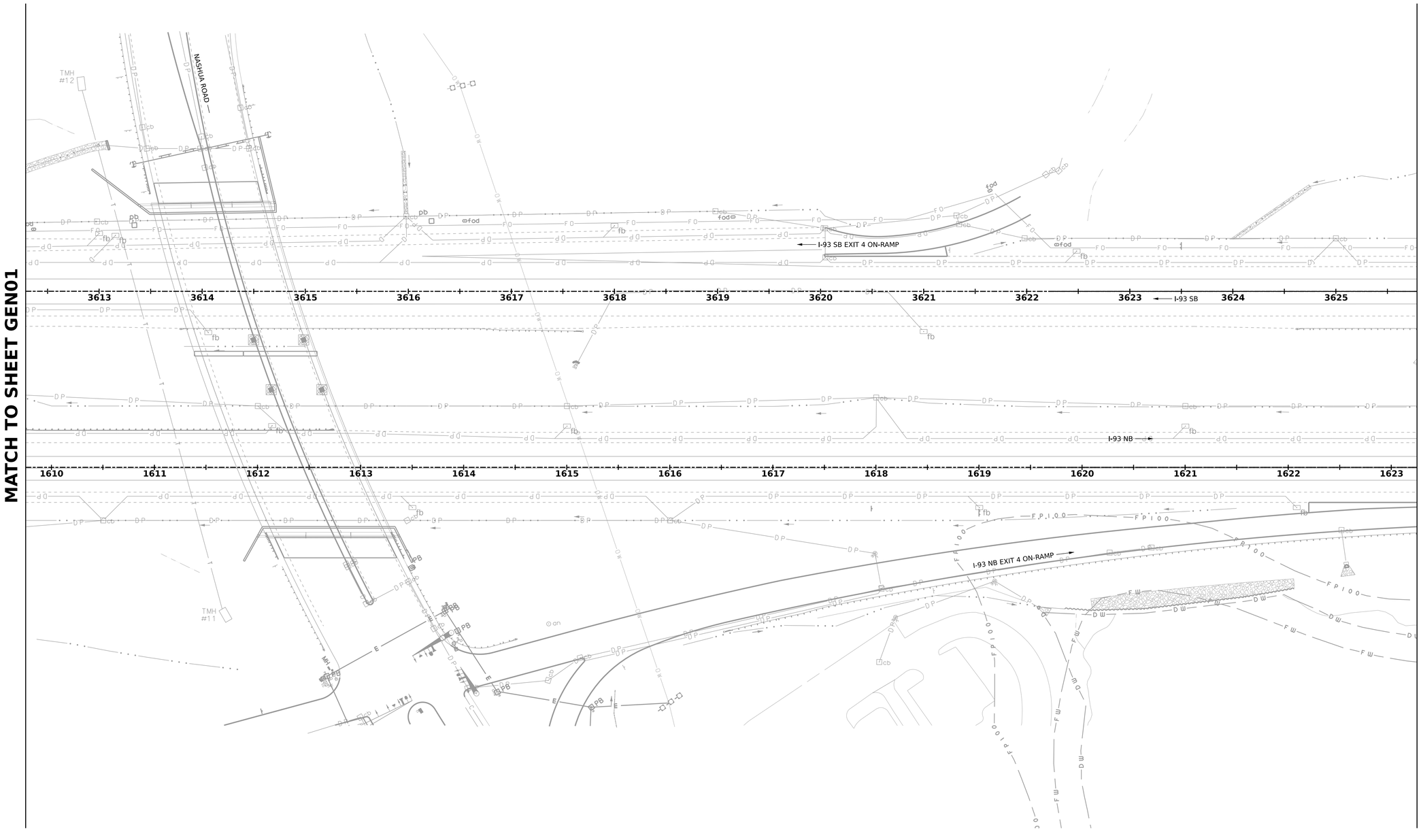
GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN01	13065A_GEN_Plans	13065A	116	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN02	13065A_GEN_Plans	13065A	117	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

GRID

MATCH TO SHEET GEN02

MATCH TO SHEET GEN04

3626 3627 3628 3629 3630 3631 3632 3633 3634 I-93 SB 3635 3636 3637 3638

1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635

I-93 SB EXIT 4 OFF-RAMP

I-93 NB

I-93 NB EXIT 4 ON-RAMP

MAINTENANCE ACCESS

DB3636-B02

DB1637-B01

ITEM 615.20002 FURNISH AND INSTALL NEW CANTILEVER SIGN STRUCTURE WITH GO-2 AT STA 1633+00.

50 0 50 100

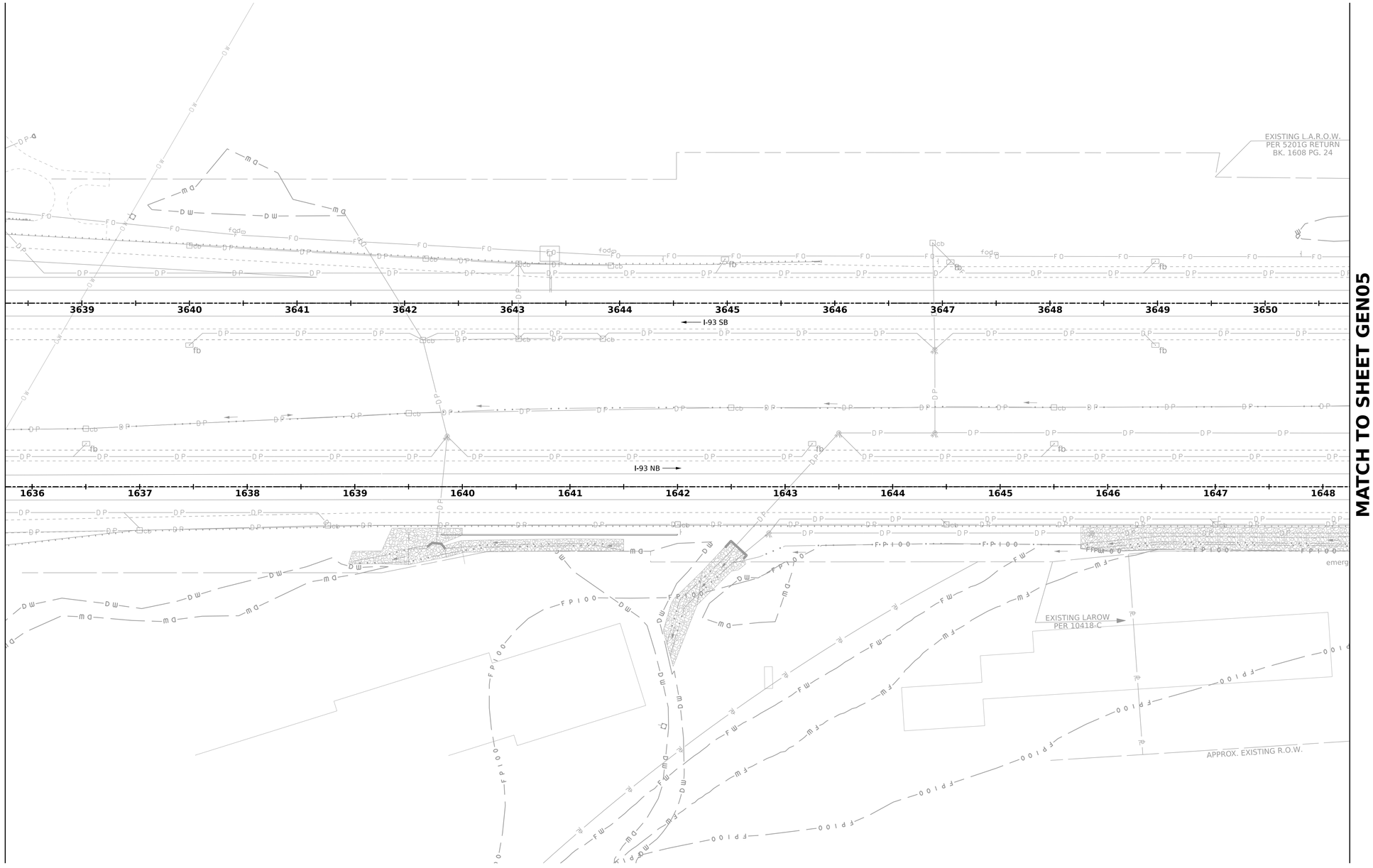
SCALE IN FEET

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN03	13065A_GEN_Plans	13065A	118	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

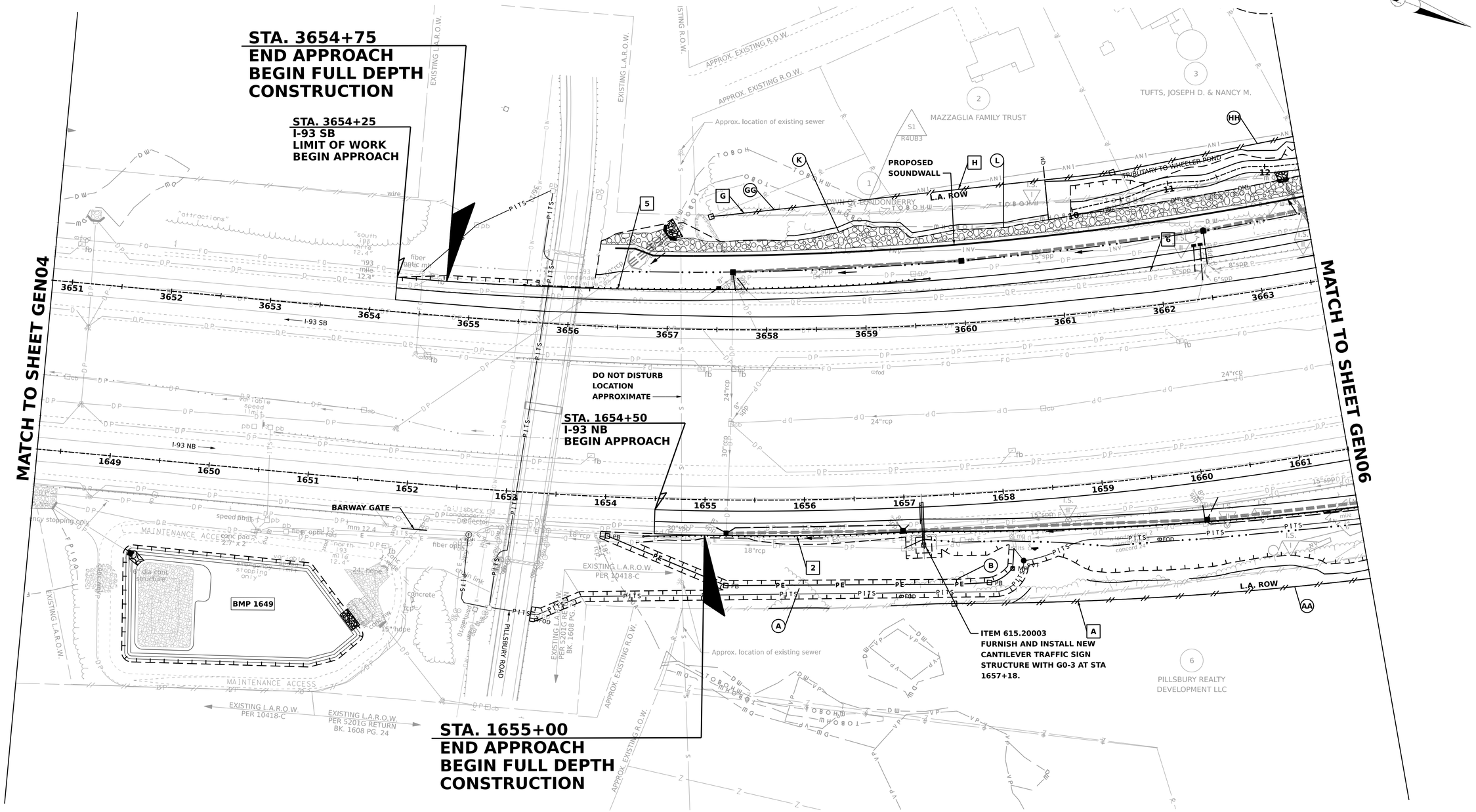
NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN04	13065A_GEN_Plans	13065A	119	733



REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN05	13065A_GEN_Plans	13065A	120	733

MATCH TO SHEET GEN05

MATCH TO SHEET GEN07

DONOVAN, CORNELIUS J. & JOYCE LEE

ROY, ALAN J. & RIZZO-ROY, MARIA L.

FLYNN 2013 FAMILY TRUST

BELANGER FAMILY REVOCABLE TRUST

CANTAVE FAMILY REVOCABLE TRUST

DICKENSON, DONNA E.

PROPOSED SOUNDWALL

TRIBUTARY TO WHEELER POND

L.A. ROW

SB ON RAMP

I-93 SB

I-93 NB

NB OFF RAMP

SEE SIGNALIZATION PLANS FOR MORE DETECTION INFORMATION

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (I-93 NB SIDE ONLY)(TYP.)

STEEL SHEET PILING FOR ENVIRONMENTAL PROTECTION ITEM 506.4

STEEL SHEET PILING FOR ENVIRONMENTAL PROTECTION ITEM 506.4

BMP 1670

BMP MAINTENANCE ACCESS

DRAINAGE EASEMENT PER NH PROJ. 10418-C (5744/495)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

PILLSBURY REALTY DEVELOPMENT LLC

EXISTING L.A.R.O.W.

EXISTING R.O.W.

GRID

50 0 50 100

SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION

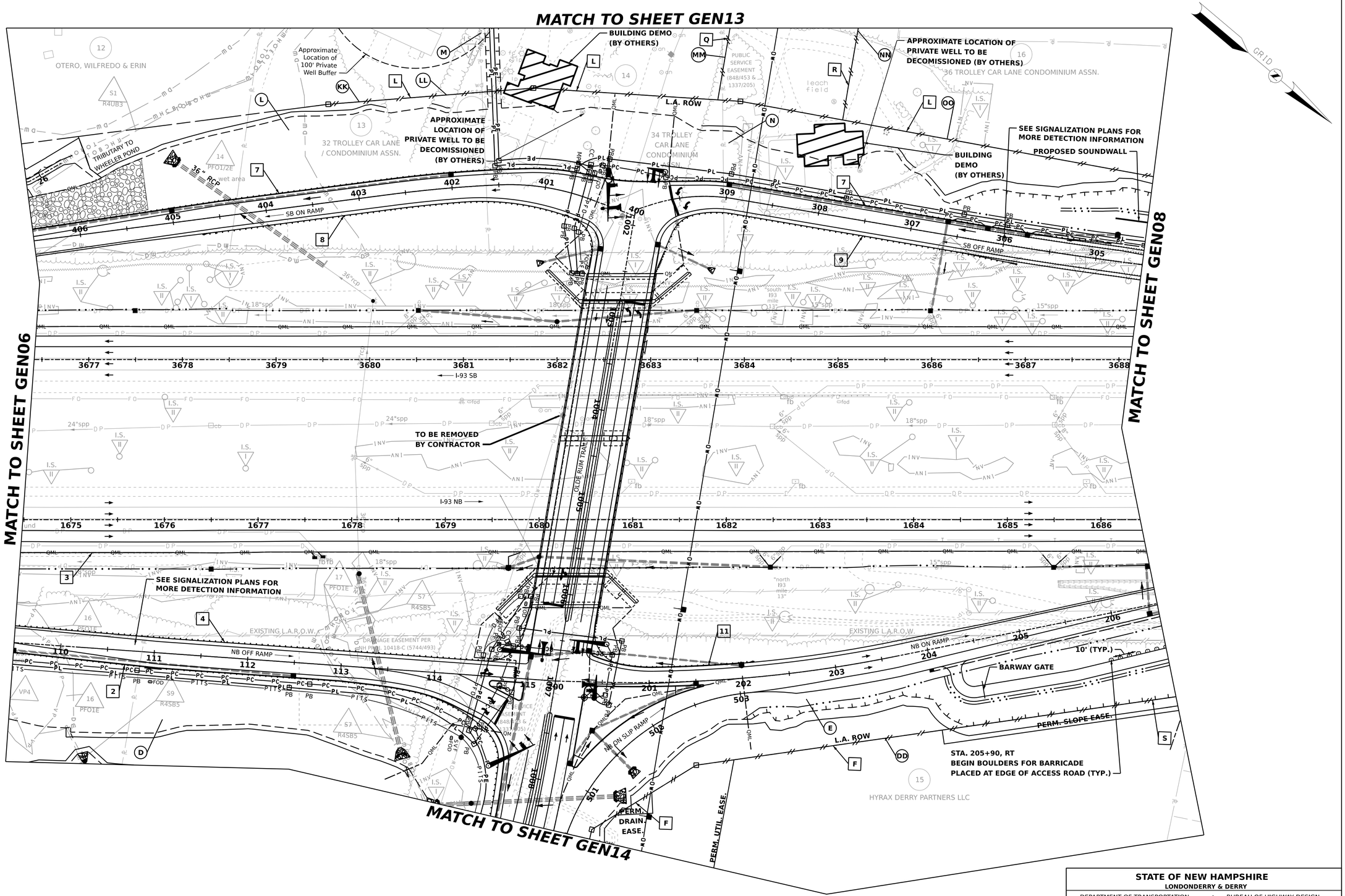
REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

vhb

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN06	13065A_GEN_Plans	13065A	121	733



REVISIONS AFTER PROPOSAL

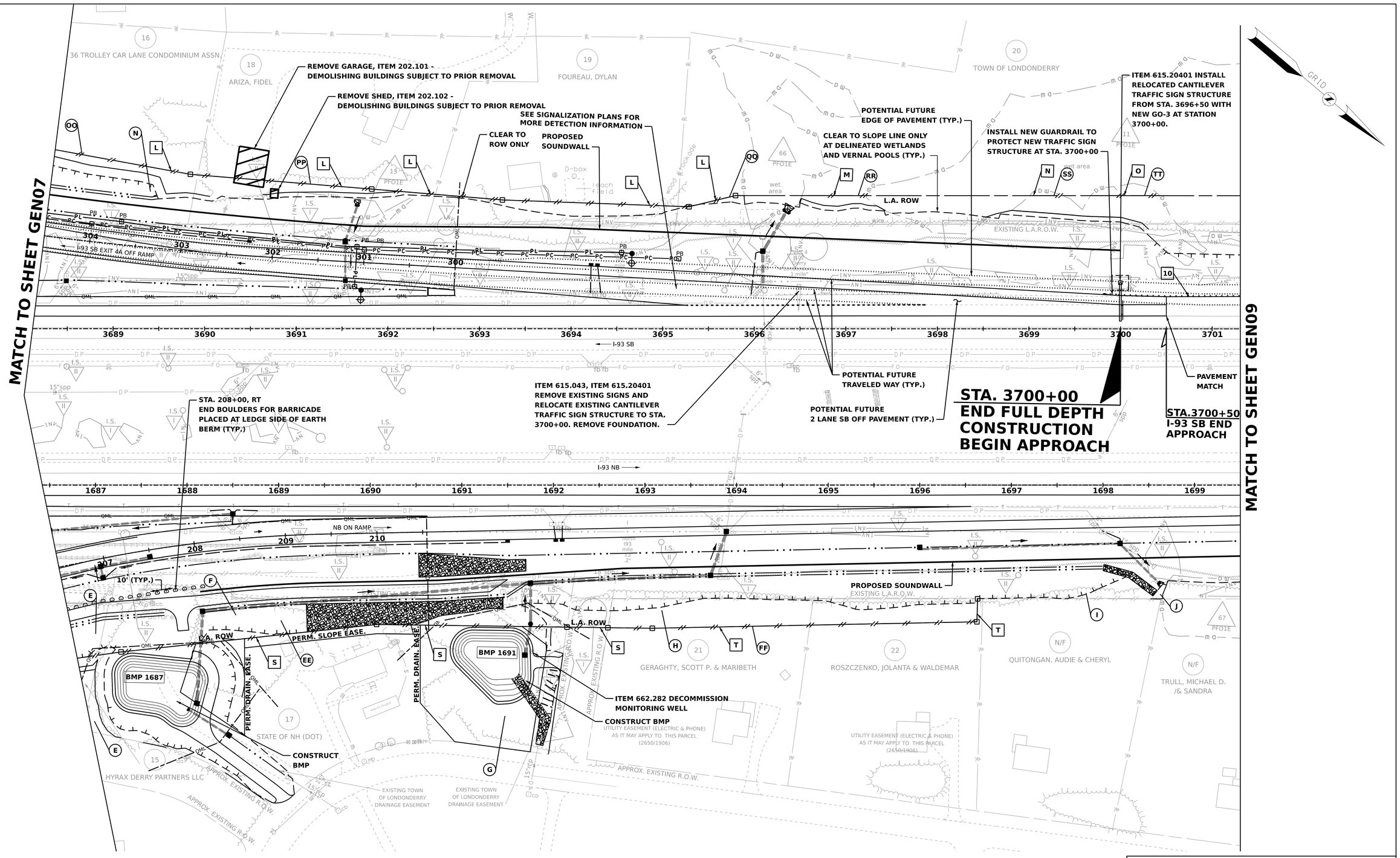
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN07	13065A_GEN_Plans	13065A	122	733



REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN08	13065A_GEN_Plans	13065A	123	733

INSTALL NEW GUARDRAIL TO PROTECT NEW TRAFFIC SIGN STRUCTURE AT STA. 3700+00

Approximate Location of 75' Private Well Buffer

Approximate Location of Private Well

L.A. ROW

POTENTIAL FUTURE EDGE OF PAVEMENT (TYP.)

POTENTIAL FUTURE TRAVELED WAY (TYP.)

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

REGRADE BMP ACCESS ROAD AS NEEDED

POTENTIAL FUTURE 2 LANE SB OFF PAVEMENT (TYP.)

PAVEMENT MATCH

PROPOSED SOUNDWALL

STA. 1705+25
I-93 NB
END APPROACH

STA. 1704+75
END FULL DEPTH CONSTRUCTION
BEGIN APPROACH

Approximate Location of 250' Public Water Supply Well Buffer

Approximate Location of Existing Public Water Supply Well

EXISTING L.A.R.O.W. PER 10418-C

EXISTING L.A.R.O.W. PER P5201G

TOWN OF LONDONDERRY

WELDON, DANIEL A.

TRULL, MICHAEL D. /& SANDRA

SCACCIA, GERALD P.

DARON, JODI L. & DAVID B.

GREEN, JOSEPH & VILLENEUVE, DANA

MOSS, BRIAN J.

KELLEY, EDWARD T.

MATCH TO SHEET GEN08

MATCH TO SHEET GEN10

I-93 NB

I-93 SB

SCALE IN FEET: 50 0 50 100

GRID

REVISIONS AFTER PROPOSAL

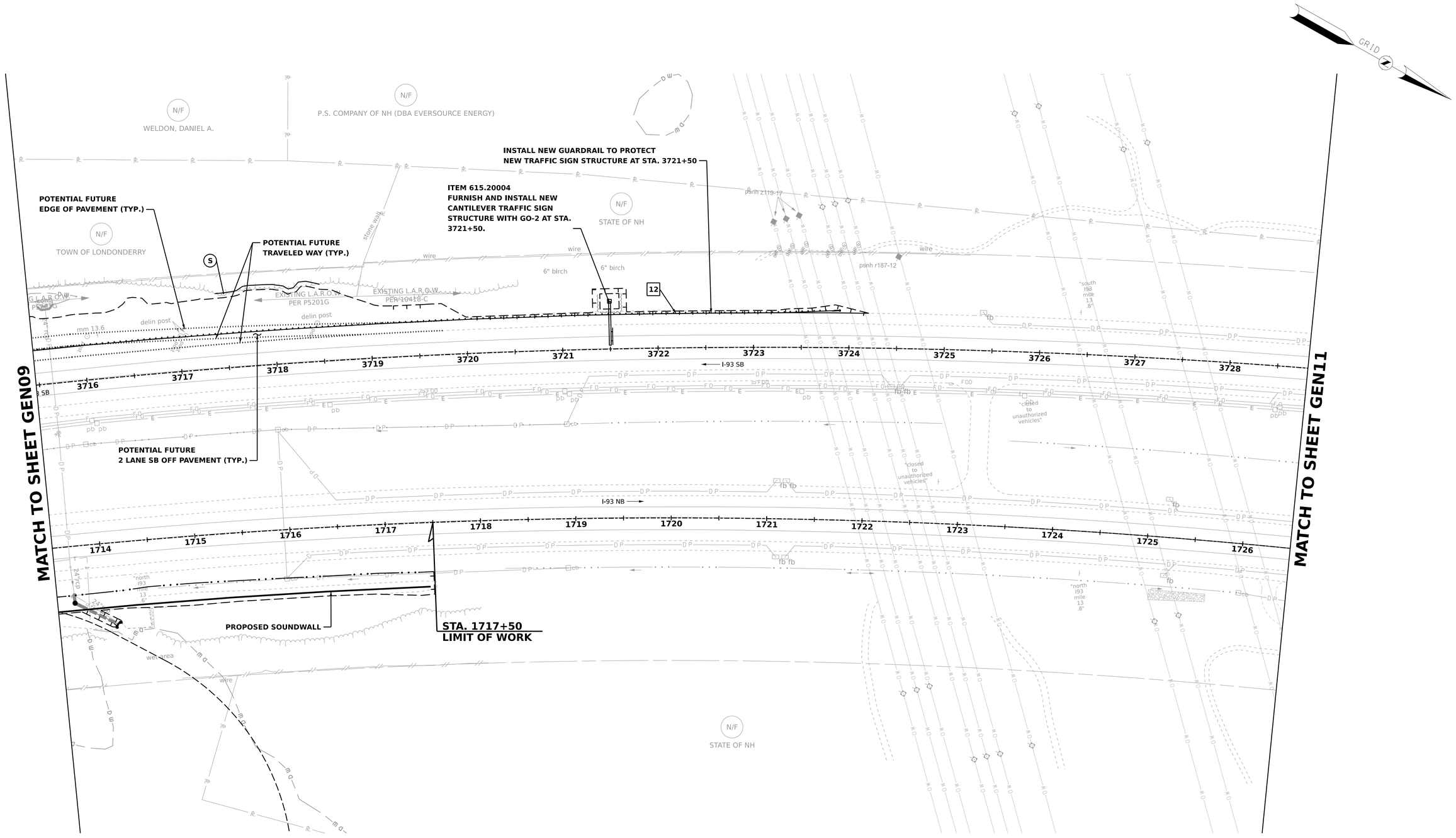
NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN09	13065A_GEN_Plans	13065A	124	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN10	13065A_GEN_Plans	13065A	125	733

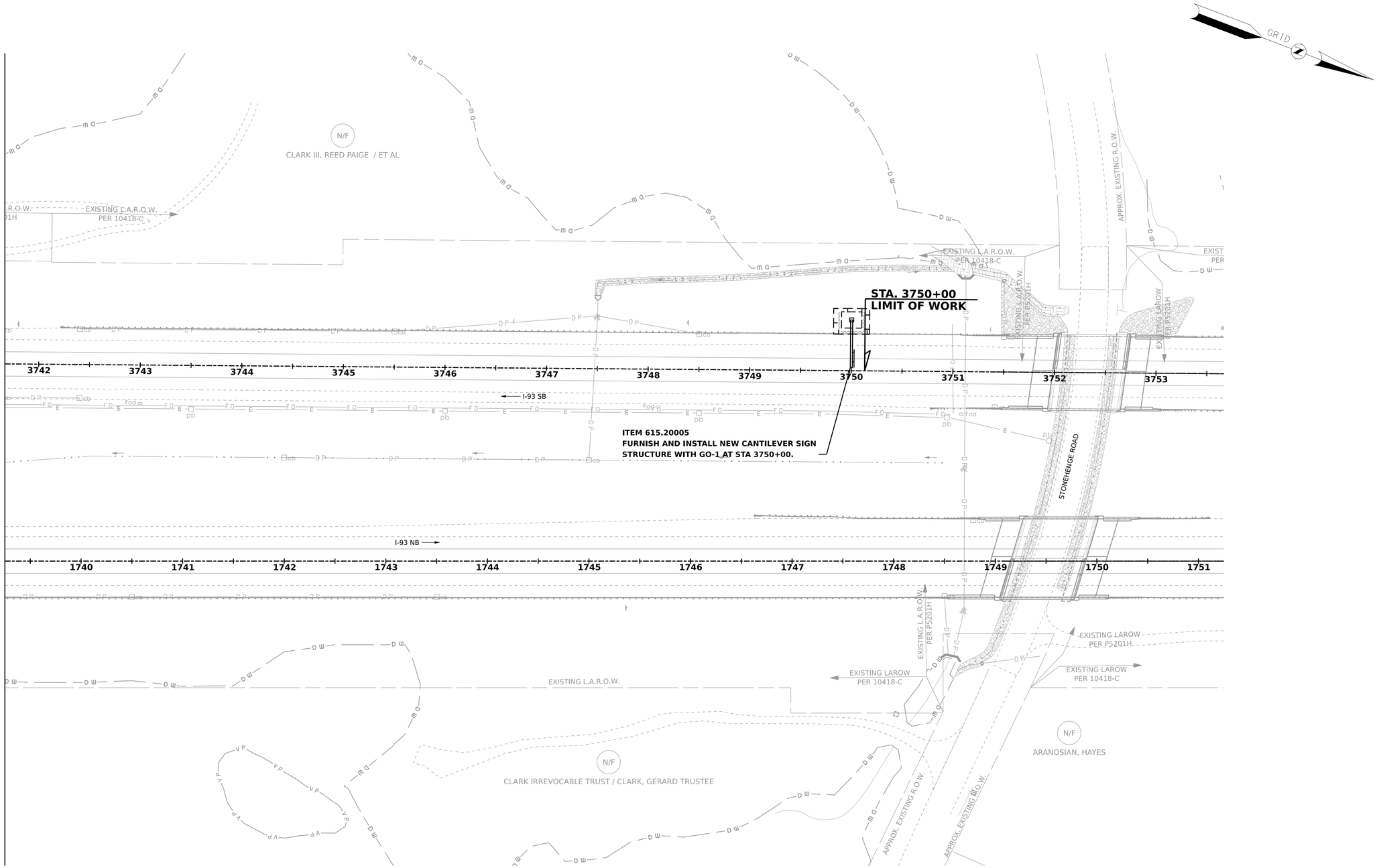
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN11	13065A_GEN_Plans	13065A	126	733



NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN12	13065A_GEN_Plans	13065A	127	733

GRID

INSTALL PROPOSED CONDUIT USING DIRECTIONAL BORING TO AVOID IMPACTS TO STREAM

TROLLEY CAR LANE

S92
R45B

S91
R45B

91
PFO1/PEM1/
PSS1

13
32 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

12
OTERO, WILFREDO & ERIN

14
34 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

16
36 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

EXISTING PHONE & ELECTRIC EASEMENT (3572/1648) (LOCUS UNDETERMINED)

EXISTING DRAINAGE EASEMENT

EXISTING MAINTENANCE EASEMENT

EXISTING DRIVEWAY EASEMENT BENEFITS ABUTTER

EXISTING DRAINAGE EASEMENT

PUBLIC SERVICE EASEMENT (848/453 & 1337/205)

3'H x 6'W concrete culvert

Approximate Location of 100' Private Well Buffer

APPROXIMATE LOCATION OF PRIVATE WELL

M

Q

R

NN

NN

leach field

MATCH TO SHEET GEN07

50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN13	13065A_GEN_Plans	13065A	128	733

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STA. 1014+00
OLDE RUM TRAIL
LIMIT OF WORK
13065A WEARING COURSE

MATCH TO SHEET GEN07

MATCH TO SHEET GEN15

MATCH TO SHEET GEN06

PERM. UTIL. EASE.

PERM. DRAIN. EASE.

PERM. SLOPE EASE.

L.A. ROW

C.A. ROW

OLDE RUM TRAIL

1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021

ITEM 662.282 DECOMMISSION MONITORING WELL

BMP MAINTENANCE ACCESS

BARWAY GATE

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

BMP 1012

CONSTRUCT BMP B1012

ITEM 662.282 DECOMMISSION MONITORING WELL

HYRAX DERRY PARTNERS LLC

PUBLIC SERVICE EASEMENT (848/453 & 1337/205)

PILLSBURY REALTY DEVELOPMENT LLC

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

CONNECT TO EXIST. 4.4 KV OVERHEAD ELECTRIC LINE (LOCATION APPROXIMATE)

EASEMENT (2818/81) TO NEW SHELL ARMY (LOCUS NOT SPECIFIED)

GRID

50 0 50 100

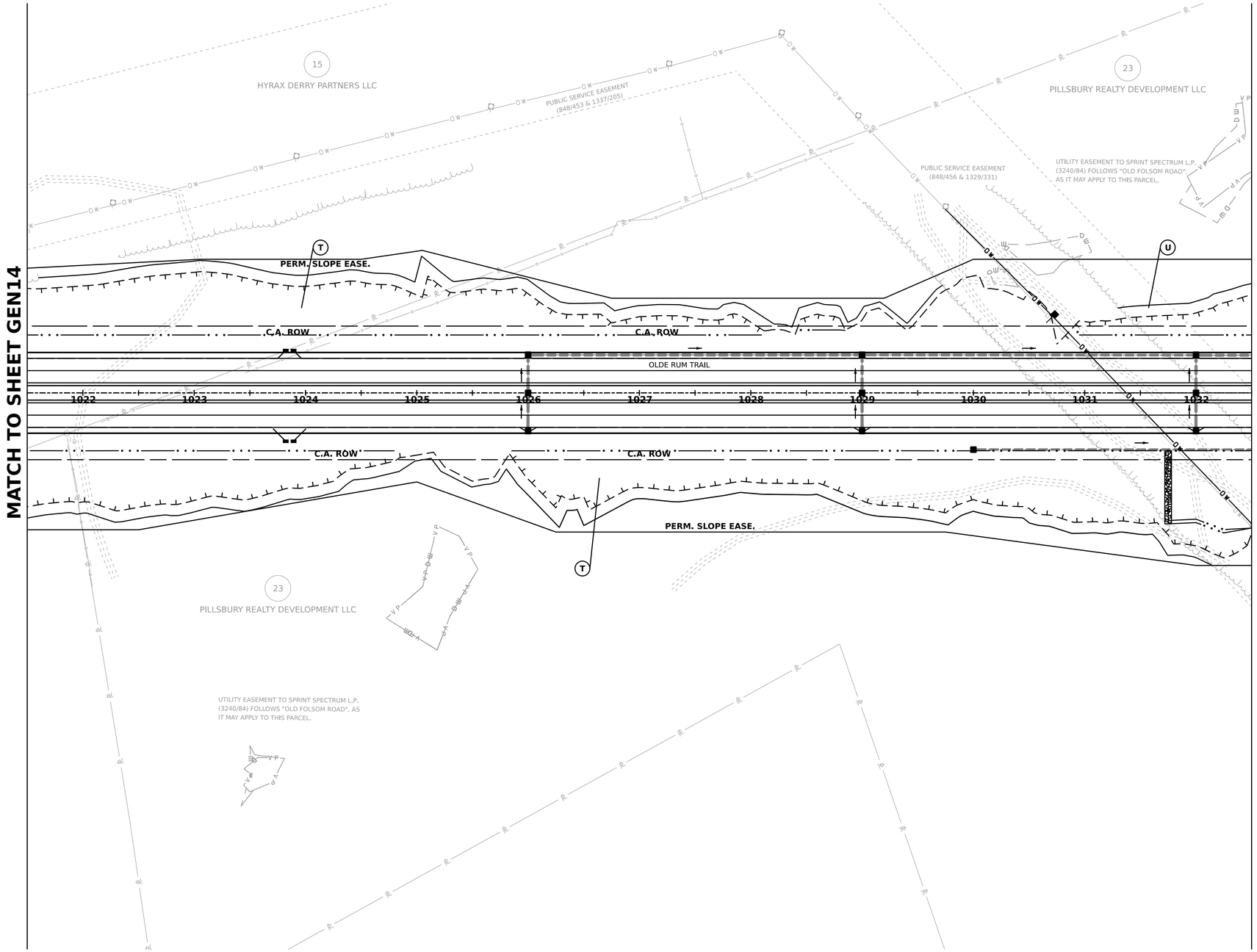
SCALE IN FEET

vhb

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN14	13065A_GEN_Plans	13065A	129	733

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS



50 0 50 100

SCALE IN FEET

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN15	13065A_GEN_Plans	13065A	130	733

MATCH TO SHEET GEN15

MATCH TO SHEET GEN17

PERM. DRAIN. EASE.

CONSTRUCT BMP

DO NOT DISTURB BEYOND PROPERTY LINE

BMP 1038

CHAIN LINK FENCE W/VINYL COATED STEEL FABRIC, 5' HIGH

APPROXIMATE WOODMONT INTERSECTION (LOCATION BASED ON 2018 HEARING PLAN. FOR REFERENCE ONLY, NOT MODELED. FURTHER DESIGN WILL BE PROVIDED BY OTHERS)

ITEM 662.282 DECOMMISSION MONITORING WELL

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

CONSTRUCT ACCESS ROAD

BARWAY GATE

PERM. SLOPE EASE.

PERM. DRAIN EASE.

C.A. ROW

OLDE RUM TRAIL

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

PERM. SLOPE EASE.

APPROXIMATE WOODMONT INTERSECTION (LOCATION BASED ON 2018 HEARING PLAN. FOR REFERENCE ONLY, NOT MODELED. FURTHER DESIGN WILL BE PROVIDED BY OTHERS)

STA. 1040+00
OLDE RUM TRAIL
LIMIT OF WORK

STA. 1038+50
END FULL DEPTH
CONSTRUCTION

STA. 16+31.53
MADDEN RD
LIMIT OF WORK

PROPOSED GATE

PERM. SLOPE EASE.

PERM. DRAIN EASE.

PUBLIC SERVICE EASEMENT (5094/2987)

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

SUBJECT TO ACCESS RIGHTS NOTED IN DEED 2937/2252 (LOCUS UNDETERMINED)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

23 PILLSBURY REALTY DEVELOPMENT LLC

24 SEVEN HILLS DEVELOPMENT LLC

25 DERRY BUSINESS CENTER / UNIT OWNERS ASSN

26 SEVEN HILLS DEVELOPMENT, LLC

27 ABBOTT, MARCIA E.

XX PILLSBURY REALTY/ DEVELOPMENT LLC

LONDONDERRY

DERRY

50 0 50 100

SCALE IN FEET

GRID

REVISIONS AFTER PROPOSAL

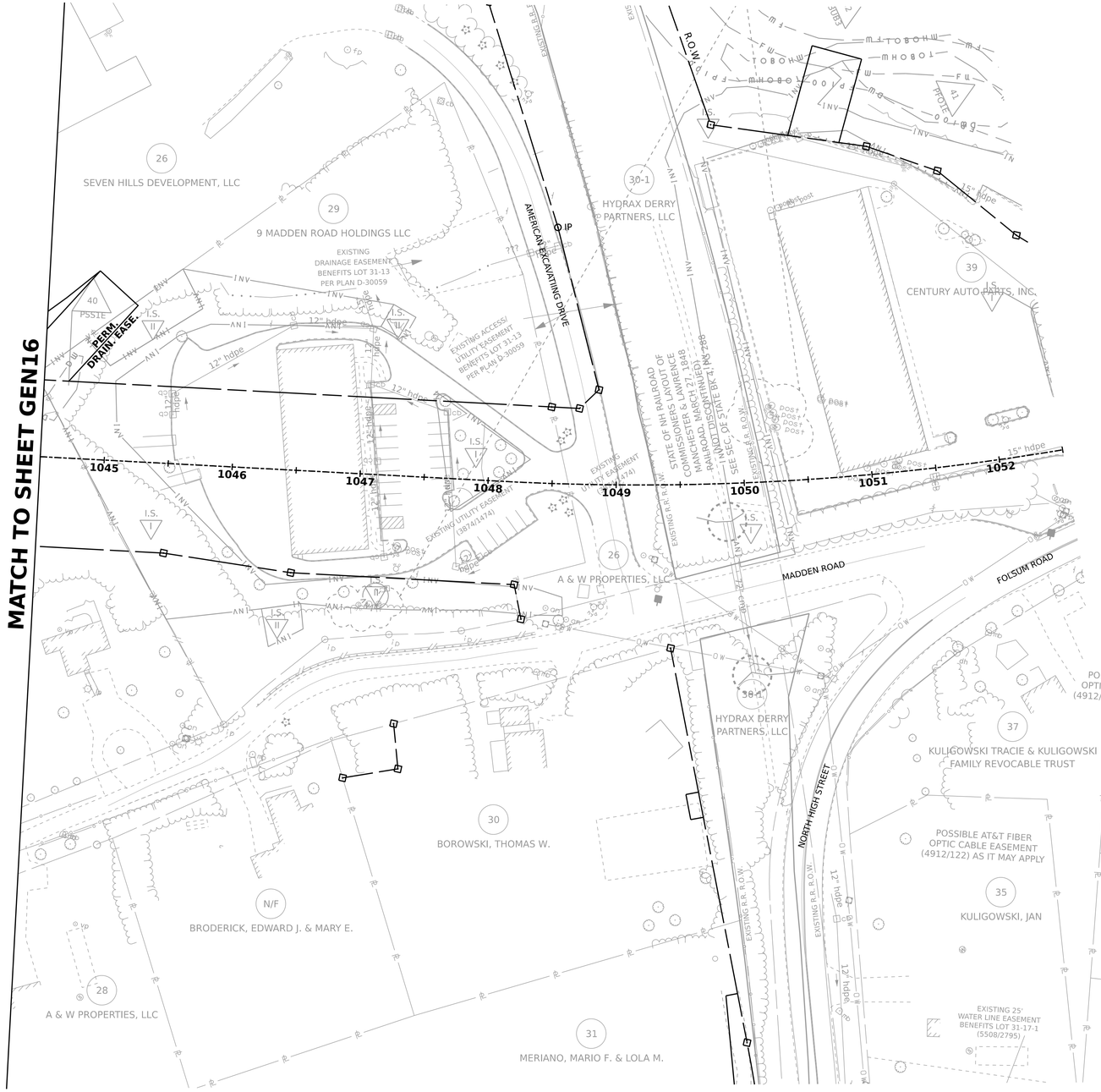
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN16	13065A_GEN_Plans	13065A	131	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GENERAL PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	GEN17	13065A_GEN_Plans	13065A	132	733

POT I-93 NB STA. 1664+96.17, RT 66.18' =
POT NB OFF RAMP STA. 100+00.00

VPI 100+00.00
EL 349.31

VPC 101+88.66
EL 351.01

FINISHED GRADE
CONSTRUCTION ℄

L = 500
K = 98

VPI 104+38.66
EL 353.26

VPT 106+88.66
EL 368.26

Exist. Ground
CONSTRUCTION ℄

VPC 110+05.00
EL 387.24

VPI 111+05.00
EL 393.24

L = 200
K = 67

VPT 112+05.00
EL 396.24

VPC 113+49.42
EL 400.57

VPI 113+99.42
EL 402.07

L = 100
K = 140

VPT 114+49.42
EL 403.21

POT NB OFF RAMP STA. 115+29.54 =
POT OLDE RUM TRAIL STA. 1006+93.62

VPI 115+29.54
EL 405.04

+0.90% +6.00% +6.00% +3.00% +3.00% +3.00% +2.28% +2.28%

430 420 410 400 390 380 370 360 350 340 330 320 310 300

333.4 349.31 332.6 349.76 331.8 350.21 335.6 350.66 340.7 351.12 339.4 351.75 334.2 352.64 333.8 353.79 336.2 355.19 338.7 356.84 342.7 358.75 347.9 360.92 350.5 363.34 351.8 366.01 352.7 368.94 353.8 371.94 355.6 374.94 351.7 377.94 350.2 380.94 348.8 383.94 350.0 386.94 357.3 389.79 362.1 392.26 367.7 394.36 373.5 396.09 367.3 397.59 359.5 399.09 361.9 400.59 364.2 402.00 369.2 403.23 377.5 404.37

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

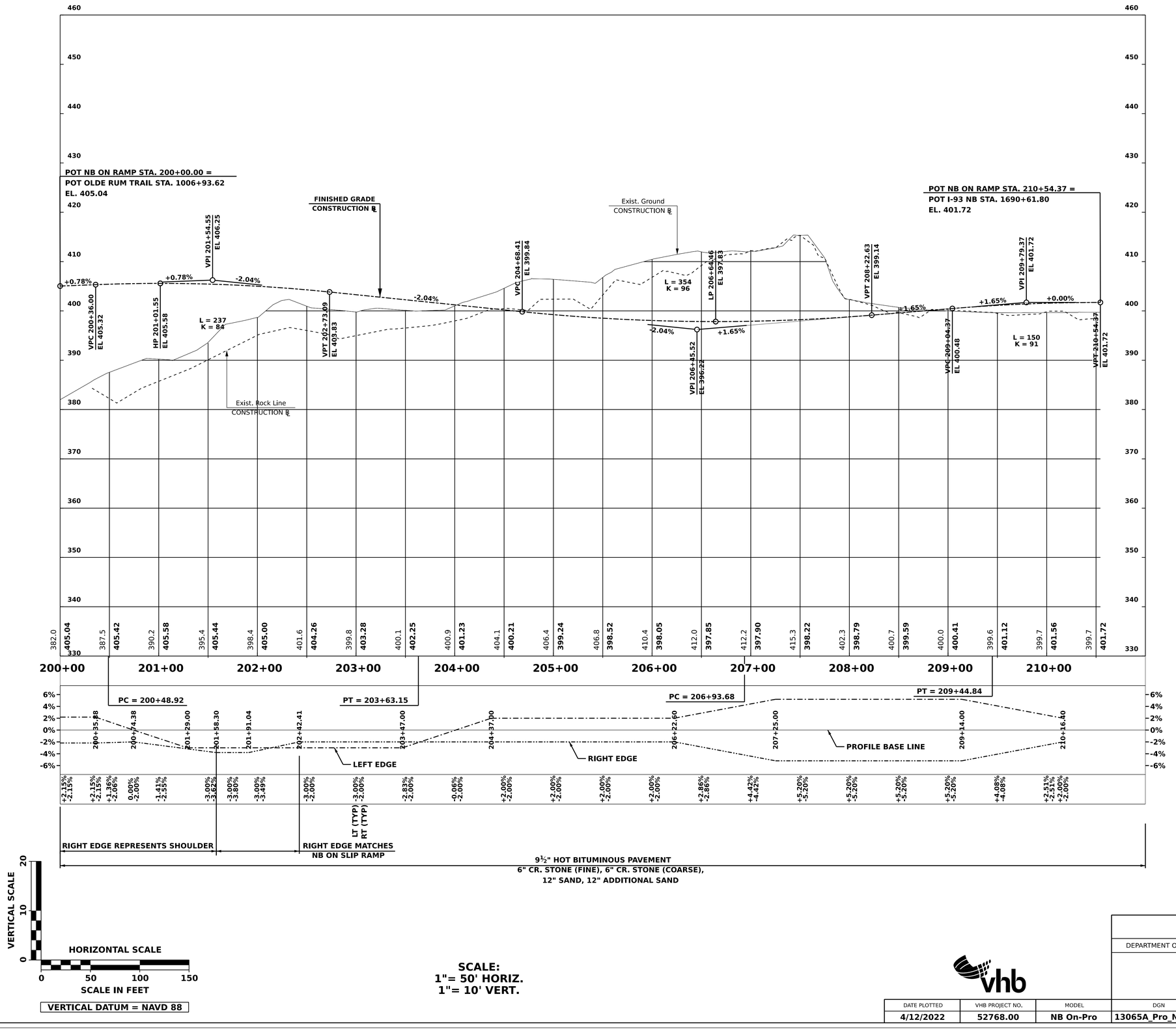
PC = 100+00.00
PT = 102+14.80

6% 4% 2% 0% -2% -4% -6%

LEFT EDGE
PROFILE BASE LINE
RIGHT EDGE

101+46.00 101+91.00 102+03.80 102+58.00 103+32.00 112+92.41 114+77.46 114+85.30 114+91.36 115+29.54

-5.57% +2.00% | -4.48% +2.00% | -3.40% +2.00% | -2.40% +2.00% | -2.09% +2.00% | -0.55% +0.56% | +1.00% -1.00% | +2.00% -2.00% | +2.00% -2.00% (LT (TYP) RT (TYP)) | +2.00% -2.00% | +2.00% -2.00% | +2.00% -2.00%



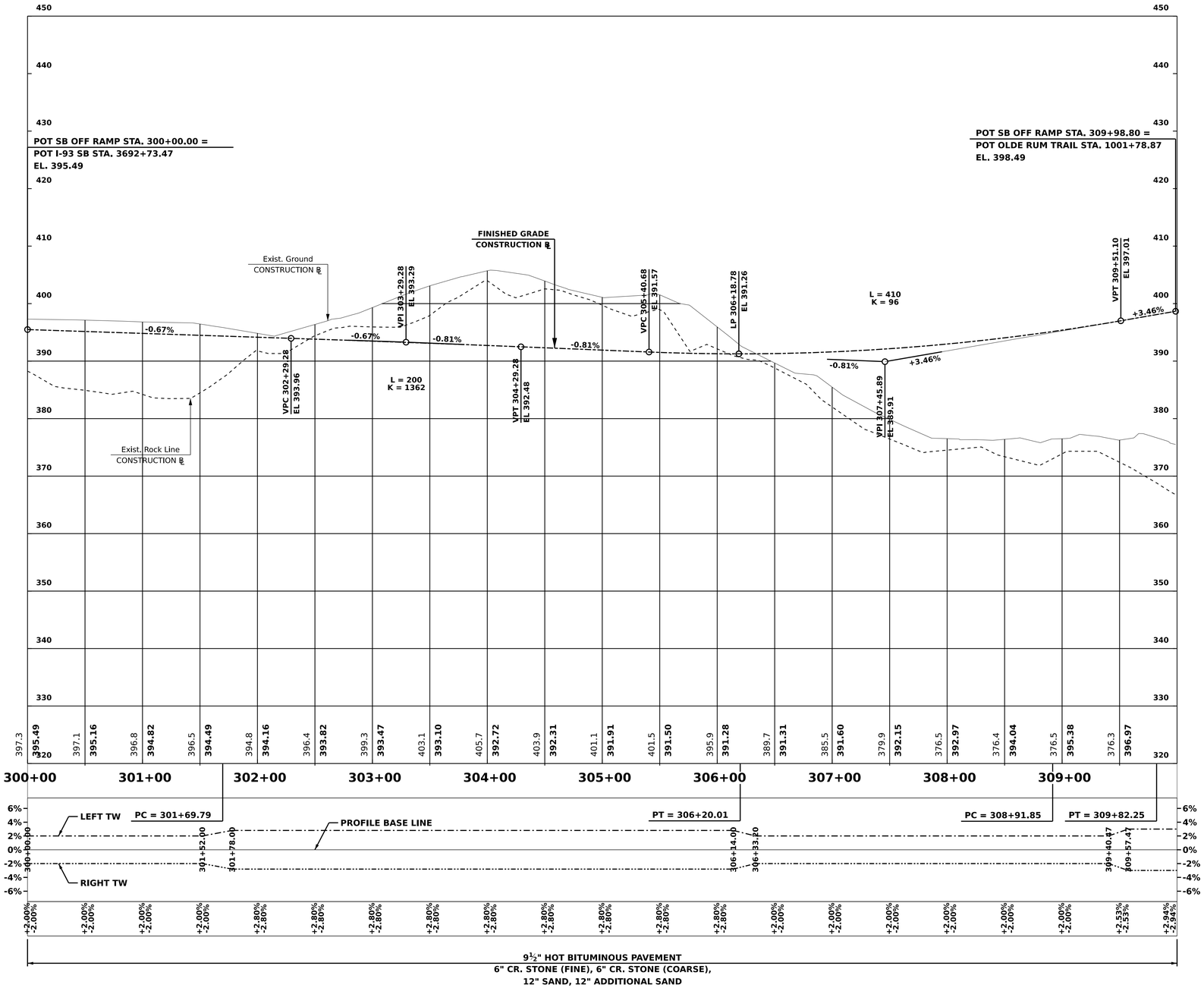
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NB ON RAMP PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	NB On-Pro	13065A_Pro_NB_On	13065A	134	733



VERTICAL SCALE
0
10
20

HORIZONTAL SCALE
0
50
100
150
SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	DESCRIPTION	STATION	STATION

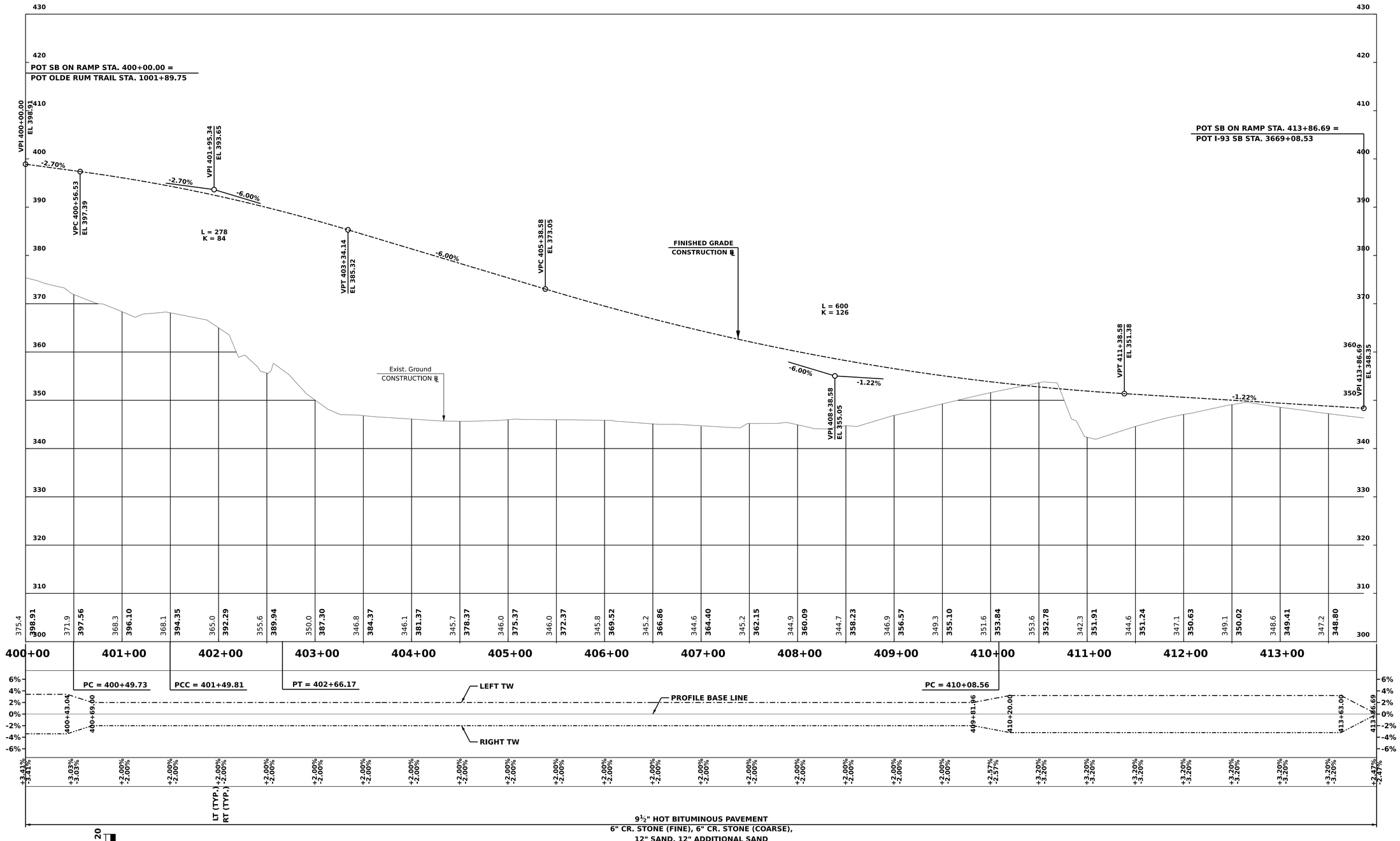
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SB OFF RAMP PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SB Off - Pro	13065A_Pro_SB_Off	13065A	135	733



VERTICAL SCALE
0 10 20

HORIZONTAL SCALE
0 50 100 150
SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	DESCRIPTION	STATION

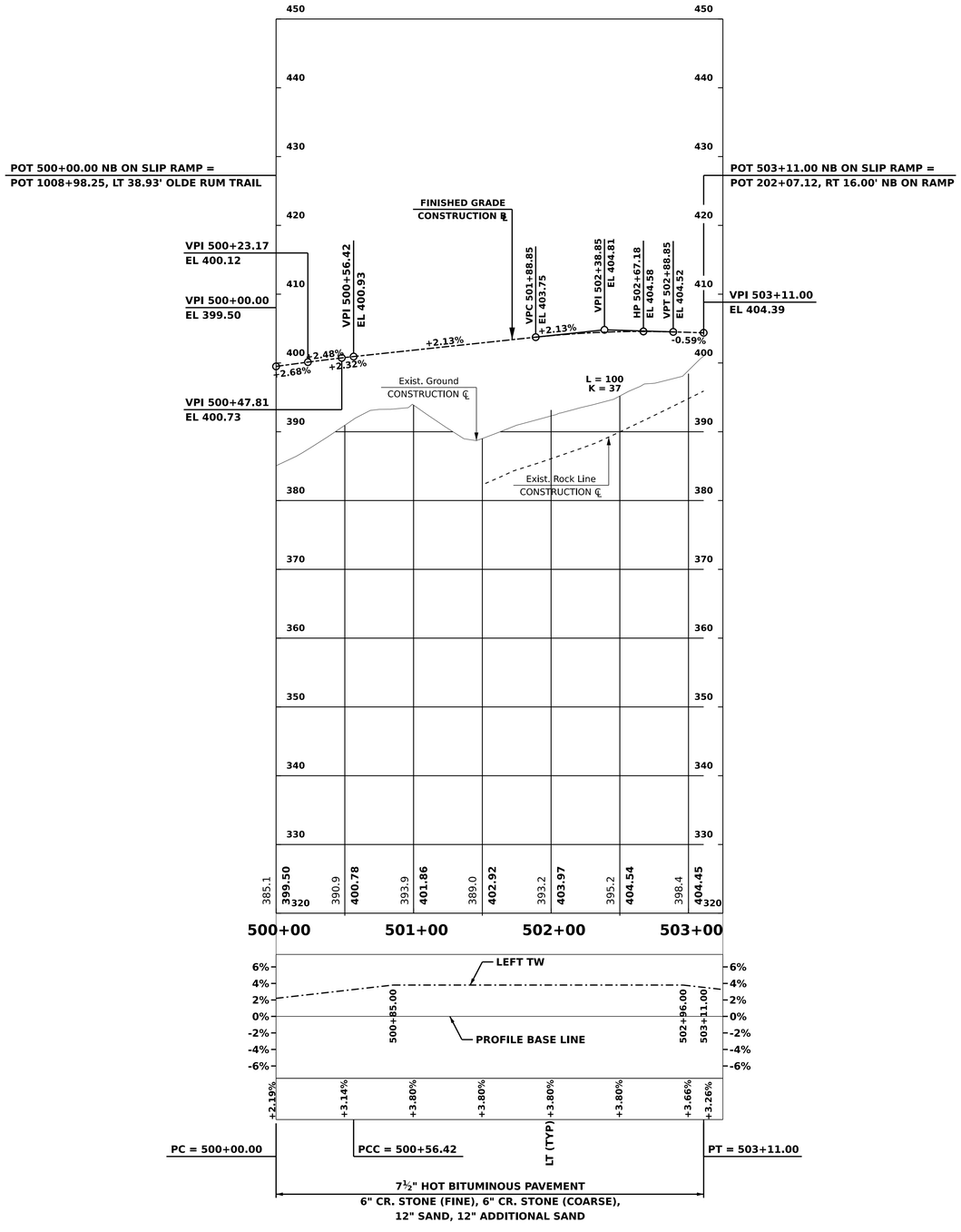
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SB ON RAMP PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	SB_On_PRO	13065A_Pro_SB On	13065A	136	733



VERTICAL SCALE 0 10 20

HORIZONTAL SCALE 0 50 100 150

SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	DESCRIPTION	STATION

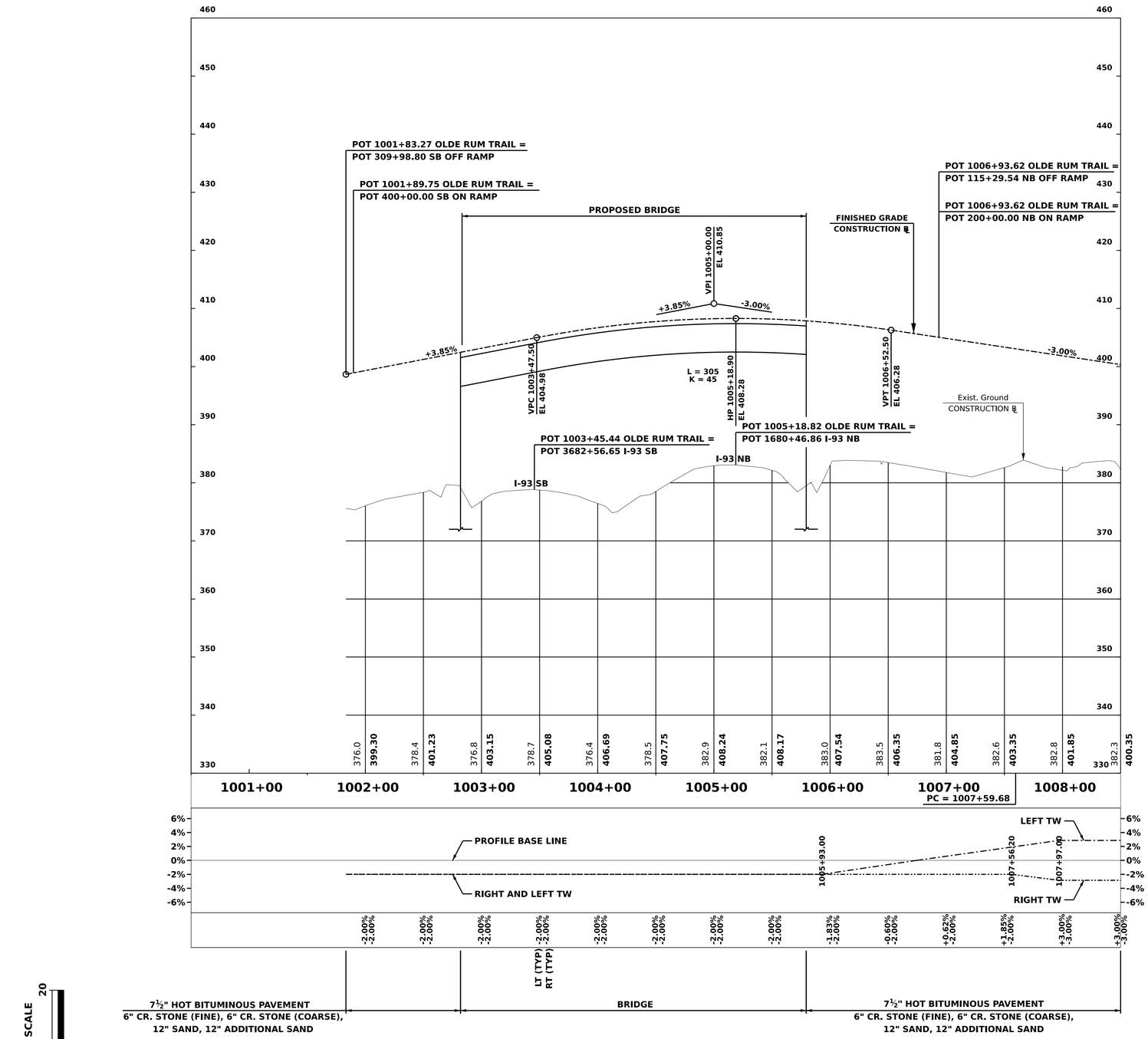
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NB ON SLIP RAMP PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	NB_SLIP	13065A_Pro_Slip	13065A	137	733



SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

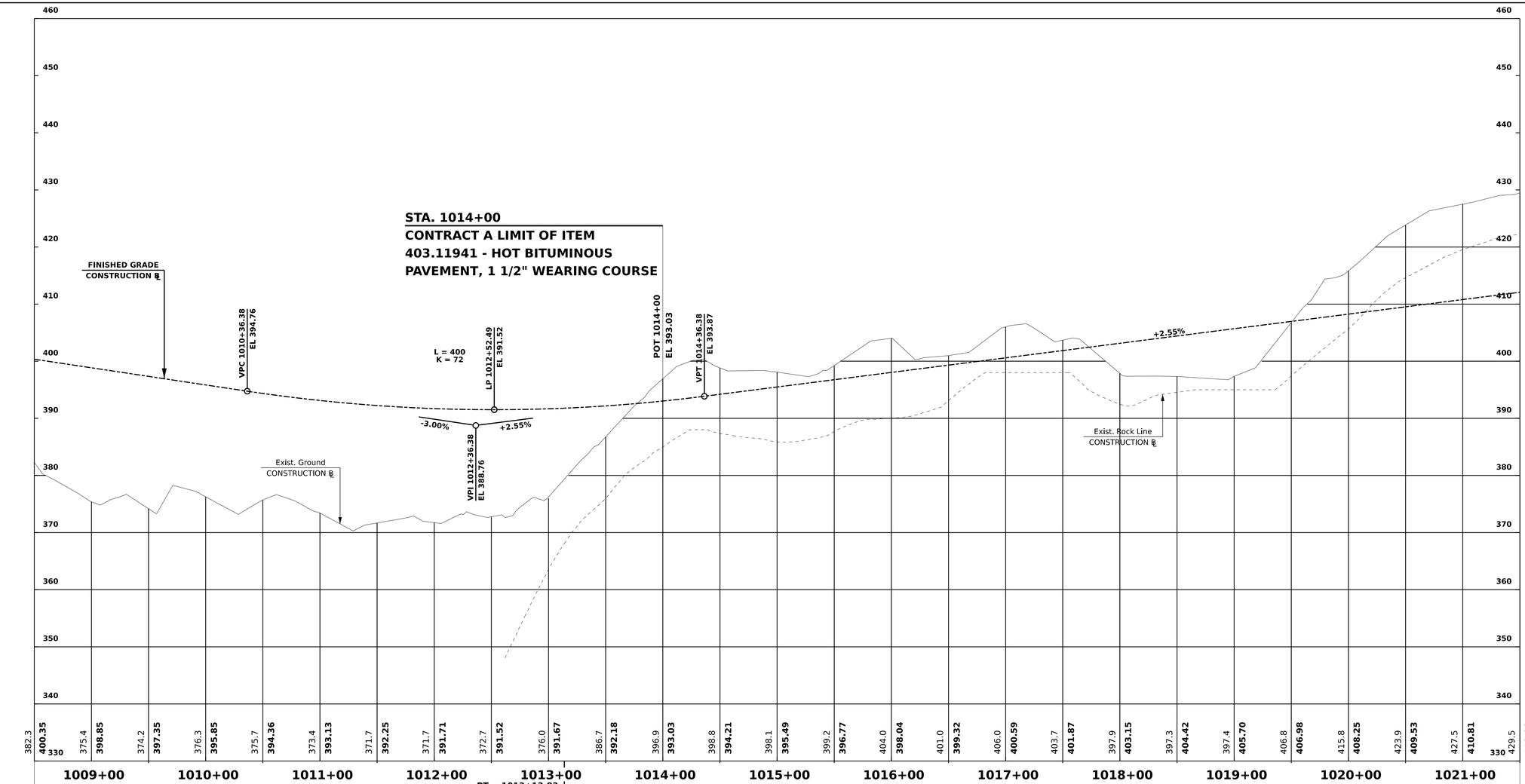
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

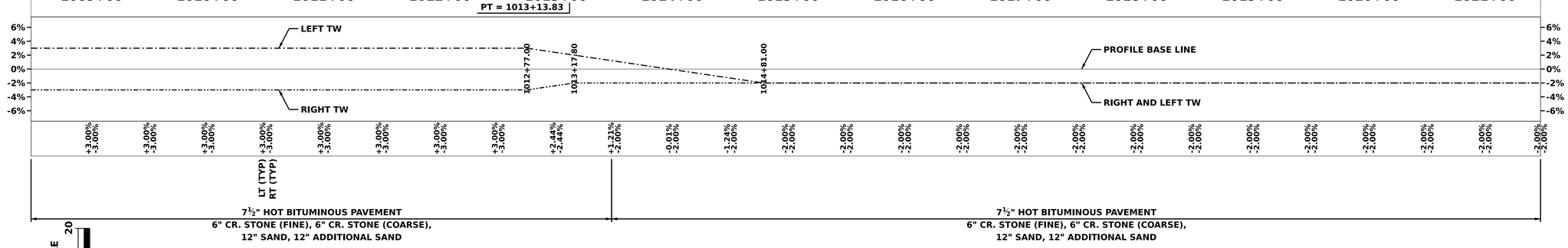
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

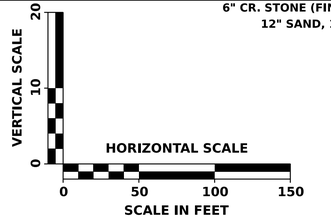
OLDE RUM TRAIL PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	CONN_PRO_1	13065A_Pro_Conn	13065A	138	733

STA. 1014+00
CONTRACT A LIMIT OF ITEM 403.11941 - HOT BITUMINOUS PAVEMENT, 1 1/2" WEARING COURSE







VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

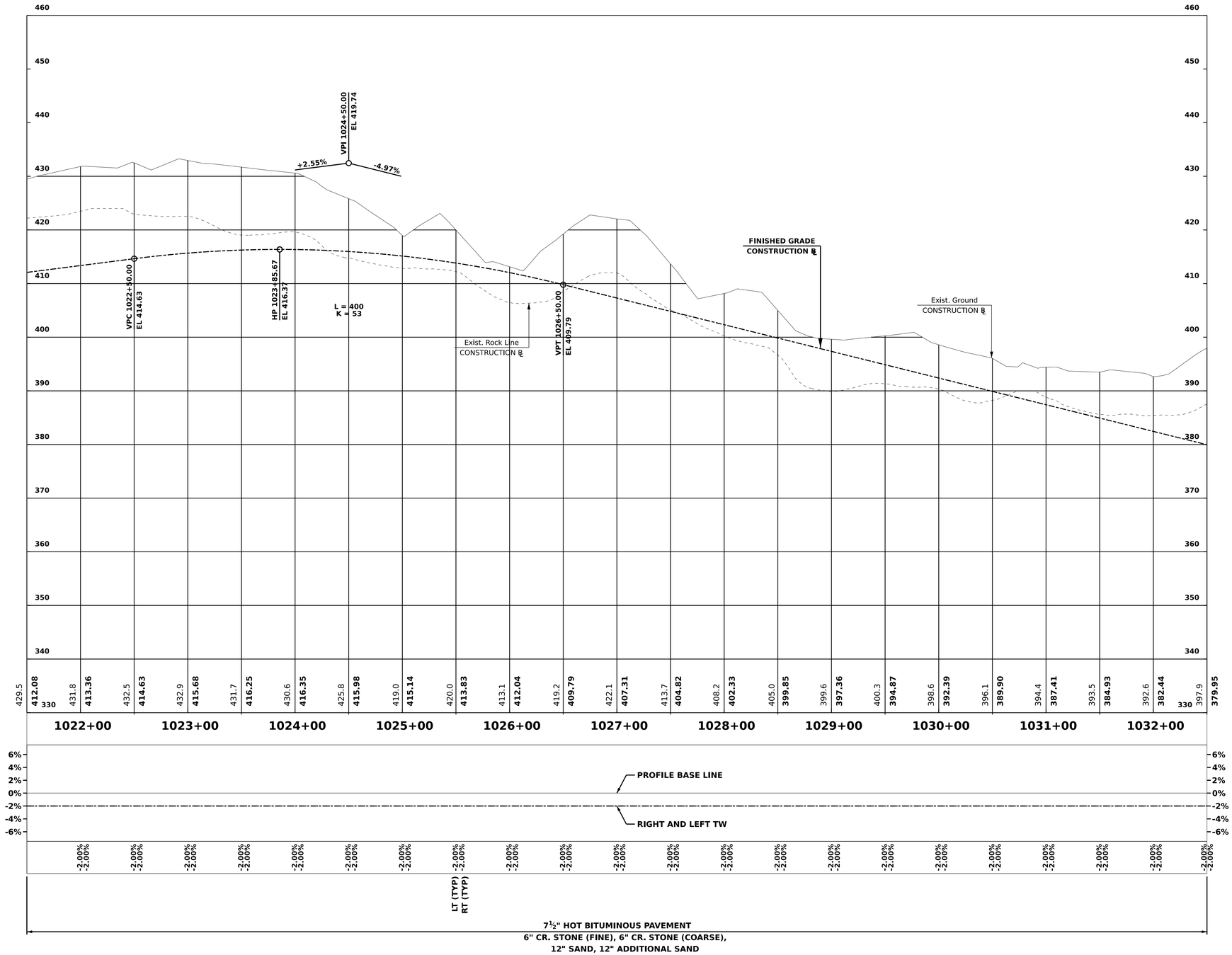
NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

OLDE RUM TRAIL PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	CONN_PRO_2	13065A_Pro_Conn	13065A	139	733



VERTICAL SCALE
0 10 20

HORIZONTAL SCALE
0 50 100 150
SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

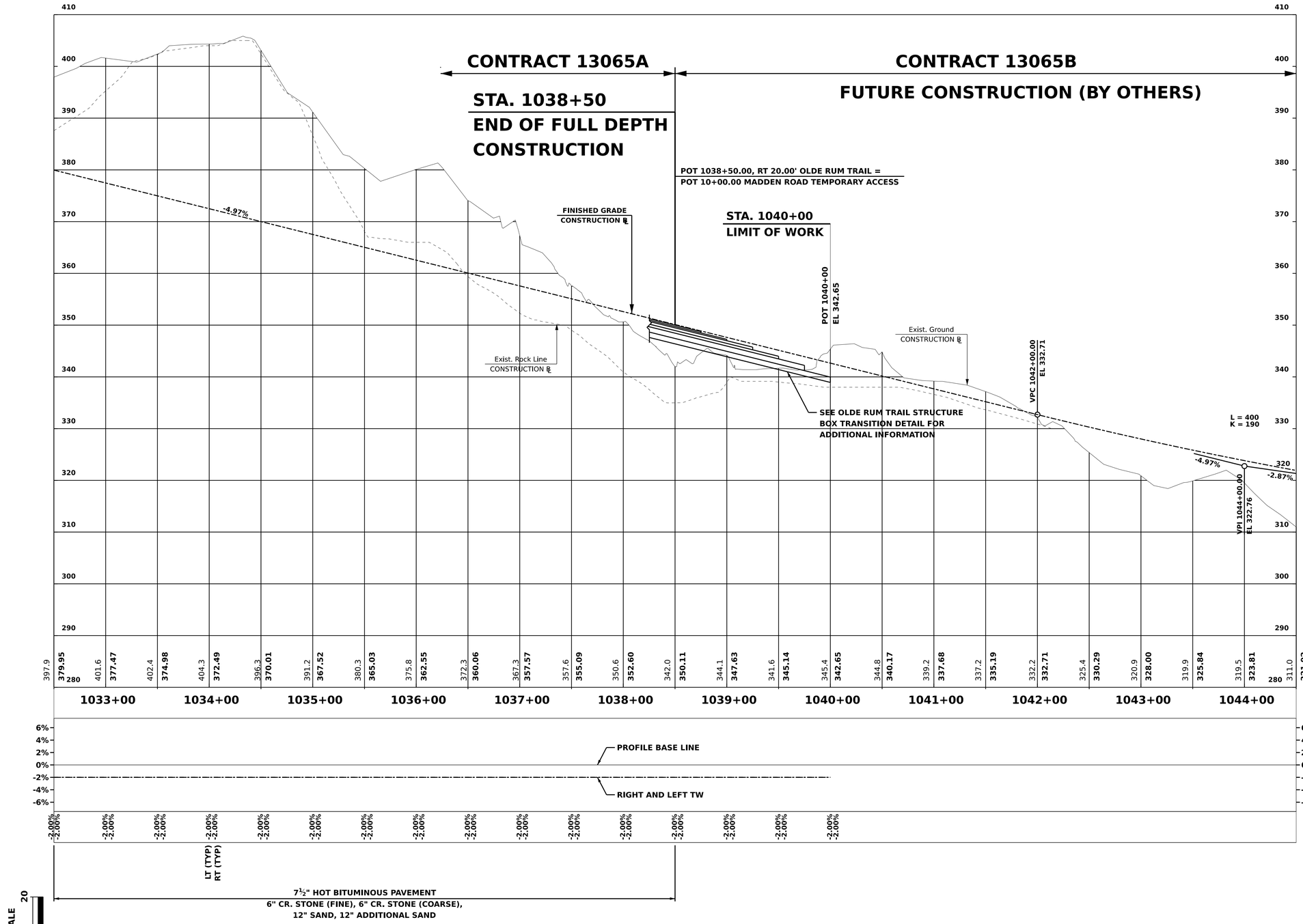
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

OLDE RUM TRAIL PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	CONN_PRO_3	13065A_Pro_Conn	13065A	140	733



VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

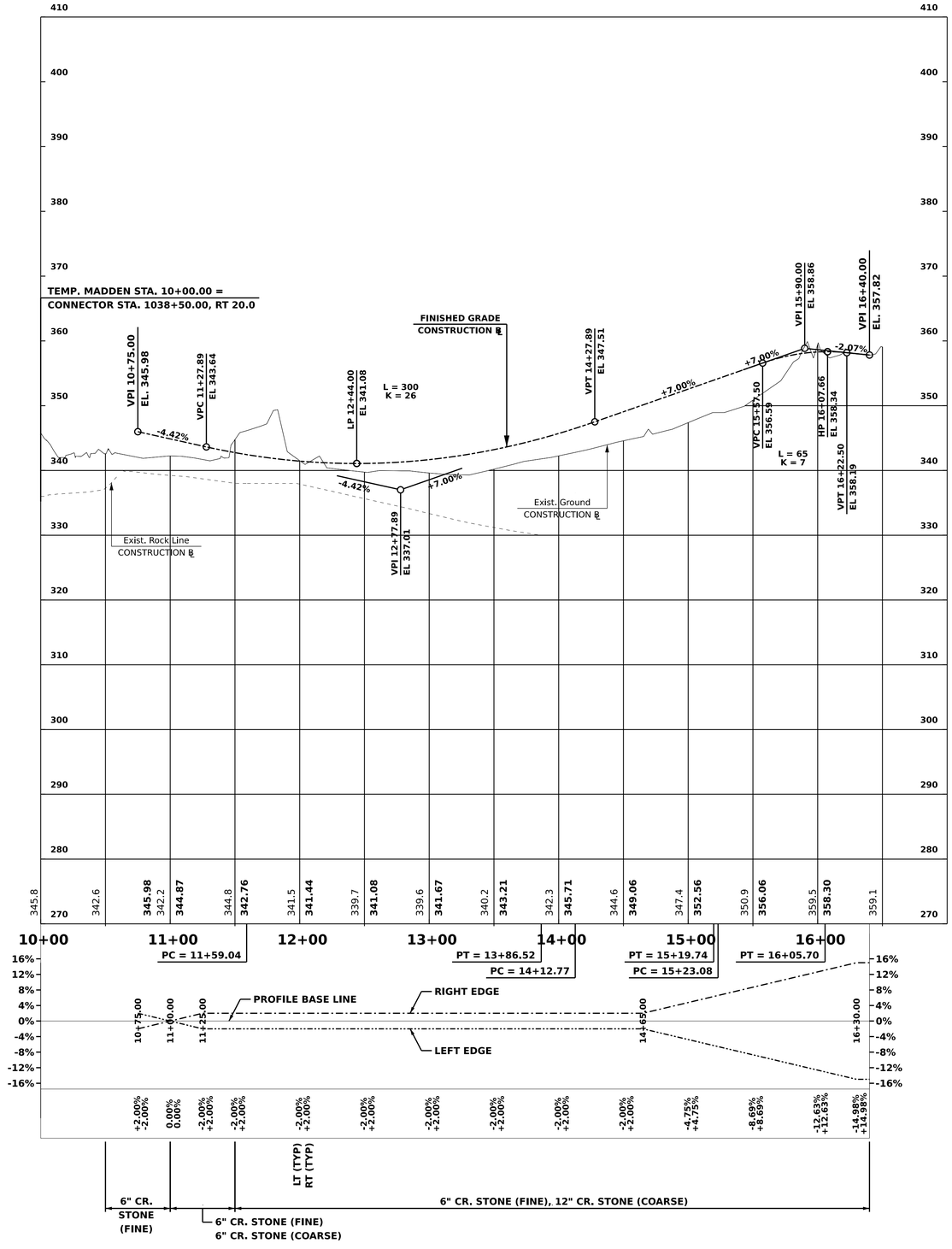
NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

OLDE RUM TRAIL PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	CONN_PRO_4	13065A_Pro_Conn	13065A	141	733



VERTICAL SCALE 0 10 20

HORIZONTAL SCALE 0 50 100 150

SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

MADDEN ROAD PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	Madden Rd [Sheet]	13065A_Pro_Madden	13065A	142	733

DRAINAGE NOTES - INTERSTATE 93 NORTHBOUND

N1
STA. 6000+60.2, LT. 53.4'
CONSTRUCT 8.0 LF X 36" RCP (2000D)
CONNECT TO EXISTING 36" RCP
36" INV. IN = 313.16
36" INV. OUT = 313.07 (FIELD VERIFY)
CONSTRUCT OUTLET CONTROL STRUCTURE AT +60.2, LT. 53.4'
GRATE ELEV. = 318.50
36" INV. OUT = 313.16
(SEE BMP DETAILS)
CONSTRUCT STONE FILL CLASS C (SEE DRAINAGE DETAILS)
REMOVE EXISTING OUTLET CONTROL STRUCTURE (SUBSID.)

N2
B1649
CONSTRUCT DETENTION BASIN
(SEE DETAILS)

N3
STA. 1655+21.8, RT. 34.7'
RECONSTRUCT AND ADJUST CB-B AT +21.8, RT. 34.7'
GRATE ELEV. = 332.80
24" INV. IN = 324.00
30" (EXIST) INV. IN = 318.95
8" UND INV. IN = 326.77
8" UND INV. OUT = 326.77
30" (EXIST) INV. OUT = 318.86
30" CORE HOLE (SUBSID.)
(FIELD VERIFY EXIST)

N4
STA. 1655+21.8, RT. 34.7' TO STA. 1656+98.0, RT. 34.0'
CONST. 175.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +98.0, RT. 34.0'
GRATE ELEV. = 335.60
24" INV. IN = 328.15
8" UND INV. IN = 330.68
8" UND INV. OUT = 330.68
24" INV. OUT = 327.90
REMOVE EXIST 15" PIPE AND CB (SUBSID.)

N5
STA. 100+00.0, LT. 22.8' TO STA. 1665+49.1, RT. 34.3'
CONST. 51.0 LF x 15" PE PIPE (TYPE S)
RECONSTRUCT AND ADJUST CB-B AT +49.1, RT. 34.3'
GRATE ELEV. = 347.91
15" INV. IN (EXIST) = 340.89
15" INV. OUT = 340.89
REMOVE EXISTING 8.0 LF x 15" PE PIPE (SUBSID.)
ADJUST FRAME AND GRATE
(FIELD VERIFY EXIST)

N6
STA. 1679+67.4, RT. 51.2' TO STA. 1680+00.0, RT. 39.8'
CONST. 32.0 LF x 18" PE PIPE (TYPE S)
CONST. 4' MH AT +00.0, RT. 39.8'
COVER ELEV. = 380.20
18" INV. IN = 373.05
18" INV. OUT = 373.05

N7
STA. 1656+98.0, RT. 34.0' TO STA. 1660+00.0, RT. 49.5'
CONST. 304.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 49.5'
GRATE ELEV. = 341.63
24" INV. IN = 333.60
8" UND INV. IN = 336.05
6" UND INV. IN = 336.05
8" UND INV. OUT = 336.05
24" INV. OUT = 333.35

N8
NOT USED

N9
STA. 1660+00.0, RT. 49.5' TO STA. 1662+50.0, RT. 63.4'
CONST. 252.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 63.4'
GRATE ELEV. = 345.92
24" INV. IN = 336.40
6" UND INV. IN = 339.65
8" UND INV. OUT = 340.10
24" INV. OUT = 336.15

N10
STA. 100+00.7, RT. 10.9' TO STA. 101+75.0, RT. 9.1'
CONST. 172.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +75.0, RT. 9.1'
GRATE ELEV. = 350.80
24" INV. IN = 340.70
24" INV. IN = 340.70
24" INV. OUT = 340.45

N11
STA. 101+75.0, RT. 9.1' TO STA. 1666+65.1, RT. 44.9'
CONST. 40.0 LF x 24" RCP (2000D)
CONST. 5' CB - E AT +65.1, RT. 44.9'
GRATE ELEV. = 347.28
15" INV. IN = 341.75
24" INV. OUT = 341.00

N12
STA. 101+75.0, RT. 9.1' TO STA. 103+50.0, RT. 8.9'
CONST. 173.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 8.9'
GRATE ELEV. = 353.50
15" INV. IN = 347.45
15" INV. OUT = 347.20

N13
STA. 103+50.0, RT. 8.9' TO STA. 106+50.0, RT. 8.9'
CONST. 298.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 8.9'
GRATE ELEV. = 365.72
15" INV. IN = 359.67
15" INV. OUT = 359.42

N14
STA. 106+50.0, RT. 8.9' TO STA. 109+50.0, RT. 9.1'
CONST. 297.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 9.1'
GRATE ELEV. = 383.64
15" INV. IN = 377.59
15" INV. OUT = 377.34

N15
STA. 109+50.0, RT. 8.9' TO STA. 112+50.0, RT. 14.9'
CONST. 298.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 14.9'
GRATE ELEV. = 397.18
15" INV. OUT = 391.13

N16
STA. 1662+50.0, RT. 63.4' TO STA. 100+00.7, RT. 10.9'
CONST. 250.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +00.7, RT. 10.9'
GRATE ELEV. = 349.15
24" INV. IN = 339.00
24" INV. IN = 339.00
24" INV. OUT = 338.75

N17
STA. 1672+76.5, RT. 51.9' TO STA. 1673+44.6, RT. 44.8'
MAINTAIN EXIST. MH AT +44.6, RT. 44.8'
RECONSTRUCT AND ADJUST MH AT +76.5, RT. 51.9'
COVER ELEV. = 359.82 (FIELD VERIFY)
RECONSTRUCT EXISTING MANHOLE
18" (EXIST) INV. IN = 348.11
36" (EXIST) INV. IN = 347.65
36" (EXIST) INV. OUT = 347.86
(FIELD VERIFY EXIST)

N18
STA. 1673+44.6, RT. 44.8' TO STA. 1676+49.9, RT. 52.9'
RECONSTRUCT AND ADJUST CB-B AT +49.1, RT. 34.3'
GRATE ELEV. = 367.75
18" (EXIST) INV. IN = 360.01
18" (EXIST) INV. OUT = 359.66
(FIELD VERIFY EXIST)

N19
STA. 1676+49.9, RT. 52.9' TO STA. 1679+67.4, RT. 51.2'
CONST. 8.0 LF x 18" PE PIPE (TYPE S)
CONNECT TO EXIST. 18" PE PIPE
CONST. 4' CB - E AT +67.4, RT. 51.2'
(REQUIRES SLAB TOP)
GRATE ELEV. = 377.35
18" INV. IN = 372.98
6" UND INV. IN = 372.91
18" INV. OUT = 372.15
REMOVE EXIST. CB AT +68.0, RT. 51.3' (SUBSID.)
REMOVE EXISTING 8.0 LF x 18" PE PIPE (SUBSID.)
(FIELD VERIFY EXISTING)

N20
STA. 1680+00.0, RT. 39.8' TO STA. 1682+47.0, RT. 50.6'
CONST. 8.0 LF x 15" PE PIPE (TYPE S)
CONNECT TO EXIST. 15" PE PIPE
CONST. 245.0 LF x 18" PE PIPE (TYPE S)
MAINTAIN EXIST. CB AT +47.0, RT. 50.6'
RECONSTRUCT AND ADJUST CB-B AT +47.0, RT. 50.6'
GRATE ELEV. = 386.07
15" (EXIST) INV. IN = 381.53
6" UND (EXIST) INV. IN = 382.81
6" UND (EXIST) INV. IN = 382.81
18" INV. OUT = 381.30
REMOVE EXISTING 280.0 LF x 18" PE PIPE (SUBSID.)
REMOVE EXISTING 8.0 LF x 15" PE PIPE (SUBSID.)
(FIELD VERIFY EXIST)

N21
STA. 1682+47.0, RT. 50.6' TO STA. 1685+49.5, RT. 50.9'
MAINTAIN EXIST. CB AT +49.5, RT. 50.9'
ADJUST FRAME AND GRATE
GRATE ELEV. = 393.14
15" INV. IN = 388.88
6" UND INV. IN = 390.31
6" UND INV. OUT = 390.31
15" (EXIST) INV. OUT = 388.74
(FIELD VERIFY EXIST)

N22
STA 1685+49.5, RT. 50.9' TO STA 206+40.0, RT. 10.6'
CONST. 49.0 LF x 15" RCP (2000D)
CONST. 5' CB - B AT +40.0, RT. 9.1'
GRATE ELEV. = 397.54
15" INV. IN = 390.84
15" INV. OUT = 390.59

N23
STA. 206+40.0, RT. 10.6' TO STA. 206+95.1, RT. 8.9'
CONST. 53.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B AT +95.1, RT. 8.9'
GRATE ELEV. = 397.40
15" INV. IN = 391.35
15" INV. IN = 391.35
15" INV. OUT = 391.10

N24
STA. 206+95.1, RT. 8.9' TO STA. 207+50.0, RT. 8.9'
CONST. 53.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B AT +50.0, RT. 8.9'
GRATE ELEV. = 397.73
15" INV. OUT = 392.50

N25
STA. 1686+50.0, RT. 49.7' TO STA. 1688+50.0, RT. 32.1'
CONST. 198.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 32.1'
GRATE ELEV. = 400.43
6" UND INV. IN = 393.85
6" UND INV. OUT = 394.75
15" INV. OUT = 393.40
(FIELD VERIFY EXISTING)

N26
STA. 1685+49.5, RT. 50.9' TO STA. 1686+50.0, RT. 49.7'
CONST. 98.0 LF x 15" PE PIPE (TYPE S)
CONST. 5' CB - E AT +50.0, RT. 49.7'
GRATE ELEV. = 394.97
15" INV. IN = 390.34
15" INV. IN = 390.34
15" INV. OUT = 390.09

NUMBER	DESCRIPTION	STATION	DATE
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_01	13065A	143	733

DRAINAGE NOTES - INTERSTATE 93 NORTHBOUND

N27
STA. 108+19.8, RT. 108.6' TO STA. 1672+76.5, RT. 51.9'
MAINTAIN EXIST. MH AT +77.0, RT. 51.9'
REMOVE EXIST. MH FRAME & COVER (SUBSID.)
CONST. 8' CB-E FRAME & GRATE AT +76.5, RT. 51.9'
CONST. 180.0 LF x 42" RCP (3000D)
GRATE ELEV. = 356.50
36" INV. IN = 347.26
42" INV. OUT = 347.07
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +19.8, RT. 108.6'
42" INV. OUT = 346.32
REMOVE EXISTING HEADWALL AT +20.0, RT 108.6' (SUBSID.)
REMOVE EXISTING 180.0 LF x 42" PE PIPE (SUBSID.)

N28
STA. 206+95.1, RT. 8.9' TO STA. 206+95.1, RT. 22.0'
CONST. 10.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +95.1, RT. 22.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 395.88
6" UND INV. IN = 391.58
6" UND INV. OUT = 391.58
15" INV. OUT = 391.40

N29
STA. 100+00.7, RT. 10.9' TO STA. 100+00.0, LT. 22.8'
CONST. 30.0 LF x 24" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 22.8'
GRATE ELEV. = 347.95
15" INV. IN = 340.25
24" INV. OUT = 339.50

N30
STA. 1663+21.9, RT. 59.6' TO STA. 1663+49.7, RT. 95.6'
CONST. 46.0 LF x 30" RCP (2000D)
CONNECT TO EXIST. 30" RCP
30" INV. OUT = 331.78
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +49.7, RT. 95.6'
30" INV. IN = 332.14

N31
STA. 1667+60.2, RT 61.2' TO STA. 102+71.5, RT. 37.7'
CONST. 60.0 LF x 24" RCP (2000D)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +71.5, RT. 37.7'
24" INV. IN = 336.38
CONNECT TO EXIST. 24" RCP AT +60.2, RT 61.2'
24" INV. OUT = 335.12

N32
STA. 1666+65.1, RT. 44.9' TO STA. 1668+70.2, RT. 44.5'
CONST. 204.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +70.2, RT. 44.5'
GRATE ELEV. = 348.27
15" INV. OUT = 343.00

N33
STA. 7000+71.2, LT., 29.3' TO STA. 7000+17.2, LT. 30.3'
CONSTRUCT 54.0 LF X 30" RCP (2000D)
CONSTRUCT OUTLET CONTROL STRUCTURE AT +71.2, LT., 29.3'
GRATE ELEV. = 348.20
30" INV. OUT = 341.00
(SEE BMP DETAILS)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +68.7, RT. 83.1'
30" INV. OUT = 340.00
CONSTRUCT STONE FILL CLASS C (SEE DRAINAGE DETAILS)
REMOVE EXISTING OUTLET CONTROL STRUCTURE (SUBSID.)

N34
STA. 1678+07.9, RT. 57.7' TO STA. 113+68.7, RT. 83.1'
CONST. 199.0 LF x 36" RCP (3000D)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +68.7, RT. 83.1'
36" INV. IN = 363.60
CONST. 5' MH AT +07.9, RT. 57.7'
COVER ELEV. = 373.13
36" INV. IN = 361.99
36" INV. OUT (EXIST.) = 361.99 (FIELD VERIFY)

N35
STA. 208+00.0, RT. 74.5' TO STA. 4001+55.00, LT. 12.4'
CONST. 99.0 LF x 24" RCP PIPE (2000D)
CONSTRUCT OUTLET CONTROL STRUCTURE AT +55.00, LT. 12.4'
GRATE ELEV. = 420.00
24" INV. OUT = 413.25
(SEE BMP DETAILS)

N36
STA. 1691+75.0, RT. 107.1' TO STA. 5001+44.6, LT. 10.3'
CONST. 33.0 LF x 24" PE PIPE (TYPE S)
CONSTRUCT OUTLET CONTROL STRUCTURE
GRATE ELEV. = 419.00
24" INV. OUT = 412.00
CONST. 10' INLET SWALE DEPTH W/ CLASS C STONE
(SEE BMP DETAILS)

N37
1693+71.6, RT. 98.6' TO STA. 1691+74.9, RT. 107.0'
CONST. 197.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - E AT +74.9, RT. 107.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 404.38
24" INV. IN = 399.75
24" INV. IN = 399.75
24" INV. OUT = 399.40

N38
STA. 1693+89.2, RT. 47.7' TO STA. 1693+71.6, RT. 98.6'
CONST. 51.0 LF x 24" RCP (2000D)
CONST. 4' CB - E AT +71.6, RT. 98.3'
GRATE ELEV. = 401.81
24" INV. IN = 396.13
24" INV. OUT = 395.88

N39
STA. 1698+18.8, RT. 63.6' TO STA. 1696+00.0, RT. 68.0'
CONST. 221.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, RT. 68.0'
GRATE ELEV. = 396.96
6" UND INV. IN = 394.00
15" INV. OUT = 393.00

N40
STA. 1698+60.4, RT. 106.1' TO STA. 1698+18.8, RT. 63.6'
CONST. 74.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +18.8, RT. 64.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 395.04
6" UND INV. IN = 392.90
15" INV. IN = 391.40
15" INV. OUT = 391.40
CONST. 15" ALUM. STEEL END SECTION AT +60.4, RT. 106.1'
15" INV. OUT = 391.00
CONST. STONE FILL CLASS C (SEE DETAILS)

N41
STA. 1702+20.0, RT. 94.1' TO STA. 1701+86.0, RT. 50.6'
MAINTAIN EXIST. CB AT +86.0, RT. 50.6'
ADJUST EXIST. FRAME AND GRATE
GRATE ELEV. = 392.97
30" (EXIST) INV. IN = 383.51
CONST. 54.0 LF x 30" RCP PIPE (2000D)
30" INV. OUT = 383.81
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +20.0, RT. 94.1'
30" INV. OUT = 383.44
CONST. STONE FILL CLASS C (SEE DETAILS)

N42
STA. 1691+74.9, RT. 107.0' TO STA. 208+00.0, RT. 74.5'
CONST. 360.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - E AT +00.0, RT. 72.5'
(REQUIRES SLAB TOP)
GRATE ELEV. = 417.84
24" INV. IN = 412.75
24" INV. OUT = 412.50

N43
STA. 108+24.9, RT. 58.8' TO STA. 109+08.7, RT. 71.7'
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +08.7, RT. 71.7'
CONST. 85.0 LF x 24" PE PIPE (TYPE S)
24" INV. IN = 350.26

N44
STA. 105+25.0, RT. 44.4' TO STA. 108+24.9, RT. 58.8'
CONST. 298.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' MH AT +24.9, RT. 58.8'
(REQUIRES SLAB TOP)
COVER ELEV. = 354.18
24" INV. IN = 349.00
24" INV. OUT = 342.75

N45
STA. 104+46.3, RT. 63.2' TO STA. 105+25.0, RT. 44.4'
CONST. 80.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' MH AT +25.0, RT. 44.4'
COVER ELEV. = 345.79
24" INV. IN = 340.00
24" INV. OUT = 340.00
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +46.3, RT. 63.2'
24" INV. OUT = 338.00
CONST. STONE FILL CLASS C (SEE DETAILS)

N46
STA. 1713+68.6, RT. 51.2' TO STA. 1714+12.4, RT. 86.0'
CONST. 10.0 LF x 24" RCP (2000D)
CONNECT TO EXIST. 24" RCP
CONST. 4' MH AT +68.6, RT. 59.5'
CONST. 52.8 LF x 24" RCP (2000D)
GRATE ELEV. = 396.47
24" INV. IN = 384.90
24" INV. OUT = 384.86
CONST. HEADWALL TYPE P.C.-7 AT +12.4, RT. 86.0'
24" INV. OUT = 384.60
CONST. STONE FILL CLASS C (SEE DETAILS)
(FIELD VERIFY EXIST)

N47
STA. 4001+96.0, RT. 40.1' TO STA. 4001+48.4, RT. 21.3'
CONST. 4' CB - G AT +96.0, RT. 40.1'
(REQUIRES SLAB TOP)
CONST. 51.2 LF x 15" RCP (2000D)
GRATE ELEV. = 423.95
15" INV. OUT = 418.00
CONST. 18" ALUM. STEEL END SECTION AT +48.4, RT. 21.3'
15" INV. OUT = 417.50
CONST. STONE FILL CLASS C (SEE DETAILS)

N48
B1670
CONSTRUCT PRETREATMENT FOREBAY WITH
EMERGENCY SPILLWAY (SEE DETAILS)
CONSTRUCT SEDIMENT SUMP MEASURING BLOCK

N49
STA. 1693+88.7, RT. 50.6'
CONST. 4' CB - B AT +88.7, LT. 50.6'
GRATE ELEV. = 401.37
24" INV. IN = 395.30
6" UND (EXIST) INV. OUT = 396.51
6" UND (EXIST) INV. IN = 397.06
24" (EXIST) INV. OUT = 395.30
(FIELD VERIFY EXIST)

N50
STA. 1691+75.0, RT. 107.1' TO STA. 1691+75.0, RT. 151.6'
CONST. 42.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' MH AT +75.0, RT. 151.6'
COVER ELEV. = 414.50
24" INV. IN = 405.00
24" INV. OUT = 404.75

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_02	13065A	144	733

DRAINAGE NOTES - INTERSTATE 93 SOUTHBOUND

S1 STA. 3657+65.6, LT. 48.1' TO STA. 3657+65.7, LT. 58.0'
CONST. 10.0 LF x 24" RCP (2000D)
CONST. 5' CB - E AT +65.7, LT. 58.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 328.33
24" INV. IN = 322.90
6" UND INV. IN = 325.09
8" UND INV. IN = 325.09
24" INV. OUT = 322.65
CONNECT TO EXIST 24" RCP
REMOVE 8.0 LF OF EXIST. 24" RCP (SUBSID.)
(FIELD VERIFY EXIST)

S2 STA. 3657+65.7, LT. 58.0' TO STA. 3660+00.0, LT. 62.8'
CONST. 228.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, LT. 62.8'
GRATE ELEV. = 331.65
24" INV. IN = 325.50
24" INV. OUT = 325.25

S3 STA. 3660+00.0, LT. 62.8' TO STA. 3662+50.0, LT. 67.8'
CONST. 243.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - E AT +50.0, LT. 67.8'
(REQUIRES SLAB TOP)
GRATE ELEV. = 335.19
24" INV. IN = 330.82
8" UND INV. IN = 332.89
24" INV. OUT = 329.25
SEE S30 FOR CLEARANCE REQUIREMENT

S4 STA. 3662+50.0, LT. 67.8' TO STA. 3666+00.0, LT. 74.8'
CONST. 340.0 LF x 24" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, LT. 74.8'
(REQUIRES SLAB TOP)
GRATE ELEV. = 339.87
24" INV. IN = 335.50
24" INV. OUT = 335.50
SEE S30 FOR CLEARANCE REQUIREMENT

S5 STA. 3666+00.0, LT. 74.8' TO STA. 413+75.7, RT. 23.0'
CONST. 315.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - E AT +75.7, RT. 23.0'
GRATE ELEV. = 346.40
24" INV. IN = 339.70
24" INV. IN = 339.70
24" INV. OUT = 339.45

S6 STA. 413+75.7, RT. 23.0' TO STA. 3669+19.9, LT. 34.3'
CONST. 42.0 LF x 24" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +19.9, LT. 34.3'
GRATE ELEV. = 348.98
24" INV. OUT = 340.50

S7 STA. 3672+00.0, LT. 45.1' TO STA. 3671+50.0, LT. 42.9'
CONST. 48.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +50.0, LT. 42.9'
GRATE ELEV. = 350.82
6" UND INV. IN = 345.72
8" UND INV. OUT = 347.44
15" INV. OUT = 345.44

S8 STA. 411+00.0, RT. 8.9' TO STA. 3672+00.0, LT. 45.1'
CONST. 31.0 LF x 24" RCP (2000D)
CONST. 5' CB - E AT +00.0, LT. 45.1'
GRATE ELEV. = 350.88
15" INV. IN = 345.21
24" INV. OUT = 344.96

S9 STA. 413+75.7, RT. 23.0' TO STA. 411+00.0, RT. 8.9'
CONST. 271.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 8.9'
GRATE ELEV. = 351.52
15" INV. IN = 344.72
24" INV. IN = 344.72
24" INV. OUT = 344.47

S10 STA. 411+00.0, RT. 8.9' TO STA. 408+00.0, RT. 8.9'
CONST. 297.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 8.9'
GRATE ELEV. = 359.79
15" INV. IN = 353.74
15" INV. OUT = 353.49

S11 STA. 408+00.0, RT. 8.4' TO STA. 405+00.0, RT. 13.5'
CONST. 298.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 13.5'
GRATE ELEV. = 374.97
15" INV. IN = 368.92
15" INV. OUT = 368.67

S12 STA. 405+00.0, RT. 14.0' TO STA. 402+00.0, RT. 14.9'
CONST. 299.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 14.9'
GRATE ELEV. = 391.88
15" INV. OUT = 385.83

S13 STA. 3677+49.5, LT. 53.4'
MAINTAIN EXIST. CB AT +50.0, LT. 52.3'
ADJUST FRAME AND GRATE
GRATE ELEV. = 360.28
18" (EXIST) INV. IN = 355.67
24" (EXIST) INV. OUT = 355.28
(FIELD VERIFY EXIST)

S14 STA. 3680+52.0, LT. 52.5'
MAINTAIN EXIST. CB AT +51.9, LT. 52.5'
RECONSTRUCT AND ADJUST CB-B AT +51.9, LT 52.5'
GRATE ELEV. = 369.00
18" INV. IN = 364.66
18" (EXIST) INV. IN = 364.84
6" UND (EXIST) INV. IN = 366.09
6" UND (EXIST) INV. OUT = 366.09
18" (EXIST) INV. OUT = 364.43
(FIELD VERIFY EXIST)

S15 STA. 3680+51.9, LT. 52.5' TO STA. 3682+00.0, LT. 40.5'
CONST. 147.0 LF x 18" PE PIPE (TYPE S)
CONST. 4' MH AT +00.0, LT. 40.5'
CONNECT TO EXIST. CB AT +52.0, LT. 52.5' (SUBSID.)
COVER ELEV. = 375.62
18" INV. IN = 369.00
18" INV. OUT = 368.75

S16 STA. 3682+00.0, LT. 40.5' TO STA. 3683+49.1, LT. 52.6'
MAINTAIN EXIST. CB AT +49.1, LT. 52.6'
CONST. 148.0 LF x 18" PE PIPE (TYPE S)
CONNECT TO EXIST. CB AT +49.1, LT. 52.6' (SUBSID.)
RECONSTRUCT AND ADJUST CB-B AT +49.1, LT. 52.6'
GRATE ELEV. = 378.06
15" (EXIST) INV. IN = 373.79
6" UND (EXIST) INV. IN = 375.18
6" UND (EXIST) INV. OUT = 375.18
18" INV. OUT = 373.63
REMOVE EXISTING 295.0 LF x 18" PE PIPE
(FIELD VERIFY EXIST)

S17 STA. 3683+49.1, LT. 52.6' TO STA. 3686+00.0, LT. 53.6'
RECONSTRUCT AND ADJUST CB-B AT +50.0, LT. 53.6'
ADJUST FRAME AND GRATE
GRATE ELEV. = 384.28
15" INV. IN = 380.00
15" INV. (EXIST) IN = 380.00 (CORE HOLE SUBSID.)
6" UND (EXIST) INV. IN = 381.30
6" UND (EXIST) INV. OUT = 381.80
15" INV. OUT = 379.95
(FIELD VERIFY EXIST)

S18 STA. 3686+00.0, LT. 53.6' TO STA. 306+62.0, RT. 14.9'
CONST. 94.0 LF x 15" RCP (2000D)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +62.0, RT. 14.9'
GRATE ELEV. = 390.98
15" INV. IN = 383.71
15" INV. IN = 383.71
15" INV. OUT = 383.46
6" UND INV. IN = 385.00

S19 STA. 306+62.0, RT. 14.9' TO STA. 308+98.5, RT. 14.9'
CONST. 235.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +98.5, RT. 14.9'
GRATE ELEV. = 394.92
15" INV. OUT = 388.87

S20 STA. 306+62.0, RT. 14.9' TO STA. 306+19.2, RT. 14.9'
CONST. 42.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +19.2, RT. 14.9'
GRATE ELEV. = 390.76
15" INV. IN = 384.22
15" INV. OUT = 383.97
6" UND INV. IN = 385.20
6" UND INV. OUT = 385.15

S21 STA. 306+19.2, RT. 14.9' TO STA. 305+76.0, RT. 14.9'
CONST. 41.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +76.0, RT. 14.9'
GRATE ELEV. = 390.87
15" INV. IN = 384.73
15" INV. OUT = 384.48
6" UND INV. IN = 385.35
6" UND INV. OUT = 385.30

S22 STA. 305+76.0, RT. 14.9' TO STA. 304+80.1, RT. 28.0'
CONST. 95.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +80.0, RT. 28.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 389.97
15" INV. OUT = 385.90
6" UND INV. OUT = 387.00

S23 STA. 301+18.9, LT. 20.9'
RECONSTRUCT AND ADJUST CB-B AT +18.9, LT. 20.9'
ADJUST FRAME AND GRATE
GRATE ELEV. = 394.99
15" INV. IN = 385.26
6" UND INV. IN = 387.00
15" (FIELD VERIFY EXIST) INV. OUT = 385.21

S24 STA. 301+19.0, LT. 20.9' TO STA. 301+21.0, RT. 22.0'
CONST. 42.0 LF X 15" RCP (2000D)
CONST. 4' CB - E AT +21.0, RT. 22.0'
(REQUIRES SLAB TOP)
GRATE ELEV. = 392.90
15" INV. IN = 386.65
15" INV. OUT = 386.40

S24A STA. 301+21.4, RT. 22.0' TO STA. 301+10.5, RT. 61.1'
CONST. HEADWALL TYPE P.C.-1 AT +10.5, RT. 61.1'
CONST. STONE FILL CLASS C (SEE DETAILS)
CONST. 41.0 LF x 15" PE PIPE (TYPE S)
15" INV. IN = 388.50

S25 STA. 3688+49.1, LT. 52.2'
MAINTAIN EXIST. CB AT +49.1, LT. 52.2'
ADJUST FRAME AND GRATE
GRATE ELEV. = 389.30
6" UND (EXIST) INV. IN = 385.53
6" UND (EXIST) INV. OUT = 385.53
(FIELD VERIFY EXIST)

S26 STA. 1002+49.4, RT. 75.5' TO STA. 1002+30.4, RT. 30.9'
CONST. 62.0 LF x 15" CORR. POLYETHYLENE PIPE FOR SLOPE DRAINAGE
CONST. 4' CB - B W/ ECCENTRIC CONE AT +30.4, RT. 30.9'
GRATE ELEV. = 399.74
15" INV. OUT = 394.90
CONST. 18" ALUM. STEEL END SECTION AT +49.4, RT. 75.5'
18" INV. OUT = 379.90
CONST. STONE FILL CLASS C (SEE DETAILS)

S27 STA. 1002+31.6, LT. 86.6' TO STA. 1002+15.8, LT. 30.4'
CONST. 60.0 LF x 15" CORR. POLYETHYLENE PIPE FOR SLOPE DRAINAGE
CONST. 4' CB - B W/ ECCENTRIC CONE AT +15.8, LT. 29.8'
GRATE ELEV. = 399.23
15" INV. OUT = 393.80
CONST. 18" ALUM. STEEL END SECTION AT +15.8, LT. 86.6'
18" INV. OUT = 381.50
CONST. STONE FILL CLASS C (SEE DETAILS)

NUMBER	DESCRIPTION	STATION	DATE

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_03	13065A	145	733

DRAINAGE NOTES - INTERSTATE 93 SOUTHBOUND

S28
STA. 3680+03.6, LT. 62.6'
RECONSTRUCT AND ADJUST MH AT +03.6, LT. 62.6'
ADJUST FRAME AND COVER
COVER ELEV. = 368.57
36" (EXIST) INV. IN = 355.64
36" (EXIST) INV. OUT = 350.56
(FIELD VERIFY EXIST)

S29
NOT USED

S30
STA. 3663+39.3, LT. 105.1' TO STA. 3663+61.6, LT. 55.2'
CONST. 4' MH AT +62.0, LT. 55.3'
CONNECT TO EXIST. 30" RCP AT +61.6, LT. 55.2' (FIELD VERIFY)
COVER ELEV. = 339.11
30" INV. OUT = 329.00
CONST. 60.0 LF x 30" RCP (2000D)
CONST. HEADWALL TYPE P.C.-7 AT +39.3, LT. 105.1'
30" INV. OUT = 328.80
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE EXIST. HW AT +62.0, LT. 64.2' (SUBSID.)
SEE S3 AND S4 FOR CLEARANCE REQUIREMENT

S31
STA. 3669+11.3, LT. 121.7' TO STA. 3668+99.7, LT. 66.2'
CONST. 4' MH AT +00.0, LT. 66.2'
CONNECT TO EXIST. 24" RCP AT +99.7, LT. 66.2'
COVER ELEV. = 347.76
24" INV. OUT = 332.64
CONST. 61.0 LF x 24" RCP (2000D)
CONST. HEADWALL TYPE P.C.-7 AT +11.3, LT. 121.7'
24" INV. OUT = 332.34
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE EXIST. HW AT +99.9, LT. 76.6' (SUBSID.)

S32
STA. 404+87.4, RT. 62.6' TO STA. 3679+50.0, LT. 100.6'
CONST. 192.0 LF x 36" RCP (3000D)
CONNECT TO EXIST. 12" RCP AT +50.0, LT. 100.6'
36" INV. IN = 349.91
CONST. HEADWALL TYPE P.C.-7 AT +87.4, RT. 62.6'
36" INV. OUT = 348.25
CONST. STONE FILL CLASS C (SEE DETAILS)

S33
STA. 3696+35.1, LT. 127.7' TO STA. 3696+09.4, LT. 84.8'
CONST. 30.6 LF x 24" RCP (2000D)
CONNECT TO EXIST. 24" RCP
CONST. 4' CB - E AT +09.4, LT. 84.8'
CONST. 48.7 LF x 24" RCP (2000D)
GRATE ELEV. = 392.46
24" INV. IN = 383.95
6" UND INV. IN = 387.25
24" INV. OUT = 383.79
CONST. HEADWALL TYPE P.C.-7 AT +35.1, LT. 127.7'
24" INV. OUT = 383.00
REMOVE 31 LF OF EXIST 24" RCP PIPE (SUBSID.)
CONST. STONE FILL CLASS C (SEE DETAILS)
(FIELD VERIFY EXIST)

S34
STA. 3701+96.0, LT. 74.7' TO STA. 3701+96.0, LT. 66.0'
CONST. 11.0 LF x 30" RCP (2000D)
CONNECT TO EXIST. 30" RCP AT +96.0, LT. 66.0'
30" INV. IN = 381.26
CONST. HEADWALL TYPE P.C.-7 AT +96.0, LT. 74.7'
30" INV. OUT = 381.20
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE 8.0 LF OF EXIST. 30" RCP PIPE (SUBSID.)
REMOVE EXIST. HW AT +96.0, LT. 66.0' (SUBSID.)
(FIELD VERIFY EXIST)

S35
STA. 3707+75.7, LT. 72.2' TO STA. 3707+75.4, LT. 34.5'
CONST. 38.0 LF x 15" PE PIPE (TYPE S)
CONNECT TO EXIST. CB AT +75.4, LT. 34.5'
15" INV. OUT = 382.94
CONST. HEADWALL TYPE P.C.-1 AT +75.7, LT. 72.2'
15" INV. OUT = 382.60
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE 36.0 LF OF EXIST. 15" PE PIPE (SUBSID.)
REMOVE EXISTING 15" METAL END SECTION AT +75.7, LT. 72.2' (SUBSID.)

S36
STA. 3708+96.5, LT. 72.2' TO STA. 3708+96.8, LT. 61.7'
CONST. 13.0 LF x 36" RCP (2000D)
CONNECT TO EXIST. 36" RCP AT +96.8, LT. 61.7'
36" INV. OUT = 380.31
CONST. HEADWALL TYPE P.C.-7 AT +96.5, LT. 72.2'
36" INV. OUT = 380.22
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE 8.0 LF OF EXIST. 30" RCP PIPE (SUBSID.)
REMOVE EXIST. HW AT +96.8, LT. 61.7' (SUBSID.)

S37
STA. 3656+60.5, LT. 63.6' TO STA. 3656+96.7, LT. 94.7'
CONST. 47.0 LF x 60" RCP (2000D)
CONST. HEADWALL TYPE P.C.-7 AT +96.7, LT. 94.7'
36" INV. IN = 318.87
CONNECT TO EXIST. 60" RCP AT +60.5, LT. 63.6'
36" INV. OUT = 318.63
CONST. STONE FILL CLASS C (SEE DETAILS)
REMOVE EXIST. HW AT +60.5, LT. 63.6' (SUBSID.)

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_04	13065A	146	733

DRAINAGE NOTES - OLDE RUM TRAIL

C1
B1038
CONSTRUCT PRETREATMENT FOREBAY WITH
EMERGENCY SPILLWAY (SEE DETAILS)
CONSTRUCT SEDIMENT SUMP MEASURING BLOCK

C2
STA. 1038+02.2, LT. 242.2' TO STA. 1037+86.3, LT. 157.4'
CONST. 85.0 LF x 24" RCP (2000D)
CONST. 4' MH AT +86.3, LT. 157.4'
COVER ELEV. = 341.50
24" INV. IN = 337.00
24" INV. OUT = 336.75

C3
STA. 1037+86.3, LT. 157.4' TO STA. 1038+25.0, LT. 34.9'
CONST. 127.0 LF x 24" RCP (2000D)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +25.0, LT. 34.9'
GRATE ELEV. = 350.55
18" INV. IN = 343.25
18" INV. IN = 343.25
6" UND INV. IN = 345.45
24" INV. OUT = 341.27

C4
STA. 1038+25.0, LT. 34.9' TO STA. 1038+25.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +25.0, RT. 0.0'
GRATE ELEV. = 351.59
18" INV. IN = 343.67
18" INV. OUT = 343.42

C5
STA. 1038+25.0, RT. 0.0' TO STA. 1038+25.0, RT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +25.0, RT. 34.9'
GRATE ELEV. = 350.55
6" UND INV. IN = 345.45
18" INV. OUT = 343.83

C6
STA. 1038+23.5, LT. 71.0' TO STA. 1037+00.0, LT. 50.7'
CONST. 126.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, LT. 50.7'
GRATE ELEV. = 356.31
15" INV. IN = 351.50
15" INV. OUT = 351.25
CONST. 15" ALUM. STEEL END SECTION AT +23.5, LT. 71.0'
15" INV. OUT = 344.04
CONST. STONE FILL CLASS C (SEE DETAILS)

C7
STA. 1038+50.0, RT. 63.9' TO STA. 1038+00.0, RT. 51.0'
CONST. 51.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, RT. 51.0'
GRATE ELEV. = 351.74
15" INV. IN = 346.50
15" INV. OUT = 346.25
CONST. 15" ALUM. STEEL END SECTION AT +50.0, RT. 63.9'
15" INV. OUT = 345.50
CONST. STONE FILL CLASS C (SEE DETAILS)

C8
STA. 1038+00.0, RT. 51.0' TO STA. 1035+50.0, RT. 51.0'
CONST. 248.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +50.0, RT. 51.0'
GRATE ELEV. = 363.85
15" INV. IN = 358.90
15" INV. OUT = 358.65

C9
STA. 1037+00.0, LT. 50.7' TO STA. 1034+00.0, LT. 51.0'
CONST. 298.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, LT. 51.0'
GRATE ELEV. = 371.26
15" INV. OUT = 366.40

C10
STA. 1038+25.0, LT. 34.9' TO STA. 1035+00.0, LT. 34.9'
CONST. 322.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 34.9'
GRATE ELEV. = 366.71
18" INV. IN = 359.41
18" INV. IN = 359.41
6" UND INV. IN = 361.70
6" UND INV. OUT = 361.70
18" INV. OUT = 359.16

C11
STA. 1035+00.0, LT. 34.9' TO STA. 1035+00.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +00.0, RT. 0.0'
GRATE ELEV. = 367.63
18" INV. IN = 359.83
18" INV. OUT = 359.58

C12
STA. 1035+00.0, RT. 0.0' TO STA. 1035+00.0, RT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 34.9'
GRATE ELEV. = 366.71
6" UND INV. IN = 361.70
6" UND INV. OUT = 361.70
18" INV. OUT = 359.99

C13
STA. 1035+50.0, RT. 51.0' TO STA. 1033+00.0, RT. 51.0'
CONST. 248.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, RT. 51.0'
GRATE ELEV. = 376.23
15" INV. IN = 371.45
15" INV. OUT = 371.20

C14
STA. 1035+00.0, LT. 34.9' TO STA. 1032+00.0, LT. 34.9'
CONST. 297.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 34.9'
GRATE ELEV. = 381.63
18" INV. IN = 374.34
18" INV. IN = 374.34
6" UND INV. IN = 376.60
6" UND INV. OUT = 376.60
18" INV. OUT = 374.09

C15
STA. 1032+00.0, LT. 34.9' TO STA. 1032+00.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +00.0, RT. 0.0'
GRATE ELEV. = 382.63
18" INV. IN = 374.75
18" INV. OUT = 374.50

C16
STA. 1032+00.0, RT. 0.0' TO STA. 1032+00.0, RT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 34.9'
GRATE ELEV. = 381.63
6" UND INV. IN = 376.60
6" UND INV. OUT = 376.60
18" INV. OUT = 374.91

C17
STA. 1033+00.0, RT. 51.0' TO STA. 1030+00.0, RT. 51.0'
CONST. 298.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - E AT +00.0, RT. 51.0'
GRATE ELEV. = 391.07
15" INV. OUT = 386.30

C18
STA. 1032+00.0, LT. 34.9' TO STA. 1029+00.0, LT. 34.9'
CONST. 297.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 34.9'
GRATE ELEV. = 396.55
18" INV. IN = 389.26
18" INV. IN = 389.26
6" UND INV. IN = 391.50
6" UND INV. OUT = 391.50
18" INV. OUT = 389.01

C19
STA. 1029+00.0, LT. 34.9' TO STA. 1029+00.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +00.0, RT. 0.0'
GRATE ELEV. = 397.55
18" INV. IN = 389.67
18" INV. OUT = 389.42

C20
STA. 1029+00.0, RT. 0.0' TO STA. 1029+00.0, RT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 34.9'
GRATE ELEV. = 396.55
6" UND INV. IN = 391.50
6" UND INV. OUT = 391.50
18" INV. OUT = 389.83

C21
B1012
CONSTRUCT PRETREATMENT FOREBAY WITH
EMERGENCY SPILLWAY (SEE DETAILS)
CONSTRUCT SEDIMENT SUMP MEASURING BLOCK

C22
STA. 1029+00.0, LT. 34.9' TO STA. 1026+00.0, LT. 34.9'
CONST. 297.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 34.9'
GRATE ELEV. = 411.23
18" INV. IN = 403.94
6" UND INV. IN = 406.10
6" UND INV. OUT = 406.10
18" INV. OUT = 403.69

C23
STA. 1026+00.0, LT. 34.9' TO STA. 1026+00.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +00.0, RT. 0.0'
GRATE ELEV. = 412.23
18" INV. IN = 404.35
18" INV. OUT = 404.10

C24
STA. 1026+00.0, RT. 0.0' TO STA. 1026+00.0, RT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, RT. 34.9'
GRATE ELEV. = 411.23
6" UND INV. IN = 406.20
6" UND INV. OUT = 406.20
18" INV. OUT = 404.51

C25
STA. 1020+50.0, RT. 0.0' TO STA. 1020+55.0, LT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +55.0, LT. 34.9'
GRATE ELEV. = 408.89
6" UND INV. IN = 403.75
6" UND INV. OUT = 403.75
18" INV. OUT = 402.00

C26
STA. 1020+50.0, RT. 34.9' TO STA. 1020+50.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +50.0, RT. 0.0'
GRATE ELEV. = 409.72
18" INV. IN = 401.84
18" INV. OUT = 401.59

C27
STA. 1017+50.0, RT. 34.9' TO STA. 1020+50.0, RT. 34.9'
CONST. 298.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 34.9'
GRATE ELEV. = 408.72
18" INV. IN = 401.43
6" UND INV. IN = 403.70
6" UND INV. OUT = 403.70
18" INV. OUT = 401.18

C28
B1038
CONSTRUCT WET EXTENDED DETENTION BASIN
(SEE DETAILS)

C29
STA. 1017+50.0, RT. 0.0' TO STA. 1017+50.0, LT. 34.9'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, LT. 34.9'
GRATE ELEV. = 401.06
6" UND INV. IN = 396.00
6" UND INV. OUT = 396.00
18" INV. OUT = 394.34

C30
STA. 1017+50.0, RT. 34.9' TO STA. 1017+50.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +50.0, RT. 0.0'
GRATE ELEV. = 402.06
18" INV. IN = 394.19
18" INV. OUT = 393.94

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_05	13065A	147	733

DRAINAGE NOTES - OLDE RUM TRAIL

C31
STA. 1016+60.0, RT. 34.9' TO STA. 1017+50.0, RT. 34.9'
CONST. 87.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 34.9'
GRATE ELEV. = 401.06
18" INV. IN = 393.78
18" INV. IN = 393.78
6" UND INV. IN = 396.10
18" INV. OUT = 393.53

C32
STA. 1014+50.0, RT. 0.0' TO STA. 1016+00.0, RT. 0.0'
CONST. 148.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +00.0, RT. 0.0'
GRATE ELEV. = 398.27
18" INV. OUT = 391.55

C33
STA. 1014+50.0, RT. 34.9' TO STA. 1014+50.0, RT. 0.0'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B AT +50.0, RT. 0.0'
GRATE ELEV. = 394.41
18" INV. IN = 386.77
18" INV. IN = 386.77
18" INV. OUT = 386.52

C34
STA. 1010+12.9, RT. 88.6' to STA. 1013+62.6, LT. 101.8'
CONST. 393.0 LF x 36" RCP (3000D)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +62.6, LT. 101.8'
36" INV. IN = 374.28
CONST. STONE FILL CLASS C (SEE DETAILS)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +12.9, RT. 88.6'
36" INV. OUT = 368.05
CONST. STONE FILL CLASS C (SEE DETAILS)

C35
STA. 1014+50.0, RT. 0.0' TO STA. 1014+50.0, LT. 34.3'
CONST. 32.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, LT. 34.3'
GRATE ELEV. = 393.64
6" UND INV. IN = 388.60
18" INV. OUT = 386.92

C36
STA. 1012+82.3, RT. 34.8' TO STA. 1014+50.0, RT. 34.3'
CONST. 164.0 LF x 18" PE PIPE (TYPE S)
CONST. 6' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 34.3'
GRATE ELEV. = 393.40
18" INV. IN = 386.36
18" INV. IN = 386.36
6" UND INV. IN = 388.45
6" UND INV. OUT = 388.45
18" INV. OUT = 386.11

C37
STA. 1012+82.4, LT. 7.8' TO STA. 1013+50.0, RT. 0.0'
CONST. 66.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B AT +50.0, RT. 0.0'
GRATE ELEV. = 392.37
15" INV. OUT = 386.00

C38
STA. 1012+52.3, LT. 7.6' TO STA. 1012+82.4, LT. 7.8'
CONST. 28.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +82.4, LT. 7.8'
GRATE ELEV. = 391.82
15" INV. IN = 385.23
15" INV. OUT = 384.98

C39
STA. 1012+52.3, RT. 34.6' TO STA. 1012+82.3, RT. 34.8'
CONST. 27.0 LF x 18" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +82.3, RT. 34.8'
GRATE ELEV. = 390.47
18" INV. IN = 383.75
6" UND INV. IN = 385.43
18" INV. OUT = 383.50

C40
STA. 1012+52.3, LT. 7.6' TO STA. 1012+52.7, LT. 37.5'
CONST. 26.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +52.7, LT. 37.5'
GRATE ELEV. = 392.18
15" INV. IN = 385.58
15" INV. IN = 385.58
18" INV. OUT = 385.33

C41
STA. 1012+52.3, RT. 34.0' TO STA. 1012+52.5, LT. 7.6'
CONST. 39.0 LF x 18" RCP (2000D)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +52.5, LT. 7.6'
GRATE ELEV. = 391.77
15" INV. IN = 385.09
15" INV. IN = 385.09
18" INV. IN = 384.84
18" INV. OUT = 384.59

C42
STA. 1012+22.3, RT. 34.4' TO STA. 1012+52.3, RT. 34.6'
CONST. 26.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +52.3, RT. 34.6'
GRATE ELEV. = 390.37
18" INV. IN = 383.37
18" INV. IN = 383.37
24" INV. OUT = 383.12

C43
STA. 1012+52.3, LT. 7.6' TO STA. 1012+22.7, LT. 7.4'
CONST. 28.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +22.7, LT. 7.4'
GRATE ELEV. = 391.82
15" INV. OUT = 385.23

C44
STA. 1012+22.8, RT. 68.3' TO STA. 1012+22.3, RT. 34.4'
CONST. 32.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +22.3, RT. 34.4'
GRATE ELEV. = 390.64
24" INV. IN = 382.99
24" INV. IN = 382.99
24" INV. OUT = 380.17

C45
STA. 1014+50.0, RT. 34.9' TO STA. 1016+60.0, RT. 34.9'
CONST. 208.0 LF x 18" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +60.0, RT. 34.9'
GRATE ELEV. = 398.76
18" INV. IN = 391.80
18" INV. OUT = 391.55

C46
STA. 1009+50.0, RT. 32.6' TO STA. 1009+50.0, LT. 6.6'
CONST. 35.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, LT. 6.6'
GRATE ELEV. = 397.41
18" INV. IN = 390.69
18" INV. OUT = 390.44

C47
STA. 1012+22.3, RT. 34.4' TO STA. 1009+50.0, RT. 32.6'
CONST. 263.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' CB - B W/ ECCENTRIC CONE AT +50.0, RT. 32.6'
GRATE ELEV. = 396.46
18" INV. IN = 389.55
24" INV. IN = 389.05
24" INV. OUT = 388.80

C48
STA. 1009+50.0, LT. 6.6' TO STA. 1009+50.0, LT. 42.8'
CONST. 34.0 LF x 18" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.0, LT. 42.8'
GRATE ELEV. = 397.79
18" INV. OUT = 391.07

C49
STA. 1009+50.0, RT. 32.6' TO STA. 1006+72.3, RT. 30.9'
CONST. 271.0 LF x 24" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +72.3, RT. 30.9'
GRATE ELEV. = 404.95
24" INV. IN = 396.50
24" INV. OUT = 396.25

C50
STA. 1006+72.3, RT. 30.9' TO STA. 1006+55.9, LT. 30.9'
CONST. 60.0 LF x 24" RCP (2000D)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +55.9, LT. 30.9'
GRATE ELEV. = 405.94
15" INV. IN = 397.80
24" INV. OUT = 397.05

C51
STA. 501+50.0, RT. 22.1' TO STA. 501+50.0, LT. 37.1'
CONST. 57.0 LF x 15" RCP (2000D)
CONST. 6' CB - B AT +50.0, LT. 37.1'
GRATE ELEV. = 402.93
15" INV. IN = 396.35
15" INV. IN = 396.35
15" INV. OUT = 396.10
CONST. STONE FILL CLASS C (SEE DETAILS)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +50.0, RT. 22.1'
24" INV. OUT = 395.81

C52
STA. 501+50.0, LT. 37.1' TO STA. 1007+77.6, LT. 31.0'
CONST. 39.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +77.6, LT. 31.0'
GRATE ELEV. = 403.02
15" INV. OUT = 396.55

C53
STA. 1006+55.9, LT. 30.9' TO STA. 202+00.0, LT. 14.9'
CONST. 162.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +00.0, LT. 14.9'
GRATE ELEV. = 404.44
15" INV. OUT = 398.61

C54
STA. 1012+52.7, LT. 37.5' TO STA. 1012+23.0, LT. 39.5'
CONST. 28.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +23.0, LT. 39.5'
GRATE ELEV. = 392.19
15" INV. OUT = 385.72

C55
STA. 1012+52.7, LT. 37.5' TO STA. 1012+82.0, LT. 35.6'
CONST. 28.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +82.0, LT. 35.6'
GRATE ELEV. = 392.25
15" INV. OUT = 385.78

C56
STA. 1011+76.2, RT. 154.4' TO STA. 1012+22.8, RT. 68.3'
CONST. 97.0 LF x 24" PE PIPE (TYPE S)
CONST. 5' MH AT +22.8, RT. 68.3'
GRATE ELEV. = 385.90
24" INV. IN = 376.63
24" INV. OUT = 373.63
CONST. CONCRETE HEADWALL TYPE P.C.-5 AT +76.2, RT. 154.4'
24" INV. OUT = 364.00

C57
STA. 501+50.0, LT. 37.1' TO STA. 201+50.1, RT. 2.9'
CONST. 119.0 LF x 15" PE PIPE (TYPE S)
CONST. 4' CB - B W/ ECCENTRIC CONE AT +50.1, RT. 2.9'
GRATE ELEV. = 405.44
15" INV. OUT = 398.76

C58
B1012
CONSTRUCT WET EXTENDED DETENTION BASIN
(SEE DETAILS)

C59
STA. 2001+13.4. RT 63.9' TO STA. 2001+52.5, RT 23.5'
CONSTRUCT 56.2' X 24" RCP (2000D)
CONSTRUCT OUTLET CONTROL STRUCTURE AT +52.5, RT 23.5'
(SEE BMP DETAILS)
GRATE ELEV. = 367.00
24" INV. OUT = 360.30
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +13.4. RT 63.9'
24" INV. OUT = 360.00

C60
STA. 1008+41.0, RT. 64.8' TO STA. 1008+02.1, LT. 83.7'
CONST. 154.0 LF x 36" RCP (2000D)
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +02.1, LT. 83.7'
36" INV. IN = 394.00
CONST. STONE FILL CLASS C (SEE DETAILS)

C61
STA. 1008+51.0, RT. 98.4' TO STA. 1008+41.0, RT. 64.8'
CONST. 35.0 LF x 36" RCP (2000D)
CONST. 5' MH AT +41.0, RT. 64.8'
COVER ELEV. = 390.00
36" INV. IN = 382.00
36" INV. OUT = 372.40
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +51.0, RT. 98.4'
36" INV. OUT = 369.16
CONST. STONE FILL CLASS C (SEE DETAILS)

C62
STA. 3000+84.1, LT 46.2' TO STA. 3000+92.4, LT 14.9'
CONSTRUCT 30.0' X 24" RCP (2000D)
CONSTRUCT OUTLET CONTROL STRUCTURE AT +92.4, LT 14.9'
(SEE BMP DETAILS)
GRATE ELEV. = 329.80
24" INV. OUT = 323.50
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +84.1, LT 46.2'
24" INV. OUT = 323.00

C63
STA. 110+34.8, RT. 123.1' TO STA. 110+48.9, RT. 170.3'
CONST. 50.0 LF x 24" RCP (2000D)
CONST. 30" ALUM. STEEL END SECTION AT +48.9, RT. 170.3'
24" INV. IN = 353.65
CONST. STONE FILL CLASS C (SEE DETAILS)
CONST. 30" ALUM. STEEL END SECTION AT +34.8, RT. 123.1'
24" INV. OUT = 353.00
CONST. STONE FILL CLASS C (SEE DETAILS)

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_06	13065A	148	733

DRAINAGE NOTES - OLDE RUM TRAIL

C64
STA. 1031+61.1, RT. 52.0' TO STA. 1037+67.1, RT. 117.7'
CONST. 6' WIDE STONE FILL CLASS C SIDE SLOPE DITCH (SEE DETAILS)

C65
STA. 1038+02.2, LT. 242.2' TO STA. 1037+85.6, LT. 245.4'
CONST. 17.0 LF x 15" RCP (2000D)
CONST. CONCRETE HEADWALL TYPE P.C .-1 AT +85.6, LT. 245.4'
15" INV. IN = 328.00

C66
STA. 1038+13.8, LT. 302.2' TO STA. 1038+02.2, LT. 242.2'
CONST. 59.0 LF x 24" RCP (2000D)
CONST. 4' MH AT +02.2, LT. 242.2'
(REQUIRES SLAB TOP)
COVER ELEV. 331.50
24" INV. IN = 326.45
15" INV. IN = 326.45
24" INV. OUT = 326.45
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +13.8, LT. 302.2'
24" INV. OUT = 326.00

C67
STA. 1038+43.1, LT. 332.2' TO STA. 1038+23.2, LT. 228.5'
CONST. 105.0 LF x 24" RCP (2000D)
CONST. CONCRETE HEADWALL TYPE P.C .-3 AT +43.1, LT. 332.2'
24" INV. IN = 340.50

C68
STA. 1037+87.4, LT. 412.4' TO STA. 1038+43.1, LT. 332.2'
CONST. 96.0 LF x 24" RCP (2000D)
CONST. 4' MH AT +43.1, LT. 332.2'
(REQUIRES SLAB TOP)
COVER ELEV. 330.86
24" INV. IN = 326.00
24" INV. OUT = 325.75
CONST. CONCRETE HEADWALL TYPE P.C.-7 AT +87.4, LT. 412.4'
24" INV. OUT = 325.20

C69
STA. 1035+23.0, RT. 52.0' TO STA. 1035+23.0, RT. 73.4'
CONST. 6' WIDE STONE FILL CLASS C SIDE SLOPE DITCH (SEE DETAILS)

C70
STA. 1019+75.0, LT. 84.0' TO STA. 1020+26.9, LT. 70.1'
CONST. 8' WIDE STONE FILL CLASS C SIDE SLOPE DITCH (SEE DETAILS)

C71
STA. 1014+19.2, LT. 112.1' TO STA. 1014+65.2, LT. 52.0'
CONST. 8' WIDE STONE FILL CLASS C SIDE SLOPE DITCH (SEE DETAILS)

T1
STA. 12+50.0, LT. 41.9' TO STA. 12+50.0, RT. 24.2'
CONST. 66.0 LF x 24" RCP (2000D)
CONST. 24" ALUM. STEEL END SECTION AT +50.0, RT. 24.2'
24" INV. IN = 337.00
CONST. 24" ALUM. STEEL END SECTION AT +50.0, LT. 41.9'
24" INV. OUT = 336.62

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_07	13065A	149	733

DRAINAGE NOTES - UNDERDRAIN

U1 STA. 206+95.1, RT. 21.0' TO STA. 204+00.0, RT. 22.7'
CONSTRUCT 297.1' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +00.0, RT. 22.7'
CONNECT TO CB, NOTE N28 AT +95.1, RT. 21.0'

U2 STA. 206+95.1, RT. 21.0' TO STA. 1691+50.0, RT. 61.5'
CONSTRUCT 446.9' X 6" UNDERDRAIN
CONNECT TO CB, NOTE N28 AT +95.1, RT. 21.0'
CONSTRUCT FLUSHING BASIN AT +50.0, RT. 61.5'

U3 NOT USED

U4 NOT USED

U5 STA. 1038+25.0, LT. 34.3' TO STA. 1035+00.0, LT. 34.3'
CONSTRUCT 327.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C10 AT +00.0, LT. 34.3'
CONNECT TO CB, NOTE C3 AT +25.0, LT. 34.3'

U6 STA. 1038+25.0, RT. 34.3' TO STA. 1035+00.0, RT. 34.3'
CONSTRUCT 326.4' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C12 AT +00.0, RT. 34.3'
CONNECT TO CB, NOTE C5 AT +25.0, RT. 34.3'

U7 STA. 1035+00.0, LT. 34.3' TO STA. 1032+00.0, LT. 34.3'
CONSTRUCT 302.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C14 AT +00.0, LT. 34.3'
CONNECT TO CB, NOTE C10 AT +00.0, LT. 34.3'

U8 STA. 1035+00.0, RT. 34.3' TO STA. 1032+00.0, RT. 34.3'
CONSTRUCT 301.4' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C16 AT +00.0, RT. 34.3'
CONNECT TO CB, NOTE C12 AT +00.0, RT. 34.3'

U9 STA. 1032+00.0, LT. 34.3' TO STA. 1029+00.0, LT. 34.3'
CONSTRUCT 302.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C18 AT +00.0, LT. 34.3'
CONNECT TO CB, NOTE C14 AT +00.0, LT. 34.3'

U10 STA. 1032+00.0, RT. 34.3' TO STA. 1029+00.0, RT. 34.3'
CONSTRUCT 301.4' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C20 AT +00.0, RT. 34.3'
CONNECT TO CB, NOTE C16 AT +00.0, RT. 34.3'

U11 STA. 1029+00.0, LT. 34.3' TO STA. 1026+00.0, LT. 34.3'
CONSTRUCT 302.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C22 AT +00.0, LT. 34.3'
CONNECT TO CB, NOTE C18 AT +00.0, LT. 34.3'

U12 STA. 1029+00.0, RT. 34.3' TO STA. 1026+00.0, RT. 34.3'
CONSTRUCT 301.4' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C24 AT +00.0, RT. 34.3'
CONNECT TO CB, NOTE C20 AT +00.0, RT. 34.3'

U13 STA. 1026+00.0, LT. 34.3' TO STA. 1023+89.2, LT. 38.0'
CONSTRUCT 215.1' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +89.2, LT. 38.0'
CONNECT TO CB, NOTE C22 AT +00.0, LT. 34.3'

U14 STA. 1026+00.0, RT. 34.3' TO STA. 1023+89.2, RT. 43.4'
CONSTRUCT 216.6' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +89.2, RT. 43.4'
CONNECT TO CB, NOTE C24 AT +00.0, RT. 34.3'

U15 STA. 1020+55.0, LT. 34.3' TO STA. 1023+82.2, LT. 38.0'
CONSTRUCT 330.7' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +82.2, LT. 38.0'
CONNECT TO CB, NOTE C25 AT +50.0, LT. 34.3'

U16 STA. 1020+50.0, RT. 34.3' TO STA. 1023+82.2, RT. 43.4'
CONSTRUCT 338.7' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +82.2, RT. 43.4'
CONNECT TO CB, NOTE C27 AT +50.0, RT. 34.3'

U17 NOT USED

U18 STA. 1017+50.0, RT. 34.3' TO STA. 1020+50.0, RT. 34.3'
CONSTRUCT 302.8' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C27 AT +50.0, RT. 34.3'
CONNECT TO CB, NOTE C31 AT +50.0, RT. 34.3'

U19 STA. 1017+50.0, LT. 34.3' TO STA. 1020+55.0, LT. 34.4'
CONSTRUCT 306.3' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C25 AT +50.0, LT. 34.4'
CONNECT TO CB, NOTE C29 AT +50.0, LT. 34.3'

U20 STA. 1014+50.0, LT. 34.3' TO STA. 1017+50.0, LT. 34.3'
CONSTRUCT 301.3' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C29 AT +50.0, LT. 34.3'
CONNECT TO CB, NOTE C35 AT +50.0, LT. 34.3'

U21 STA. 1014+50.0, RT. 34.3' TO STA. 1017+50.0, RT. 34.3'
CONSTRUCT 302.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C31 AT +50.0, RT. 34.3'
CONNECT TO CB, NOTE C36 AT +50.0, RT. 34.3'

U22 STA. 1012+82.3, RT. 34.2' TO STA. 1014+50.0, RT. 34.3'
CONSTRUCT 170.9' X 6" UNDERDRAIN
CONNECT TO CB, NOTE C36 AT +50.0, RT. 34.3'
CONNECT TO CB, NOTE C39 AT +82.2, RT. 33.8'

U23 STA. 1655+21.5, RT. 33.5' TO STA. 1655+11.7, RT. 27.9'
CONSTRUCT 10.7' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +11.7, RT. 27.9'
CONNECT TO CB, NOTE N3 AT +21.5, RT. 33.5'

U24 STA. 1655+30.5, RT. 28.0' TO STA. 1656+97.9, RT. 34.0'
CONSTRUCT 180.2' X 8" UNDERDRAIN
CONNECT TO CB, NOTE N3 AT +21.5, RT. 33.5'
CONNECT TO CB, NOTE N4 AT +97.9, RT. 34.0'

U25 NOT USED

U26 STA. 1657+04.0, RT. 28.0' TO STA. 1656+97.9, RT. 34.0'
CONSTRUCT 8.6' X 8" UNDERDRAIN
CONNECT TO CB, NOTE N4 AT +97.9, RT. 34.0'
CONNECT TO EXISTING UNDERDRAIN AT +04.0, RT. 28.0'

U27 STA. 1660+00.0, RT. 49.0' TO STA. 1660+13.6, RT. 28.0'
CONSTRUCT 25.0' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +13.6, RT. 28.0'
CONNECT TO CB, NOTE N7 AT +00.0, RT. 49.0'

U28 STA. 1660+00.0, RT. 49.0' TO STA. 1662+50.0, RT. 62.8'
CONSTRUCT 260.1' X 6" UNDERDRAIN
CONNECT TO CB, NOTE N9 AT +50.0, RT. 62.8'
CONNECT TO CB, NOTE N7 AT +00.0, RT. 49.0'

U29 STA. 1662+50.0, RT. 62.8' TO STA. 1662+46.0, RT. 28.0'
CONSTRUCT 35.1' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +46.0, RT. 28.0'
CONNECT TO CB, NOTE N9 AT +50.0, RT. 62.8'

U30 NOT USED

U31 STA. 1660+00.0, RT. 49.0' TO STA. 1659+97.5, RT. 34.0'
CONSTRUCT 15.2' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +97.0, RT. 31.5'
CONNECT TO CB, NOTE N7 AT +00.0, RT. 49.0'

U32 STA. 1677+60.6, RT. 40.6' TO STA. 1677+57.1, RT. 35.1'
CONSTRUCT 6.5' X 6" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +60.6, RT. 40.6'
CONNECT TO EXISTING UNDERDRAIN AT +57.1, RT. 35.1'
REMOVE EXISTING FLUSHING BASIN (SUBSID.)

U33 STA. 1677+69.4, RT. 39.8' TO STA. 1677+64.1, RT. 35.0'
CONSTRUCT 6.3' X 24" AGGREGATE UNDERDRAIN W/ 6" P.C. POLY PIPE
CONSTRUCT FLUSHING BASIN AT +69.4, RT. 39.8'
CONNECT TO EXISTING UNDERDRAIN AT +64.1, RT. 35.0'
REMOVE EXISTING FLUSHING BASIN (SUBSID.)

U34 STA. 1679+80.2, RT. 35.1' TO STA. 1679+67.3, RT. 51.2'
CONSTRUCT 25.3' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +67.3, RT. 51.2'
CONNECT TO CB, NOTE N19 AT +68.0, RT. 51.3'

U35 STA. 1688+50.0, RT. 31.5' TO STA. 1688+25.1, RT. 28.0'
CONSTRUCT 27.4' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +25.1, RT. 28.0'
CONNECT TO CB, NOTE N25 AT +50.0, RT. 31.5'

U36 STA. 1688+50.0, RT. 31.5' TO STA. 1688+77.3, RT. 28.0'
CONSTRUCT 28.9' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +77.3, RT. 28.0'
CONNECT TO CB, NOTE N25 AT +50.0, RT. 31.5'

U37 STA. 1692+02.6, RT. 60.5' TO STA. 1692+00.0, RT. 40.0'
CONSTRUCT 20.6' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +00.0, RT. 40.0'
CONSTRUCT FLUSHING BASIN AT +02.6, RT. 60.5'
DECOMISSION EXISTING FLUSHING BASIN AT +00.0, RT. 40.0'

U38 STA. 1692+09.6, RT. 60.3' TO STA. 1692+10.0, RT. 40.0'
CONSTRUCT 20.3' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +10.0, RT. 40.0'
CONSTRUCT FLUSHING BASIN AT +09.6, RT. 60.3'
DECOMISSION EXISTING FLUSHING BASIN AT +10.0, RT. 40.0'

U39 NOT USED

U40 STA. 3657+44.1, LT. 37.0' TO STA. 3657+51.4, LT. 42.3'
CONSTRUCT 9.0' X 8" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +51.4, LT. 42.3'
CONNECT TO EXISTING UNDERDRAIN AT +44.1, LT. 37.0'

U41 STA. 3657+65.7, LT. 58.0' TO STA. 3657+68.5, LT. 38.8'
CONSTRUCT 19.3' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +68.5, LT. 38.8'
CONNECT TO CB, NOTE S1 AT +65.7, LT. 58.0'

U42 STA. 3657+65.7, LT. 58.0' TO STA. 3657+80.1, LT. 39.2'
CONSTRUCT 23.5' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +80.1, LT. 39.2'
CONNECT TO CB, NOTE S1 AT +65.7, LT. 58.0'

U43 STA. 3662+35.7, LT. 28.3' TO STA. 3662+38.1, LT. 54.6'
CONSTRUCT 26.4' X 8" UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +38.1, LT. 54.6'
CONNECT TO EXISTING UNDERDRAIN AT +35.7, LT. 28.3'

U44 STA. 3662+42.3, LT. 18.8' TO STA. 3662+44.8, LT. 54.8'
CONSTRUCT 35.9' X 6" AGGREGATE UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT +44.8, LT. 54.8'
CONNECT TO EXISTING UNDERDRAIN AT +42.3, LT. 18.8'

U45 STA. 3662+49.4, LT. 33.8' TO STA. 3662+50.0, LT. 67.8'
CONSTRUCT 34.0' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +49.4, LT. 33.8'
CONNECT TO CB, NOTE S3 AT +50.0, LT. 67.8'

U46 STA. 3671+50.0, LT. 42.9' TO STA. 3671+37.6, LT. 40.5'
CONSTRUCT 12.6' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +37.6, LT. 40.5'
CONNECT TO CB, NOTE S7 AT +50.0, LT. 42.9'

U47 STA. 3671+59.1, LT. 40.3' TO STA. 3671+50.0, LT. 41.3
CONSTRUCT 9.2' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +59.1, LT. 40.3'
CONNECT TO CB, NOTE S7 AT +50.0, LT. 42.9'

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_03	13065A	150	733

DRAINAGE NOTES - UNDERDRAIN

U48
STA. 104+59.6, RT 99.2' TO STA. 104+78.1, RT 116.6'
CONSTRUCT 25.4' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +78.1, RT 116.6'
CONNECT TO HW, NOTE N33 AT +59.6, RT 99.2'

U49
STA. 3666+89.3, LT 28.0' TO STA. 3666+76.8, LT 28.0'
CONSTRUCT 12.4' X 8" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +89.3, LT 28.0'
CONNECT TO EXISTING UNDERDRAIN AT +76.8, LT 28.0'

U50
STA. 3667+00.0, LT 39.0'
DECOMISSION EXISTING FLUSHING BASIN
REMOVE EXISTING UNDERDRAIN CONNECTION

U51
STA. 1682+35.9, RT. 37.4' TO STA. 1682+47.0, RT. 50.7'
CONSTRUCT 15.6' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +35.9, RT. 37.4'
CONNECT TO CB, NOTE N20 AT +47.0, RT. 50.7'

U52
STA. 1682+58.2, RT. 39.2' TO STA. 1682+47.0, RT. 50.7'
CONSTRUCT 19.0' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +58.2, RT. 39.2'
CONNECT TO CB, NOTE N20 AT +47.0, RT. 50.7'

U53
STA. 1685+49.6, RT. 50.9' TO STA. 1685+37.8, RT. 37.5'
CONSTRUCT 15.9' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +37.8, RT. 37.5'
CONNECT TO CB, NOTE N21 AT +49.6, RT. 50.9'

U54
STA. 1685+63.4, RT. 38.2' TO STA. 1685+49.6, RT. 50.9'
CONSTRUCT 18.8' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +63.4, RT. 38.2'
CONNECT TO CB, NOTE N21 AT +49.6, RT. 50.9'

U55
NOT USED

U56
STA 3694+21.9, LT 70.2' TO STA 3694+21.3, LT 39.1'
CONSTRUCT 31.2' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +21.3, LT 39.1'
CONSTRUCT FLUSHING BASIN AT +21.9, LT 70.2'
DECOMISSION EXISTING FLUSHING BASIN AT +21.3, LT 39.1'

U57
STA 3694+28.9, LT 69.8' TO STA 3694+32.6, LT 39.1'
CONSTRUCT 30.9' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +32.6, LT 39.1'
CONSTRUCT FLUSHING BASIN AT +28.9, LT 69.8'
DECOMISSION EXISTING FLUSHING BASIN AT +32.6, LT 39.1'

U58
STA 3695+96.7, LT 37.6' TO STA 3696+09.4, LT 84.8'
CONSTRUCT 48.9' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT +96.7, LT 37.6'
CONNECT TO CB, NOTE S33 AT +10.0, LT 84.8'

U59
NOT USED

U60
STA. 1697+99.0, RT. 49.8' TO STA. 1698+18.8, RT. 63.6'
CONST. 26.7' X 6" UNDERDRAIN
CONNECT TO EXISTING UNDERDRAIN AT+99.0, RT. 49.8'
CONNECT TO CB, NOTE N40 AT +18.8, RT. 63.6'

U61
STA. 306+62.0, RT. 14.3' TO STA. 306+19.2, RT. 14.3'
CONST. 45.2' X 6" UNDERDRAIN
CONNECT TO CB, NOTE S18 AT +62.0, RT. 14.3'
CONNECT TO CB, NOTE S20 AT +19.2, RT. 14.3'

U62
STA. 306+19.2, RT. 14.3' TO STA. 305+76.1, RT. 14.1'
CONST. 46.1' X 6" UNDERDRAIN
CONNECT TO CB, NOTE S20 AT +19.2, RT. 14.3'
CONNECT TO CB, NOTE S21 AT +76.1, RT. 14.1'

U63
STA. 305+76.1, RT. 14.1' TO STA. 302+26.0, RT. 13.0'
CONST. 347.7' X 6" UNDERDRAIN
CONNECT TO CB, NOTE S21 AT +76.1, RT. 14.1'
CONSTRUCT FLUSHING BASIN AT +26.0, RT. 13.0'

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_09	13065A	151	733

DRAINAGE NOTES - REMOVAL

R1 STA. 1656+97.9, RT. 34.0' TO STA. 1659+97.4, RT. 34.0'
FILL AND ABANDON EXISTING 302.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +97.4, RT. 34.0'

R2 STA. 1659+97.4, RT. 34.0' TO STA. 1662+48.5, RT. 34.2'
FILL AND ABANDON EXISTING 252.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +48.5, RT. 34.2'

R3 STA. 1662+48.5, RT. 34.2' TO STA. 1665+49.1, RT. 34.3'
FILL AND ABANDON EXISTING 302.0 LF X 15" PE PIPE

R4 STA. 1672+28.5, RT. 78.9' TO STA. 1673+21.1, RT. 86.1'
REMOVE EXISTING 18" METAL END SECTION AT +28.5, RT. 78.9'
REMOVE EXISTING 93.0 LF X 18" PE PIPE
REMOVE EXISTING 18" METAL END SECTION AT +21.1, RT. 86.1'

R5 STA. 12+85.1, LT. 80.0' TO STA. 13+11.4, RT. 56.20'
REMOVE EXISTING 12" METAL END SECTION AT +85.1, LT. 80.0'
REMOVE EXISTING 139.0 LF X 12" RCP
REMOVE EXISTING 12" METAL END SECTION AT +11.4, RT. 56.2'
(FIELD VERIFY REMOVAL, INVERTS NOT SURVEYED)

R6 STA. 1686+49.6, RT. 50.9' TO STA. 1688+49.7, RT. 50.9'
REMOVE EXISTING 200.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +49.7, RT. 50.9'

R7 STA. 1678+07.8, RT. 57.7' TO STA. 1678+09.0, RT. 88.7'
REMOVE EXISTING 32.0 LF X 36" RCP
REMOVE EXISTING HEADWALL AT +09.0, RT. 88.7'

R8 STA. 3657+65.8, LT. 43.8' TO STA. 3657+65.8, LT. 51.8'
REMOVE EXISTING 8.0 LF X 24" RCP
REMOVE EXISTING CB AT +65.8, LT. 51.8'

R9 STA. 3657+65.8, LT. 51.8' TO STA. 3659+50.2, LT. 52.4'
REMOVE EXISTING 180.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +50.2, LT. 52.4'

R10 STA. 3659+50.2, LT. 52.4' TO STA. 3662+49.9, LT. 52.0'
REMOVE EXISTING 295.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +49.9, LT. 52.0'

R11 STA. 3662+49.9, LT. 52.0' TO STA. 3662+48.7, LT. 34.8'
REMOVE EXISTING 16.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +48.7, LT. 34.8'

R12 STA. 3662+49.9, LT. 52.0' TO STA. 3665+50.1, LT. 52.2'
REMOVE EXISTING 294.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +50.1, LT. 52.2'

R13 STA. 3665+50.1, LT. 52.2' TO STA. 3668+49.9, LT. 52.2'
REMOVE EXISTING 294.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +49.9, LT. 52.2'

R14 STA. 3668+49.9, LT. 52.2' TO STA. 3671+48.0, LT. 52.0'
REMOVE EXISTING 296.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +48.0, LT. 52.0'

R15 STA. 3696+09.3, LT. 98.7' TO STA. 3696+09.3, LT. 52.3'
REMOVE EXISTING CB AT +09.3, LT. 52.3'
REMOVE EXISTING 46.0 LF X 24" RCP
REMOVE EXISTING HEADWALL AT +09.3, LT. 98.7'

R16 STA. 207+22.1, RT. 46.8' TO STA. 207+44.5, RT. 58.4'
REMOVE EXISTING 23.0 LF X 18" RCP
REMOVE EXISTING CB AT +44.5, RT. 58.4'

R17 STA. 1691+44.6, RT. 100.2' TO STA. 1690+98.4, RT. 115.8'
REMOVE EXISTING 47.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +98.4, RT. 115.8'

R18 STA. 1693+81.8, RT. 100.8' TO STA. 1691+44.6, RT. 100.2'
REMOVE EXISTING 235.0 LF X 15" PE PIPE
REMOVE EXISTING MH AT +44.6, RT. 100.2'

R19 STA. 1691+44.6, RT. 100.2' TO STA. 1691+44.9, RT. 116.7'
REMOVE EXISTING 14.0 LF X 15" PE PIPE
REMOVE EXISTING CB AT +44.9, RT. 116.7'

R20 NOT USED

R21 STA. 1656+97.9, RT. 51.7' TO STA. 1659+97.9, RT. 52.7'
REMOVE EXISTING 303.0 LF X 15" RCP
REMOVE EXISTING CB AT +97.9, RT. 52.7'

R22 STA. 1698+54.2, RT. 87.4' TO STA. 1697+98.6, RT. 50.9'
REMOVE EXISTING 66.0 LF X 15" PE PIPE
REMOVE EXISTING 15" METAL END SECTION AT +54.2, RT. 87.4'
REMOVE EXISTING CB AT +98.6, RT. 50.9'

R23 STA. 104+70.1, RT. 61.2' TO STA. 105+14.3, RT. 102.1'
REMOVE EXISTING 59.0 LF X 30" RCP
REMOVE EXISTING HEADWALL AT +70.1, RT. 61.2'

R24 STA. 1701+86.0, RT. 50.6' TO STA. 1702+10.7, RT. 91.8'
REMOVE EXISTING 47.4 LF X 30" RCP
REMOVE EXISTING HEADWALL AT +12.4, RT. 86.0'

R25 STA. 1713+68.4, RT. 59.5' TO STA. 1714+12.4, RT. 86.0'
REMOVE EXISTING MH AT +68.4, RT. 59.5'
REMOVE EXISTING 54.4 LF X 24" RCP
REMOVE EXISTING HEADWALL AT +12.4, RT. 86.0'

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Drn_Notes_10	13065A	152	733

GRID

MAINTENANCE ACCESS

DB3607-B01

DB3607-B04

DB3607-B02

BOTTOM
ELEV=281

DB3607-B03

3604 3605 3606 3607 3608 I-93 SB 3609 3610 3611 3612

1604 1605 1606 1607 1608 1609

I-93 NB

"I93
mm 11.6"

STA. 1604+22
LIMIT OF WORK

ITEM 615.20001
FURNISH AND INSTALL NEW CANTILEVER SIGN STRUCTURE WITH GO-1 AT STA 1607+00

"west 102"
east 102"

I-93 NB EXIT 4 OFF-RAMP

MATCH TO SHEET DRN02

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN01	13065A_DRN_Plans	13065A	153	733

GRID

NASHUA ROAD

TMH #12

TMH #11

I-93 SB EXIT 4 ON-RAMP

I-93 SB

I-93 NB

I-93 NB EXIT 4 ON-RAMP

3613 3614 3615 3616 3617 3618 3619 3620 3621 3622 3623 3624 3625

1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623

MATCH TO SHEET DRN01

MATCH TO SHEET DRN03

50 0 50 100

SCALE IN FEET

NUMBER	DESCRIPTION	DATE	STATION	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

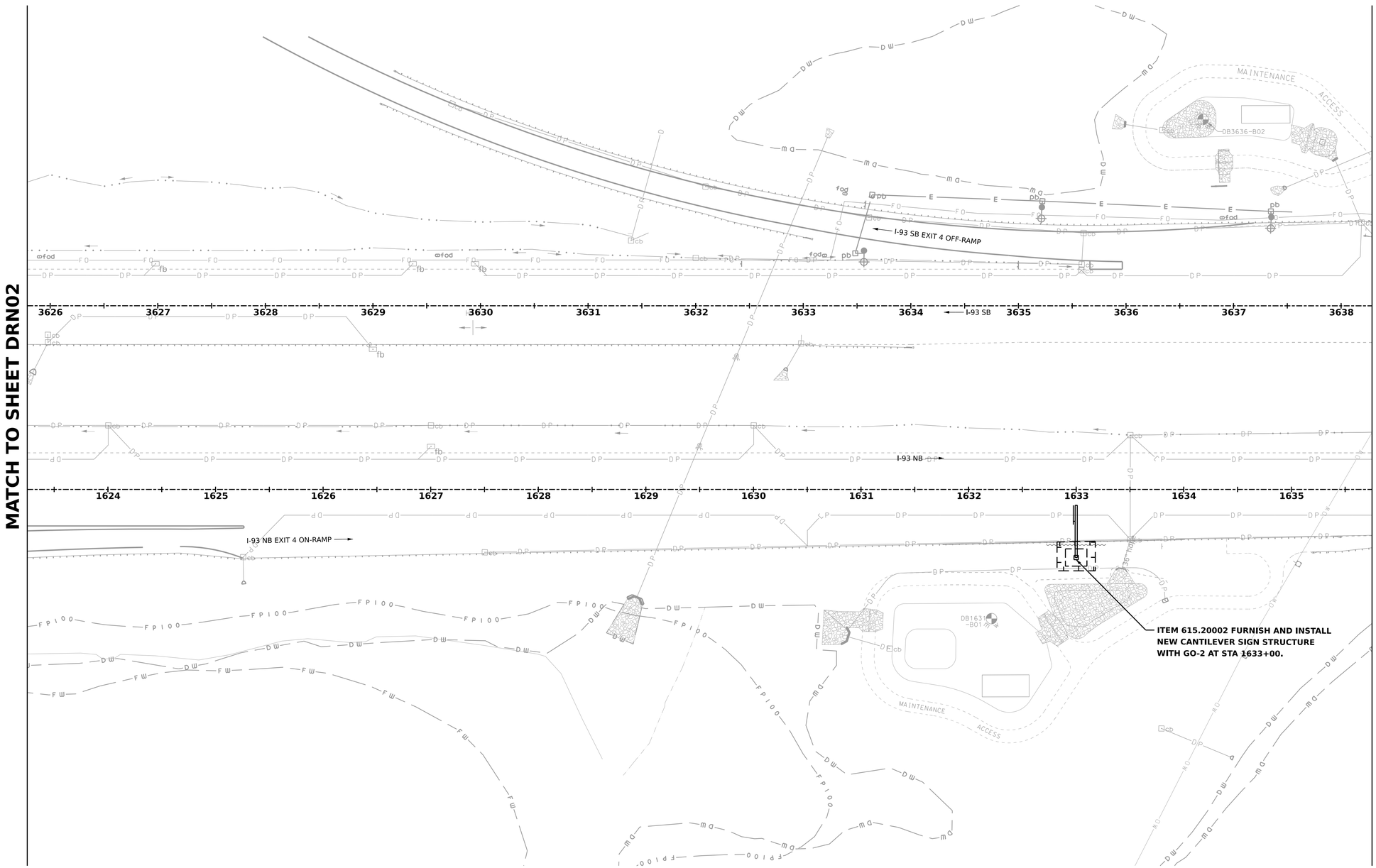
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN02	13065A_DRN_Plans	13065A	154	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

GRID



50 0 50 100

SCALE IN FEET

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN03	13065A_DRN_Plans	13065A	155	733

GRID

EXISTING L.A.R.O.W.
PER 5201G RETURN
BK. 1608 PG. 24

MATCH TO SHEET DRN03

MATCH TO SHEET DRN05

3639 3640 3641 3642 3643 3644 3645 3646 3647 3648 3649 3650

I-93 SB

I-93 NB

1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648

EXISTING LAROW
PER 10418-C

APPROX. EXISTING R.O.W.

emerg

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

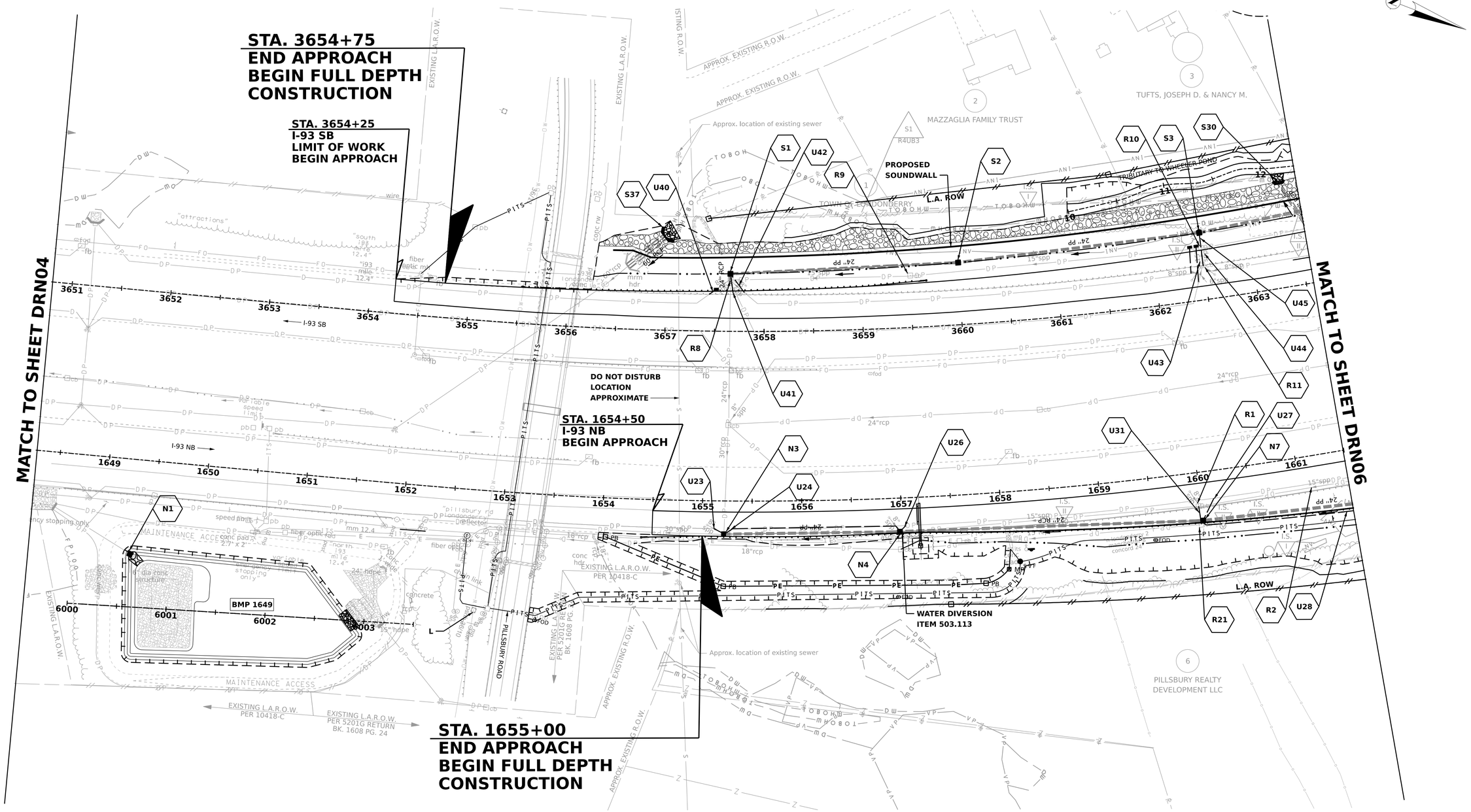
NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN04	13065A_DRN_Plans	13065A	156	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN05	13065A_DRN_Plans	13065A	157	733

MATCH TO SHEET DRN05

MATCH TO SHEET DRN07

DONOVAN, CORNELIUS J. & JOYCE LEE

ROY, ALAN J. & RIZZO-ROY, MARIA L.

FLYNN 2013 FAMILY TRUST

BELANGER FAMILY REVOCABLE TRUST

CANTAVE FAMILY REVOCABLE TRUST

DICKENSON, DONNA E.

PILLSBURY REALTY DEVELOPMENT LLC

PILLSBURY REALTY DEVELOPMENT LLC

WATER DIVERSION ITEM 503,108

PROPOSED SOUNDWALL

L.A. ROW

TRIBUTARY TO WHEELER POND

SB ON RAMP

I-93 SB

I-93 NB

NB OFF RAMP

WATER DIVERSION ITEM 503.104

WATER DIVERSION ITEM 503.101

BMP 1670

BMP MAINTENANCE ACCESS

3'X3' concrete block measuring device

DRAINAGE EASEMENT PER NH PROJ. 10418-C (5744/495)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

EXISTING L.A.R.O.W.

EXISTING L.A.R.O.W.

GRID

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

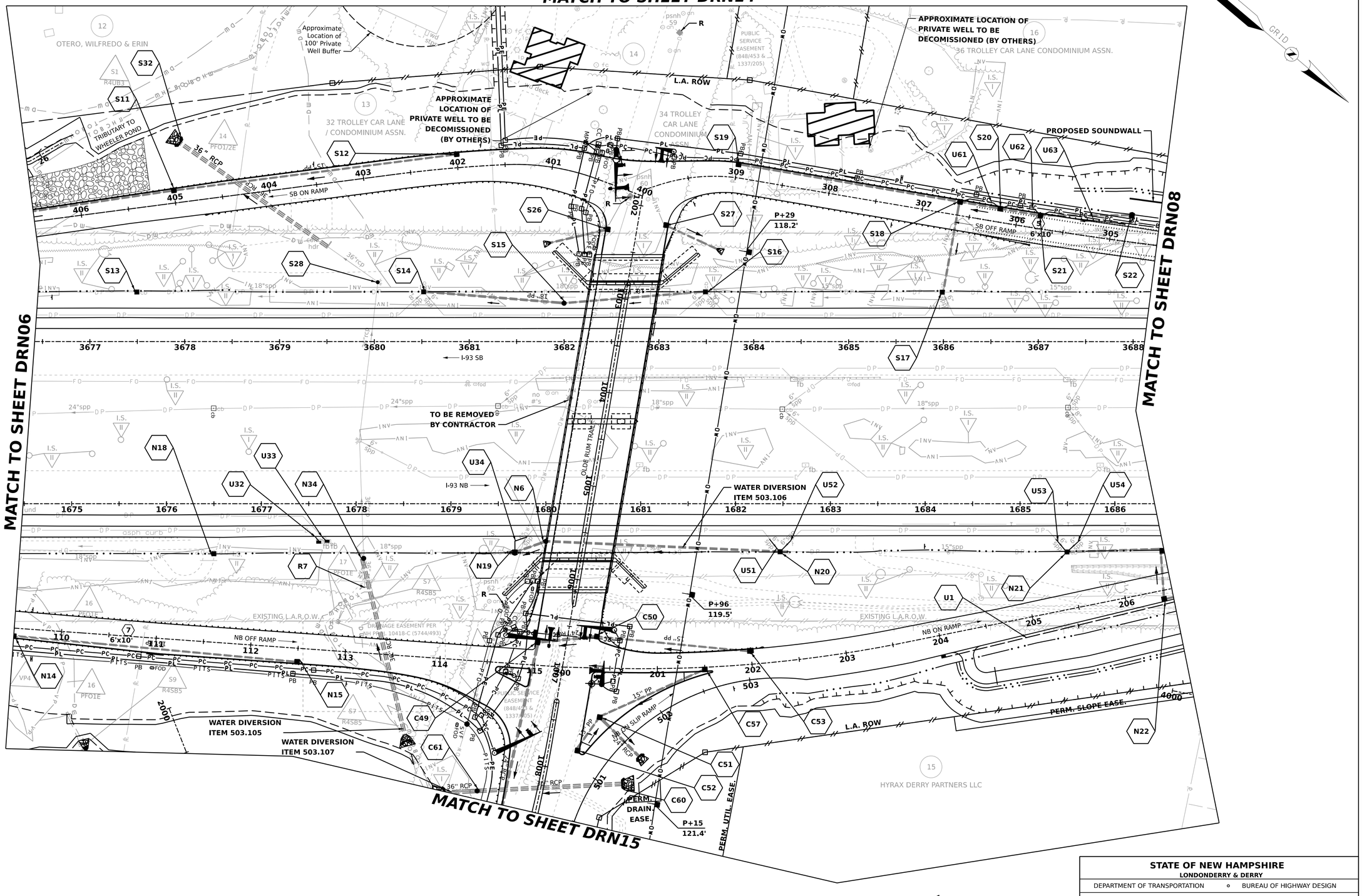
NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN06	13065A_DRN_Plans	13065A	158	733



REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN07	13065A_DRN_Plans	13065A	159	733

MATCH TO SHEET DRN07

MATCH TO SHEET DRN09

WATER DIVERSION ITEM 503.109

WATER DIVERSION ITEM 503.110

PROPOSED SOUNDWALL

POTENTIAL FUTURE EDGE OF PAVEMENT (TYP.)

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

INSTALL NEW GUARDRAIL TO PROTECT NEW TRAFFIC SIGN STRUCTURE AT STA. 3700+00

L.A. ROW

EXISTING L.A.R.O.W.

I-93 SB EXIT 4A OFF RAMP

I-93 SB

I-93 NB

NB ON RAMP

POTENTIAL FUTURE TRAVELED WAY (TYP.)

POTENTIAL FUTURE 2 LANE SB OFF PAVEMENT (TYP.)

STA. 3700+00
END FULL DEPTH CONSTRUCTION BEGIN APPROACH

PAVEMENT MATCH

STA.3700+50
I-93 SB END APPROACH

PROPOSED SOUNDWALL
EXISTING L.A.R.O.W.

L.A. ROW

PERM. SLOPE EASE.

PERM. DRAIN. EASE.

PERM. DRAIN. EASE.

ITEM 662.282 DECOMMISSION MONITORING WELL

CONSTRUCT BMP

UTILITY EASEMENT (ELECTRIC & PHONE) AS IT MAY APPLY TO THIS PARCEL (2650/1906)

CONSTRUCT BMP

UTILITY EASEMENT (ELECTRIC & PHONE) AS IT MAY APPLY TO THIS PARCEL (2650/1906)

36 TROLLEY CAR LANE CONDOMINIUM ASSN.

ARIZA, FIDEL

FOUREAU, DYLAN

TOWN OF LONDONDERRY

GERAGHTY, SCOTT P. & MARIBETH

ROSZCZENKO, JOLANTA & WALDEMAR

QUITONGAN, AUDIE & CHERYL

TRULL, MICHAEL D. /& SANDRA

STATE OF NH (DOT)

HYRAX DERRY PARTNERS LLC

EXISTING TOWN OF LONDONDERRY DRAINAGE EASEMENT

EXISTING TOWN OF LONDONDERRY DRAINAGE EASEMENT

APPROX. EXISTING R.O.W.

RMP 1687 4001

BMP 1691 5001

5000

GRID

SCALE IN FEET: 50 0 50 100

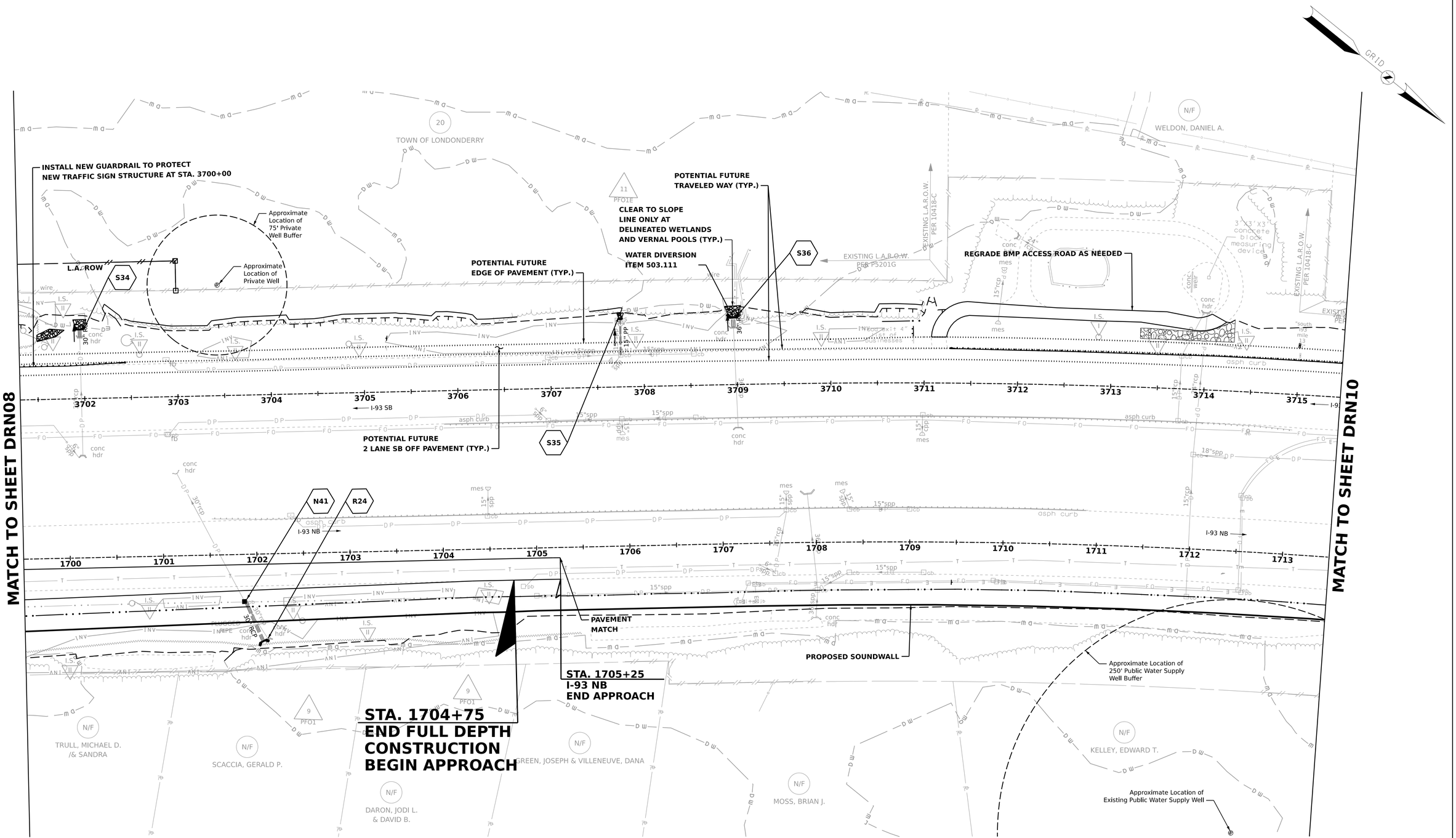
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN08	13065A_DRN_Plans	13065A	160	733



50 0 50 100

SCALE IN FEET

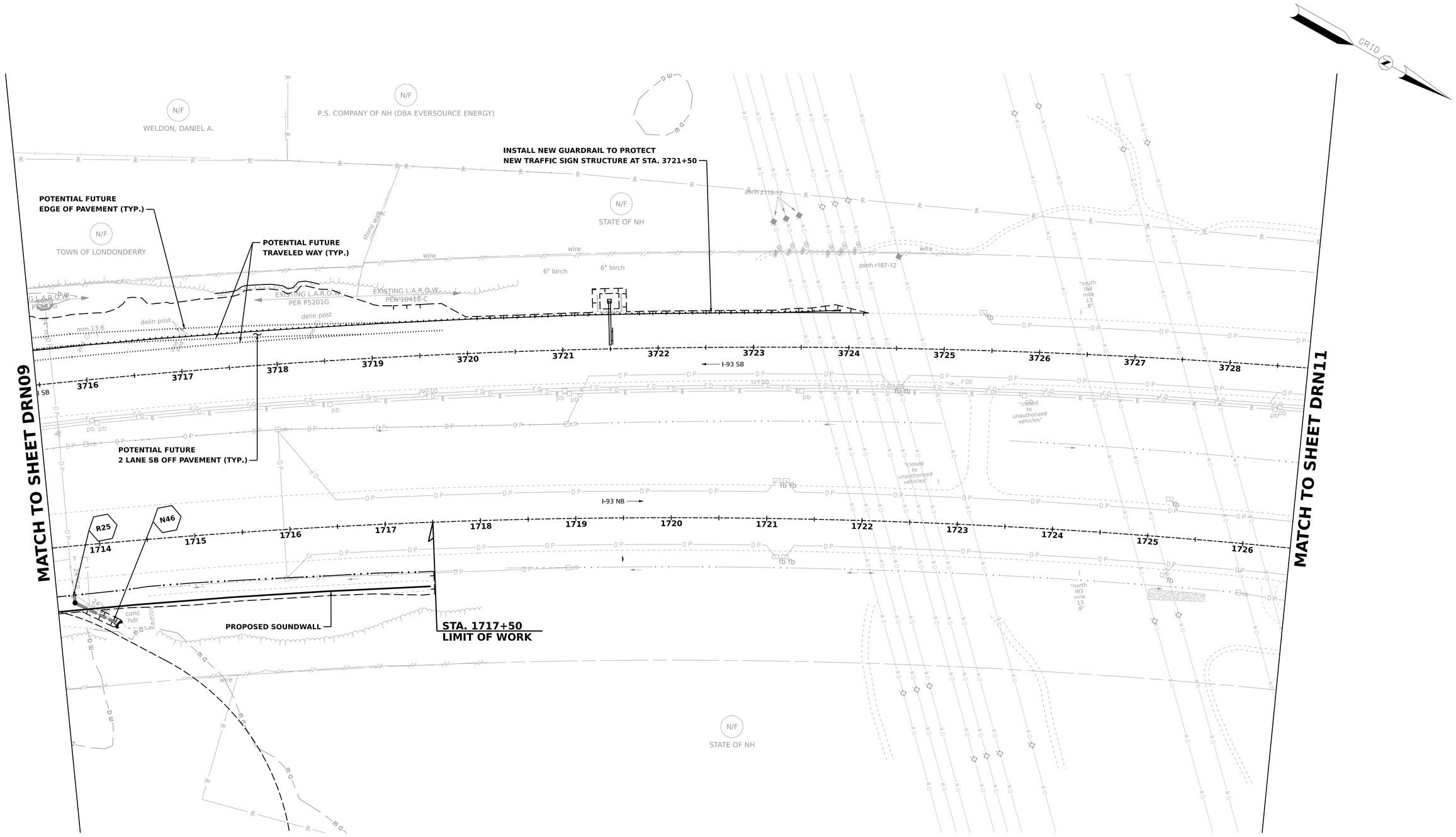
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN09	13065A_DRN_Plans	13065A	161	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN10	13065A_DRN_Plans	13065A	162	733

GRID

N/F
CLARK III, REED PAIGE / ET AL

EXISTING L.A.R.O.W
PER 10418-C

EXISTING L.A.R.O.W.
PER P5201H

EXISTING L.A
PER P52

I-93 SB

I-93 NB

3729 3730 3731 3732 3733 3734 3735 3736 3737 3738 3739 3740 3741

1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739

MATCH TO SHEET DRN10

MATCH TO SHEET DRN12

N/F
P.S. COMPANY OF NH / (DBA EVERSOURCE ENERGY)

EXISTING L.A.R.O.W.

N/F
CLARK IRREVOCABLE TRUST / CLARK, GERARD TRUSTEE

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

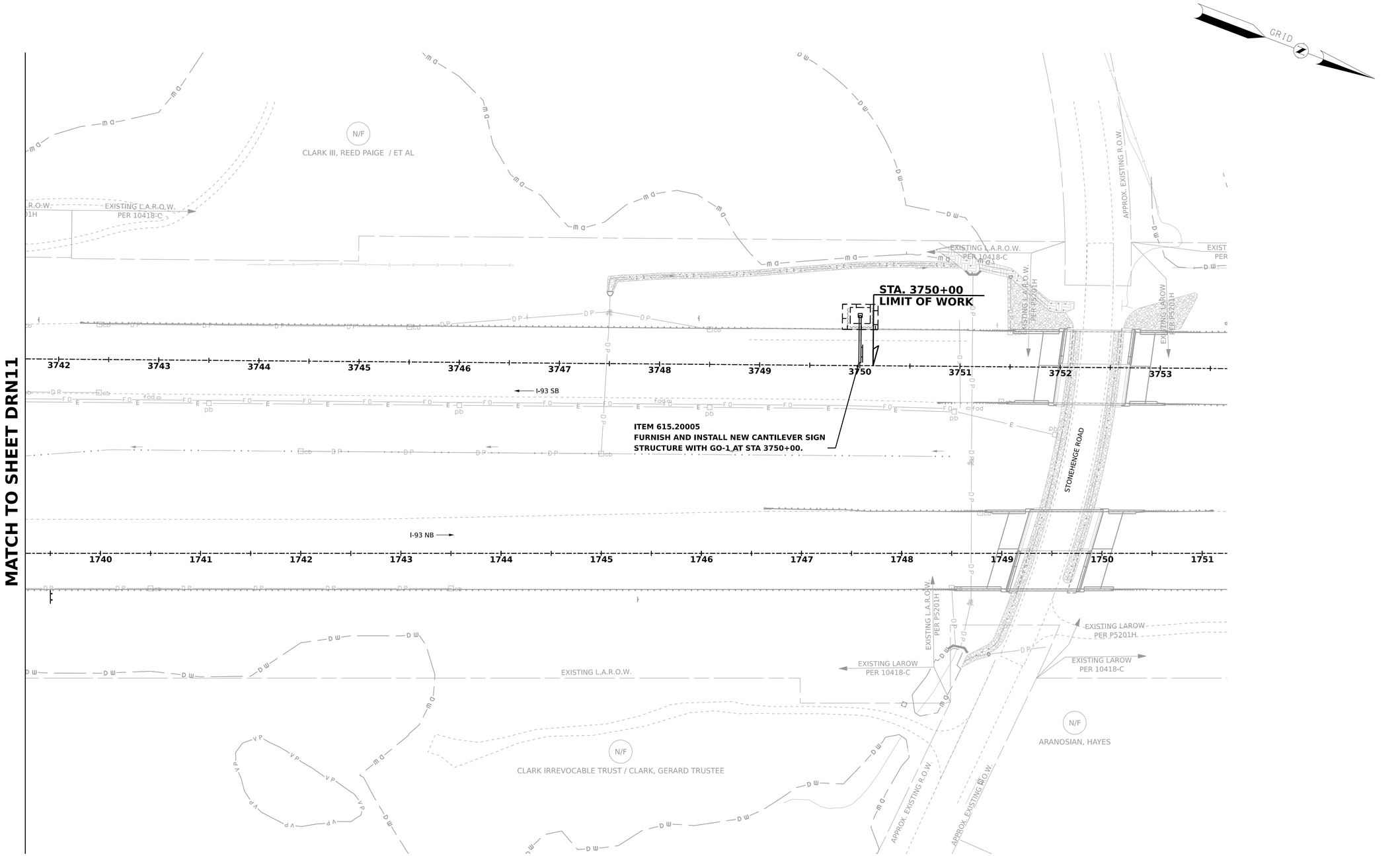
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN11	13065A_DRN_Plans	13065A	163	733



50 0 50 100

SCALE IN FEET

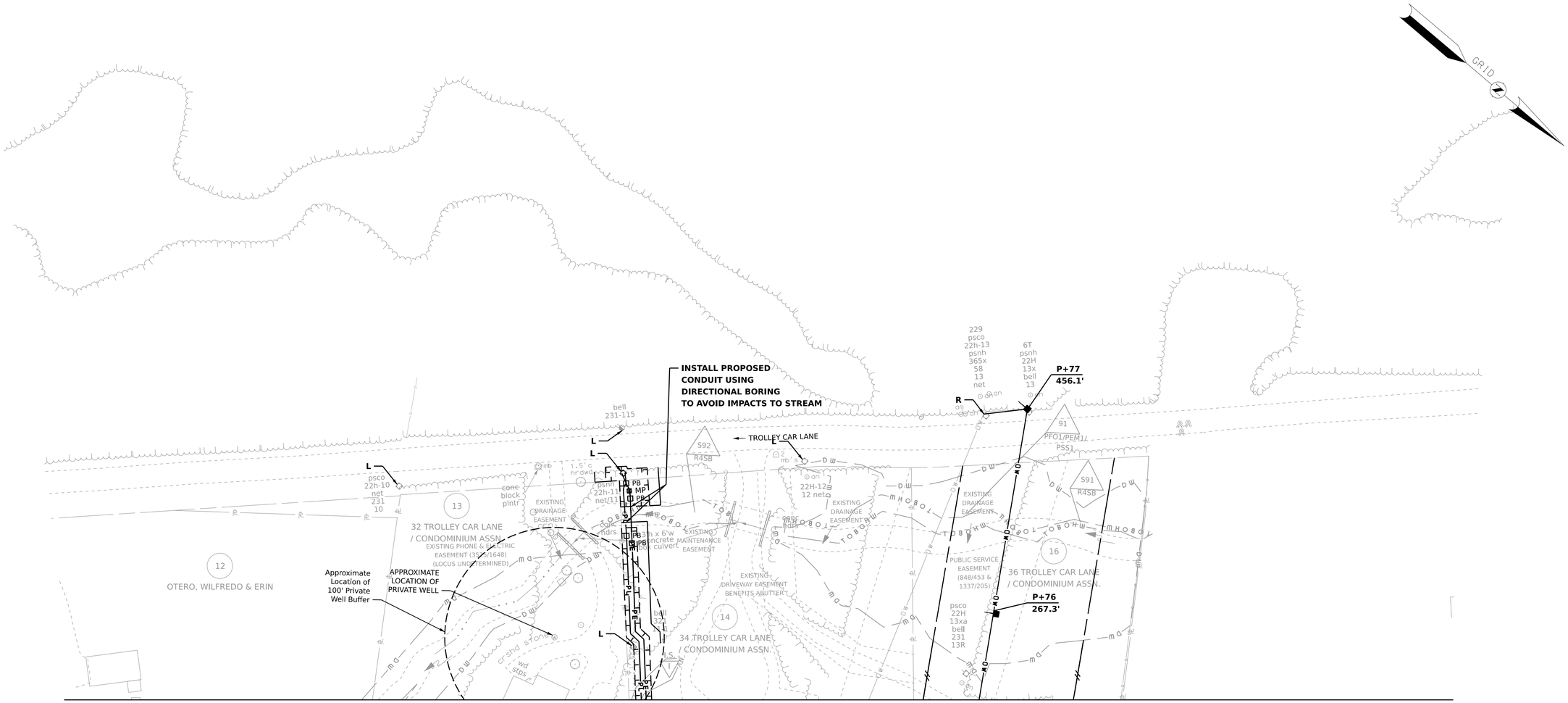
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN12	13065A_DRN_Plans	13065A	164	733



50 0 50 100

SCALE IN FEET

NUMBER	DATE	DESCRIPTION	STATION
		REVISIONS AFTER PROPOSAL	

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN13	13065A_DRN_Plans	13065A	165	733

STA. 1014+00
OLDE RUM TRAIL
LIMIT OF WORK
13065A WEARING
COURSE

MATCH TO SHEET DRN07

MATCH TO SHEET DRN15

MATCH TO SHEET DRN06

WATER DIVERSION
ITEM 503.103

WATER DIVERSION
ITEM 503.102

P+00
145.5'

P+19
109.4'

P+93
106.1'

P+67
106.1'

PERM. UTIL. EASE.

PERM. DRAIN. EASE.

PERM. SLOPE EASE.

L.A. ROW

C.A. ROW

OLDE RUM TRAIL

PUBLIC SERVICE EASEMENT
(848/453 & 1337/205)

ITEM 662.282 DECOMMISSION
MONITORING WELL

BMP MAINTENANCE ACCESS

BMP 1012

CONSTRUCT BMP B1012

ITEM 662.282 DECOMMISSION
MONITORING WELL

CLEAR TO SLOPE LINE ONLY
AT DELINEATED WETLANDS
AND VERNAL POOLS (TYP.)

PERM. SLOPE EASE.

HYRAX DERRY PARTNERS LLC

HYRAX DERRY PARTNERS LLC

PILLSBURY REALTY DEVELOPMENT LLC

PILLSBURY REALTY
DEVELOPMENT LLC

UTILITY EASEMENT TO SPRINT SPECTRUM L.P.
(3240/84) FOLLOWS "OLD FOLSOM ROAD", AS
IT MAY APPLY TO THIS PARCEL.

GRID

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	STATION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		

DATE	DATE	DATE	DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN14	13065A_DRN_Plans	13065A	166	733

MATCH TO SHEET DRN14

MATCH TO SHEET DRN16

15

HYRAX DERRY PARTNERS LLC

23

PILLSBURY REALTY DEVELOPMENT LLC

PUBLIC SERVICE EASEMENT
(848/453 & 1337/205)

PUBLIC SERVICE EASEMENT
(848/456 & 1329/331)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P.
(3240/84) FOLLOWS "OLD FOLSOM ROAD",
AS IT MAY APPLY TO THIS PARCEL.

PERM. SLOPE EASE.

C.A. ROW

OLDE RUM TRAIL

18" RCP

18" PP

15" PP

P+71
68.6'

1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032

U7 U8 U9 U10 U11 U12 U13 U14 U15 U16

C14 C15 C16 C17 C18 C19 C20 C22 C23 C24 C64

GRID

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN15	13065A_DRN_Plans	13065A	167	733

MATCH TO SHEET DRN15

MATCH TO SHEET DRN17

CONSTRUCT BMP

CONSTRUCT ACCESS ROAD

PERM. DRAIN. EASE.

PERM. DRAIN EASE.

PERM. SLOPE EASE.

PERM. SLOPE EASE.

PERM. DRAIN EASE.

PERM. SLOPE EASE.

PERM. SLOPE EASE.

PERM. DRAIN EASE.

PERM. DRAIN EASE.

C.A. ROW

C.A. ROW

C.A. ROW

BMP 1038

APPROXIMATE WOODMONT INTERSECTION
(LOCATION BASED ON 2018 HEARING PLAN.
FOR REFERENCE ONLY, NOT MODELED.
FURTHER DESIGN WILL BE PROVIDED BY OTHERS)

ITEM 662.282 DECOMMISSION
MONITORING WELL

APPROXIMATE WOODMONT INTERSECTION
(LOCATION BASED ON 2018 HEARING PLAN.
FOR REFERENCE ONLY, NOT MODELED.
FURTHER DESIGN WILL BE PROVIDED BY OTHERS)

WATER DIVERSION
ITEM 503.112

STA. 1040+00
OLDE RUM TRAIL
LIMIT OF WORK

STA. 1038+50
END FULL DEPTH
CONSTRUCTION

STA. 16+31.53
MADDEN RD
LIMIT OF WORK

P+70
138.7'

OLDE RUM TRAIL

LONDONDERRY
DERRY

PILLSBURY REALTY DEVELOPMENT LLC

SEVEN HILLS DEVELOPMENT, LLC

SEVEN HILLS DEVELOPMENT LLC

PILLSBURY REALTY DEVELOPMENT LLC

PILLSBURY REALTY/ DEVELOPMENT LLC

SEVEN HILLS DEVELOPMENT LLC

DERRY BUSINESS CENTER / UNIT OWNERS ASSN

ABBOTT, MARCIA E.

PUBLIC SERVICE EASEMENT (5094/2987)

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

SUBJECT TO ACCESS RIGHTS NOTED IN DEED (937/232-LOCUS UNDETERMINED)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

SCALE IN FEET
50 0 50 100

GRID

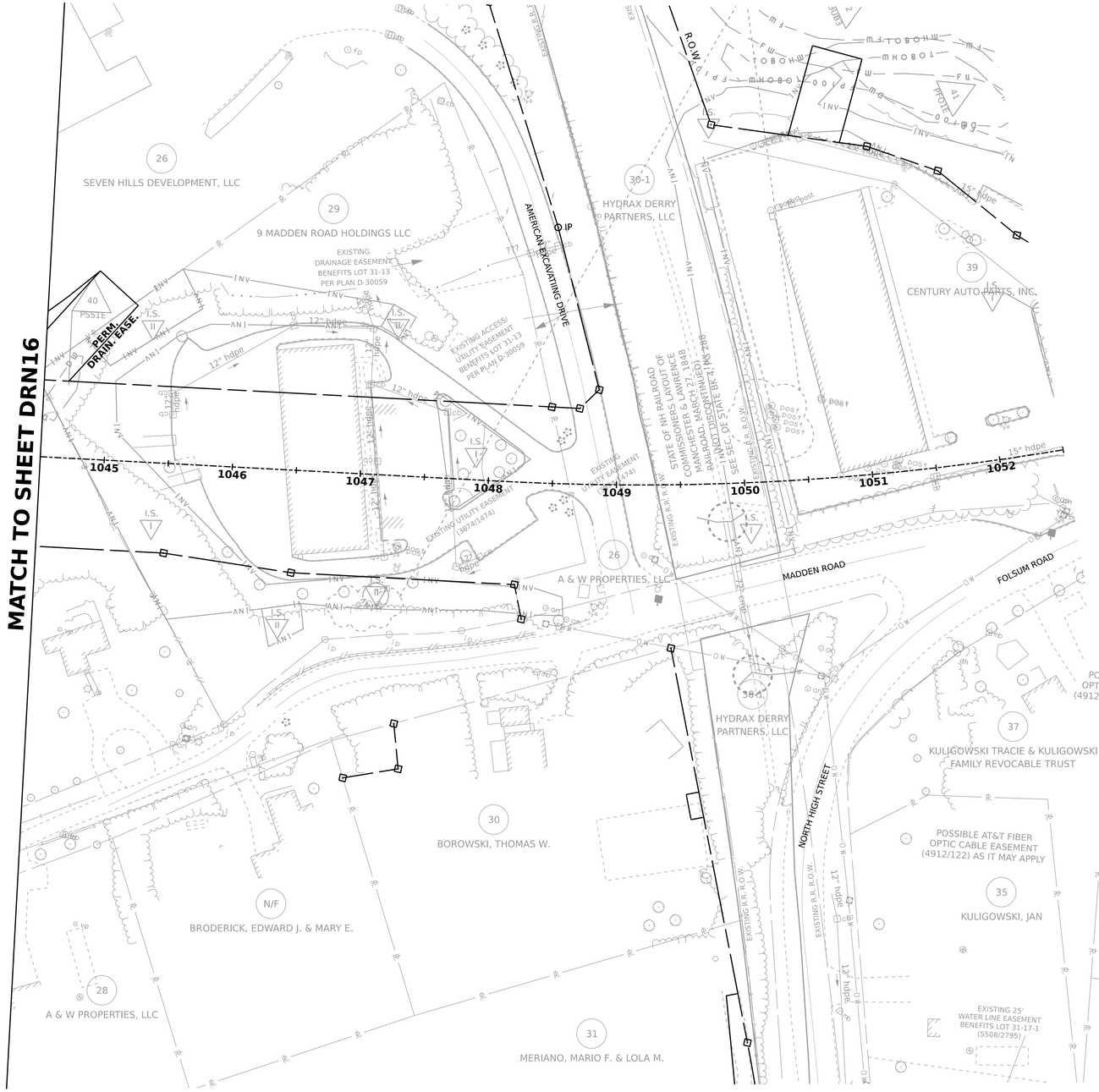
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN16	13065A_DRN_Plans	13065A	168	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DRAINAGE & UTILITY PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	DRN17	13065A_DRN_Plans	13065A	169	733

GRID

I-93 SB
N 133863.4182
E 1071891.7105

3604 3605 3606 3607 3608 I-93 SB 3609 3610 3611 3612

I-93 NB
N 134102.5767
E 1072001.3150

I-93 NB

1604 1605 1606 1607 1608 1609

MATCH TO SHEET PVT02

STA. 1604+22
LIMIT OF WORK

I-93 NB EXIT 4 OFF-RAMP

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT01	13065A_PVT_Plans	13065A	170	733

GRID

NASHUA ROAD

I-93 SB EXIT 4 ON-RAMP

3613 3614 3615 3616 3617 3618 3619 3620 3621 3622 3623 I-93 SB 3624 3625

I-93 NB

1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623

I-93 NB EXIT 4 ON-RAMP

MATCH TO SHEET PVT01

MATCH TO SHEET PVT03

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT02	13065A_PVT_Plans	13065A	171	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

GRID

MATCH TO SHEET PVT02

N15°52'57.33"W

3626 3627 3628 3629 3630 3631 3632 3633 3634 I-93 SB 3635 3636 3637 3638

I-93 SB EXIT 4 OFF-RAMP

I-93 NB

N15°53'09.04"W

1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635

I-93 NB EXIT 4 ON-RAMP

MATCH TO SHEET PVT04

50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT03	13065A_PVT_Plans	13065A	172	733

GRID

MATCH TO SHEET PVT03

MATCH TO SHEET PVT05

N15°52'57.33"W

3639 3640 3641 3642 3643 3644 3645 3646 3647 3648 3649 3650

I-93 SB

I-93 NB

N15°53'09.04"W

1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT04	13065A_PVT_Plans	13065A	173	733

GRID

STA. 3654+75
END APPROACH
BEGIN FULL DEPTH CONSTRUCTION

STA. 3654+25
I-93 SB
LIMIT OF WORK
BEGIN APPROACH

TS 3653+33.58

I-93 SB

N15°52'57.33"W

3651 3652 3653 3654 3655 3656 3657 3658 3659 3660 3661 3662 3663

10.7' 11' 12' 12' 12'

STA. 3654+77.2, LT 24.0'
BEGIN 50:1 LANE TAPER

I-93 SB

PI 3655+33.60
Ls 300.00'
Ys 4.54'
Xs 299.94'
LT 200.02'
ST 100.02'

STA. 3655+68.0 TO 3656+24.0, LT
CORE 12" HOLES IN CONCRETE SLOPE PAVING FOR GUARDRAIL POST INSTALLATION
BACK FILL WITH ITEM 304.4 - CRUSHED STONE (FINE GRADATION) (F)
(CORE HOLE AND CRUSHED STONE SUBSIDARY TO GR-5, ITEM 606.18001, GUARDRAIL INSTALLATION)

5

SB ON RAMP SOUNDWALL ALIGNMENT
(SEE SOUNDWALL PLANS FOR SOUNDWALL LAYOUT AND DETAILS)

SC 3656+33.58

600 601 602 603 604 605 606

I-93 SB

PI 3661+90.72
Δ 19°09'57.9" LT
D 01°44'10.4"
T 557.15'
L 1103.89'
R 3300.00'
PC 3656+33.58
PT 3667+37.46

TRIBUTARY TO WHEELER POND

10 11 12

6

50:1 LANE TAPER

MATCH TO SHEET PVT04

MATCH TO SHEET PVT06

TS 1650+97.08

I-93 NB

N15°53'09.04"W

1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661

11.3' 12' 12' 12.4' 12' 12' 10.9' 12' 12'

B-1

I-93 NB

PI 1652+83.76
Ls 280.00'
Ys 3.79'
Xs 279.95'
LT 186.68'
ST 93.35'

STA. 1654+50
I-93 NB
BEGIN APPROACH

SC 1653+77.08

PILLSBURY ROAD

2

STA. 1657+18.1, RT 22.9'
BEGIN 18:1 LANE TAPER

18:1 LANE TAPER

I-93 NB

PI 1659+75.70
Δ 19°43'14.5" LT
D 01°39'49.1"
T 598.62'
L 1185.39'
R 3444.00'
PC 1653+77.08
PT 1665+62.47

STA. 1655+00
END APPROACH
BEGIN FULL DEPTH CONSTRUCTION

50 0 50 100
SCALE IN FEET

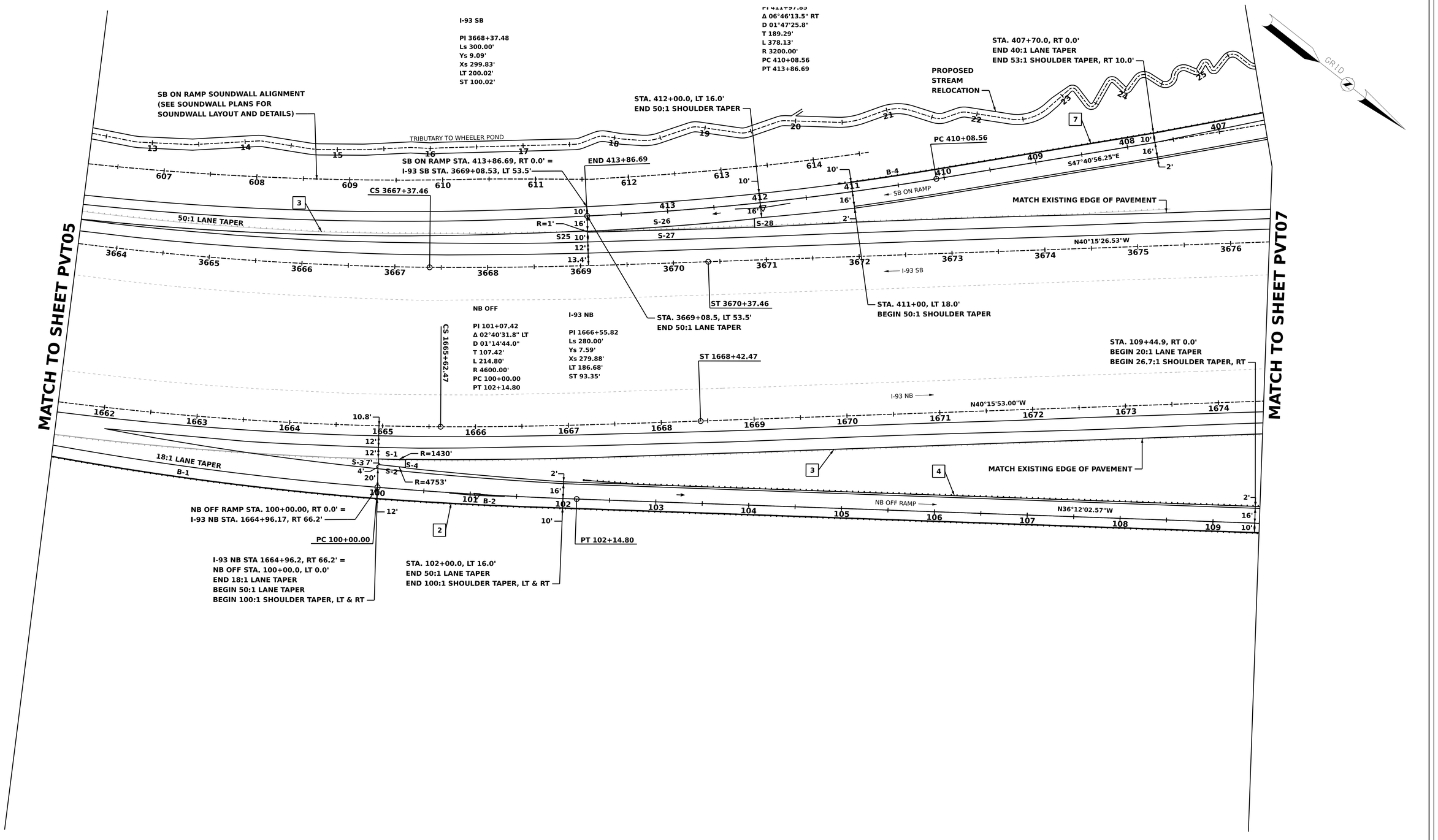
NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

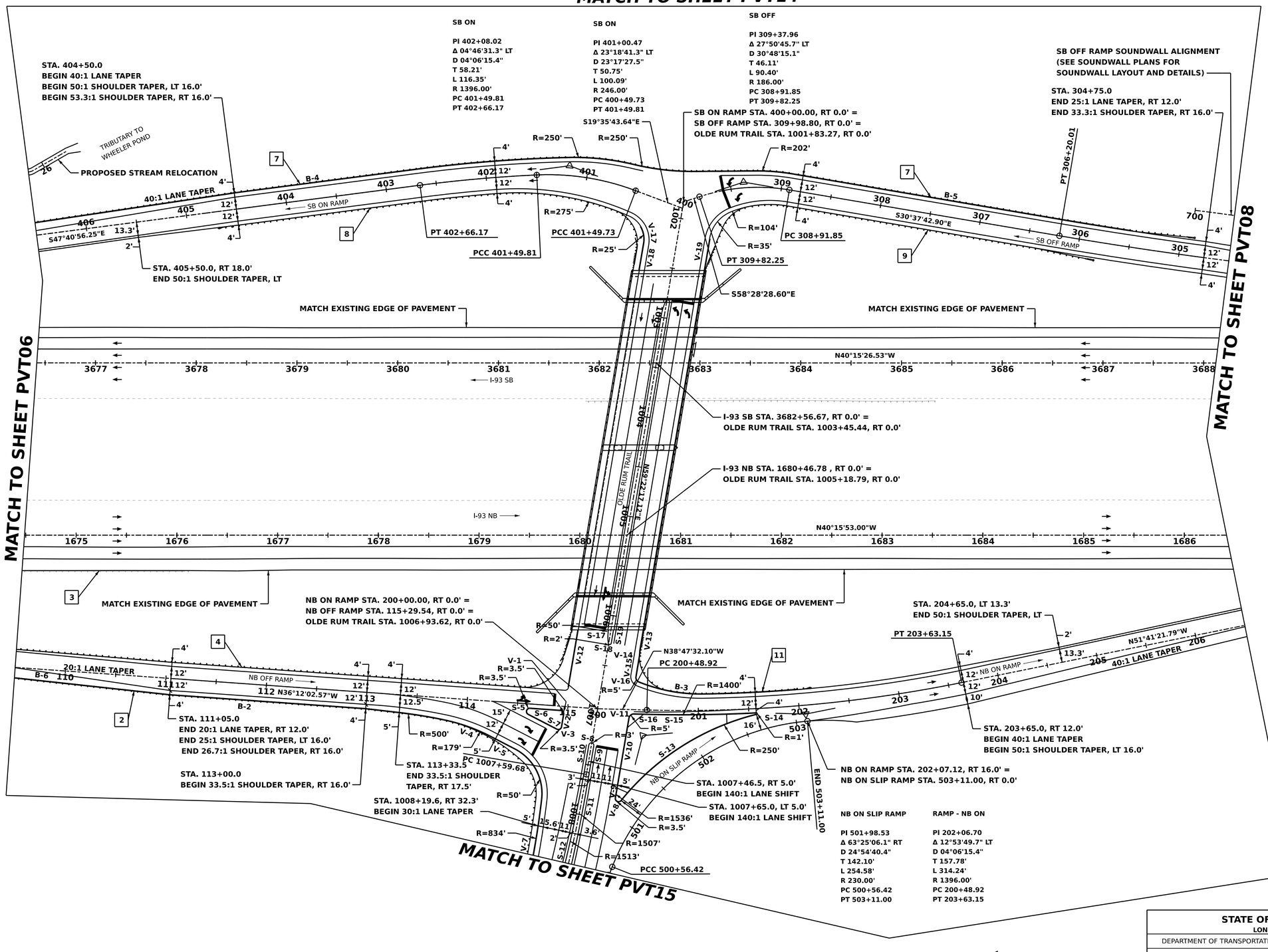
CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT05	13065A_PVT_Plans	13065A	174	733



NUMBER	DATE	DESCRIPTION

MATCH TO SHEET PVT14



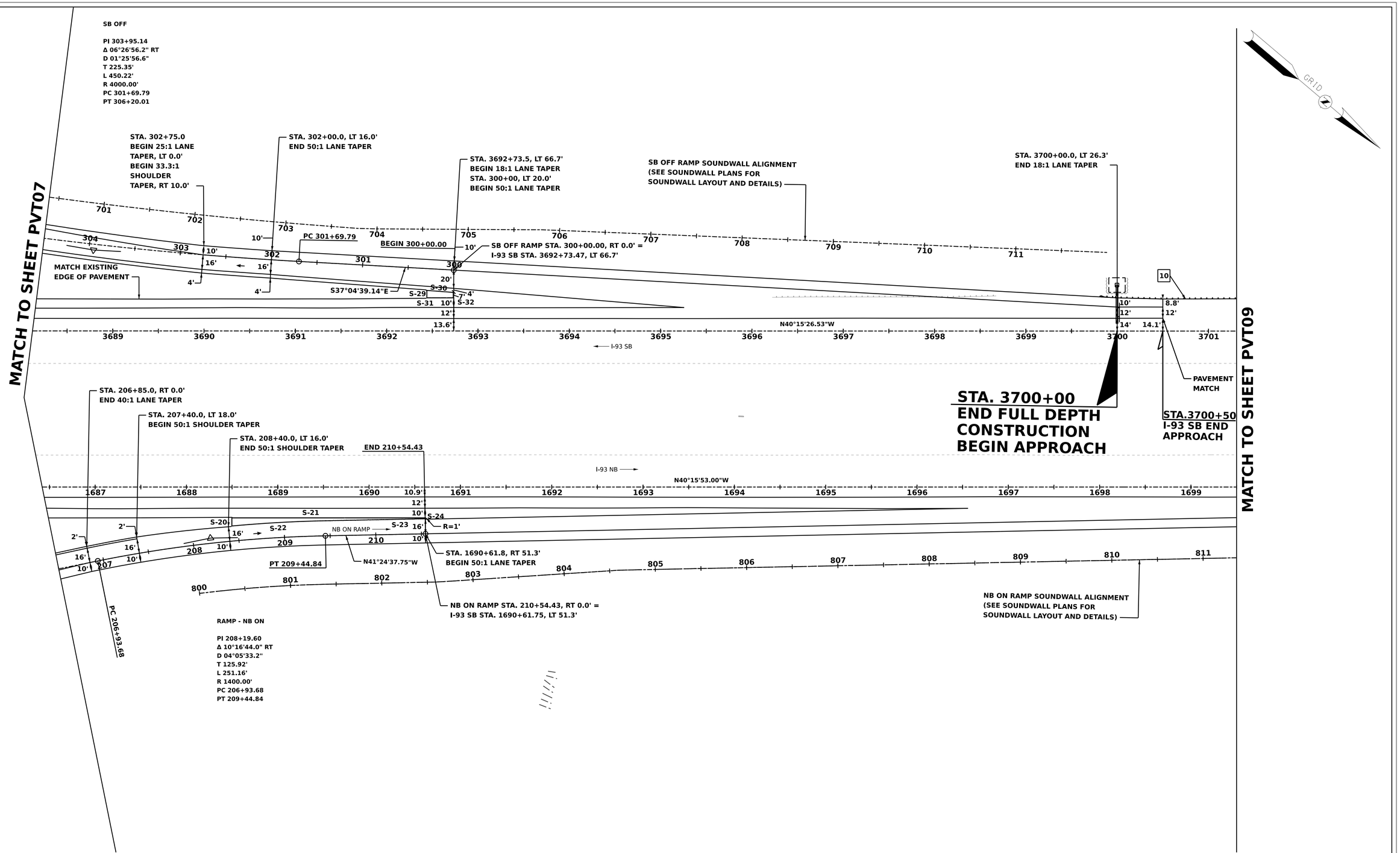
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT07	13065A_PVT_Plans	13065A	176	733



NUMBER	DATE	DESCRIPTION
		STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT08	13065A_PVT_Plans	13065A	177	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

GRID

MATCH TO SHEET PVT08

MATCH TO SHEET PVT10

10

12

3702 3703 3704 3705 3706 3707 3708 3709 3710 3711 3712 3713 3714 3715

N40°15'26.53"W

I-93 SB

I-93 SB

TS 3708+07.67

SC 3710+07.67

PI 3709+41.00
Ls 200.00'
Ys 0.90'
Xs 200.00'
LT 133.33'
ST 66.67'

I-93 NB

I-93 NB

N40°15'53.00"W

1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713

10.8' 12.4' 10.9' 12.1'

10.8' 10.9'

50:1 LANE TAPER

STA. 1704+66.1, RT 23.2'
END 50:1 LANE TAPER

TS 1706+39.62

SC 1708+39.62

812 813 814 815 816 817 818 819 820 821 822 823 824 825

PAVEMENT MATCH

NB ON RAMP SOUNDWALL ALIGNMENT
(SEE SOUNDWALL PLANS FOR
SOUNDWALL LAYOUT AND DETAILS)

STA. 1705+25
I-93 NB
END APPROACH

I-93 NB

PI 1707+72.96
Ls 200.00'
Ys 1.01'
Xs 200.00'
LT 133.33'
ST 66.67'

STA. 1704+75
END FULL DEPTH
CONSTRUCTION
BEGIN APPROACH

50 0 50 100

SCALE IN FEET

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

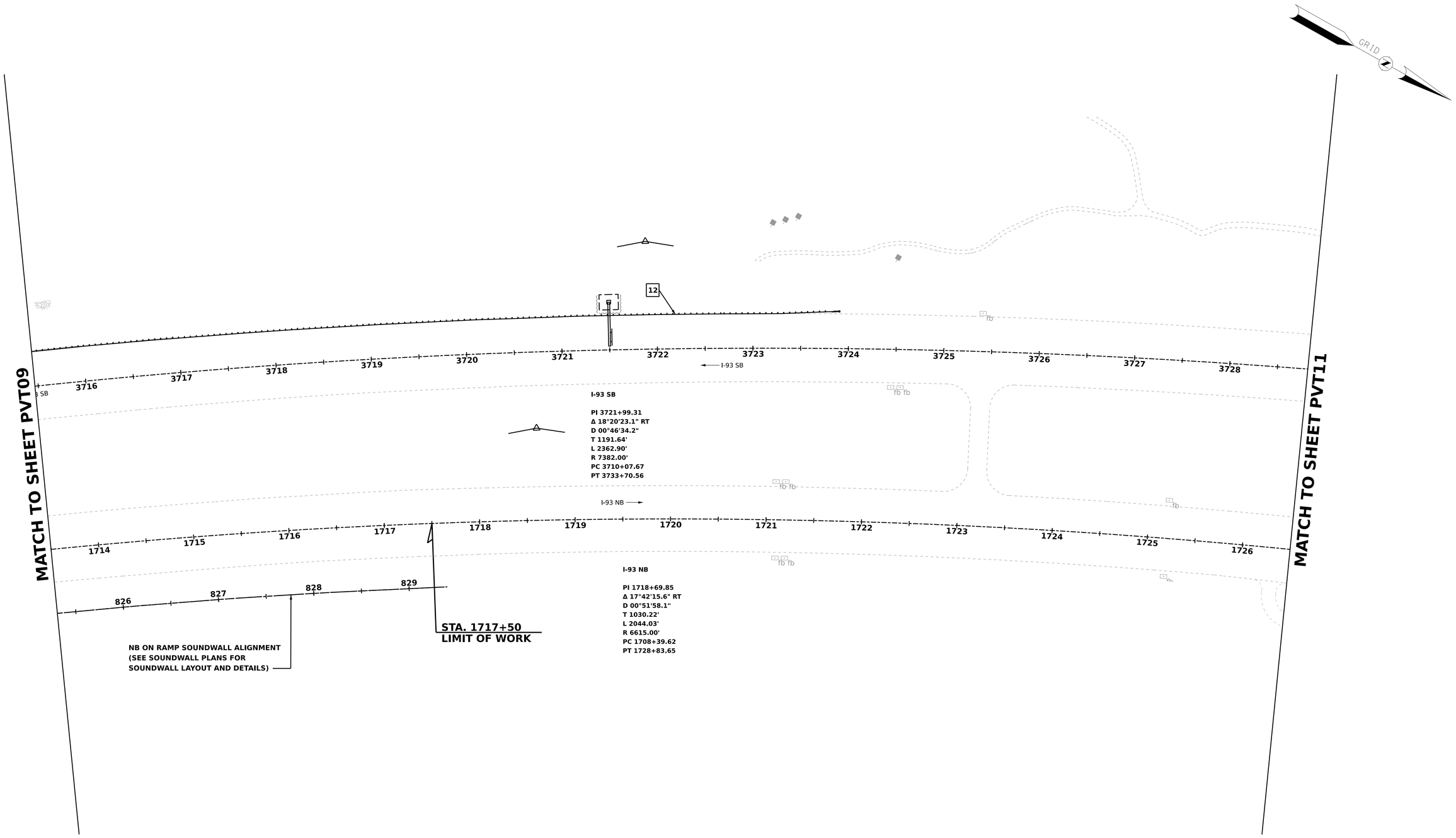
vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT09	13065A_PVT_Plans	13065A	178	733



NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

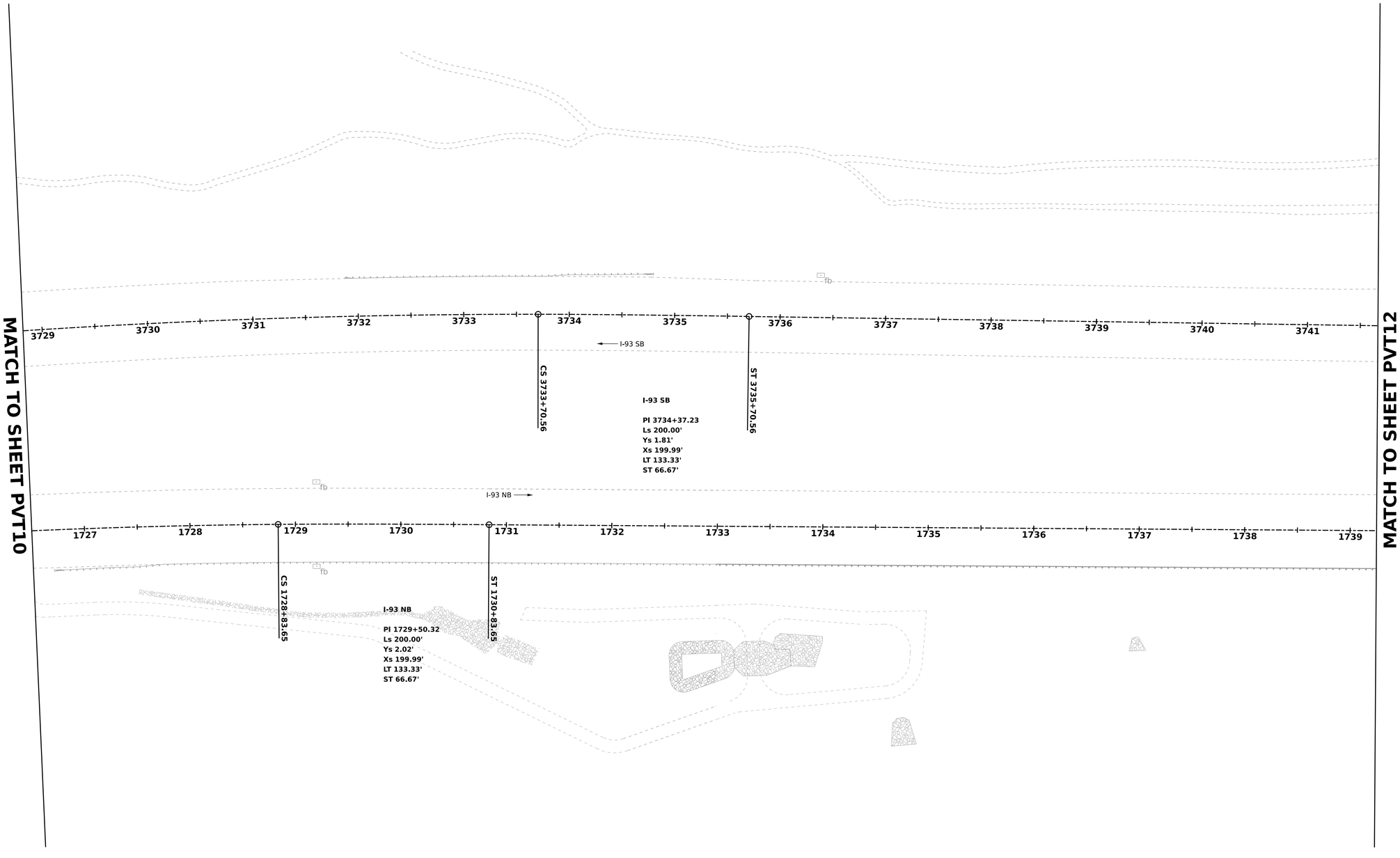
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT10	13065A_PVT_Plans	13065A	179	733

GRID



50 0 50 100

SCALE IN FEET

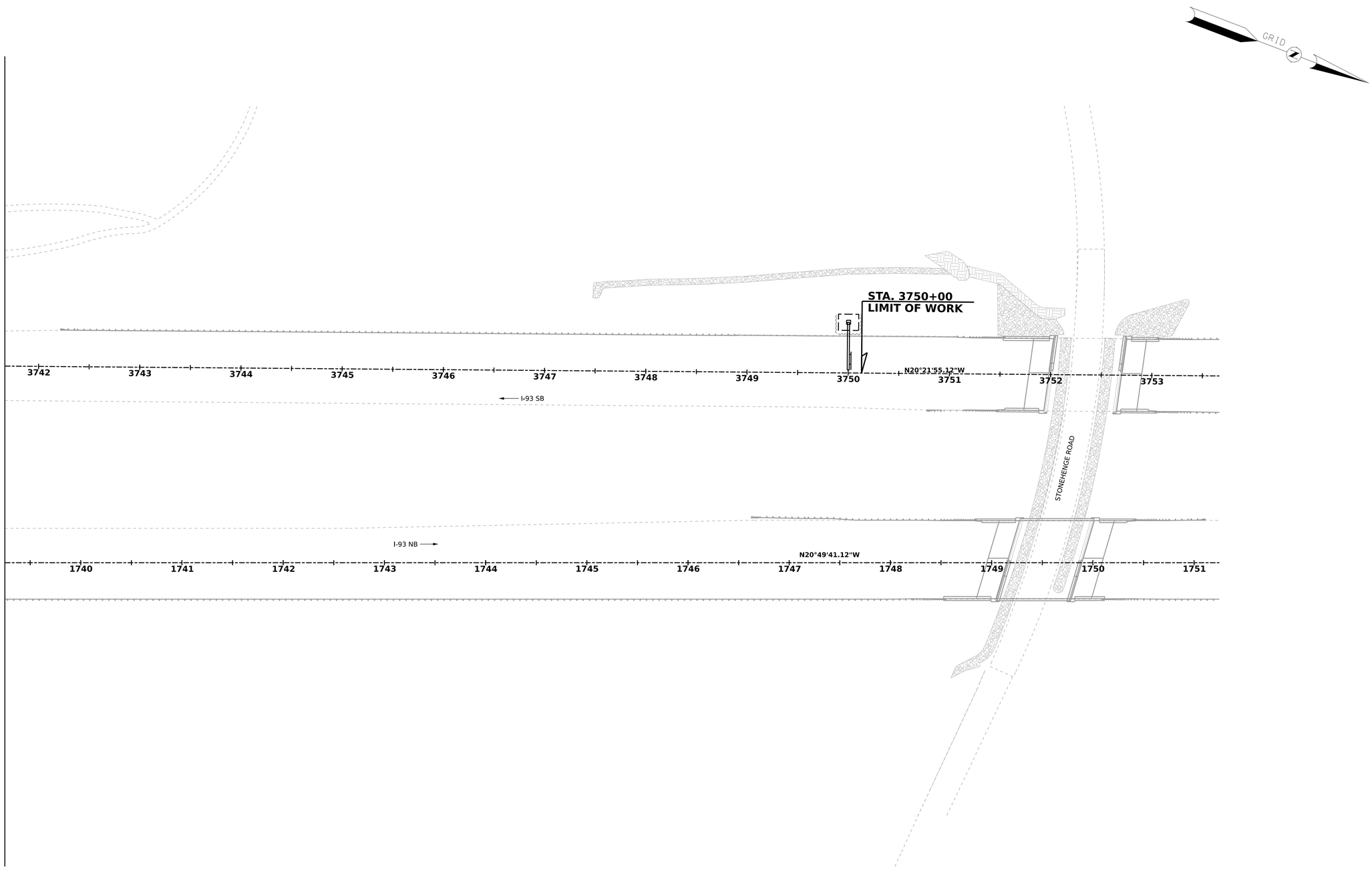
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT11	13065A_PVT_Plans	13065A	180	733



REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT12	13065A_PVT_Plans	13065A	181	733

MATCH TO SHEET PVT07

50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION

REVISIONS AFTER PROPOSAL

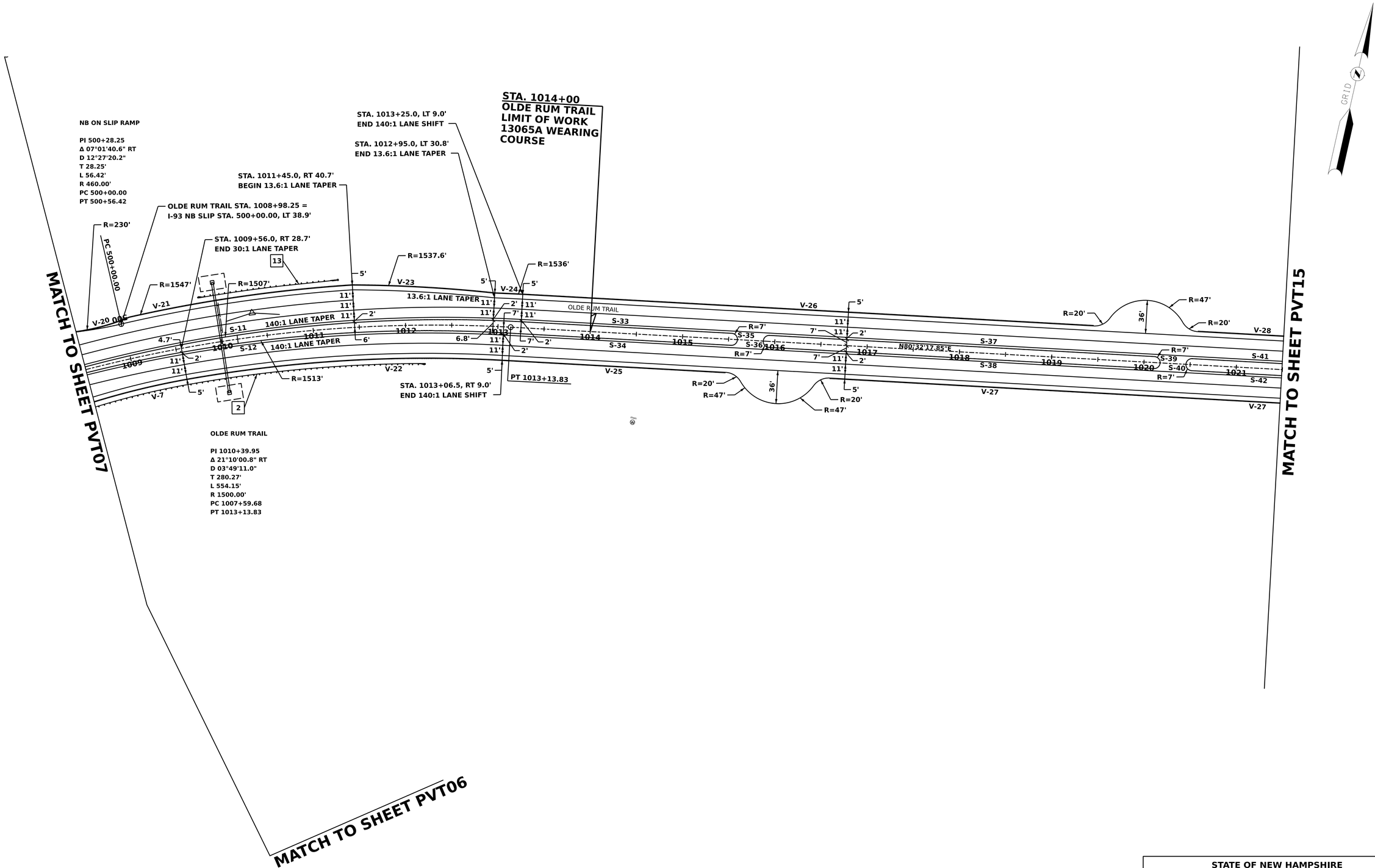
DESCRIPTION

SDR PROCESSED	**VHB TEAM/NHDOT**	DATE **2/8/2022**
NEW DESIGN	**VHB TEAM**	DATE **4/12/2022**
SHEET CHECKED	**J. HILTON**	DATE **4/12/2022**
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**PVT13**	**13065A_PVT_Plans**	**13065A**	**182**	**733**



50 0 50 100

SCALE IN FEET

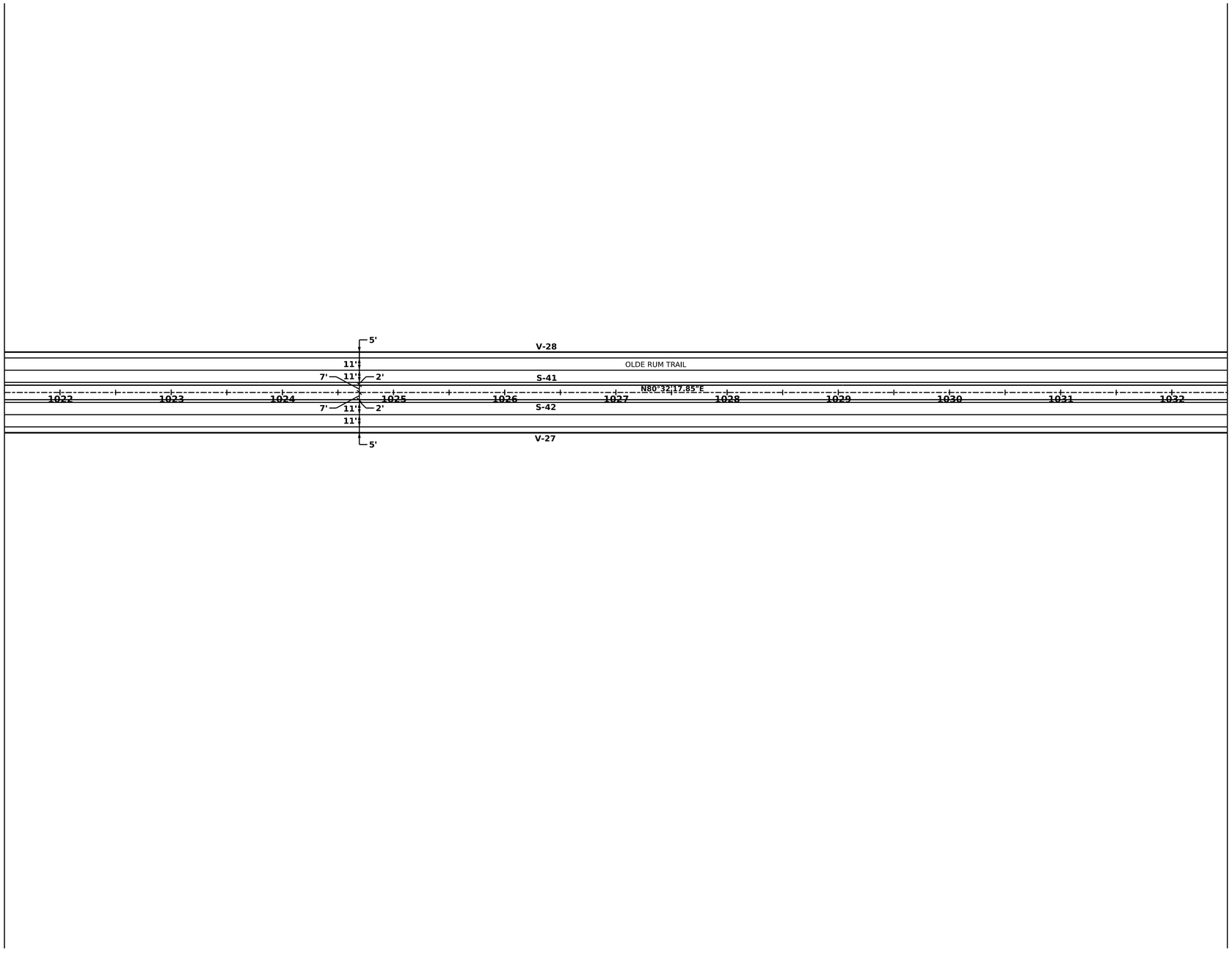
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT14	13065A_PVT_Plans	13065A	183	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT15	13065A_PVT_Plans	13065A	184	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

MATCH TO SHEET PVT15

5'
V-28
11'
OLDE RUM TRAIL
7'
11'
2'
S-41
N80°32'17.85"E
1033
1034
1035
1036
1037
1038
7'
11'
2'
S-42
11'
5'
V-27

R=9'
R=9'
V-29

1039
N80°32'17.92"E
11
0

CONSTRUCT ACCESS ROAD

1040
1041
1042
1043
1044
N80°32'17.85"E

12
13
14
15
16
17

PC 11+59.40

MADDEN ROAD

PI 13+01.13
Δ 86°45'17.2" RT
D 38°11'49.9"
T 141.74'
L 227.12'
R 150.00'
PC 11+59.40
PT 13+86.52

STA. 1040+00
OLDE RUM TRAIL
LIMIT OF WORK

STA. 1038+50
END FULL DEPTH
CONSTRUCTION

MADDEN ROAD

PI 14+72.01
Δ 61°14'12.6" LT
D 57°14'45.8"
T 59.23'
L 106.97'
R 100.09'
PC 14+12.77
PT 15+19.74

10'
10'
PT 13+86.52
S12°42'24.89"E
PC 14+12.77
PT 15+19.74
S75°14'39.07"E

STA. 16+31.53
MADDEN RD
LIMIT OF WORK

MADDEN ROAD

PI 15+66.91
Δ 47°20'05.1" RT
D 57°17'44.8"
T 43.83'
L 82.61'
R 100.00'
PC 15+23.08
PT 16+05.70

PC 15+23.08
PT 16+05.70
R=20'
R=10'
S27°54'33.98"E

MATCH TO SHEET PVT17

GRID

50 0 50 100
SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT16	13065A_PVT_Plans	13065A	185	733

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

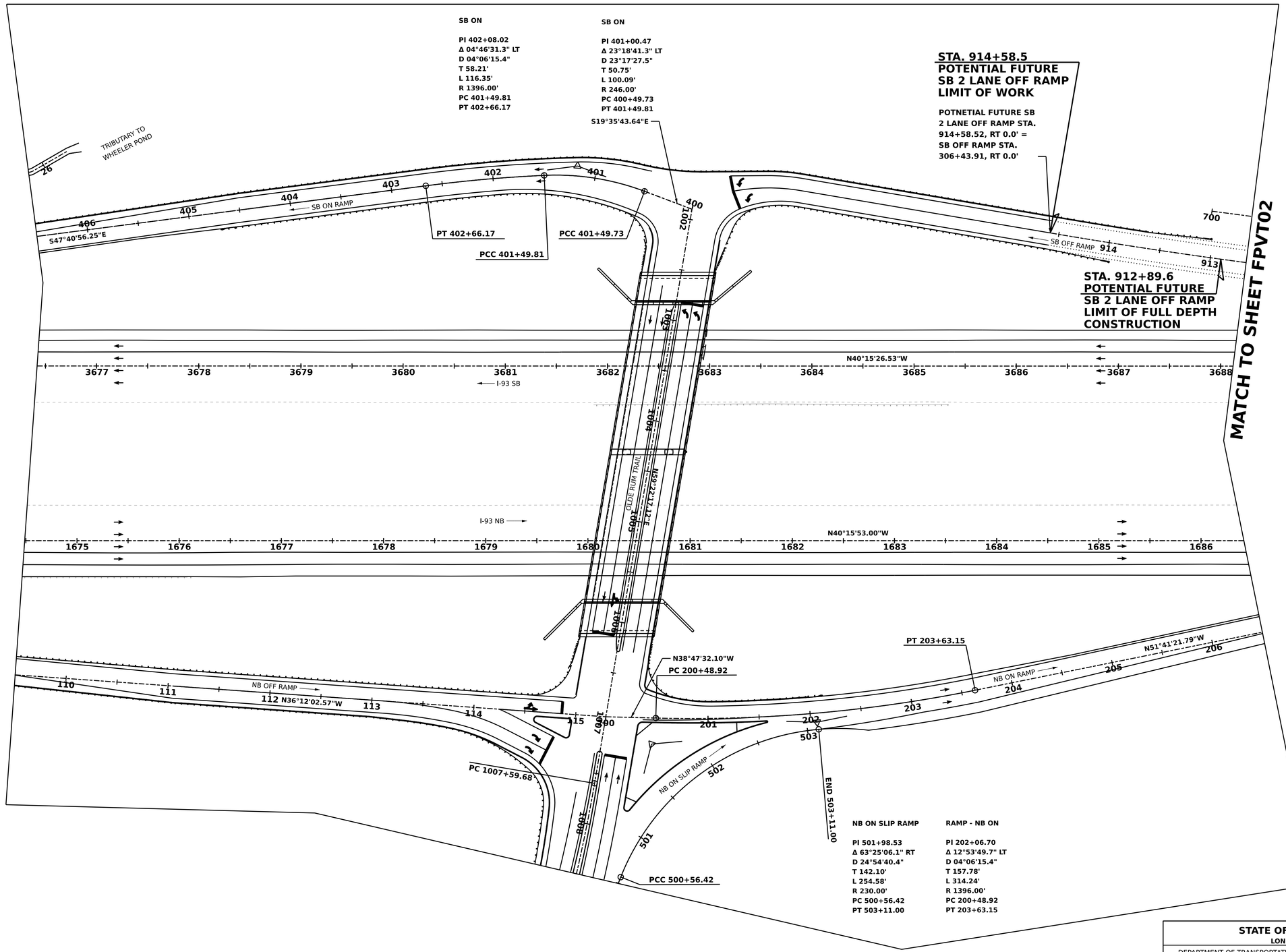
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CURBING, GUARDRAIL, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PVT17	13065A_PVT_Plans	13065A	186	733



50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

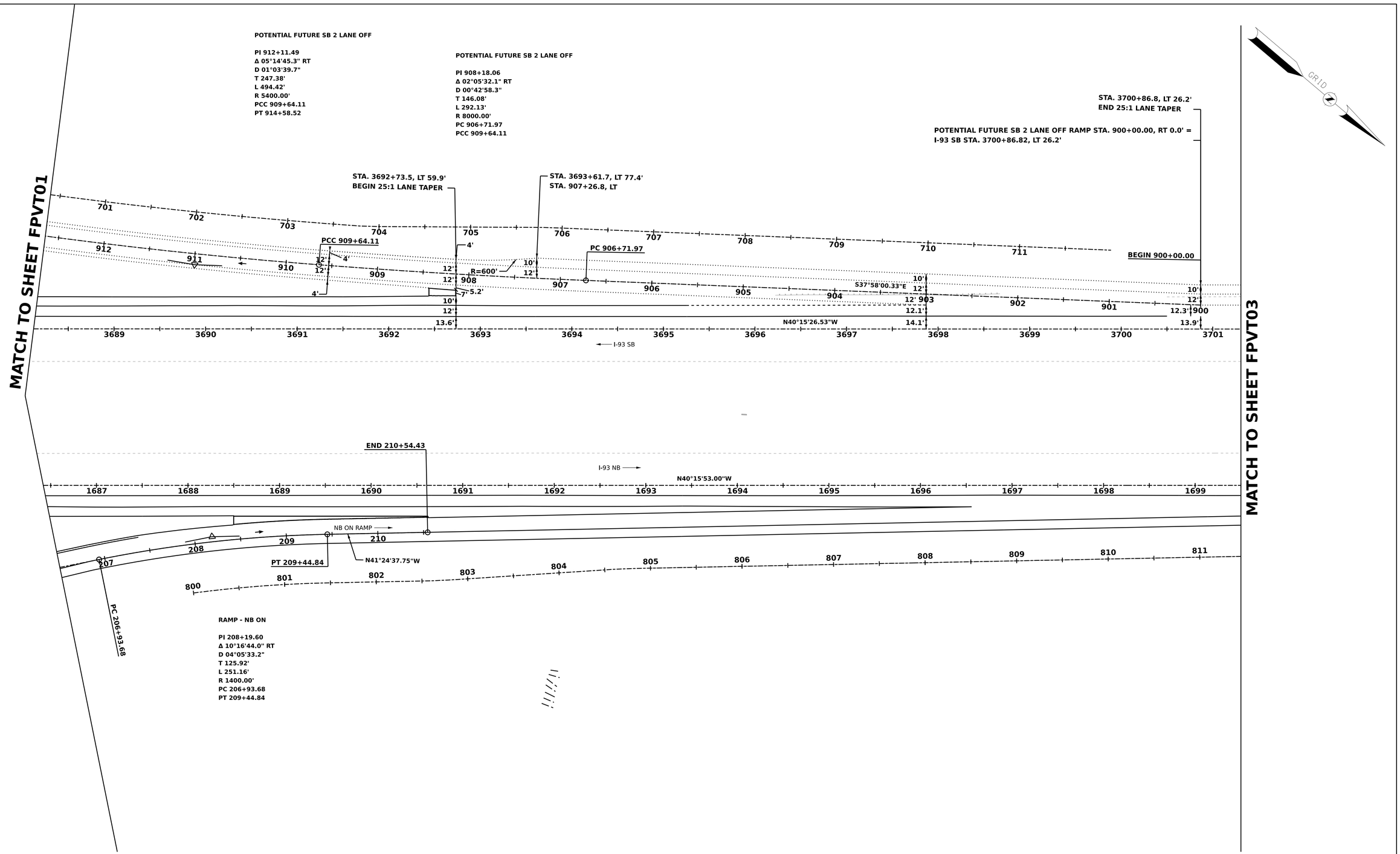
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	FPVT01	13065A_PVT_FUT_Plans	13065A	187	733



NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	FPVT02	13065A_PVT_FUT_Plans	13065A	188	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

GRID

MATCH TO SHEET FPVT02

MATCH TO SHEET FPVT04

STA. 3710+00, LT 41.1'
BEGIN 50:1 SHOULDER TAPER

STA. 3711+00, LT 49.2'
END 50:1 SHOULDER TAPER

REMOVE AND RESET

10'
12'
25.1'

12'
12'
25.2'

N40°15'26.53"W

3702 3703 3704 3705 3706 3707 3708 3709 3710 3711 3712 3713 3714 3715

I-93 SB

TS 3708+07.67

I-93 SB

PI 3709+41.00
Ls 200.00'
Ys 0.90'
Xs 200.00'
LT 133.33'
ST 66.67'

SC 3710+07.67

I-93 NB

N40°15'53.00"W

1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713

TS 1706+39.62

SC 1708+39.62

812 813 814 815 816 817 818 819 820 821 822 823 824 825

I-93 NB

PI 1707+72.96
Ls 200.00'
Ys 1.01'
Xs 200.00'
LT 133.33'
ST 66.67'

50 0 50 100

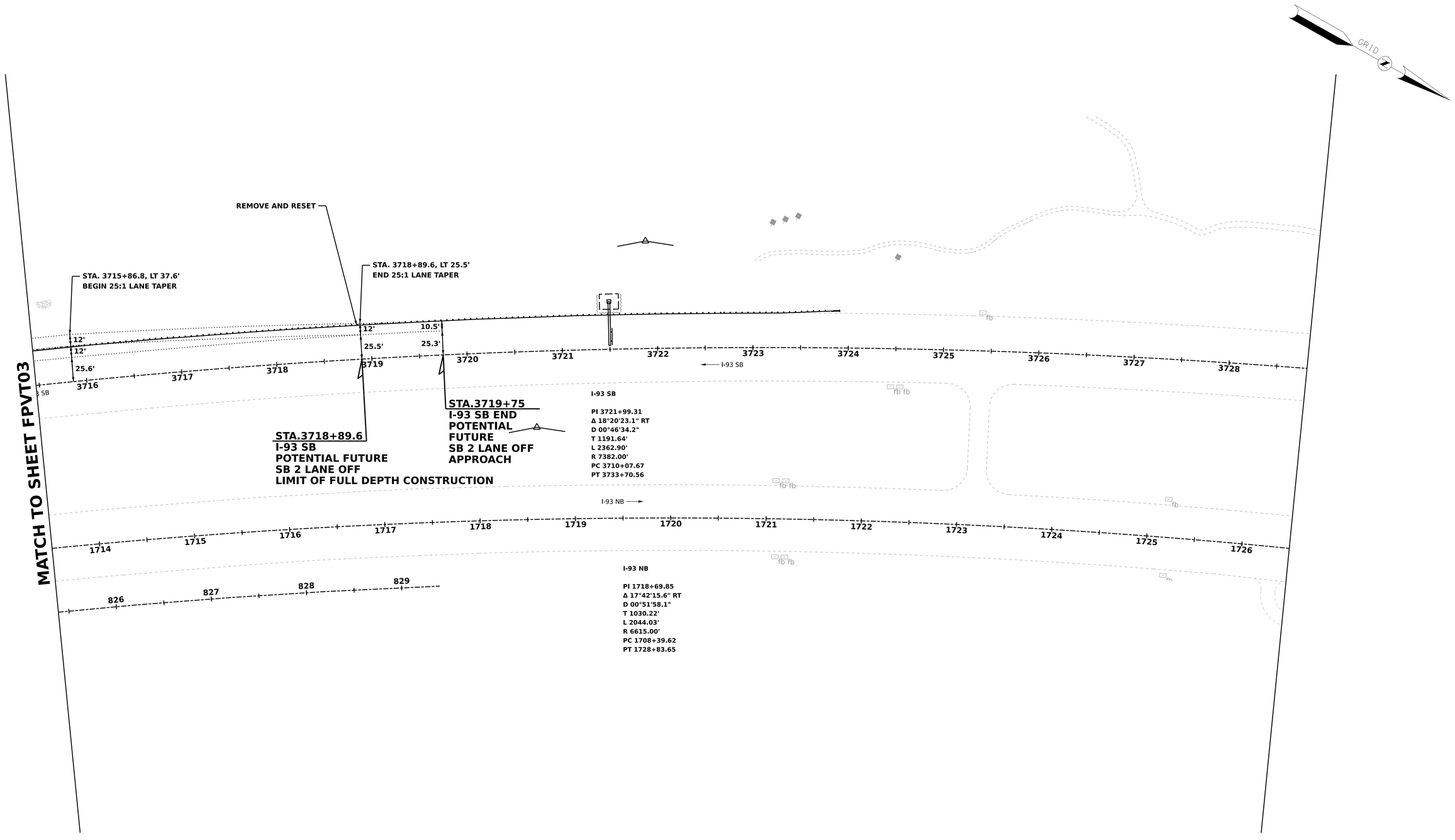
SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	FPVT03	13065A_PVT_FUT_Plans	13065A	189	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

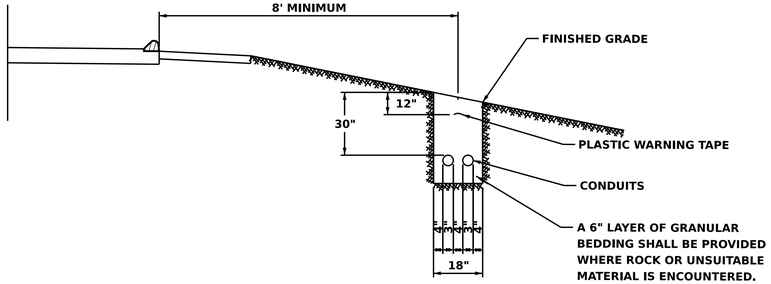
NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

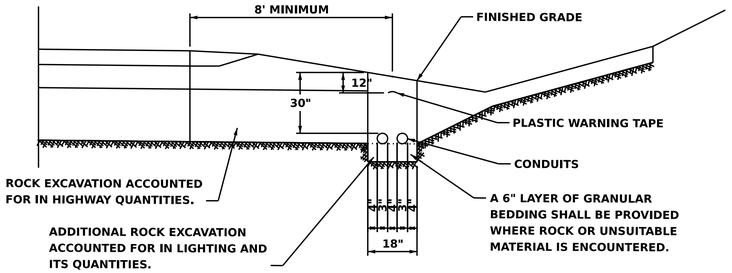
POTENTIAL FUTURE SB 2 LANE OFF RAMP CURBING, PAVEMENT LAYOUT & ALIGNMENT PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	FPVT04	13065A_PVT_FUT_Plans	13065A	190	733



TRENCH DETAIL - NO ROADWAY ROCK EXCAVATION

NOT TO SCALE



TRENCH DETAIL - WITH ROADWAY ROCK EXCAVATION

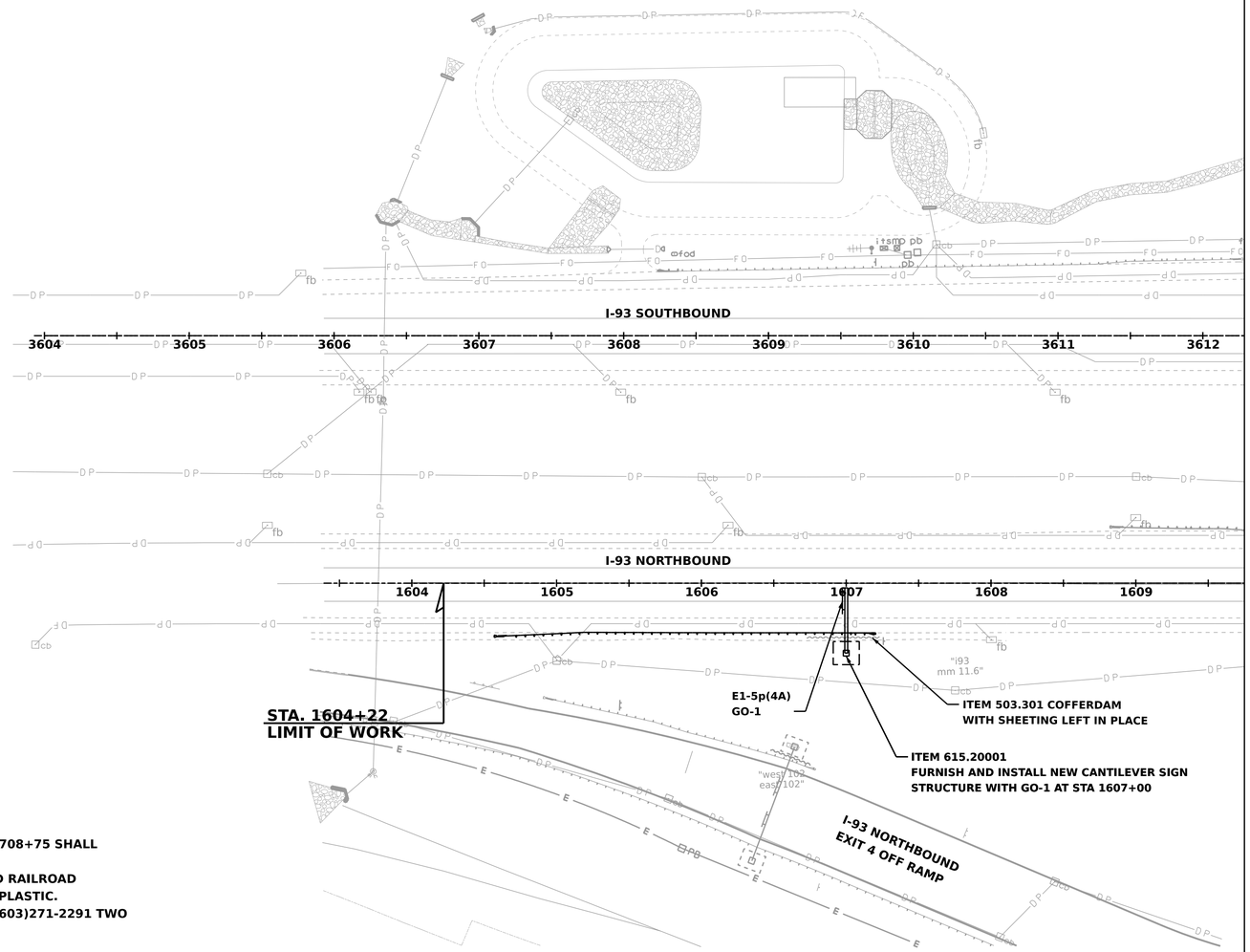
NOT TO SCALE

NOTE:

1) ALL EXISTING SIGNS SOUTH OF STA 1650+00/3652+50 AND NORTH OF STA 1707+00/3708+75 SHALL REMAIN UNLESS OTHERWISE NOTED.
2) ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES AND ALL OTHER MARKINGS NOTED WITH (T) SHALL BE THERMOPLASTIC.
3) THE CONTRACTOR SHALL CONTACT JULIE MATHEWS - NHDOT BUREAU OF TRAFFIC AT (603)271-2291 TWO WEEKS PRIOR TO PAVEMENT MARKING.
4) REPLACE WORDS/SYMBOLS PER LATEST NHDOT STANDARD PLAN SHEETS.
5) PAVEMENT MARKINGS SHALL EXTEND BEYOND PROJECT PAVING LIMITS TO OVERLAP EXISTING MARKINGS DISTURBED BY CONSTRUCTION.

PAVEMENT MARKING AND SIGNING LEGEND

{ }SSLW = {SIZE} SINGLE SOLID LINE WHITE
{ }SSLY = {SIZE} SINGLE SOLID LINE YELLOW
{ }SBLW = {SIZE} SINGLE BROKEN LINE WHITE (10' LONG, 30' SPACE)
{ }SDLW = {SIZE} SINGLE DOTTED LINE WHITE (3' LONG, 9' SPACE)
(T) = THERMOPLASTIC
= PAVEMENT MARKING SYMBOL/ WORD (THERMOPLASTIC)



MATCH TO SHEET PSN02

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN01	13065A_PSN_Plans	13065A	191	733

GRID

MATCH TO SHEET PSN01

MATCH TO SHEET PSN03

TMH #12

TMH #11

I-93 SOUTHBOUND

I-93 SOUTHBOUND EXIT 4 ON RAMP

I-93 NORTHBOUND

I-93 NORTHBOUND EXIT 4 ON RAMP

NH ROUTE 102 NASHUA ROAD

3613 3614 3615 3616 3617 3618 3619 3620 3621 3622 3623 3624 3625

1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN02	13065A_PSN_Plans	13065A	192	733

GRID

MATCH TO SHEET PSN02

MATCH TO SHEET PSN04

I-93 SOUTHBOUND
EXIT 4 OFF RAMP

I-93 SOUTHBOUND

3626 3627 3628 3629 3630 3631 3632 3633 3634 3635 3636 3637 3638

I-93 NORTHBOUND

1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635

MAINTENANCE ACCESS

E1-5p(4A)
GO-2

ITEM 503.302 COFFERDAM
WITH SHEETING LEFT IN PLACE

ITEM 615.20002 FURNISH AND INSTALL
NEW CANTILEVER SIGN STRUCTURE
WITH GO-2 AT STA 1633+00.

MAINTENANCE ACCESS

50 0 50 100

SCALE IN FEET

NUMBER	DESCRIPTION	STATION	DATE
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN03	13065A_PSN_Plans	13065A	193	733

GRID

MATCH TO SHEET PSN03

MATCH TO SHEET PSN05

I-93 SOUTHBOUND
EXIT 4 OFF RAMP

I-93 SOUTHBOUND

3639 3640 3641 3642 3643 3644 3645 3646 3647 3648 3649 3650

I-93 NORTHBOUND

1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648

emerg

APPROX. EXISTING R.O.W.

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

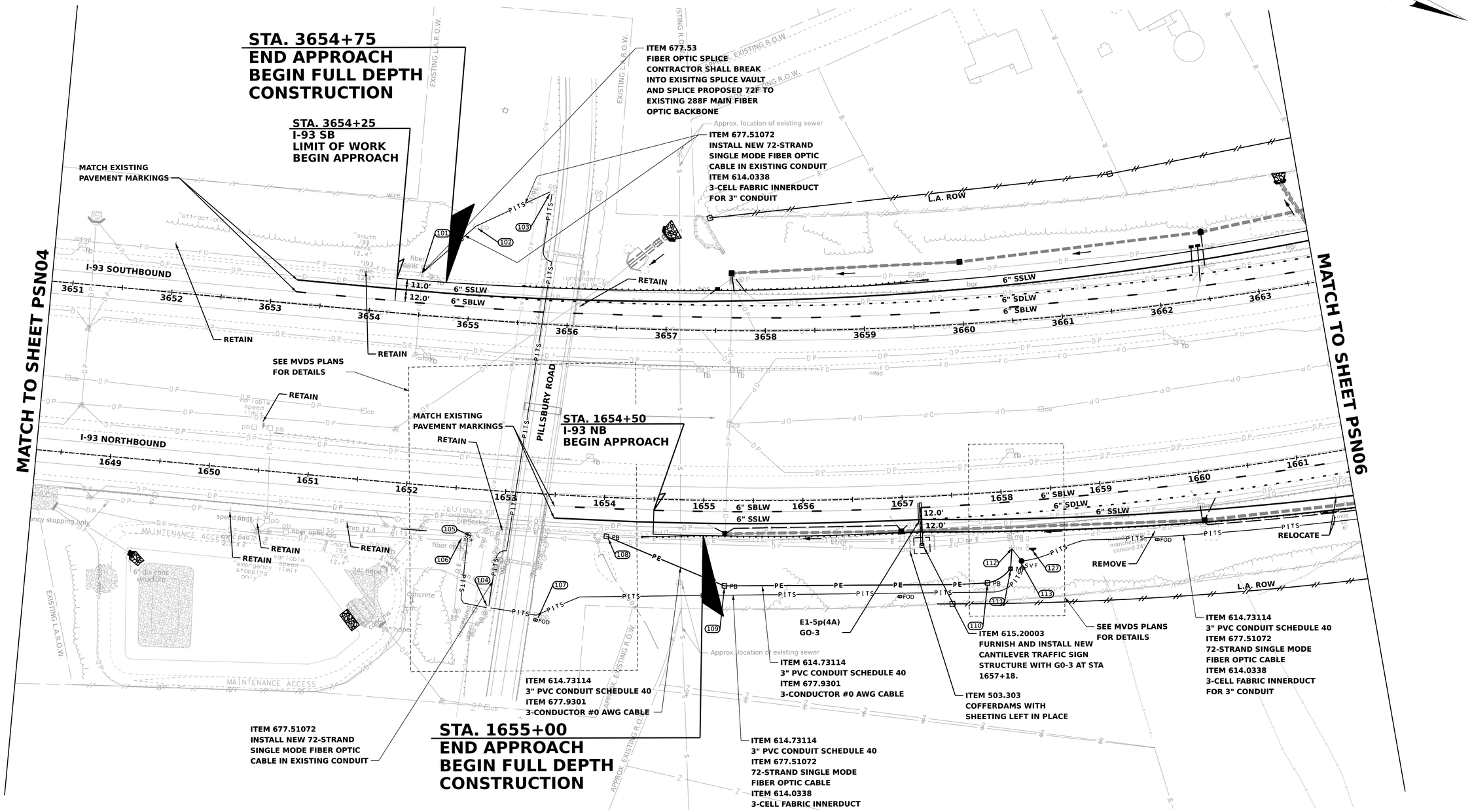
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN04	13065A_PSN_Plans	13065A	194	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN05	13065A_PSN_Plans	13065A	195	733

MATCH TO SHEET PSN05

MATCH TO SHEET PSN07

RELOCATE

L.A. ROW
R5-10a(M)

EXISTING L.A.R.O.W.

I-93 SOUTHBOUND EXIT 4A ON RAMP

RETAIN

R3-4

I-93 SOUTHBOUND

I-93 NORTHBOUND

I-93 NORTHBOUND EXIT 4A OFF RAMP

ITEM 615.01201
INSTALL NEW E5-1a SIGN

SEE SIGNALIZATION PLANS FOR MORE
DETECTION INFORMATION

ITEM 614.73114
3" PVC CONDUIT SCHEDULE 40
ITEM 677.51072
72-STRAND SINGLE MODE
FIBER OPTIC CABLE
ITEM 614.0338
3-CELL FABRIC INNERDUCT
FOR 3" CONDUIT

ITEM 614.73114
3" PVC CONDUIT SCHEDULE 40
ITEM 677.51072
72-STRAND SINGLE MODE
FIBER OPTIC CABLE
ITEM 614.0338
3-CELL FABRIC INNERDUCT
FOR 3" CONDUIT

L.A. ROW

EXISTING L.A.R.O.W.

50 0 50 100

SCALE IN FEET

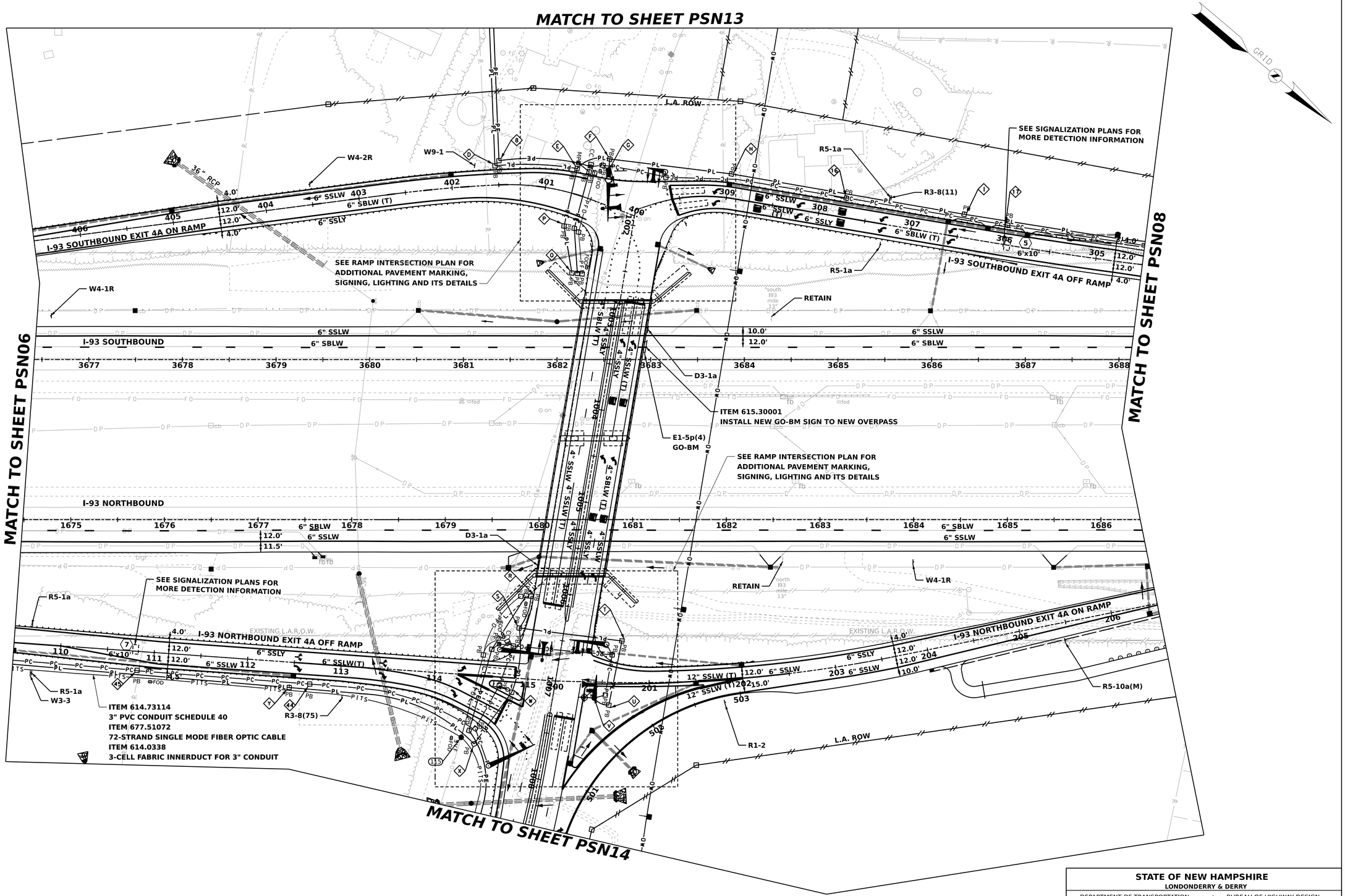
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN06	13065A_PSN_Plans	13065A	196	733


MATCH TO SHEET PSN13
MATCH TO SHEET PSN06
MATCH TO SHEET PSN08
MATCH TO SHEET PSN14
GRID
L.A. ROW
I-93 SOUTHBOUND EXIT 4A ON RAMP
I-93 SOUTHBOUND
I-93 SOUTHBOUND EXIT 4A OFF RAMP
I-93 NORTHBOUND
I-93 NORTHBOUND EXIT 4A ON RAMP
I-93 NORTHBOUND EXIT 4A OFF RAMP
EXISTING L.A.R.O.W.
36" RCP
W4-2R
W9-1
W4-1R
R5-1a
R3-8(11)
R3-8(75)
W3-3
D3-1a
R1-2
R5-10a(M)
RETAIN
SEE SIGNALIZATION PLANS FOR MORE DETECTION INFORMATION
SEE RAMP INTERSECTION PLAN FOR ADDITIONAL PAVEMENT MARKING, SIGNING, LIGHTING AND ITS DETAILS
ITEM 615.30001
INSTALL NEW GO-BM SIGN TO NEW OVERPASS
E1-5p(4)
GO-BM
ITEM 614.73114
3" PVC CONDUIT SCHEDULE 40
ITEM 677.51072
72-STRAND SINGLE MODE FIBER OPTIC CABLE
ITEM 614.0338
3-CELL FABRIC INNERDUCT FOR 3" CONDUIT
6" SSLW
6" SBLW
6" SSLY
6" SBLW (T)
6" SSLW (T)
12" SSLW (T)
4" SSLW (T)
4" SSLY
4" SBLW
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041

MATCH TO SHEET PSN07

MATCH TO SHEET PSN09

W3-3

I-93 SOUTHBOUND EXIT 4A OFF RAMP

I-93 SOUTHBOUND

I-93 NORTHBOUND

I-93 NORTHBOUND EXIT 4A ON RAMP

R3-4

L.A. ROW

EXISTING L.A.R.O.W.

SEE SIGNALIZATION PLANS FOR MORE DETECTION INFORMATION

RELOCATE

ITEM 615.01201
INSTALL NEW E5-1a SIGN

ITEM 615.043, ITEM 615.20401
REMOVE EXISTING SIGNS AND RELOCATE EXISTING CANTILEVER TRAFFIC SIGN STRUCTURE TO STA. 3700+00. REMOVE FOUNDATION.

ITEM 615.20401 INSTALL RELOCATED CANTILEVER TRAFFIC SIGN STRUCTURE FROM STA. 3696+50 WITH NEW GO-3 AT STATION 3700+00.

E1-5p(4A)
GO-3

ITEM 503.304
COFFERDAM
WITH SHEETING
LEFT IN PLACE

PAVEMENT MATCH

STA. 3700+00
END FULL DEPTH CONSTRUCTION
BEGIN APPROACH

STA.3700+50
I-93 SB END APPROACH

ITEM 662.282 DECOMMISSION MONITORING WELL

APPROX. EXISTING R.O.W.

STONEHEDGE RD.

GRID

50 0 50 100
SCALE IN FEET

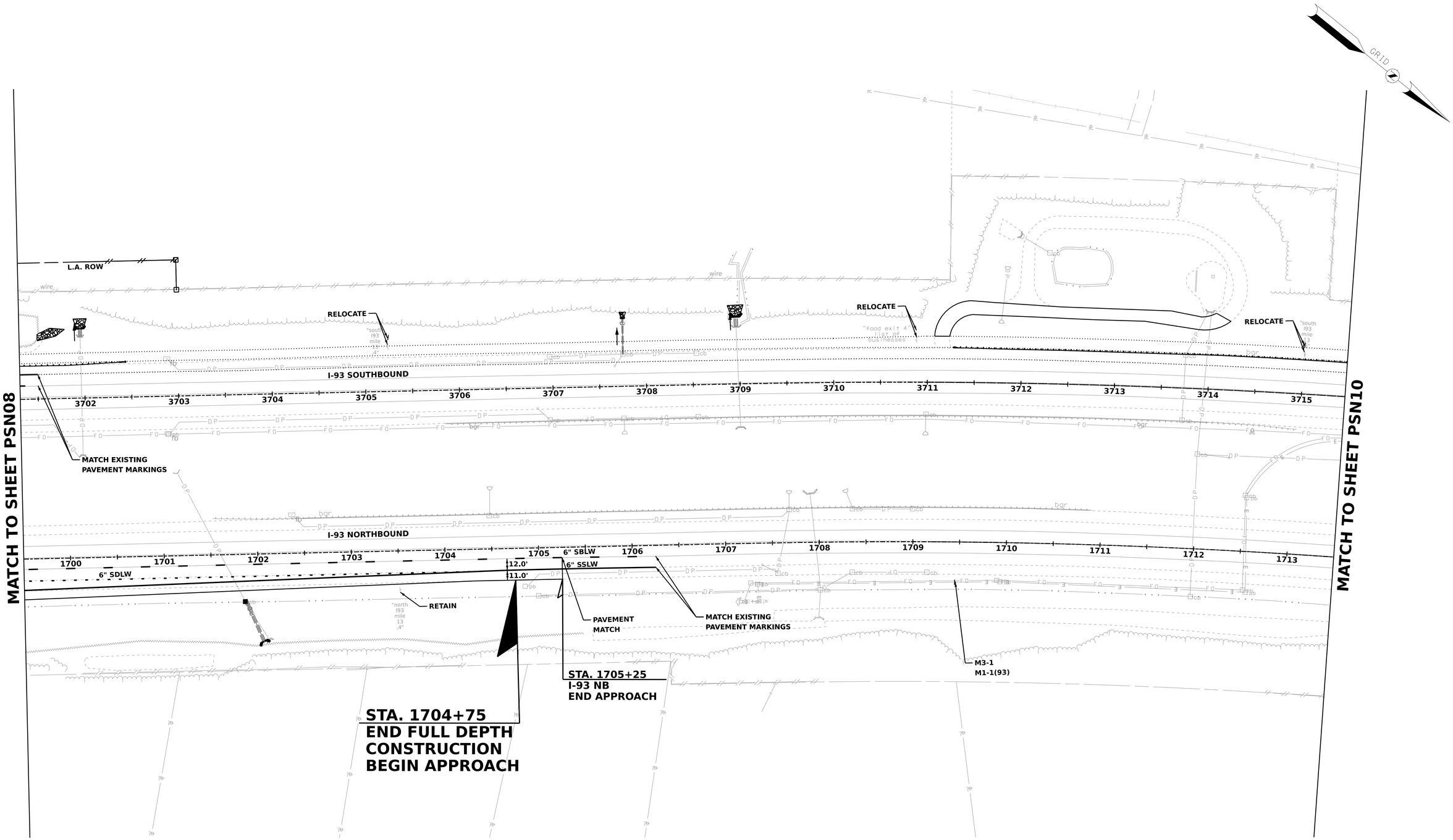
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN08	13065A_PSN_Plans	13065A	198	733



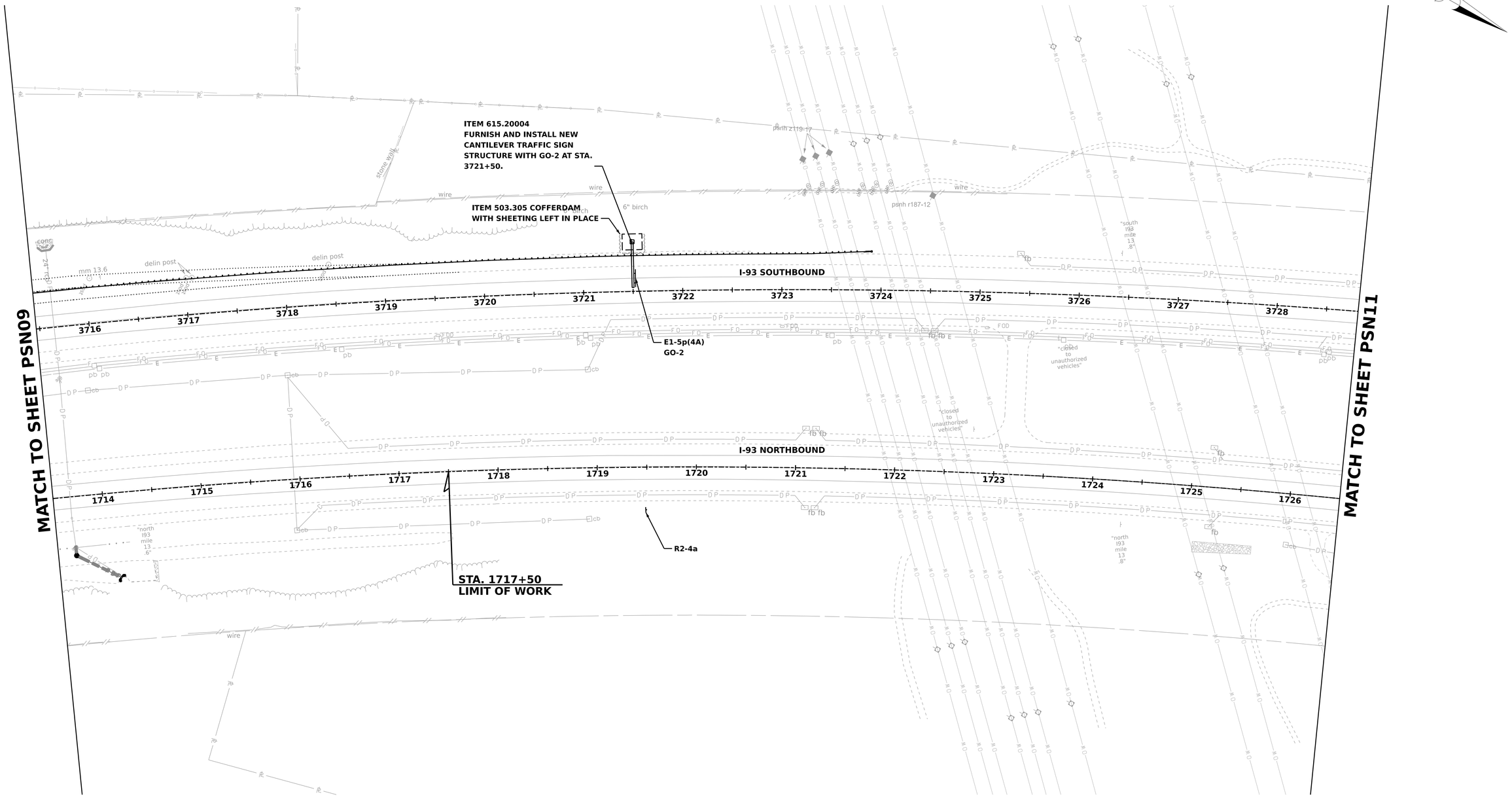
NUMBER	DESCRIPTION	STATION	DATE
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN09	13065A_PSN_Plans	13065A	199	733



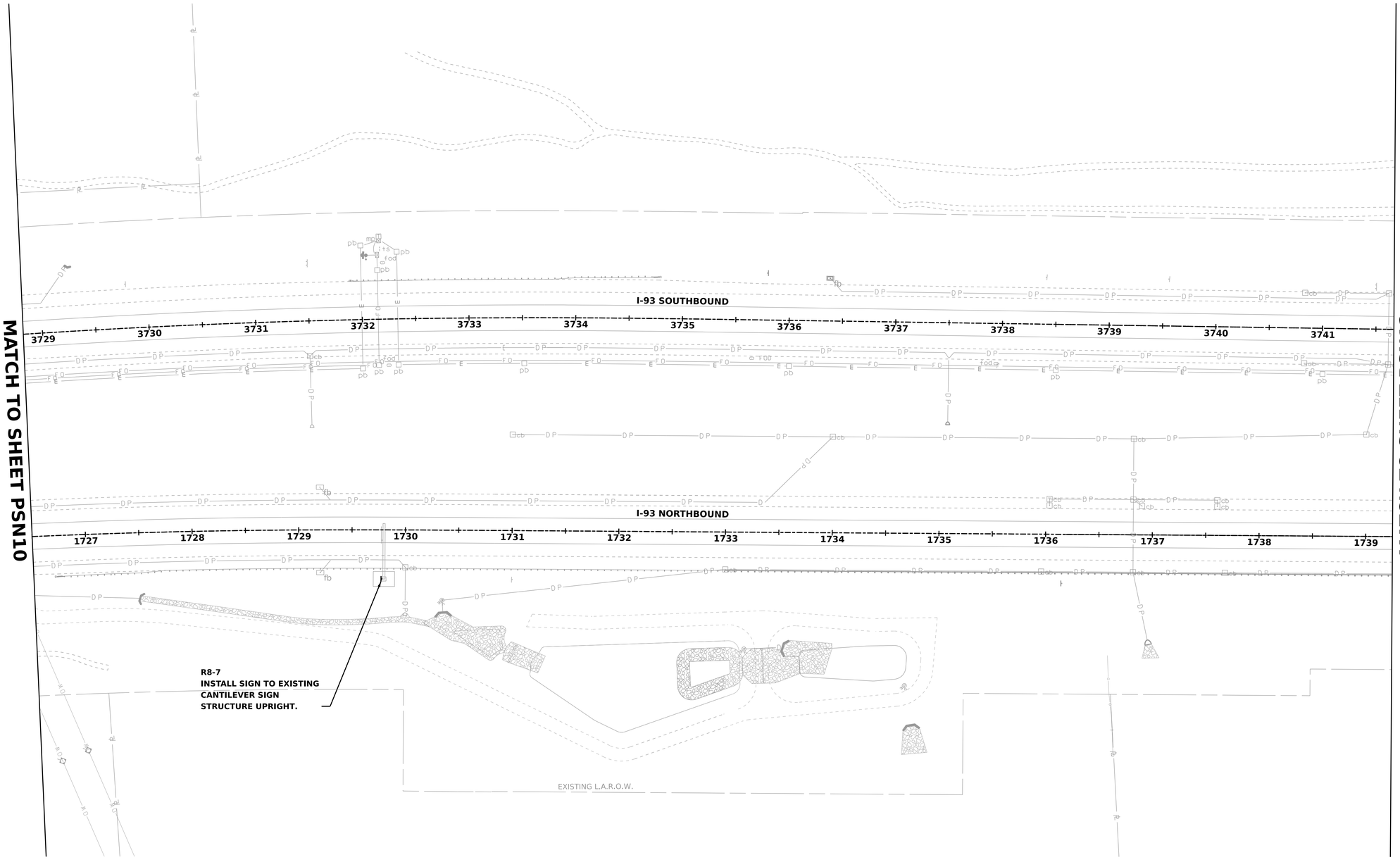
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN10	13065A_PSN_Plans	13065A	200	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN11	13065A_PSN_Plans	13065A	201	733

GRID

MATCH TO SHEET PSN11

STA. 3750+00
LIMIT OF WORK

ITEM 503.306
COFFERDAMS WITH SHEETING LEFT IN PLACE

I-93 SOUTHBOUND

3742 3743 3744 3745 3746 3747 3748 3749 3750 3751 3752 3753

ITEM 615.20005
FURNISH AND INSTALL NEW CANTILEVER SIGN STRUCTURE WITH GO-1 AT STA 3750+00.

E1-5p(4A)
GO-1

APPROX. EXISTING R.O.W.

STONEHENGE ROAD

I-93 NORTHBOUND

1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751

EXISTING L.A.R.O.W.

ITEM 615.0101
INSTALL NEW D2-2 SIGN.

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN12	13065A_PSN_Plans	13065A	202	733

GRID

PROPOSED POWER SOURCE
FOR TRAFFIC SIGNALS AND ITS
EQUIPMENT

ITEM 677.6302
METER AND DISCONNECT
PEDESTAL

UNMETERED POWER RUN FOR
HIGHWAY LIGHTING.

ITEM 671.603
3" PVC CONDUIT, SCHEDULE 80
DIRECTIONAL BORE

TROLLEY CAR LANE

TROLLEY CAR LANE

ITEM 671.603
3" PVC CONDUIT, SCHEDULE 80
DIRECTIONAL BORE

ITEM 677.9301
3-CONDUCTOR #0 AWG CABLE

MATCH TO SHEET PSN07

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

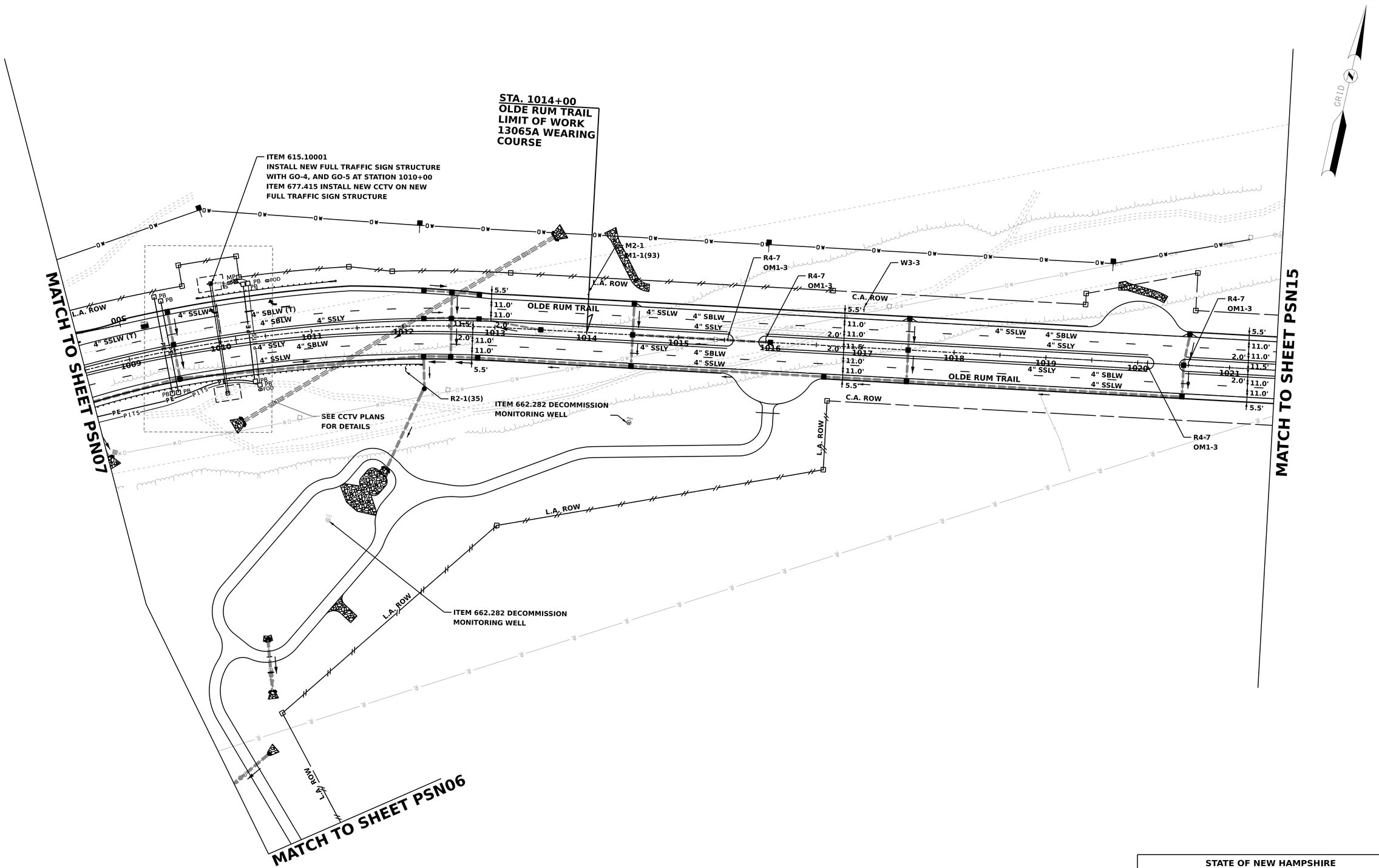
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN13	13065A_PSN_Plans	13065A	203	733



REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			
STATION			
STATION			

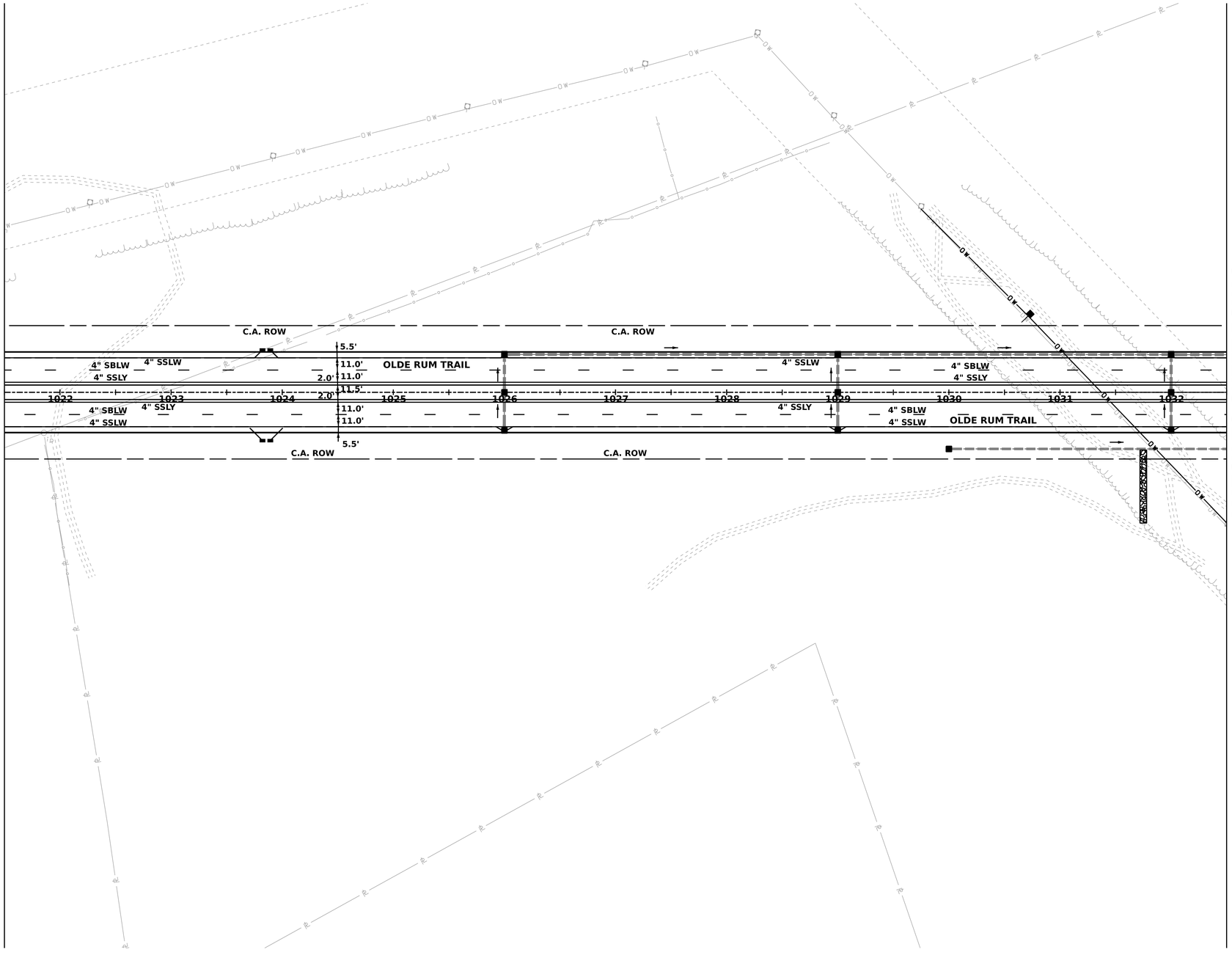
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN14	13065A_PSN_Plans	13065A	204	733

Drawing 2
1"=50' A015



REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN15	13065A_PSN_Plans	13065A	205	733

MATCH TO SHEET PSN15

ITEM 662.282 DECOMMISSION
MONITORING WELL

CONSTRUCT ACCESS ROAD

LONDONDERRY
DERRY

C.A. ROW

OLDE RUM TRAIL

5.5'
11.0'
2.0'
11.0'
11.5'
11.0'
2.0'
11.0'
5.5'

4" SSLW
4" SBLW
4" SSLY
4" SSLY
4" SBLW
4" SSLW

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

10 11 12 13 14 15 16

STA. 1040+00
OLDE RUM TRAIL
LIMIT OF WORK

STA. 1038+50
END FULL DEPTH
CONSTRUCTION

STA. 16+31.53
MADDEN RD
LIMIT OF WORK

GRID

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			
STATION			
STATION			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

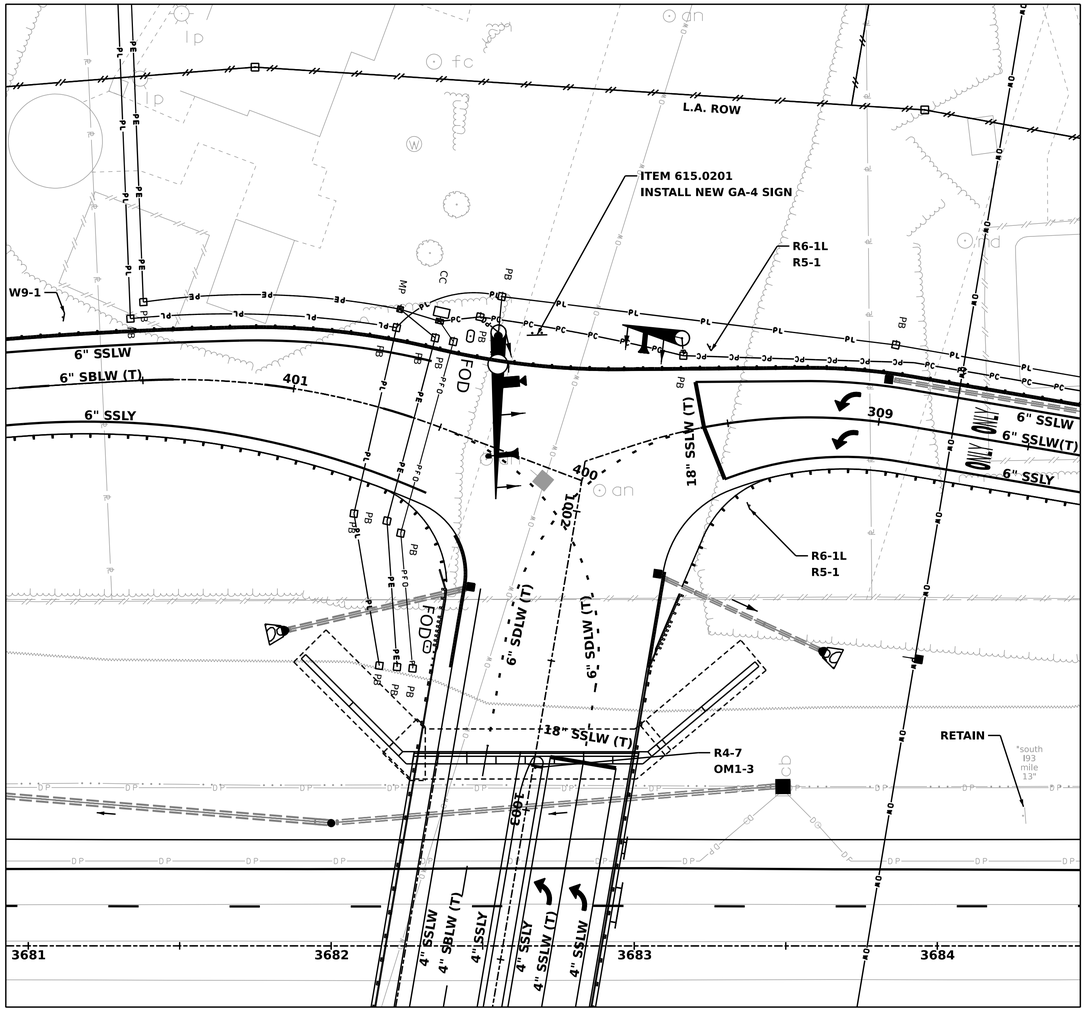
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

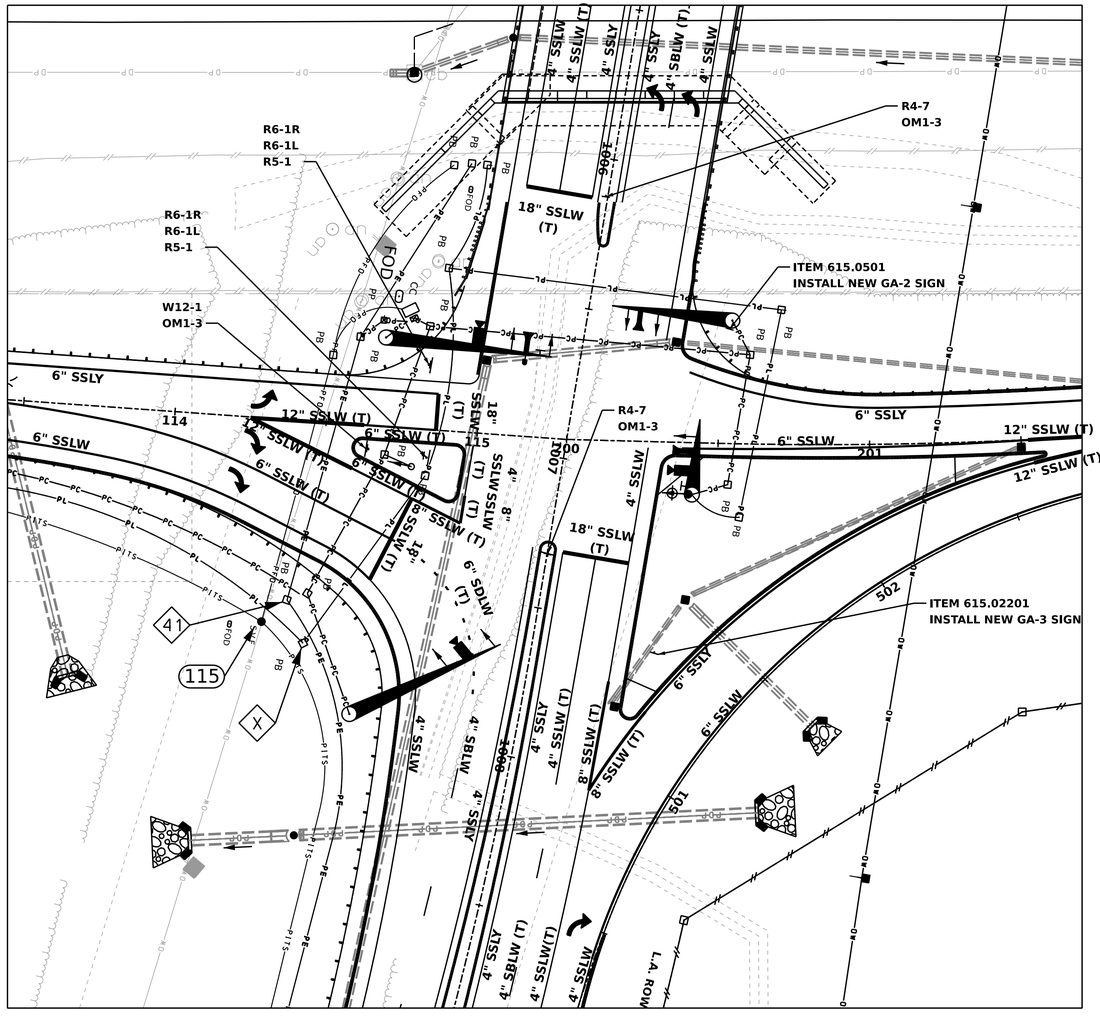
PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	PSN16	13065A_PSN_Plans	13065A	206	733

SB RAMP INTERSECTION DETAIL



NB RAMP INTERSECTION DETAIL



20 0 20 40

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_PSN_DET	13065A	207	733

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	TEXT DIMENSIONS LETTER HEIGHT (inch) LC	TEXT DIMENSIONS LETTER HEIGHT (inch) CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# OF SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	SIGN AREA (SQ. FT.) TOTAL AREA	POSTS PER SIGN BREAKAWAY	POSTS PER SIGN STEEL I-BEAMS	POSTS PER SIGN 4" ALUMINUM	POSTS PER SIGN U-CHANNEL-GALV.	REMARKS
615.03201	M1-1(93)	36	36				4C			15D	1	9.00	9.00	X		1		RED / BLUE/ WHITE INSTALL AT I-93 NORTHBOUND STA 1709+48
615.0301	M1-1(93)	24	24				2.5C			10D	1	4.00	4.00				1	RED / BLUE/ WHITE INSTALL AT OLDE RUM TRAIL STA 1014+00
615.0601	M2-1	21	15				9C				1	2.19	2.19					WHITE / BLUE MOUNT ABOVE M1-1 ON OLDE RUM TRAIL
615.0601	M3-1	30	15				9/8C				1	3.13	3.13					WHITE / BLUE MOUNT ABOVE M1-1 ON I-93 NB
615.03201	R1-2	36	36				3C				2	3.90	7.80	X		1		RED / WHITE
615.0301	R2-1(35)	30	36				5E 5E			12E	1	7.50	7.50				1	BLACK / WHITE
615.03201	R2-4a	48	96				8E 8E 8C			16E 14D	1	32.00	32.00	X		2		BLACK / WHITE
615.03201	R3-4	36	36								2	9.00	18.00	X		1		RED & BLACK / WHITE
615.0301	R3-8(11)	36	30				5D				1	7.50	7.50			1		BLACK / WHITE
615.0301	R3-8(75)	36	30				4D				1	7.50	7.50			1		BLACK / WHITE
615.03201	R4-7	24	30								7	5.00	35.00	X		1		BLACK / WHITE
615.0301	R5-1	36	36				5D				2	9.00	18.00			1		WHITE / RED INSTALL AT I-93 EXIT 4A SOUTHBOUND OFF RAMP STA. 309+50
615.03201	R5-1	36	36				5D				2	9.00	18.00	X		1		WHITE / RED INSTALL AT I-93 EXIT 4A NORTHBOUND OFF RAMP STA. 114+75

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	TEXT DIMENSIONS LETTER HEIGHT (inch) LC	TEXT DIMENSIONS LETTER HEIGHT (inch) CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# OF SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	SIGN AREA (SQ. FT.) TOTAL AREA	POSTS PER SIGN BREAKAWAY	POSTS PER SIGN STEEL I-BEAMS	POSTS PER SIGN 4" ALUMINUM	POSTS PER SIGN U-CHANNEL-GALV.	REMARKS
615.0301	R5-1a	36	24	WRONG WAY			6D 6D				2	6.00	12.00			1		WHITE / RED MOUNT BACK TO BACK OF W3-3 AND R3-8(11)
615.0601	R5-1a	36	24								2	6.00	12.00					
615.03201	R5-10a(M)	30	30	NO PEDESTRIANS BICYCLES HORSES MOPEDS MOTOR SCOOTERS			4D 3C 3C 3C 3C				1	6.25	6.25	X		1		BLACK / WHITE
615.0301	R5-10a(M)	30	30								1	6.25	6.25			1		
615.0601	R6-1L	36	12	ONE WAY			4D				4	3.00	12.00					BLACK / WHITE MOUNT ABOVE R5-1
	R6-1R			ONE WAY			4D				2	3.00	6.00					
615.0601	R8-7	48	36	EMERGENCY STOPPING ONLY			6D 6D 6D				1	12.00	12.00					BLACK / WHITE MOUNT TO OVERHEAD SIGN STRUCTURE SUPPORT (EXISTING)
615.03201	W3-3	36	36								2	9.00	18.00	X		1		BLACK / YELLOW RED / GREEN
615.0301	W3-3	36	36								1	9.00	9.00			1		
615.03201	W4-1R	48	48								2	16.00	32.00	X		2		BLACK / YELLOW
615.0301	W4-2R	36	36								1	9.00	9.00			1		BLACK / YELLOW
615.0301	W9-1	36	36	RIGHT LANE ENDS							1	9.00	9.00			1		BLACK / YELLOW
615.03201	W12-1	30	30								1	6.25	6.25	X		1		BLACK / YELLOW

GENERAL NOTES

1. REFER TO THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PUBLISHED BY THE NHDOT.
2. NOTE NEW REFLECTIVITY REQUIREMENTS IN THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 718 PUBLISHED BY THE NHDOT.
3. REFER TO THE 2010 STANDARD PLANS FOR ROAD CONSTRUCTION AS PUBLISHED BY THE NHDOT FOR EXACT DETAILS OF PERMANENT SIGNING STANDARDS AND NHDOT SPECIFIC SIGNS.
4. REFER TO THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS MANUAL AS PUBLISHED BY THE USDOT-FHWA FOR EXACT DETAILS OF BORDERS, ETC.
5. THE ALUMINUM OR U-CHANNEL POST SHALL BE FLUSH WITH THE TOP OF THE SIGN ON ALL SINGLE POST ASSEMBLIES.
6. REFER TO 'ROUTE MARKER POST ASSEMBLY DETAIL' LOCATED IN THE PROPOSAL FOR SIDE BY SIDE ROUTE MARKER SIGN INSTALLATIONS.
7. DIGITALLY PRINTED SIGNS SHALL NOT BE PERMITTED.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC SIGN SUMMARY

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TSSS_01	13065A	208	733

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# OF SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAMS	4" ALUMINUM	U-CHANNEL-GALV.	REMARKS
615.01201	E5-1a	90	60	EXIT 4 A			12E 18E		18.25 x 29.25 @ 45°	18E	2	37.50	75.00	X		2		WHITE / GREEN MOUNT TO SIGN STRUCTURES AT STATION 1657+18 ITEM 615.20003 AND STATION 3700+00 ITEM 615.20401
615.0101	D2-2	90	36	Manchester 10 Concord 25	8D 8D	8D 8D				8D 8D	1	22.50	22.50			2		WHITE / GREEN
615.0501	GA-2	30	48	SOUTH 93			7/6C	18x18	9 x 9	8C	1	10.00	10.00					WHITE / GREEN MOUNTED TO SIGNAL MAST ARM
615.02201	GA-3	30	48	NORTH 93			7/6C	18x18	7 x 6	8C	1	10.00	10.00	X		1		WHITE / GREEN
615.0201	GA-4	30	48	SOUTH 93			7/6C	18x18	18 x 6	8C	1	10.00	10.00			1		WHITE / GREEN
615.0401	E1-5p(4A)	138	30	EXIT 4 A			10E			15E	6	28.75	172.50					WHITE / GREEN MOUNT ON RIGHT ABOVE GO-1, GO-2, GO-3 FOLLOW EXPANDED CHARACTER SPACING IDENTIFIED IN SHSM 2012 SUPPLEMENT
615.0401	E1-5p(4)	114	30	EXIT 4			10E			15E	1	23.75	23.75					WHITE / GREEN MOUNT ON RIGHT ABOVE GO-BM FOLLOW EXPANDED CHARACTER SPACING IDENTIFIED IN SHSM 2012 SUPPLEMENT
615.0401	GO-1	216	102	Olde Rum Trail East Derry 1 MILE	16EM 16EM	12EM 12EM	10E			15E	2	153.00	306.00					WHITE / GREEN MOUNT TO SIGN STRUCTURES AT STATION 1607+00 ITEM 615.20001 AND STATION 3750+00 ITEM 615.20005
615.0401	GO-2	216	102	Olde Rum Trail East Derry 1/2 MILE	16EM 16EM	12EM 12EM	10E			15E	2	153.00	306.00					WHITE / GREEN MOUNT TO SIGN STRUCTURES AT STATION 1633+00 ITEM 615.20002 AND STATION 3721+50 ITEM 615.20004

ITEM #	IDENT #	SIGN SIZE WIDTH (inch)	SIGN SIZE HEIGHT (inch)	TEXT	TEXT DIMENSIONS LETTER HEIGHT (inch) UC	LC	CAPS	SHIELD SIZE (inch)	ARROW (inch)	NUMERAL (inch)	# OF SIGNS REQ'D	SIGN AREA (SQ. FT.) NOM AREA	TOTAL AREA	POSTS PER SIGN BREAKAWAY	STEEL I-BEAMS	4" ALUMINUM	U-CHANNEL-GALV.	REMARKS
615.0401	GO-3	258	78	Olde Rum Trail East Derry	16EM 16EM	12EM 12EM			22.2 x 35		2	139.75	279.50					WHITE / GREEN MOUNT TO SIGN STRUCTURES AT STATION 1657+18 ITEM 615.20003 AND STATION 3700+00 ITEM 615.20401
615.0401	GO-4	108	186	93 NORTH Manchester Concord	13.3EM 13.3EM	10EM 10EM	12/10E	36 x 36	22.2 x 30	15D	1	139.50	139.50					GREEN / WHITE MOUNT TO SIGN STRUCTURE AT STATION 1010+00 ITEM 615.10001
615.0401	GO-5	192	138	93 SOUTH Salem Boston	13.3EM 13.3EM	10EM 10EM	12/10E	36 x 36	32 x 22 (2X)	15D	1	184.00	184.00					GREEN / WHITE MOUNT TO SIGN STRUCTURE AT STATION 1010+00 ITEM 615.10001
615.0401	GO-BM	198	156	102 Derry Londonderry 3/4 MILE	16EM 16EM	12EM 12EM	10E	36 x 36		18B 15E	1	214.50	214.50					WHITE / GREEN MOUNT TO NEW OVERPASS STRUCTURE ITEM 615.30001
615.0601	OM1-3	18	18								8	2.25	18.00					YELLOW MOUNT BELOW R4-7 AND W12-1
615.0501	D3-1a	132	16	Olde Rum Tr Derry	8D	8D					2	14.7	29.40					WHITE/GREEN MOUNT TO NEW OVERPASS STRUCTURE
SUBSIDIARY TO ITEM 616.101 AND 616.102	D3-1	66	18	Olde Rum Tr	8D 5.33D	8D 5.33D					2	8.25	16.50					WHITE/GREEN MOUNT TO SIGNAL MAST ARM
SUBSIDIARY TO ITEM 616.101 AND 616.102	R10-12	24	30	LEFT TURN YIELD ON GREEN			3C 4C 3C				1	5.00	5.00					BLACK/WHITE/GREEN MOUNT TO SIGNAL MAST ARM

GENERAL NOTES

1. REFER TO THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PUBLISHED BY THE NHDOT.
2. NOTE NEW REFLECTIVITY REQUIREMENTS IN THE 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 718 PUBLISHED BY THE NHDOT.
3. REFER TO THE 2010 STANDARD PLANS FOR ROAD CONSTRUCTION AS PUBLISHED BY THE NHDOT FOR EXACT DETAILS OF PERMANENT SIGNING STANDARDS AND NHDOT SPECIFIC SIGNS.
4. REFER TO THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS MANUAL AS PUBLISHED BY THE USDOT-FHWA FOR EXACT DETAILS OF BORDERS, ETC.
5. THE ALUMINUM OR U-CHANNEL POST SHALL BE FLUSH WITH THE TOP OF THE SIGN ON ALL SINGLE POST ASSEMBLIES.
6. REFER TO 'ROUTE MARKER POST ASSEMBLY DETAIL' LOCATED IN THE PROPOSAL FOR SIDE BY SIDE ROUTE MARKER SIGN INSTALLATIONS.
7. DIGITALLY PRINTED SIGNS SHALL NOT BE PERMITTED.

REVISIONS AFTER PROPOSAL

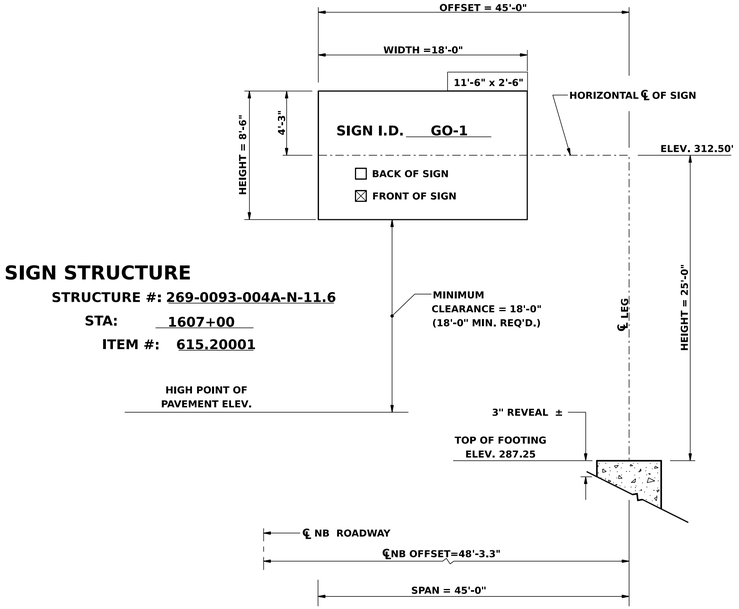
NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC SIGN SUMMARY

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TSSS_02	13065A	209	733



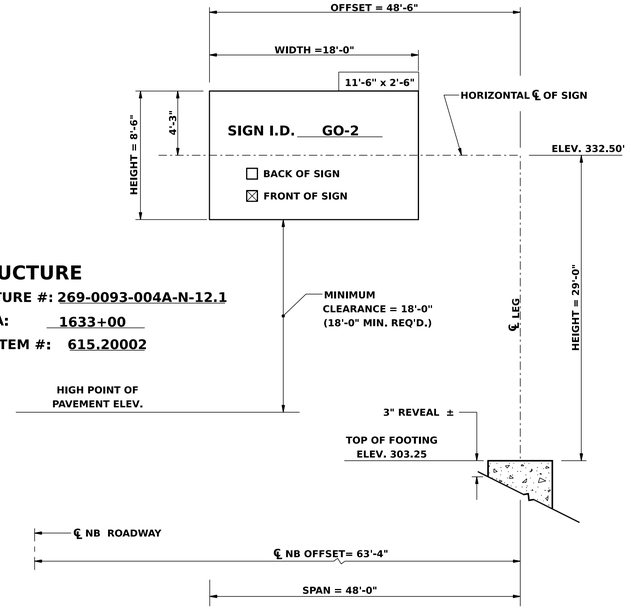
SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-N-11.6

STA: 1607+00

ITEM #: 615.20001

TYPE : ONE-LEG OVERHEAD / 1 SIGN



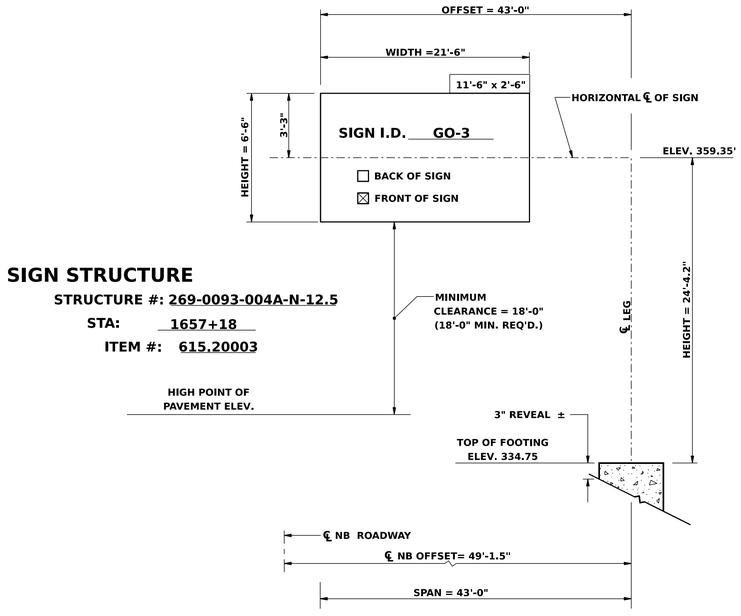
SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-N-12.1

STA: 1633+00

ITEM #: 615.20002

TYPE : ONE-LEG OVERHEAD / 1 SIGN



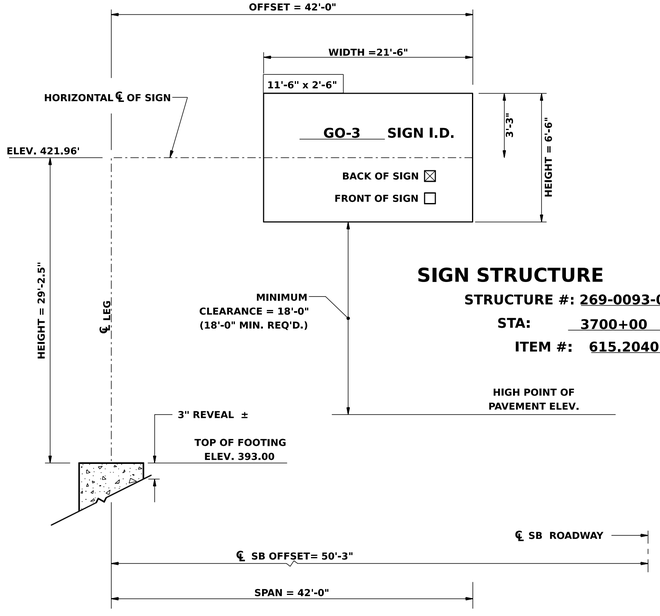
SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-N-12.5

STA: 1657+18

ITEM #: 615.20003

TYPE : ONE-LEG OVERHEAD / 1 SIGN



SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-S-13.3 (RELOCATED)

STA: 3700+00

ITEM #: 615.20401

TYPE : ONE-LEG OVERHEAD / 1 SIGN

REVISIONS AFTER PROPOSAL				
NUMBER	DESCRIPTION	DATE	STATION	

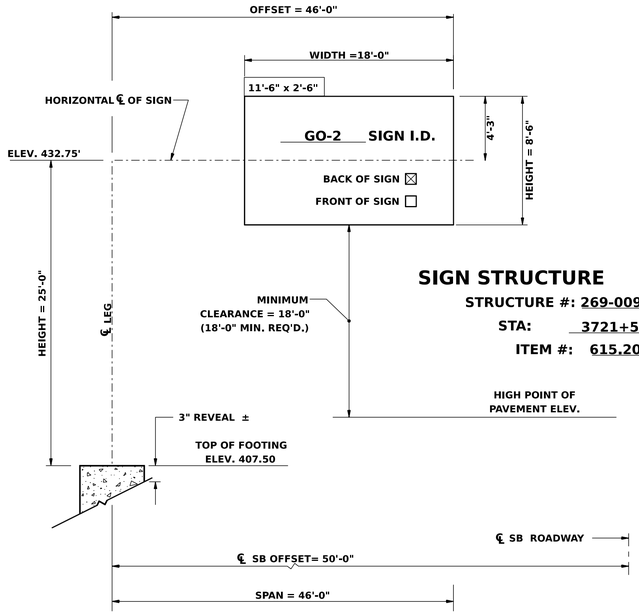
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGN STRUCTURE DETAIL 1 OF 2

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_OHSS-01	13065A	210	733



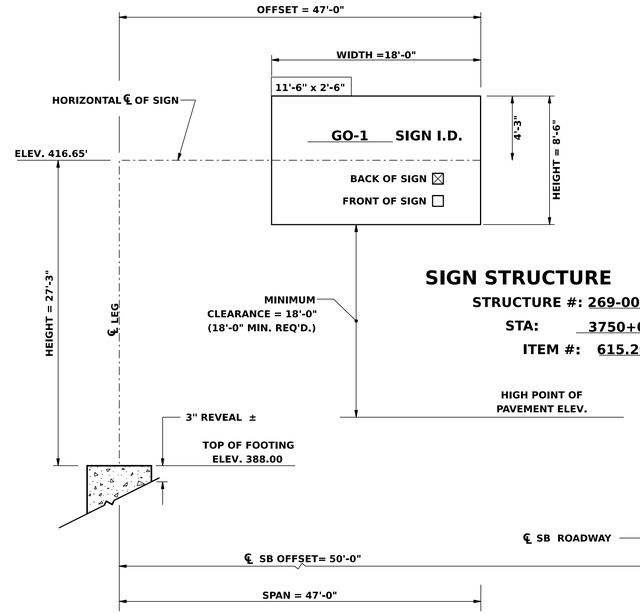
SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-S-13.7

STA: 3721+50

ITEM #: 615.20004

TYPE : ONE-LEG OVERHEAD / 1 SIGN



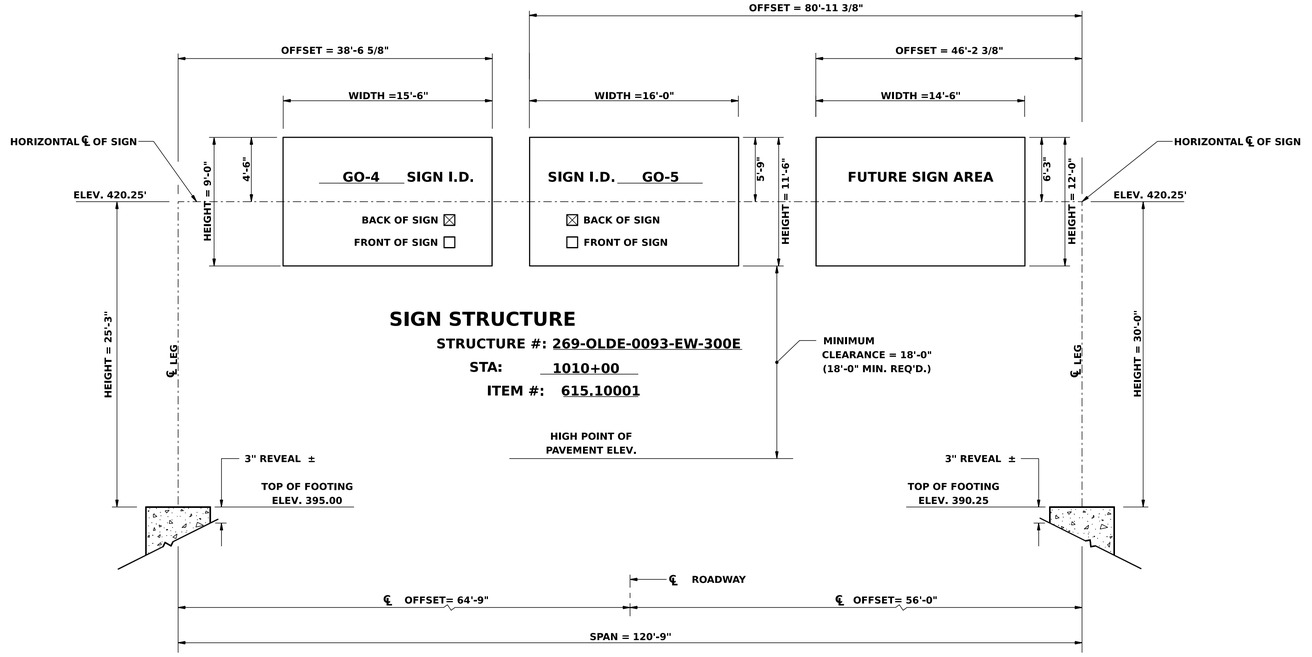
SIGN STRUCTURE

STRUCTURE #: 269-0093-004A-S-14.2

STA: 3750+00

ITEM #: 615.20005

TYPE : ONE-LEG OVERHEAD / 1 SIGN



SIGN STRUCTURE

STRUCTURE #: 269-OLDE-0093-EW-300E

STA: 1010+00

ITEM #: 615.10001

TYPE : TWO-LEG OVERHEAD / 2 SIGN

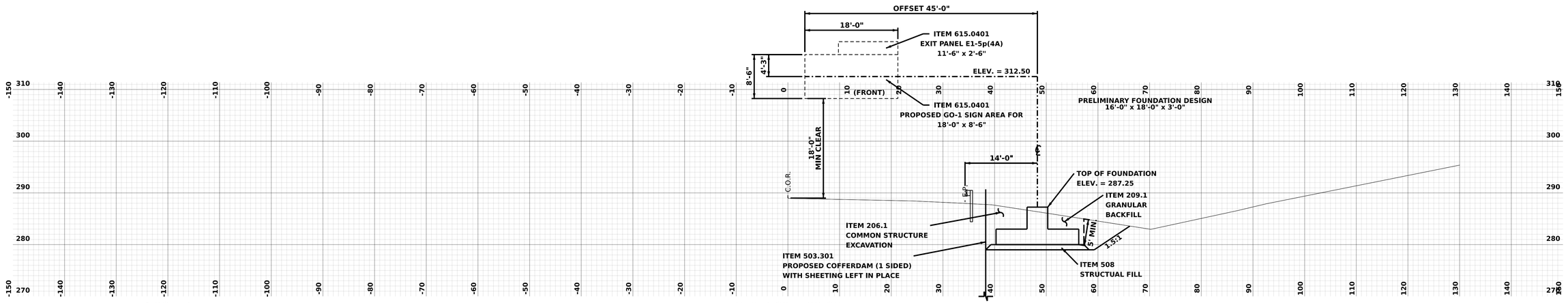
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

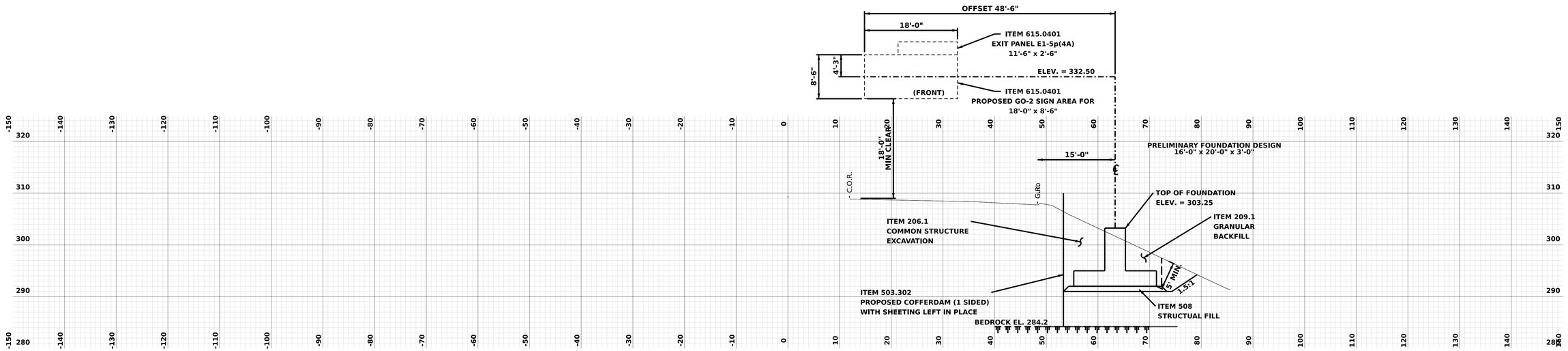
SIGN STRUCTURE DETAIL 2 OF 2

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_OHSS-02	13065A	211	733



I-93 NB **STA. 1607+00.00**

STRUCTURE #269-0093-004A-N-11.6



I-93 NB **STA. 1633+00.00**

STRUCTURE #269-0093-004A-N-12.1

REVISIONS AFTER PROPOSAL

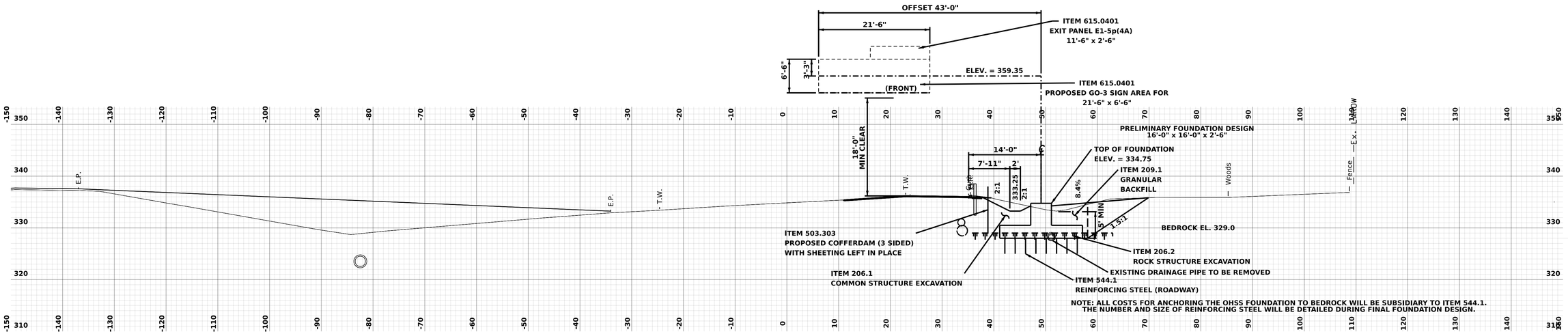
NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGN CROSS SECTION

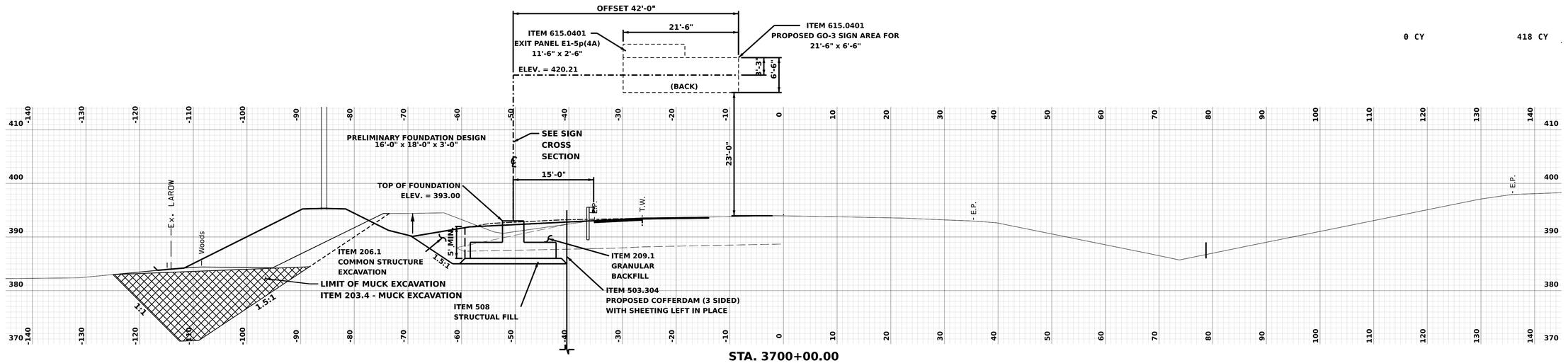
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	OHSS01 [Sheet]	13065A_XS_OHSS	13065A	212	733



I-93 NB

STA. 1657+18.00

STRUCTURE #269-0093-004A-N-12.5



STA. 3700+00.00

STRUCTURE #269-0093-004A-S-13.3 RELOCATED
(FORMERLY STRUCTURE #269-0093-0004-S-13.2)

NUMBER	DESCRIPTION	DATE	STATION

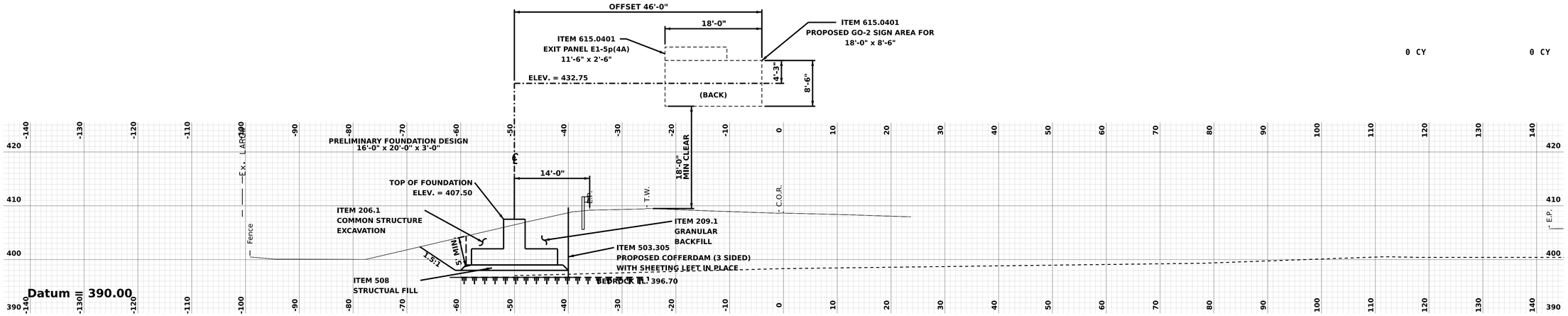
REVISIONS AFTER PROPOSAL

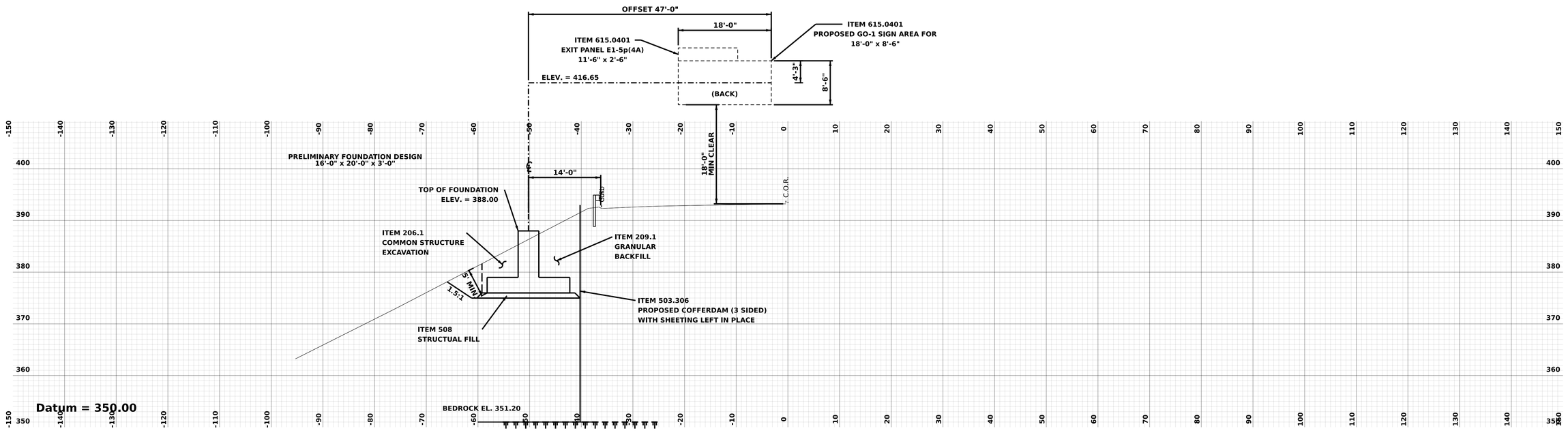
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGN CROSS SECTION

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	OHSS02 [Sheet]	13065A_XS_OHSS	13065A	213	733





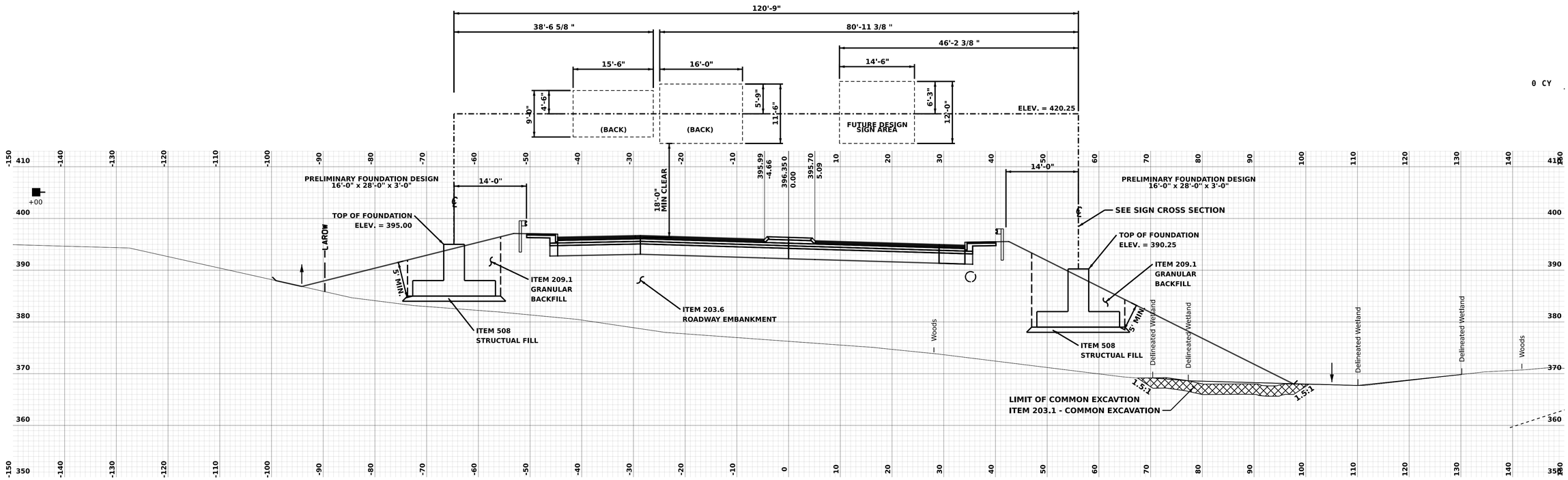
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGN CROSS SECTION

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	OHSS03 [Sheet]	13065A_XS_OHSS	13065A	214	733



STA. 1010+00.00

STRUCTURE #269-OLDE-0093-EW-300E

REVISIONS AFTER PROPOSAL

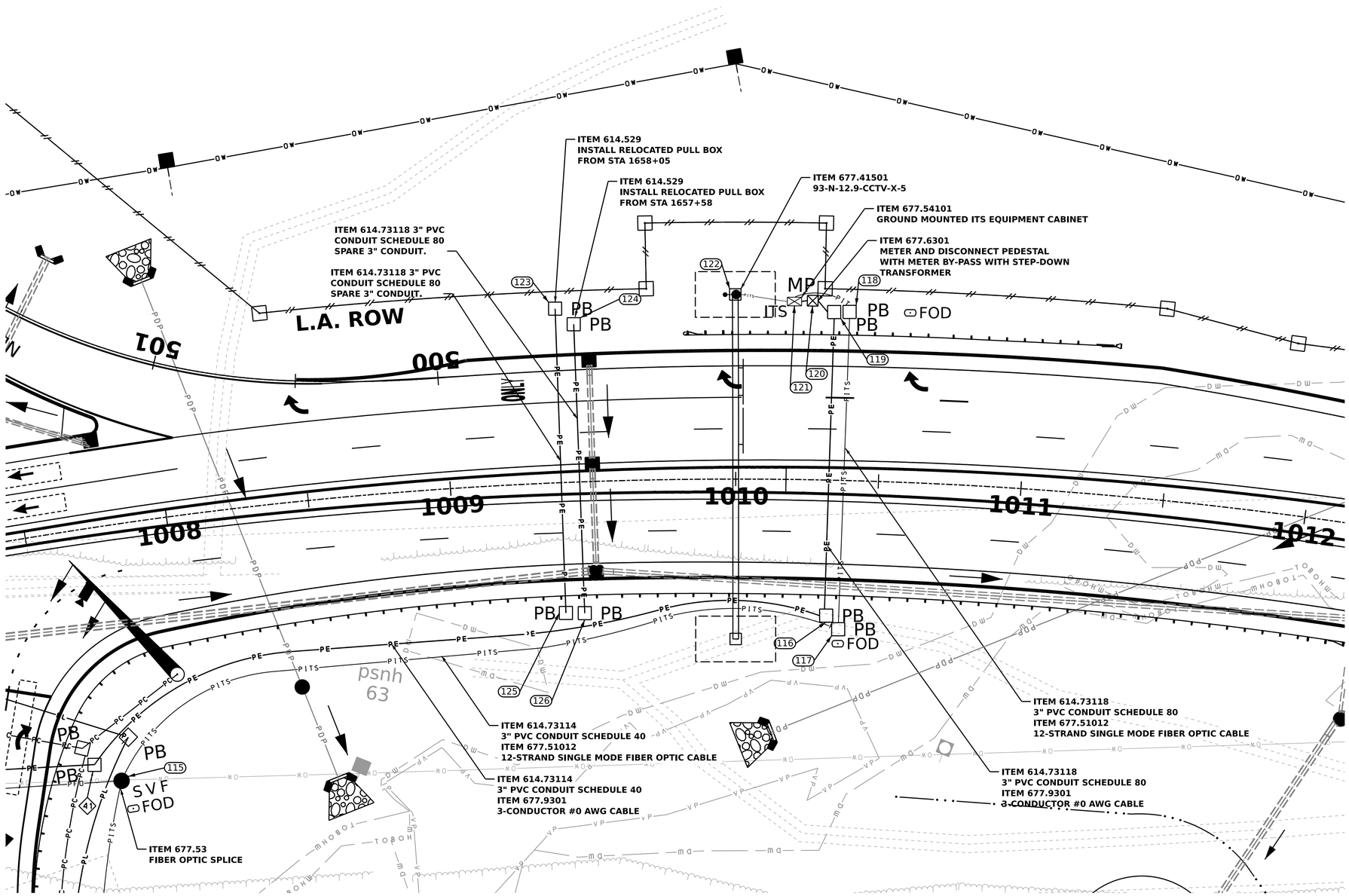
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGN CROSS SECTION

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	OHSS04 [Sheet]	13065A_XS_OHSS	13065A	215	733



CONSTRUCTION NOTES:

1. CONTRACTOR SHALL REFER TO GROUND MOUNTED ITS EQUIPMENT CABINET FOR GROUND MOUNTED ITS EQUIPMENT DETAILS.

2. CONTRACTOR SHALL REFER TO NETWORK ARCHITECTURE DIAGRAM AND POWER AND COMMUNICATIONS CONNECTION DETAILS FOR CABINET EQUIPMENT AND INTERNAL CONNECTIONS BETWEEN EQUIPMENT.

3. AT THE PROPOSED CCTV CABINET LOCATION, THE CONTRACTOR SHALL PROVIDE A DISCONNECT PEDESTAL WITH A METER BYPASS NOT MORE THAN 20 FEET FROM THE GROUND MOUNTED ITS EQUIPMENT CABINET. THE DISCONNECT PEDESTAL SHALL INCLUDE A 20 AMP SERVICE DISCONNECT AND STEP-DOWN TRANSFORMER. THE DISCONNECT PEDESTAL SHALL BE PAID FOR UNDER ITEM 677.6301.

4. THE CAMERA SHALL BE MOUNTED TO THE TOP OF THE OHSS USING A PARAPET/ INVERTED J HOOK MOUNT SO THE CAMERA CAN HAVE AN UNOBSTRUCTED VIEW OF THE BRIDGE INTERSECTIONS AS WELL AS TO THE EAST AND WEST ALONG OLDE RUM TRAIL.

20 0 20 40
SCALE IN FEET

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

CCTV PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_CCTV_01	13065A	216	733

ABANDON EXISTING 12F IN PLACE

ITEM 614.0338 3-CELL FABRIC
INNERDUCT FOR 3" CONDUIT
ITEM 677.51072
72-STRAND SINGLE MODE FIBER OPTIC CABLE
INSTALL NEW 72-STRAND SINGLE MODE FIBER OPTIC
CABLE IN EXISTING CONDUIT

ITEM 677.53
FIBER OPTIC SPLICE
CONTRACTOR SHALL BREAK INTO
EXISITNG SPLICE ENCLOSURE AND
SPLICE PROPOSED 72F TO EXISTING
12F TO VSLS.
ABANDON EXISTING 12F DROP CABLE
FROM CCTV IN PLACE.

EXCESS CABLE SHALL BE
REMOVED AND DISPOSED OF
BY CONTRACTOR. EXCESS
CONDUIT SHALL BE CAPPED
WITH WATERPROOF MATERIAL
AND ABANDONED IN PLACE.

ITEM 614.529
RESET MOLDED PULL BOX
RELOCATE PULL BOX
TO OLDE RUM TRAIL
STA. 1009+45.00, LT

ITEM 677.63017
RELOCATE METER AND DISCONNECT
PEDESTAL ON NEW CONCRETE
FOUNDATION. CONNECT EXISTING ITS
EQUIPMENT CABINET TO POWER SOURCE.

ITEM 614.529
RESET MOLDED PULL BOX
RELOCATE PULL BOX
TO OLDE RUM TRAIL
STA. 1009+39.00, LT

EXCESS CABLE SHALL BE REMOVED AND
DISPOSED OF BY CONTRACTOR. EXCESS
CONDUIT SHALL BE CAPPED WITH
WATERPROOF MATERIAL AND ABANDONED
IN PLACE.

SEE PSN05 FOR ADDITIONAL
INFORMATION

ITEM 614.73114
3" PVC CONDUIT SCHEDULE 40
ITEM 677.51012
12-STRAND SINGLE MODE FIBER OPTIC CABLE

ITEM 614.0338 3-CELL FABRIC
INNERDUCT FOR 3" CONDUIT
ITEM 677.51072 72-STRAND
SINGLE MODE FIBER OPTIC CABLE
2 RUNS OF 72F SHALL BE
INSTALLED BETWEEN THE SPLICE
VAULT AT 105 AND THE PULL BOX
AT 104 IN EXISTING CONDUIT

BREAK INTO EXISTING CONDUIT
AND INSTALL NEW PULL BOX.

ITEM 614.0338 3-CELL FABRIC
INNERDUCT FOR 3" CONDUIT
ITEM 677.51072 72-STRAND
SINGLE MODE FIBER OPTIC CABLE
IN EXISTING CONDUIT

ITEM 614.73114 3" PVC CONDUIT
SCHEDULE 40
ITEM 677.51072 72-STRAND
SINGLE MODE FIBER OPTIC CABLE

ITEM 614.73114 3" PVC CONDUIT
SCHEDULE 40
ITEM 677.51072 72-STRAND SINGLE
MODE FIBER OPTIC CABLE

ITEM 677.46501
93-N-12.5-MVDS-X-5
INSTALL NEW MVDS SENSOR ON
EXISTING CCTV POLE
INSTALL MVDS CONTROL EQUIPMENT
INTO EXISTING ITS EQUIPMENT CABINET
AND INSTALL CABLE CONNECTIONS

ITEM 614.73114 3" PVC CONDUIT SCHEDULE 40
ITEM 677.51072 72-STRAND SINGLE MODE
FIBER OPTIC CABLE
ITEM 614.0338 3-CELL FABRIC INNERDUCT FOR
3" CONDUIT

ITEM 614.73114 3" PVC CONDUIT
SCHEDULE 40
ITEM 677.9301 CONDUCTOR #0 AWG
CABLE

ITEM 677.53 FIBER OPTIC SPLICE
CONTRACTOR SHALL BUTT SPLICE 72F.
CONTRACTOR SHALL SPLICE 72F TO 12F
DROP CABLE TO CCTV CABINET.
ITEM 614.51821
CONCRETE FIBER OPTIC SPLICE VAULT
48"X48"X48".

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL REFER TO NETWORK ARCHITECTURE DETAILS AND POWER AND COMMUNICATIONS DIAGRAMS FOR ADDITIONAL DETAILS.

2. CONTRACTOR SHALL FIRST BUILD A NEW FOUNDATION FOR THE RELOCATION OF THE EXISTING DISCONNECT PEDESTAL. THE CONTRACTOR SHALL THEN INSTALL CONDUIT FROM CCTV TO ONE CONDUIT LENGTH AWAY FROM THE PROPOSED LOCATION OF PULL BOX 108. CONTRACTOR CAN THEN DISCONNECT POWER TO THE EXISTING CCTV AT THE METER PEDESTAL ALONG PILLSBURY ROAD. CONTRACTOR SHALL RELOCATE THE DISCONNECT PEDESTAL TO THE NEW FOUNDATION. THE CONTRACTOR SHALL LOCATE THE CONDUIT AT 1654+00, CONNECT THE EXISTING CONDUIT TO NEW PULL BOX 108, AND CONNECT THE NEW CONDUIT TO NEW PULL BOX 108. CONTRACTOR SHALL THEN RUN NEW POWER CABLE FROM THE CABINET TO DISCONNECT PEDESTAL AND SPLICE INTO EXISTING POWER CABLE AT NEW PULL BOX 108 WITH WATERPROOF SPLICES. THE CONTRACTOR SHALL THEN RETURN POWER TO THE CCTV. THE CCTV SHALL NOT BE WITHOUT POWER FOR MORE THAN 4 HOURS.

3. CONTRACTOR SHALL BUILD NEW SPLICE VAULT 113 AND CONDUIT SYSTEM TO PULL BOX 107. THE CONTRACTOR SHALL THEN INSTALL NEW 72-STRAND FIBER FROM SPLICE VAULT 113 TO SPLICE VAULT 105, AND FROM SPLICE VAULT 105 TO SPLICE VAULT 101 ALL AT ONE TIME. CONTRACTOR SHALL THEN INSTALL NEW 12-STRAND FIBER FROM SPLICE VAULT 113 TO THE EXISTING CCTV CABINET. CONTRACTOR SHALL BREAK EXISTING SPLICES AND INSTALL NEW SPLICES AS SHOWN ON THE NETWORK ARCHITECTURE. THE CCTV SHALL NOT BE DISCONNECTED FROM FIBER COMMUNICATIONS FOR MORE THAN 4 HOURS.

SCALE IN FEET
20 0 20 40

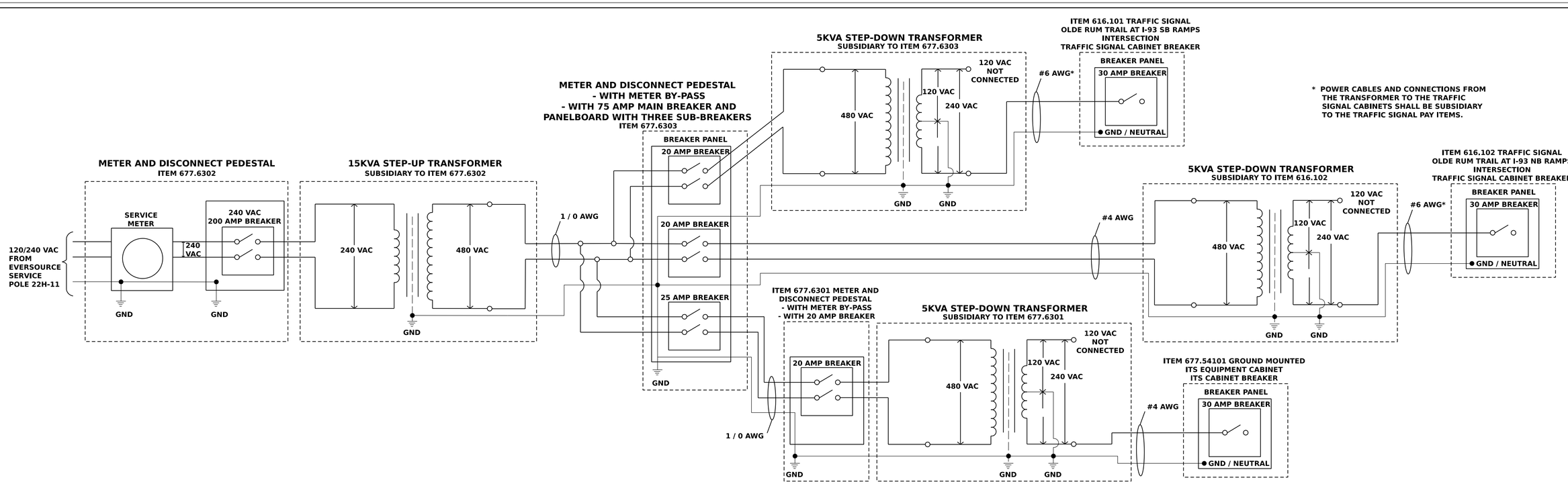
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

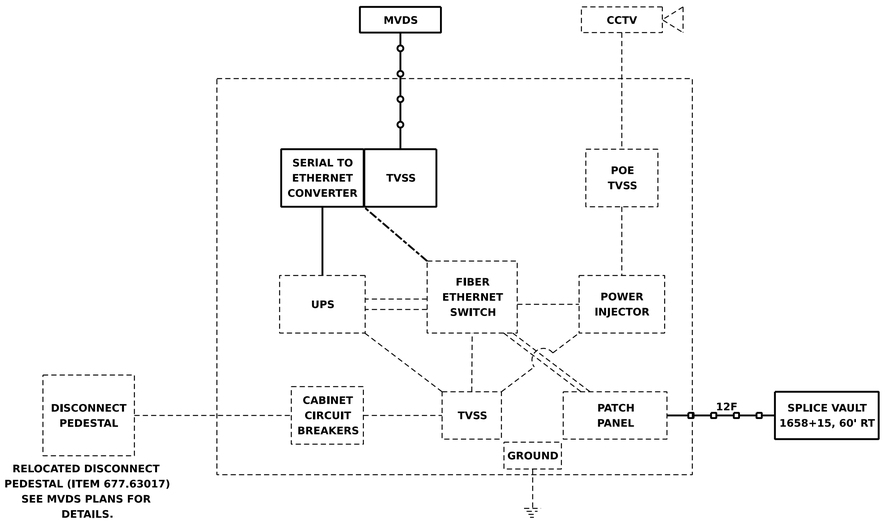
MVDS PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_MVDS_01	13065A	217	733



POWER LINE DIAGRAM

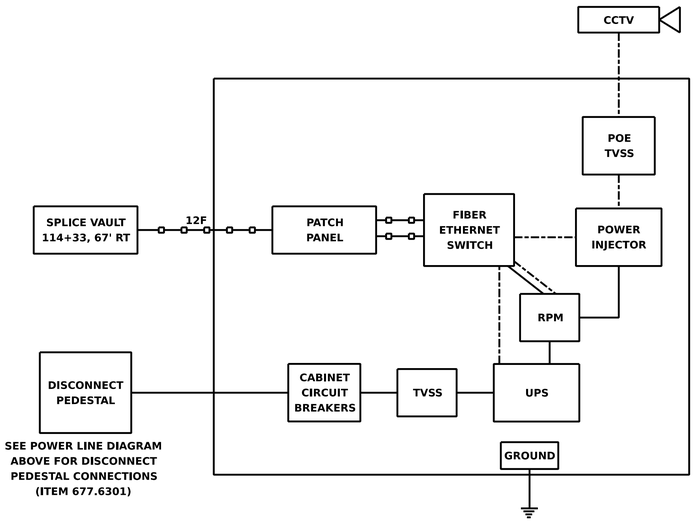
NOT TO SCALE



RELOCATED DISCONNECT PEDESTAL (ITEM 677.63017) SEE MVDS PLANS FOR DETAILS.

GROUND MOUNTED ITS EQUIPMENT CABINET DIAGRAM FOR EXISTING ITS CABINET 93-N-12.5-CCTV-A-5

NOT TO SCALE



SEE POWER LINE DIAGRAM ABOVE FOR DISCONNECT PEDESTAL CONNECTIONS (ITEM 677.6301)

GROUND MOUNTED ITS EQUIPMENT CABINET DIAGRAM FOR 93-N-12.9-CCTV-X-5

NOT TO SCALE

LEGEND

	MVDS CABLE
	FIBER
	POWER
	ETHERNET CABLE
12F -	12 STRAND SINGLE MODE FIBER OPTIC CABLE
CCTV -	CLOSED CIRCUIT TELEVISION
ETH -	ETHERNET CABLE
MM -	MILE MARKER
MVDS -	MOTOR VEHICLE DETECTION SYSTEM
RPM -	REMOTE POWER MANAGER
UPS -	UNINTERRUPTIBLE POWER SUPPLY
TVSS -	TRANSIENT VOLTAGE AND SURGE SUPPRESSOR
-	EXISTING EQUIPMENT

REVISIONS AFTER PROPOSAL

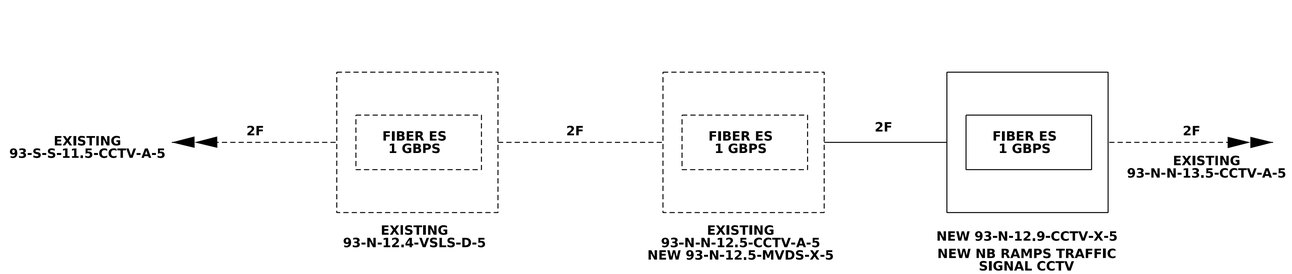
NUMBER	DESCRIPTION	STATION	DATE

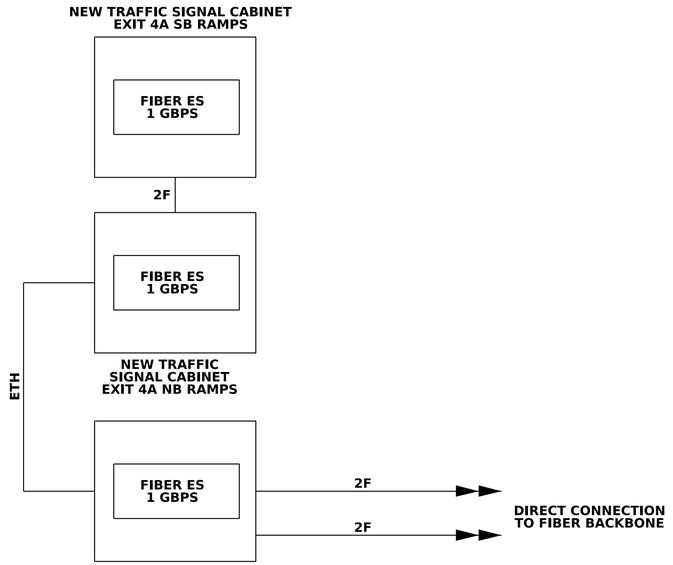
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

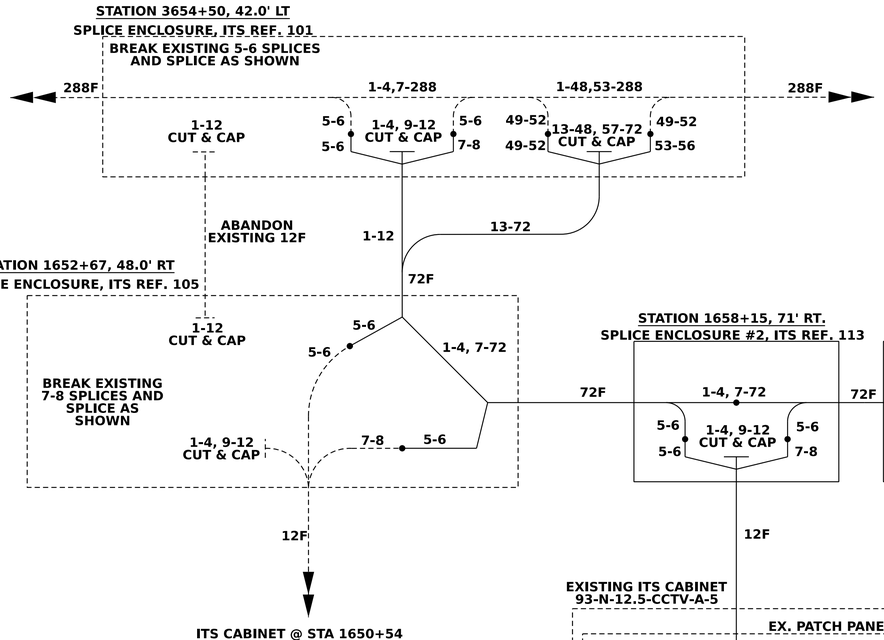
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

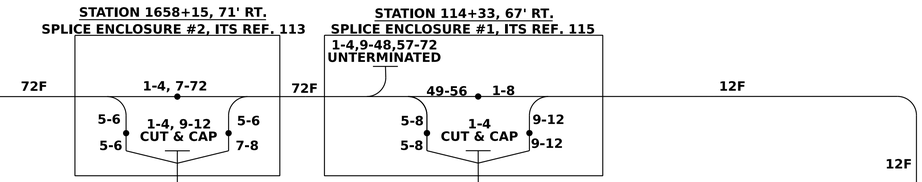
POWER AND COMMUNICATIONS CONNECTION DIAGRAMS

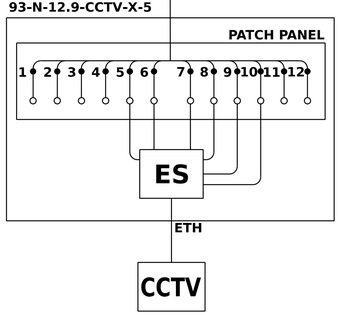
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_ITSCOMM_01	13065A	218	733

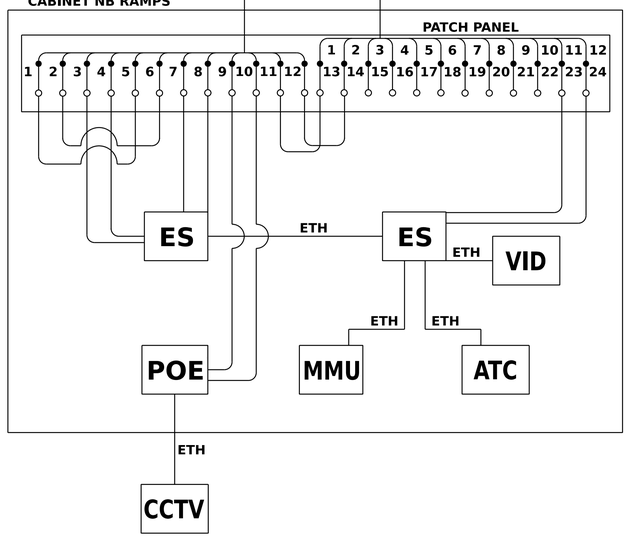


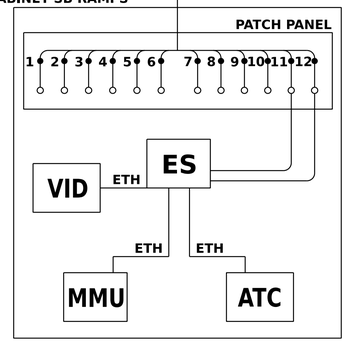












LEGEND

ATC -	ADVANCED TRANSPORTATION CONTROLLER
ES -	ETHERNET SWITCH
ETH -	ETHERNET CABLE
MMU -	MALFUNCTION MANAGEMENT UNIT
VID -	VIDEO DETECTION CONTROL UNIT
[ ] -	EXISTING EQUIPMENT

NUMBER	DESCRIPTION	STATION	DATE

REVISIONS AFTER PROPOSAL

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

NETWORK ARCHITECTURE

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_ARCH_01	13065A	219	733

FIBER OPTIC CABLE SPLICE TABLES

PROPOSED PATCH PANEL FOR SB INTERSECTION TRAFFIC SIGNAL CABINET @ STA 400+61, SIGNAL REF. 10

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	1 (BLUE)	1	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 1
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		2	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 2
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		3	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 3
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		4	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 4
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		5	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 5
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		6	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 6
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		7	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 7
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		8	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 8
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		9	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 9
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		10	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 10
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		11	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 11
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		12	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 12

PROPOSED PATCH PANEL FOR NB INTERSECTION TRAFFIC SIGNAL CABINET @ STA 1006+63, SIGNAL REF. 33

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 12F TO SE1 @ 114+33	1 (BLUE)	1	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 1 TO PP POSITION 5
PROPOSED 12F TO SE1 @ 114+33		2	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 2 TO PP POSITION 6
PROPOSED 12F TO SE1 @ 114+33		3	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 3
PROPOSED 12F TO SE1 @ 114+33		4	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 4
PROPOSED 12F TO SE1 @ 114+33		5	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 5 TO PP POSITION 1
PROPOSED 12F TO SE1 @ 114+33		6	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 6 TO PP POSITION 2
PROPOSED 12F TO SE1 @ 114+33		7	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 7
PROPOSED 12F TO SE1 @ 114+33		8	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 8
PROPOSED 12F TO SE1 @ 114+33		9	SPLICE	PIGTAIL	-	-	FIBER POE, PP POSITION 9
PROPOSED 12F TO SE1 @ 114+33		10	SPLICE	PIGTAIL	-	-	FIBER POE, PP POSITION 10
PROPOSED 12F TO SE1 @ 114+33		11	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 11 TO PP POSITION 13
PROPOSED 12F TO SE1 @ 114+33		12	SPLICE	PIGTAIL	-	-	JUMPER PP POSITION 12 TO PP POSITION 14
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET	1 (BLUE)	1	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 13
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		2	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 14
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		3	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 15
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		4	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 16
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		5	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 17
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		6	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 18
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		7	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 19
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		8	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 20
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		9	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 21
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		10	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 22
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		11	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 23
PROPOSED 12F TO SB INTERSECTION TRAFFIC SIGNAL CABINET		12	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 24

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

FIBER OPTIC SPLICE TABLES (1 OF 4)

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Splice_01	13065A	220	733

FIBER OPTIC CABLE SPLICE TABLES

PROPOSED SPLICE ENCLOSURE #1 @ STA 114+33, ITS REF. 115

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	1 (BLUE)	1-4	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		5	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X	5	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		6	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X	6		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		7	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X	7		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		8	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X	8		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		9-12	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	2 (ORANGE)	13-24	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	3 (GREEN)	25-36	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	4 (BROWN)	37-48	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	5 (SLATE)	49	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	1	1 (BLUE)	SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		50	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	2		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		51	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	3		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		52	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	4		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		53	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	5		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		54	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	6		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		55	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	7		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		56	SPLICE	PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	8		SPLICE TO 12F SIGNAL INTERCONNECT CABLE
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15		57-60	UNTERMINATED	-	-		-
PROPOSED 72F TO PROPOSED SE2 @ STA 1658+15	6 (WHITE)	61-72	UNTERMINATED	-	-	-	-
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET	1 (BLUE)	1-4	UNTERMINATED	-	-	-	-
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		9	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X-5	9	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		10	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X-5	10		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		11	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X-5	11		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5
PROPOSED 12F TO NB INTERSECTION TRAFFIC SIGNAL CABINET		12	SPLICE	PROPOSED 12F TO 93-N-12.9-CCTV-X-5	12		SPLICE TO 12F DROP CABLE TO 93-N-12.9-CCTV-X-5

PROPOSED PATCH PANEL @ ITS EQUIPMENT CABINET FOR 93-N-12.9-CCTV-X-5

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33	1 (BLUE)	1	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 1
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		2	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 2
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		3	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 3
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		4	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 4
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		5	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 5
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		6	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 6
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		7	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 7
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		8	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 8
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		9	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 9
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		10	SPLICE	PIGTAIL	-	-	1 GBPS ES, PP POSITION 10
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		11	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 11
PROPOSED 12F TO PROPOSED SE1 @ STA 114+33		12	SPLICE	PIGTAIL	-	-	SPARE, PP POSITION 12

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

FIBER OPTIC SPLICE TABLES (2 OF 4)

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Splice_02	13065A	221	733

FIBER OPTIC CABLE SPLICE TABLES

PROPOSED SPLICE ENCLOSURE #2 @ STA 1658+15, ITS REF. 113

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 72F TO EXISTING SE @ STA 1652+67	1 (BLUE)	1	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	1	1 (BLUE)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		2	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	2		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		3	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	3		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		4	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	4		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		5	SPLICE	PROPOSED 12F TO 93-N-12.5-CCTV-A-5	5	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.5-CCTV-A-5
PROPOSED 72F TO EXISTING SE @ STA 1652+67		6	SPLICE	PROPOSED 12F TO 93-N-12.5-CCTV-A-5	6		SPLICE TO 12F DROP CABLE TO 93-N-12.5-CCTV-A-5
PROPOSED 72F TO EXISTING SE @ STA 1652+67		7	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	7	1 (BLUE)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		8	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	8		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		9	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	9		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		10	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	10		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		11	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	11		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67		12	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	12		PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67	2 (ORANGE)	13-24	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	13-24	2 (ORANGE)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67	3 (GREEN)	25-36	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	25-36	3 (GREEN)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67	4 (BROWN)	37-48	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	37-48	4 (BROWN)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67	5 (SLATE)	49-60	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	49-60	5 (SLATE)	PROPOSED 72F BUTT SPLICE
PROPOSED 72F TO EXISTING SE @ STA 1652+67	6 (WHITE)	61-72	SPLICE	PROPOSED 72F TO PROPOSED SE @ STA 114+33	61-72	6 (WHITE)	PROPOSED 72F BUTT SPLICE
PROPOSED 12F TO 93-N-12.5-CCTV-A-5	1 (BLUE)	1-4	UNTERMINATED	-	-	-	-
PROPOSED 12F TO 93-N-12.5-CCTV-A-5		9-12	UNTERMINATED	-	-	-	-
PROPOSED 72F TO PROPOSED SE1 @ STA 114+33	1 (BLUE)	5	SPLICE	PROPOSED 12F TO 93-N-12.5-CCTV-A-5	7	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.5-CCTV-A-5
PROPOSED 72F TO PROPOSED SE1 @ STA 114+33		6	SPLICE	PROPOSED 12F TO 93-N-12.5-CCTV-A-5	8		SPLICE TO 12F DROP CABLE TO 93-N-12.5-CCTV-A-5

EXISTING PATCH PANEL @ ITS EQUIPMENT CABINET FOR 93-N-12.5-CCTV-A-5

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33	1 (BLUE)	1	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 1
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		2	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 2
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		3	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 3
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		4	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 4
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		5	SPLICE	EXISTING PIGTAIL	-	-	EXISTING 1 GBPS ES, PP POSITION 5
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		6	SPLICE	EXISTING PIGTAIL	-	-	EXISTING 1 GBPS ES, PP POSITION 6
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		7	SPLICE	EXISTING PIGTAIL	-	-	EXISTING 1 GBPS ES, PP POSITION 7
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		8	SPLICE	EXISTING PIGTAIL	-	-	EXISTING 1 GBPS ES, PP POSITION 8
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		9	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 9
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		10	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 10
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		11	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 11
PROPOSED 12F TO PROPOSED SE2 @ STA 114+33		12	SPLICE	EXISTING PIGTAIL	-	-	SPARE, PP POSITION 12

EXISTING SPLICE ENCLOSURE @ STA 1652+67, ITS REF. 105

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
PROPOSED 72F TO EXISTING SE @ STA 3654+50	1 (BLUE)	1	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		2	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		3	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		4	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		5	SPLICE	EXISTING 12F TO 93-N-12.4-VSLS-D-5	5	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.4-VSLS-D-5
PROPOSED 72F TO EXISTING SE @ STA 3654+50		6	SPLICE	EXISTING 12F TO 93-N-12.4-VSLS-D-5	6		SPLICE TO 12F DROP CABLE TO 93-N-12.4-VSLS-D-5
PROPOSED 72F TO EXISTING SE @ STA 3654+50		7	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		8	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		9	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		10	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		11	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50		12	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50	2 (ORANGE)	13-24	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50	3 (GREEN)	25-36	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50	4 (BROWN)	37-48	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50	5 (SLATE)	49-60	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO EXISTING SE @ STA 3654+50	6 (WHITE)	61-72	THROUGH	PROPOSED 72F TO SE2 @ 1658+15	-	-	PROPOSED 72F
PROPOSED 72F TO PROPOSED SE2 @ 1658+15	1 (BLUE)	5	SPLICE	EXISTING 12F TO 93-N-12.4-VSLS-D-5	7	1 (BLUE)	SPLICE TO 12F DROP CABLE TO 93-N-12.4-VSLS-D-5
PROPOSED 72F TO PROPOSED SE2 @ 1658+15		6	SPLICE	EXISTING 12F TO 93-N-12.4-VSLS-D-5	8		SPLICE TO 12F DROP CABLE TO 93-N-12.4-VSLS-D-5

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

FIBER OPTIC SPLICE TABLES (3 OF 4)

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Splice_03	13065A	222	733

FIBER OPTIC CABLE SPLICE TABLES

EXISTING SPLICE ENCLOSURE @ STA 3654+50, ITS REF. 101

CABLE	TUBE	STRAND	CONNECTION	CABLE	STRAND	TUBE	DESCRIPTION
EXISTING 288F TO EXISTING SV @ STA 3612+48	1 (BLUE)	1	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		2	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		3	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		4	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		5	SPLICE	PROPOSED 72F TO SV @ 1652+67	5	1 (BLUE)	SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		6	SPLICE	PROPOSED 72F TO SV @ 1652+67	6		SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		7	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		8	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		9	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		10	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		11	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		12	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48	2 (ORANGE)	13-24	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48	3 (GREEN)	25-36	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48	4 (BROWN)	37-48	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48	5 (SLATE)	49	SPLICE	PROPOSED 72F TO SV @ 1652+67	49	5 (SLATE)	RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		50	SPLICE	PROPOSED 72F TO SV @ 1652+67	50		RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		51	SPLICE	PROPOSED 72F TO SV @ 1652+67	51		RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		52	SPLICE	PROPOSED 72F TO SV @ 1652+67	52		RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3612+48		53	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		54	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		55	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		56	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		57	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		58	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		59	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48		60	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3612+48	VARIOUS	61-288	THROUGH	EXISTING 288F TO EXISTING SV @ STA 3667+10	-	-	MAIN 288F FIBER OPTIC BACKBONE
EXISTING 288F TO EXISTING SV @ STA 3667+10	1 (BLUE)	5	SPLICE	PROPOSED 72F TO SV @ 1652+67	7	1 (BLUE)	RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3667+10		6	SPLICE	PROPOSED 72F TO SV @ 1652+67	8		RING CUT SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3667+10	5 (SLATE)	49	SPLICE	PROPOSED 72F TO SV @ 1652+67	53	5 (SLATE)	SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3667+10		50	SPLICE	PROPOSED 72F TO SV @ 1652+67	54		SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3667+10		51	SPLICE	PROPOSED 72F TO SV @ 1652+67	55		SPLICE TO 72F DROP CABLE
EXISTING 288F TO EXISTING SV @ STA 3667+10		52	SPLICE	PROPOSED 72F TO SV @ 1652+67	56		SPLICE TO 72F DROP CABLE
PROPOSED 72F TO EXISTING SV @ STA 1652+67	1 (BLUE)	1	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		2	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		3	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		4	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		9	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		10	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		11	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		12	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67	2 (ORANGE)	13-24	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67	3 (GREEN)	25-36	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67	4 (BROWN)	37-48	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67	5 (SLATE)	49	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		50	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		51	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67		52	UNTERMINATED	-	-	-	-
PROPOSED 72F TO EXISTING SV @ STA 1652+67	6 (WHITE)	61-72	UNTERMINATED	-	-	-	-

REVISIONS AFTER PROPOSAL

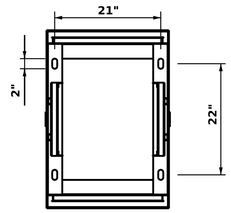
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

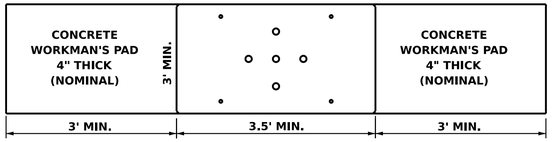
FIBER OPTIC SPLICE TABLES (4 OF 4)

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Splice_04	13065A	223	733



BOTTOM VIEW

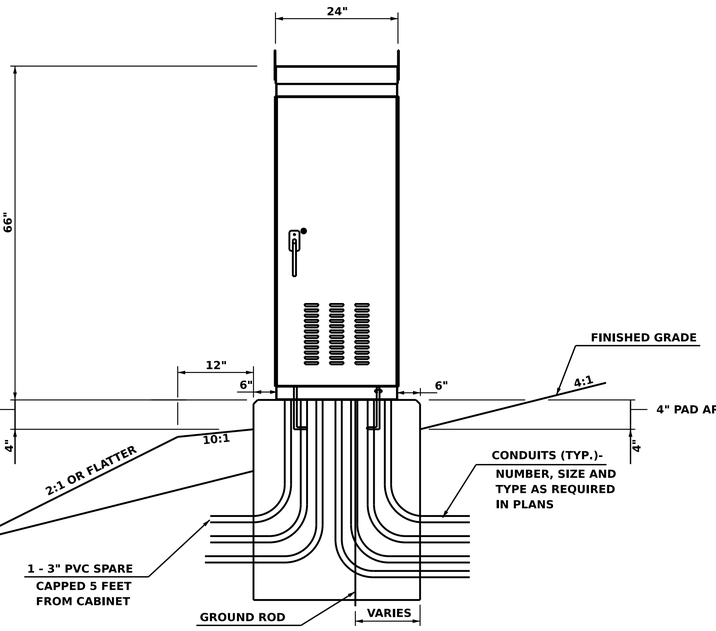
(NO COMPONENTS)



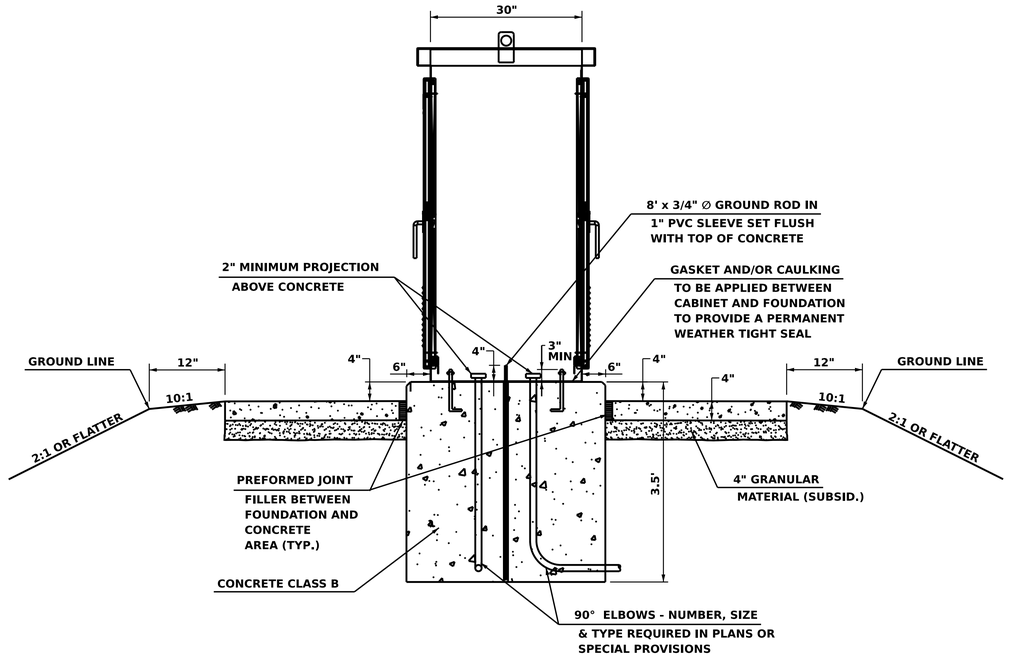
BOLT SIZE, SPACING AND PROJECTION ABOVE CONCRETE PER MANUFACTURER'S TEMPLATE

FOUNDATION SHALL BE 6" WIDER AND LONGER THAN CABINET BASE TO BE INSTALLED

FOUNDATION PLAN



FRONT & REAR VIEWS



SECTION

ITEM 677.54101 - GROUND MOUNTED ITS EQUIPMENT CABINET DETAIL

NOT TO SCALE

NOTES:

1. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
2. WORKMAN'S PADS (AND CABINET DOORS) SHOULD BE ORIENTED AS SHOWN ON THE PLANS.
3. CONTRACTOR SHALL INSTALL A SPARE 3" PVC CONDUIT CAPPED 5 FEET FROM CABINET AT ALL GROUND MOUNTED LOCATIONS.
4.

NUMBER	DESCRIPTION	DATE	STATION

REVISIONS AFTER PROPOSAL

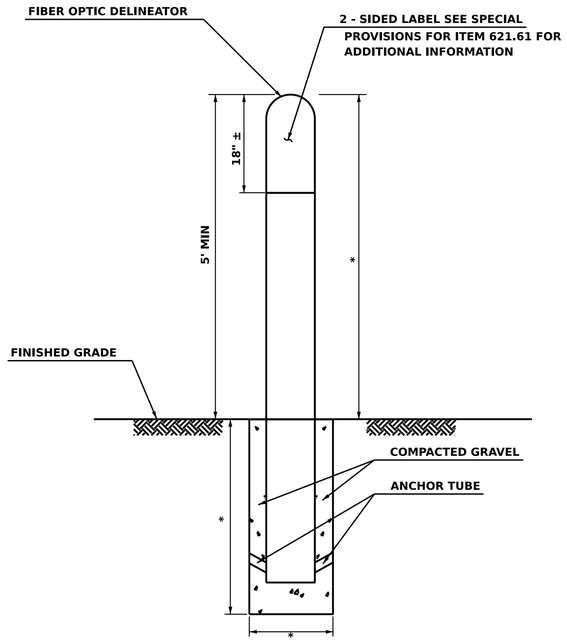
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

GROUND MOUNTED ITS EQUIPMENT CABINET DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_ITS-01	13065A	224	733



*** PER MANUFACTURERS RECOMMENDATIONS**

ITEM 621.61 - FIBER OPTIC DELINEATOR (FOD)

NOT TO SCALE

FIBER OPTIC DELINEATOR (FOD) NOTES

1. **THE FOD SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND THE PLAN DETAILS.**
2. **THE FOD SHALL BE INSTALLED CONCURRENTLY WITH THE CONDUIT SYSTEM AND SHALL BE IN PLACE BEFORE THE FIBER OPTIC CABLE INSTALLATION.**
3. **AT A MINIMUM, THE PLACEMENT OF THE FOD(S) SHALL BE LOCATED AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY FIELD ADJUSTMENT TO THESE LOCATIONS SUCH THAT THE MARKER SHALL NOT INTERFERE WITH CABLE INSTALLATION OR MAINTENANCE.**
4. **CONTRACTOR SHALL REMOVE AND REPLACE ANY FOD DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE STATE.**

REVISIONS AFTER PROPOSAL

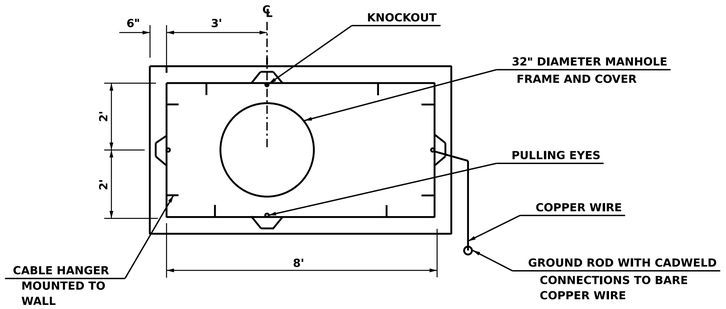
NUMBER	DATE	STATION	DESCRIPTION

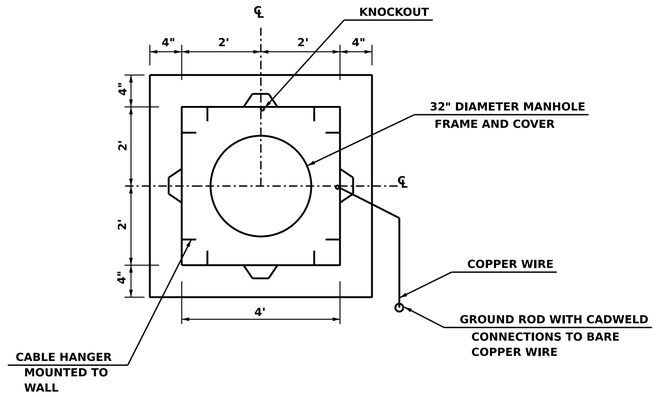
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

FIBER OPTIC DELINEATOR (FOD) DETAILS

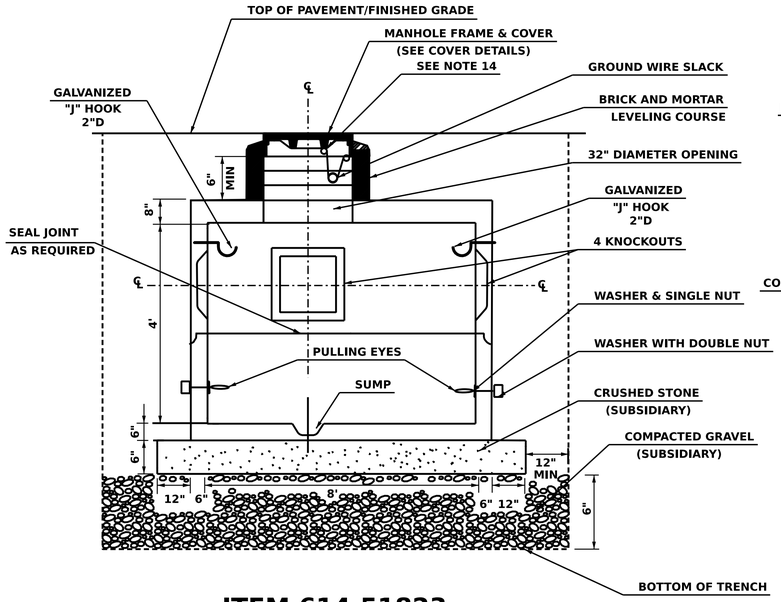
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_ITS-02	13065A	225	733





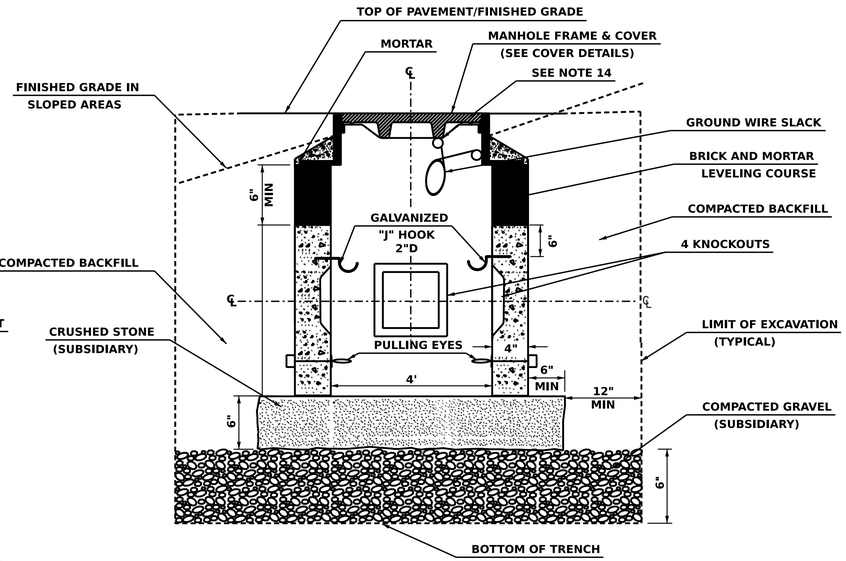
CONDUIT NOTES:

1. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE TRENCH DETAIL FOR CONDUIT INSTALLATION STANDARD SL-1.
2. SPLICING OR JOINING SECTIONS OF CONDUITS SHALL TAKE PLACE USING MANUFACTURER'S SPLICE KITS. THE CONDUIT SHALL MAINTAIN WATERTIGHTNESS BETWEEN ACCESS POINTS.
3. AFTER COMPLETING THE INSTALLATION OF HOLLOW CONDUIT, THE CONDUITS SHALL BE CAPPED WITH MECHANICAL CONDUIT PLUGS.
4. CONDUIT ENDS SHALL BE SEALED. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE THAT CONDUIT IS NOT DAMAGED DURING THE INSTALLATION OF BACKFILL MATERIAL.
5. ALL JOINTS BETWEEN PRECAST ELEMENTS AND THE CONDUIT SHALL BE SEALED WITH A SEALANT MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND ALL PENETRATIONS SHALL BE SEALED WITH A NO-SHRINK GROUT.
6. CONTRACTOR SHALL PROVIDE FOUR KNOCKOUTS ON SIDEWALLS OF PULLBOXES AND SPLICE VAULTS DESIGNED TO ACCEPT 4 INCH CONDUITS.
7. CONDUIT SHALL NOT BE INSTALLED LONGITUDINALLY WITHIN 2' OF THE CENTERLINE OF A DITCH BUT MAY CROSS UNDER THE CENTER OF A DITCH. THE LONGITUDINAL CONDUIT SHALL BE INSTALLED IN STRAIGHT (TANGENT) SEGMENTS AS MUCH AS FEASIBLE.



ITEM 614.51823
CONCRETE FIBER OPTIC SPLICE VAULT DETAIL
48" (H) x 96" (W) x 48" (D)

NOT TO SCALE

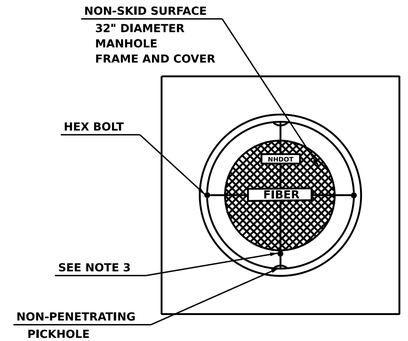


ITEM 614.51821
CONCRETE FIBER OPTIC SPLICE VAULT DETAIL
48" (H) x 48" (W) x 48" (D)

NOT TO SCALE

SPLICE VAULT NOTES:

1. VAULT SHALL BE PRECAST CONCRETE AND SHALL MEET HS-20 WHEEL LOADING. VAULT SHALL BE CAST IN A MAXIMUM OF TWO SECTIONS.
2. BITUMASTIC WATERPROOFING SHALL BE APPLIED TO EXTERIOR OF VAULT SURFACE PRIOR TO BACK FILLING.
3. 1-INCH DIAMETER BUTYL RUBBER OR EQUIVALENT SHALL BE APPLIED BETWEEN SECTION JOINTS.
4. KNOCKOUTS SHALL BE 14-INCH AND SHALL BE LOCATED AS SHOWN. KNOCKOUTS SHALL EXTEND 4-INCH INTO THE WALL WITH THE SIDE SLOPED AT 45 DEGREES TO PROVIDE A BELL TYPE OPENING. KNOCKOUTS SHALL BE CLEAR OF ANY REINFORCING.
5. IN THE EVENT THAT UNSUITABLE SOIL CONDITIONS ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING.
6. ALL BACKFILL AND EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH NHDOT SPECIFICATION 304.
7. ALL REINFORCING STEEL SHALL BE STANDARD DEFORMED BARS A.S.T.M. A-615 GRADE 60 AND SHALL BE PLACED WITH A MINIMUM CONCRETE COVER 0F 1-INCH.
8. SUMP SHALL EXTEND 3 INCHES INTO THE FLOOR. SUMP SHALL BE COVERED BY CAST IRON GRATE OR APPROVED EQUAL.
9. PULLING EYES AND CABLE RACK SHALL BE GROUNDED.
10. ADJUST FRAME AND COVER SO THAT THE DRAINAGE WILL BE AWAY FROM SPLICE VAULTS.
11. CONTRACTOR SHALL MAKE GRADUAL SWEEP FROM SPLICE VAULTS TO STANDARD DEPTH OF CONDUIT. EXTEND A MINIMUM OF 8-INCH FROM OUTSIDE THE WALL OF THE SPLICE VAULT.
12. SPLICE VAULT FRAME AND COVER SHALL BE CONNECTED VIA BARE COPPER GROUND WIRE TO A GROUND ROD WITH CADWELD CONNECTIONS.
13. THE CONTRACTOR SHALL COIL SLACK FIBER OPTIC CABLE LOOPED IN THE SPLICE VAULTS. FIBER OPTIC CABLE COILS SHALL NOT EXCEED THE MINIMUM BENDING RADIUS FOR THE CABLE.
14. THE CONTRACTOR SHALL INSTALL TWO FLAT BRONZE WASHERS WITH LOCK WASHERS AND BRASS NUT AND CONTRACTOR SHALL EXOTHERMICALLY WELD GROUND WIRE (IN A DOUBLE LOOP) AND SECURE WITH NUT.
15. THE CONTRACTOR SHALL ADD CONNECTION POINTS WITHIN VAULTS FOR TRACER WIRE SYSTEM. TRACER WIRE SYSTEM SHALL REMAIN CONTINUOUS THROUGH VAULTS.
16. T CONNECTIONS FOR TRACER WIRE SYSTEM SHALL BE PROVIDED IN VAULTS WHERE APPROPRIATE.



COVER DETAIL

NOT TO SCALE

COVER DETAIL NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON CONFORMING TO A.S.T.M. A48 CLASS 308.
2. UNITS DESIGNED HEAVY DUTY FOR HS-20 WHEEL LOADS.
3. EACH FRAME AND COVER SHALL HAVE MACHINED HORIZONTAL BEARING SURFACES.
4. THE CONTRACTOR SHALL SUBMIT FOR ENGINEER'S APPROVAL THE PROPOSED METHOD OF GROUNDING THE COVER AND COVER FRAME.

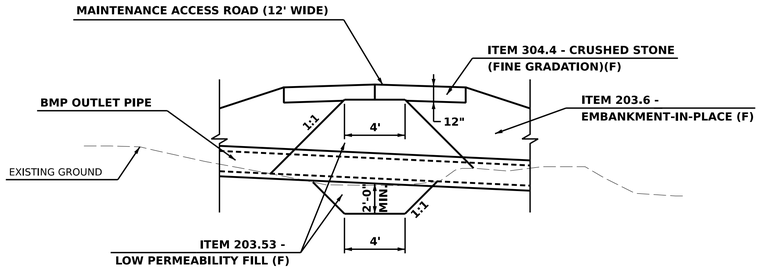
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

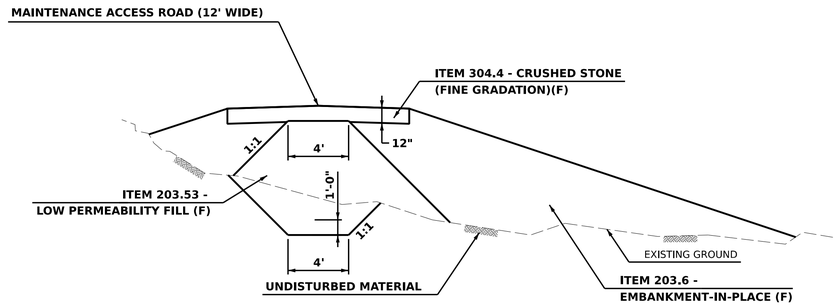
ITS DETAILS AND NOTES

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_ITS-04	13065A	226	733



BMP KEY DETAIL - AT OUTLET PIPE

NOT TO SCALE

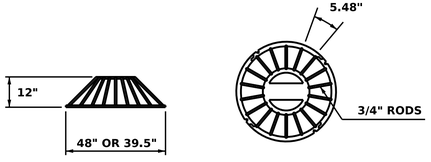


BMP KEY DETAIL - IN FILL SECTIONS

NOT TO SCALE

BMP GENERAL NOTES

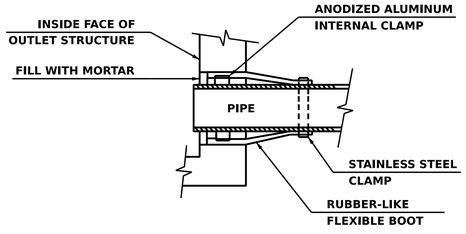
1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2' BELOW FINAL GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. CONSTRUCT CUT OFF TRENCH AT CENTERLINE OF BERM OR SLIGHTLY UPSTREAM. FILL WITH LOW PERMEABILITY FILL TO REDUCE SEEPAGE AND STABILIZE THE BERM. COMPACT MATERIAL TO AT LEAST 95% OF MAXIMUM DENSITY.
4. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. ORIFACES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
5. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE. STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
6. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT OF DETENTION BASIN. (SEE GRADING PLAN)
7. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT, RE-SEED AND PROVIDE TURF ESTABLISHMENT
8. ANTI-SEEP COLLARS SHALL BE INSTALLED TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROJECT A MINIMUM OF 2 FT. FROM THE PIPE. IN ROCK, EXTEND COLLAR TO LIMITS OF TRENCH, LT., RT., AND BELOW THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
9. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFORMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT. (SUBSIDIARY TO PIPE ITEM)
10. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL MEET STD. NO. DR-5.
11. ALL HARDWARE USED SHALL BE HOT DIPPED GALVANIZED (TYP.).



CONE TRASHRACK DETAIL

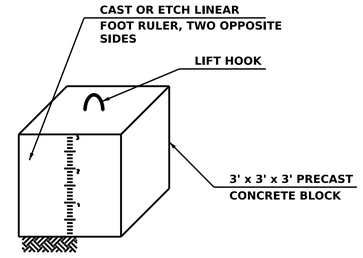
NOT TO SCALE
SUBSIDIARY TO ITEM 609.91X

*NOTE: DETAIL IS ONLY APPLICABLE AT BMP LOCATIONS 1649, AND 1670



BMP OUTLET STRUCTURE FLEXIBLE PIPE BOOT DETAIL

NOT TO SCALE
SUBSIDIARY TO ITEM 609.91X



SEDIMENT SUMP MEASURING BLOCK ITEM 670.02

NOT TO SCALE

*NOTE: DETAIL IS ONLY APPLICABLE AT BMP LOCATIONS 1012, 1038, AND 1670

REVISIONS AFTER PROPOSAL

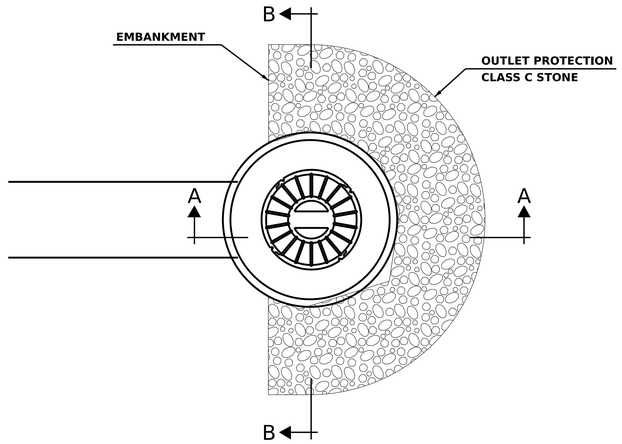
NUMBER	DESCRIPTION	DATE	STATION

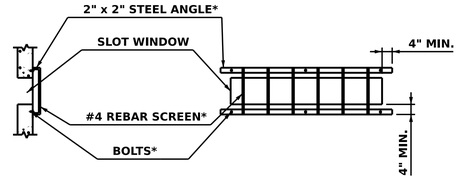
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

BMP DETAILS

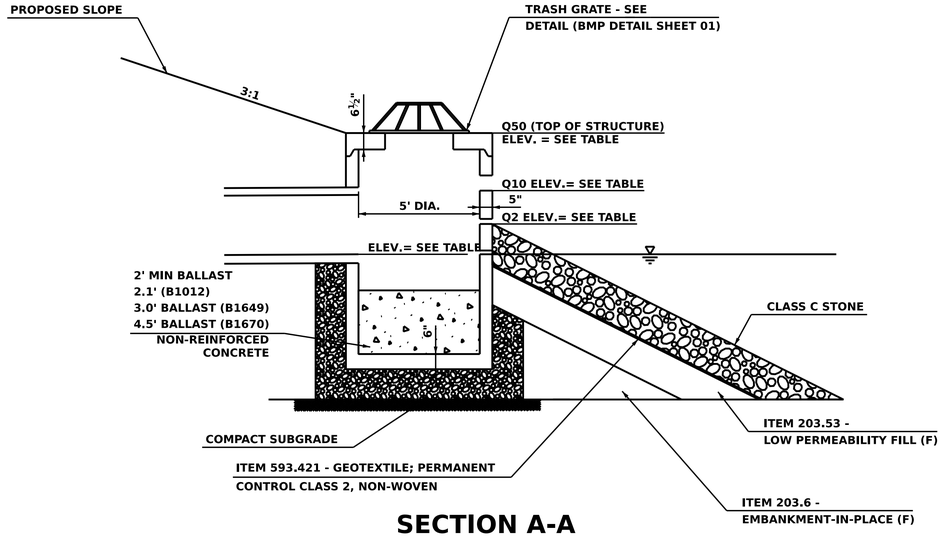
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_BMP_Det_01	13065A	227	733



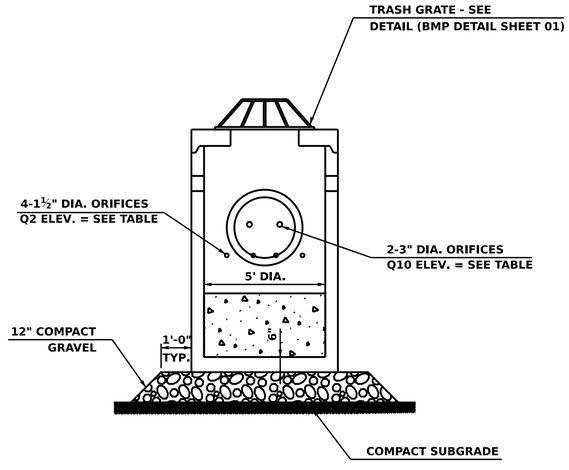


SECTION **ELEVATION**

*NOTE: THE ABOVE DETAIL APPLIES TO SQUARE STRUCTURES ONLY.



SECTION A-A



SECTION B-B

*NOTE: ALL HARDWARE AND STEEL APPURTENANCES FOR THE OUTLET STRUCTURES SHALL BE GALVANIZED.

ITEM 604.9101, 604.9102, 604.9103 - OUTLET CONTROL STRUCTURES SCHEMATIC

NOT TO SCALE

OUTLET		B1649 - WET EXTENDED DETENTION BASIN (ITEM NO. 604.9101)			B1670 - WET EXTENDED DETENTION BASIN (ITEM NO. 604.9102)			B1012 - WET EXTENDED DETENTION BASIN (ITEM NO. 604.9103)		
		INVERT ELEVATION	SIZE	QUANTITY	INVERT ELEVATION	SIZE (INCHES)	QUANTITY	INVERT ELEVATION	SIZE (INCHES)	QUANTITY
50% WQV ORIFICE		313.00	3" DIA	1	344.10	3" DIA	1	364.10	2" DIA	1
Q2 ORIFICE		316.00	18"W x 4"H	1	346.30	6" DIA	1	365.80	24"W x 6"H	1
Q10 ORIFICE		-	-	-	347.80	12"W x 4"H	1	366.50	24"W x 4"H	1
TRASH RACK/GRATE		318.50	48" DIA	1	348.00	48" DIA	1	367.00	48" DIA	1
PIPE OUTLET		313.16	36" DIA	1	341.00	30" DIA	1	360.30	24" DIA	1
FOREBAY WEIR		317.20	20'W x 16.4'L	1	345.95	20'W x 10'L	1	366.50	10'W X 12'L	1
SPILLWAY WEIR		318.75	22'W x 20'L	1				367.50	10'W X 12'L	1

NUMBER	DESCRIPTION	DATE	STATION

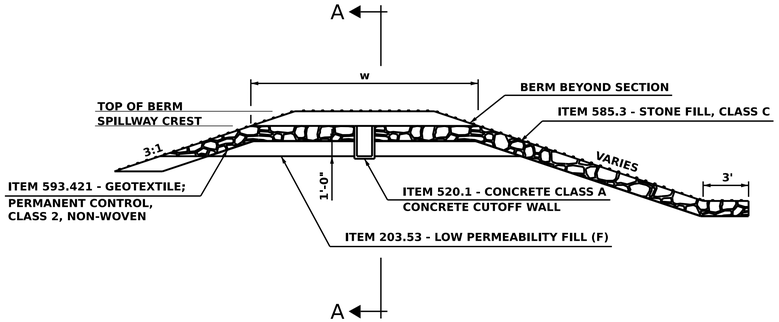
REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

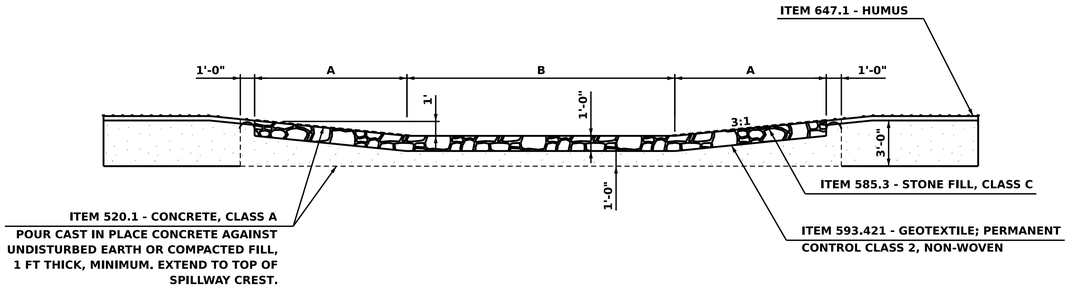
BMP DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_BMP_Det_02	13065A	228	733

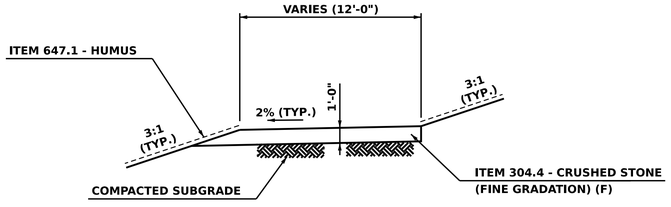


STONE SPILLWAY TYPICAL

NOT TO SCALE
(LOCATE FOR OVERFLOW FOREBAY TO POND)

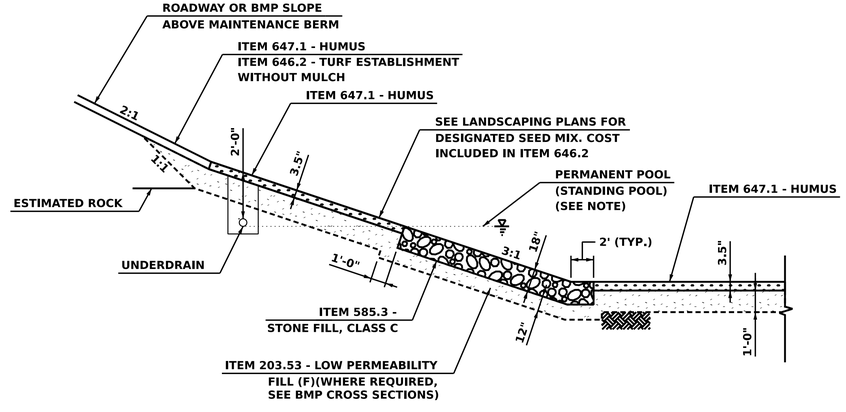


SECTION A-A



MAINTENANCE ROAD TYPICAL SECTION

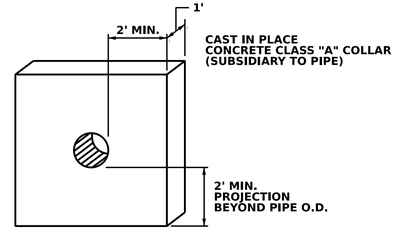
NOT TO SCALE
(SEE BMP PLANS FOR DIMENSIONS)



FOREBAY AND PERMANENT POOL DETAIL

NOT TO SCALE

NOTE: ELEVATION OF STONE FILL VARIES BASED ON
INDIVIDUAL BMP, SEE BMP PLANS FOR ELEVATION



ANTI-SEEP COLLAR

NOT TO SCALE
(TO BE LOCATED ALONG OUTLET
CONTROL STRUCTURE PIPE)

REVISIONS AFTER PROPOSAL

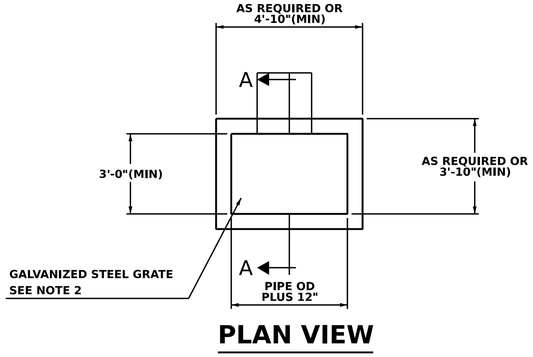
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

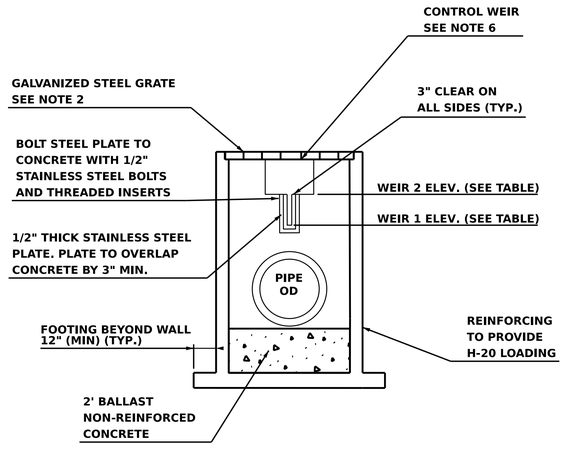
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

BMP DETAILS

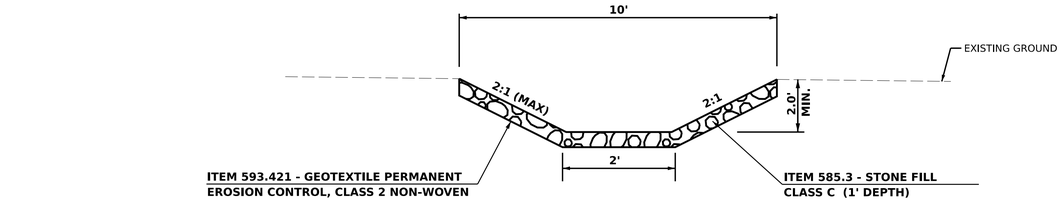
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_BMP_Det_03	13065A	229	733



PLAN VIEW



ELEVATION

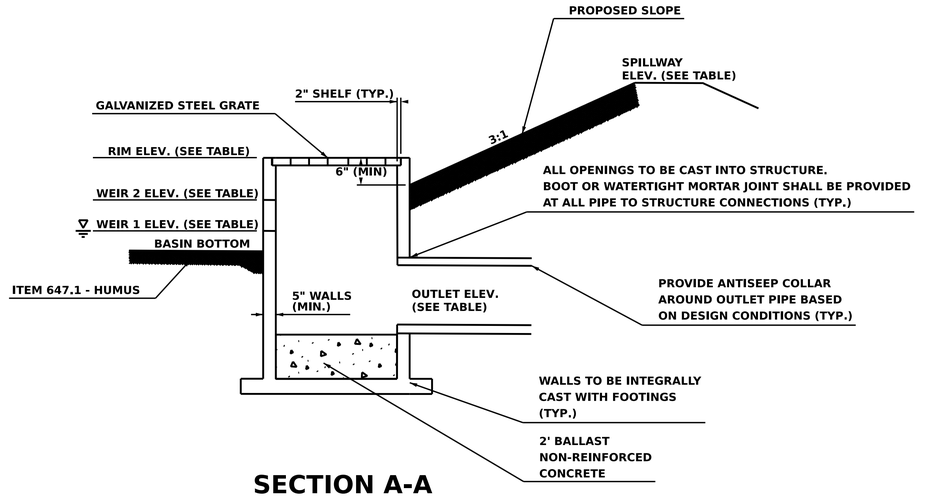


NOTE: ANY EXCAVATION NEEDED TO CONSTRUCT TREATMENT SWALE TO BE PAID FOR UNDER ITEM 203.1 - COMMON EXCAVATION.

INLET SWALE - TYPICAL SECTION

B1691

NOT TO SCALE



SECTION A-A

ITEM 604.9104, 604.9105, 604.9106 - OUTLET CONTROL STRUCTURES SCHEMATIC

NOT TO SCALE

OUTLET	B1038 - WET EXTENDED DETENTION BASIN (ITEM NO. 604.9104)			B1687 - DETENTION BASIN (ITEM NO. 604.9105)			B1691 - DETENTION BASIN (ITEM NO. 604.9106)		
	INVERT ELEVATION	SIZE (INCHES)	QUANTITY	INVERT ELEVATION	SIZE	QUANTITY	INVERT ELEVATION	SIZE (INCHES)	QUANTITY
Weir 1	326.80	1"W x 26.4"H	1	418.50	2"W x 18"H	1	417.00	6"W x 24"H	1
Weir 2	329.00	10"W x 9.6"H	1	-	-	-		-	-
TRASH RACK/GRATE	329.80	36" x 36"	1	420.00	36" x 36"	1	419.00	36" x 36"	1
PIPE OUTLET	323.50	24" DIA	1	413.25	24" DIA	1	412.00	24" DIA	1
FOREBAY WEIR	326.50	10' X 12'	1	-	-	-	-	-	-
SPILLWAY WEIR	330.00	10' X 12'	1	-	-	-	-	-	-

NOTES:

1. ALL CEMENT CONCRETE TO BE 4000 PSI (MIN).
2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE WITH 1/2" STAINLESS STEEL BOLTS AND THREADED INSERTS.
3. OUTLET PIPE SHALL NOT BE LESS THAN 15" DIAMETER AND SHALL BE SIZED FOR THE 50-YEAR STORM.
4. ALL OPENINGS SHALL BE CAST IN AS REQUIRED. MINIMUM CONCRETE WEIR WIDTH SHALL BE 2 INCHES/
5. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
6. CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS AND IN ACCORDANCE WITH THE APPROVED DRAINAGE CALCULATIONS. STAINLESS STEEL PLATE SHALL BE USED TO CONTROL WEIRS LESS THAN 2 INCHES WIDE.
7. ALL STAINLESS STEEL SHALL BE GRADE 318.
8. MINIMUM EMBANKMENT ELEVATION TO BE 12" ABOVE 50-YEAR STORM ELEVATION.

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

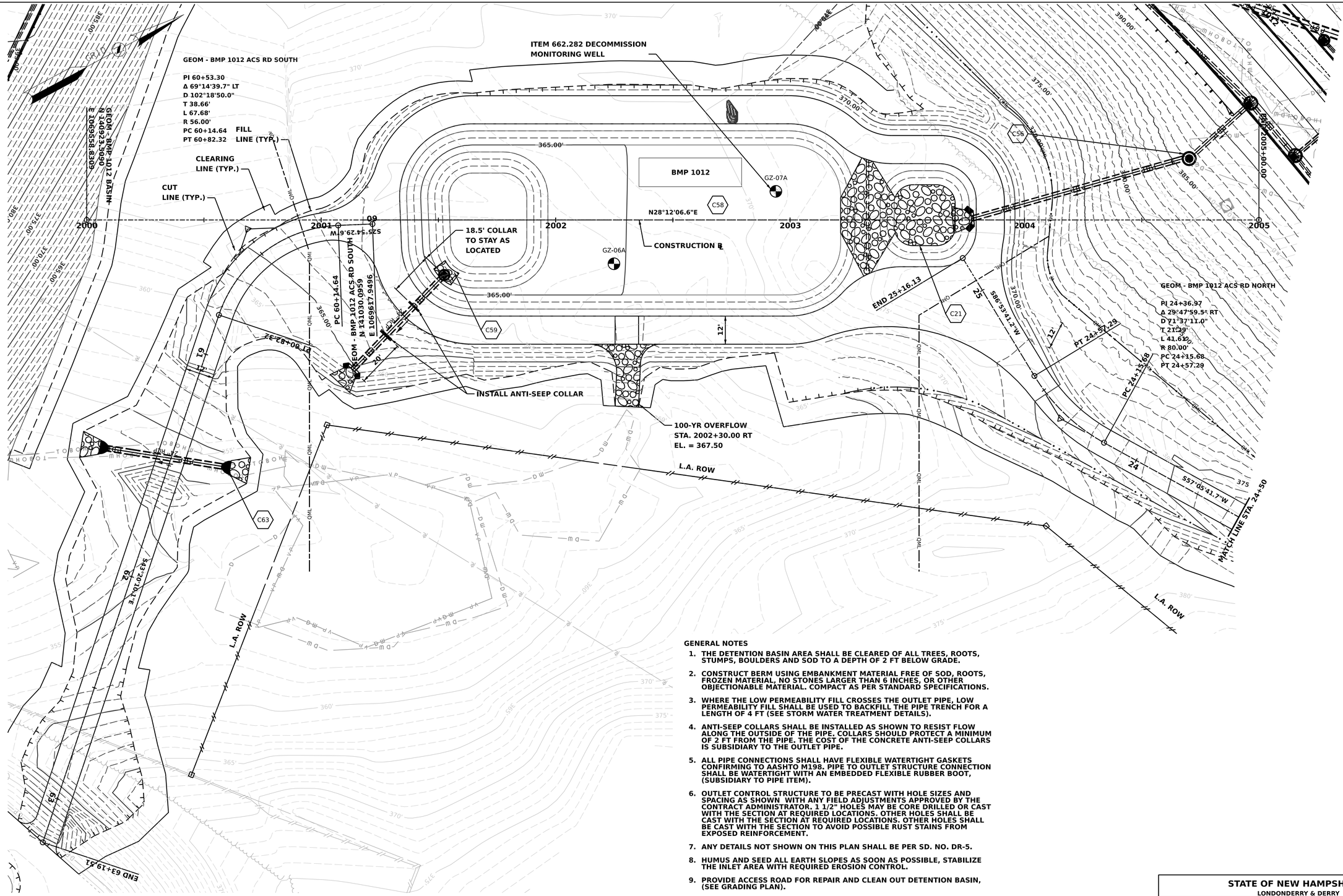
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

BMP DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_BMP_Det_04	13065A	230	733



GENERAL NOTES

1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).
4. ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
5. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).
6. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
7. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.
8. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
9. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).
10. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.

BORING IDENTIFICATION TABLE FOR BMP 1012

LOCATION	ID	DATE
STA. 1010+66 RT 276'	GZ-06A	6/2/2021
STA. 1011+11 RT 206'	GZ-07A	6/5/2021

20 0 20 40

SCALE IN FEET

REVISIONS AFTER PROPOSAL

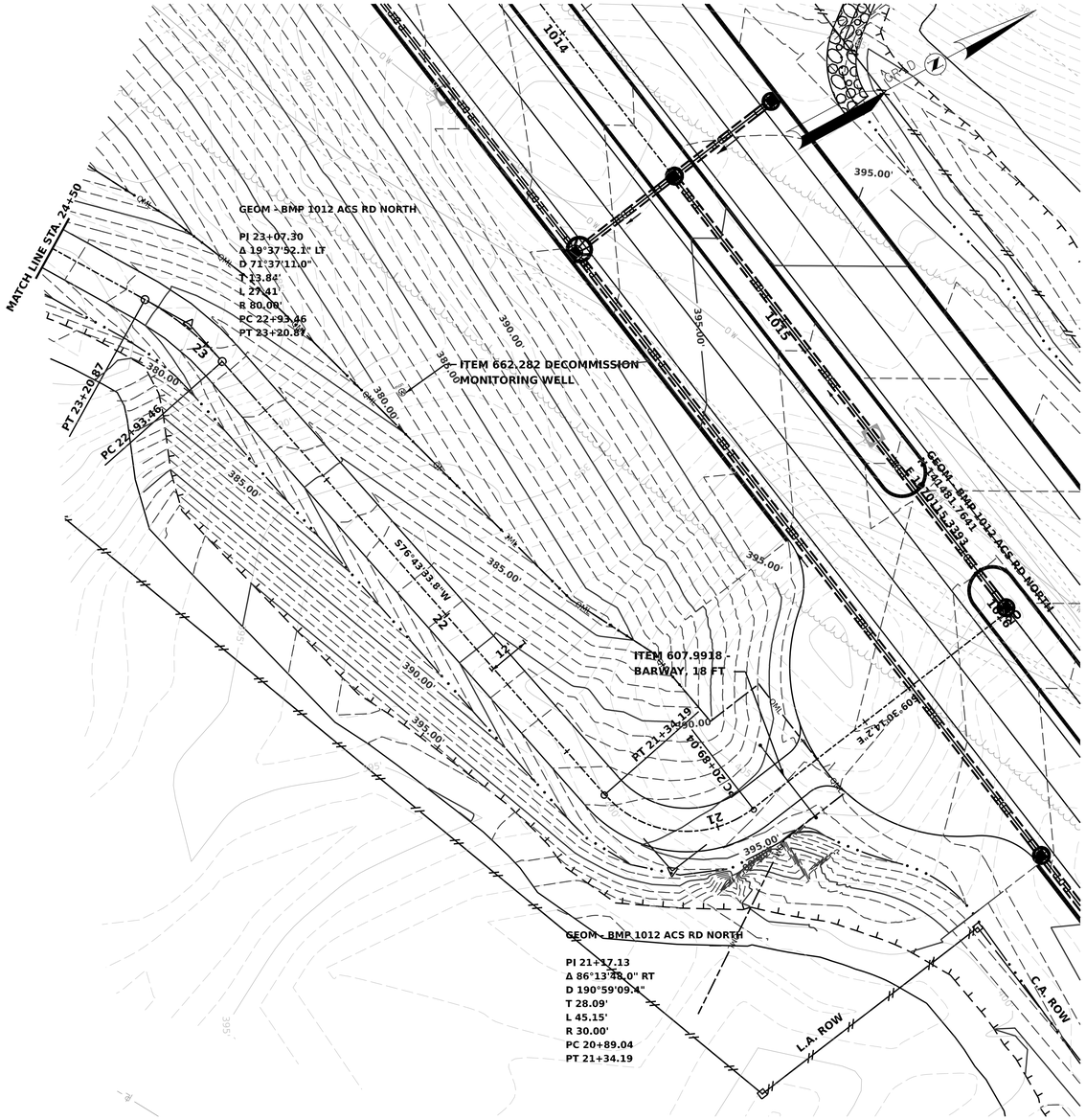
NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1012 PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 101213065A_BMP_1012_Plan_01	13065A		231	733



GENERAL NOTES

1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).
4. ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
5. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).
6. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
7. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.
8. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
9. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).
10. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

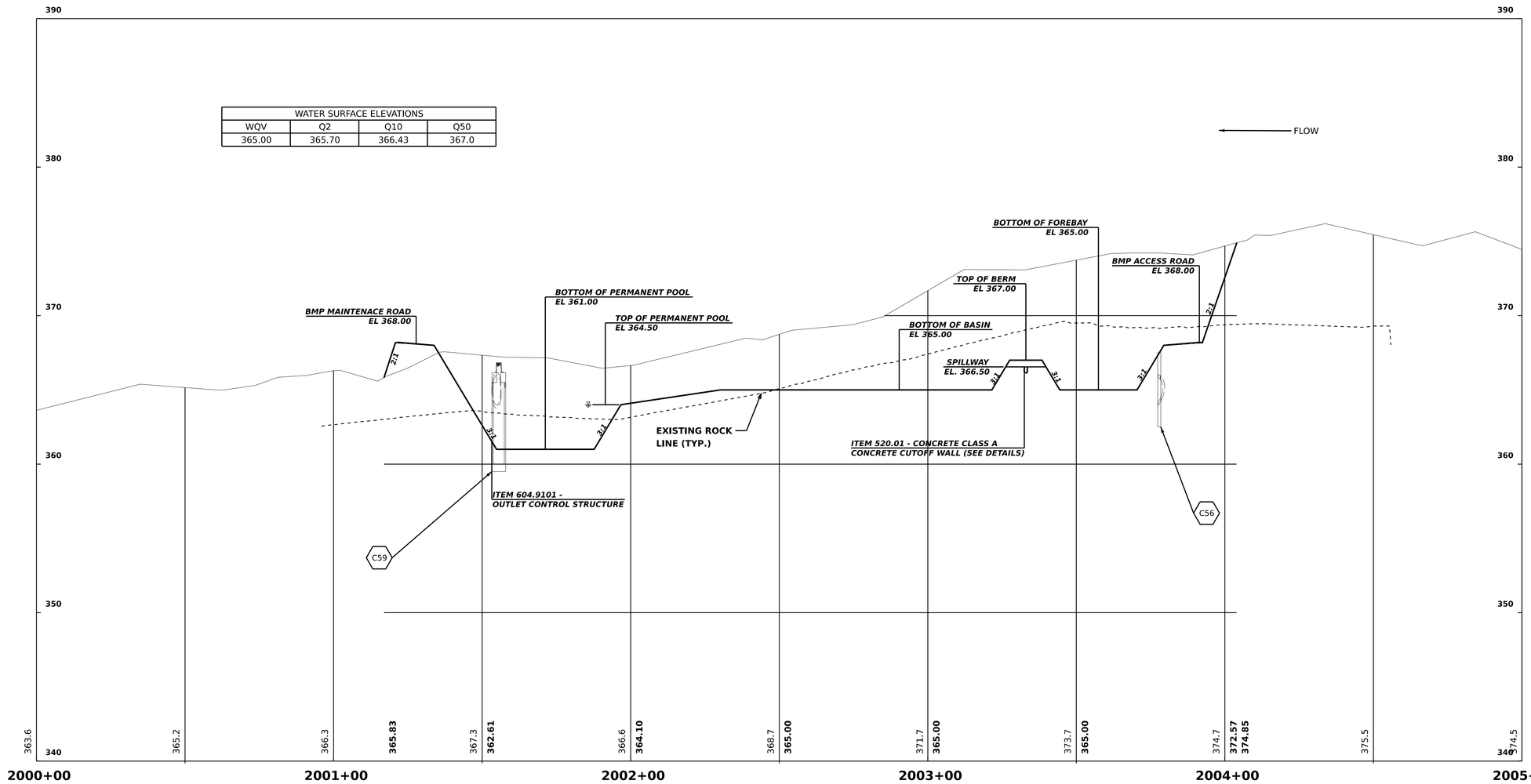
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION ACCESS ROAD PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 101213065A_BMP_1012_Plan_02	13065A		232	733

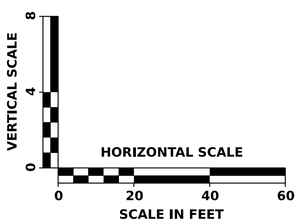
WATER SURFACE ELEVATIONS			
WQV	Q2	Q10	Q50
365.00	365.70	366.43	367.0



NOTE

1. **SEE CROSS SECTIONS FOR SUBGRADE DETAILS.**

BORING IDENTIFICATION TABLE FOR BMP 1012		
LOCATION	**ID**	**DATE**
STA. 1010+66 RT 276'	**GZ-06A**	**6/2/2021**
STA. 1011+11 RT 206'	**GZ-07A**	**6/5/2021**



VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

NUMBER	DATE	DESCRIPTION	STATION	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

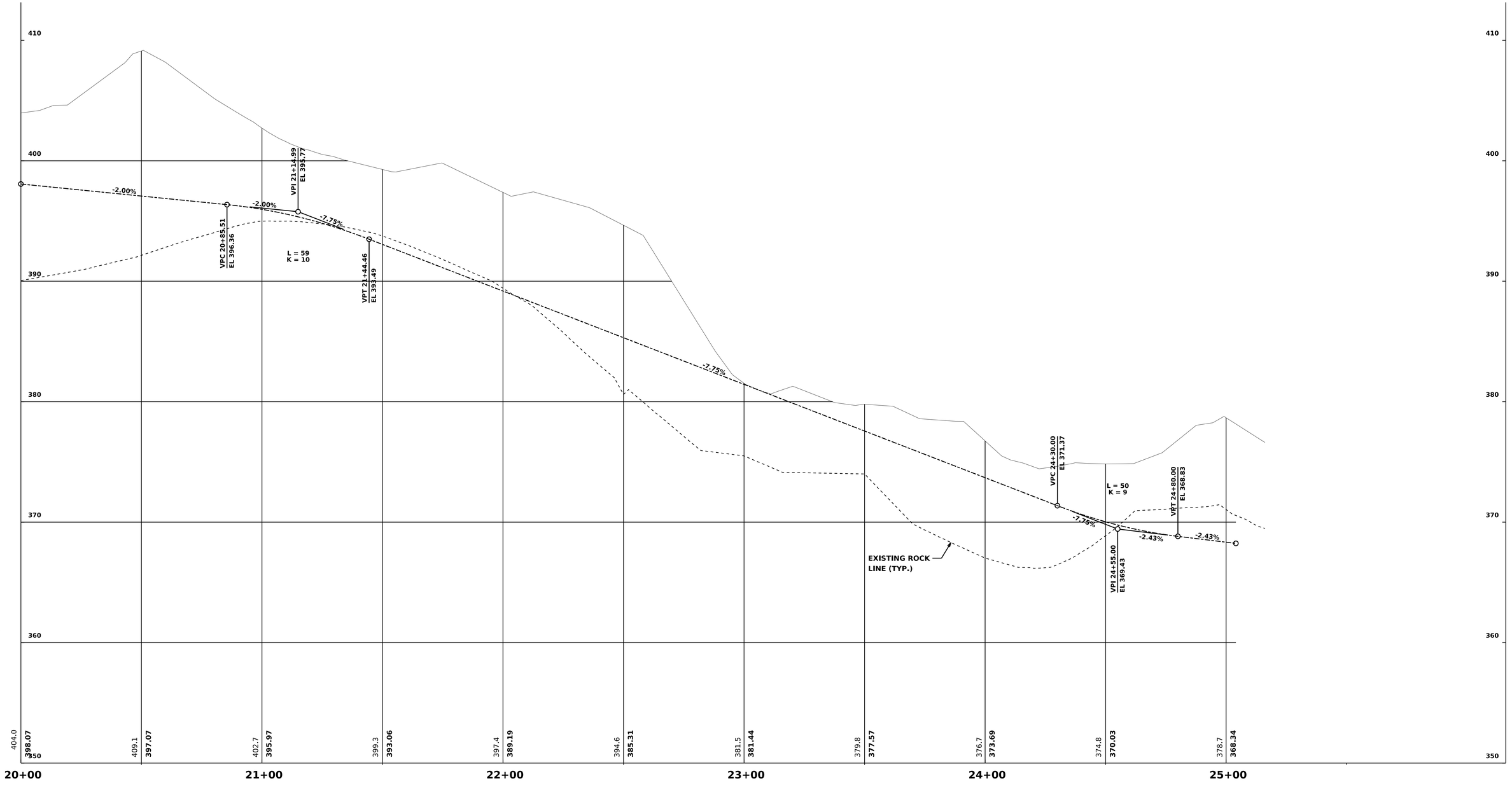
WET EXTENDED DETENTION BASIN 1012 PROFILE

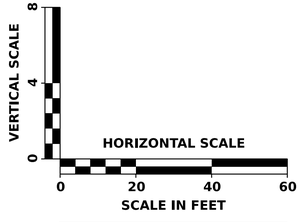
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1012	13065A_Pro_BMP_1012	13065A	233	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE





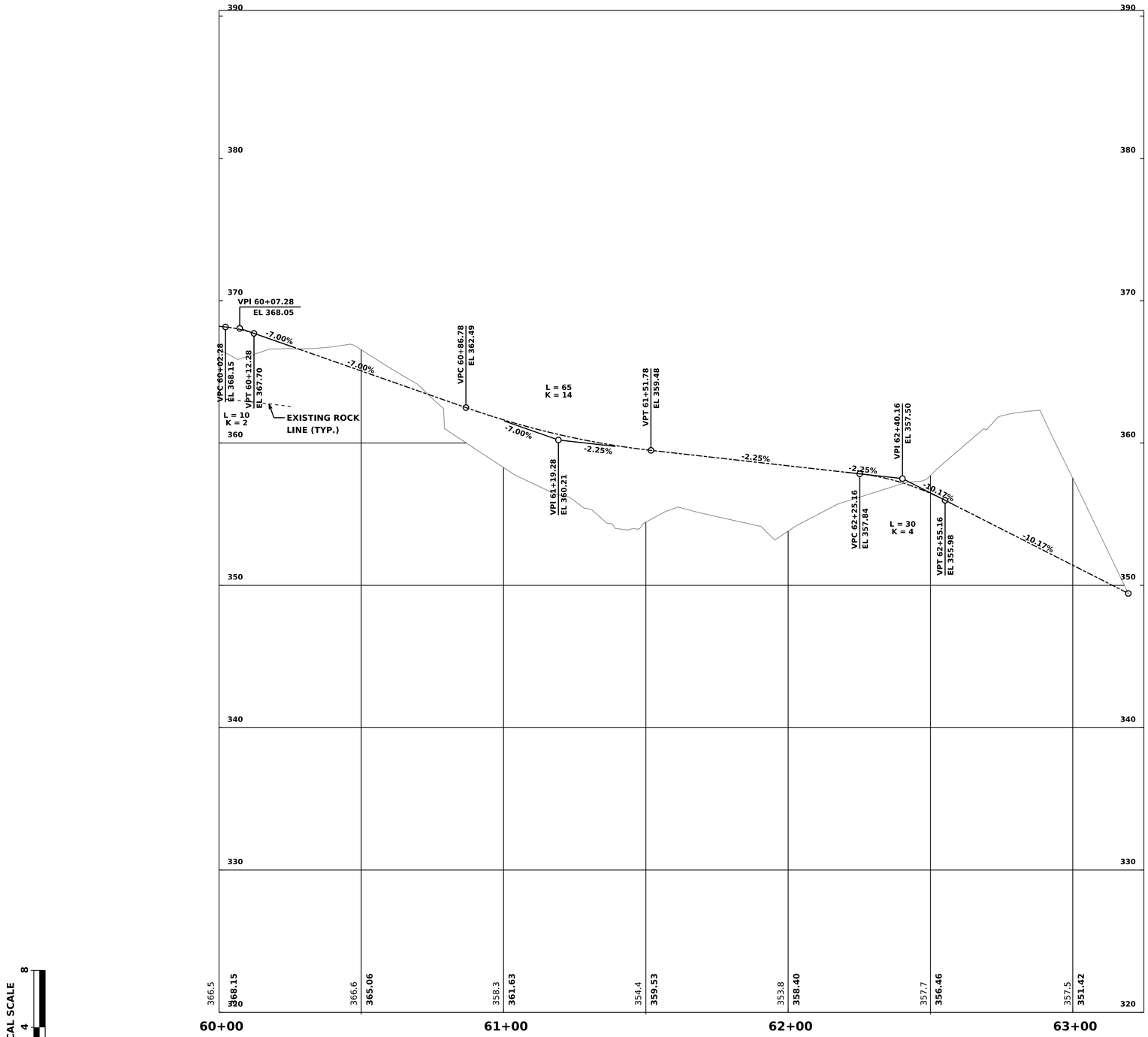
VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

STORMWATER TREATMENT BASIN 1012 ACCESS ROAD PROFILE (1 OF 2)

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1012 - Access Rd Profile	P_Londonderry_Access_1012	13065A	234	733



VERTICAL SCALE 0 4 8

HORIZONTAL SCALE 0 20 40 60

SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

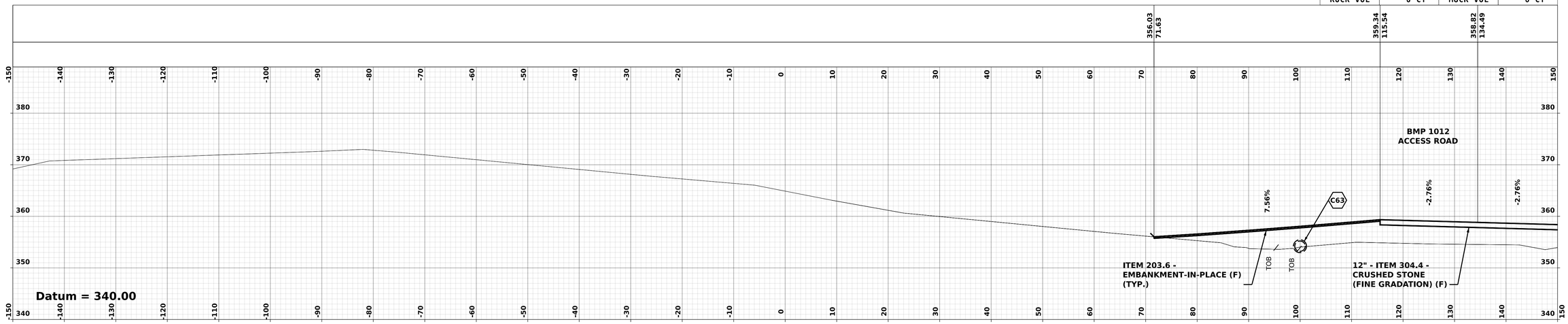
STORMWATER TREATMENT BASIN 1012 ACCESS ROAD PROFILE (2 OF 2)

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1012 Acces	13065A_Pro_Access_1012	13065A	235	733

REVISIONS AFTER PROPOSAL			
DESCRIPTION	STATION	STATION	NUMBER / DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

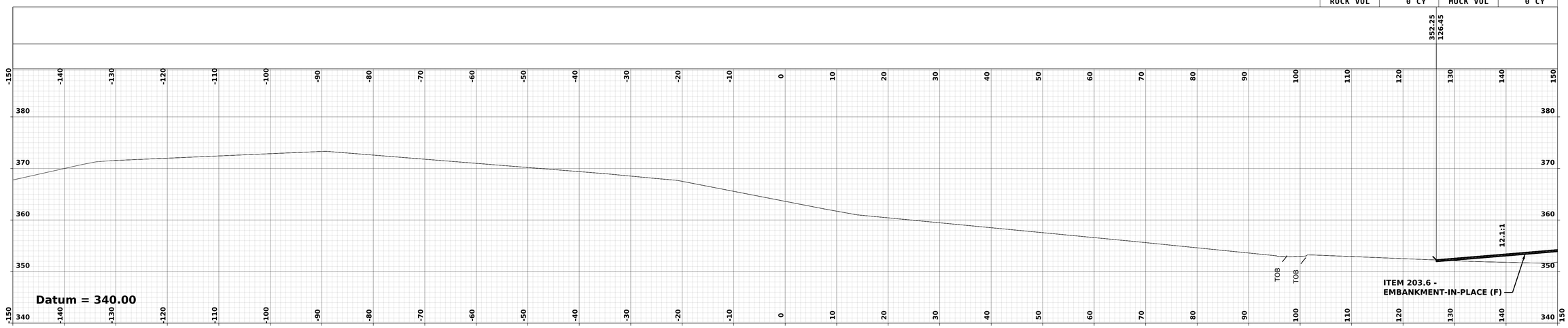
CUT VOL	0 CY	FILL VOL	121 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2000+25.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 2000+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

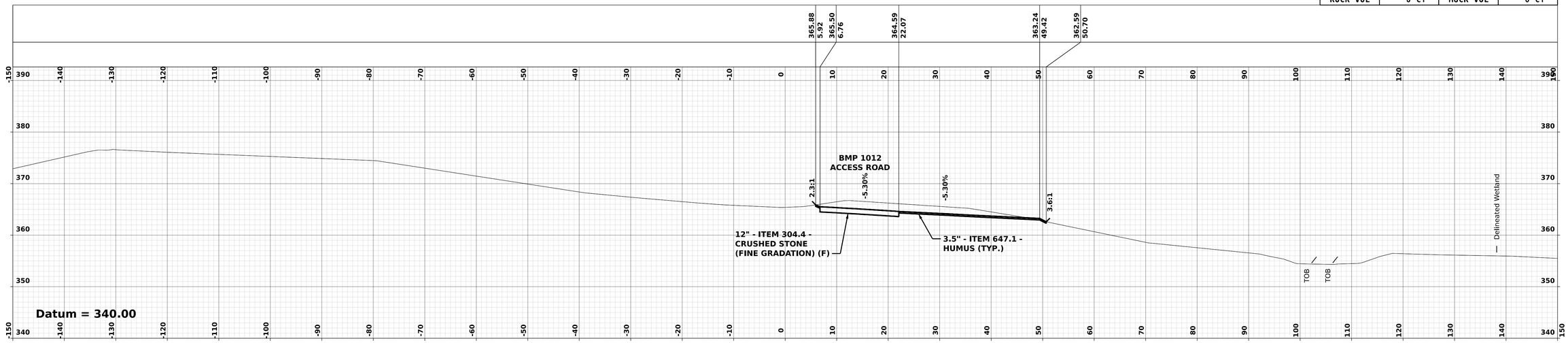
vhb

B1012 - 2000+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	236	733

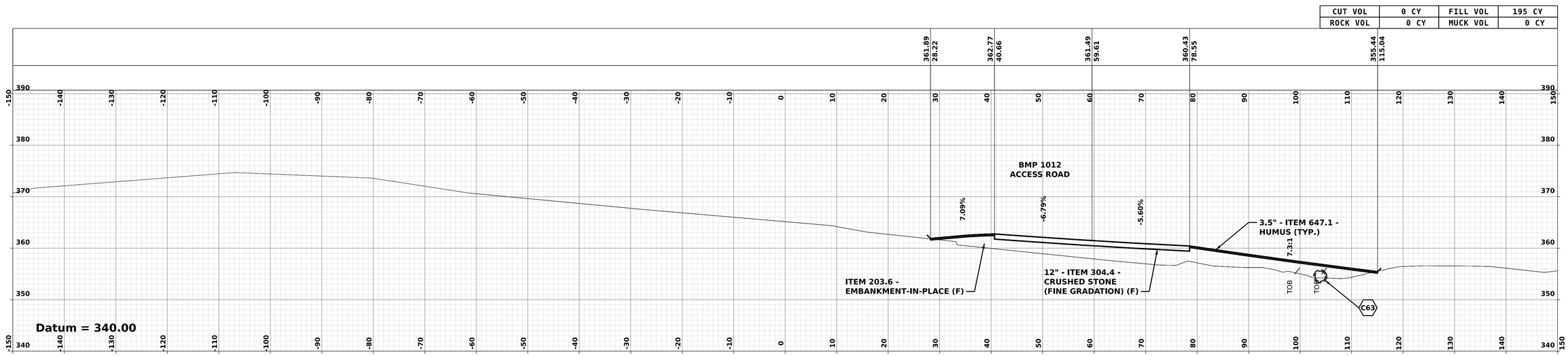
CUT VOL	33 CY	FILL VOL	86 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2000+75.00

CUT VOL	0 CY	FILL VOL	195 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2000+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

B1012 - 2000+50.00 [Sheet]

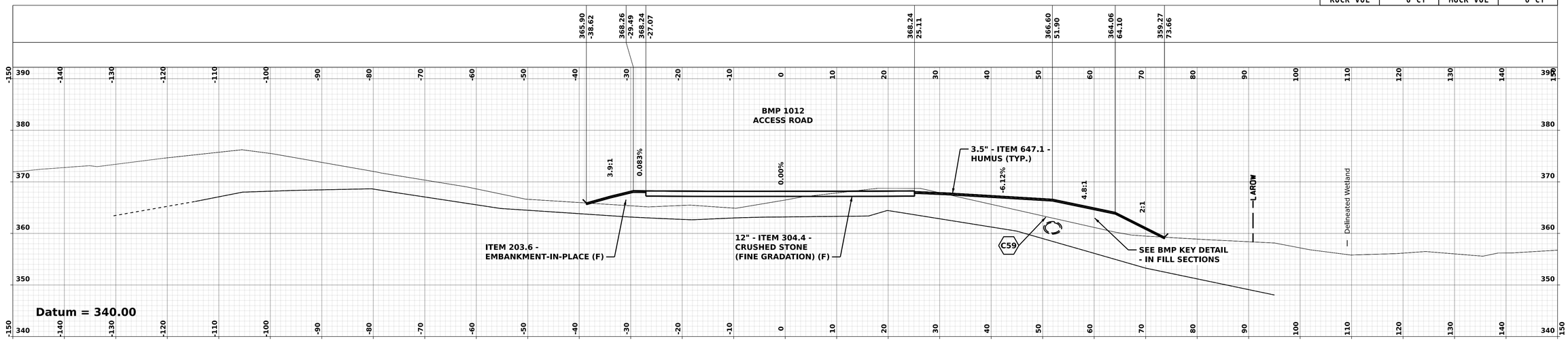
LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	237	733

REVISIONS AFTER PROPOSAL	NUMBER	DATE
DESCRIPTION		
STATION		
STATION		
DATE		

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

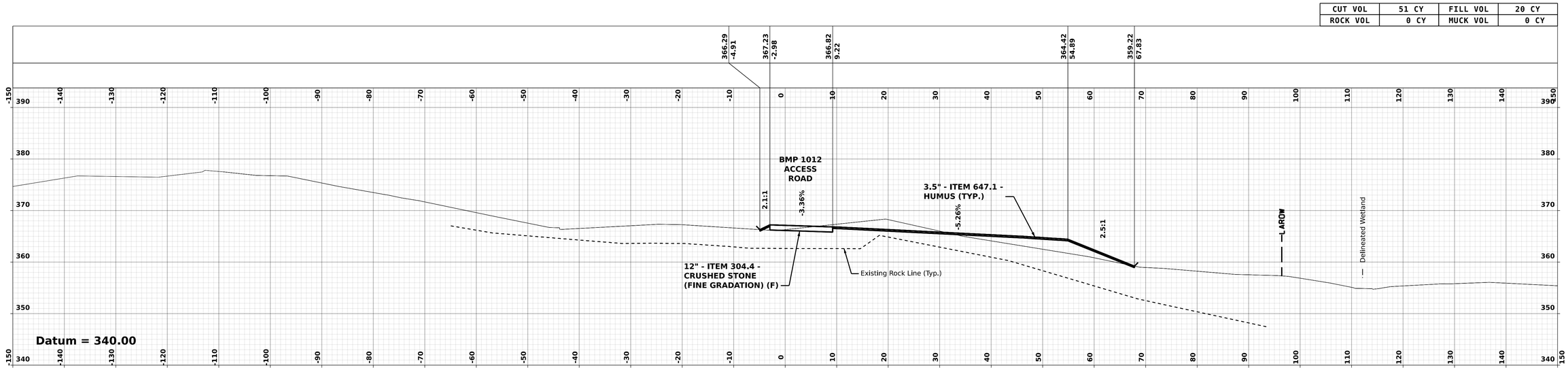
CUT VOL	30 CY	FILL VOL	93 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2001+25.00

CUT VOL	51 CY	FILL VOL	20 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2001+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

vhb

B1012 - 2001+00.00 [Sheet]

LONDONDERRY & DERRY

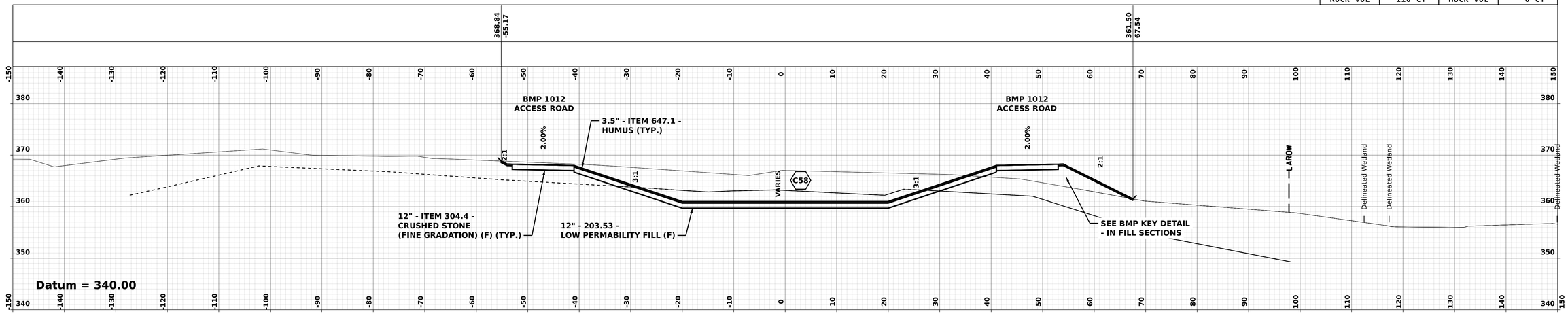
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	238	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022	
NEW DESIGN	VHB TEAM	DATE	4/12/2022	
SHEET CHECKED	J. HILTON	DATE	4/12/2022	
				DATE
AS BUILT DETAILS				

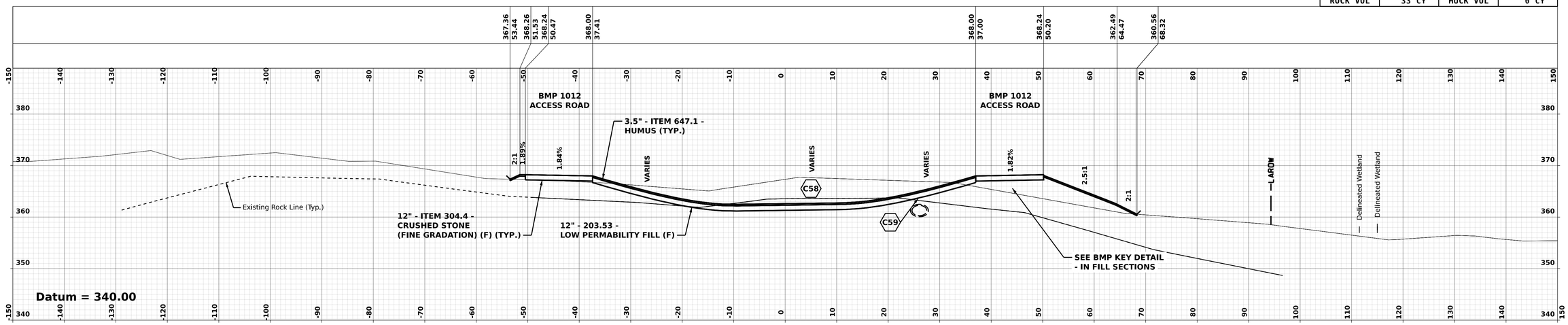
CUT VOL	231 CY	FILL VOL	57 CY
ROCK VOL	110 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2001+75.00

CUT VOL	109 CY	FILL VOL	108 CY
ROCK VOL	33 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2001+50.00

NOTE:

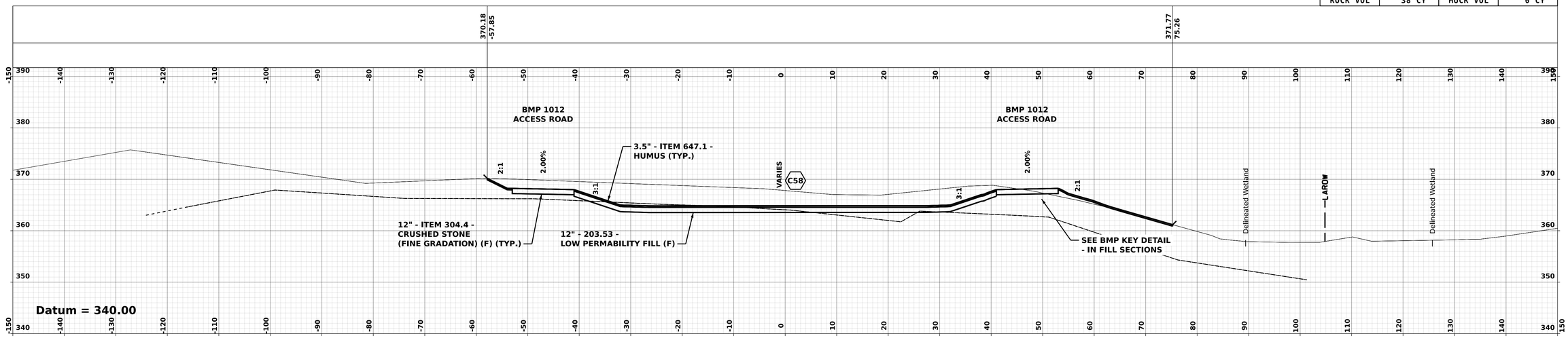
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

B1012 - 2001+50.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	239	733

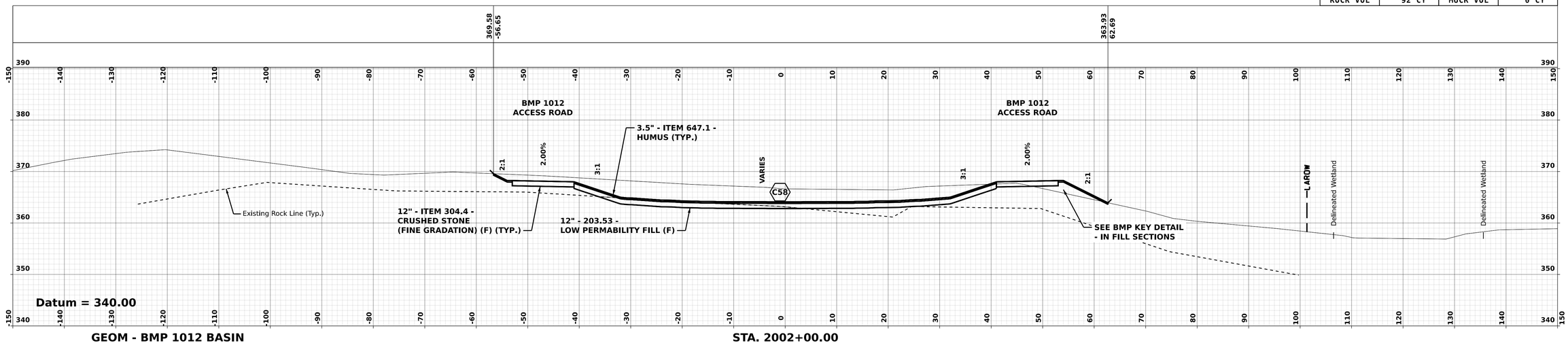
CUT VOL	307 CY	FILL VOL	8 CY
ROCK VOL	38 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2002+25.00

CUT VOL	276 CY	FILL VOL	27 CY
ROCK VOL	92 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2002+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

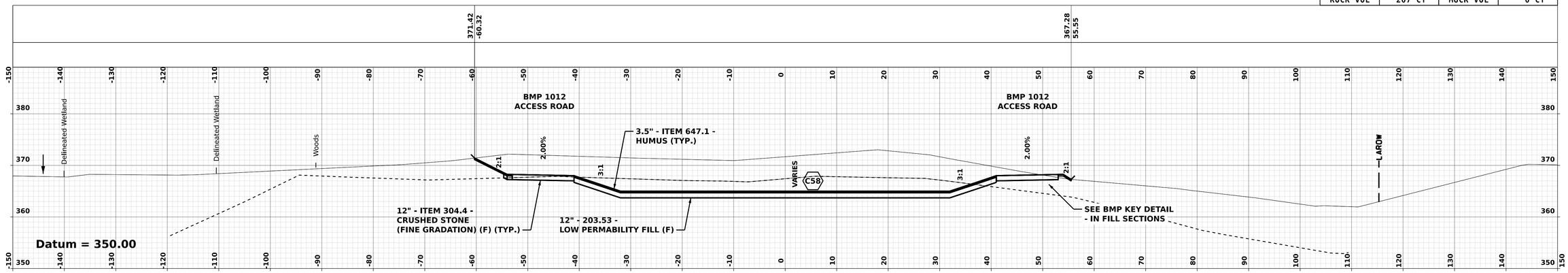
vhb

B1012 - 2002+00.00 [Sheet]

LONDONDERRY & DERRY

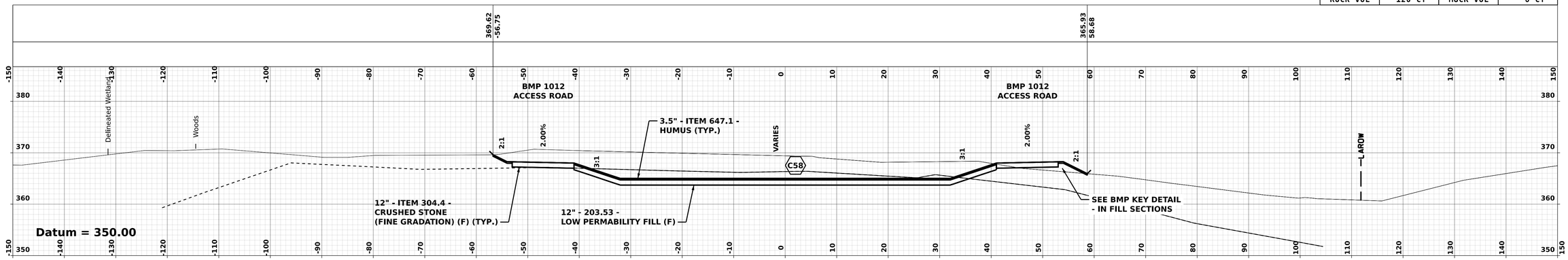
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	240	733

CUT VOL	344 CY	FILL VOL	4 CY
ROCK VOL	207 CY	MUCK VOL	0 CY



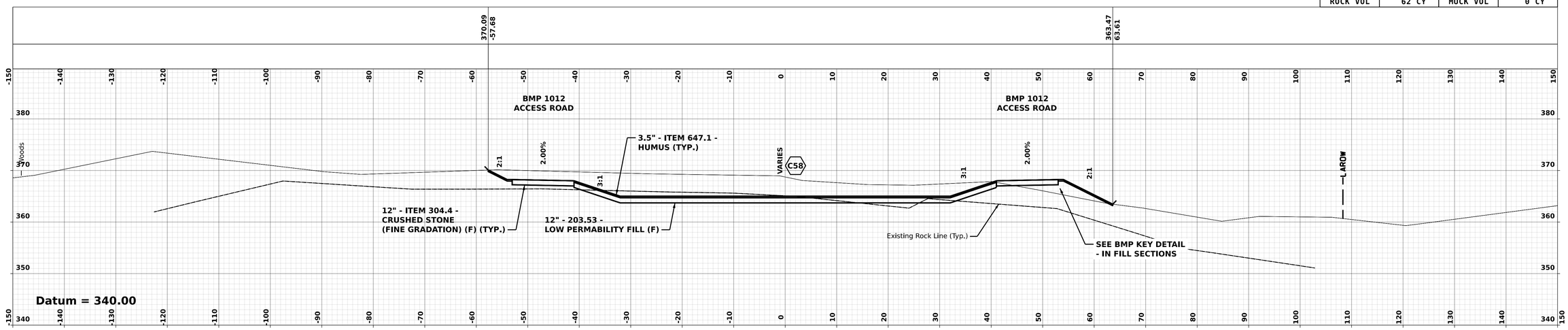
GEOM - BMP 1012 BASIN **STA. 2003+00.00**

CUT VOL	285 CY	FILL VOL	12 CY
ROCK VOL	120 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2002+75.00**

CUT VOL	311 CY	FILL VOL	11 CY
ROCK VOL	62 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2002+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

B1012 - 2002+50.00 [Sheet]

LONDONDERRY & DERRY

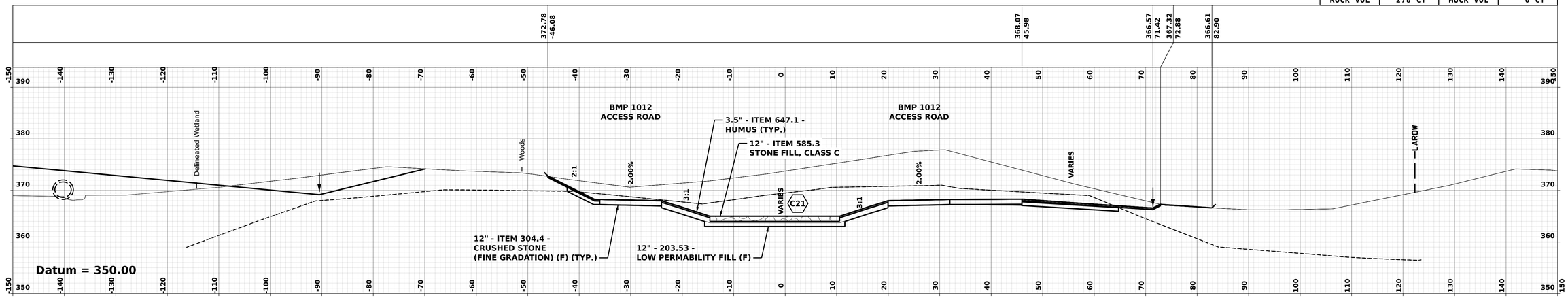
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	241	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

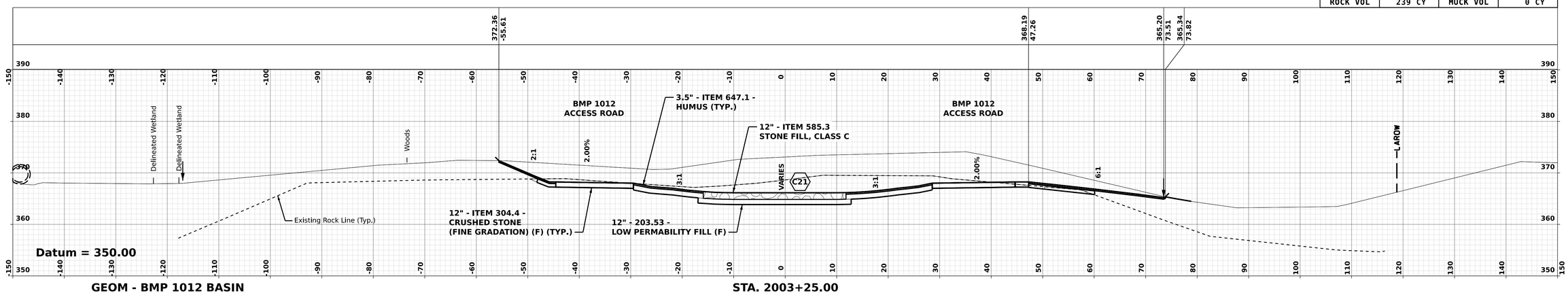
CUT VOL	428 CY	FILL VOL	1 CY
ROCK VOL	278 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2003+50.00

CUT VOL	419 CY	FILL VOL	0 CY
ROCK VOL	239 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN

STA. 2003+25.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

B1012 - 2003+25.00 [Sheet]

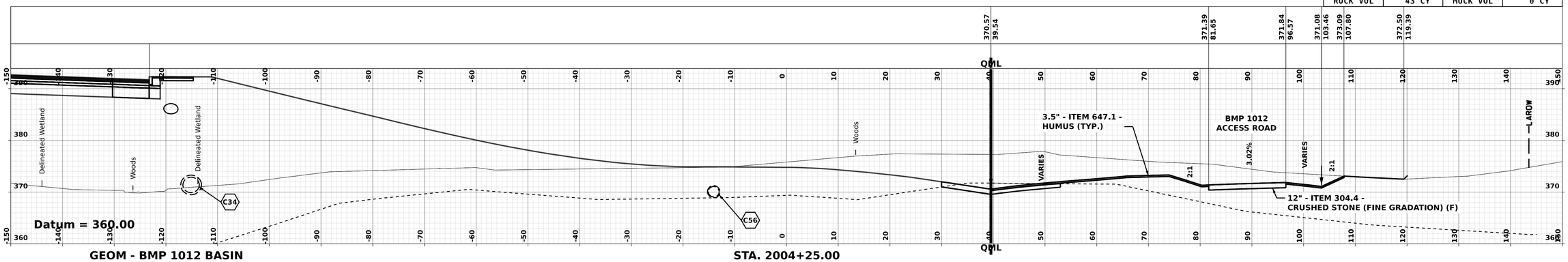
LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	242	733

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

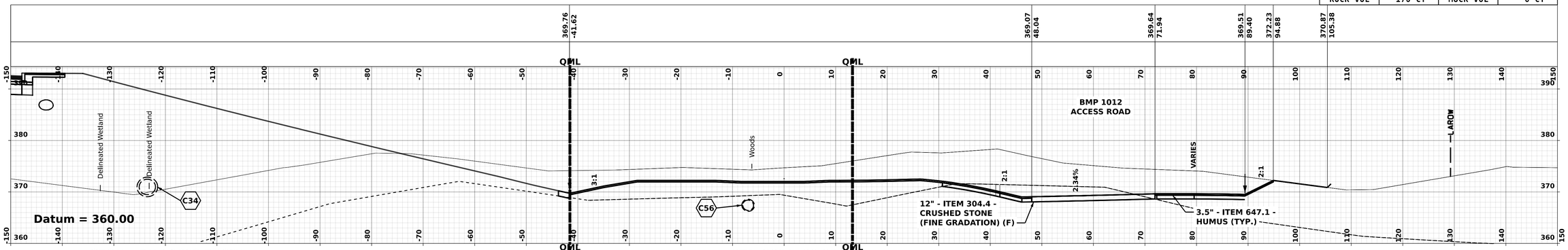
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	512 CY	FILL VOL	0 CY
ROCK VOL	43 CY	MUCK VOL	0 CY



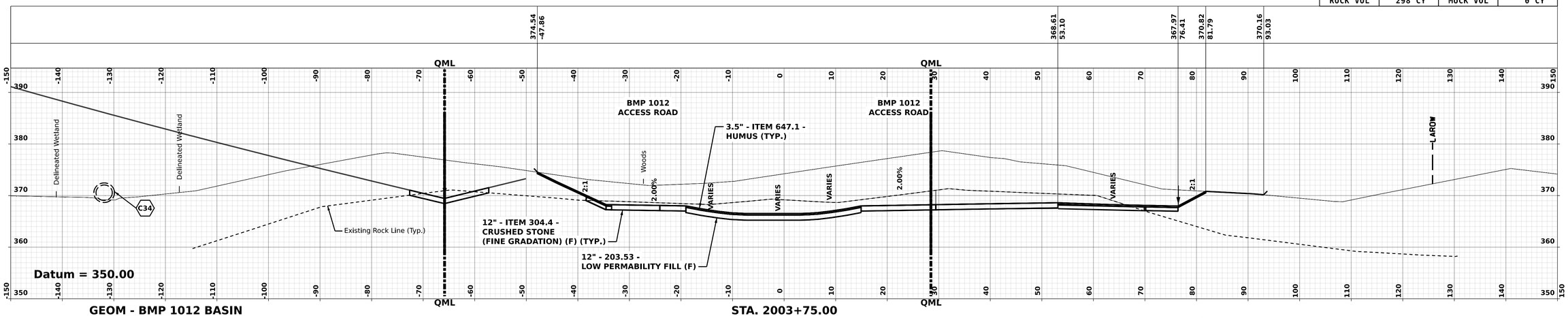
GEOM - BMP 1012 BASIN **STA. 2004+25.00**

CUT VOL	564 CY	FILL VOL	0 CY
ROCK VOL	170 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2004+00.00**

CUT VOL	512 CY	FILL VOL	0 CY
ROCK VOL	298 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2003+75.00**

NOTE:

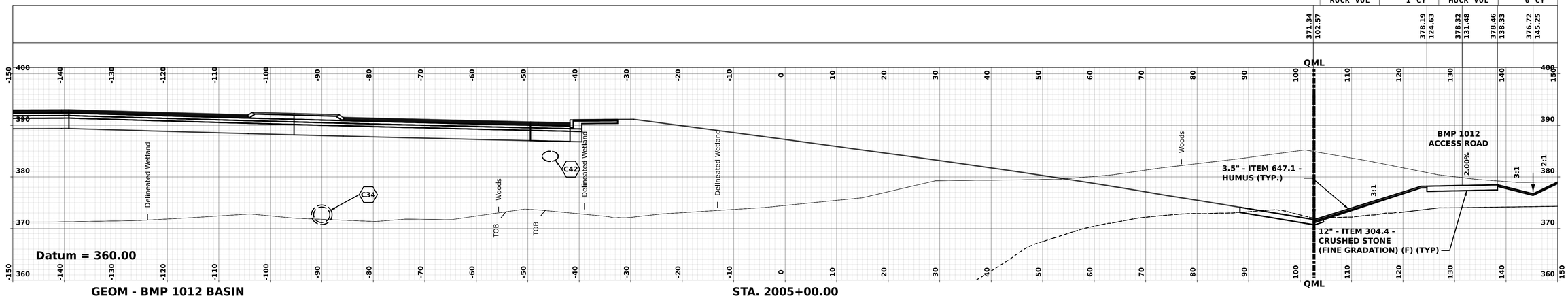
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

B1012 - 2003+75.00 [Sheet]

LONDONDERRY & DERRY

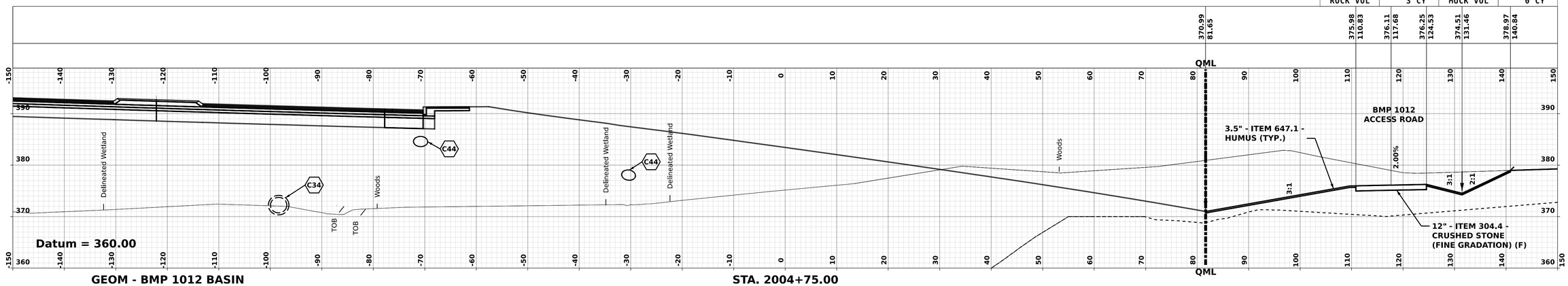
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	243	733

CUT VOL	273 CY	FILL VOL	0 CY
ROCK VOL	1 CY	MUCK VOL	0 CY



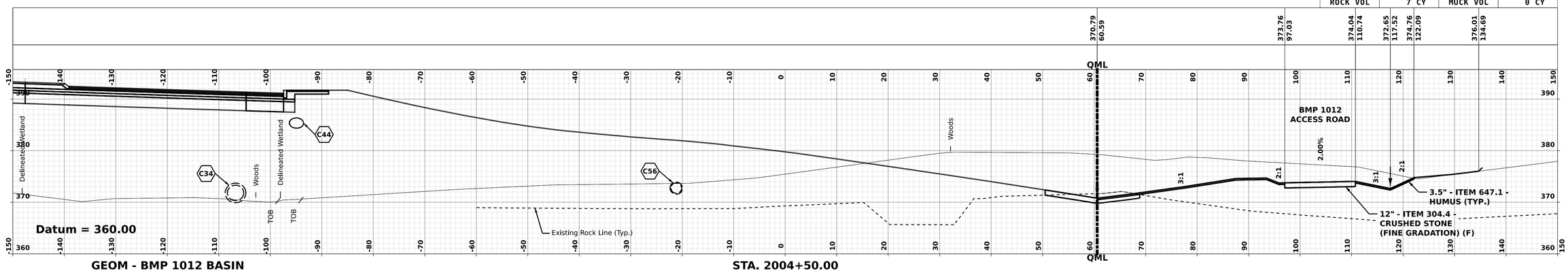
GEOM - BMP 1012 BASIN **STA. 2005+00.00**

CUT VOL	298 CY	FILL VOL	1 CY
ROCK VOL	3 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2004+75.00**

CUT VOL	260 CY	FILL VOL	1 CY
ROCK VOL	7 CY	MUCK VOL	0 CY



GEOM - BMP 1012 BASIN **STA. 2004+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

B1012 - 2004+50.00 [Sheet]

LONDONDERRY & DERRY

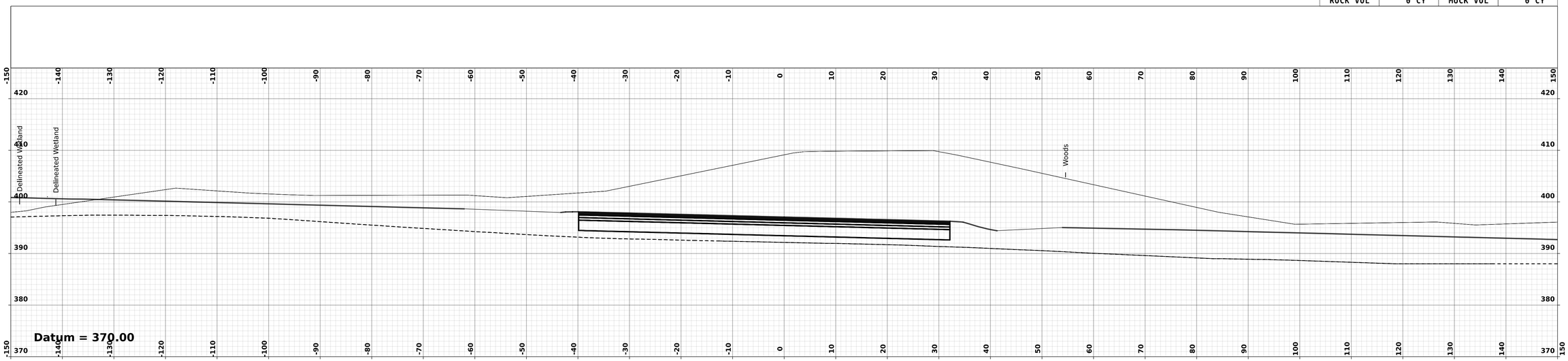
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1012	13065A	244	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 20+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1012 Access 20 - 20+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	245	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

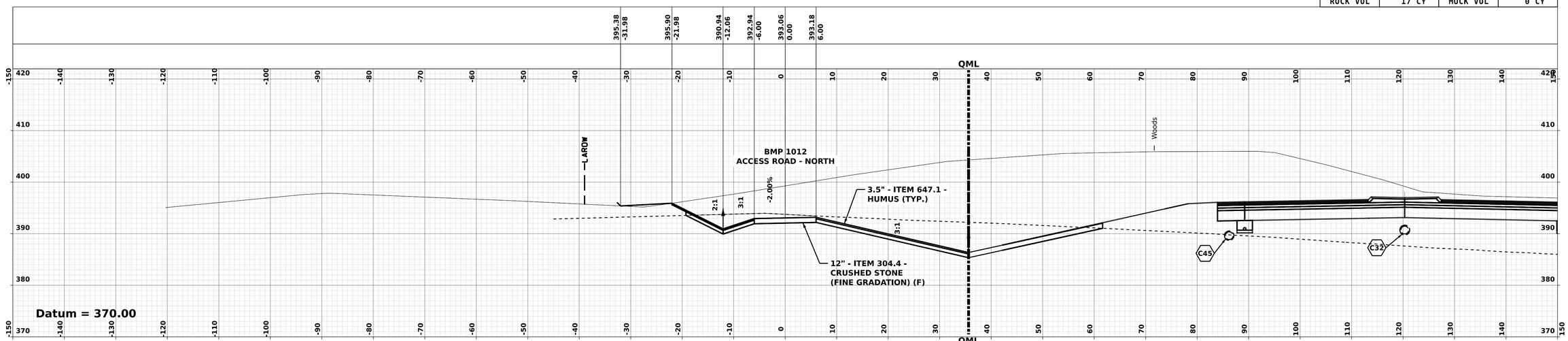
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022	
NEW DESIGN	VHB TEAM	DATE	4/12/2022	
SHEET CHECKED	J. HILTON	DATE	4/12/2022	
				DATE
AS BUILT DETAILS				

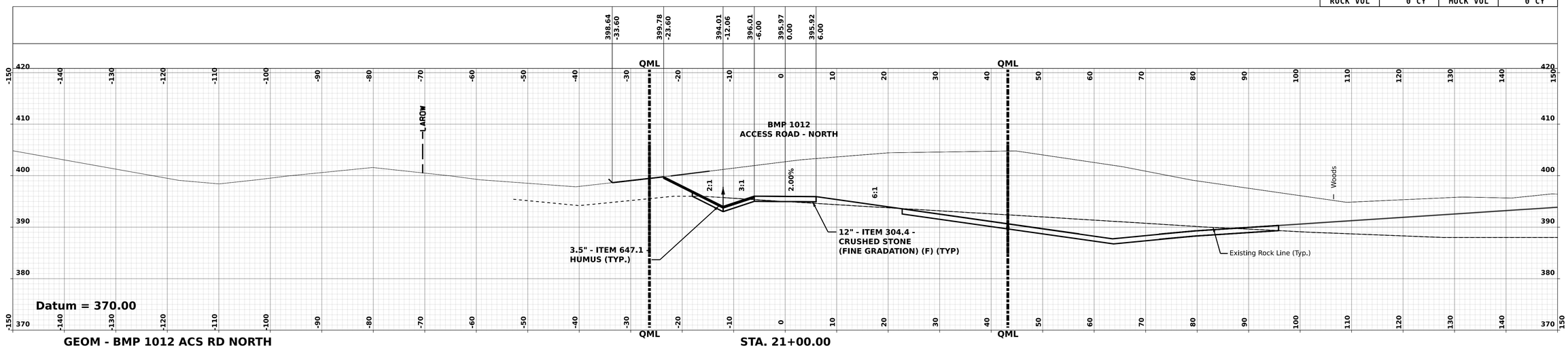
CUT VOL	264 CY	FILL VOL	2 CY
ROCK VOL	17 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 21+50.00

CUT VOL	156 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 21+00.00

NOTE:

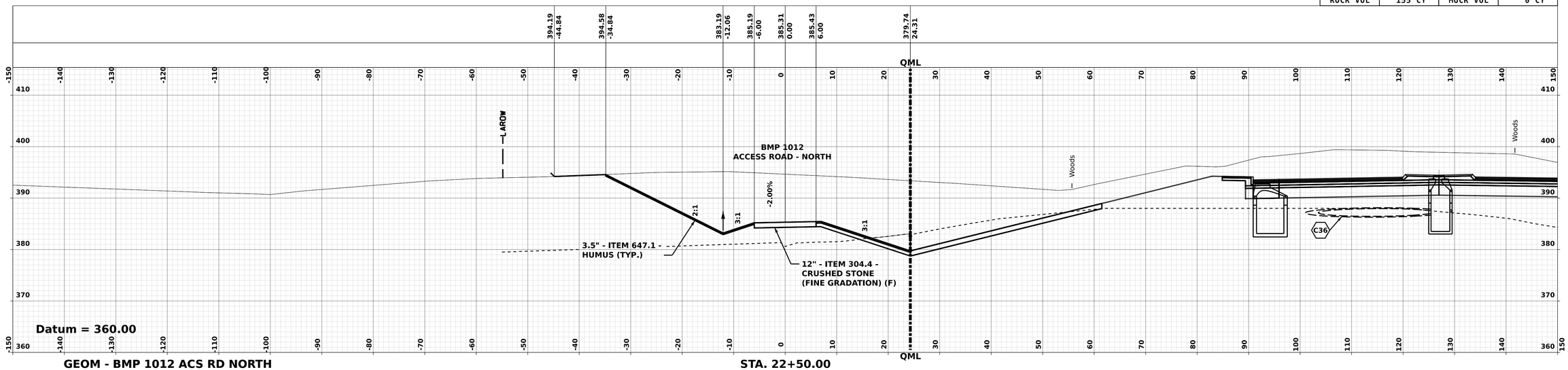
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

LONDONDERRY & DERRY

BMP 1012 Access 20 - 21+00.00 [Sheet]

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	246	733

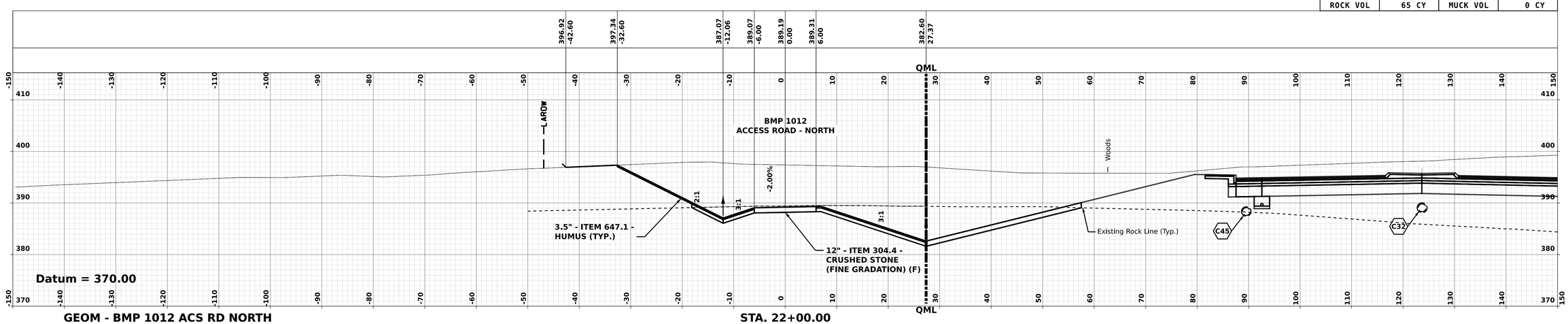
CUT VOL	884 CY	FILL VOL	0 CY
ROCK VOL	155 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 22+50.00

CUT VOL	501 CY	FILL VOL	2 CY
ROCK VOL	65 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 22+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	247	733

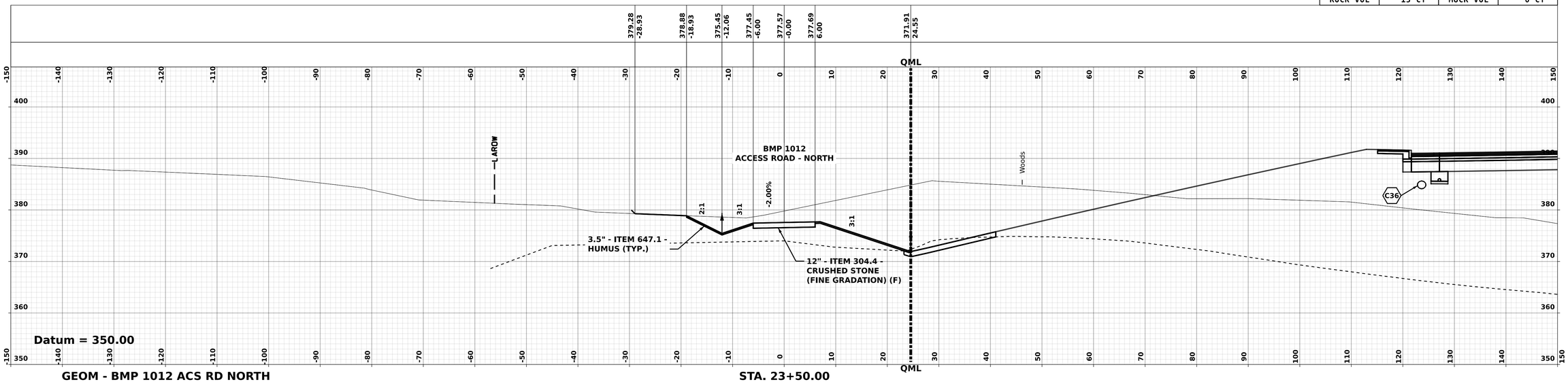
BMP 1012 Access 20 - 22+00.00 [Sheet]

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

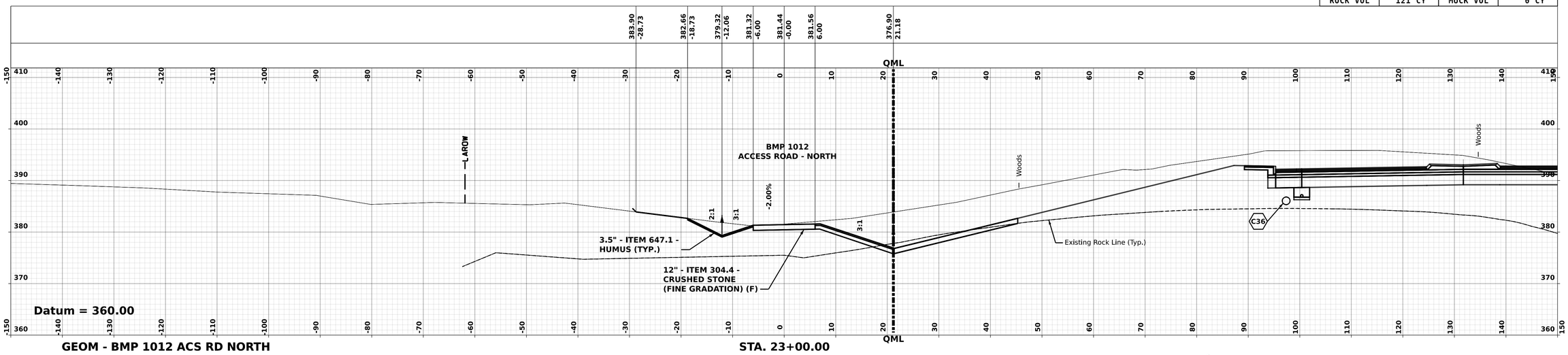
CUT VOL	285 CY	FILL VOL	0 CY
ROCK VOL	15 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 23+50.00

CUT VOL	573 CY	FILL VOL	0 CY
ROCK VOL	121 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 23+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

vhb

LONDONDERRY & DERRY

BMP 1012 Access 20 - 23+00.00 [Sheet]

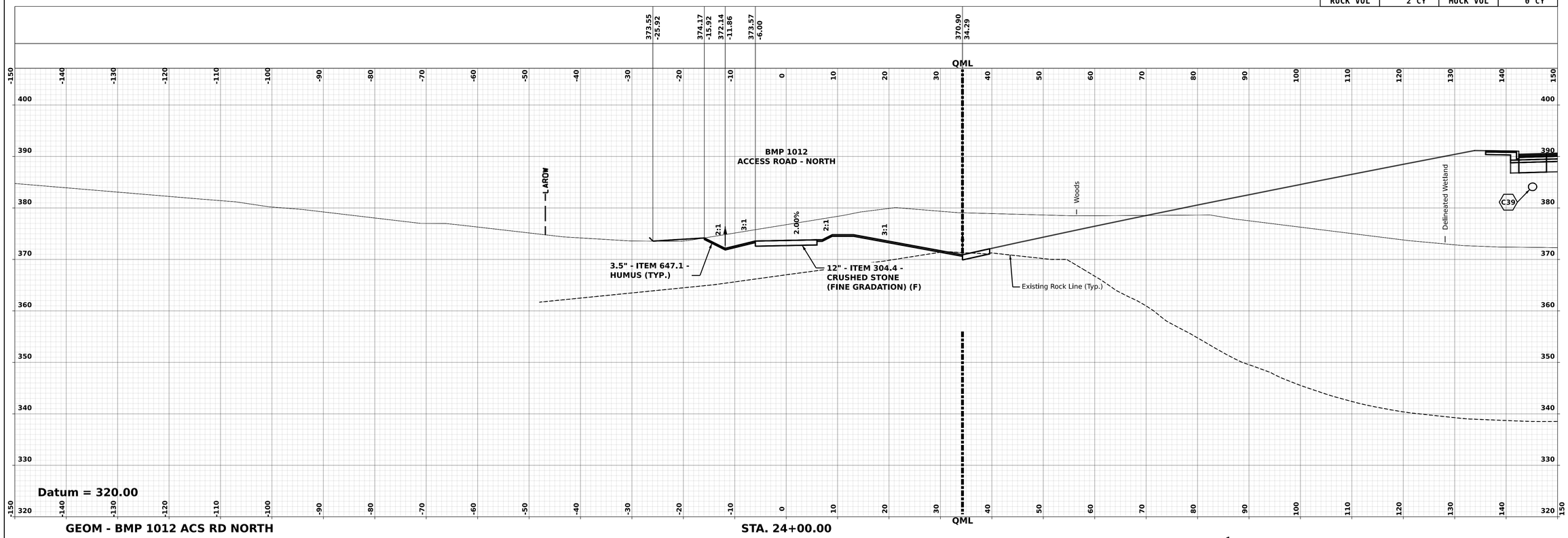
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	248	733

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	432 CY	FILL VOL	2 CY
ROCK VOL	2 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH **STA. 24+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

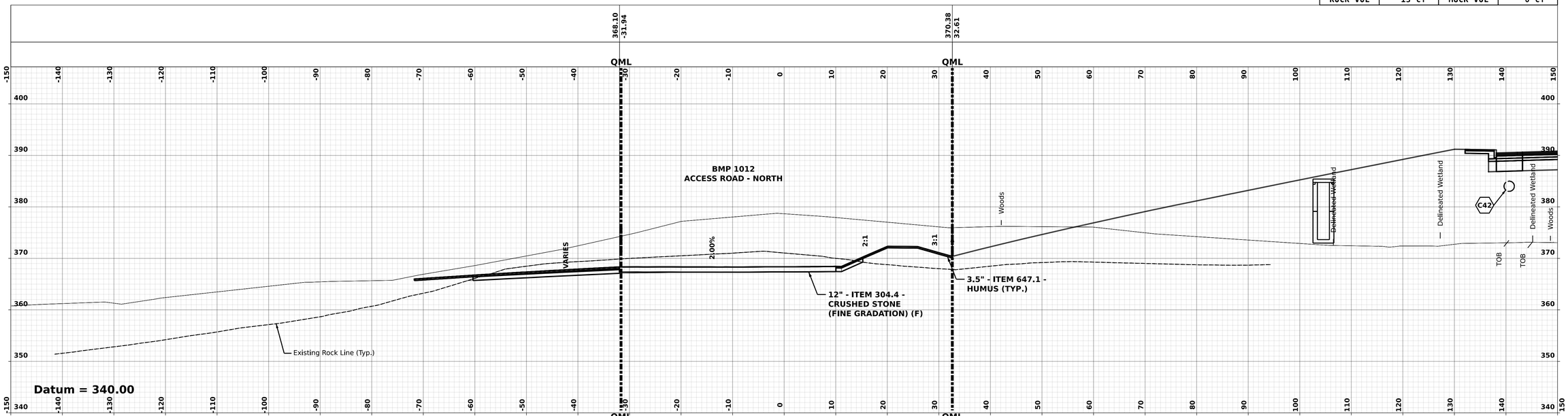
vhb

LONDONDERRY & DERRY

BMP 1012 Access 20 - 24+00.00 [Sheet]

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	249	733

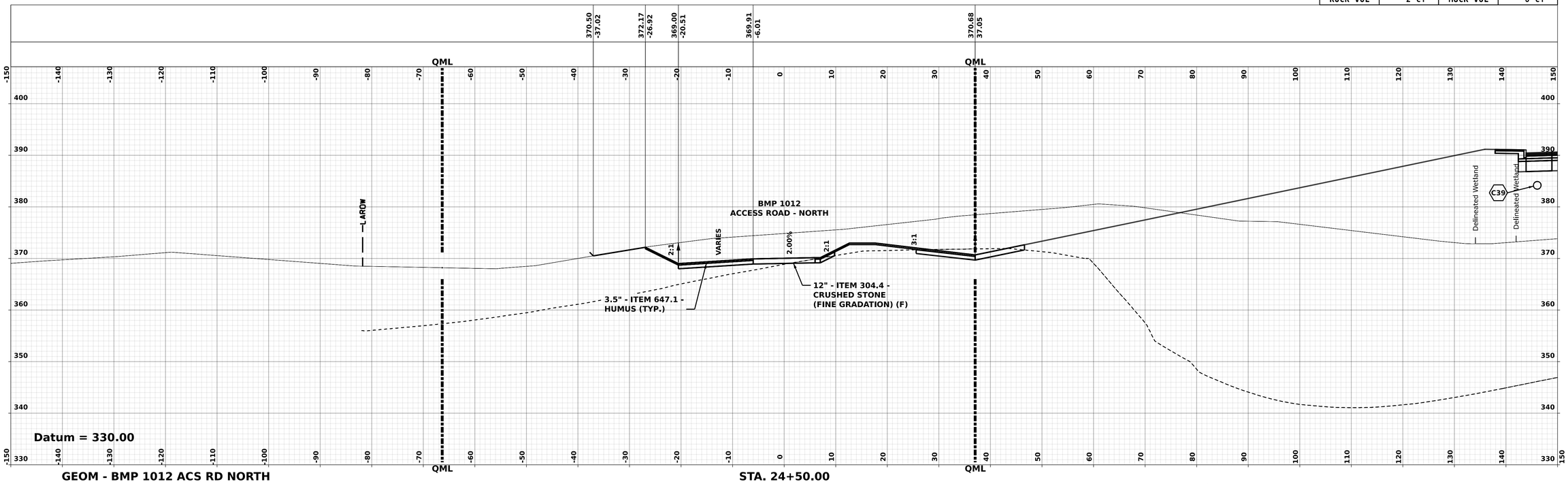
CUT VOL	769 CY	FILL VOL	0 CY
ROCK VOL	13 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 25+00.00

CUT VOL	520 CY	FILL VOL	2 CY
ROCK VOL	2 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD NORTH

STA. 24+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

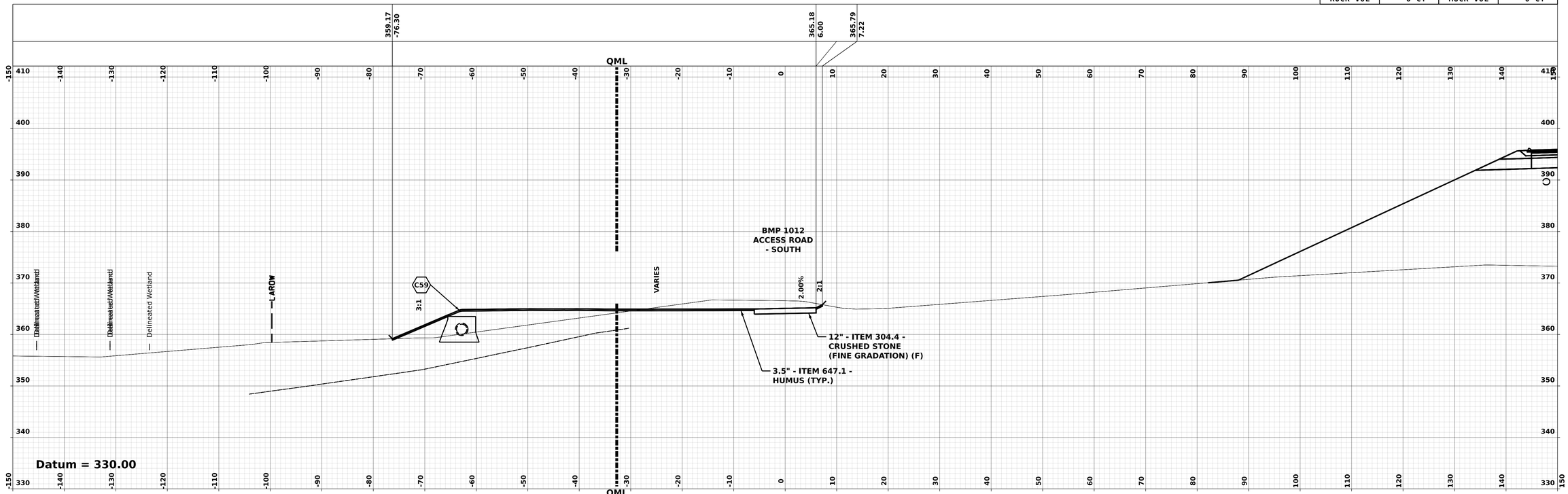
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	250	733

BMP 1012 Access 20 - 24+50.00 [Sheet]

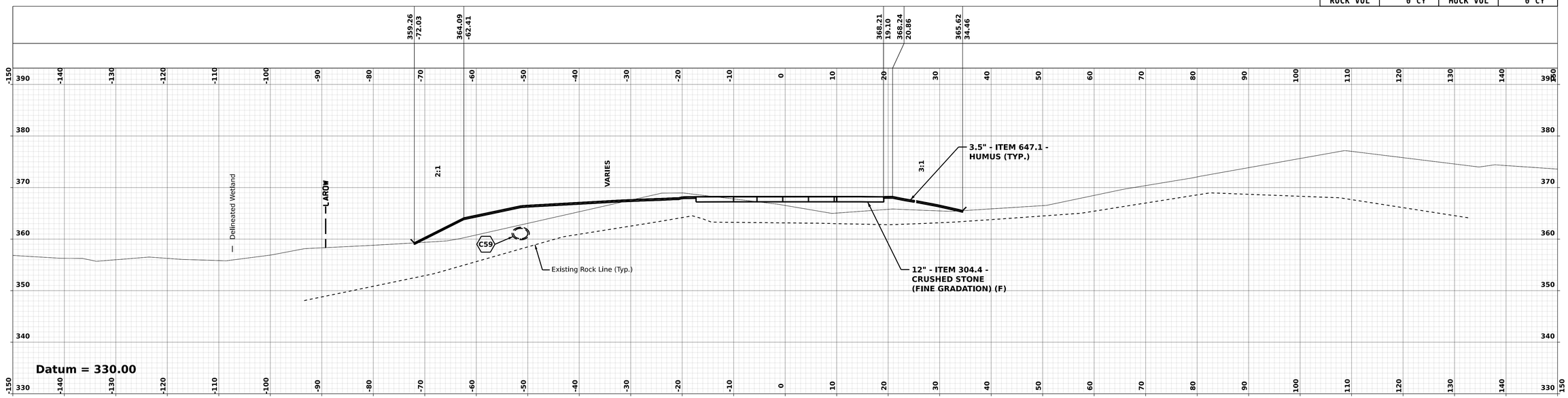
CUT VOL	78 CY	FILL VOL	220 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH

STA. 60+50.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH

STA. 60+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

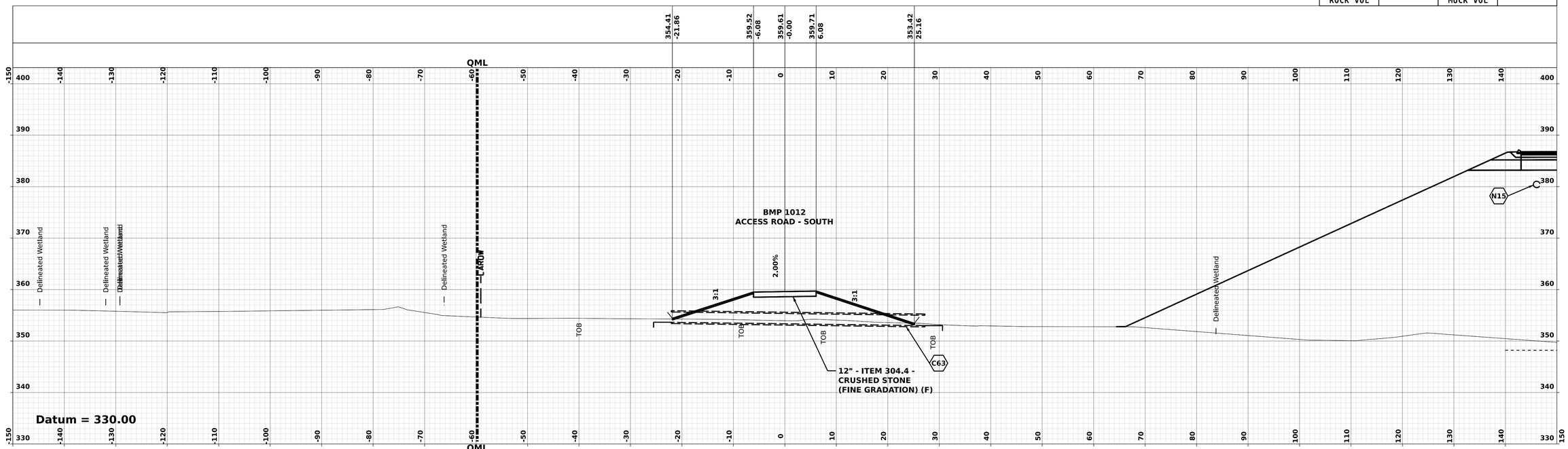
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	251	733

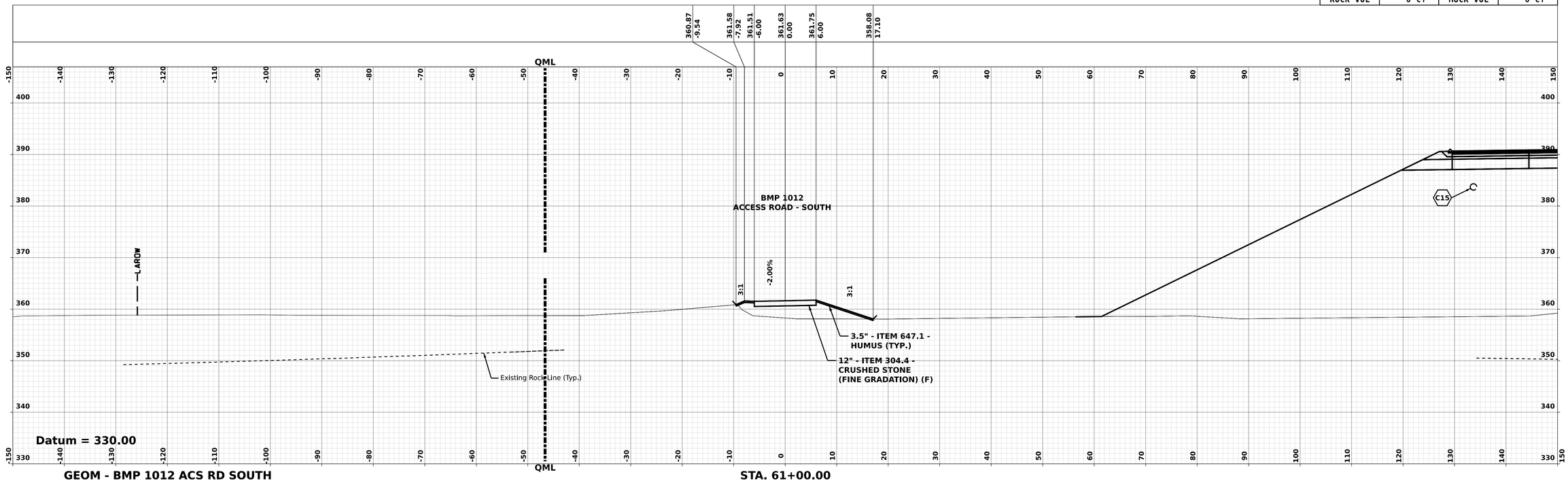
BMP 1012 - Access Rd S - 60+00.00 [Sheet]

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL		MUCK VOL	



GEOM - BMP 1012 ACS RD SOUTH **STA. 61+46.80**

CUT VOL	58 CY	FILL VOL	138 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH **STA. 61+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

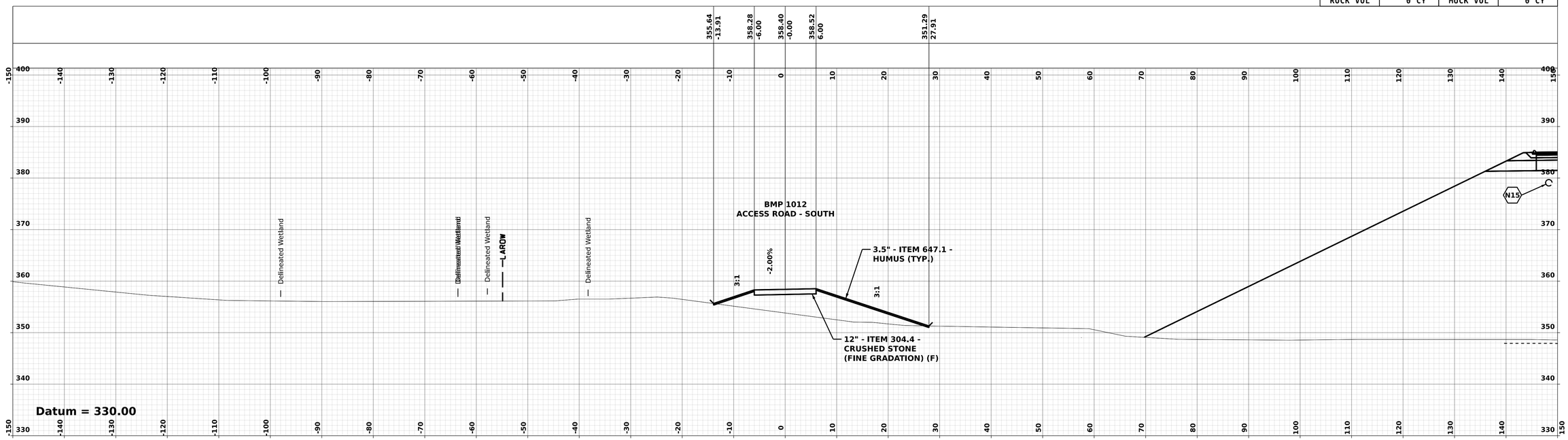
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	252	733

BMP 1012 - Access Rd S - 61+00.00 [Sheet]

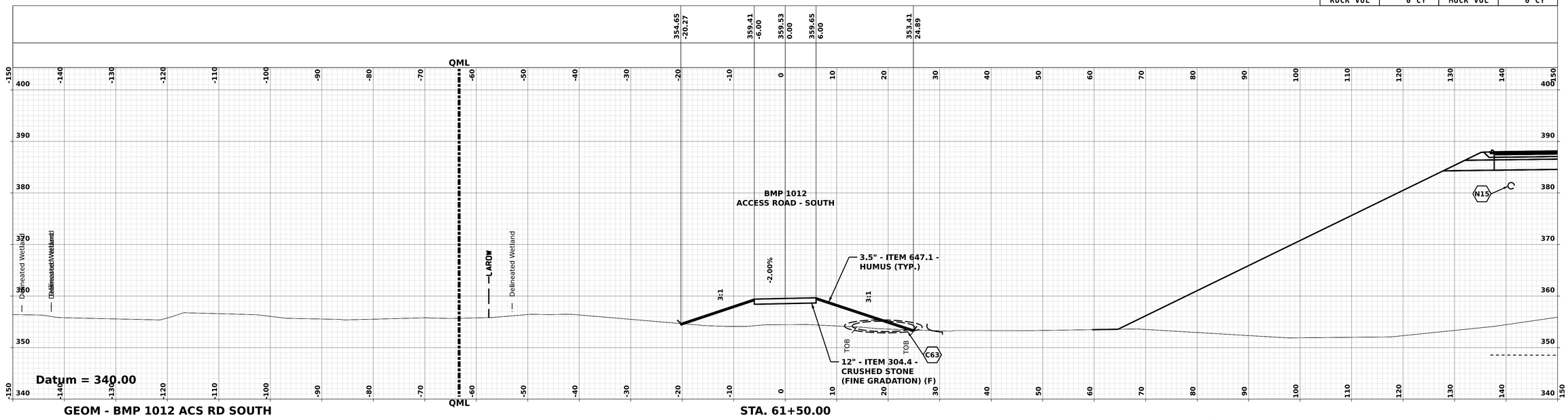
CUT VOL	0 CY	FILL VOL	225 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH

STA. 62+00.00

CUT VOL	0 CY	FILL VOL	166 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH

STA. 61+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

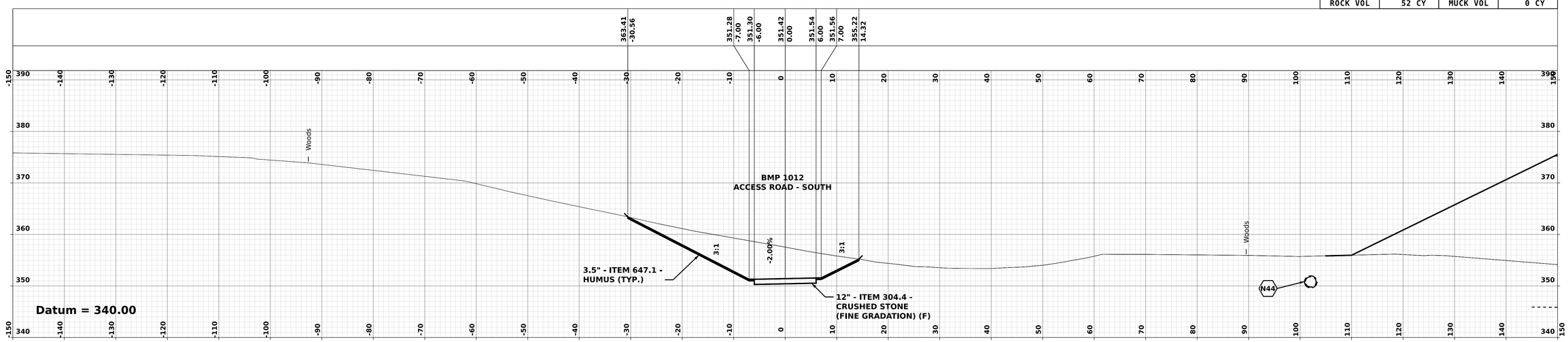
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	253	733

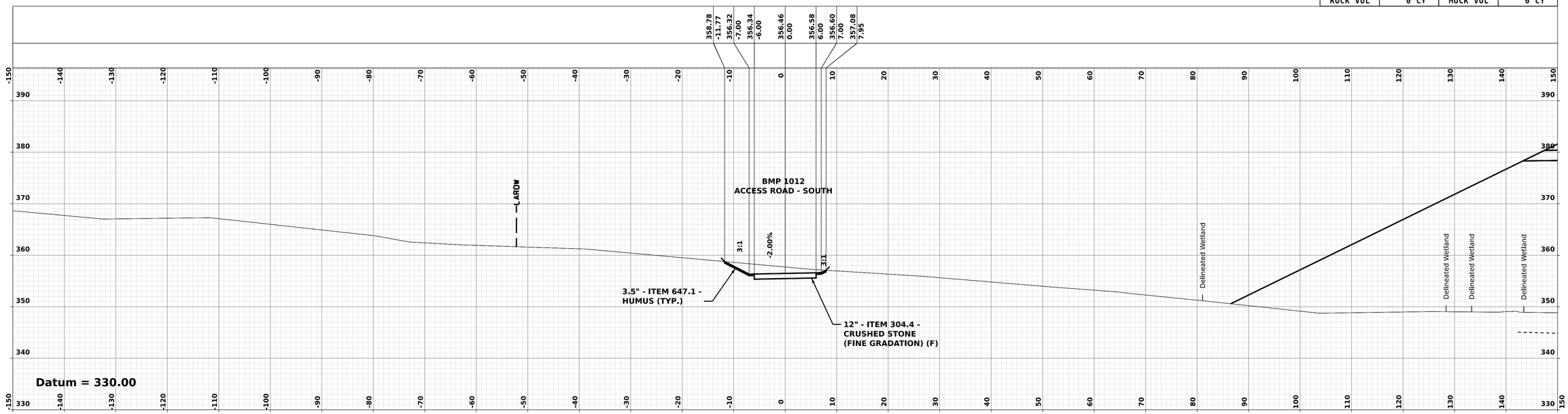
BMP 1012 - Access Rd S - 62+00.00 [Sheet]

CUT VOL	228 CY	FILL VOL	0 CY
ROCK VOL	52 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH **STA. 63+00.00**

CUT VOL	34 CY	FILL VOL	105 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1012 ACS RD SOUTH **STA. 62+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

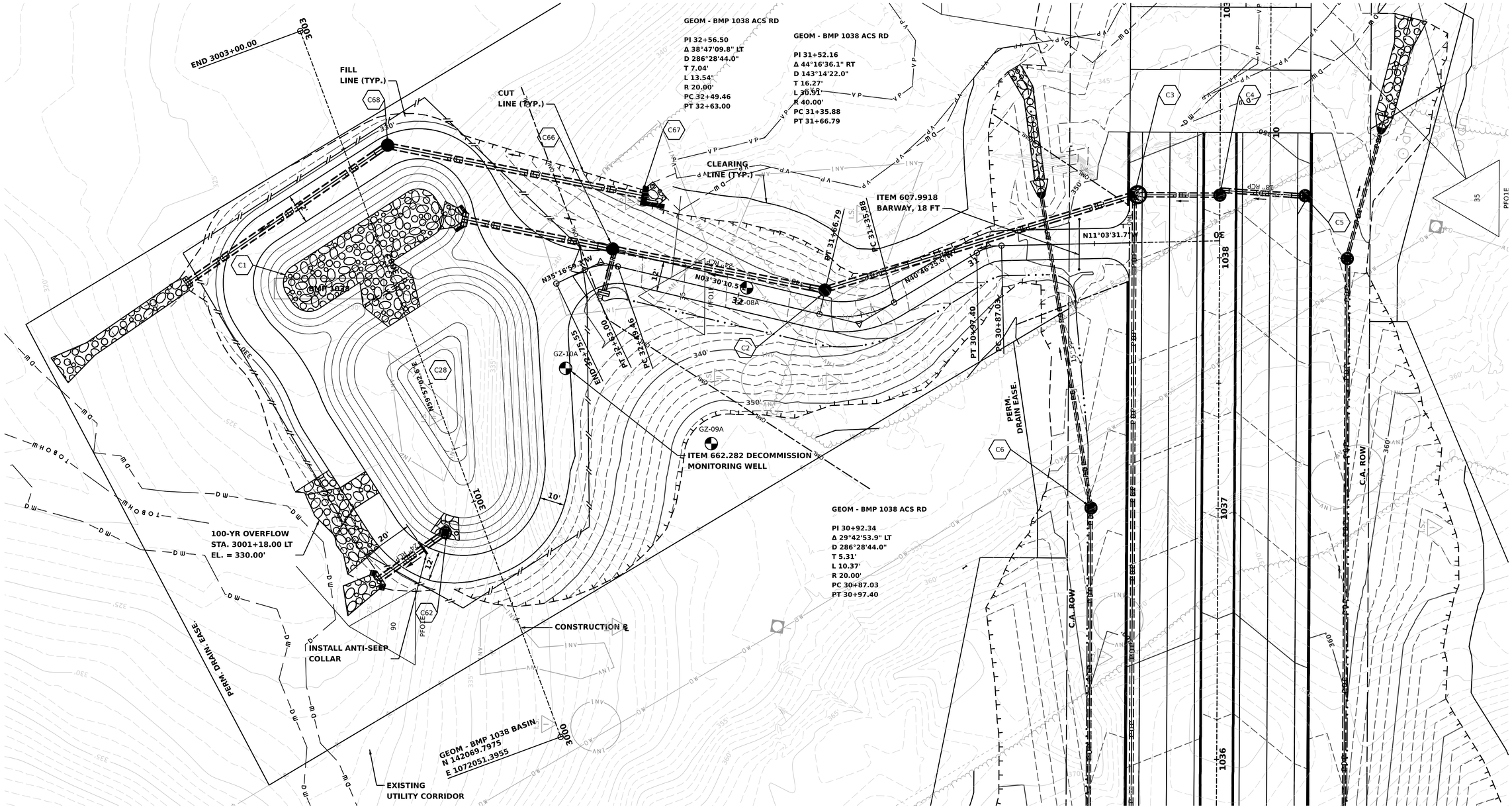
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1012	13065A	254	733

BMP 1012 - Access Rd S - 63+00.00 [Sheet]



GENERAL NOTES

1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).
4. ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
5. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).
6. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
7. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.
8. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
9. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).
10. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.

20 0 20 40
SCALE IN FEET

BORING IDENTIFICATION TABLE FOR BMP 1038		
LOCATION	ID	DATE
STA. 1037+87 LT 189'	GZ-08A	6/3/2021
STA. 1037+25 LT 202'	GZ-09A	6/3/2021
STA. 1037+54 LT 261'	GZ-10A	6/4/2021

REVISIONS AFTER PROPOSAL				
NUMBER	DESCRIPTION	STATION	DATE	

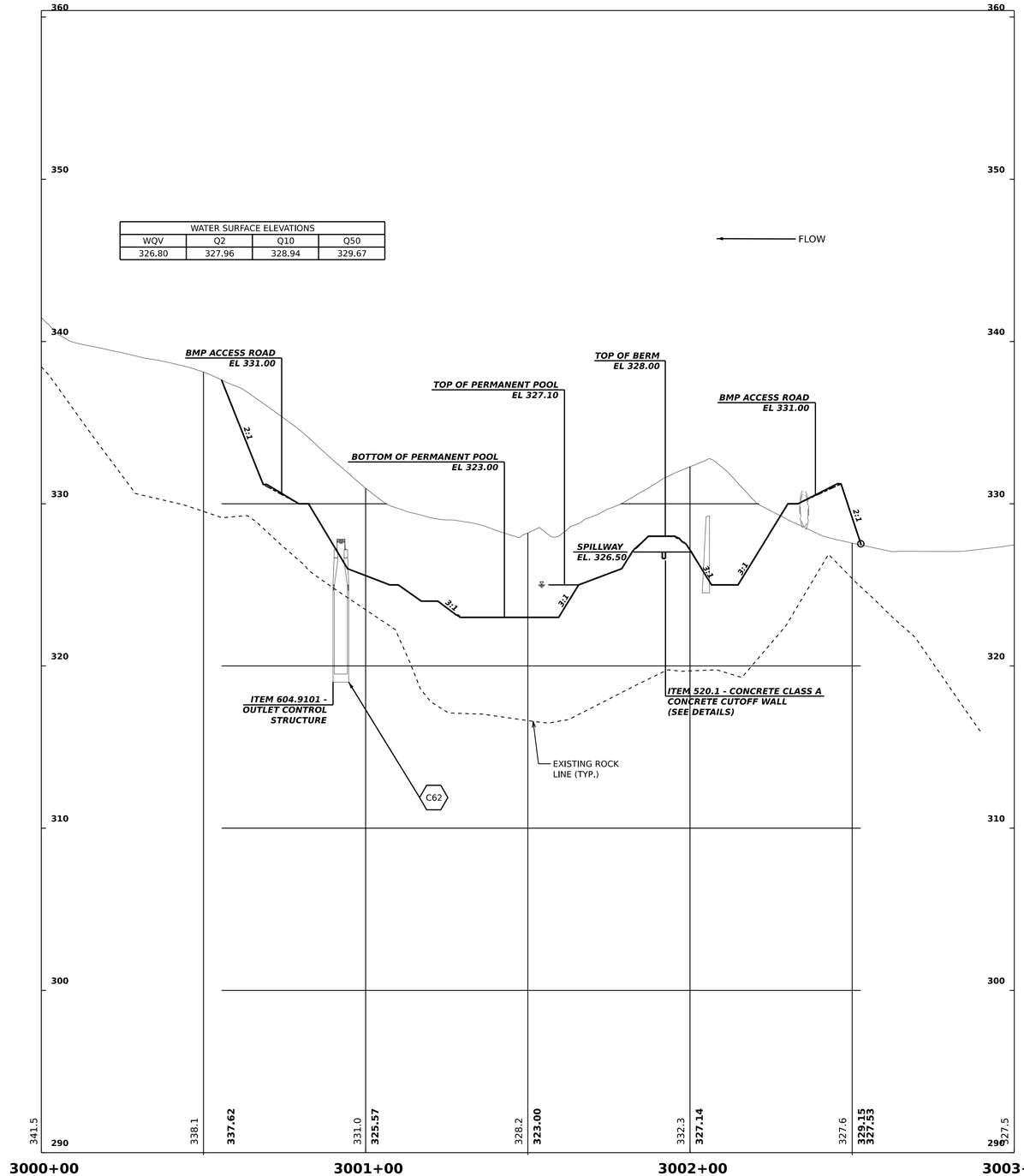
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1038 PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1038	13065A_BMP_1038_Plan	13065A	255	733

WATER SURFACE ELEVATIONS			
WQV	Q2	Q10	Q50
326.80	327.96	328.94	329.67



VERTICAL SCALE
8
4
0
HORIZONTAL SCALE
0 20 40 60
SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

NOTE
1. **SEE CROSS SECTIONS FOR SUBGRADE DETAILS.**

BORING IDENTIFICATION TABLE FOR BMP 1038		
LOCATION	**ID**	**DATE**
STA. 1037+87 LT 189'	**GZ-08A**	**6/3/2021**
STA. 1037+25 LT 202'	**GZ-09A**	**6/3/2021**
STA. 1037+54 LT 261'	**GZ-10A**	**6/4/2021**

REVISIONS AFTER PROPOSAL

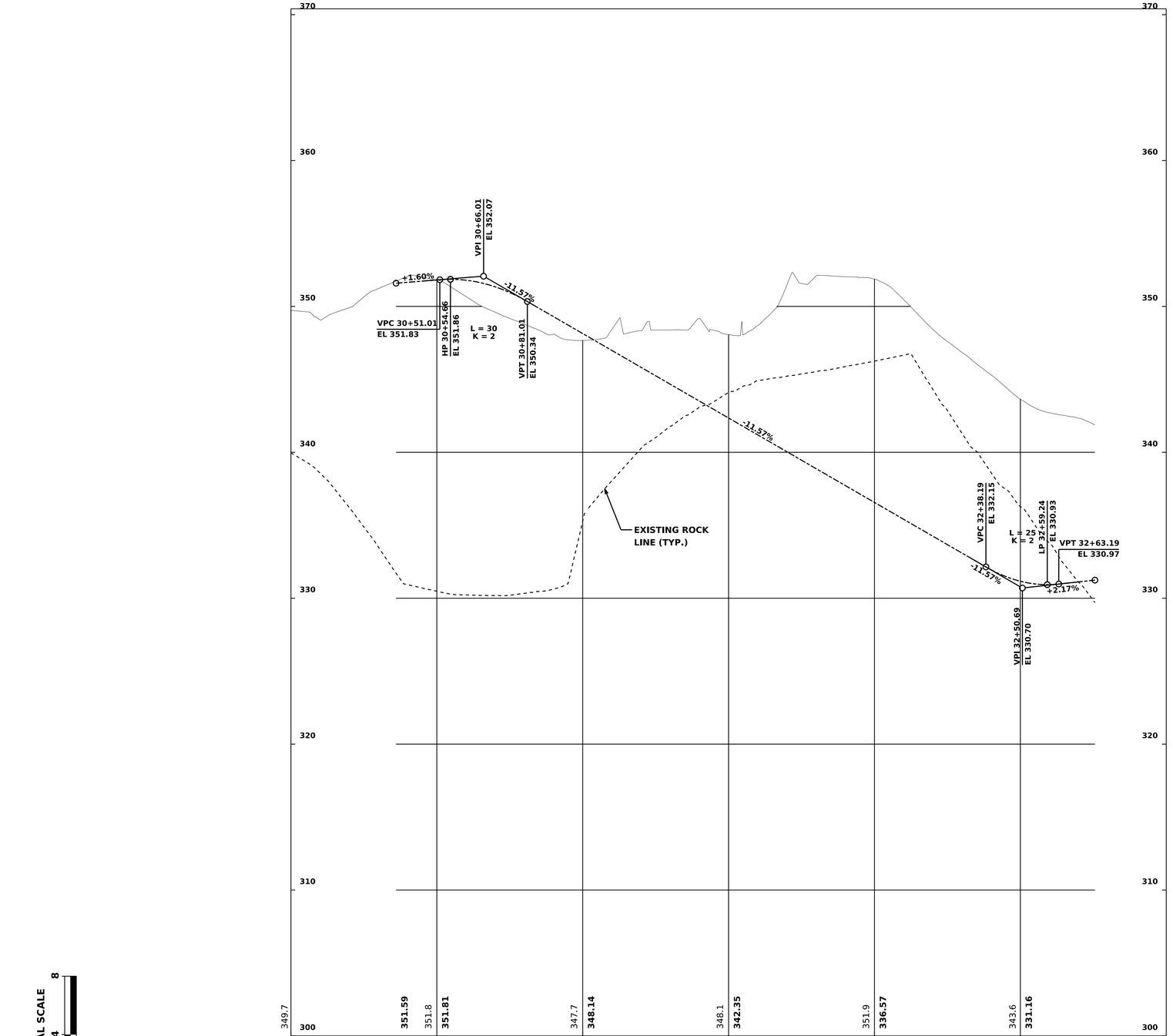
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1038 PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1038	13065A_Pro_BMP_1038	13065A	256	733



VERTICAL SCALE 0 4 8

HORIZONTAL SCALE 0 20 40 60

SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

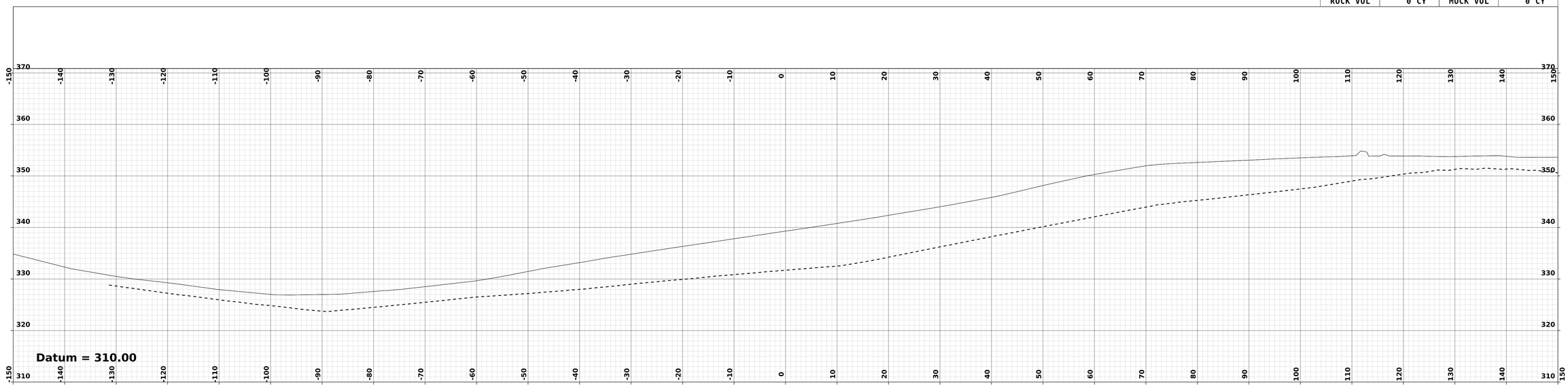
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

STORMWATER TREATMENT BASIN 1038 ACCESS ROAD PROFILE

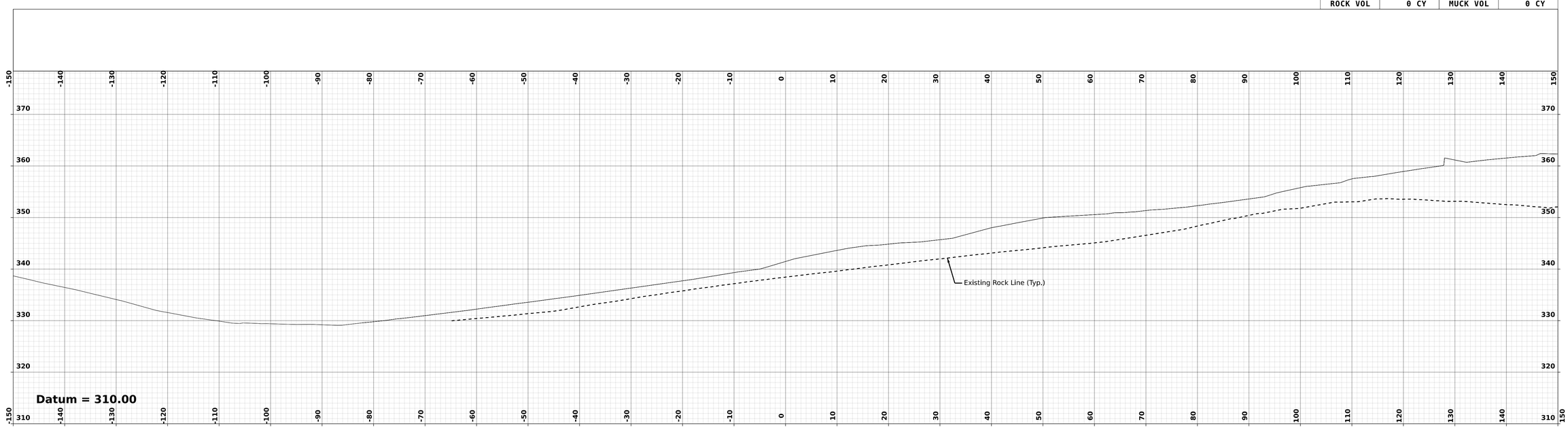
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1038 Access	13065A_Pro_Access_1038	13065A	257	733

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 3000+25.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 3000+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

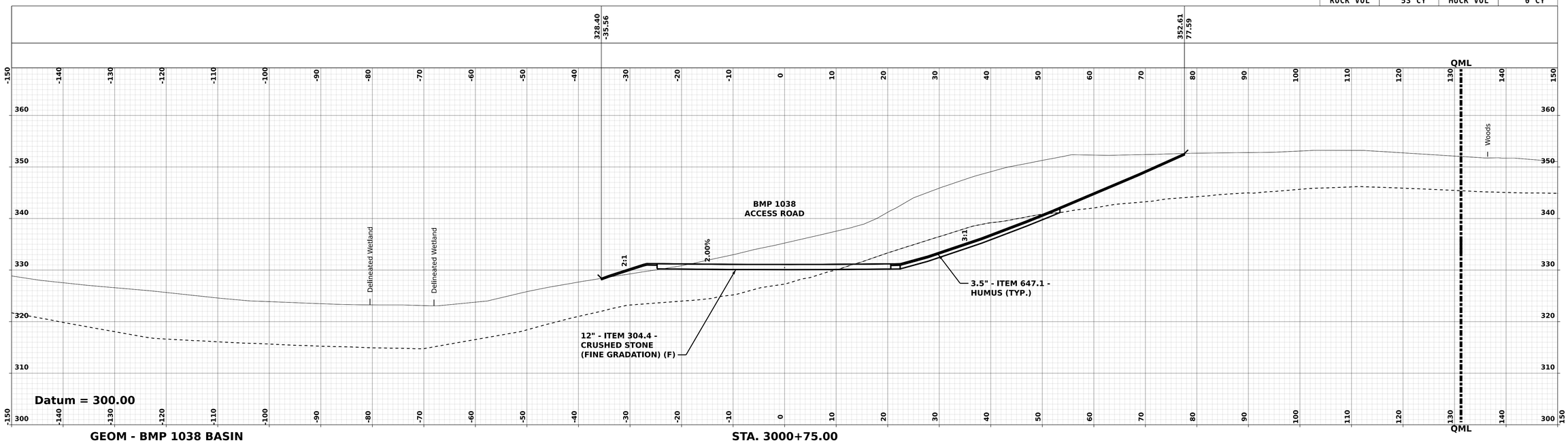
vhb

LONDONDERRY & DERRY

B1038 - 3000+00.00 [Sheet]

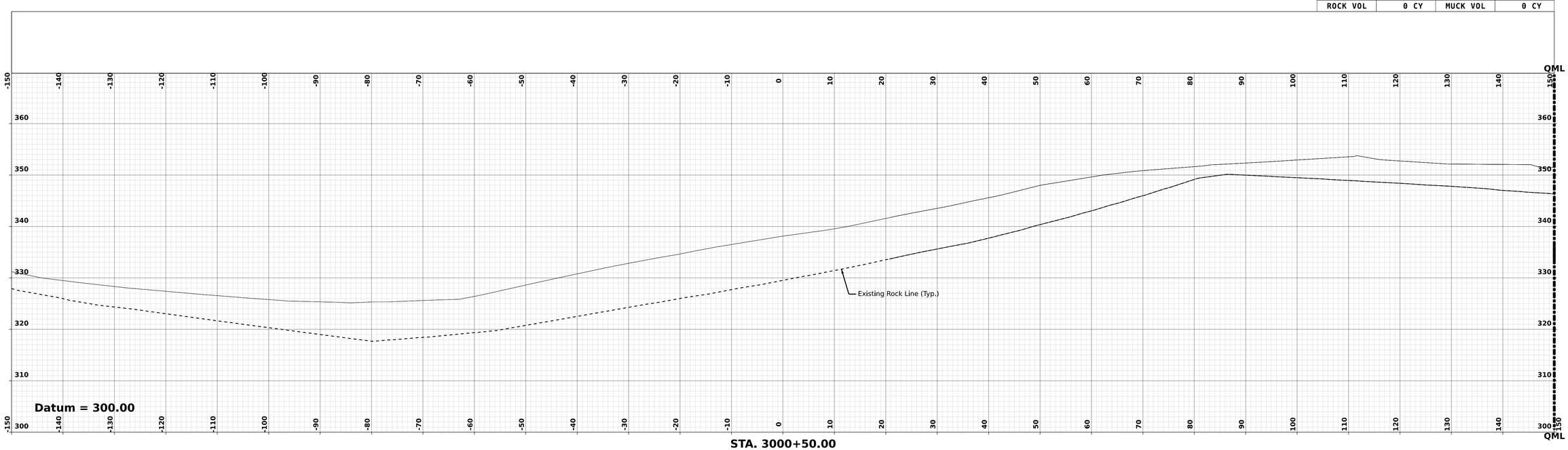
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	258	733

CUT VOL	300 CY	FILL VOL	2 CY
ROCK VOL	53 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3000+75.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 3000+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

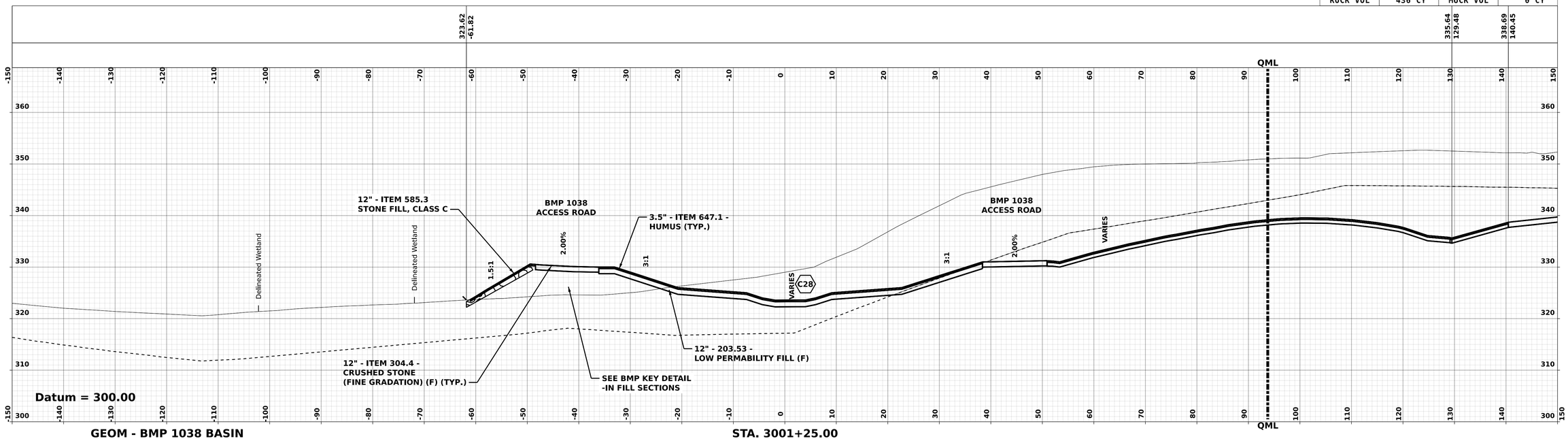
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	259	733

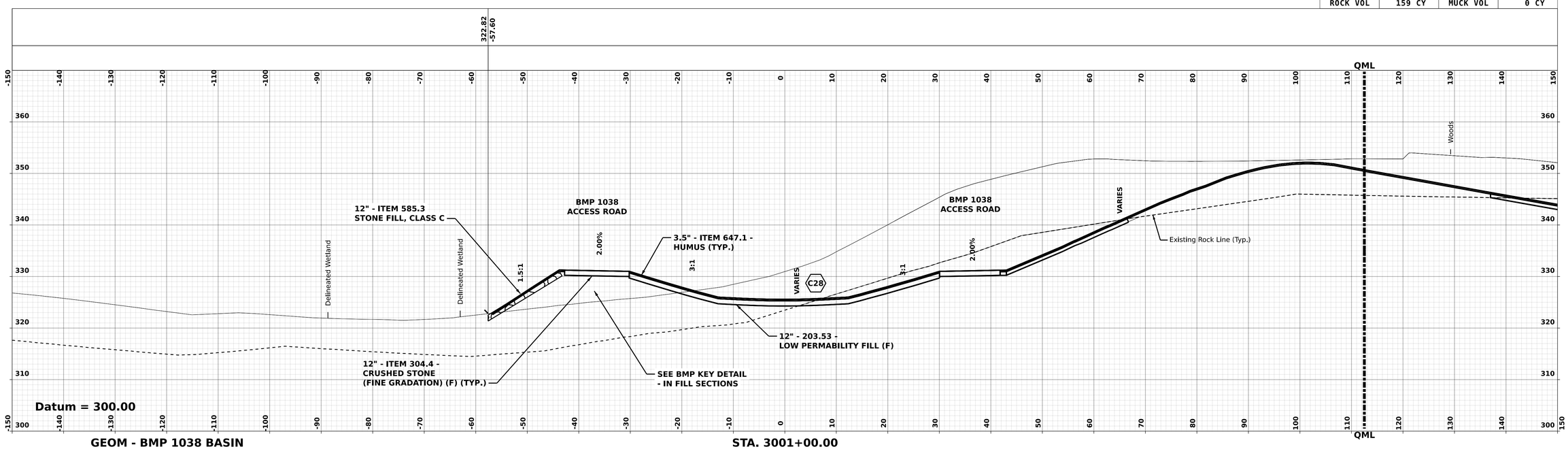
B1038 - 3000+50.00 [Sheet]

CUT VOL	1285 CY	FILL VOL	122 CY
ROCK VOL	436 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3001+25.00**

CUT VOL	882 CY	FILL VOL	64 CY
ROCK VOL	159 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3001+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

DESCRIPTION	STATION	STATION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

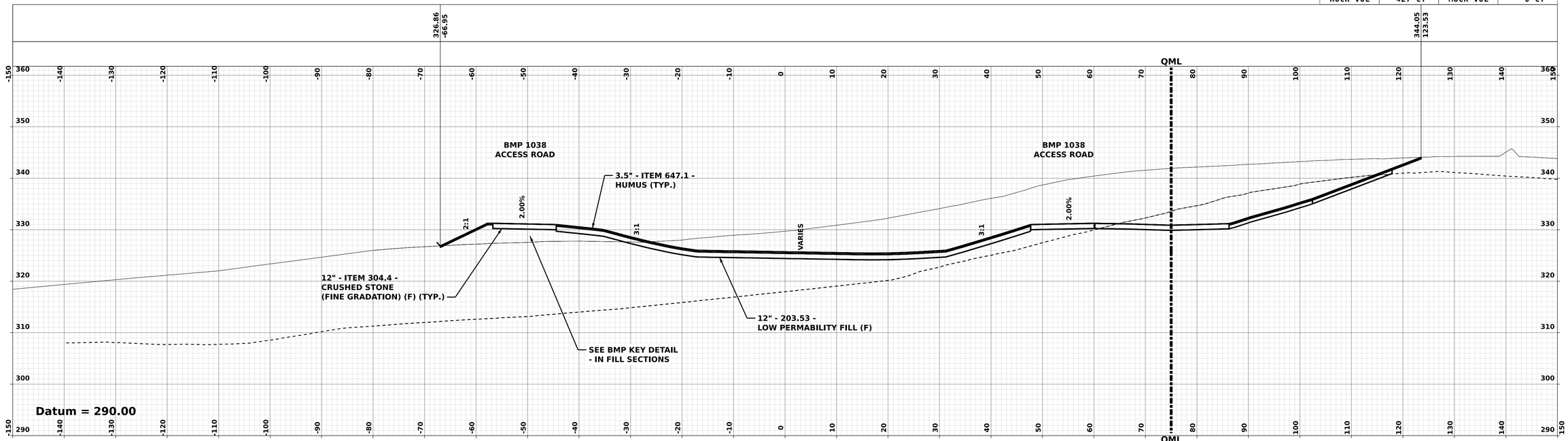
vhb

B1038 - 3001+00.00 [Sheet]

LONDONDERRY & DERRY

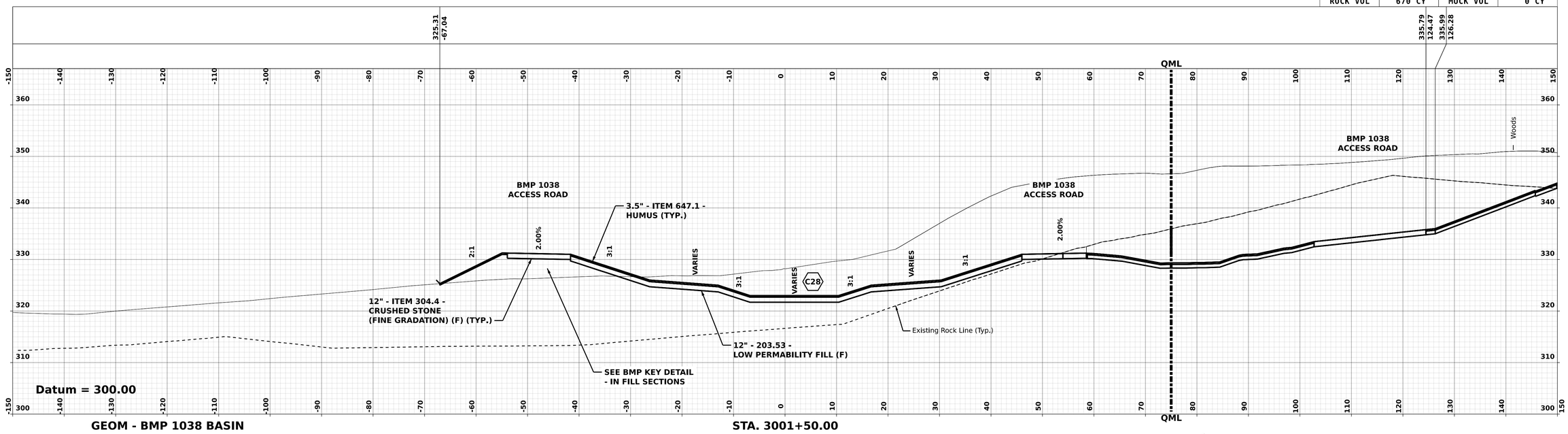
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	260	733

CUT VOL	1117 CY	FILL VOL	69 CY
ROCK VOL	427 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3001+75.00**

CUT VOL	1375 CY	FILL VOL	100 CY
ROCK VOL	670 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3001+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

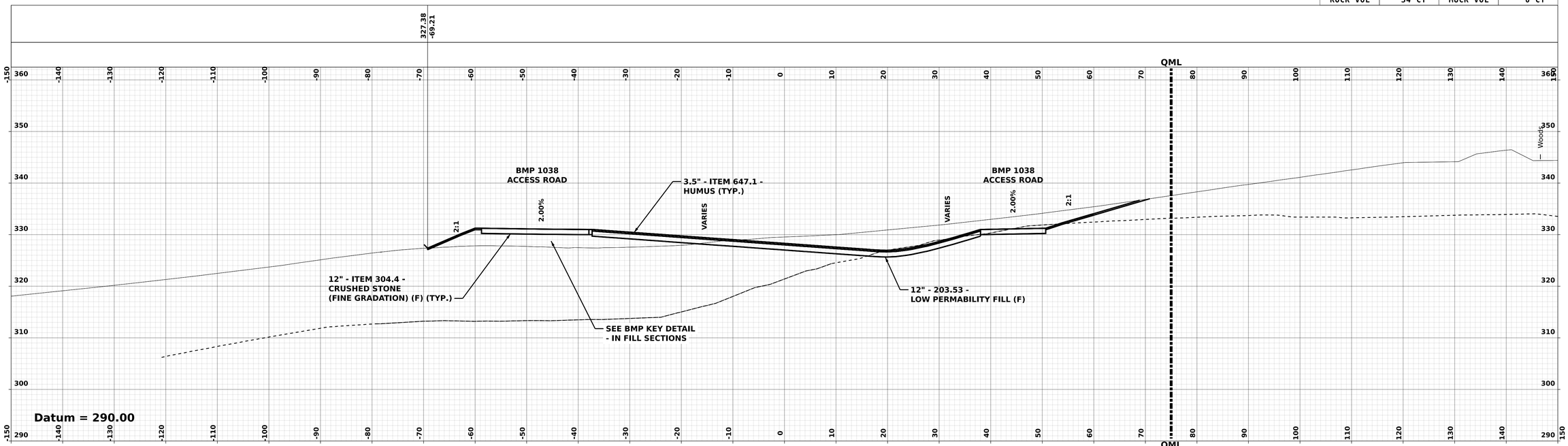
vhb

B1038 - 3001+50.00 [Sheet]

LONDONDERRY & DERRY

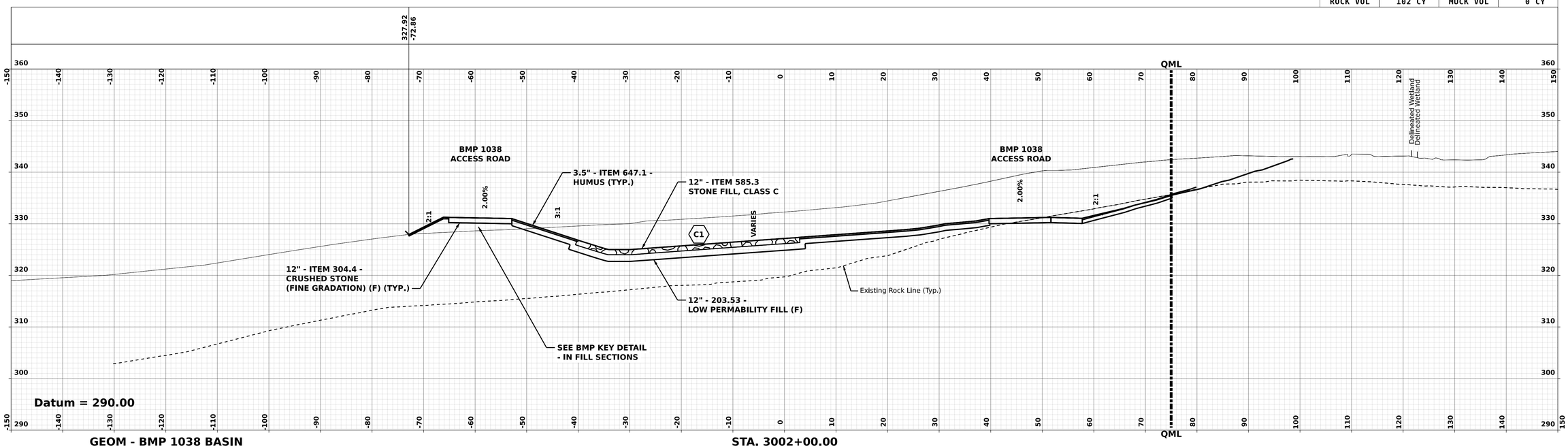
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	261	733

CUT VOL	523 CY	FILL VOL	56 CY
ROCK VOL	34 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3002+25.00**

CUT VOL	875 CY	FILL VOL	42 CY
ROCK VOL	102 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN **STA. 3002+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

vhb

LONDONDERRY & DERRY

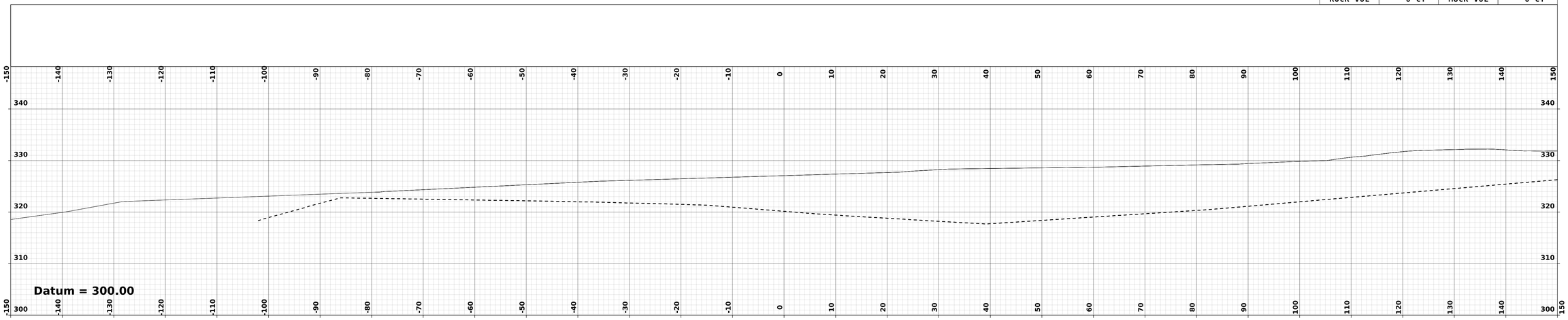
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	262	733

B1038 - 3002+00.00 [Sheet]

REVISIONS AFTER PROPOSAL			
NUMBER	DESCRIPTION	STATION	DATE

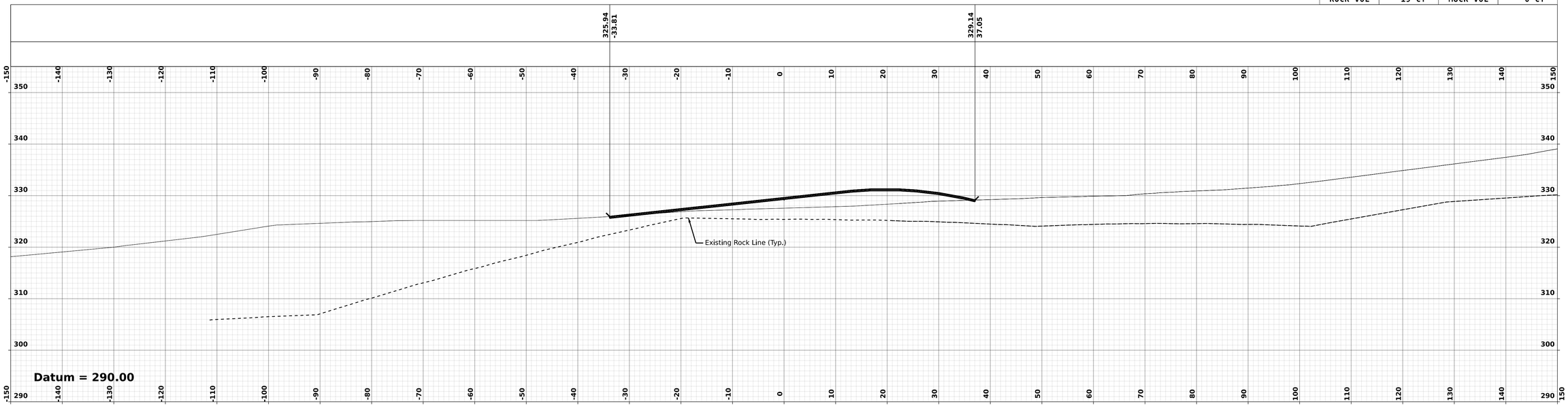
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	0 CY	FILL VOL	35 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 3002+75.00

CUT VOL	94 CY	FILL VOL	78 CY
ROCK VOL	19 CY	MUCK VOL	0 CY



GEOM - BMP 1038 BASIN

STA. 3002+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

B1038 - 3002+50.00 [Sheet]

LONDONDERRY & DERRY

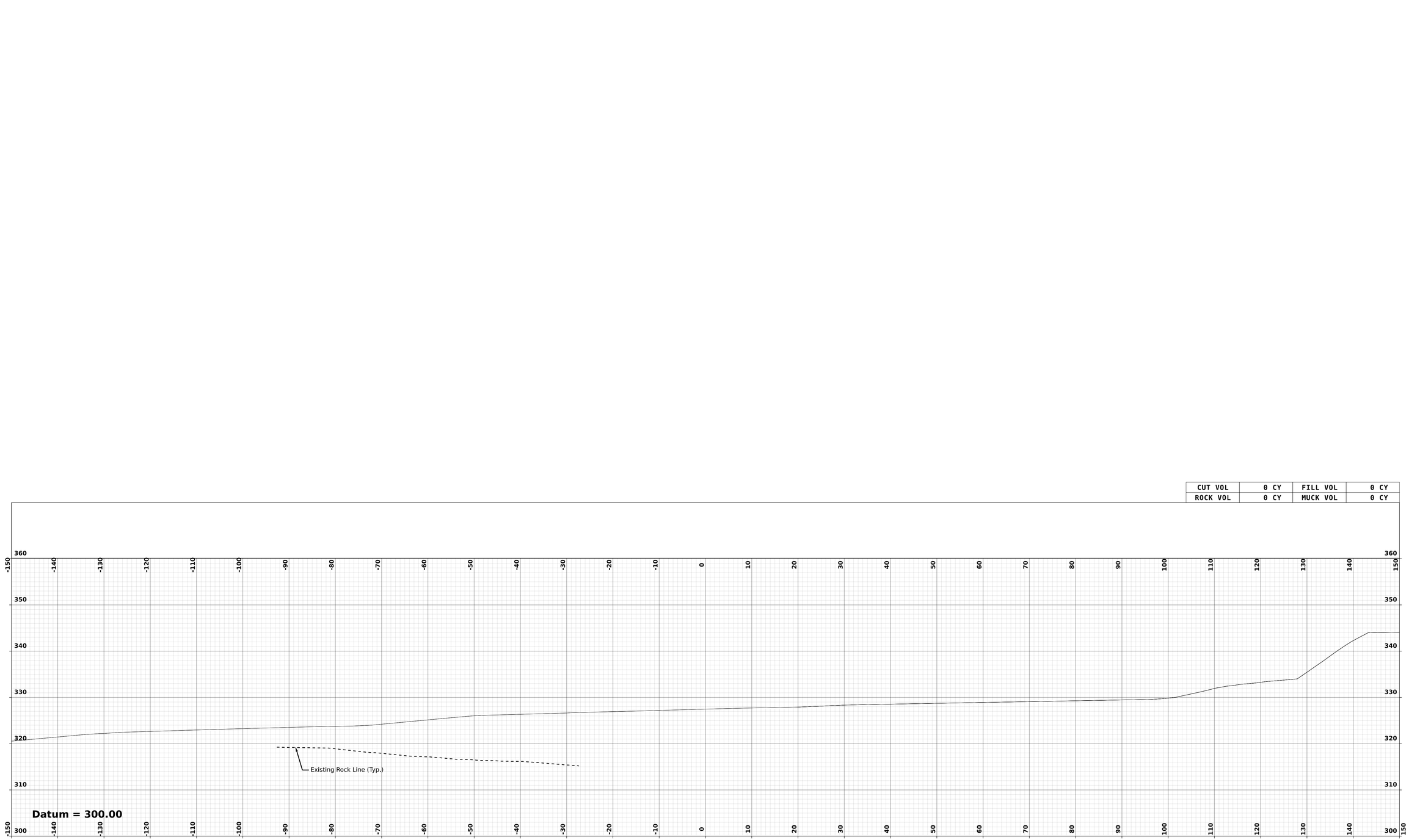
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	263	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 3003+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

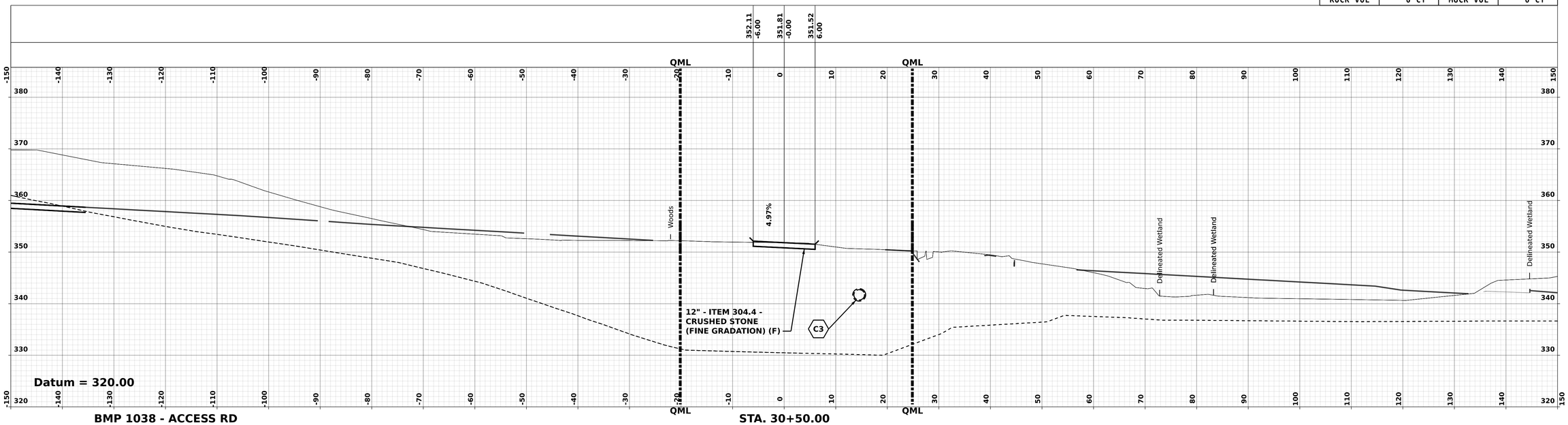
vhb

B1038 - 3003+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1038	13065A	264	733

CUT VOL	11 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

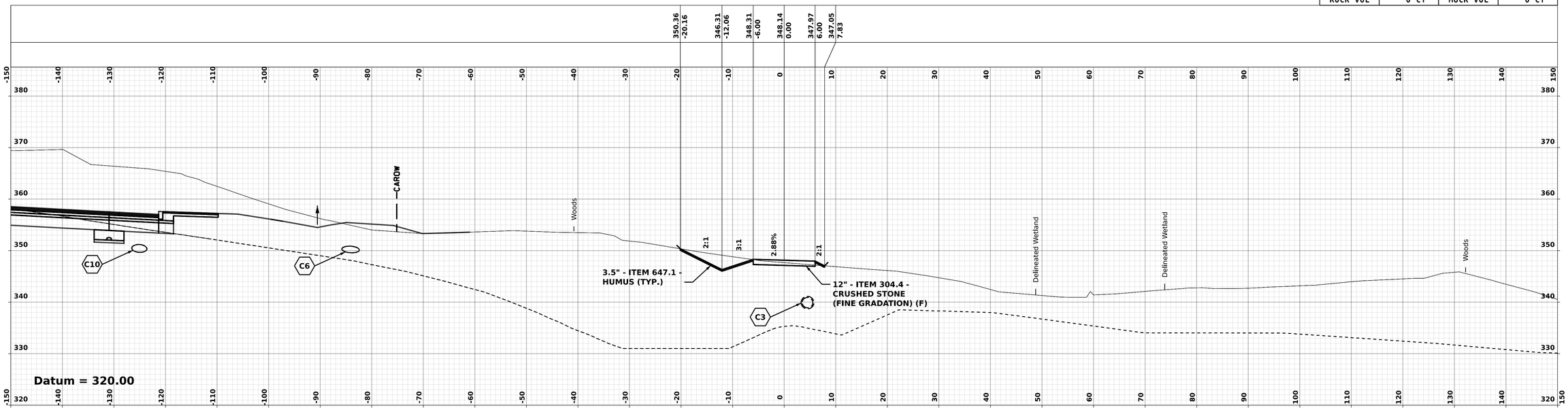
vhb

LONDONDERRY & DERRY

BMP 1038 - Access Rd - 30+00.00 [Sheet]

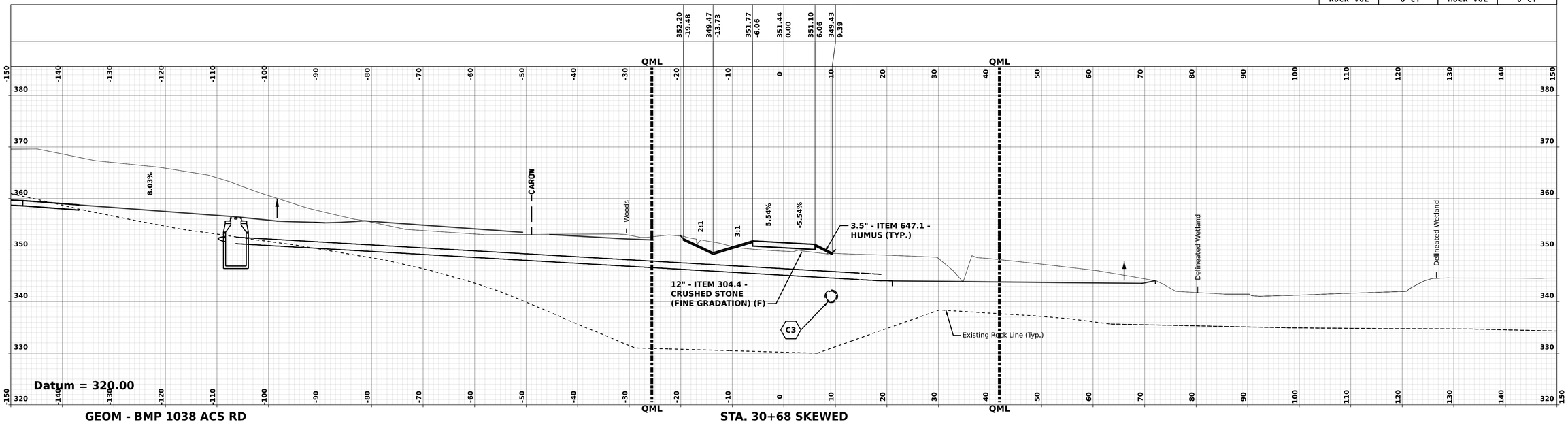
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1038	13065A	265	733

CUT VOL	39 CY	FILL VOL	1 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



BMP 1038 - ACCESS RD **STA. 31+00.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1038 ACS RD **STA. 30+68 SKEWED**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

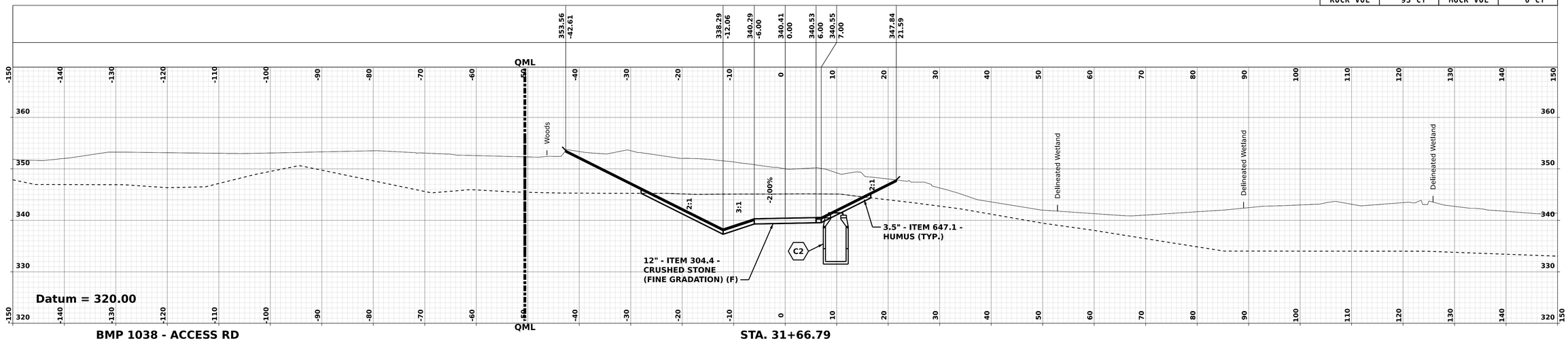
vhb

BMP 1038 - Access Rd - 31+00.00 [Sheet]

LONDONDERRY & DERRY

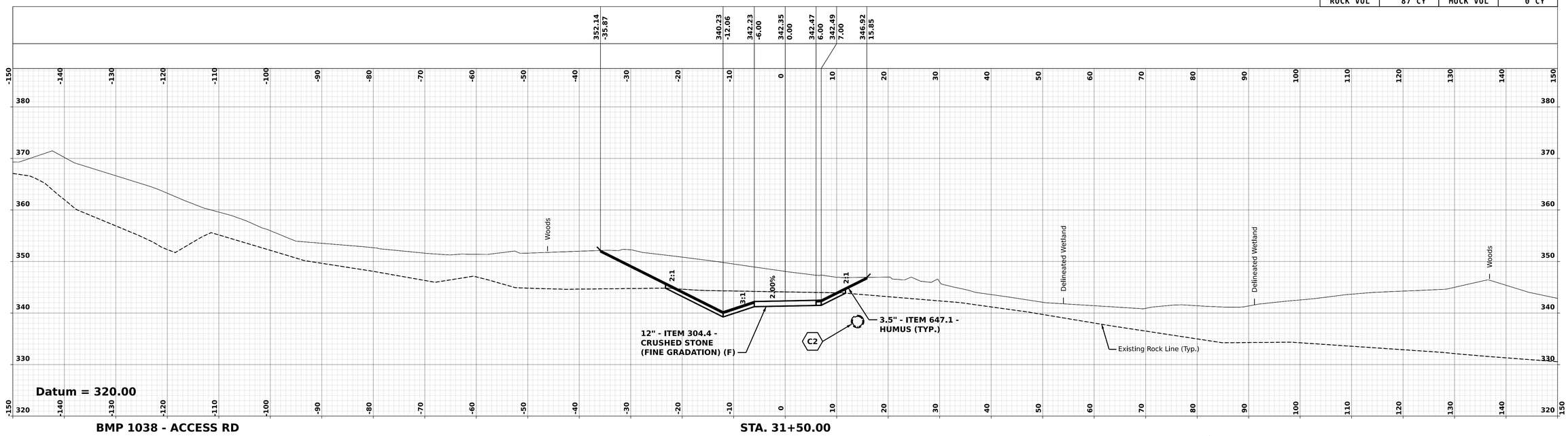
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1038	13065A	266	733

CUT VOL	165 CY	FILL VOL	0 CY
ROCK VOL	93 CY	MUCK VOL	0 CY



BMP 1038 - ACCESS RD **STA. 31+66.79**

CUT VOL	223 CY	FILL VOL	1 CY
ROCK VOL	87 CY	MUCK VOL	0 CY



BMP 1038 - ACCESS RD **STA. 31+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

BMP 1038 - Access Rd - 31+66.79 [Sheet]

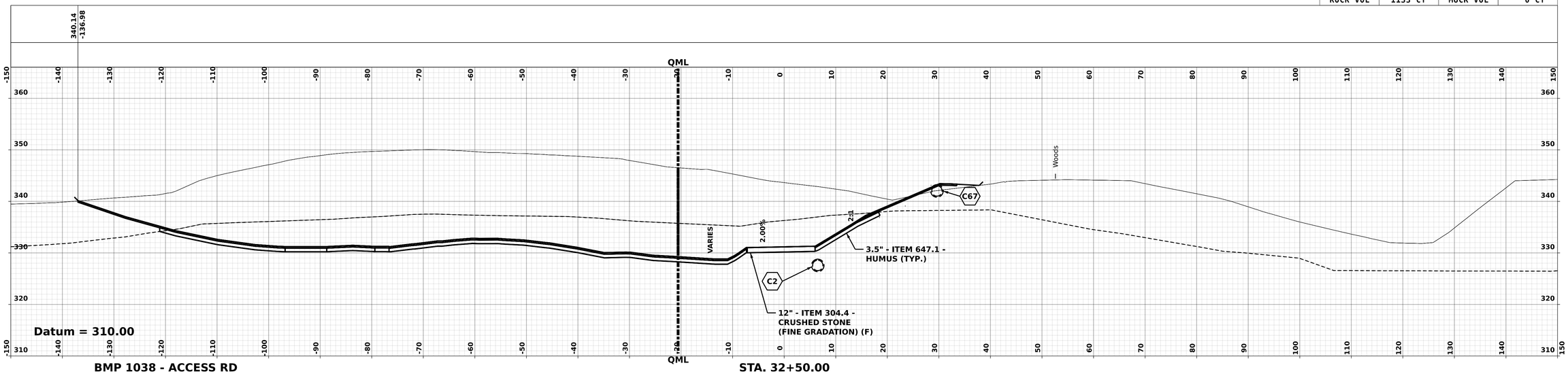
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1038	13065A	267	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

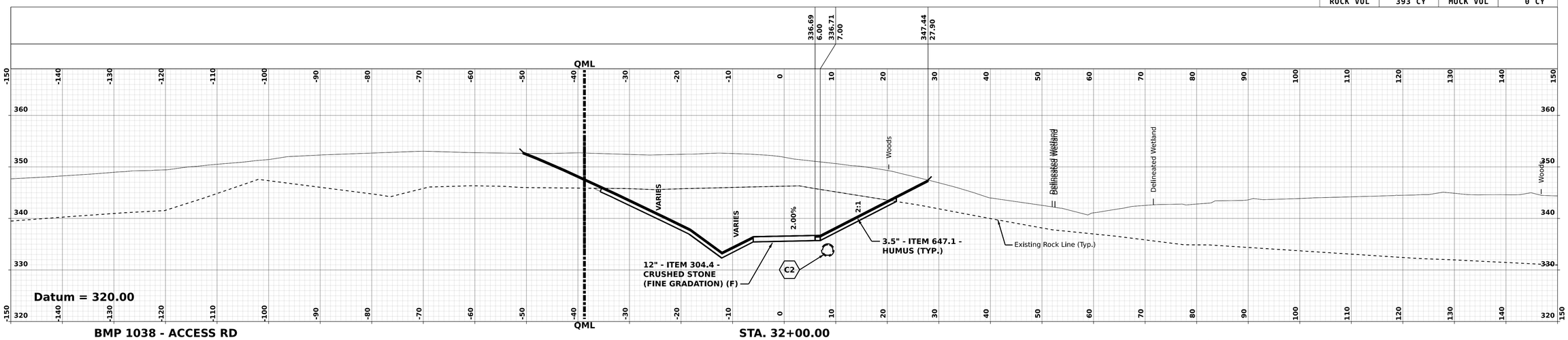
CUT VOL	1794 CY	FILL VOL	5 CY
ROCK VOL	1133 CY	MUCK VOL	0 CY



BMP 1038 - ACCESS RD

STA. 32+50.00

CUT VOL	461 CY	FILL VOL	0 CY
ROCK VOL	393 CY	MUCK VOL	0 CY



BMP 1038 - ACCESS RD

STA. 32+00.00

NOTE:

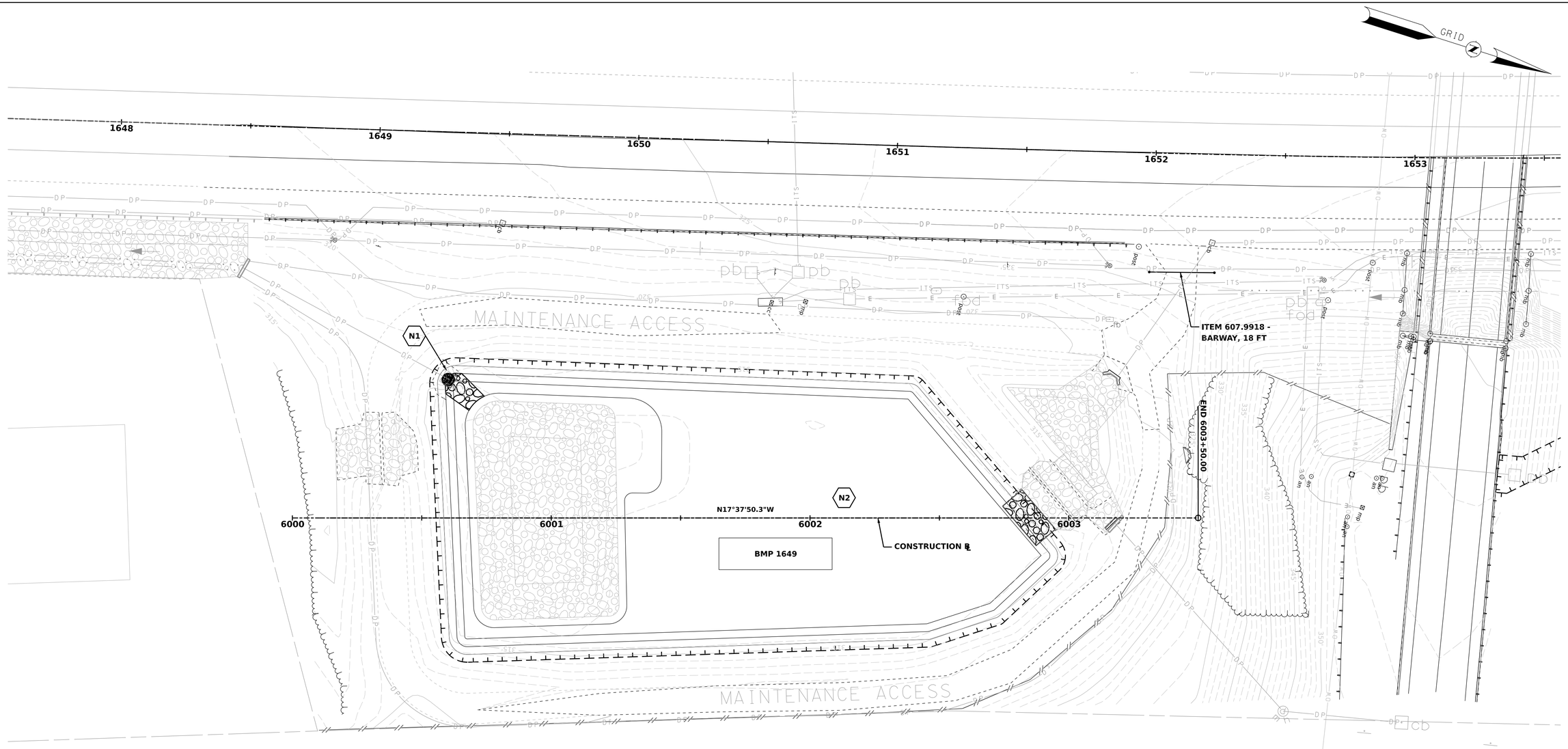
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

vhb

BMP 1038 - Access Rd - 32+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1038	13065A	268	733



GENERAL NOTES

1. **THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.**
2. **CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.**
3. **WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).**
4. **ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.**
5. **ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).**
6. **OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.**
7. **ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.**
8. **HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.**
9. **PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).**
10. **REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.**

20 0 20 40

SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			
STATION			

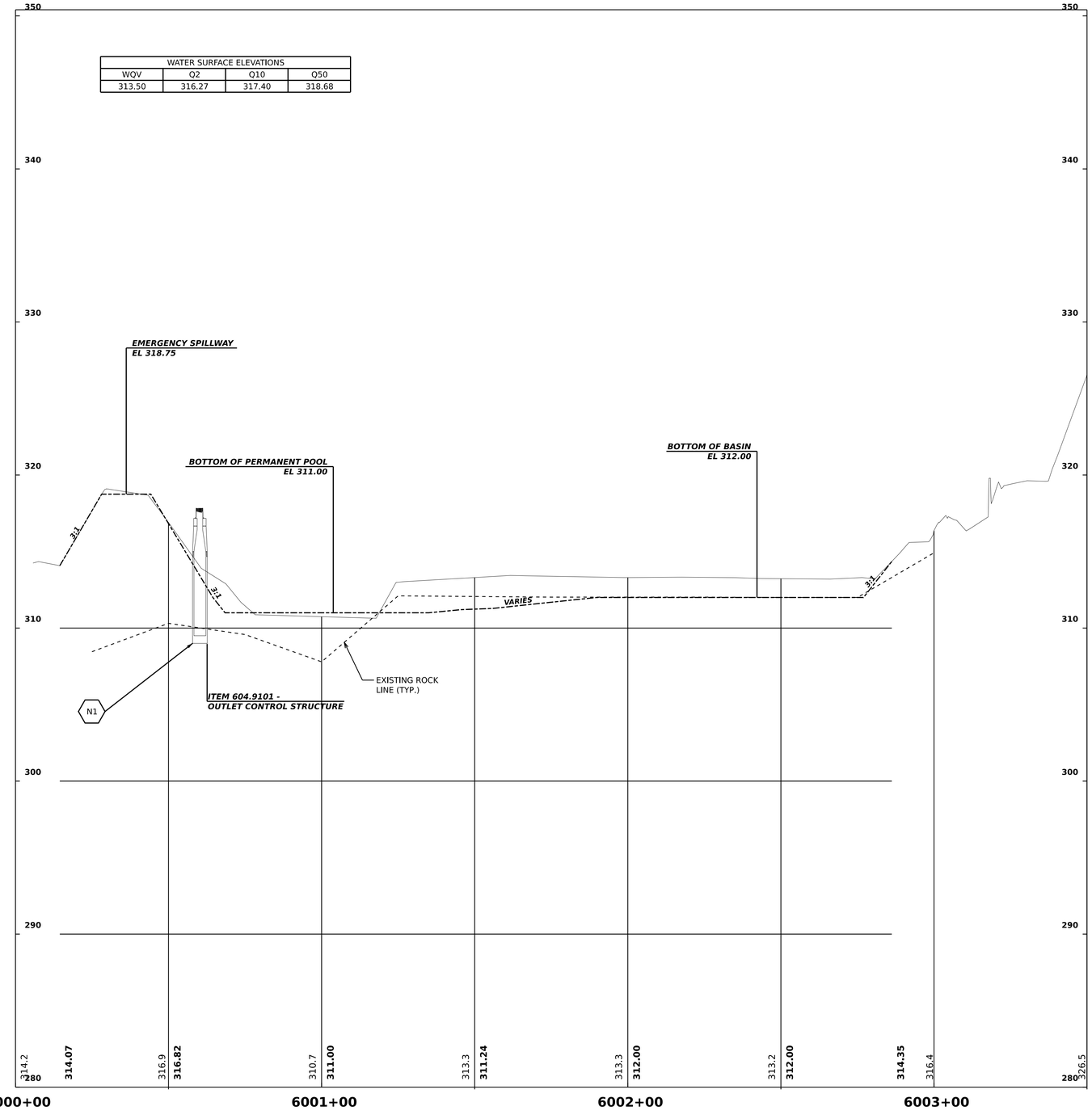
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1649 PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1649	13065A_BMP_1649_Plan	13065A	269	733

WATER SURFACE ELEVATIONS			
WQV	Q2	Q10	Q50
313.50	316.27	317.40	318.68



VERTICAL SCALE
0 4 8

HORIZONTAL SCALE
0 20 40 60
SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

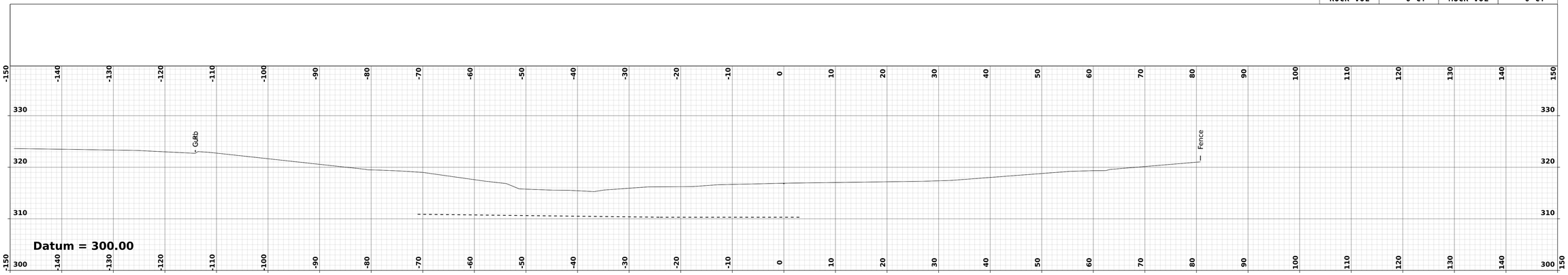
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1649 PROFILE

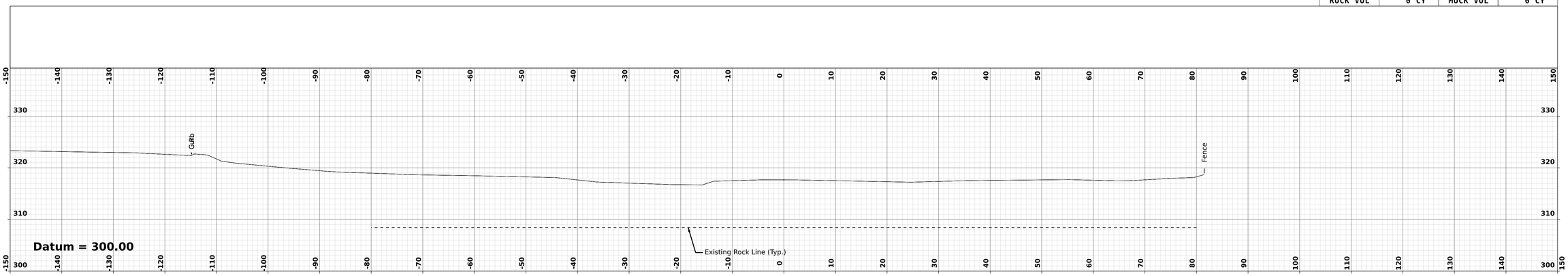
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1649	13065A_Pro_BMP_1649	13065A	270	733

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



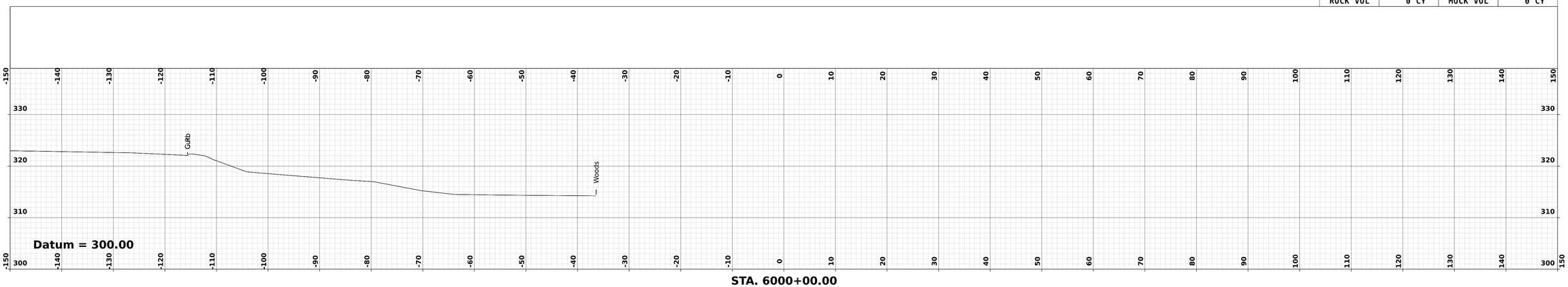
STA. 6000+50.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6000+25.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6000+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

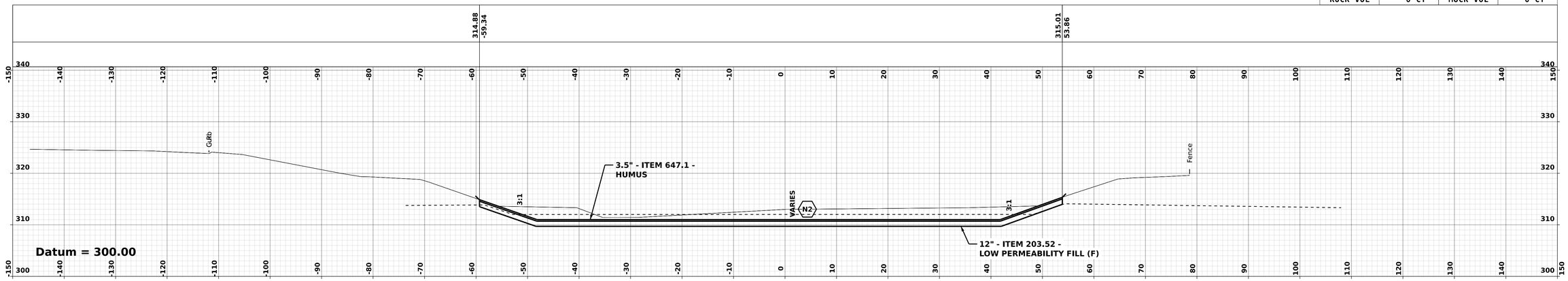
vhb

BMP 1649 - 6000+00.00 [Sheet]

LONDONDERRY & DERRY

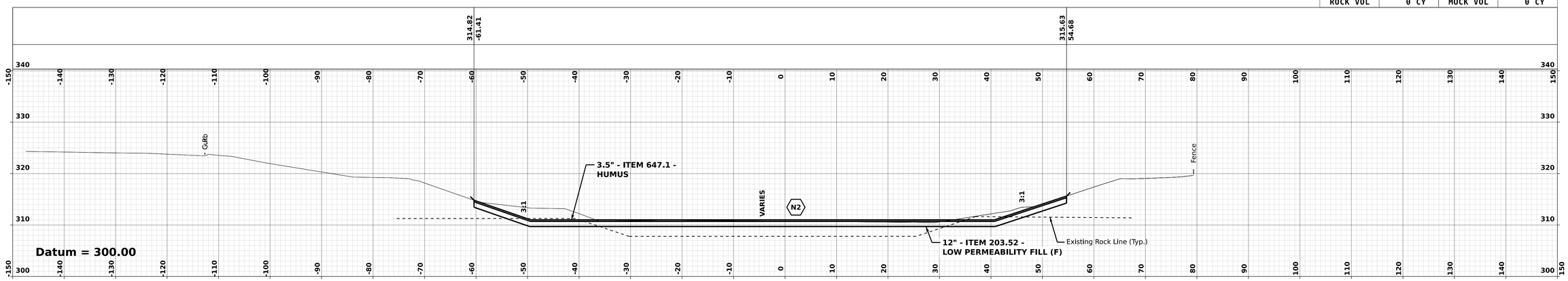
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1649	13065A	271	733

CUT VOL	125 CY	FILL VOL	1 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



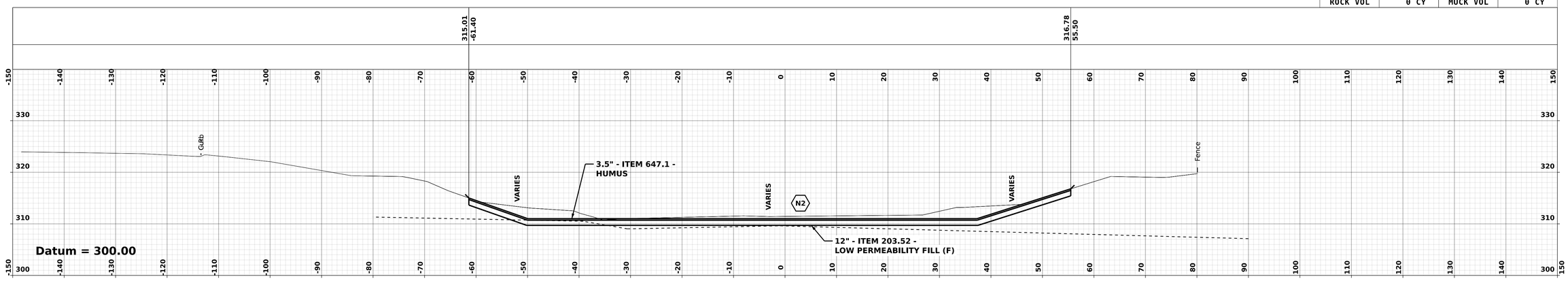
STA. 6001+25.00

CUT VOL	95 CY	FILL VOL	1 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6001+00.00

CUT VOL	65 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6000+75.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

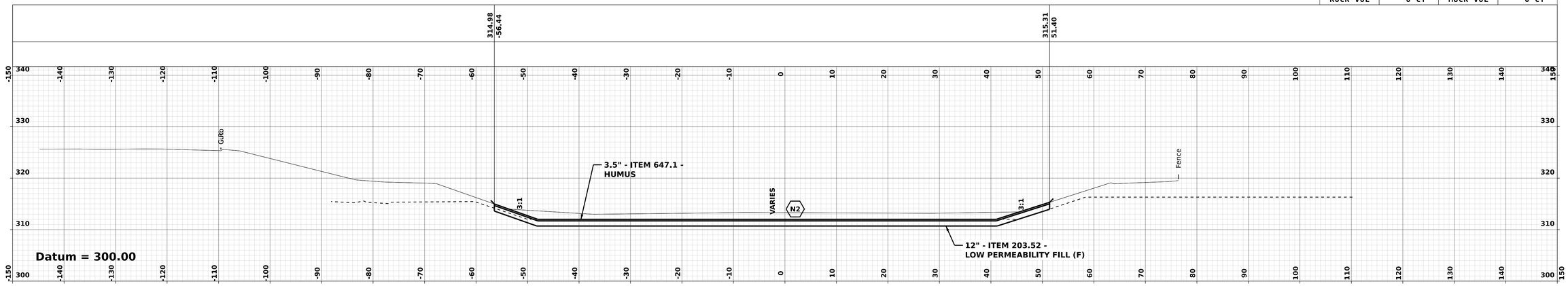
vhb

BMP 1649 - 6000+75.00 [Sheet]

LONDONDERRY & DERRY

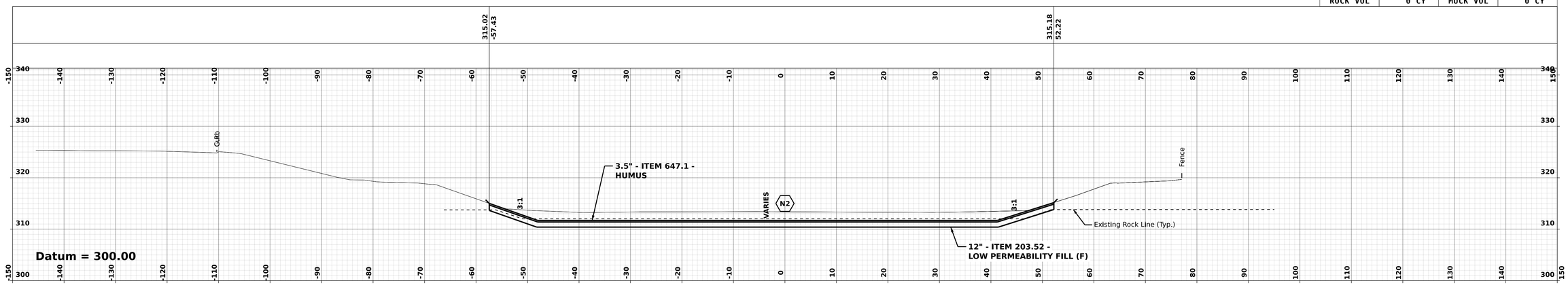
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1649	13065A	272	733

CUT VOL	158 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



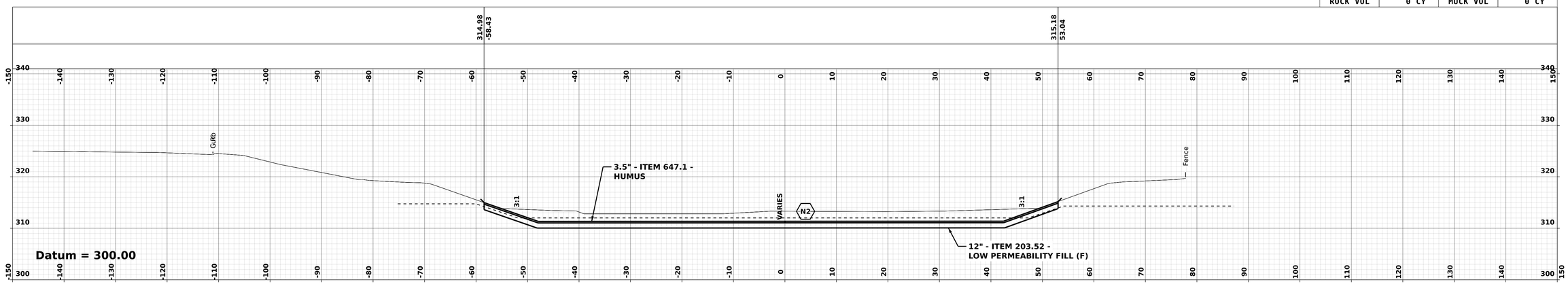
STA. 6002+00.00

CUT VOL	183 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6001+75.00

CUT VOL	190 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6001+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

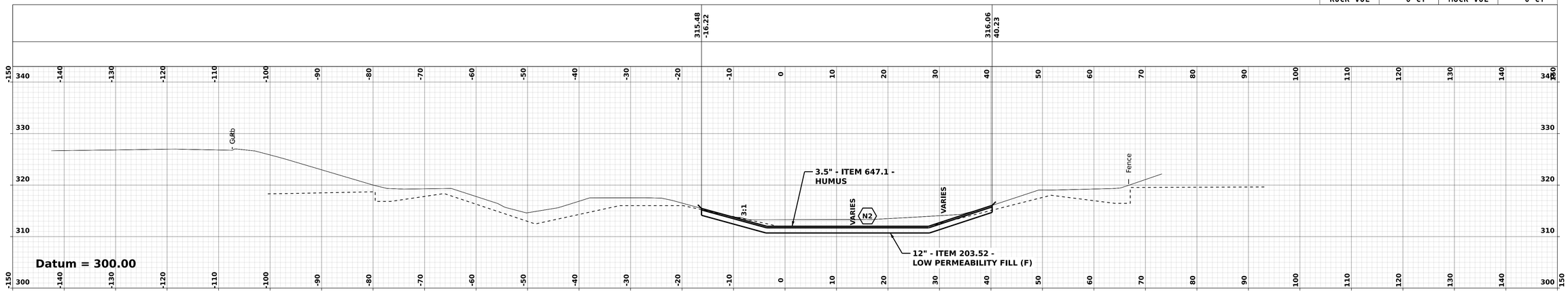
vhb

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1649	13065A	273	733

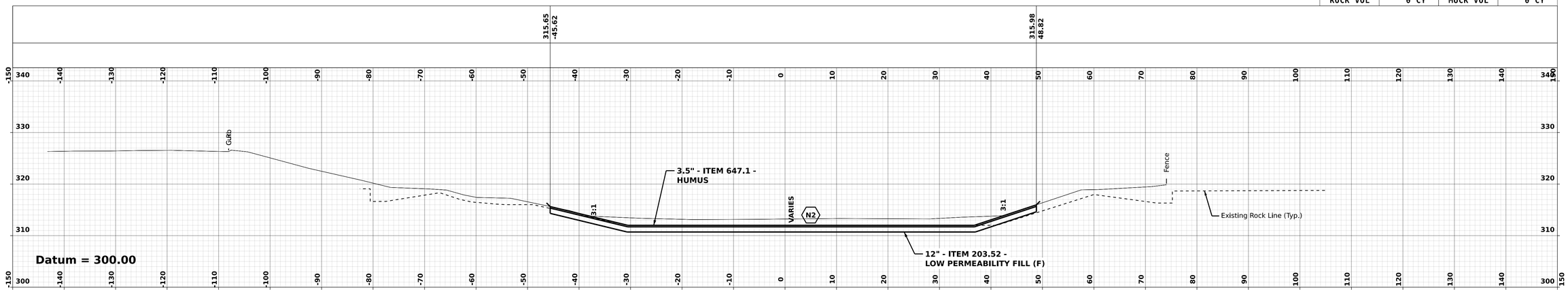
BMP 1649 - 6001+50.00 [Sheet]

CUT VOL	99 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



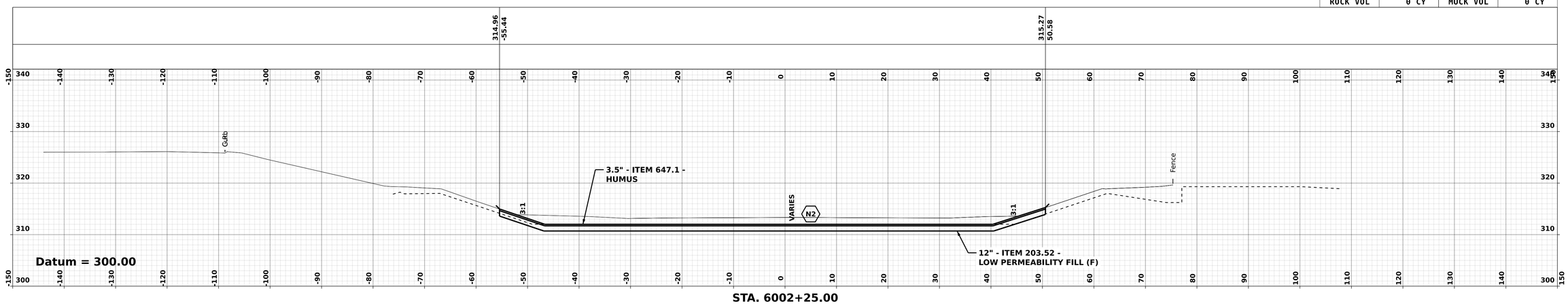
STA. 6002+75.00

CUT VOL	136 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6002+50.00

CUT VOL	142 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6002+25.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

LONDONDERRY & DERRY

BMP 1649 - 6002+25.00 [Sheet]

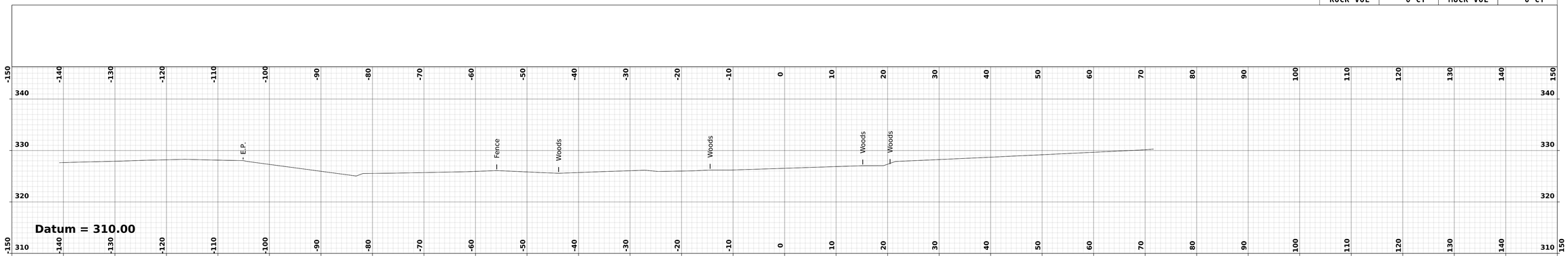
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1649	13065A	274	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

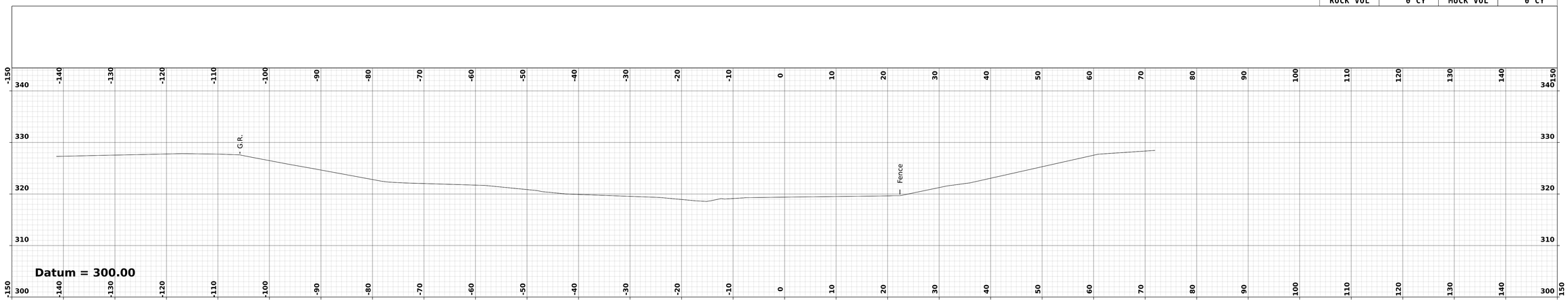
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



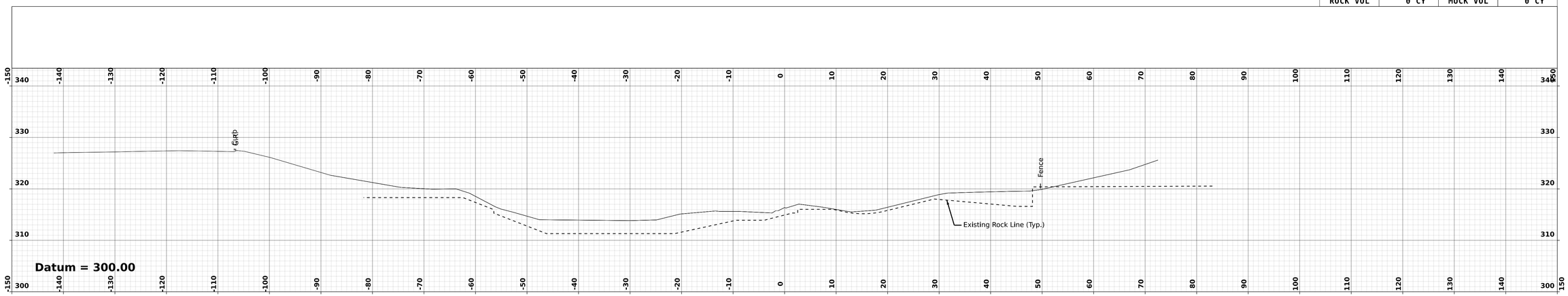
STA. 6003+50.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6003+25.00

CUT VOL	36 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 6003+00.00

NOTE:

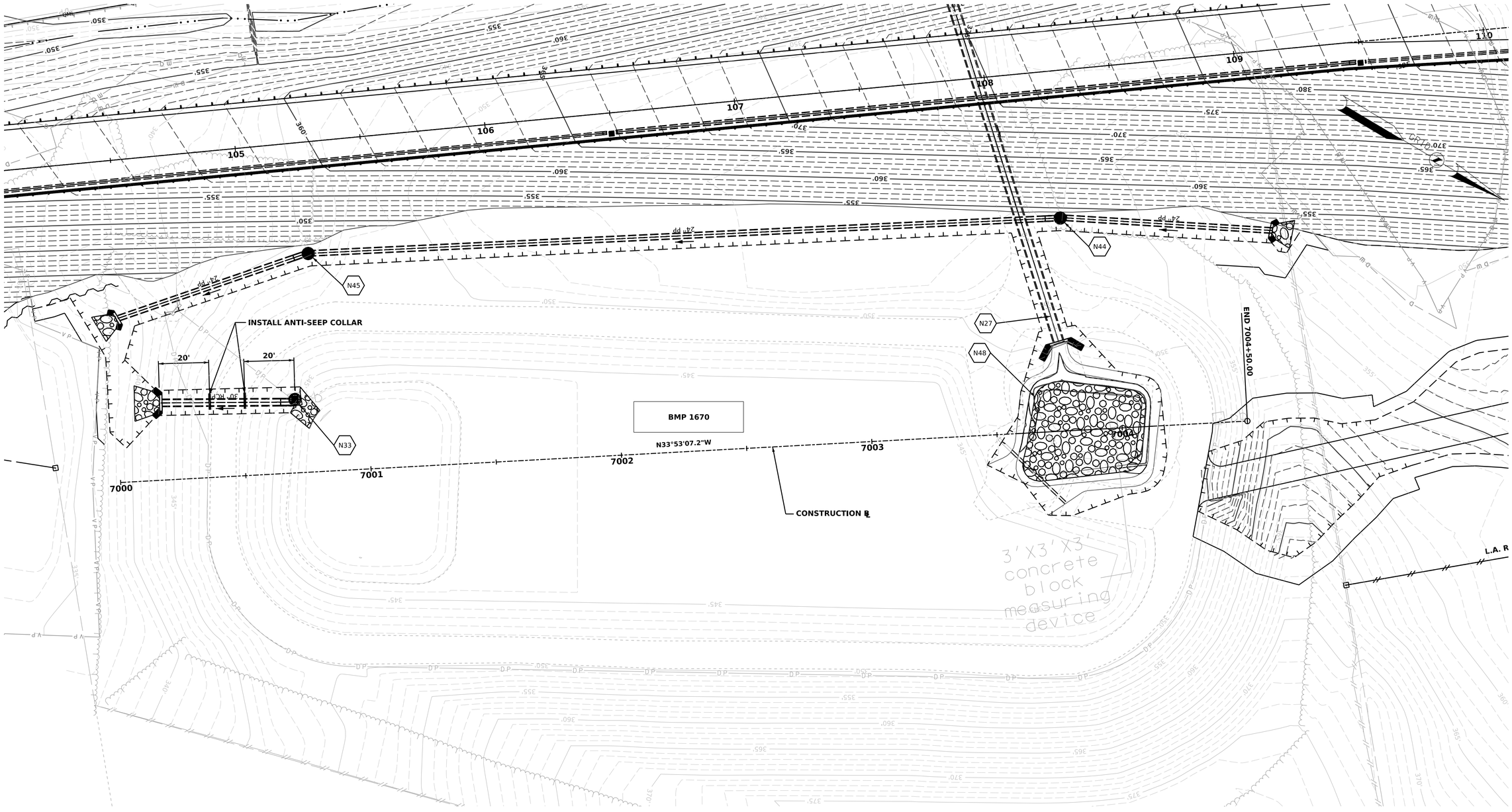
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

vhb

BMP 1649 - 6003+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1649	13065A	275	733



GENERAL NOTES

1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).
4. ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
5. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).
6. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
7. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.
8. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
9. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).
10. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.

20 0 20 40

SCALE IN FEET

NUMBER	DESCRIPTION	STATION	DATE	STATION
	REVISIONS AFTER PROPOSAL			

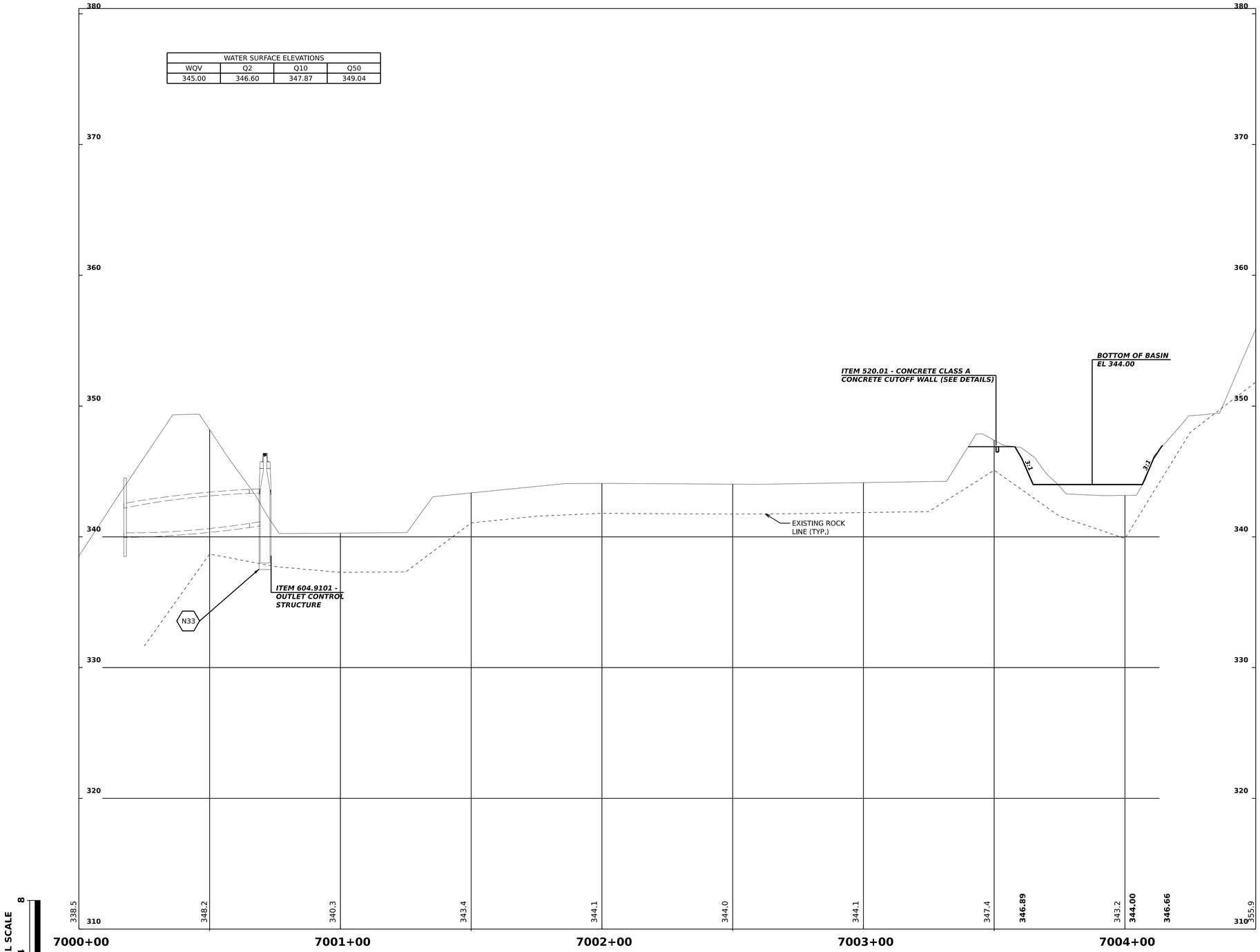
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1670 PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1670	13065A_BMP_1670_Plan	13065A	276	733

WATER SURFACE ELEVATIONS			
WQV	Q2	Q10	Q50
345.00	346.60	347.87	349.04



VERTICAL SCALE 0 4 8

HORIZONTAL SCALE 0 20 40 60

SCALE IN FEET

VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

WET EXTENDED DETENTION BASIN 1670 PROFILE

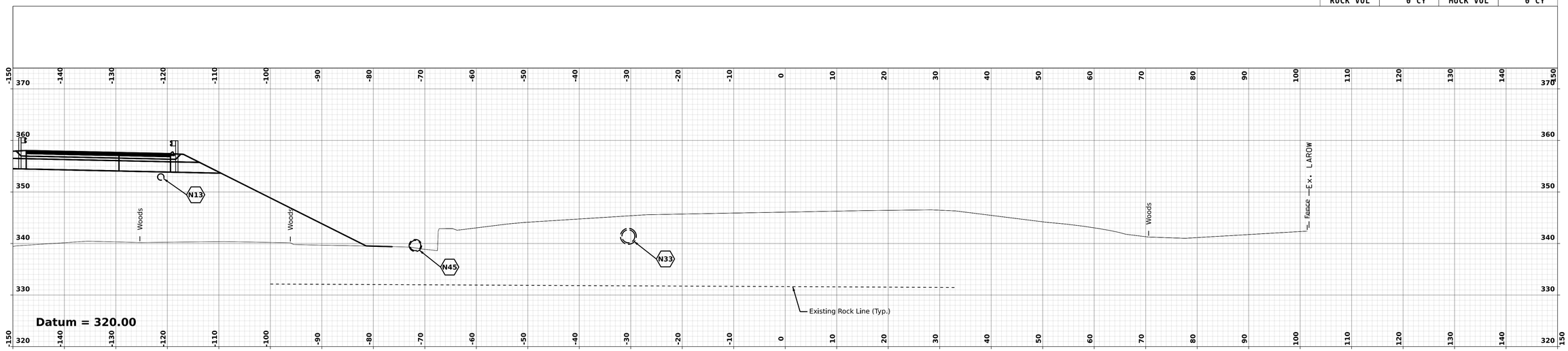
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1670	13065A_Pro_BMP_1670	13065A	277	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

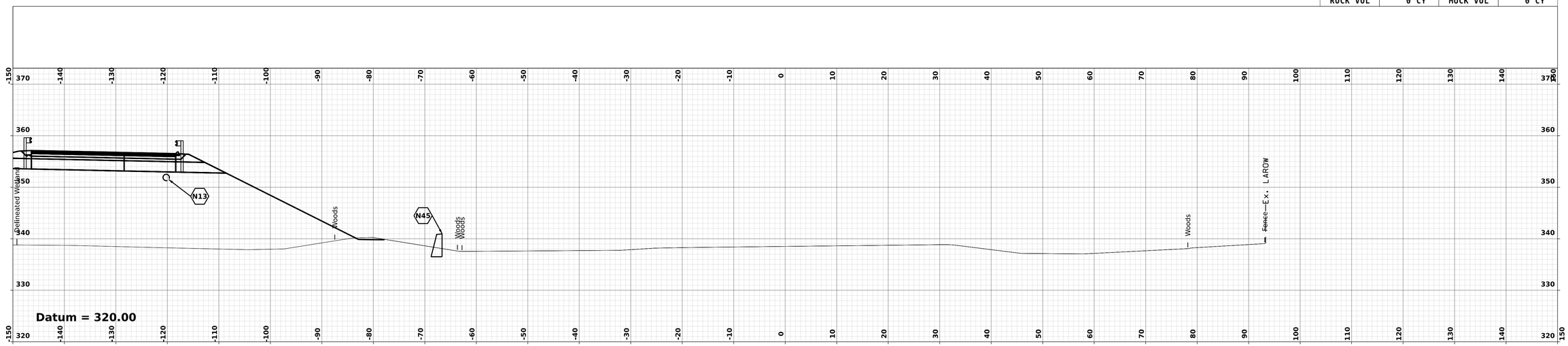
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7000+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7000+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

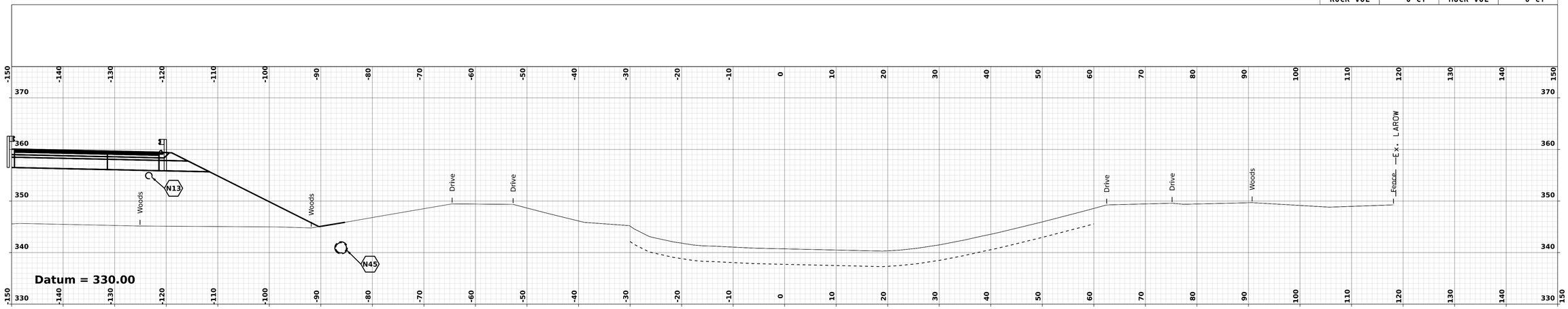
LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	278	733

BMP 1670 - 7000+00.00 [Sheet]

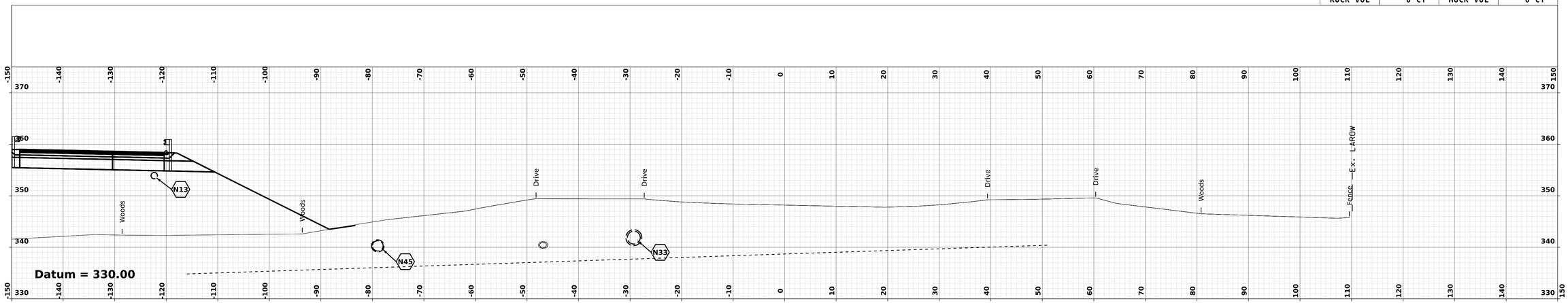
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7000+75.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7000+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

BMP 1670 - 7000+50.00 [Sheet]

LONDONDERRY & DERRY

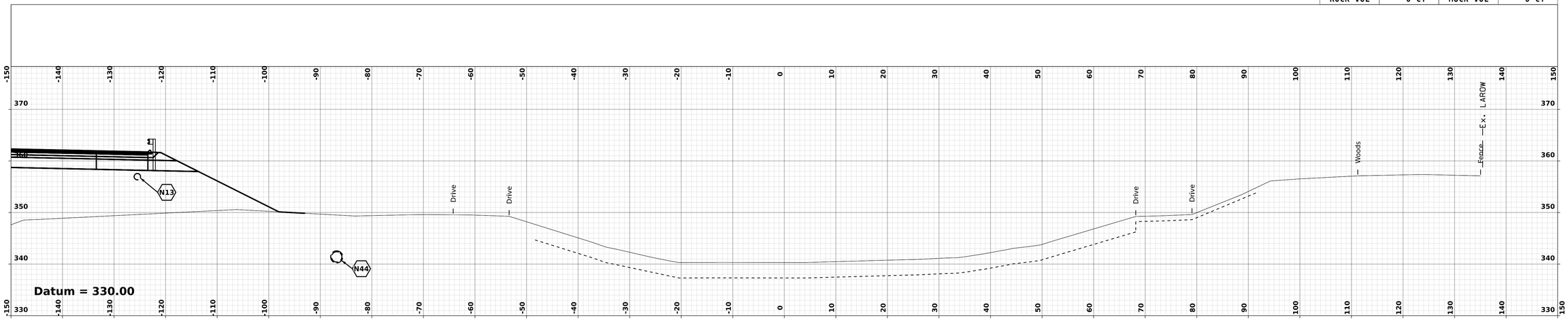
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	279	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

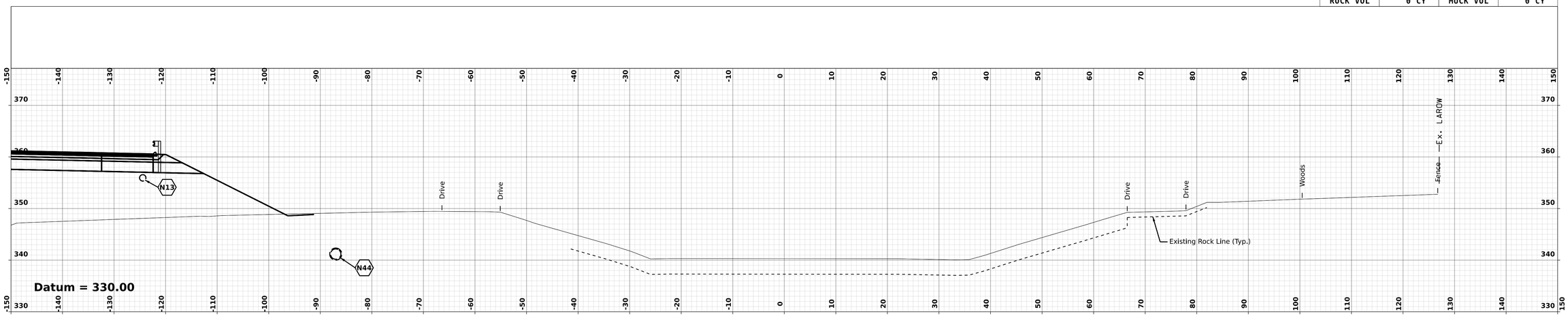
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7001+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7001+00.00**

NOTE:

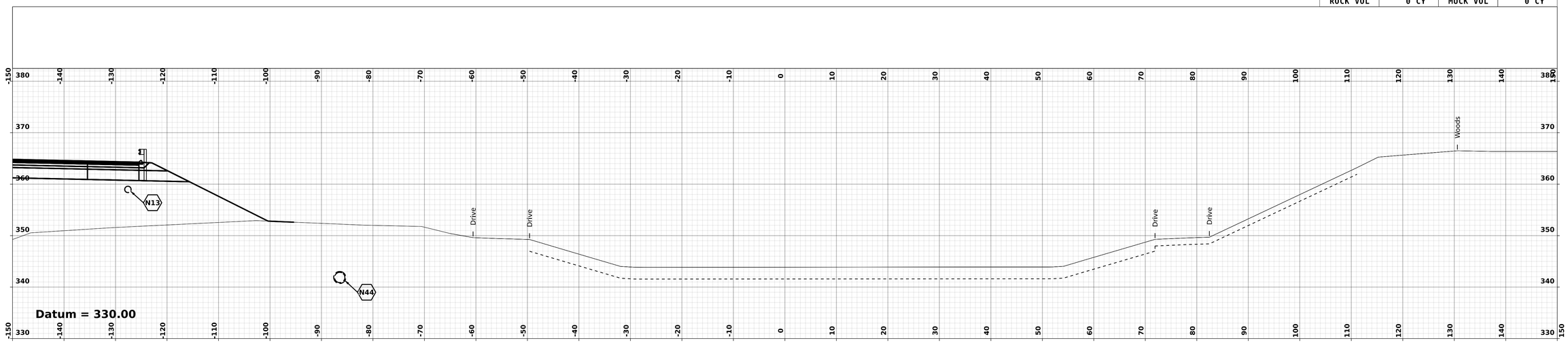
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1670 - 7001+00.00 [Sheet]

LONDONDERRY & DERRY

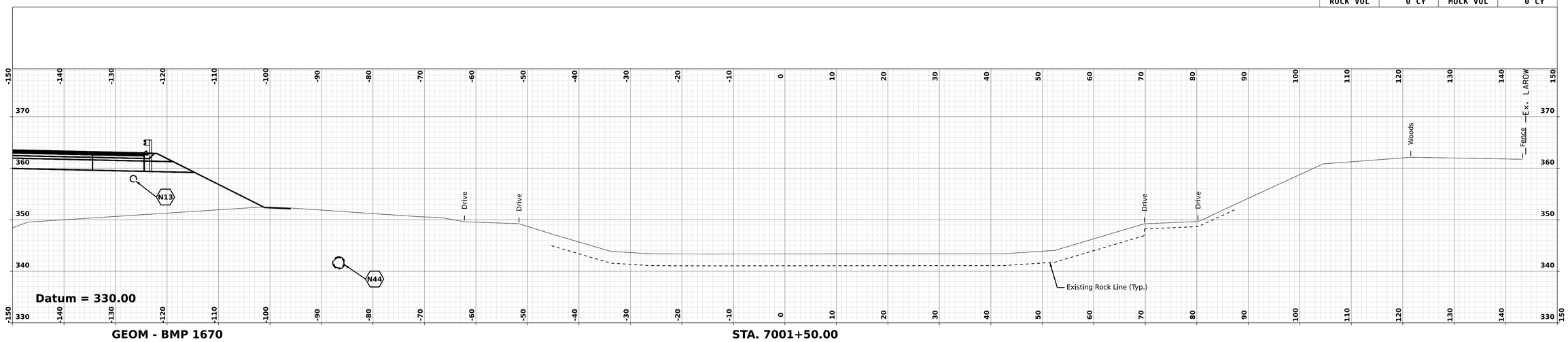
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	280	733

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7001+75.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7001+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1670 - 7001+50.00 [Sheet]

LONDONDERRY & DERRY

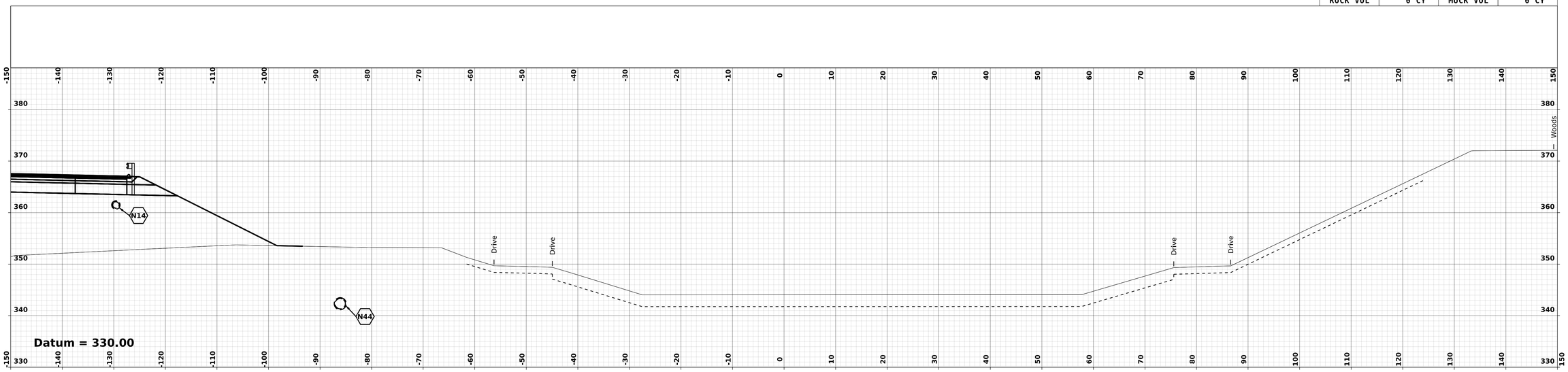
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	281	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION	STATION

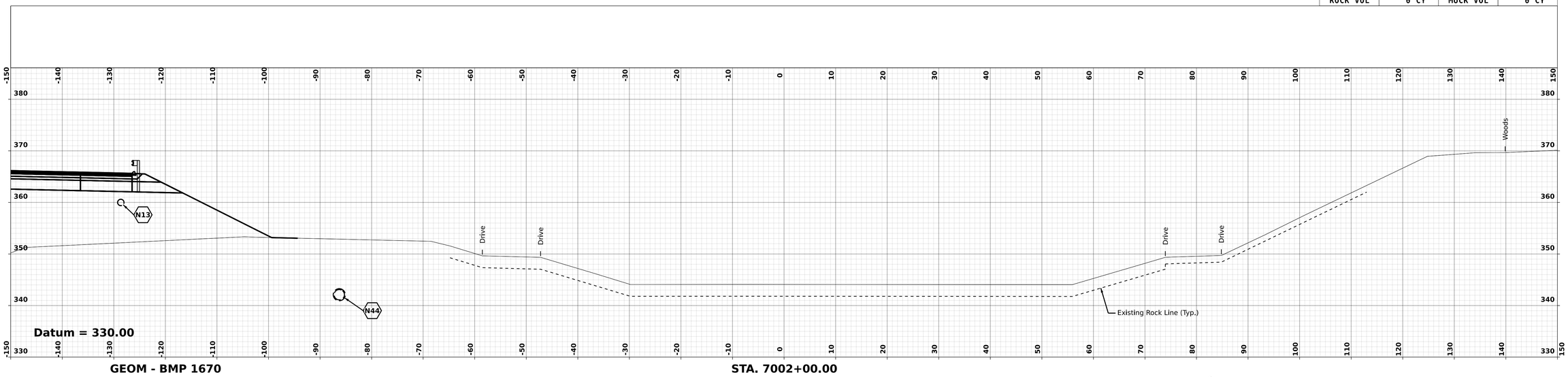
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7002+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7002+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

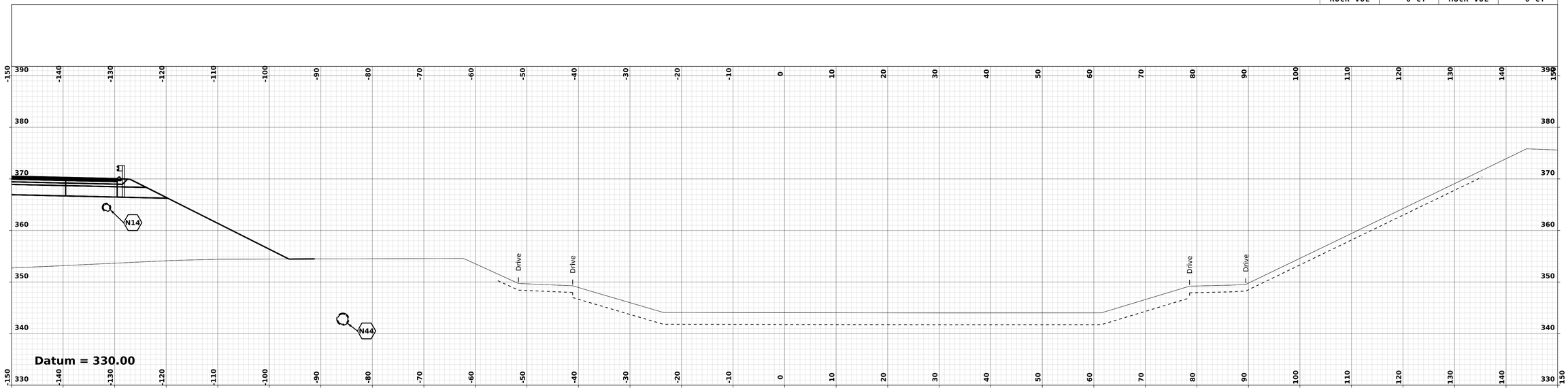
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	282	733

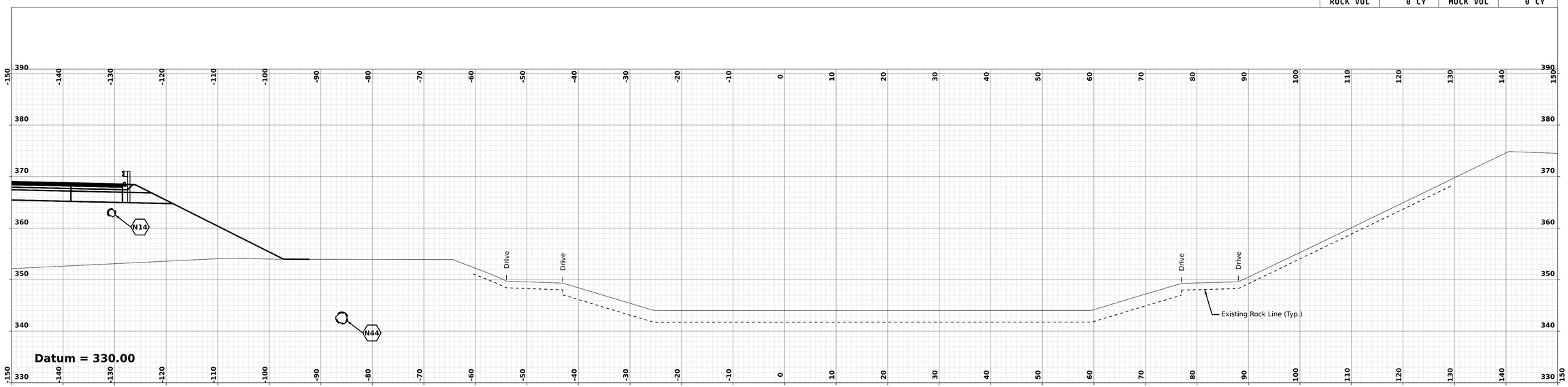
BMP 1670 - 7002+00.00 [Sheet]

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7002+75.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7002+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

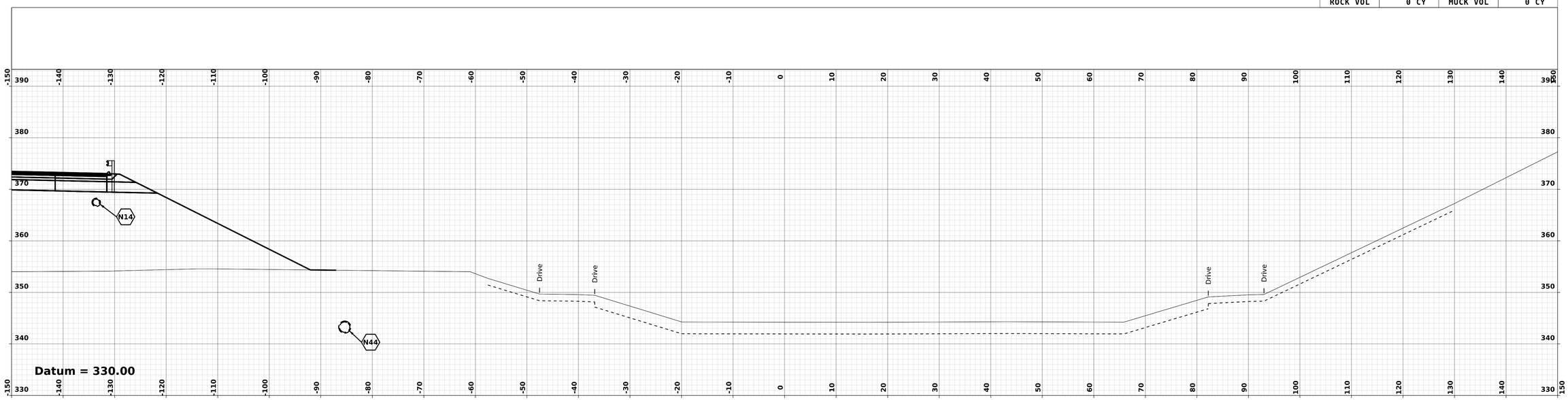
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	283	733

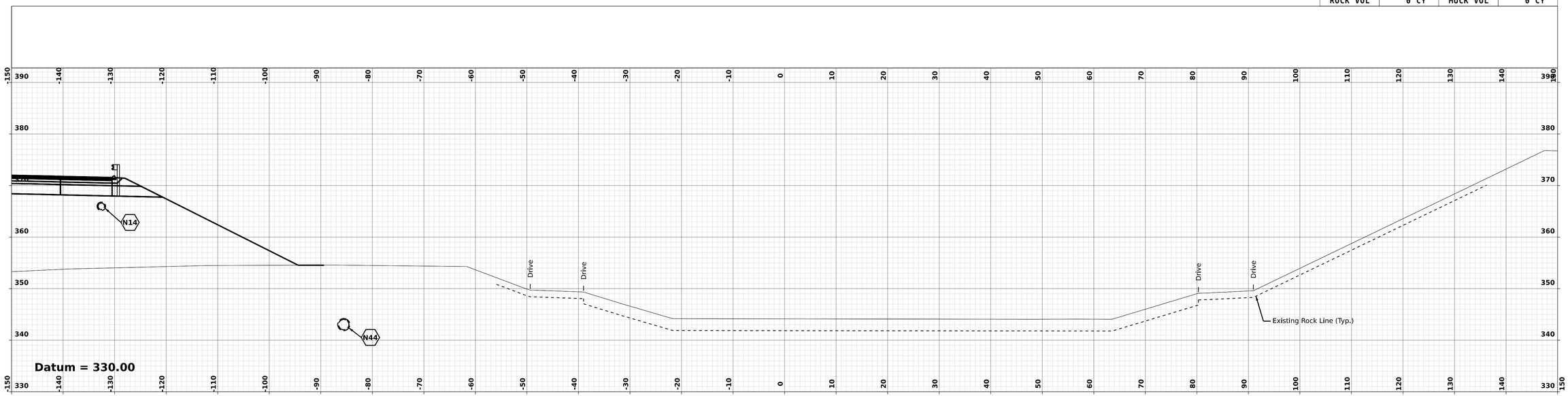
BMP 1670 - 7002+50.00 [Sheet]

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7003+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7003+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

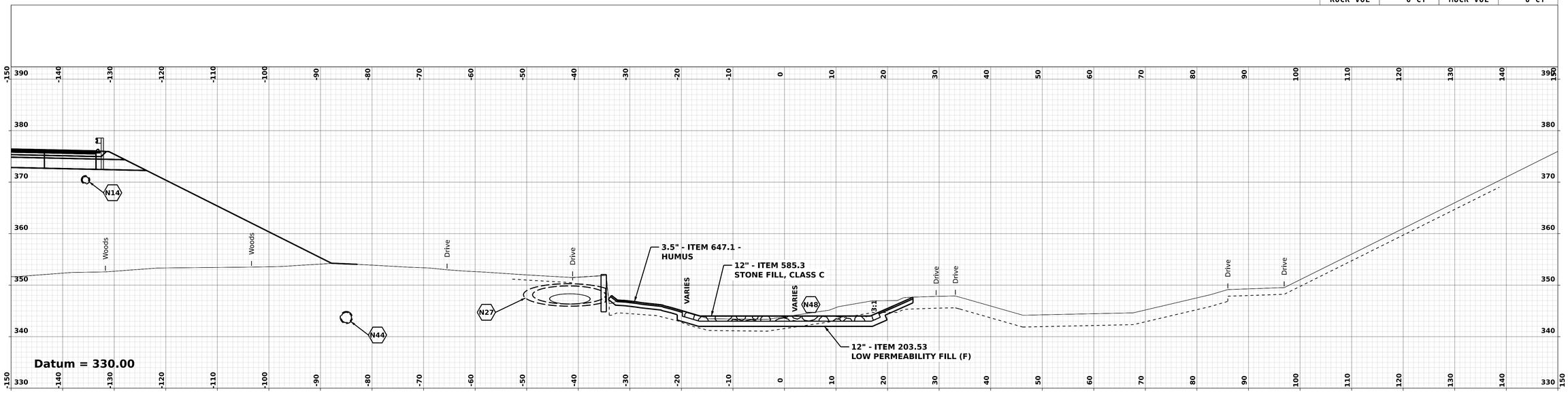
vhb

BMP 1670 - 7003+00.00 [Sheet]

LONDONDERRY & DERRY

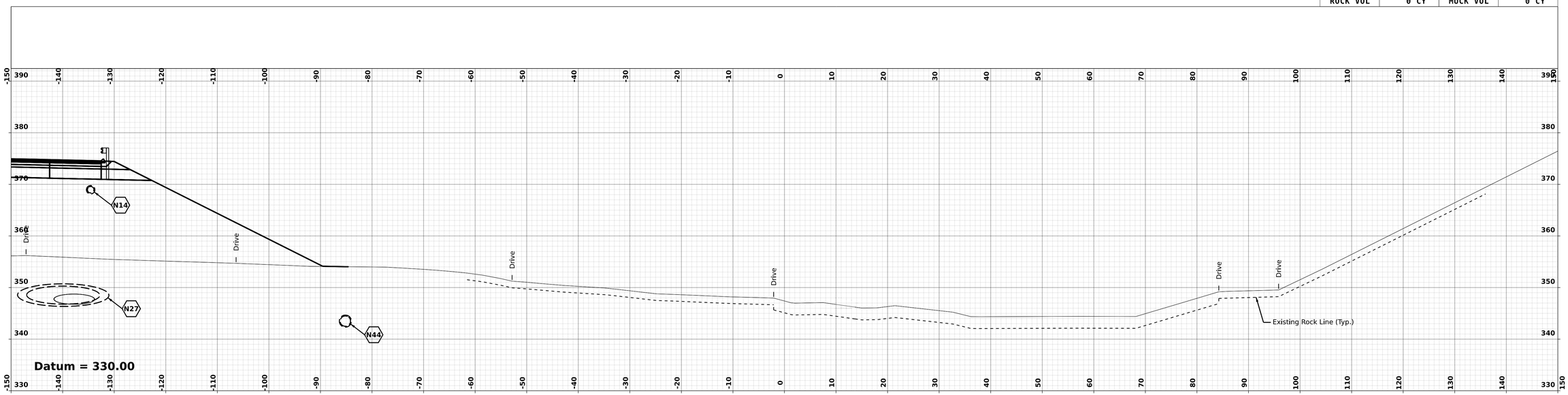
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	284	733

CUT VOL	19 CY	FILL VOL	4 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7003+75.00**

CUT VOL	2 CY	FILL VOL	1 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7003+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1670 - 7003+50.00 [Sheet]

LONDONDERRY & DERRY

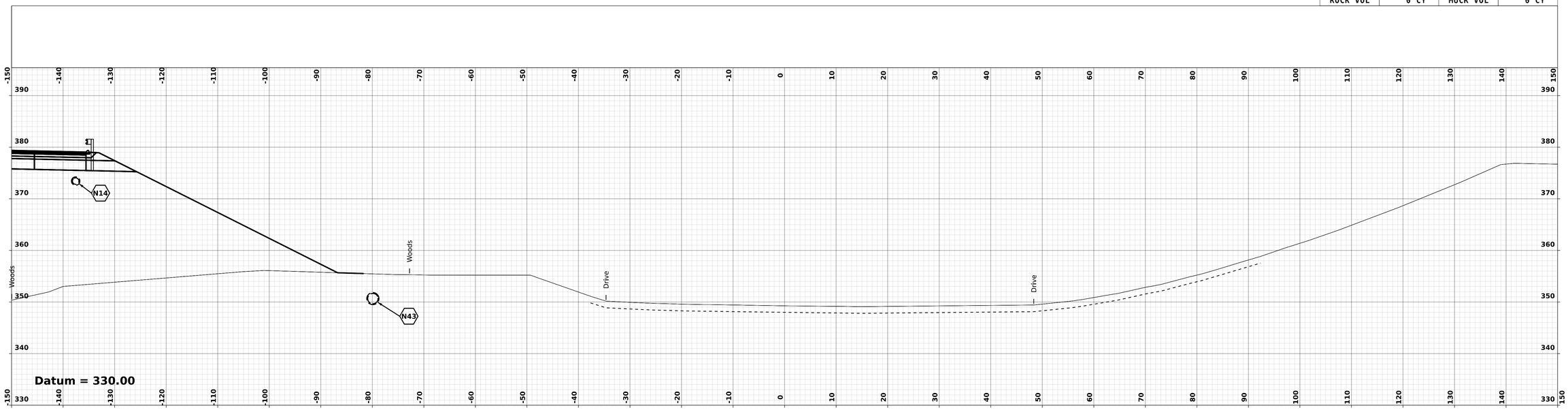
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	285	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

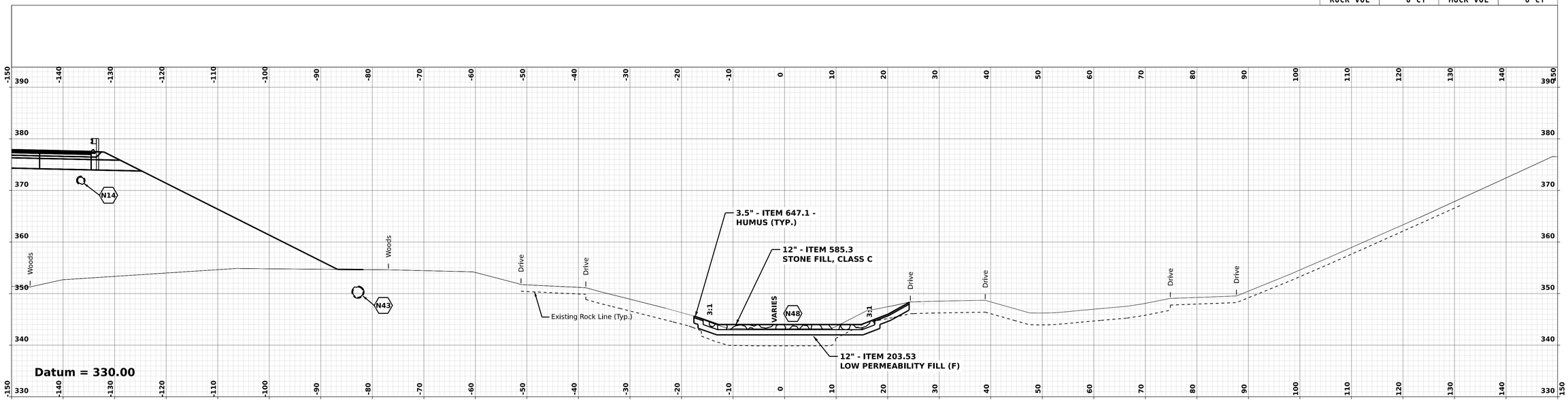
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	11 CY	FILL VOL	6 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7004+25.00**

CUT VOL	30 CY	FILL VOL	9 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7004+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1670 - 7004+00.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	286	733

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

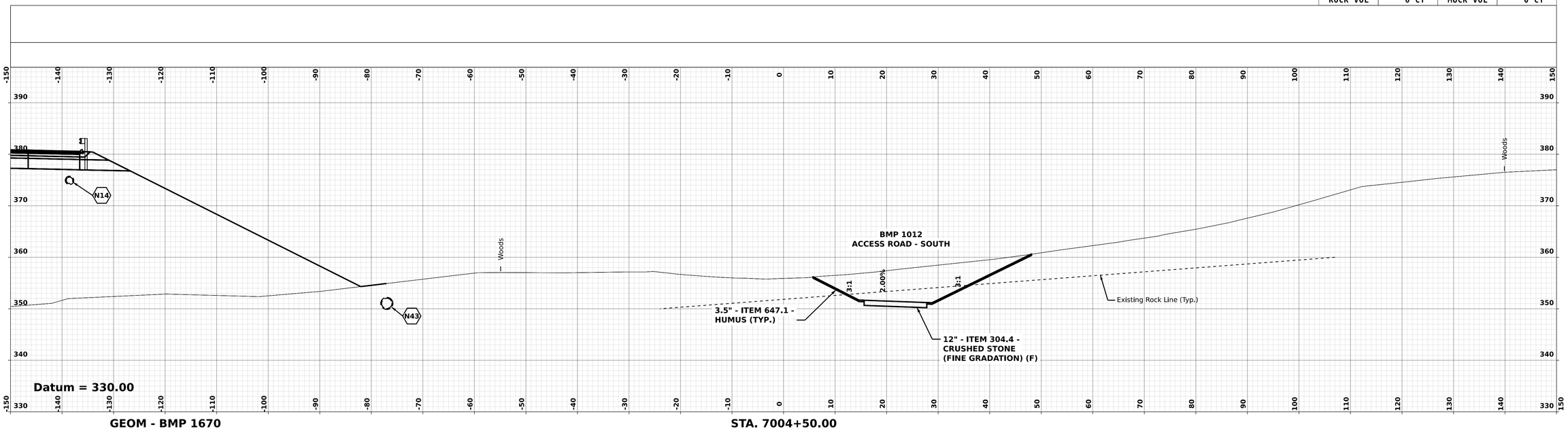
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	92 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1670 **STA. 7004+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1670 - 7004+50.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1670	13065A	287	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

1687 1688 1689 1690 1691 1692

209 207 208

400.00' 420.00' 415.00' 425.00' 410.00' 405.00'

QML DP T fb

N42 N35 N47 N37 N50 N36

GZ-01A GZ-02A GZ-04A GZ-05A

BMP 1687 BMP 1691

L.A. ROW PERM. SLOPE EASE. PERM. DRAIN. EASE.

CONSTRUCTION ℄

4000 4001 5000 5001

N29°31'48.6"W N39°11'44.8"W

END 41+63.06 END 40+00.00 END 50+02+00.00

PT 41+48.77 PC 41+06.03 PI 41+30.32 Δ 68°01'24.4" RT D 159°09'17.8" T 24.29' L 42.74' R 36.00'

PC 40+27.11 PT 40+34.03 PI 40+30.57 Δ 02°38'30.9" LT D 38°11'49.9" T 3.46' L 6.92' R 150.00'

S68°30'14.1"W S03°31'10.4"E S00°52'39.5"E S41°50'33.9"E S32°00'08.7"E

CUT LINE (TYP.) FILL LINE (TYP.)

ITEM 662.282 DECOMMISSION MONITORING WELL

BMP 1691 - ACCESS RD

PI 50+11.16
Δ 09°50'25.2" LT
D 143°14'22.0"
T 3.44'
L 6.87'
R 40.00'
PC 50+07.72
PT 50+14.59

BMP 1687 - ACCESS RD

PI 41+30.32
Δ 68°01'24.4" RT
D 159°09'17.8"
T 24.29'
L 42.74'
R 36.00'
PC 41+06.03
PT 41+48.77

BMP 1687 - ACCESS RD

PI 40+30.57
Δ 02°38'30.9" LT
D 38°11'49.9"
T 3.46'
L 6.92'
R 150.00'
PC 40+27.11
PT 40+34.03

20 0 20 40

SCALE IN FEET

BORING IDENTIFICATION TABLE FOR BMP 1687		
LOCATION	ID	DATE
STA. 1687+66 RT 179	GZ-01A	6/24/2021
STA. 1687+77 RT 266	GZ-02A	6/24/2021

BORING IDENTIFICATION TABLE FOR BMP 1691		
LOCATION	ID	DATE
STA. 1691+01 RT 200	GZ-03A	6/30/2021
STA. 1691+77 RT 182	GZ-04A	6/30/2021
STA. 1691+40 RT 239	GZ-05A	6/29/2021

GENERAL NOTES

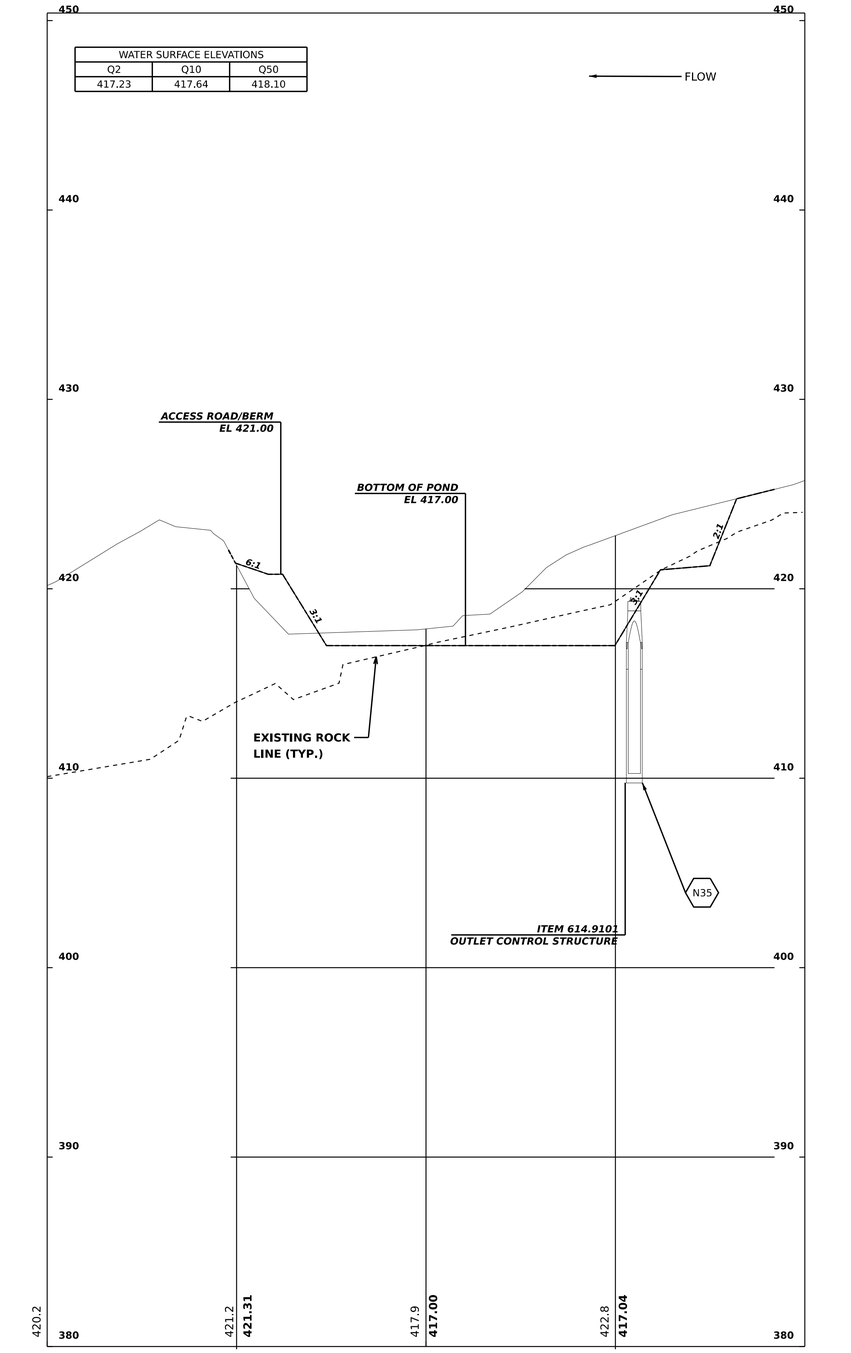
1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 2 FT BELOW GRADE.
2. CONSTRUCT BERM USING EMBANKMENT MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, NO STONES LARGER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER STANDARD SPECIFICATIONS.
3. WHERE THE LOW PERMEABILITY FILL CROSSES THE OUTLET PIPE, LOW PERMEABILITY FILL SHALL BE USED TO BACKFILL THE PIPE TRENCH FOR A LENGTH OF 4 FT (SEE STORM WATER TREATMENT DETAILS).
4. ANTI-SEEP COLLARS SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROTECT A MINIMUM OF 2 FT FROM THE PIPE. THE COST OF THE CONCRETE ANTI-SEEP COLLARS IS SUBSIDIARY TO THE OUTLET PIPE.
5. ALL PIPE CONNECTIONS SHALL HAVE FLEXIBLE WATERTIGHT GASKETS CONFIRMING TO AASHTO M198. PIPE TO OUTLET STRUCTURE CONNECTION SHALL BE WATERTIGHT WITH AN EMBEDDED FLEXIBLE RUBBER BOOT, (SUBSIDIARY TO PIPE ITEM).
6. OUTLET CONTROL STRUCTURE TO BE PRECAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY FIELD ADJUSTMENTS APPROVED BY THE CONTRACT ADMINISTRATOR. 1 1/2" HOLES MAY BE CORE DRILLED OR CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION AT REQUIRED LOCATIONS. OTHER HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT.
7. ANY DETAILS NOT SHOWN ON THIS PLAN SHALL BE PER SD. NO. DR-5.
8. HUMUS AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE, STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
9. PROVIDE ACCESS ROAD FOR REPAIR AND CLEAN OUT DETENTION BASIN, (SEE GRADING PLAN).
10. REMOVE ACCUMULATED SEDIMENT FROM DETENTION BASIN AT COMPLETION OF PROJECT.

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

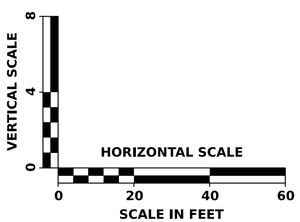
DETENTION BASIN 1687 & 1691 PLAN

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1687	13065A_BMP_1687_Plan	13065A	288	733

BORING IDENTIFICATION TABLE FOR BMP 1687		
LOCATION	**ID**	**DATE**
STA. 1687+66 RT 179	**GZ-01A**	**6/24/2021**
STA. 1687+77 RT 266	**GZ-02A**	**6/24/2021**



SCALE:
1"= 20' HORIZ.
1"= 4' VERT.



VERTICAL DATUM = NAVD 88

REVISIONS AFTER PROPOSAL

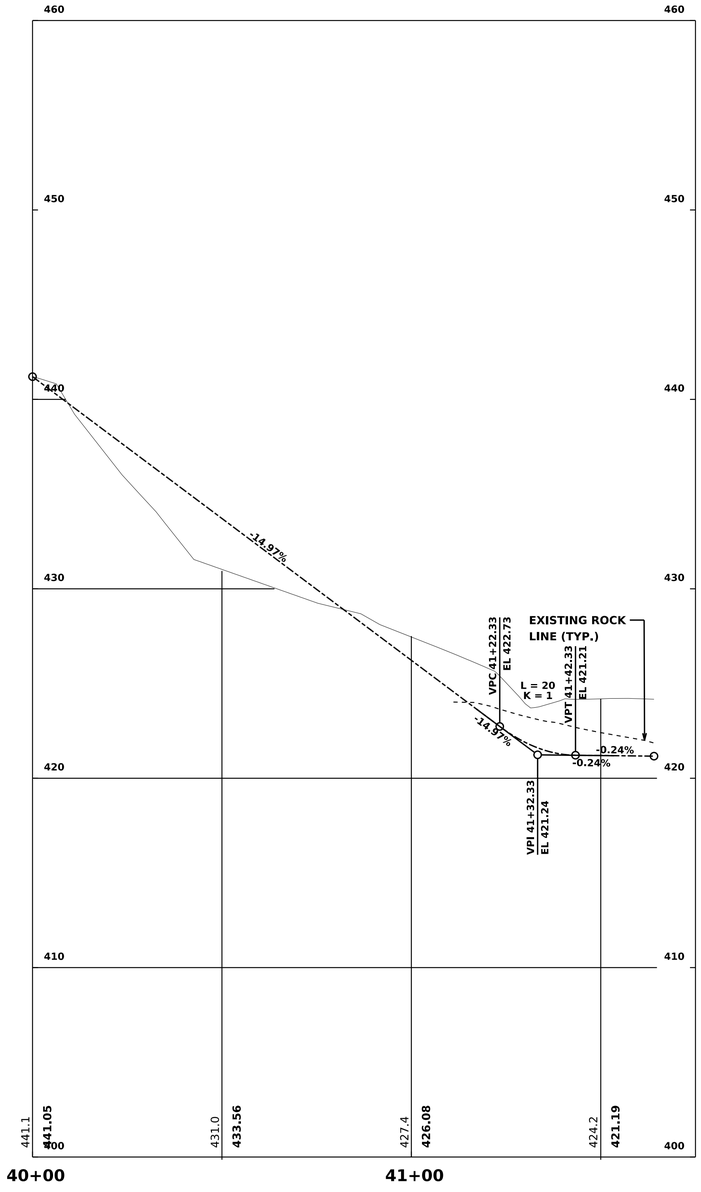
NUMBER	DESCRIPTION	DATE	STATION	STATION

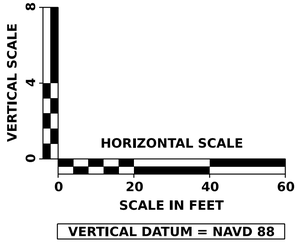
SDR PROCESSED	**VHB TEAM/NHDOT**	DATE **2/8/2022**
NEW DESIGN	**VHB TEAM**	DATE **4/12/2022**
SHEET CHECKED	**J. HILTON**	DATE **4/12/2022**
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DETENTION BASIN
1687
PROFILE

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**BMP 1687 Pro**	**13065A_Pro_BMP_1687**	**13065A**	**289**	**733**





VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

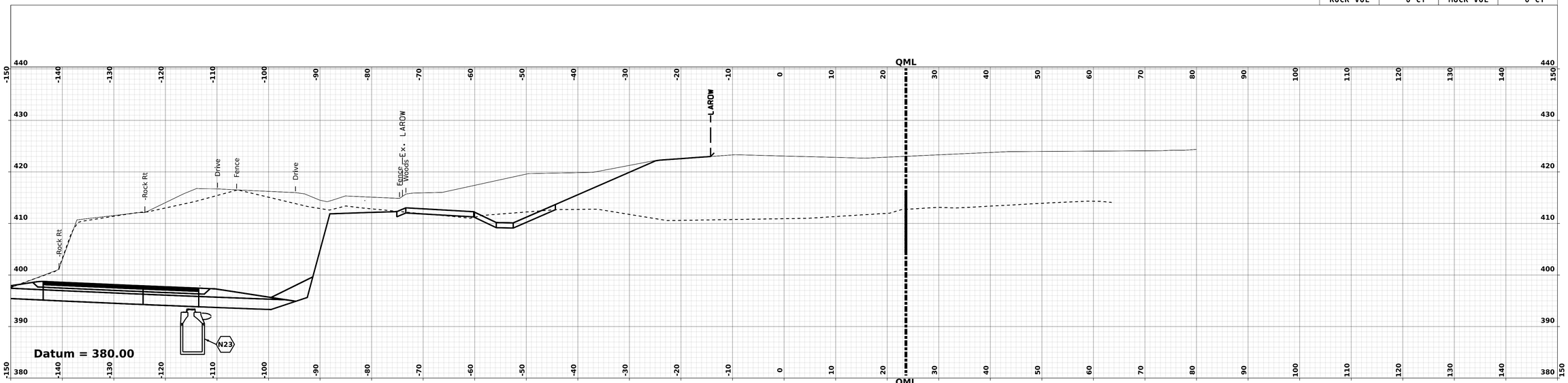
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

STORMWATER TREATMENT BASIN 1687 ACCESS ROAD PROFILE

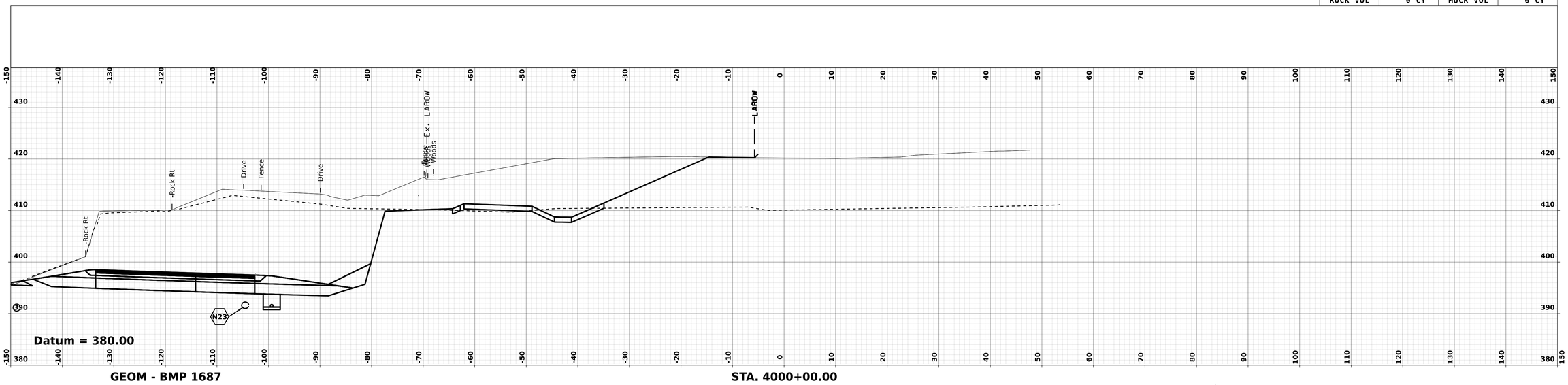
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	BMP 1687 Acce	13065A_Pro_Access_1687	13065A	290	733

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1687 STA. 4000+25.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1687 STA. 4000+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

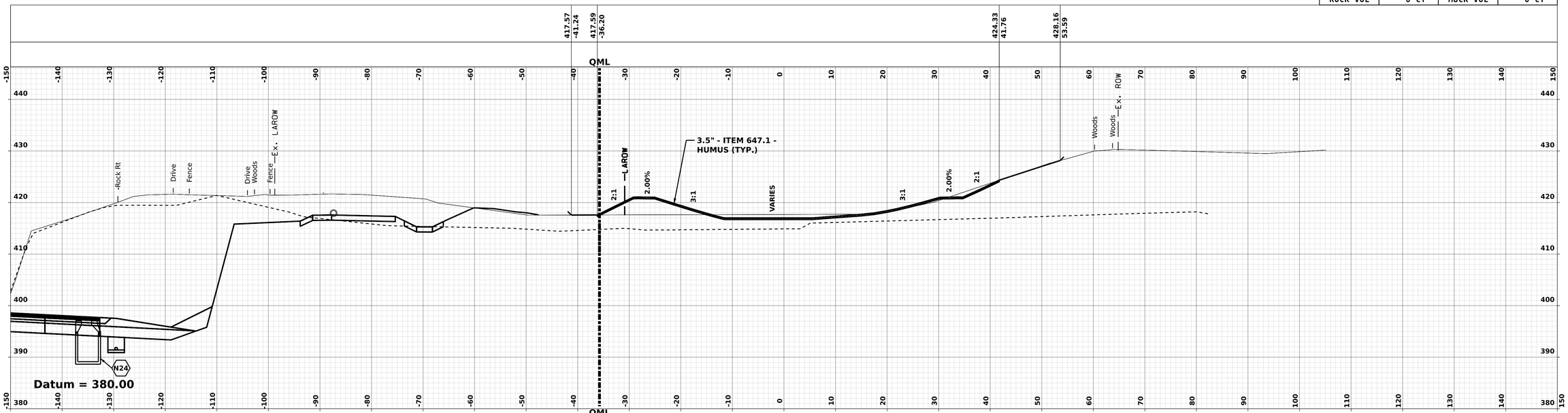
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1687	13065A	291	733

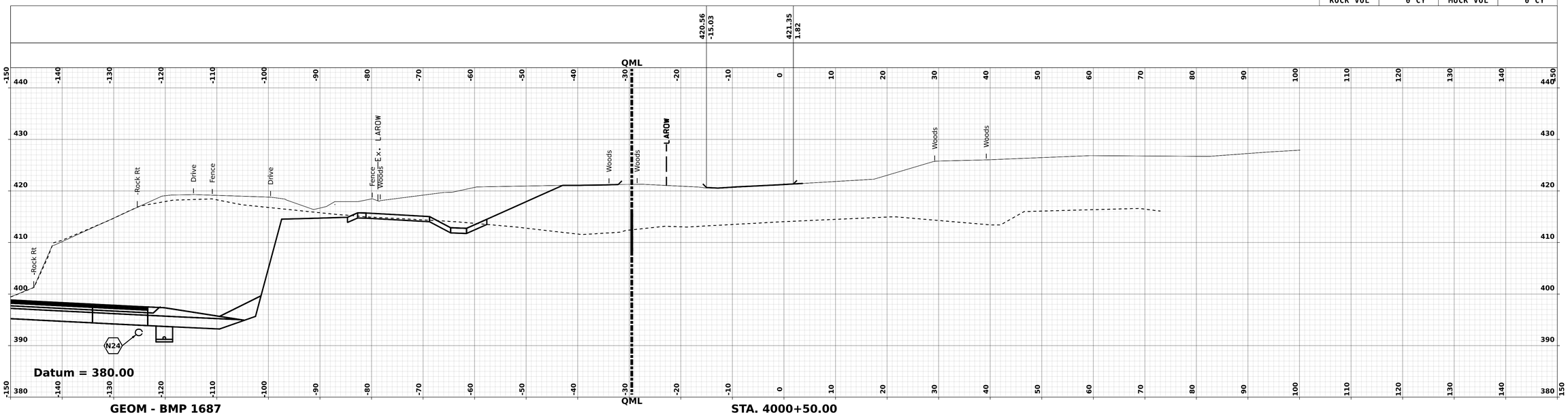
BMP 1687 - 4000+00.00 [Sheet]

CUT VOL	15 CY	FILL VOL	18 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4000+75.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4000+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1687 - 4000+50.00 [Sheet]

LONDONDERRY & DERRY

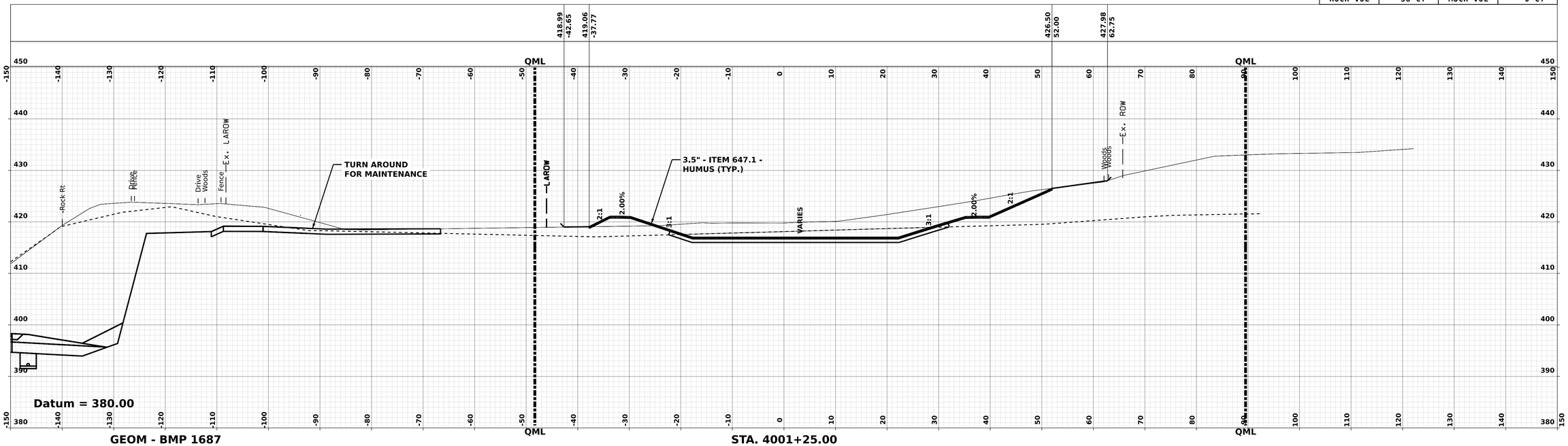
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1687	13065A	292	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

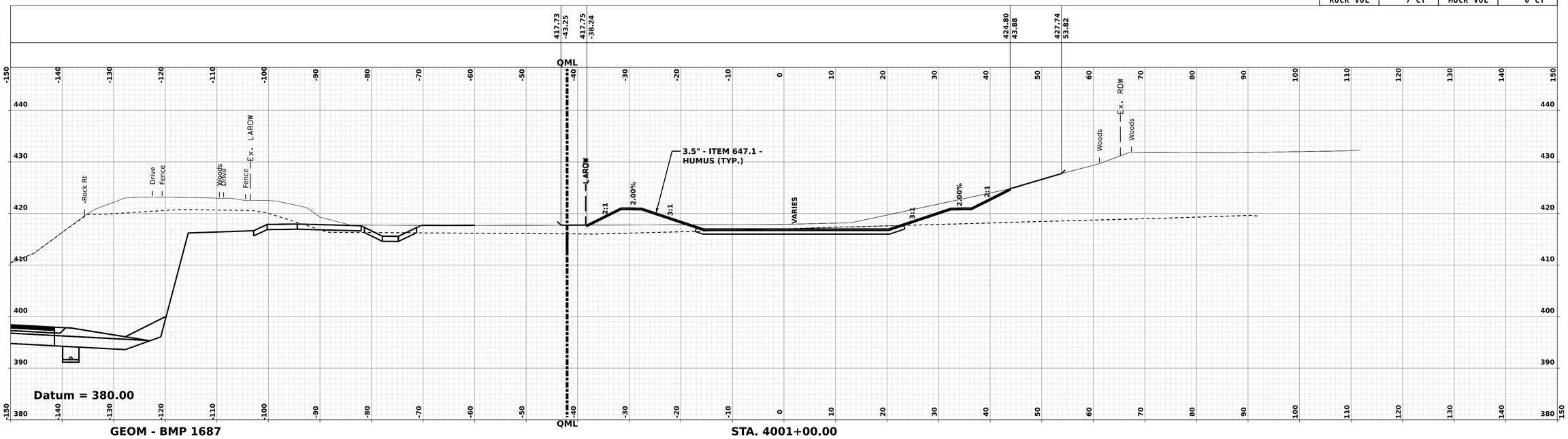
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	121 CY	FILL VOL	21 CY
ROCK VOL	38 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4001+25.00**

CUT VOL	54 CY	FILL VOL	32 CY
ROCK VOL	7 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4001+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1687 - 4001+00.00 [Sheet]

LONDONDERRY & DERRY

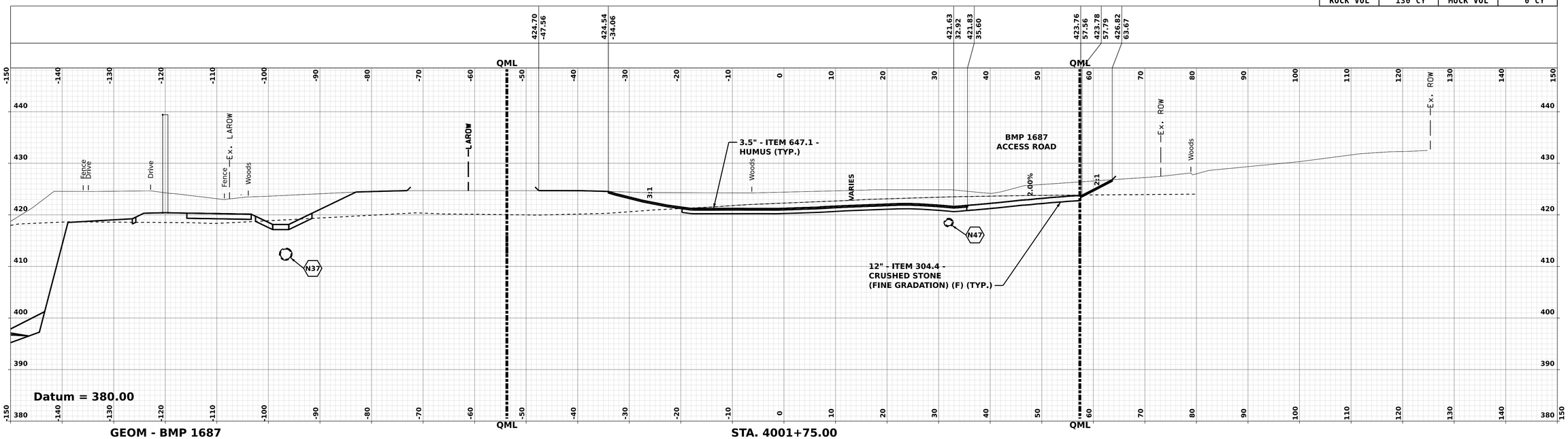
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1687	13065A	293	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

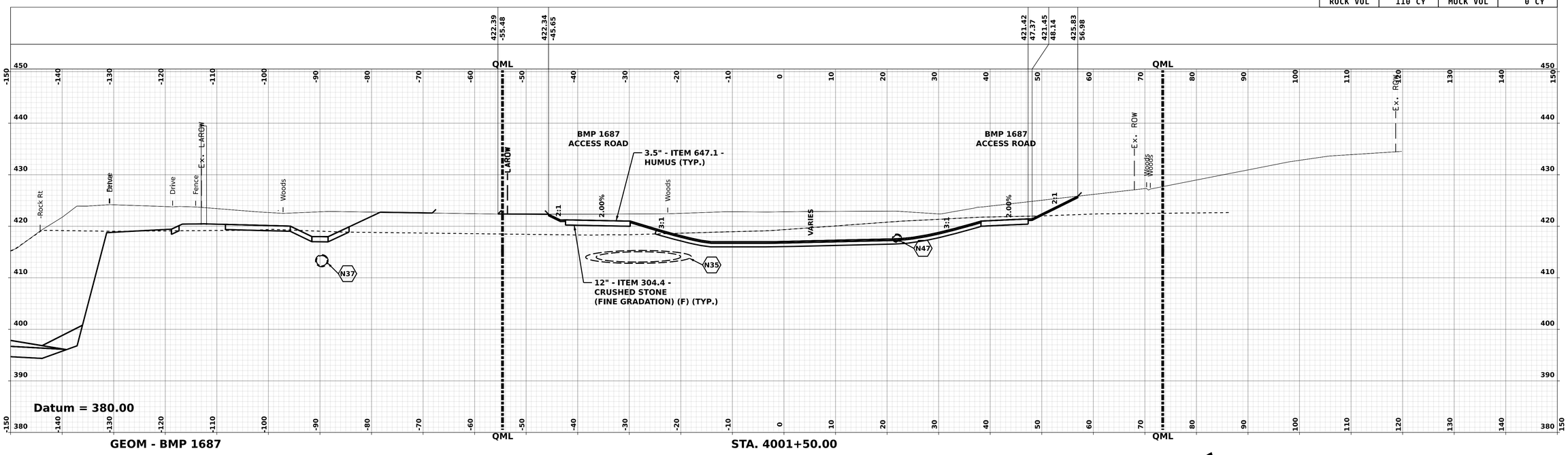
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	207 CY	FILL VOL	0 CY
ROCK VOL	130 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4001+75.00**

CUT VOL	203 CY	FILL VOL	6 CY
ROCK VOL	110 CY	MUCK VOL	0 CY



GEOM - BMP 1687 **STA. 4001+50.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1687 - 4001+50.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1687	13065A	294	733

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
		DATE	
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION

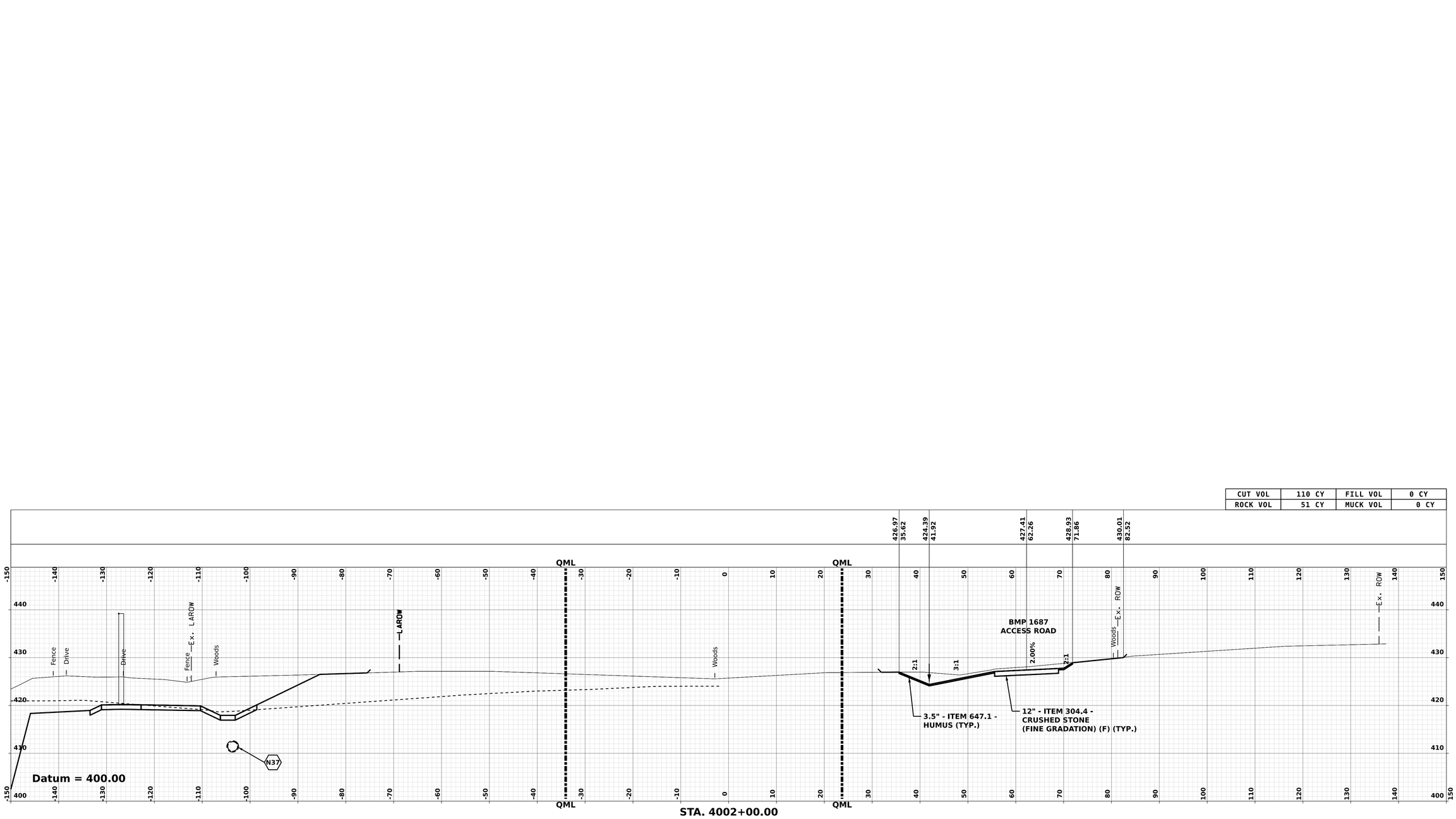
REVISIONS AFTER PROPOSAL

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	110 CY	FILL VOL	0 CY
ROCK VOL	51 CY	MUCK VOL	0 CY



STA. 4002+00.00

NOTE:

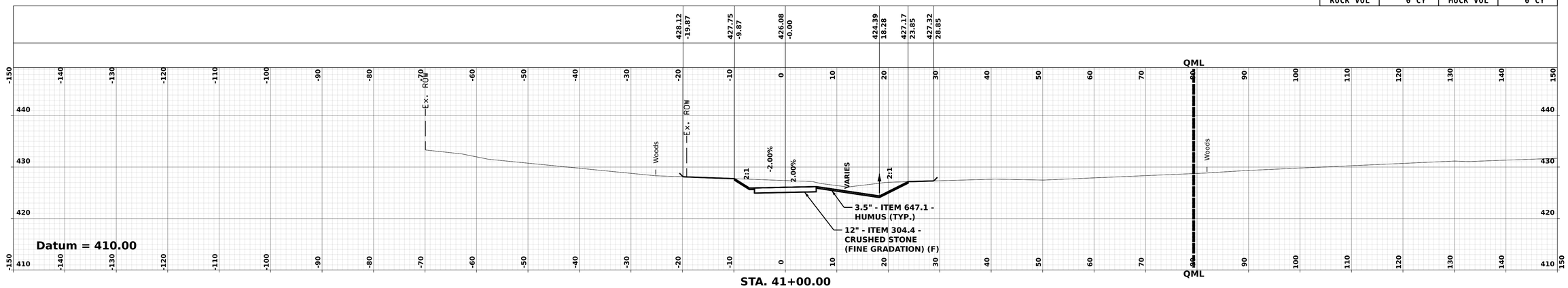
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

BMP 1687 - 4002+00.00 [Sheet]

LONDONDERRY & DERRY

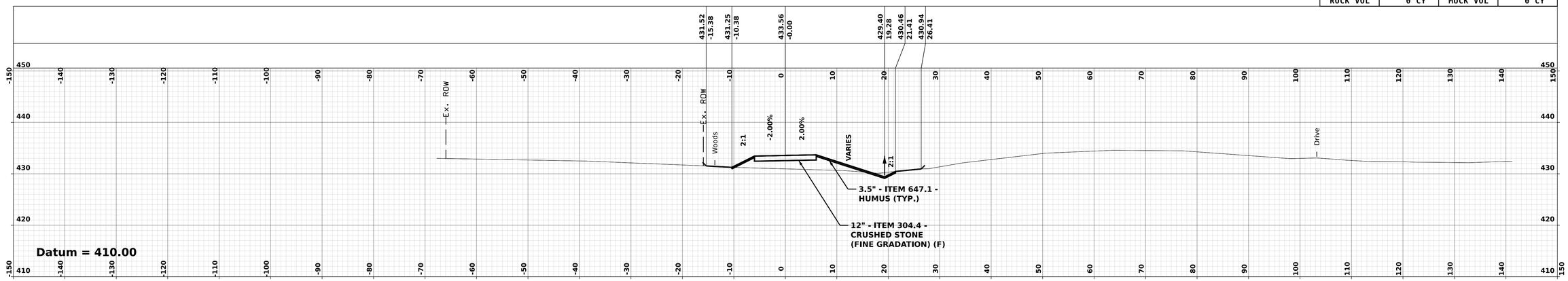
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1687	13065A	295	733

CUT VOL	59 CY	FILL VOL	33 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



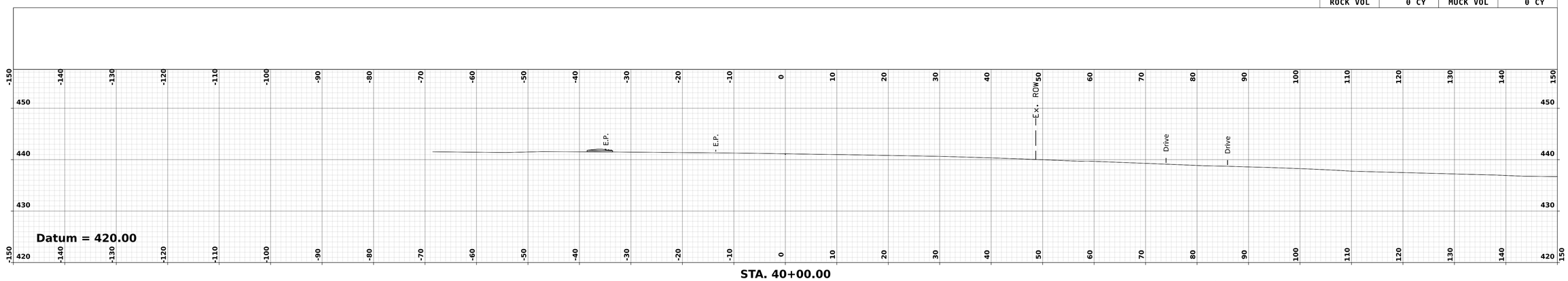
STA. 41+00.00

CUT VOL	3 CY	FILL VOL	33 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 40+50.00

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 40+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

LONDONDERRY & DERRY

BMP 1687 - Access Rd - 40+00.00 [Sheet]

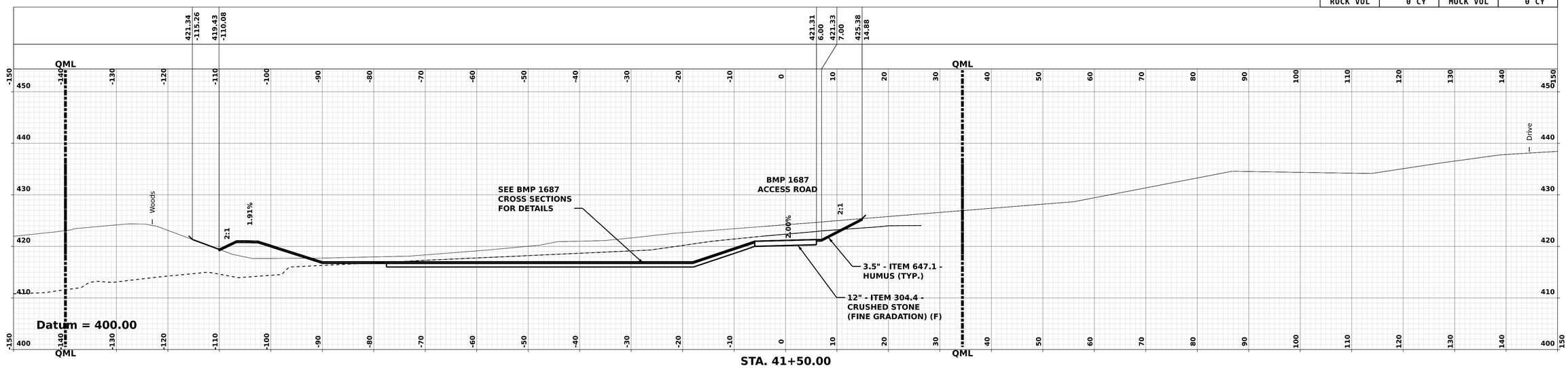
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1687	13065A	296	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	230 CY	FILL VOL	25 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



NOTE:

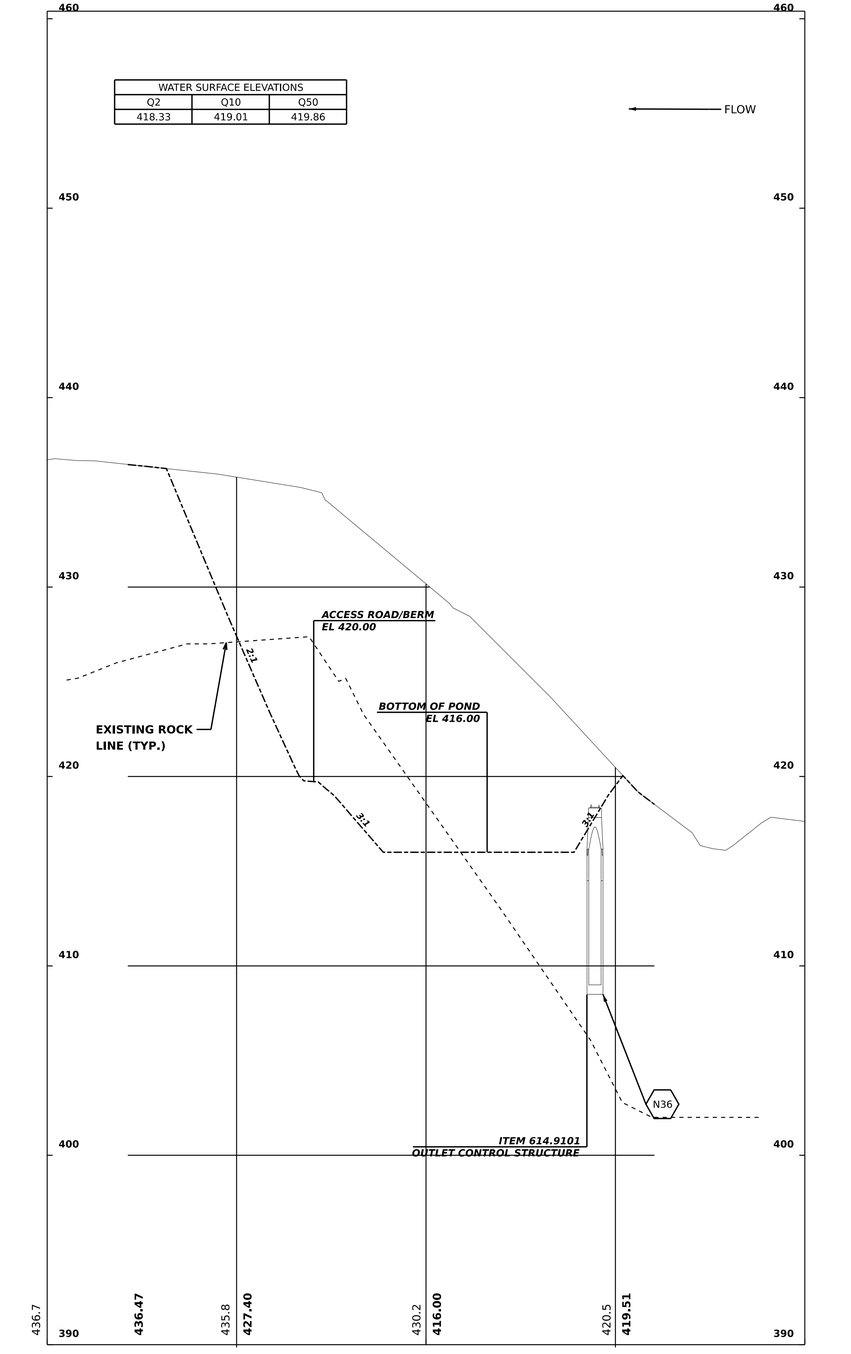
FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

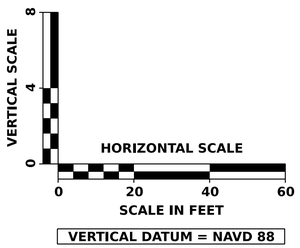
BMP 1687 - Access Rd - 41+50.00 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_Access_1687	13065A	297	733

BORING IDENTIFICATION TABLE FOR BMP 1691		
LOCATION	**ID**	**DATE**
STA. 1691+01 RT 200	**GZ-03A**	**6/30/2021**
STA. 1691+77 RT 182	**GZ-04A**	**6/30/2021**
STA. 1691+40 RT 239	**GZ-05A**	**6/29/2021**





VERTICAL DATUM = NAVD 88

SCALE:
1"= 20' HORIZ.
1"= 4' VERT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

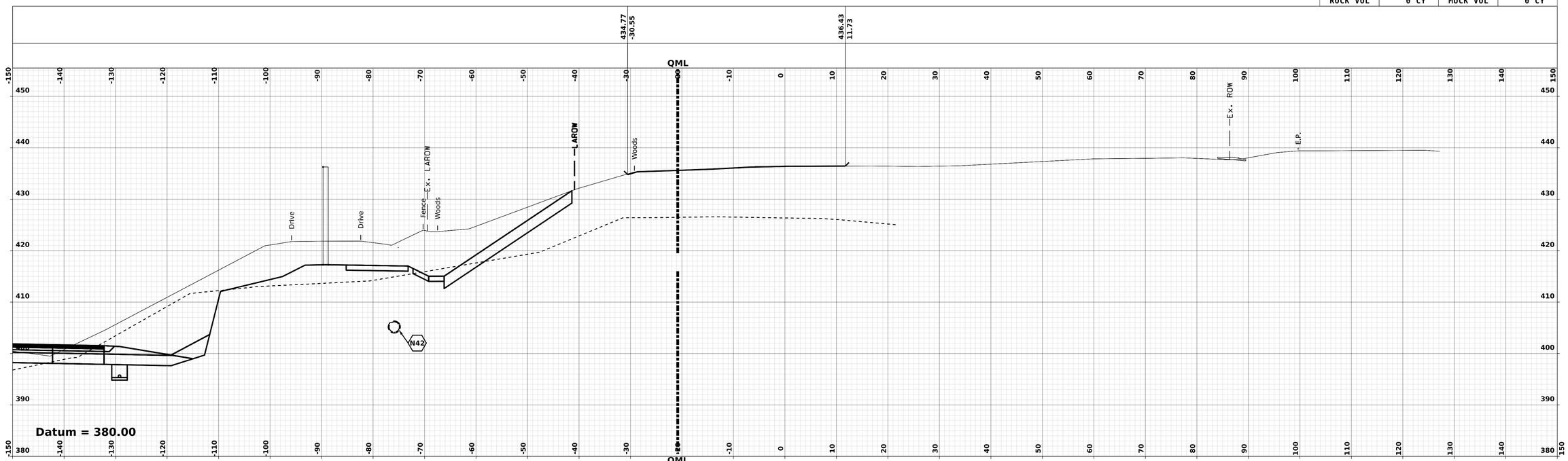
SDR PROCESSED	**VHB TEAM/NHDOT**	DATE	**2/8/2022**
NEW DESIGN	**VHB TEAM**	DATE	**4/12/2022**
SHEET CHECKED	**J. HILTON**	DATE	**4/12/2022**
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

DETENTION BASIN
1691
PROFILE

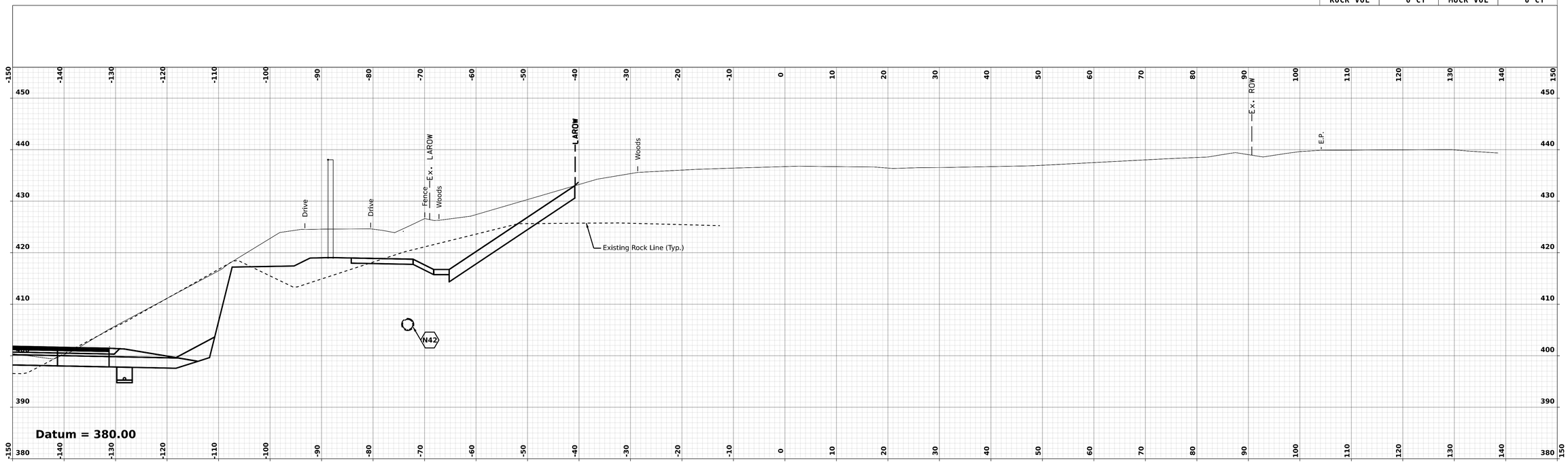
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	**52768.00**	**BMP 1691 PRO**	**13065A_Pro_BMP_1691**	**13065A**	**298**	**733**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1691 **STA. 5000+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



GEOM - BMP 1691 **STA. 5000+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

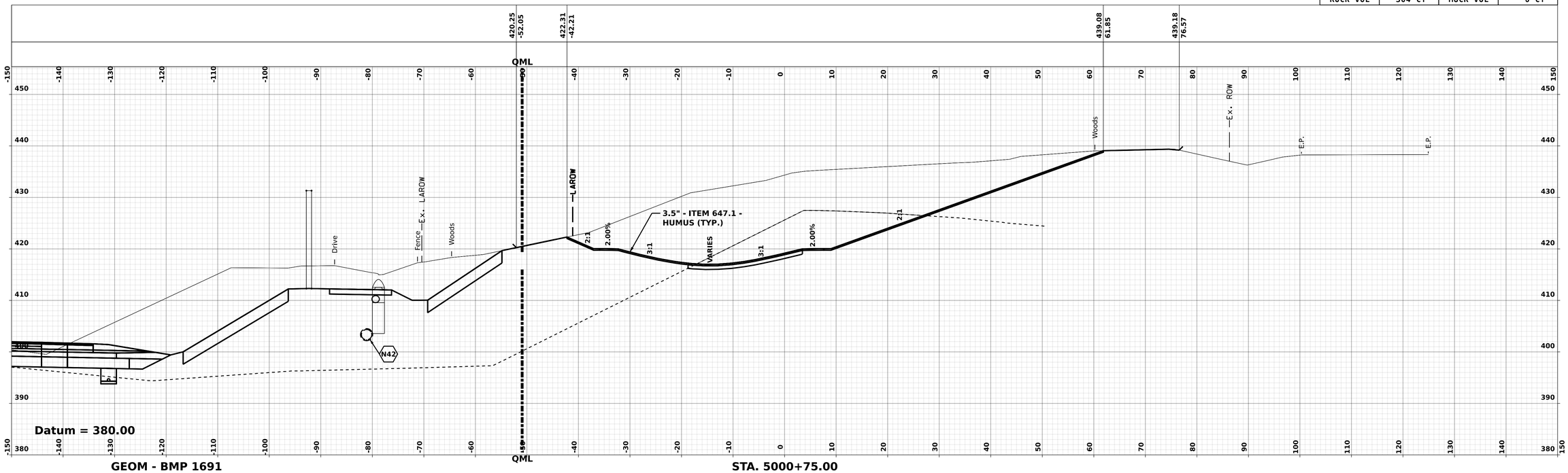
vhb

BMP 1691 - 5000+00.00 [Sheet]

LONDONDERRY & DERRY

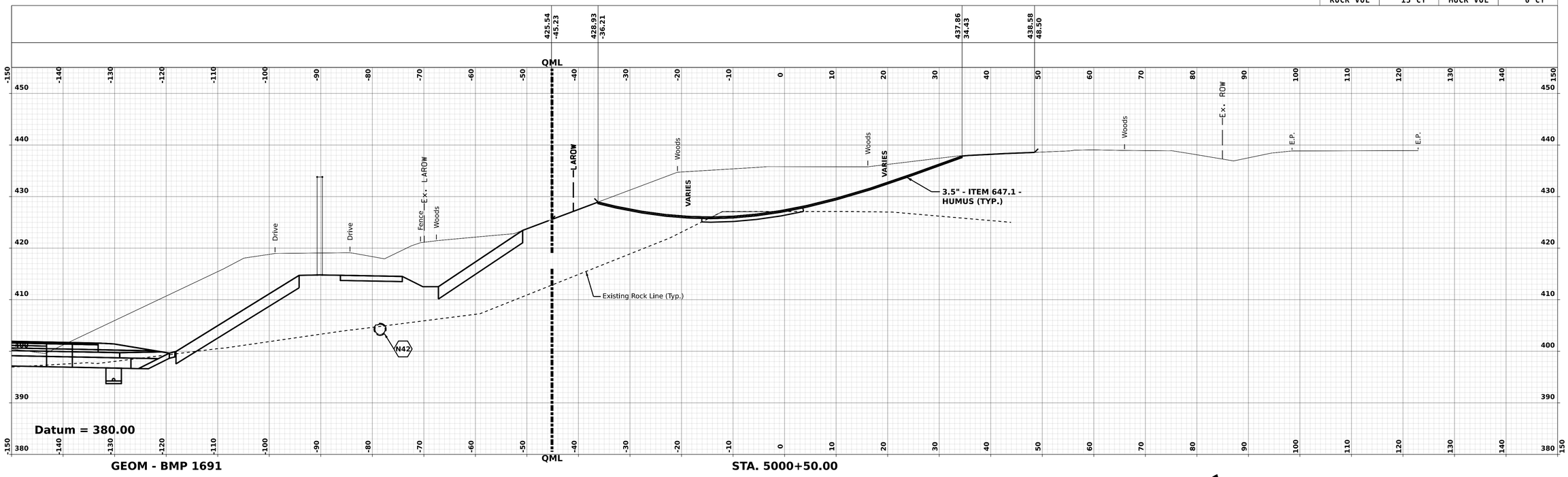
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1691	13065A	299	733

CUT VOL	1115 CY	FILL VOL	0 CY
ROCK VOL	304 CY	MUCK VOL	0 CY



GEOM - BMP 1691 STA. 5000+75.00

CUT VOL	381 CY	FILL VOL	0 CY
ROCK VOL	15 CY	MUCK VOL	0 CY



GEOM - BMP 1691 STA. 5000+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

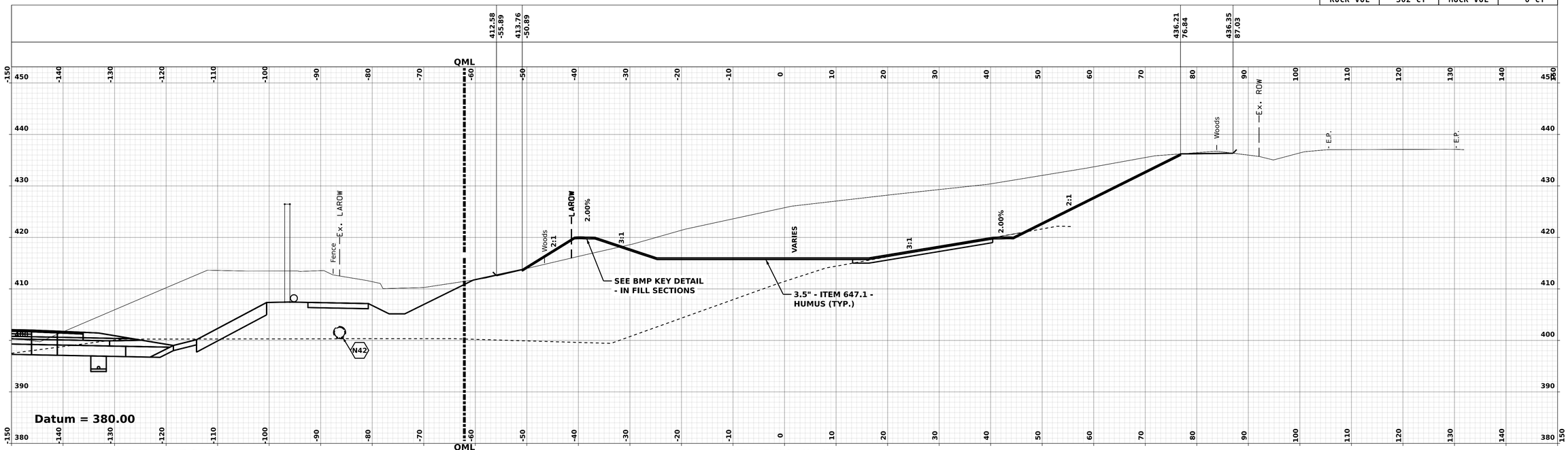
vhb

BMP 1691 - 5000+50.00 [Sheet]

LONDONDERRY & DERRY

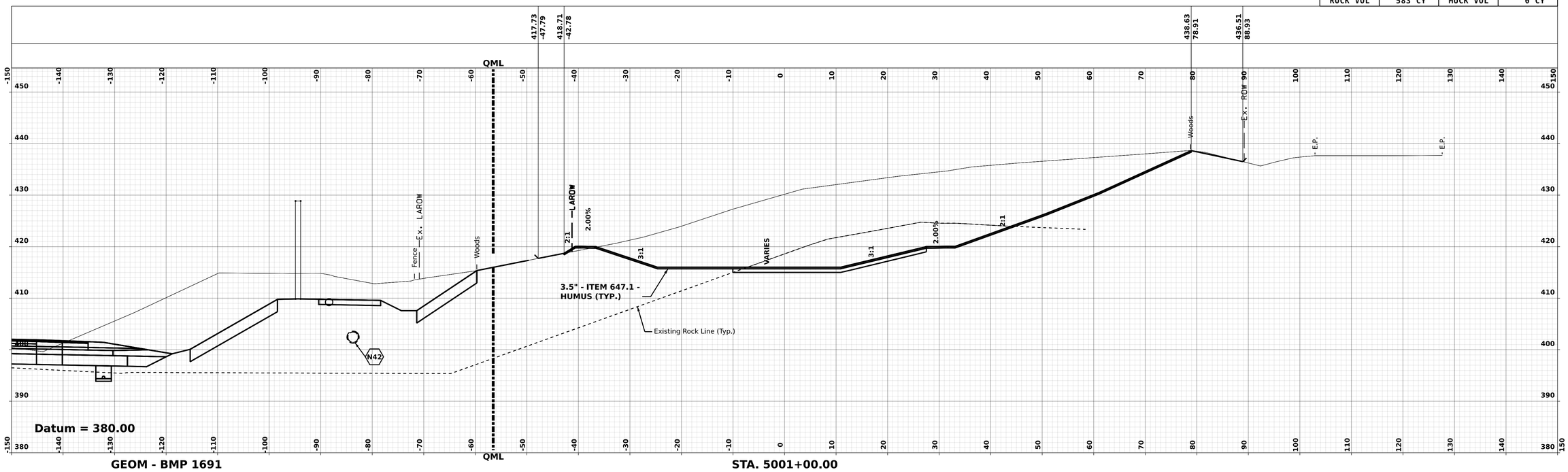
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1691	13065A	300	733

CUT VOL	1742 CY	FILL VOL	34 CY
ROCK VOL	302 CY	MUCK VOL	0 CY



GEOM - BMP 1691 **STA. 5001+25.00**

CUT VOL	1654 CY	FILL VOL	1 CY
ROCK VOL	583 CY	MUCK VOL	0 CY



GEOM - BMP 1691 **STA. 5001+00.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

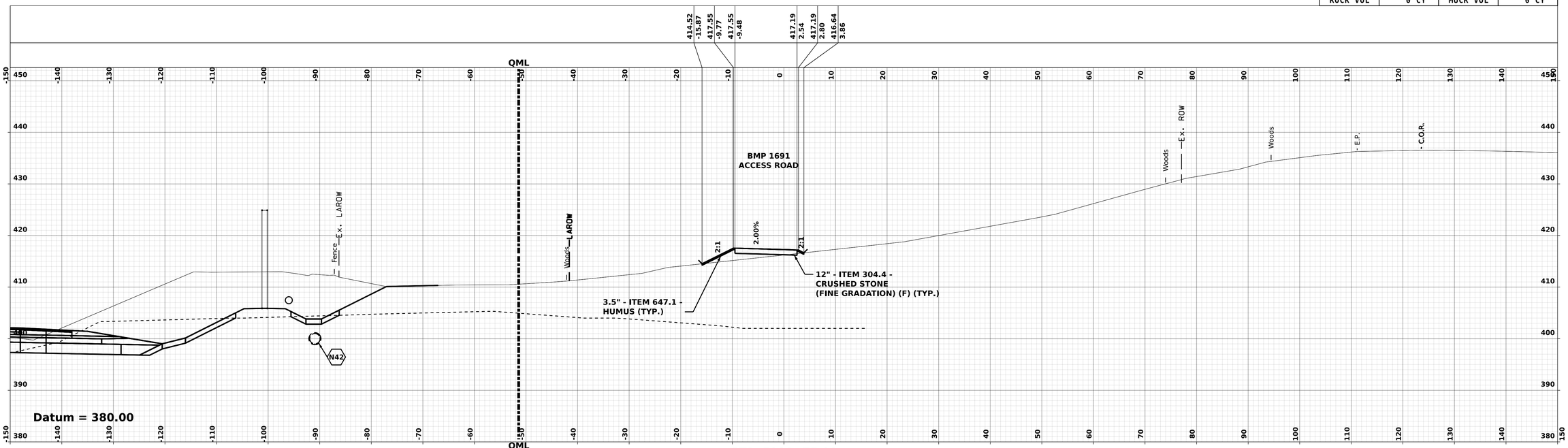
vhb

BMP 1691 - 5001+00.00 [Sheet]

LONDONDERRY & DERRY

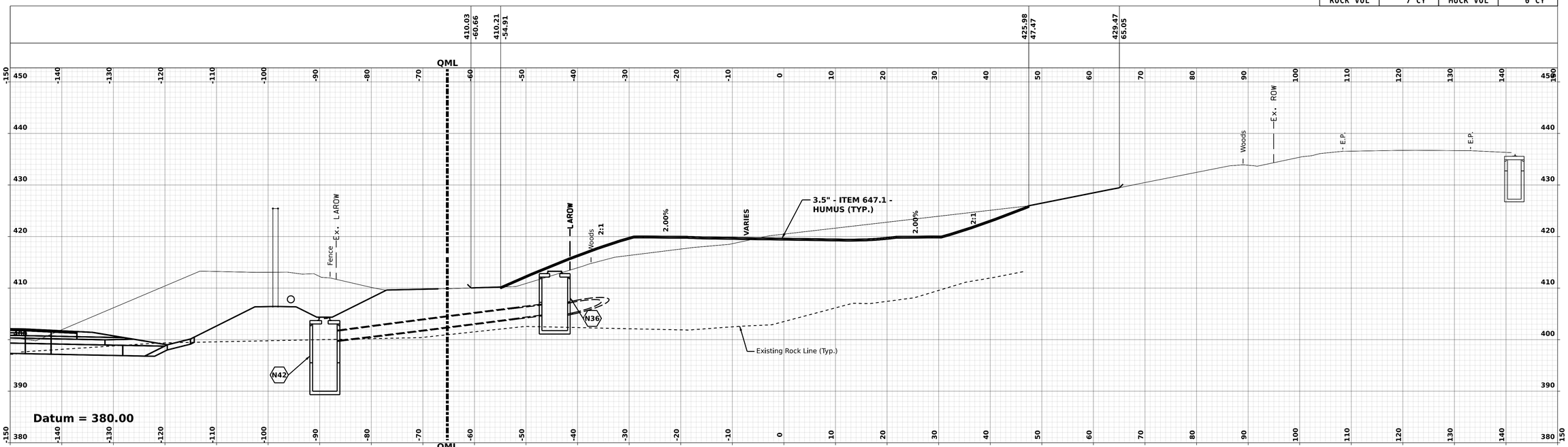
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1691	13065A	301	733

CUT VOL	122 CY	FILL VOL	79 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 5001+75.00

CUT VOL	944 CY	FILL VOL	100 CY
ROCK VOL	7 CY	MUCK VOL	0 CY



GEOM - BMP 1691

STA. 5001+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

vhb

LONDONDERRY & DERRY

BMP 1691 - 5001+50.00 [Sheet]

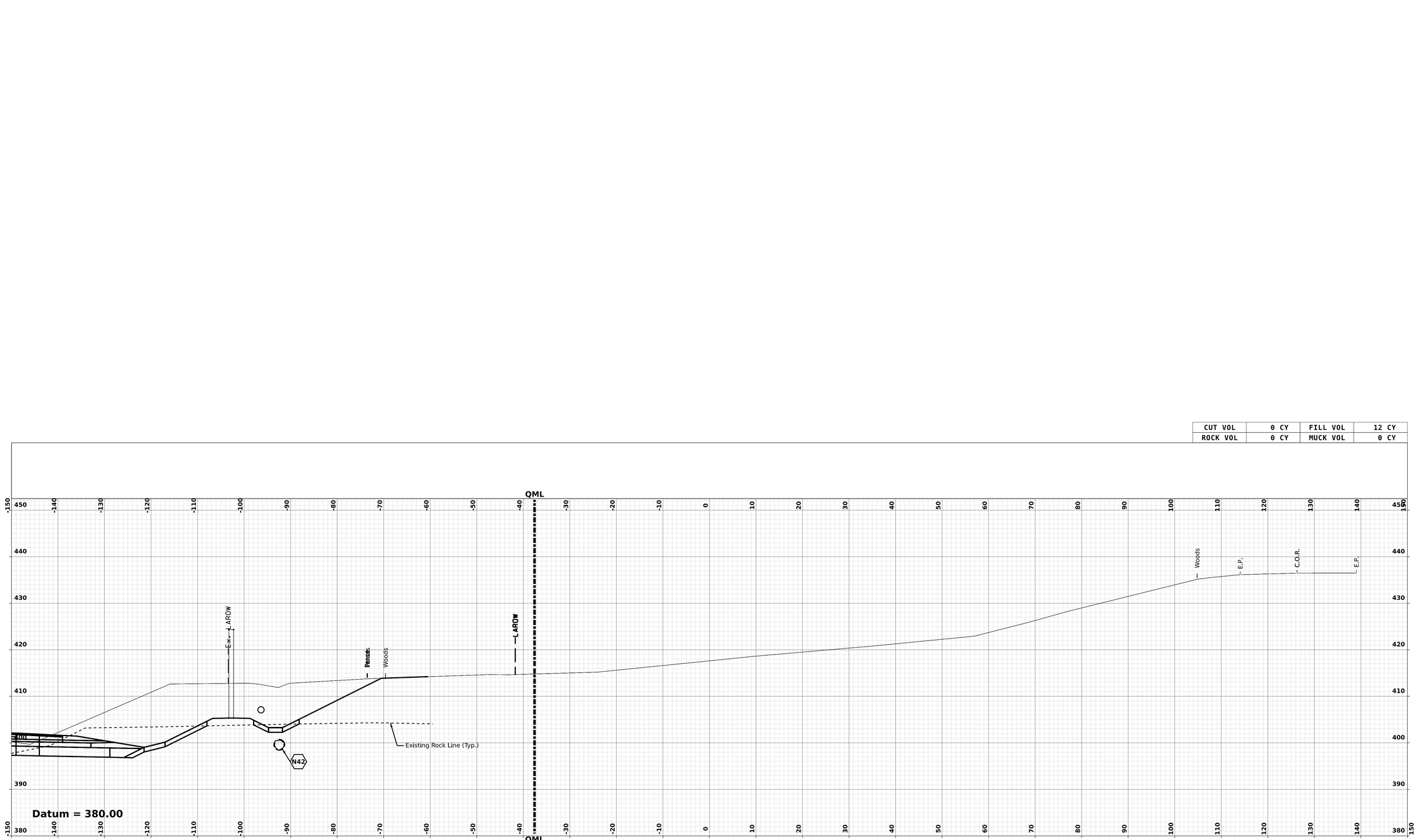
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1691	13065A	302	733

REVISIONS AFTER PROPOSAL

STATION	STATION	DESCRIPTION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

CUT VOL	0 CY	FILL VOL	12 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



STA. 5002+00.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

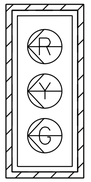
vhb

BMP 1691 - 5002+00.00 [Sheet]

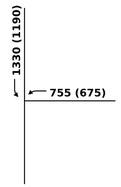
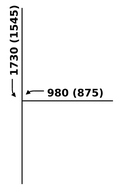
LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_BMP_1691	13065A	303	733

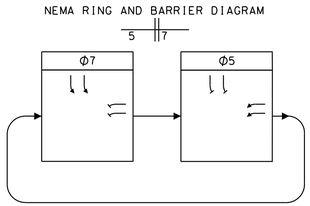
SIGNAL HEAD DATA

PROPOSED
5,7

12" LENS
WITH 5" LOUVERED BACKPLATES WITH 2" FLUORESCENT YELLOW TYPE IX OR XI SHEETING AROUND OUTSIDE PERIMETER

- ALL SIGNAL HEADS SHALL BE EQUIPPED WITH L.E.D. MODULES -

2025 SYSTEM DESIGN VOLUMES AM(PM)	2040 SYSTEM DESIGN VOLUMES AM(PM)
	

PROPOSED PHASE SEQUENCE

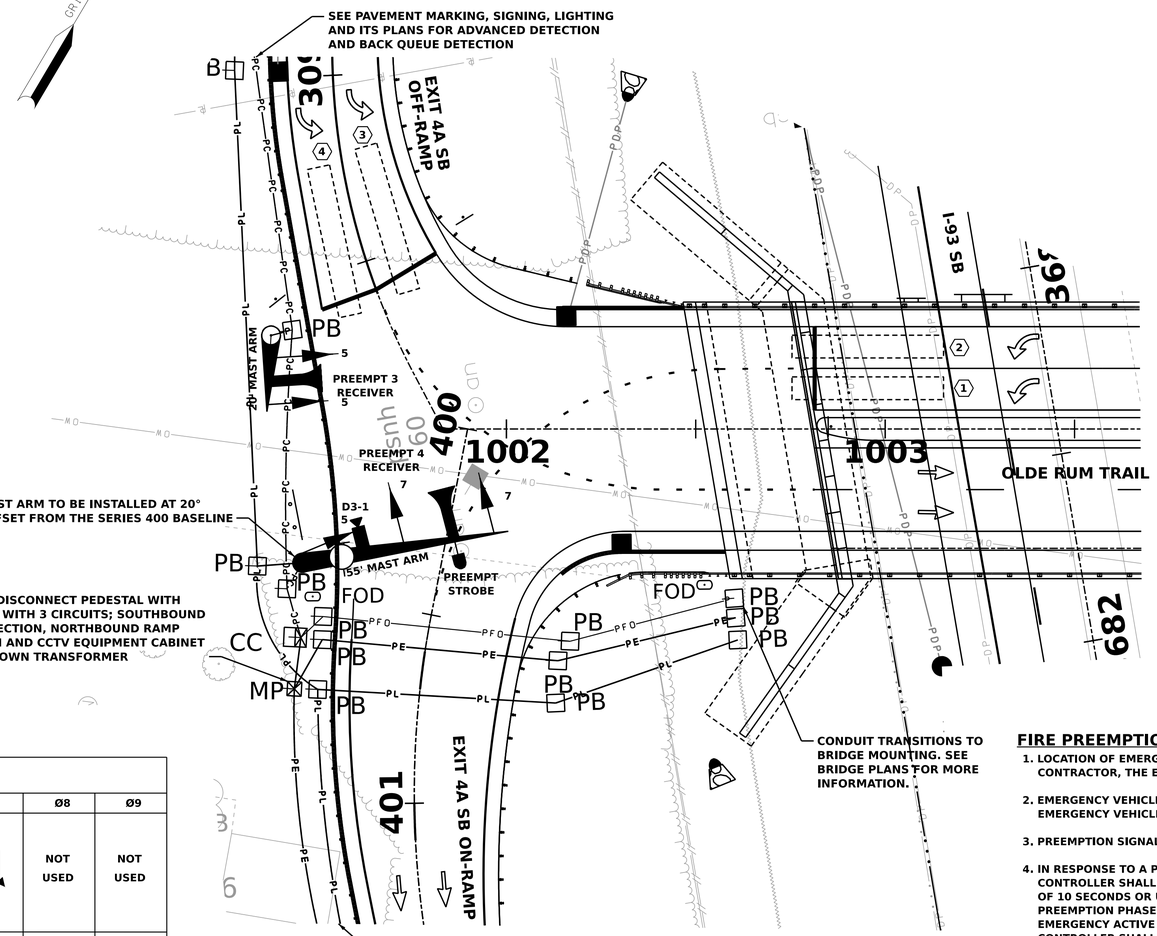


DETECTOR SCHEDULE

ZONE	STREET	DIRECTION	Ø CALLED	Ø EXTENT	MODE A=ADVANCE B=STOPLINE	DELAY	AMPLIFIER NO.	AMPLIFIER CHANNEL	INDUCT UH	RESIST. OF LOOPS	RESIST. LOOP GRD. MEG.	RESIST. SHIELD GRD. MEG.
1	OLDE RUM TRAIL	LEFT	5	5	B	-	-	-	-	-	-	-
2	OLDE RUM TRAIL	LEFT	5	5	B	-	-	-	-	-	-	-
3	OFF RAMP SB LEFT	LEFT	7	7	B	-	-	-	-	-	-	-
4	OFF RAMP SB LEFT	LEFT	7	7	B	-	-	-	-	-	-	-
5*	OFF RAMP SB ADVANCE	THRU	7	7	A	-	-	-	-	-	-	-
6*	OFF RAMP SB QUEUE	THRU	7	7	A	-	1	1				

* SEE PAVEMENT MARKINGS, SIGNING, LIGHTING AND ITS PLANS FOR ZONE LOCATIONS

RECORD FIELD MEASUREMENTS HERE



PROPOSED SIGNS

D3-1
66"X18"
1 - PROPOSED

FIRE PREEMPTION

PREEMPT 3	CALLS Ø5
PREEMPT 4	CALLS Ø7
PREEMPT 5	NOT USED
PREEMPT 6	NOT USED

FIRE PREEMPTION NOTES:

1. LOCATION OF EMERGENCY VEHICLE PREEMPTION RECEIVERS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR, THE ENGINEER, AND THE TOWN OF LONDONDERRY FIRE DEPARTMENT.
2. EMERGENCY VEHICLE PREEMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
3. PREEMPTION SIGNALS SHALL BE SERVICED ON A FIRST COME - FIRST SERVED BASIS.
4. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT THE INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PREEMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL TIME THE PREEMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATIONS.
5. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE TIMES SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
6. CONFIRMATION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PREEMPTION GREEN IS ON.
7. EMERGENCY PREEMPTION SHALL OVERRIDE COORDINATION.

PROPOSED NEMA DUAL RING CONTROLLER

SIGNAL PHASING & TIMING

	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9
	NOT USED	NOT USED	NOT USED	NOT USED		NOT USED		NOT USED	NOT USED
INITIAL INTERVAL	-	-	-	-	10	-	10	-	-
VEHICLE EXTENSION	-	-	-	-	3	-	3	-	-
MAXIMUM 1	-	-	-	-	35	-	40	-	-
MAXIMUM 2	-	-	-	-	50	-	60	-	-
YELLOW	-	-	-	-	4.0	-	4.0	-	-
ALL RED	-	-	-	-	3.0	-	3.0	-	-
PEDESTRIAN WALK	-	-	-	-	-	-	-	-	-
PEDESTRIAN CLEAR	-	-	-	-	-	-	-	-	-
FLASH	-	-	-	-	FR	-	FR	-	-
RECALL	-	-	-	-	SOFT	-	OFF	-	-
DETECTOR	-	-	-	-	NL	-	NL	-	-

L = LOCKING, NL = NON-LOCKING
FR = FLASH RED, FY = FLASH YELLOW
MAXIMUM 2 SHALL OPERATE DURING COORDINATION

TRAFFIC SIGNAL MAST ARM TEST BORING SUMMARY

REF #	LOCATION	FOUNDATION TYPE	BORING #
-	STA 309+59, RT 30	TYPE 2 (3'x8')	*
-	STA 400+44, RT 36	TYPE 2 (3'x12')	*
-	-	-	-
-	-	-	-

* = BORINGS NOT APPLICABLE GIVEN FOUNDATIONS TO BE INSTALLED IN NEW MATERIAL

20 0 20 40
SCALE IN FEET

NUMBER	DESCRIPTION	DATE
	REVISIONS AFTER PROPOSAL	
	STATION	

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGNALIZATION PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Sig_01	13065A	304	733

PROPOSED FOUNDATION SCHEDULE

I.D. (#)	STATION	FOUNDATION TYPE	REMARKS
1**	STA 401+57, RT 375	-	PROPOSED POWER SOURCE
2**	STA 401+55, RT 365	PB	PROPOSED PULL BOX
3**	STA 401+53, RT 358	TSFND	PROPOSED METER PEDESTAL
4**	STA 401+53, RT 351	PB	PROPOSED PULL BOX
5**	STA 401+53, RT 311	PB	PROPOSED PULL BOX
8**	STA 401+49, RT 26	PB	PROPOSED PULL BOX
9	STA 400+73 , RT 33	TSFND	PROPOSED DISCONNECT PEDESTAL
10	STA 400+61, RT 33	CCFND	PROPOSED CONTROLLER CABINET
11	STA 400+55, RT 28	PB	PROPOSED PULL BOX
12	STA 400+50, RT 39	PB	PROPOSED PULL BOX
13	STA 400+43, RT 36	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
14	STA 309+60, RT 24	PB	PROPOSED PULL BOX
15	STA 309+59, RT 30	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
16*	STA 307+73, RT 21	PB	PROPOSED PULL BOX
17*	STA 305+99, RT 21	PB	PROPOSED PULL BOX
18*	STA 304+00, RT 19	PB	PROPOSED PULL BOX
19*	STA 301+00, RT 14	PB	PROPOSED PULL BOX
20*	STA 3695+18, LT 76	PB	PROPOSED PULL BOX
21	STA 400+61, RT 27	PB	PROPOSED PULL BOX
24	STA 1002+17, RT 56	PB	PROPOSED PULL BOX
25	STA 1002+14, RT 61	PB	PROPOSED PULL BOX
26	STA 1002+61, RT 50	PB	PROPOSED PULL BOX
27	STA 1002+60, RT 45	PB	PROPOSED PULL BOX

* - SEE PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS

** - SEE INTERCONNET PLANS

WHERE:

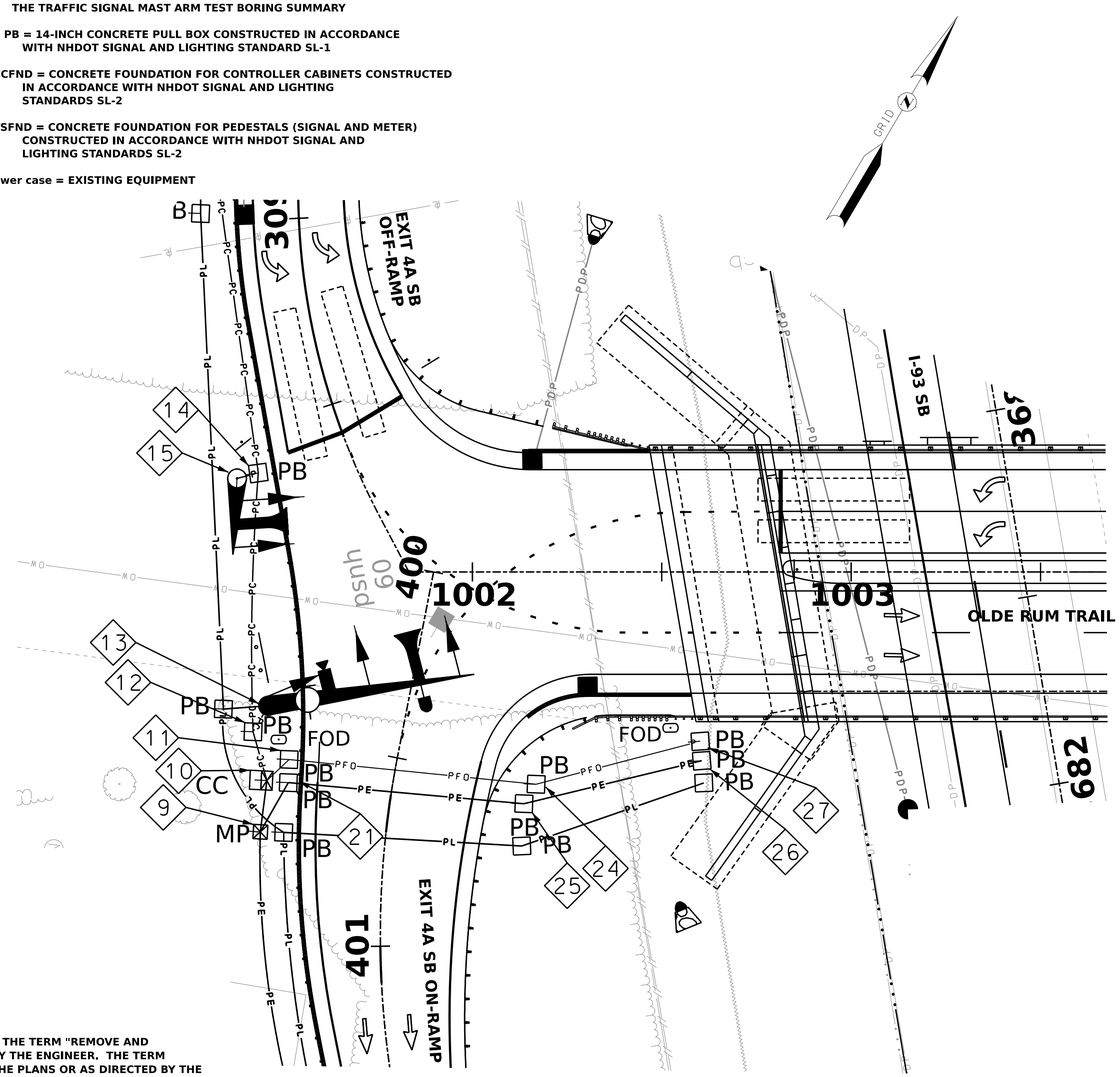
TYPE 2 = TO BE DETERMINED BY CONTRACTOR BASED ON BORING LOGS AND NHDOT STANDARD SPECIFICATIONS AND/OR AS PROPOSED IN THE TRAFFIC SIGNAL MAST ARM TEST BORING SUMMARY

PB = 14-INCH CONCRETE PULL BOX CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARD SL-1

CCFND = CONCRETE FOUNDATION FOR CONTROLLER CABINETS CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

TSFND = CONCRETE FOUNDATION FOR PEDESTALS (SIGNAL AND METER) CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

lower case = EXISTING EQUIPMENT



TIME BASED SCHEDULE

	MON.-FRI.	SAT.-SUN.
PATTERN 54 / NTCIP 254 FREE OPERATIONS	0000-0700 1900-2400	0000-1000 1500-2400
PATTERN 1 MAX 2	1200-1700	-
PATTERN 2 MAX 2	0700-1200	1000-1500

CONSTRUCTION NOTES:

1. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED HEREIN USING NEW MATERIALS. THE TERM "REMOVE AND SALVAGE"(R+S) MEANS EQUIPMENT TO BE REMOVED AND DELIVERED TO A LOCATION AS DIRECTED BY THE ENGINEER. THE TERM "REMOVE AND RELOCATE" (R+R) MEANS EQUIPMENT TO BE REMOVED AND RE-USED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL SAW CUTTING FOR CONDUITS AND JACKING PITS (WHEN REQUIRED) SHALL BE SUBSIDIARY TO ITEM 616.101 TRAFFIC SIGNALS. REPLACEMENT OF PAVEMENT FOR CONDUIT TRENCHES AND JACKING PITS WILL BE PAID UNDER ITEM 403.12 HOT BITUMINOUS PAVEMENT, HAND METHOD OR 403.19 TEMPORARY BITUMINOUS PAVEMENT. ALL OTHER REPAIRS SHALL BE SUBSIDIARY TO ITEM 616.101 TRAFFIC SIGNALS.
3. MAST ARMS ON SIGNAL POLES SHALL BE ORIENTED PERPENDICULAR TO APPROACH ROADWAY ALIGNMENT UNLESS OTHERWISE NOTED.
4. MAST ARMS SHALL BE DESIGNED TO INCLUDE A 30"x36" SIGN MOUNTED 2-FEET TO THE RIGHT OF EACH SIGNAL HEAD.
5. SEE SPECIAL PROVISIONS 616.101 FOR STREET NAME SIGN PLACEMENT. INSTALLATION FOR STREET NAME SIGNS SHALL BE BE SUBSIDIARY TO ITEM 616.101.
6. ALL MAST ARM POLE FOUNDATIONS SHALL INCLUDE A 12 INCH LAYER OF STRUCTURAL FILL BELOW THE BOTTOM OF THE FOOTING GRADE.
7. MAST ARM FOUNDATIONS TYPE ARE APPROXIMATE. FOUNDATION TYPE SHALL BE CONFIRMED WITH GEOTECHNICAL REPORT.
8. ANY BEARING SURFACE MATERIAL DISTURBED BY EXCAVATION AND/OR BY DEWATERING METHODS SHALL BE REMOVED TO A DEPTH OF 12 INCHES AND REPLACED WITH STRUCTURAL FILL.
9. PLACEMENT OF STRUCTURAL FILL MATERIAL SHALL BE SUBSIDIARY TO ITEM 616.101 TRAFFIC SIGNALS.
10. POWER COSTS SHALL BE BY NHDOT.
11. POWER SOURCE AND METER TO BE LOCATED WEST OF THE INTERCHANGE. SEE INTERCONNECT PLAN FOR DETAILS
12. LOOP WIRE SHALL BE BROUGHT BACK TO THE CABINET ON SEPARATE LEAD-IN CABLES.
13. PAVEMENT SAWING FOR LOOPS SHALL BE SUBSIDIARY TO ITEMS 616.101.
14. SEE PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS FOR ALL PAVEMENT MARKING DETAILS.
15. PERMANENT LIGHTING SHALL CONSIST OF ONE (1) 250-WATT H.P.S. SEMI CUT-OFF, TYPE 3 OR APPROVED EQUAL MOUNTED ON A 12-FOOT BRACKET ARM.
16. LIGHTING PULL BOXES AND CONDUIT ARE SHOWN FOR INFORMATION PURPOSES ONLY. SEE PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS FOR MORE INFORMATION.
17. SEE POWER AND COMMUNICATIONS CONNECTION DIAGRAMS FOR ADDITIONAL INFORMATION.

20 0 20 40
SCALE IN FEET

PROPOSED CONDUIT SCHEDULE

I.D. (#)	NO.	LENGTH	SCHEDULE TYPE	REMARKS
1 - 2	1	10	40	FROM POWER TO PROP PB**
2 - 3	1	8	40	FROM PROP PB TO PROP MP**
3 - 4	1	8	40	FROM PROP MP TO PROP PB**
4 - 5	1	40	80	FROM PROP PB TO PROP PB***
5 - 8	1	288	40	FROM PROP PB TO PROP PB**
8 - 9	1	95	40	FROM PROP PB TO PROP MP**
9 - 10	1	14	40	FROM PROP MP TO PROP CC
9 - 21	1	20	40	FROM PROP MP TO PROP PB
10 - 11	1	8	40	FROM PROP CC TO PROP PB
10 - 12	1	14	40	FROM PROP CC TO PROP PB
11 - 24	1	66	80	FROM PROP PB TO PROP PB
12 - 13	1	8	40	FROM PROP PB TO PROP MA
12 - 14	1	69	40	FROM PROP PB TO PROP PB
14 - 15	1	6	40	FROM PROP PB TO PROP MA
14 - 16	1	198	40	FROM PROP PB TO PROP PB*
16 - 17	1	175	40	FROM PROP PB TO PROP PB*
17 - 18	1	198	40	FROM PROP PB TO PROP PB*
18 - 19	1	300	40	FROM PROP PB TO PROP PB*
19 - 20	1	344	40	FROM PROP PB TO PROP PB*
21 - 25	1	63	80	FROM PROP PB TO PROP PB
24 - 27	1	45	40	FROM PROP PB TO PROP PB
25 - 26	1	48	40	FROM PROP PB TO PROP PB

TOTAL:	40	80	HDPE
	1856'	169'	-

40 = 3-INCH PVC SCHEDULE 40
80 = 3-INCH PVC SCHEDULE 80
HDPE = 4-INCH 2-DUCT HDPE

* - SEE PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS

** - SEE INTERCONNET PLANS

*** - DIRECT BORE SECTION OF CONDUIT

COORDINATION CYCLE / SPLIT OFFSET SCHEDULE

	PATTERN 1	PATTERN 2	PATTERN 54
CYCLE LENGTH	80	90	FREE OPERATIONS
OFFSET (END 2 GREEN)	25	25	
YIELD POINT	0	0	
SPLIT TIME Ø1	0	0	
SPLIT TIME Ø2	32	34	
SPLIT TIME Ø3	0	0	
SPLIT TIME Ø4	48	56	
SPLIT TIME Ø5	32	34	
SPLIT TIME Ø6	0	0	
SPLIT TIME Ø7	48	56	
SPLIT TIME Ø8	0	0	

COORDINATION NOTES:

1. OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø5 PER NTCIP)
2. COORDINATION TO OPERATE BY TIME-OF-DAY (SEE TIME BASED SCHEDULE),
3. PHASE 2 AND PHASE 4 ARE DUMMY PHASES TO BE PROGRAMMED WITH SPLIT TIMES FOR NTCIP COMPLIANCE.

NUMBER	DESCRIPTION	DATE	STATION

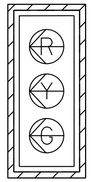
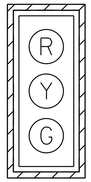
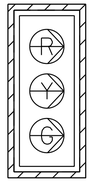
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGNALIZATION PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Sig_01A	13065A	305	733

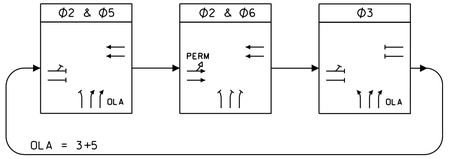
SIGNAL HEAD DATA

PROPOSED		
3	2,6	5
		
12" LENS	12" LENS	12" LENS
WITH 5" LOUVERED BACKPLATES WITH 2" FLUORESCENT YELLOW TYPE IX OR XI SHEETING AROUND OUTSIDE PERIMETER		

- ALL SIGNAL HEADS SHALL BE EQUIPPED WITH L.E.D. MODULES -

PROPOSED PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

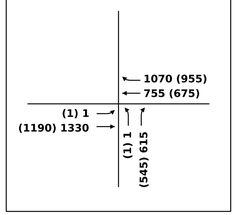


DETECTOR SCHEDULE

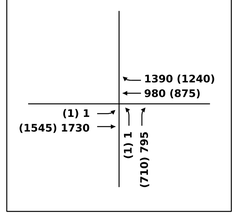
ZONE	STREET	DIRECTION	Ø CALLED	Ø EXTENT	MODE A=ADVANCE B=STOPLINE	DELAY	AMPLIFIER NO.	AMPLIFIER CHANNEL	INDUCT UH	RESIST. OF LOOPS	RESIST. LOOP GRD. MEG.	RESIST. SHIELD GRD. MEG.
①	OLDE RUM TRAIL EB	LEFT-THRU	6	6	B	-	-	-	-	-	-	-
②	OLDE RUM TRAIL EB	THRU	6	6	B	-	-	-	-	-	-	-
③	OLDE RUM TRAIL WB	THRU	2	2	B	-	-	-	-	-	-	-
④	OLDE RUM TRAIL WB	THRU	2	2	B	-	-	-	-	-	-	-
⑤	OFF RAMP NB	LEFT	3	3	B	-	-	-	-	-	-	-
⑥	OFF RAMP NB	RIGHT	5	5	B	-	-	-	-	-	-	-
⑦	OFF RAMP NB	RIGHT	5	5	B	-	-	-	-	-	-	-
⑧*	OFF RAMP NB QUEUE	THRU	5	5	A	-	-	-	-	-	-	-
⑨*	OFF RAMP NB QUEUE	THRU	5	5	A	-	1	1				
									RECORD FIELD MEASUREMENTS HERE			

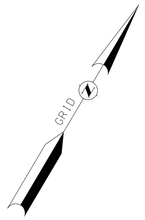
* SEE PAVEMENT MARKINGS, SIGNING, LIGHTING AND ITS PLANS FOR ZONE LOCATIONS

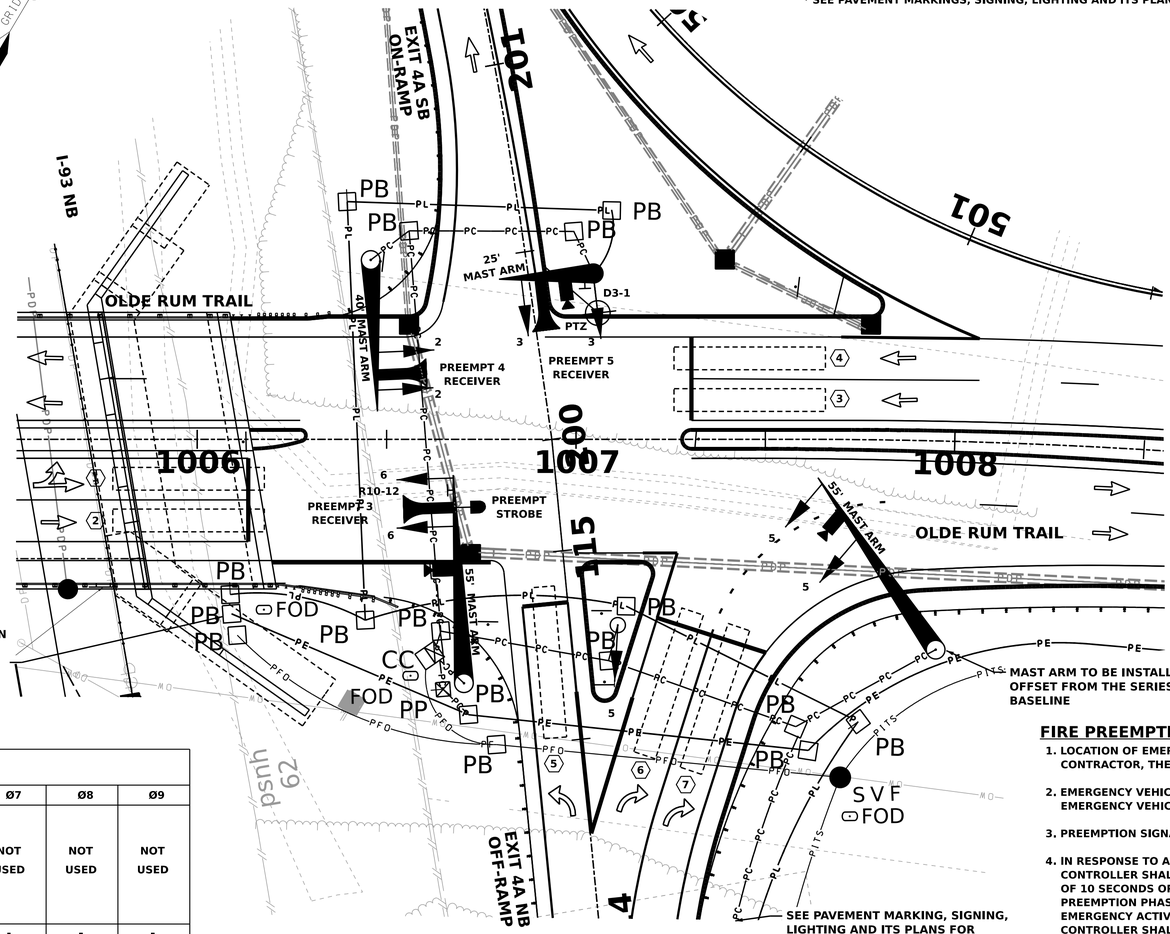
2025 SYSTEM DESIGN VOLUMES AM(PM)



2040 SYSTEM DESIGN VOLUMES AM(PM)







CONDUIT TRANSITION TO BEING ON BRIDGE. SEE BRIDGE PLANS FOR MORE INFORMATION.

MAST ARM TO BE INSTALLED AT 35° OFFSET FROM THE SERIES 1000 BASELINE

SEE PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS FOR ADVANCED DETECTION AND BACK QUEUE DETECTION

PROPOSED SIGNS

R10-12
24"X30"
1 - PROPOSED

D3-1
66"X18"
1 - PROPOSED

FIRE PREEMPTION

PREEMPT 3	CALLS Ø6
PREEMPT 4	CALLS Ø2
PREEMPT 5	CALLS Ø3+OLA
PREEMPT 6	NOT USED

FIRE PREEMPTION NOTES:

1. LOCATION OF EMERGENCY VEHICLE PREEMPTION RECEIVERS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR, THE ENGINEER, AND THE TOWN OF LONDONDERRY FIRE DEPARTMENT.
2. EMERGENCY VEHICLE PREEMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
3. PREEMPTION SIGNALS SHALL BE SERVICED ON A FIRST COME - FIRST SERVED BASIS.
4. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT THE INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PREEMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.0 SECONDS ALL RED) AND SERVE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL TIME THE PREEMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATIONS.
5. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE TIMES SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
6. CONFIRMATION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PREEMPTION GREEN IS ON.
7. EMERGENCY PREEMPTION SHALL OVERRIDE COORDINATION.

PROPOSED NEMA DUAL RING CONTROLLER

SIGNAL PHASING & TIMING

	Ø1	Ø2	Ø3	Ø4	Ø5 *	Ø6	Ø7	Ø8	Ø9
	NOT USED	← →	↑	NOT USED	OLA	↗	NOT USED	NOT USED	NOT USED
INITIAL INTERVAL	-	5	7	-	10	5	-	-	-
VEHICLE EXTENSION	-	3	3	-	3	3	-	-	-
MAXIMUM 1	-	50	10	-	30	50	-	-	-
MAXIMUM 2	-	60	10	-	35	60	-	-	-
YELLOW	-	4.0	4.0	-	4.0	4.0	-	-	-
ALL RED	-	3.0	3.0	-	3.0	3.0	-	-	-
PEDESTRIAN WALK	-	-	-	-	-	-	-	-	-
PEDESTRIAN CLEAR	-	-	-	-	-	-	-	-	-
FLASH	-	FY	FR	-	FR	FY	-	-	-
RECALL	-	SOFT	OFF	-	OFF	SOFT	-	-	-
DETECTOR	-	NL	NL	-	NL	NL	-	-	-

L = LOCKING, NL = NON-LOCKING
FR = FLASH RED, FY = FLASH YELLOW
MAXIMUM 2 SHALL OPERATE DURING COORDINATION
* Ø5 SHALL RUN AS A "DUMMY" PHASE TO DRIVE THE NORTHBOUND RIGHT-TURN OVERLAP (OLA)

TRAFFIC SIGNAL MAST ARM TEST BORING SUMMARY

REF #	LOCATION	FOUNDATION TYPE	BORING #
-	STA 1006+46, LT 47	TYPE 2 (3'x10')	*
-	STA 1006+70, RT 64	TYPE 2 (3'x11')	*
-	STA 1007+05, LT 44	TYPE 2 (3'x10')	*
-	STA 1007+96, RT 55	TYPE 2 (3'x11')	*

* = BORINGS NOT APPLICABLE GIVEN FOUNDATIONS TO BE INSTALLED IN NEW MATERIAL

20 0 20 40
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SIGNALIZATION PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Sig_02	13065A	306	733

PROPOSED FOUNDATION SCHEDULE

I.D. (#)	STATION	FOUNDATION TYPE	REMARKS
28	STA 1006+09, RT 46	PB	PROPOSED PULL BOX
29	STA 1006+11, RT 52	PB	PROPOSED PULL BOX
30	STA 1006+79, RT 81	PB	PROPOSED PULL BOX
31	STA 1006+72, RT 73	PB	PROPOSED PULL BOX
32	STA 1006+70, RT 64	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
33	STA 1006+63, RT 56	CCFND	PROPOSED CONTROLLER CABINET
34	STA 1006+64, RT 51	PB	PROPOSED PULL BOX
35	STA 1006+56, LT 55	PB	PROPOSED PULL BOX
36	STA 1006+46, LT 47	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
37	STA 1006+99, LT 55	PB	PROPOSED PULL BOX
38	STA 1007+05, LT 44	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
39	STA 1007+09, RT 58	PB	PROPOSED PULL BOX
40	STA 1007+11, RT 49	TSFND	PROPOSED PEDESTAL POST
41	STA 1007+61, RT 82	PB	PROPOSED PULL BOX
42	STA 1007+58, RT 76	PB	PROPOSED PULL BOX
43	STA 1007+96, RT 55	TYPE 2	W/ANCHOR BOLTS FOR SIGNAL POLE
115*	STA 114+33, RT 67	SVF	PROPOSED SPLICE VAULT
44*	STA 112+68, RT 22	PB	PROPOSED PULL BOX
45*	STA 110+83, RT 20	PB	PROPOSED PULL BOX
46*	STA 107+88, RT 17	PB	PROPOSED PULL BOX
47*	STA 104+90, RT 15	PB	PROPOSED PULL BOX
48*	STA 102+24, RT 14	PB	PROPOSED PULL BOX
49*	STA 1664+78, RT 83	PB	PROPOSED PULL BOX
50	STA 1006+65, RT 66	TSFND	PROPOSED PEDESTAL POST

* - SEE PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS

TIME BASED SCHEDULE

	MON.-FRI.	SAT.-SUN.
PATTERN 54 / NTCIP 254 FREE OPERATIONS	0000-0700 1900-2400	0000-1000 1500-2400
PATTERN 1 MAX 2	1200-1700	-
PATTERN 2 MAX 2	0700-1200	1000-1500

WHERE:

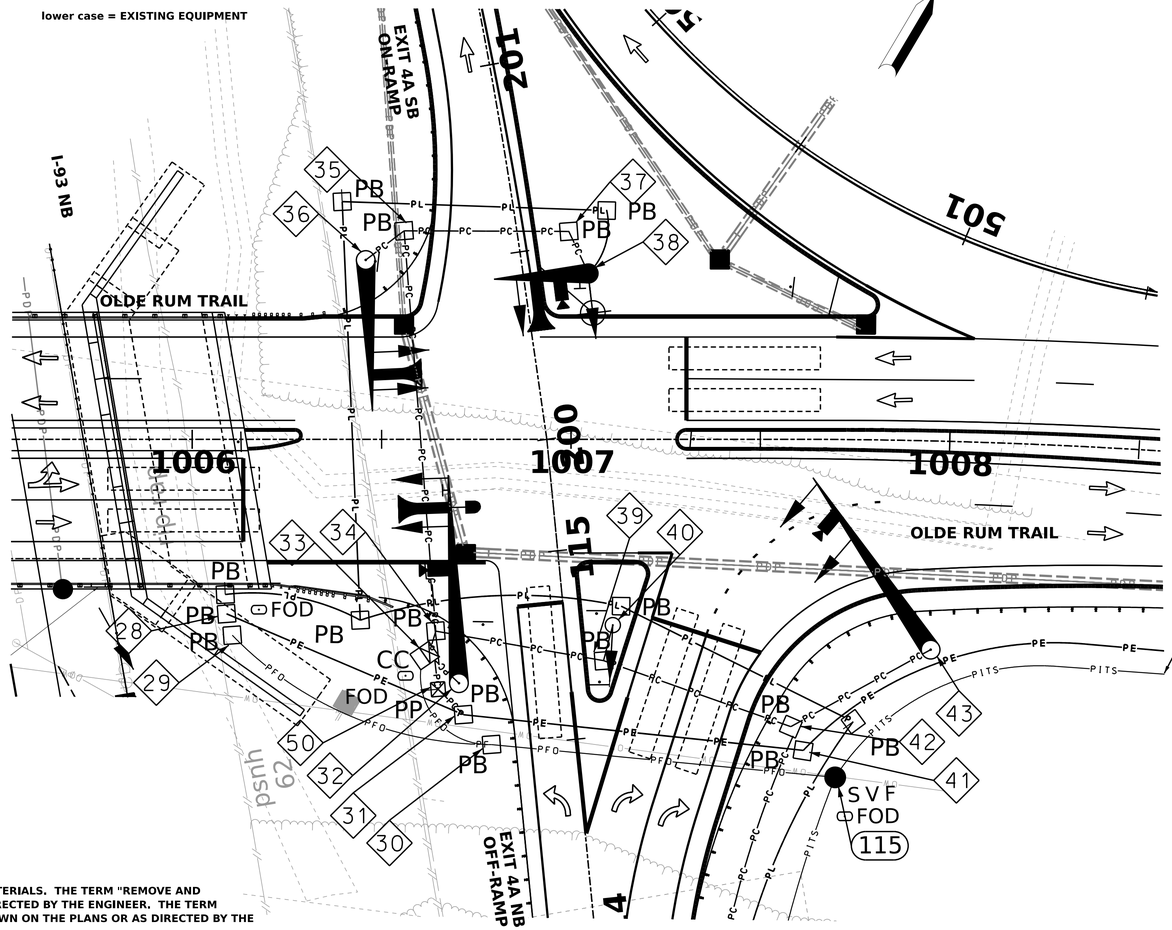
TYPE 2 = TO BE DETERMINED BY CONTRACTOR BASED ON BORING LOGS AND NHDOT STANDARD SPECIFICATIONS AND/OR AS PROPOSED IN THE TRAFFIC SIGNAL MAST ARM TEST BORING SUMMARY

PB = 14-INCH CONCRETE PULL BOX CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARD SL-1

CCFND = CONCRETE FOUNDATION FOR CONTROLLER CABINETS CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

TSFND = CONCRETE FOUNDATION FOR PEDESTALS (SIGNAL AND METER) CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

lower case = EXISTING EQUIPMENT



PROPOSED CONDUIT SCHEDULE

I.D. (#)	NO.	LENGTH	SCHEDULE TYPE	REMARKS
28 - 31	1	68	40	FROM PROP PB TO PROP PB
29 - 30	1	77	40	FROM PROP PB TO PROP PB
30 - 33	1	35	40	FROM PROP PB TO PROP CC
30 -115	1	91	80	FROM PROP PB TO PROP SVF
31 - 50	1	10	40	FROM PROP PB TO PROP PP
31 - 41	1	90	80	FROM PROP PB TO PROP PB
32 - 33	1	12	40	FROM PROP MA TO PROP CC
33 - 34	1	6	40	FROM PROP CC TO PROP PB
33 - 50	1	11	40	FROM PROP CC TO PROP PP
34 - 35	1	106	80	FROM PROP PB TO PROP PB
34 - 39	1	45	80	FROM PROP PB TO PROP PB
35 - 36	1	13	40	FROM PROP PB TO PROP MA
35 - 37	1	44	80	FROM PROP PB TO PROP PB
37 - 38	1	13	40	FROM PROP PB TO PROP MA
39 - 40	1	10	40	FROM PROP PB TO PROP PP
39 - 42	1	53	80	FROM PROP PB TO PROP PB
42 - 43	1	43	40	FROM PROP PB TO PROP MA
42 - 44	1	188	40	FROM PROP PB TO PROP PB*
44 - 45	1	186	40	FROM PROP PB TO PROP PB*
45 - 46	1	295	40	FROM PROP PB TO PROP PB*
46 - 47	1	298	40	FROM PROP PB TO PROP PB*
47 - 48	1	266	40	FROM PROP PB TO PROP PB*
48 - 49	1	244	40	FROM PROP PB TO PROP PB*

TOTAL:	40	80	HDPE
	1775'	429'	-

40 = 3-INCH PVC SCHEDULE 40
80 = 3-INCH PVC SCHEDULE 80
HDPE = 4-INCH 2-DUCT HDPE

* - SEE PAVEMENT MARKING, SIGNING, LIGHTING AND ITS PLANS

COORDINATION CYCLE / SPLIT OFFSET SCHEDULE

	PATTERN 1	PATTERN 2	PATTERN 54
CYCLE LENGTH	80	90	FREE OPERATIONS
OFFSET (END 2 GREEN)	0	0	
YIELD POINT	0	0	
SPLIT TIME Ø1	0	0	
SPLIT TIME Ø2	66	76	
SPLIT TIME Ø3	14	14	
SPLIT TIME Ø4	0	0	
SPLIT TIME Ø5	21	21	
SPLIT TIME Ø6	45	55	
SPLIT TIME Ø7	0	0	
SPLIT TIME Ø8	0	0	

COORDINATION NOTES:

1. OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø2 PER NTCIP)
2. COORDINATION TO OPERATE BY TIME-OF-DAY (SEE TIME BASED SCHEDULE).

CONSTRUCTION NOTES:

1. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED HEREIN USING NEW MATERIALS. THE TERM "REMOVE AND SALVAGE"(R+S) MEANS EQUIPMENT TO BE REMOVED AND DELIVERED TO A LOCATION AS DIRECTED BY THE ENGINEER. THE TERM "REMOVE AND RELOCATE" (R+R) MEANS EQUIPMENT TO BE REMOVED AND RE-USED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL SAW CUTTING FOR CONDUITS AND JACKING PITS (WHEN REQUIRED) SHALL BE SUBSIDIARY TO ITEM 616.102 TRAFFIC SIGNALS. REPLACEMENT OF PAVEMENT FOR CONDUIT TRENCHES AND JACKING PITS WILL BE PAID UNDER ITEM 403.12 HOT BITUMINOUS PAVEMENT, HAND METHOD OR 403.19 TEMPORARY BITUMINOUS PAVEMENT. ALL OTHER REPAIRS SHALL BE SUBSIDIARY TO ITEM 616.102 TRAFFIC SIGNALS.
3. MAST ARMS ON SIGNAL POLES SHALL BE ORIENTED PERPENDICULAR TO APPROACH ROADWAY ALIGNMENT UNLESS OTHERWISE NOTED.
4. MAST ARMS SHALL BE DESIGNED TO INCLUDE A 30"x36" SIGN MOUNTED 2-FEET TO THE RIGHT OF EACH SIGNAL HEAD.
5. SEE SPECIAL PROVISIONS 616.102 FOR STREET NAME SIGN PLACEMENT. INSTALLATION FOR STREET NAME SIGNS SHALL BE BE SUBSIDIARY TO ITEM 616.102.
6. ALL MAST ARM POLE FOUNDATIONS SHALL INCLUDE A 12 INCH LAYER OF STRUCTURAL FILL BELOW THE BOTTOM OF THE FOOTING GRADE.
7. MAST ARM FOUNDATIONS TYPE ARE APPROXIMATE. FOUNDATION TYPE SHALL BE CONFIRMED WITH GEOTECHNICAL REPORT.
8. ANY BEARING SURFACE MATERIAL DISTURBED BY EXCAVATION AND/OR BY DEWATERING METHODS SHALL BE REMOVED TO A DEPTH OF 12 INCHES AND REPLACED WITH STRUCTURAL FILL.
9. PLACEMENT OF STRUCTURAL FILL MATERIAL SHALL BE SUBSIDIARY TO ITEM 616.102 TRAFFIC SIGNALS.
10. POWER COSTS SHALL BE BY NHDOT.
11. POWER SOURCE AND METER TO BE LOCATED WEST OF THE INTERCHANGE. SEE INTERCONNECT PLAN FOR DETAILS. SEE SB RAMP SIGNAL PLANS FOR UNMETERED DISCONNECT LOCATED BY SB RAMPS.
12. LOOP WIRE SHALL BE BROUGHT BACK TO THE CABINET ON SEPARATE LEAD-IN CABLES.
13. PAVEMENT SAWING FOR LOOPS SHALL BE SUBSIDIARY TO ITEMS 616.102.
14. SEE PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS FOR ALL PAVEMENT MARKING DETAILS.
15. PERMANENT LIGHTING SHALL CONSIST OF ONE (1) 250-WATT H.P.S. SEMI CUT-OFF, TYPE 3 OR APPROVED EQUAL MOUNTED ON A 12-FOOT BRACKET ARM.
16 LIGHTING PULL BOXES AND CONDUIT ARE SHOWN FOR INFORMATION PURPOSES ONLY. SEE PAVEMENT MARKING, SIGNING, LIGHTING & ITS PLANS FOR MORE INFORMATION.
17. PTZ CAMERA WILL BE PAID UNDER ITEM 677.41501 CCTV SYSTEM WITHOUT POLE. SEE NETWORK ARCHITECTURE PLAN FOR DETAILS OF CONNECTIONS TO THE CAMERA.
18. 4 FOOT PEDESTAL POLE TO BE INSTALLED WITH STEP DOWN TRANSFORMER. SEE POWER AND COMMUNICATIONS CONNECTION DIAGRAMS FOR ADDITIONAL INFORMATION.

20 0 20 40
SCALE IN FEET

NUMBER	DESCRIPTION	DATE	STATION

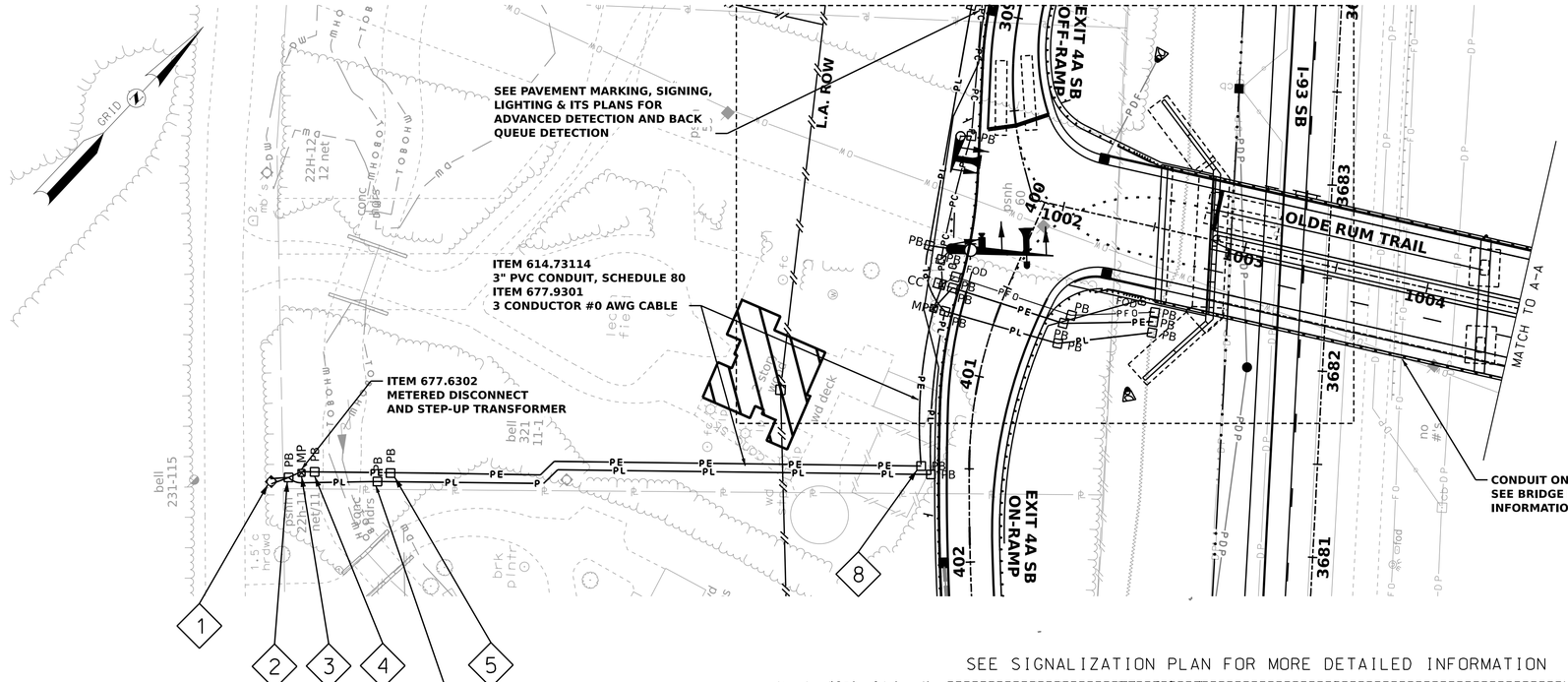
		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

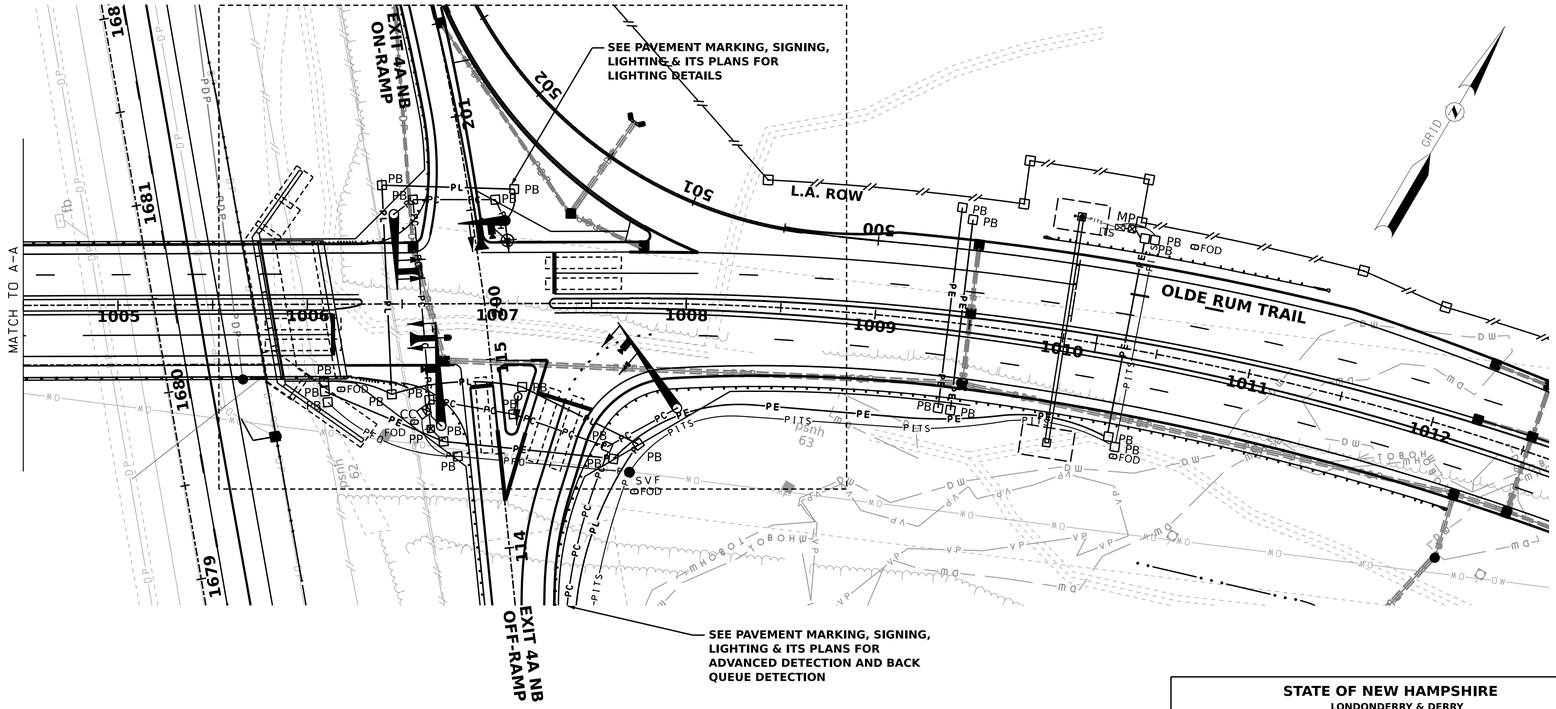
SIGNALIZATION PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Sig_02A	13065A	307	733

SEE SIGNALIZATION PLAN FOR MORE DETAILED INFORMATION



SEE SIGNALIZATION PLAN FOR MORE DETAILED INFORMATION



REVISIONS AFTER PROPOSAL	STATION	DATE	NUMBER	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

INTERCONNECT PLANS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_INT_01	13065A	308	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

PHASE 1

- INSTALL PERMANENT CONSTRUCTION SIGNS PACKAGE AND WARNING DEVICES.

- MAINTAIN FOUR LANES OF TRAFFIC ON EXISTNG ROADWAYS WITH POLICE OFFICERS IN PLACE TO AID CONSTRUCTION EQUIPMENT WITH SITE ACCESS.

- PLACE PORTABLE CONCRETE BARRIER WITH DRAIN SLOT ALONG I-93 NORTHBOUND EDGE OF PAVEMENT FROM STA 1678+00, RT TO STA. 1690+50, RT; ALONG I-93 NORTHBOUND EDGE OF PAVEMENT FROM STA. 1678+00, LT TO STA. 1682+50, LT ON THE MEDIAN SIDE; AND ALONG I-93 SOUTHBOUND EDGE OF PAVEMENT FROM STA 3680+75, LT TO STA. 3691+00, LT.

- PLACE TRAFFIC BARRELS ALONG I-93 NORTHBOUND FROM STA. 1659+50, RT TO 1724+00, RT AT TWO FEET FROM EDGE OF TRAVEL WAY FOR RIGHT SHOULDER CLOSURE TO BEGIN INTERCHANGE ABUTMENT FOUNDATION CONSTRUCTION, MUCK AND OVERBURDEN REMOVAL, AND NB ON-RAMP SOUNDWALL BERM AND FOUNDATION CONSTRUCTION.

- PLACE TRAFFIC BARRELS ALONG I-93 NORTHBOUND FROM STA. 1666+50, LT TO 1684+30, LT AT TWO FEET FROM THE EDGE OF TRAVEL WAY FOR MEDIAN SHOULDER CLOSURE TO BEGIN INTERCHANGE BRIDGE PIER FOUNDATION CONSTRUCTION AND TO REMOVE AND RELOCATE THE EVERSOURCE 365 TRANSMISSION LINE (EVERSOURCE 365 RELOCATION BY OTHERS).

- PLACE TRAFFIC BARRELS ALONG I-93 SOUTHBOUND FROM STA. 3675+25, LT TO STA. 3697+50, LT AT TWO FEET FROM THE EDGE OF TRAVEL WAY FOR RIGHT SHOULDER CLOSURE TO BEGIN INTERCHANGE BRIDGE ABUTMENT FOUNDATION CONSTRUCTION.

- PLACE TRAFFIC BARRELS ALONG I-93 SOUTHBOUND FROM STA. 3679+70, RT TO STA. 3697+00, RT AT TWO FEET FROM THE EDGE OF TRAVEL WAY FOR MEDIAN SHOULDER CLOSURE TO BEGIN INTERCHANGE BRIDGE PIER FOUNDATION CONSTRUCTION AND TO REMOVE AND RELOCATE THE EVERSOURCE 365 TRANSMISSION LINE (EVERSOURCE 365 RELOCATION BY OTHERS).

- PERFORM TREE REMOVAL AND CLEARING OPERATIONS FOR EVERSOURCE OVERHEAD 365 TRANSMISSION FACILITY RELOCATION WORK IN THE AREAS OF THE PROPOSED INTERSTATE RAMPS, WITHIN THE LIMITS OF THE PROPOSED OLDE RUM TRAIL GRADING, AND IN THE STORMWATER TREATMENT AREAS. (EVERSOURCE IS RESPONSIBLE FOR CLEARING OUTSIDE OF THE 13065A PROJECT LIMITS.) ESTABLISH CONSTRUCTION ON THE EAST, MEDIAN, AND WEST SIDES OF I-93.

- CONSTRUCT PARTIAL EMBANKMENT SLOPES FOR I-93 NB ON-RAMP AS NEEDED TO SUPPORT THE INSTALLATION OF EVERSOURCE 365 POLE 65 (6 FEET OF FILL NEEDED).

- BEGIN CONSTRUCTION OF THE EMBANKMENT SLOPES FOR THE NEW RAMPS. PHASE 1 WILL FOCUS ON THE NORTHBOUND RAMPS FROM STA. 108+50 TO STA. 201+50 AND ON THE SOUTHBOUND RAMPS FROM STA. 301+50 TO STA. 403+00 TO AID IN CONSTRUCTION OF THE NEW BRIDGE ABUTMENTS.

- CONSTRUCT BMP 1012 AS TEMPORARY CONDITION BEST MANAGEMENT PRACTICES (BMP) FOR COLLECTION AND TREATMENT OF CONSTRUCTION STORMWATER.

- PERFORM MUCK EXCAVATION IN DELINEATED WETLANDS WITHIN PROPOSED SLOPE LINES.

- PERFORM ROCK EXCAVATION WITHIN THE I-93 NB ON-RAMP SLOPE LINES, AND I-93 SB OFF-RAMP SLOPE LINES.

- BEGIN CONSTRUCTION OF THE I-93 INTERCHANGE BRIDGE ABUTMENTS AND MEDIAN PIER FOUNDATIONS.

WINTER WORK

- EXTEND PORTABLE CONCRETE BARRIER WITH DRAIN SLOT ALONG I-93 NORTHBOUND EDGE OF PAVEMENT FROM STA 1690+50, RT TO STA. 1718+50, RT.

- CONSTRUCT I-93 NORTHBOUND SOUNDWALL FOUNDATIONS FROM STA. 208+00 TO STA. 1717+50.

- BEGIN BLASTING AND OVERBURDEN REMOVAL ALONG OLDE RUM TRAIL FROM STA. 1016+00 TO 1039+00.

PHASE 1A

- MAINTAIN PCB MEDIAN EDGE OF PAVEMENT (STA. 1678+00, LT TO STA. 1682+50, LT) FROM PHASE 1.

- RELOCATE PCB ALONG I-93 NORTHBOUND RIGHT EDGE OF PAVEMENT TO FOUR FEET FROM THE EDGE OF TRAVEL WAY (STA. 1678+00, RT. TO STA. 1682+50, RT.)

- COMPLETE CONSTRUCTION OF THE I-93 INTERCHANGE BRIDGE ABUTMENTS AND MEDIAN PIER FOUNDATIONS.

- PLACE TRAFFIC BARRELS ALONG I-93 NORTHBOUND FROM STA. 1638+60, RT TO STA. 1689+50, RT TO CLOSE THE RIGHT LANE AND SHOULDER.

- PLACE PCB ALONG I-93 NORTHBOUND FROM STA. 1651+50, RT TO STA. 1662+75, RT FOR THE CONSTRUCTION OF THE CLOSED DRAINAGE SYSTEM BETWEEN STRUCTURE N3 AND N9 (ADDITIONAL DRAINAGE STRUCTURES CAN BE CONSTRUCTED BEHIND EXISTING GUARDRAIL).

PHASE 2

- MAINTAIN PCB ALONG I-93 NORTHBOUND MEDIAN EDGE OF PAVEMENT FROM PHASE 1 (STA. 1678+00, LT TO STA. 1682+50, LT). MAINTAIN TRAFFIC BARRELS ALONG I-93 NORTHBOUND AT TWO FEET FROM THE EDGE OF TRAVEL WAY FROM PHASE 1 (STA. 1666+50, LT TO 1684+30, LT).

- RELOCATE PCB ALONG I-93 NORTHBOUND TO PHASE 1 LOCATION AT THE EDGE OF PAVEMENT (STA. 1678+00, RT TO STA. 1683+50, RT). ADJUST TRAFFIC BARRELS ALONG I-93 NORTHBOUND FROM PHASE 1A FROM STA. 1646+30, RT TO STA. 1696+96, RT TO PROVIDE DAILY CLOSURES OF THE RIGHT TRAVEL LANE AND SHOULDER.

- MAINTAIN PCB ALONG I-93 SOUTHBOUND AT PHASE 1 LOCATION AT THE EDGE OF PAVEMENT. EXTEND PCB AT EACH END TO STA. 3679+75, LT. AND STA. 3687+00, LT.

- PLACE PCB WITH DRAIN SLOT ALONG I-93 SOUTHBOUND EDGE OF PAVEMENT FROM STA. 3689+50, LT TO STA. 3696+35, LT. BEGIN LEADING END OF PCB BEHIND EXISTING GUARDRAIL.

- PLACE TRAFFIC BARRELS ALONG I-93 SOUTHBOUND FROM STA. 3656+06, LT TO 3722+20, LT TO PROVIDE DAILY CLOSURES OF THE RIGHT TRAVEL LANE AND SHOULDER.

- PLACE TRAFFIC BARRELS ALONG MADDEN ROAD AT THE TEMPORARY ACCESS ROAD TO CLOSE THE EAST END OF THE WORK ZONE. CONSTRUCT TEMPORARY CONSTRUCTION ACCESS FROM EXISTING MADDEN ROAD TO OLDE RUM TRAIL AND BMP 1038.

- MAINTAIN THREE LANES OF TRAFFIC ALONG EACH BARREL WITH POLICE OFFICERS IN PLACE TO AID CONSTRUCTION EQUIPMENT WITH SITE ACCESS. CONSTRUCT TEMPORARY ACCESS ROADS AS NEEDED WHILE UTILIZING EXISTING SHOULDERS AS ACCELERATION AND DECELERATION LANES FOR CONSTRUCTION VEHICLES.

- CONSTRUCT BMP 1038 AS TEMPORARY CONDITION BEST MANAGEMENT PRACTICES (BMP) FOR TREATMENT OF CONSTRUCTION STORMWATER.

- CONSTRUCT STREAM RELOCATION ALONG I-93 SOUTHBOUND AND ADJACENT TO THE SOUTHBOUND ON RAMP. STREAM BED RELOCATION AND SHIFTING OF STREAM NEEDS TO OCCUR PRIOR TO CONSTRUCTION OF SB ON RAMP AND SB ON ACCELERATION LANE AND SOUNDWALL EMBANKMENT IN PHASE 3.

NOTE: EXCEPT FOR THE TWO BUILDINGS TO BE REMOVED ON PARCEL 18, IT IS ASSUMED THAT ANY REQUIRED BUILDING DEMOLITION AND RIGHT-OF-WAY ACQUISITION HAS BEEN CONTRACTED AND COMPLETED "BY OTHERS" PRIOR TO THE CONSTRUCTION OF 13065A. IT IS ASSUMED THAT THE OVERHEAD TRANSMISSION LINE RELOCATION WILL BE DONE BY OTHERS CONCURRENT WITH PHASE 1 CONSTRUCTION.

PHASE 2 (CONTINUED)

- COMPLETE CONSTRUCTION OF THE EMBANKMENTS AND CONTINUE OFF-LINE WORK ALONG NORTHBOUND OFF-RAMP, NORTHBOUND ON-RAMP, AND SOUTHBOUND OFF-RAMP.

- CONSTRUCT NEW DRAINAGE SYSTEM EQUIPMENT DURING EMBANKMENT PLACEMENTS ALONG NORTHBOUND OFF-RAMP, NORTHBOUND ON-RAMP, AND SOUTHBOUND OFF-RAMP.

- BEGIN CONSTRUCTION OF BMP 1687 AND BMP 1691.

- START CONSTRUCTION OF THE INTERCHANGE BRIDGE PIER AND ABUTMENTS.

- CONSTRUCT EMBANKMENTS FOR OLDE RUM TRAIL FROM THE INTERCHANGE BRIDGE AT STA. 1006+10 TO STA. 1013+00 TO SUPPORT THE EASTERN ABUTMENT AND THE OLDE RUM TRAIL INTERSECTION.

- CONSTRUCT EMBANKMENT AND DRAINAGE SYSTEM ALONG THE I-93 SOUTHBOUND ON-RAMP.

- PERFORM MUCK EXCAVATION IN DELINEATED WETLANDS THROUGHOUT THE PROJECT WITHIN PROPOSED SLOPE LINES.

PHASE 3

- MAINTAIN PCB ALONG I-93 NORTHBOUND MEDIAN EDGE OF PAVEMENT FROM PHASE 1 (STA. 1678+00, LT TO STA. 1681+25, LT). MAINTAIN TRAFFIC BARRELS ALONG I-93 NORTHBOUND AT TWO FEET FROM THE EDGE OF TRAVEL WAY FROM STA. 1666+50, LT TO 1684+30, LT.

- ADJUST TRAFFIC BARRELS ALONG I-93 NORTHBOUND FROM STA. 1642+00, RT TO STA. 1654+60, RT AND FROM STA. 1704+66, RT TO STA. 1719+94, RT TO BEGIN AND END THE CLOSURE OF THE RIGHT LANE AND SHOULDER.

- ADJUST TRAFFIC BARRELS ALONG I-93 SOUTHBOUND FROM STA. 3719+50, LT TO STA. 3734+80, LT TO BEGIN THE CLOSURE OF THE RIGHT LANE AND SHOULDER.

- PLACE PCB WITH DRAIN SLOT ALONG I-93 NORTHBOUND FROM STA. 1654+60, RT TO 1704+66, RT AND I-93 SOUTHBOUND FROM STA. 3654+50, LT TO 3719+50, LT TO CLOSE RIGHT TRAVEL LANES AND SHOULDER.

- MAINTAIN THREE LANES OF TRAFFIC ON EXISTING ROADWAYS WITH POLICE OFFICERS IN PLACE TO AID CONSTRUCTION EQUIPMENT WITH SITE ACCESS. CONTINUE OFF-LINE WORK ON ALL FOUR I-93 INTERCHANGE RAMPS.

- CONSTRUCT SOUNDWALLS ADJACENT TO THE I-93 SOUTHBOUND ON-RAMP, I-93 SOUTHBOUND OFF-RAMP, AND I-93 NORTHBOUND.

- COMPLETE CONSTRUCTION OF BMP 1012 TO ITS FINAL CONDITION.

- PLACE TYPE 3 BARRICADES AT THE ENTRANCE TO THE TEMPORARY ACCESS CONNECTION FROM EXISTING MADDEN ROAD TO THE OLDE RUM TRAIL. MAINTAIN ACCESS OPPORTUNITY FOR CONTRACT 13065B CONSTRUCTION EFFORTS.

- CONSTRUCT RAMP TIE INS AT ALL FOUR RAMP CORNERS WITH ADJUSTMENTS TO ACCOMMODATE THE DIVERSION.

- CONSTRUCT NORTHBOUND RAMP AND SOUTHBOUND RAMP INTERSECTIONS WITH OLDE RUM TRAIL TO FACILITATE THE PHASE 3A DIVERSION.

- INSTALL GUARDRAIL FOLLOWED BY OVERHEAD SIGN STRUCTURE FOUNDATIONS OUTSIDE OF THE INTERCHANGE AREA AT STA. 1010+00, LT & RT; STA. 1607+00, RT; STA. 1633+00, RT; STA. 3721+50, LT; AND STA. 3750+00, LT. USE ISOLATED DAYTIME LANE AND SHOULDER CLOSURES WITH UNIFORMED OFFICERS AS NEEDED ALONG I-93 NORTHBOUND AND SOUTHBOUND.

- REMOVE PCB TO SAWCUT, COLD PLANE AND INLAY I-93 NORTHBOUND PAVEMENT FROM STA. 1657+17, RT TO STA. 1704+66, RT AND I-93 SOUTHBOUND PAVEMENT FROM STA. 3654+75, LT TO STA. 3699+26, LT.

- CONSTRUCT ELECTRICAL SERVICE CONDUIT AND POWER CABLES FROM TROLLEY CAR LANE TO I-93 SOUTHBOUND RAMPS INTERSECTION.

PHASE 3A

- ADJUST PCB ALONG I-93 NORTHBOUND AND I-93 SOUTHBOUND TO ALLOW ACCESS TO THE OFF-RAMP/ON-RAMP PAIR.

- INSTALL SINGLE LANE DIVERSION FOR NIGHT-TIME ONLY WORK USING CONSTRUCTED ON AND OFF RAMPS IN PHASE 2 AND PHASE 3 AND AN OVERNIGHT I-93 TRIPLE LEFT LANE CLOSURE.

- CONSTRUCT INTERCHANGE BRIDGE OVER EXISTING I-93 NORTHBOUND AND SOUTHBOUND BARRELS. PLACE THE STEEL BRIDGE GIRDERS WHILE TRAFFIC IS DIVERTED TO THE OFF-RAMP/ON-RAMP PAIRS.

PHASE 4

- PLACE TRAFFIC BARRELS ACROSS THE OPENINGS OF THE I-93 NORTHBOUND OFF-RAMP AND SOUTHBOUND OFF-RAMP.

- FINISH CONSTRUCTION OF RAMP TIE-INS TO FINAL PERMANENT CONDITION, USING DAYTIME SHOULDER AND LANE CLOSURES AS NEEDED.

- FINISH THE INTERCHANGE BRIDGE SUPERSTRUCTURE.- FINISH CONSTRUCTION OF TEMPORARY ACCESS ROAD AT MADDEN RD.

- COMPLETE CONSTRUCTION OF OLDE RUM TRAIL TO BASE PAVEMENT.

- INSTALL TRAFFIC SIGNAL EQUIPMENT AT THE OLDE RUM TRAIL & NORTHBOUND RAMPS AND OLDE RUM TRAIL & SOUTHBOUND RAMPS INTERSECTIONS. INSTALL ITS EQUIPMENT ALONG I-93 NORTHBOUND AND THE CONNECTOR ROAD, RESPECTIVELY. INSTALL NEW FIBER OPTIC CABLE TO CONNECT THE NEW TRAFFIC SIGNALS AND CCTV TO THE EXISTING FIBER OPTIC BACKHAUL. INSTALL NEW INTERCHANGE AND INTERSECTION LIGHTING.

- INSTALL OVERHEAD SIGN STRUCTURES AT STA. 1010+00; STA.1607+00, RT; STA. 1633+00, RT; STA. 1657+18, RT; STA. 3721+50, LT; AND STA. 3750+00, LT. REINSTALL OVERHEAD SIGN STRUCTURE AT STA. 3700+00, LT. USE ISOLATED NIGHTTIME LANE AND SHOULDER CLOSURES FOR STRUCTURE INSTALLATION.

- INSTALLATION OF THE OVERHEAD SIGNAGE ALONG I-93 TO BE COMPLETED NOT MORE THAN 96 HOURS PRIOR TO THE OPENING OF THE PROPOSED RAMPS AND OLDE RUM TRAIL.

- CONSTRUCT FINAL PAVEMENT MARKINGS AND SIGNING OVER THE ENTIRE PROJECT.

- COORDINATE REMOVAL OF CONSTRUCTION SIGNAGE PACKAGE AND WARNING DEVICES WITH THE 13065B CONTRACTOR.

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

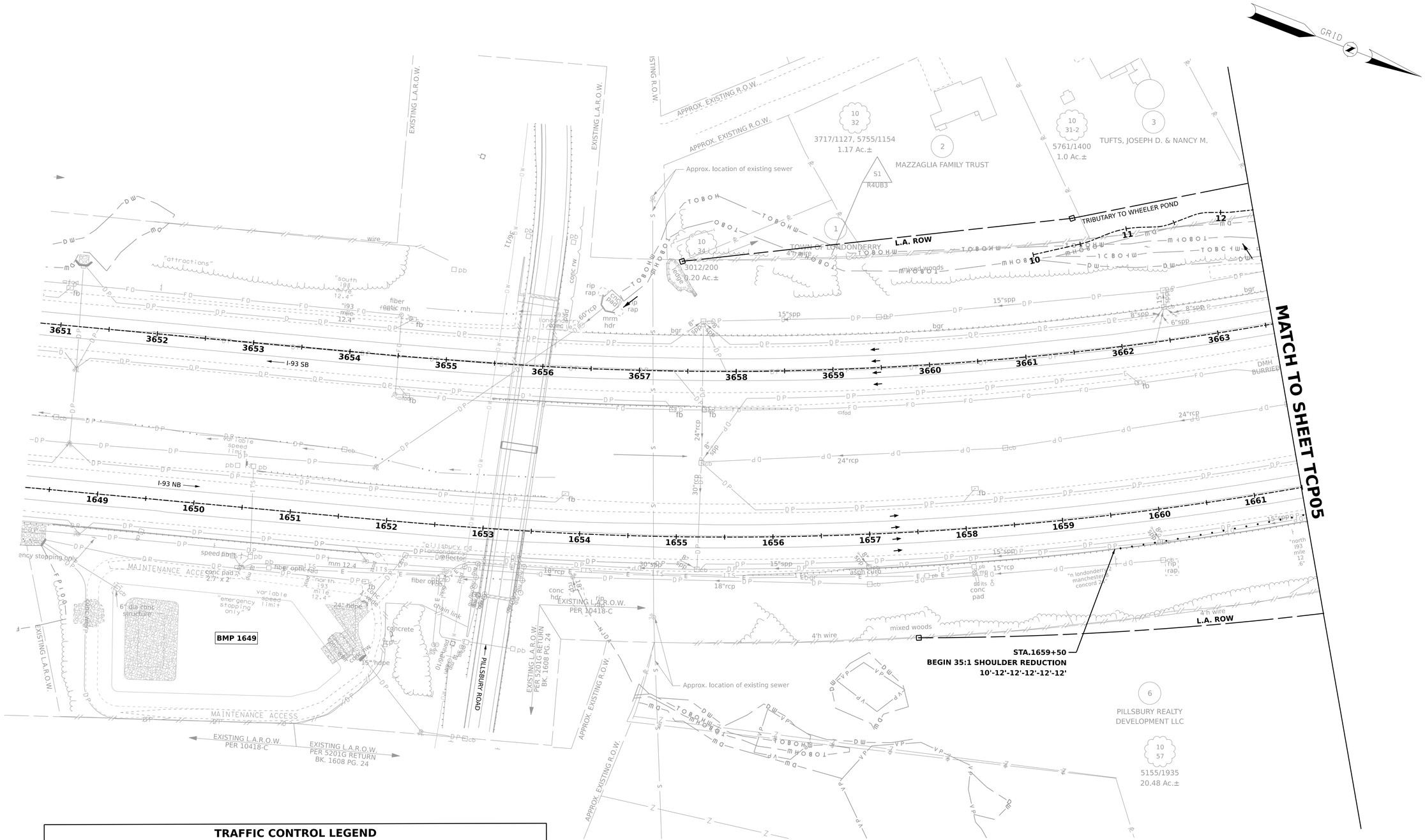
TRAFFIC CONTROL SEQUENCING

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCPseq	13065A	309	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION
		STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



TRAFFIC CONTROL LEGEND

- 13065A CONTRACT WORK
- WORK BY OTHERS
- TEMPORARY LIGHTING TRAILER
- TYPE III BARRICADE
- PORTABLE CONCRETE BARRIER (PCB) WITH DRAIN SLOTS
- TRAFFIC BARRELS
- TRAFFIC FLOW DIRECTION
- TEMPORARY IMPACT ATTENUATORS

50 0 50 100

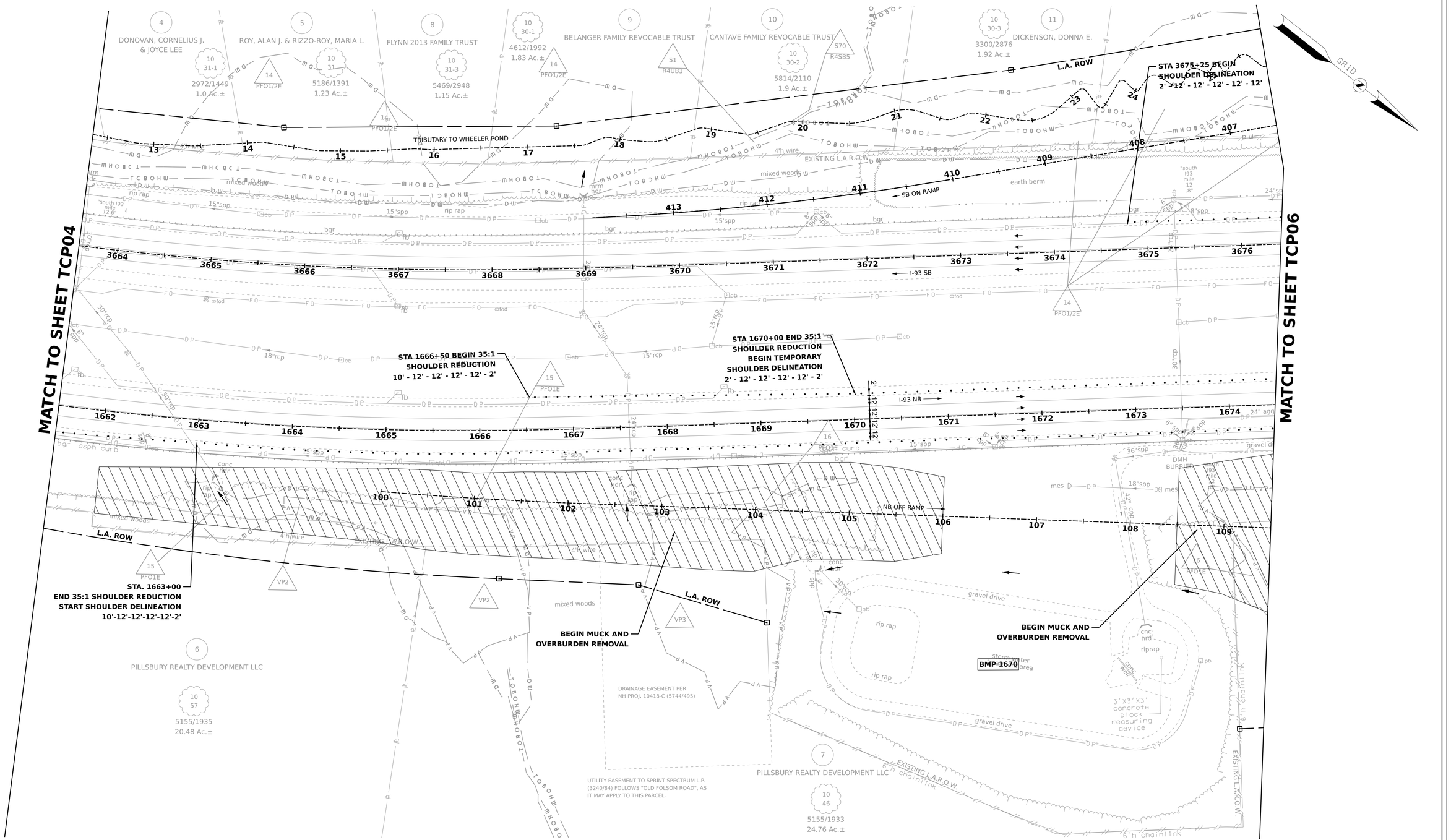
SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P1	13065A	310	733



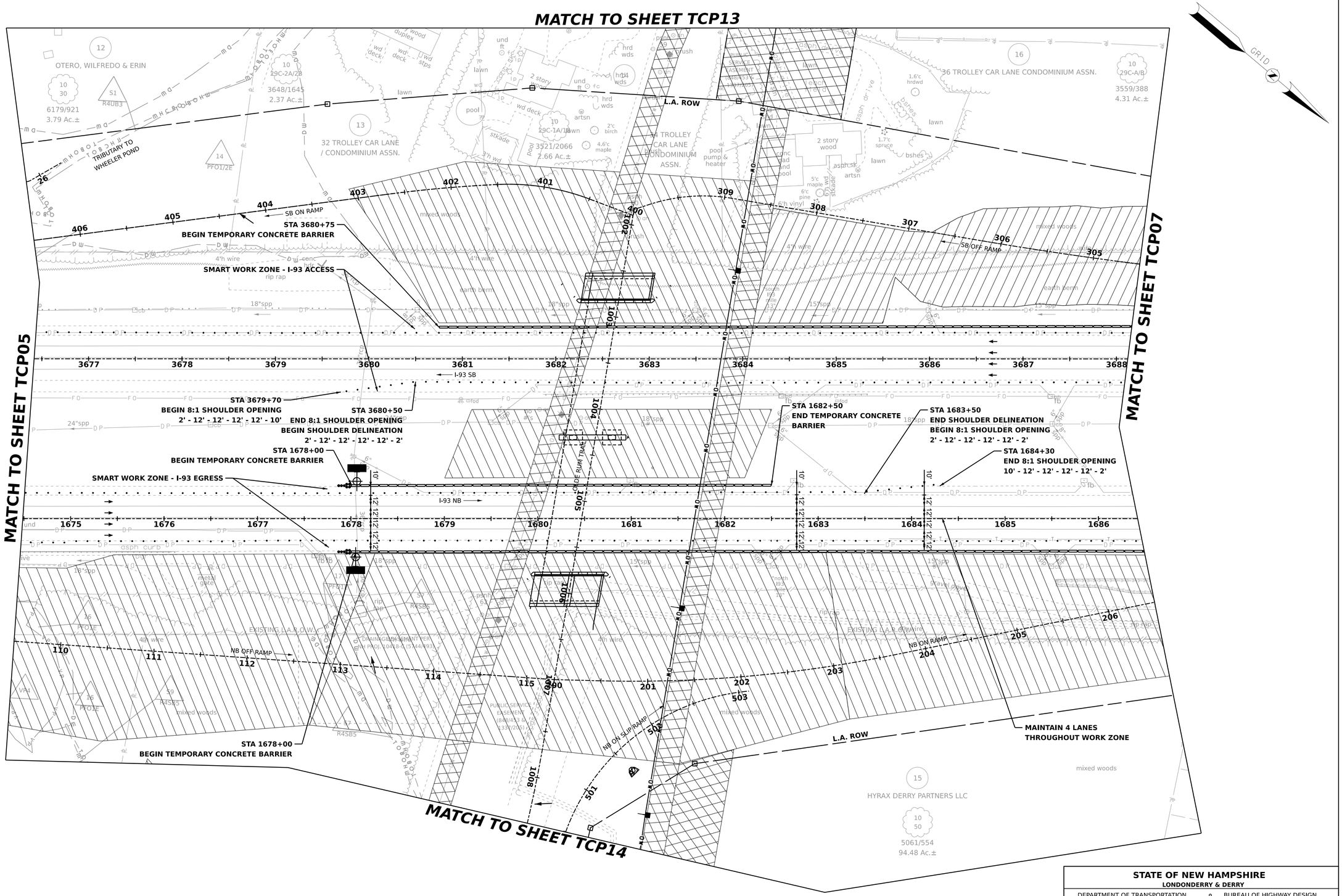
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P1	13065A	311	733



REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP06	13065A_TCP_P1	13065A	312	733

MATCH TO SHEET TCP06

MATCH TO SHEET TCP08

STA 3691+00
END TEMPORARY CONCRETE BARRIER

SMART WORK ZONE - I-93 EGRESS

STA 3694+00
END SHOULDER DELINEATION
BEGIN 35:1 SHOULDER REDUCTION
2' - 12' - 12' - 12' - 12' - 2'

STA 3697+50
END 35:1 SHOULDER REDUCTION
10' - 12' - 12' - 12' - 12' - 12'

STA 3693+50
END TEMPORARY SHOULDER DELINEATION
BEGIN 35:1 SHOULDER REDUCTION
12' - 12' - 12' - 12' - 12' - 2'

STA 3697+00
END 35:1 SHOULDER REDUCTION
12' - 12' - 12' - 12' - 12' - 9'

MAINTAIN 4 LANES
THROUGHOUT WORK ZONE

SMART WORK ZONE - I-93
ACCESS AND EGRESS

ACCESS WILL MOVE WITH THE
SOUNDWALL CONSTRUCTION

BMP 1687

BMP 1691

I-93 SB

I-93 NB

NB ON RAMP

L.A. ROW

EXISTING L.A.R.O.W.

APPROX. EXISTING R.O.W.

36 TROLLEY CAR LANE CONDOMINIUM ASSN.

ARIZA, FIDEL
3559/388
4.31 Ac.±

FOUREAU, DYLAN
6019/2714
1.38 Ac.±
6298/1054
1.11 Ac.±

TOWN OF LONDONDERRY
3215/1645
9.92 Ac.±

GERAGHTY, SCOTT P. & MARIBETH
3296/2807
0.97 Ac.±

ROSZCZENKO, JOLANTA & WALDEMAR
3379/1319
0.99 Ac.±

QUITONGAN, AUDIE & CHERYL
4917/0216
0.97 Ac.±

TRULL, MICHAEL D. /& SANDRA
4915/2203
1.56 Ac.±

STATE OF NH (DOT)
5786/1143
2.85 Ac.±

HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±

UTILITY EASEMENT (ELECTRIC & PHONE) AS IT MAY APPLY TO THIS PARCEL (2650/1906)

EXISTING TOWN OF LONDONDERRY DRAINAGE EASEMENT

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

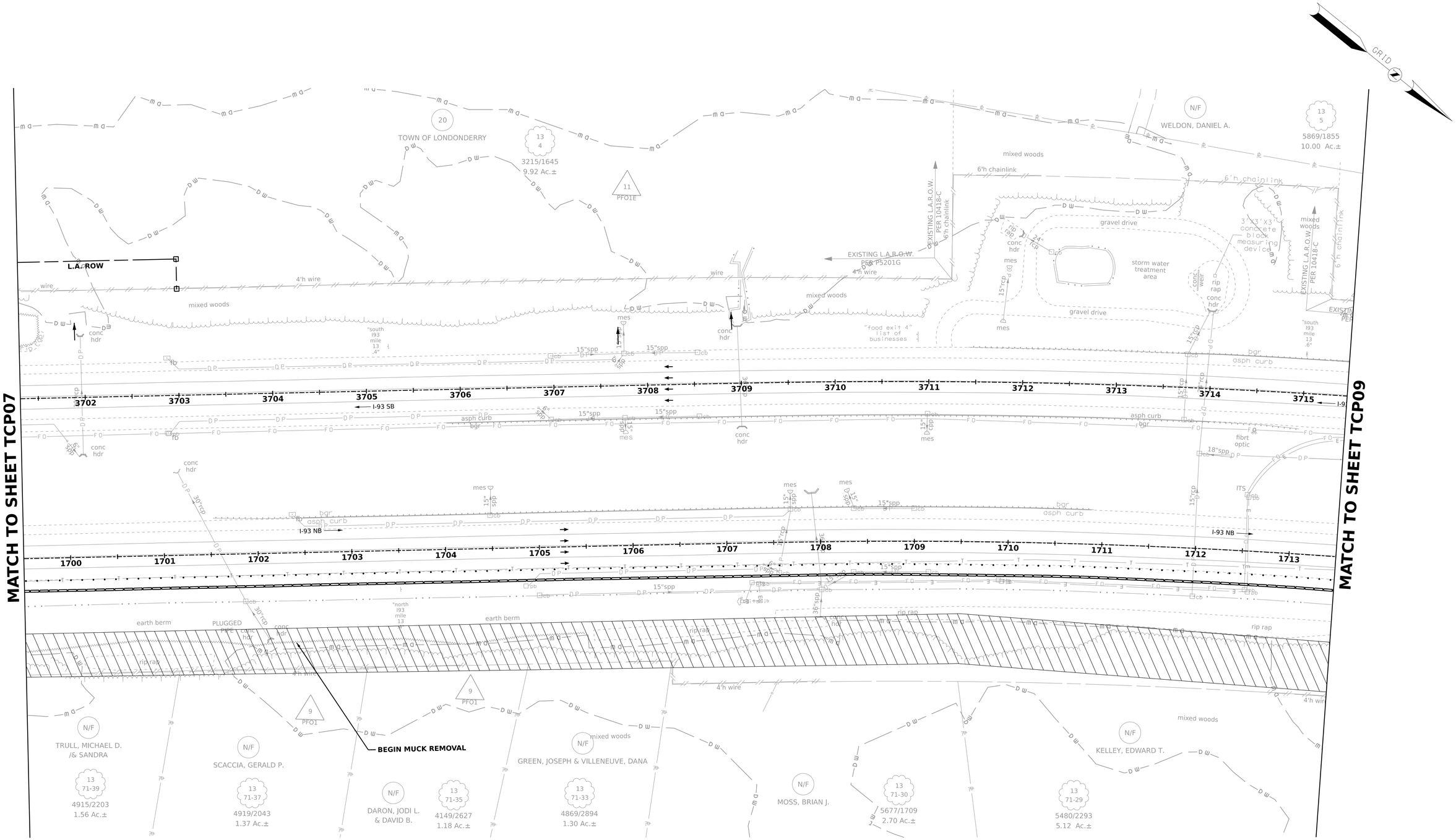
NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P1	13065A	313	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP08	13065A_TCP_P1	13065A	314	733

GRID

MATCH TO SHEET TCP08

13
5
5869/1855
10.00 Ac.±

N/F
WELDON, DANIEL A.

N/F
P.S. COMPANY OF NH (DBA EVERSOURCE ENERGY)

13
13
1990/0170
21.20 Ac.±

N/F
TOWN OF LONDONDERRY

13
4
3215/1645
9.92 Ac.±

N/F
STATE OF NH

13
14
1651/0356
2.30 Ac.±

psnh 2119-17

psnh r187-12

stone wall

wire

6" birch

6" birch

EXISTING L.A.R.O.W.
PER P5201G

EXISTING L.A.R.O.W.
PER 10418-C

delin post

mm 13.6

"south I93 mile 13 8"

"closed to unauthorized vehicles"

"closed to unauthorized vehicles"

I-93 SB

I-93 NB

3716 3717 3718 3719 3720 3721 3722 3723 3724 3725 3726 3727 3728

1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726

north I93 mile 13 6"

north I93 mile 13 8"

24" rcp

conc hdr

STA 1718+50 END TEMPORARY CONCRETE BARRIER

STA. 1724+00
END SHOULDER DELINEATION
10'-12'-12'-12'-12'-12'

N/F
STATE OF NH

13
57
1651/0356
12.00 Ac.±

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

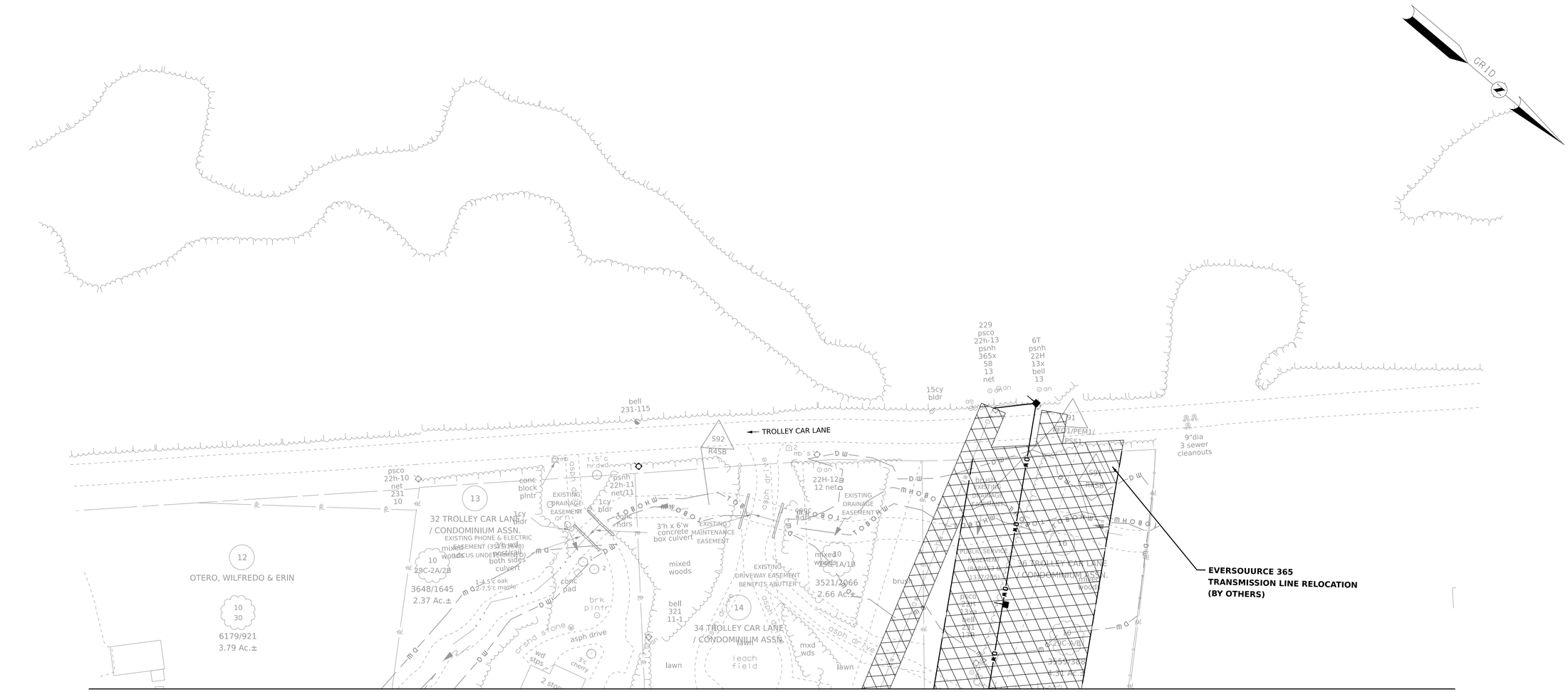
TRAFFIC CONTROL PLANS
PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP09	13065A_TCP_P1	13065A	315	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION
		STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



MATCH TO SHEET TCP06

50 0 50 100

SCALE IN FEET

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP13	13065A_TCP_P1	13065A	316	733

MATCH TO SHEET TCP06

MATCH TO SHEET TCP15

MATCH TO SHEET TCP05

EVERSOUURCE 365
TRANSMISSION LINE RELOCATION
(BY OTHERS)

EVERSOUURCE 365
TRANSMISSION LINE RELOCATION
(BY OTHERS)

CONSTRUCT BMP 1012 FOR
TEMPORARY STORM WATER BMP

BMP 1012

L.A. ROW

C.A. ROW

OLDE RUM TRAIL

005 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021

HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±

PILLSBURY REALTY DEVELOPMENT LLC
5155/1933
24.76 Ac.±

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

PUBLIC SERVICE Easement
(NH Book 33 Page

GRID

50 0 50 100
SCALE IN FEET

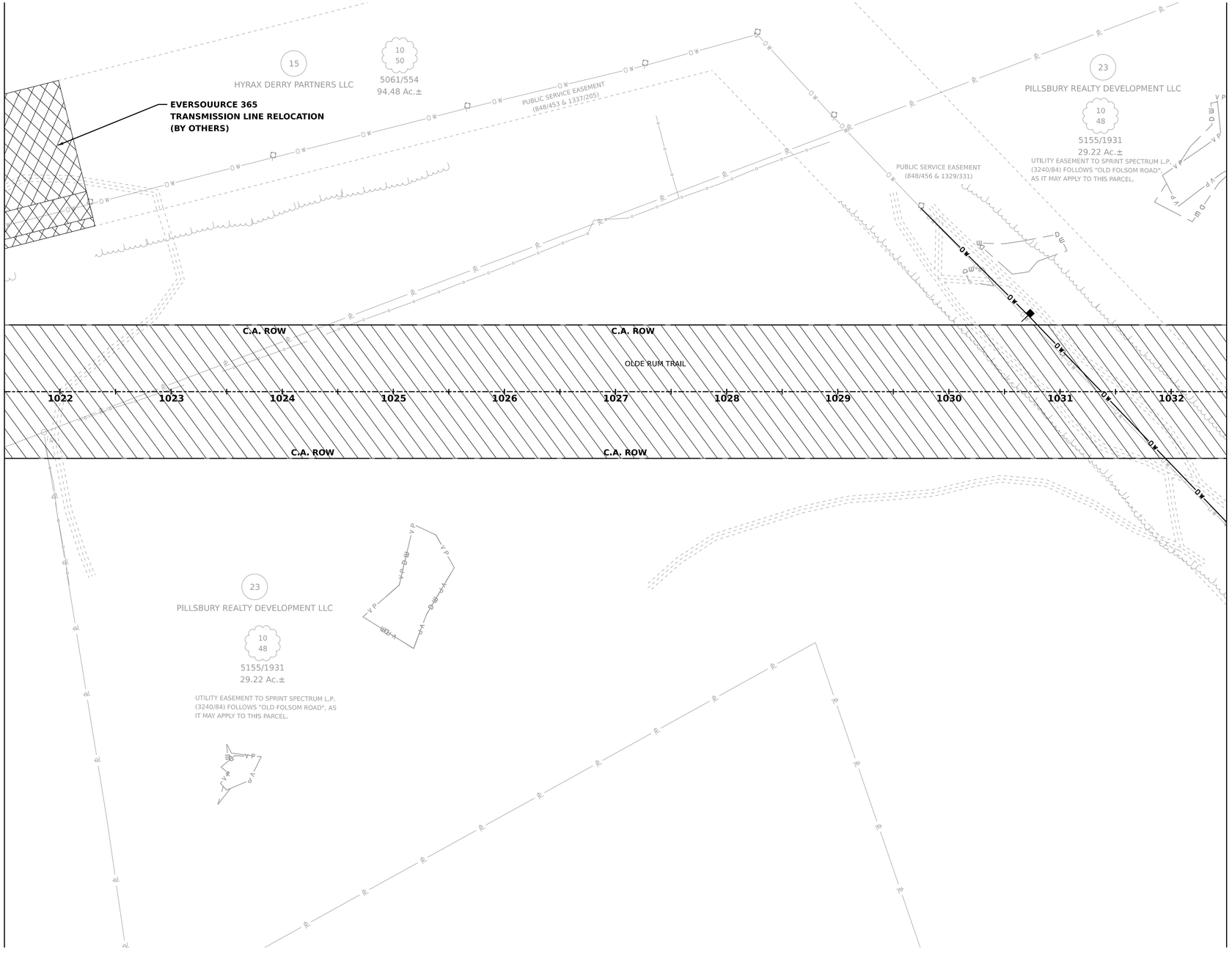
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP14	13065A_TCP_P1	13065A	317	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP15	13065A_TCP_P1	13065A	318	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

MATCH TO SHEET TCP15

MATCH TO SHEET TCP17

C.A. ROW

OLDE RUM TRAIL

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

10 11 12 13 14 15 16

BMP 1038

23
PILLSBURY REALTY DEVELOPMENT LLC
10 48
5155/1931
29.22 Ac.±

24
SEVEN HILLS DEVELOPMENT LLC
10 49
3478/1743
8.84 Ac.±

26
SEVEN HILLS DEVELOPMENT, LLC
31 13
3443/1373
10.93 Ac.±

27
ABBOTT, MARCIA E.
31 12
2932/2232, 1695/86
2.01 Ac.±

25
DERRY BUSINESS CENTER / UNIT OWNERS ASSN
31 5-6
4863/2112
6.60 Ac.±

XX
PILLSBURY REALTY/ DEVELOPMENT LLC

90 PFO1E
35 PFO1E
35 PFO1E
64 PFO1E
39 PEM1F
S11 R4SB5
VP8
VP9

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

PUBLIC SERVICE EASEMENT (5094/2987)

SUBJECT TO ACCESS RIGHTS NOTED IN DEED 2932/2232- (LOCUS UNDETERMINED)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

GRID

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP16	13065A_TCP_P1	13065A	319	733

GRID

MATCH TO SHEET TCP02

MATCH TO SHEET TCP04

1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648

3639 3640 3641 3642 3643 3644 3645 3646 3647 3648 3649 3650

I-93 SB

I-93 NB

12' 12' 12' 10'

EXISTING L.A.R.O.W.
PER 5201G RETURN
BK. 1608 PG. 24

STA. 1638+60
BEGIN 35:1 SHOULDER REDUCTION
10' - 12' - 12' - 12' - 12' - 12'

STA. 1642+10
END 35:1 SHOULDER REDUCTION
BEGIN 70:1 LANE REDUCTION
10' - 12' - 12' - 12' - 12'

EXISTING LAROW
PER 10418-C

APPROX. EXISTING R.O.W.

emerg

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 1A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP03	13065A_TCP_P2A	13065A	320	733

GRID

MATCH TO SHEET TCP03

MATCH TO SHEET TCP05

INTERSTATE 93 SOUTHBOUND

INTERSTATE 93 NORTHBOUND

I-93 SB

I-93 NB

3651 3652 3653 3654 3655 3656 3657 3658 3659 3660 3661 3662 3663

1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661

STA. 1650+50
END 70:1 LANE REDUCTION
10' - 12' - 12' - 12' - 2'

STA. 1651+50
BEGIN PORTABLE
CONCRETE BARRIER
10' - 12' - 12' - 12' - 4'

BMP 1649

SMART WORK ZONE - I-93 EGRESS

MAINTAIN 3 LANES THROUGHOUT WORKZONE

SHOULDER AND LANE CLOSURE

10' 12' 12' 12'

TROLLEY CR...

APPROX. EXISTING R.O.W.

EXISTING L.A.R.O.W.

EXISTING R.O.W.

3717/1127, 5755/1154
1.17 Ac.±

MAZZAGLIA FAMILY TRUST

5761/1400
1.0 Ac.±

TUFTS, JOSEPH D. & NANCY M.

Approx. location of existing sewer

TOWN OF LONDONDERRY
3012/200
0.20 Ac.±

L.A. ROW

TRIBUTARY TO WHEELER POND

mixed woods

4'h wire

"attractions"

"south bnd mile 12.4"

"193 mile 12.4"

fiber optic mh

rip rap

mrm hdr

bgr

8"spp

6"spp

DMH BURRIEL

"emergency stopping only"

variable speed limit

speed limits

fiber optic

deflector

mm 12.4

north I-93 mile 12.4

conc pad 2.7' x 2'

6' dia conc structure

24" hope

15" hope

concrete pad

chain link

conc hdr

EXISTING L.A.R.O.W. PER 10418-C

EXISTING L.A.R.O.W. PER 5201G RETURN BK. 1608 PG. 24

PILLSBURY ROAD

LONDONDERRY ROAD

MAINTENANCE ACCESS

24"rcp

30"rcp

18"rcp

30" spp

24" spp

manchester 6 concord 24"

PILLSBURY REALTY DEVELOPMENT LLC

10
57
5155/1935
20.48 Ac.±

50 0 50 100
SCALE IN FEET

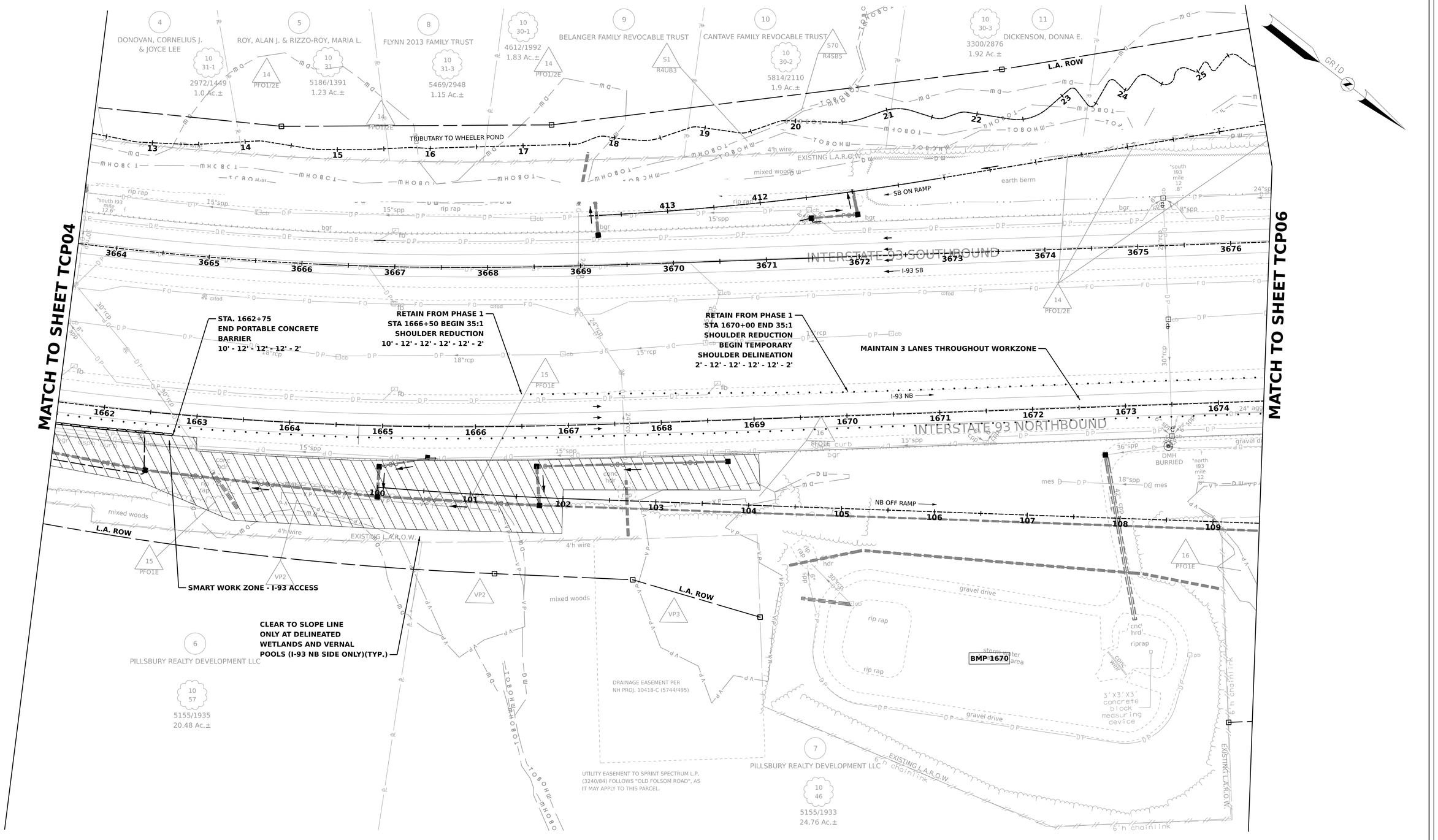
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P2A	13065A	321	733



50 0 50 100

SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P2A	13065A	322	733

MATCH TO SHEET TCP05

MATCH TO SHEET TCP07

GRID

SMART WORK ZONE
I-93 ACCESS

MAINTAIN PORTABLE
CONCRETE BARRIER
FROM PHASE 1

SMART WORK ZONE
I-93 EGRESS

RETAIN FROM PHASE 1
STA 1683+50 END SHOULDER
DELINEATION
BEGIN 8:1 SHOULDER OPENING
2' - 12' - 12' - 12' - 4'

RETAIN FROM PHASE 1
STA 1684+30 END 8:1
SHOULDER OPENING
10' - 12' - 12' - 12' - 2'

SMART WORK ZONE
I-93 ACCESS

SMART WORK ZONE
I-93 EGRESS

RELOCATE PORTABLE
CONCRETE BARRIER
FROM PHASE 1 TO 4' FROM
EDGE OF TRAVEL WAY

INTERSTATE 93 SOUTHBOUND

INTERSTATE 93 NORTHBOUND

I-93 SB

I-93 NB

SB ON RAMP

SB OFF RAMP

NB OFF RAMP

NB ON RAMP

NB ON SLIP RAMP

L.A. ROW

EXISTING L.A.R.O.W.

TRIBUTARY TO
WHEELER POND

OTERO, WILFREDO & ERIN

6179/921
3.79 Ac.±

32 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

3648/1645
2.37 Ac.±

34 TROLLEY
CAR LANE
CONDOMINIUM
ASSN.

3521/2066
2.66 Ac.±

36 TROLLEY CAR LANE CONDOMINIUM ASSN.

3559/388
4.31 Ac.±

HYRAX DERRY PARTNERS LLC

5061/554
94.48 Ac.±

PUBLIC
SERVICE
EASEMENT
(848/453 &
1337/305)

DRAINAGE EASEMENT PER
NH PROJ. 10418-C (5744/493)

mixed woods

earth berm

rip rap

4'h wire

18"spp

24"spp

15"spp

36"rcp

SCALE IN FEET
50 0 50 100

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

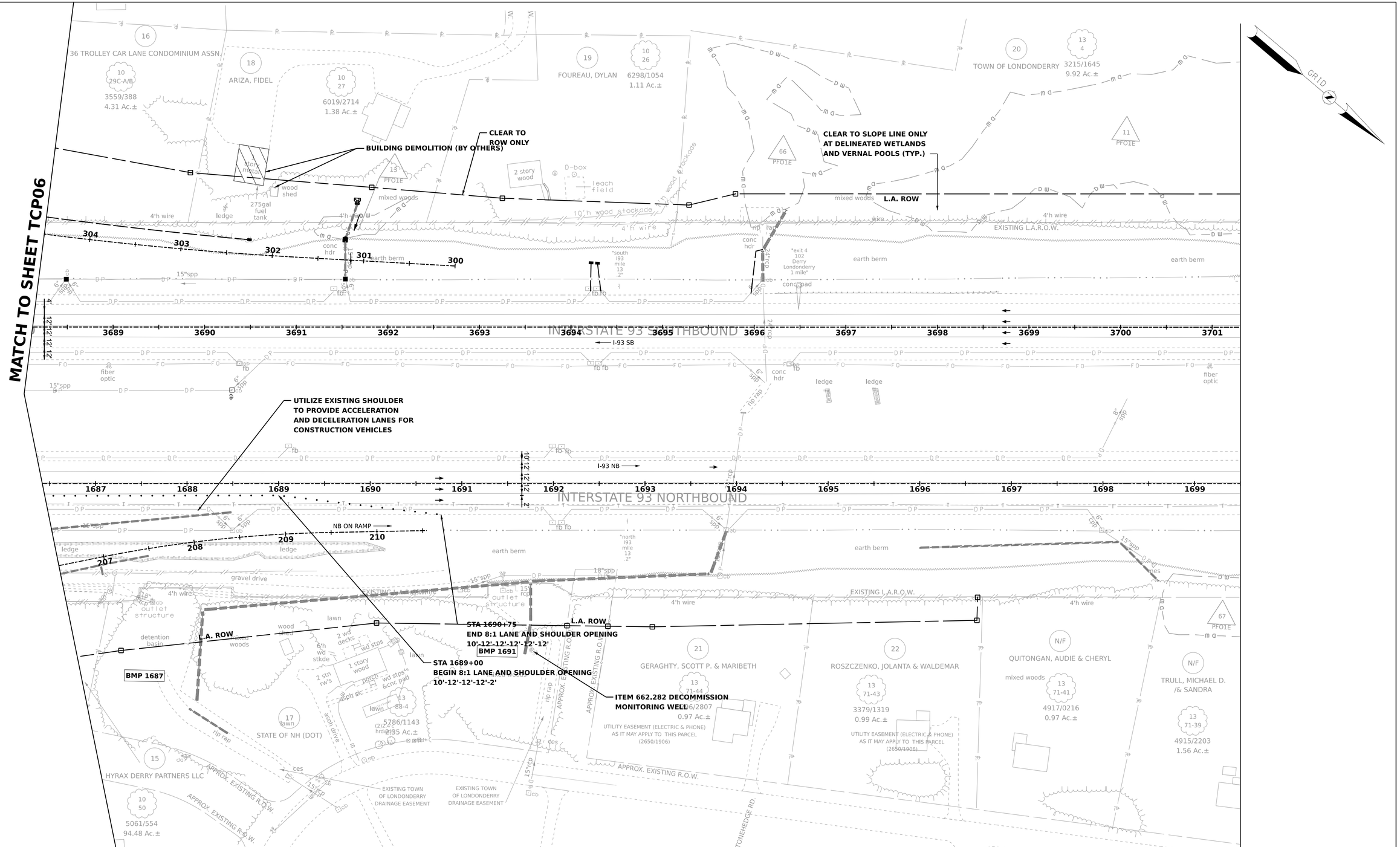
NUMBER	DATE	DESCRIPTION	STATION

REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP06	13065A_TCP_P2A	13065A	323	733



50 0 50 100

SCALE IN FEET

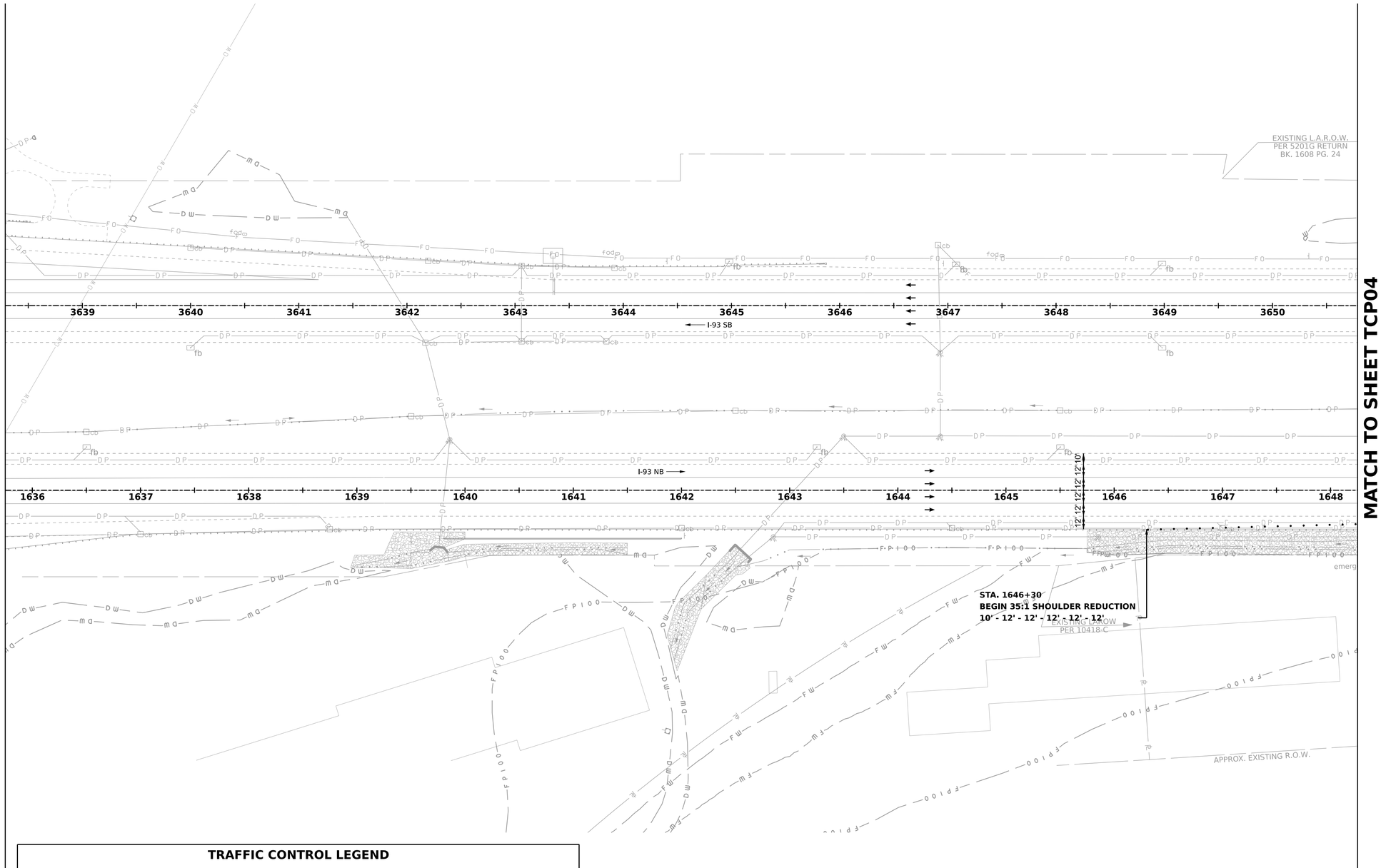
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	STATION	NUMBER	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 1A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P2A	13065A	324	733



TRAFFIC CONTROL LEGEND

- 13065A CONTRACT WORK
- WORK BY OTHERS
- TEMPORARY LIGHTING TRAILER
- TYPE III BARRICADE
- PORTABLE CONCRETE BARRIER (PCB) WITH DRAIN SLOTS
- TRAFFIC BARRELS
- TRAFFIC FLOW DIRECTION
- TEMPORARY IMPACT ATTENUATORS

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

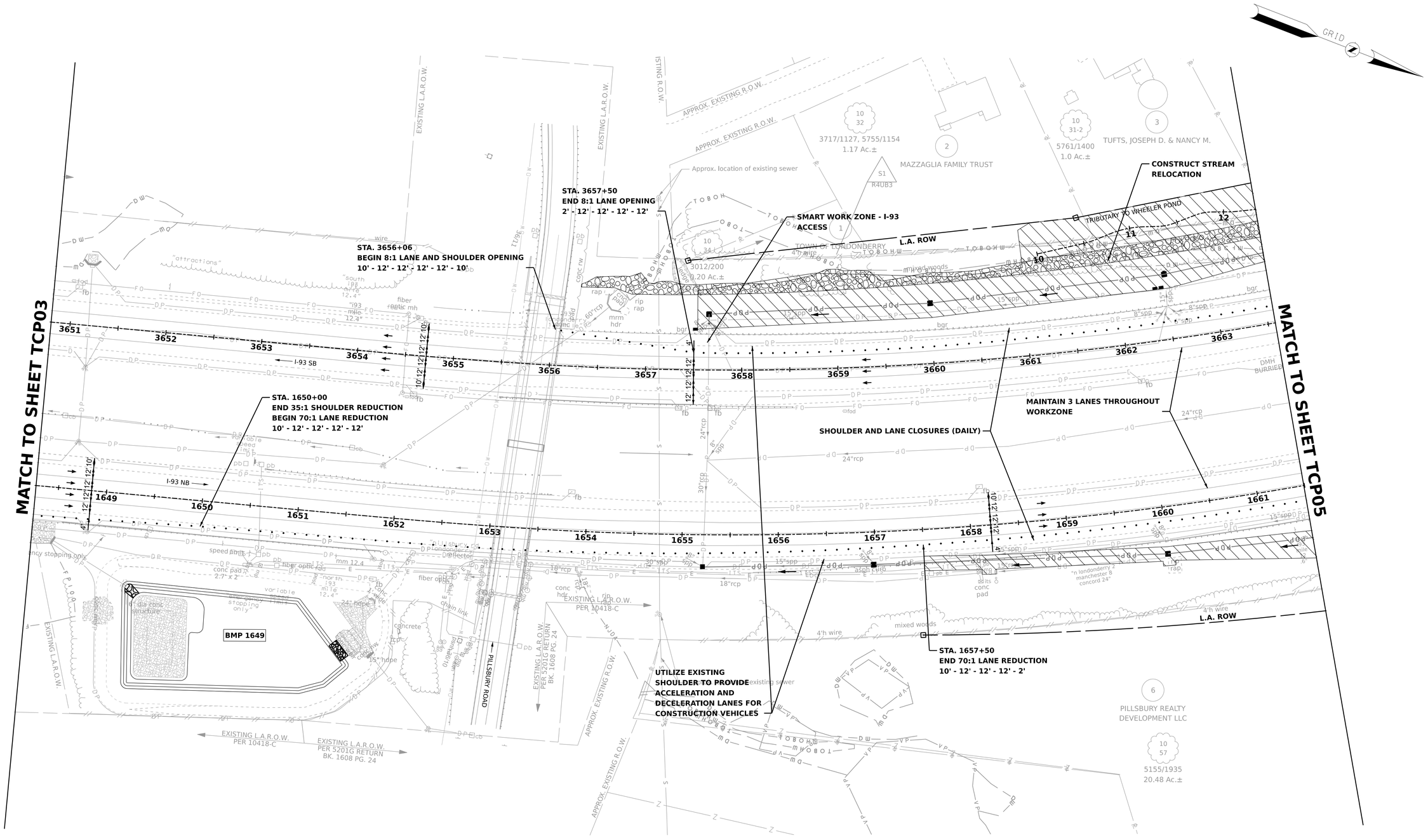
NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP03	13065A_TCP_P2	13065A	325	733



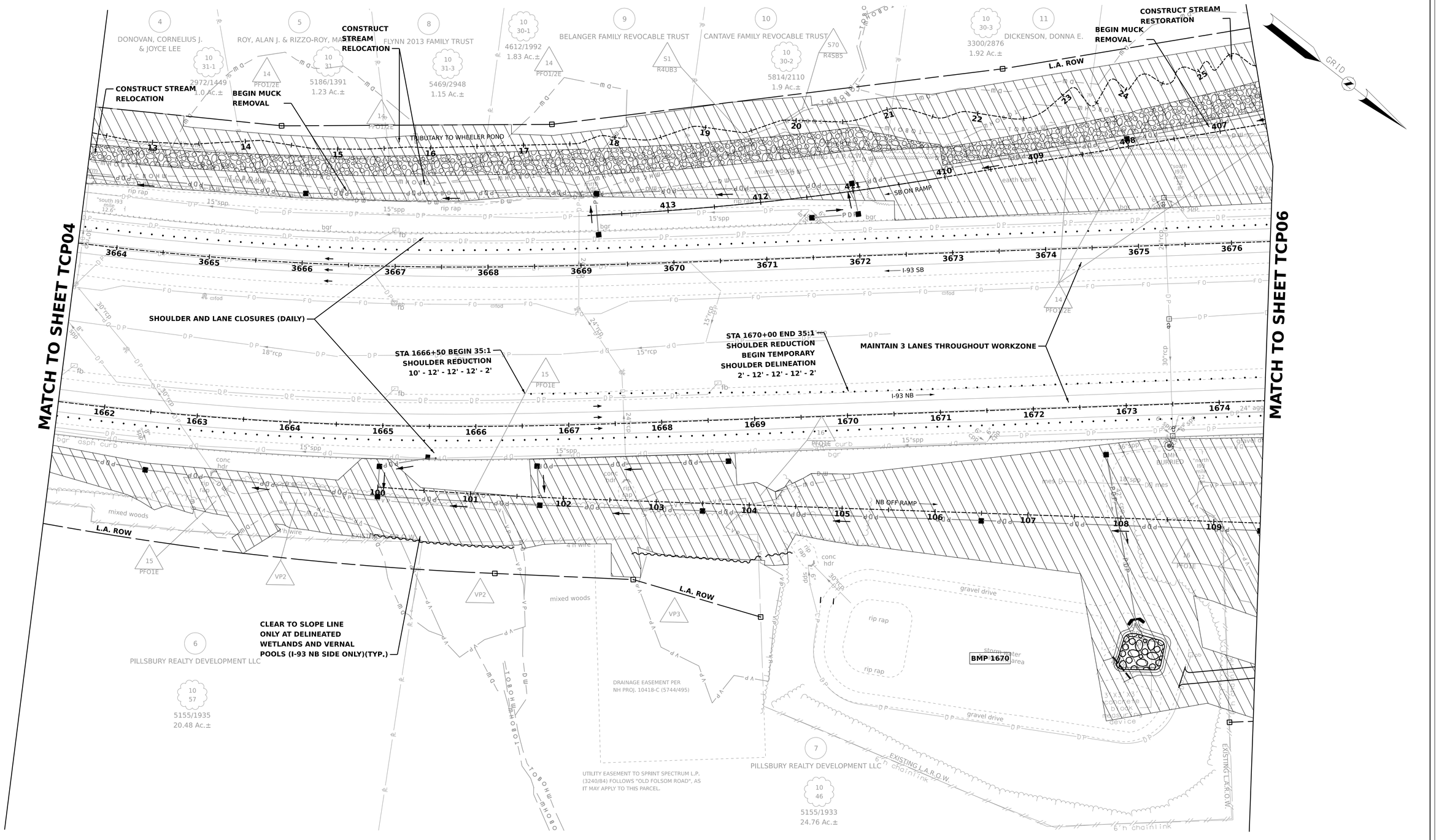
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P2	13065A	326	733



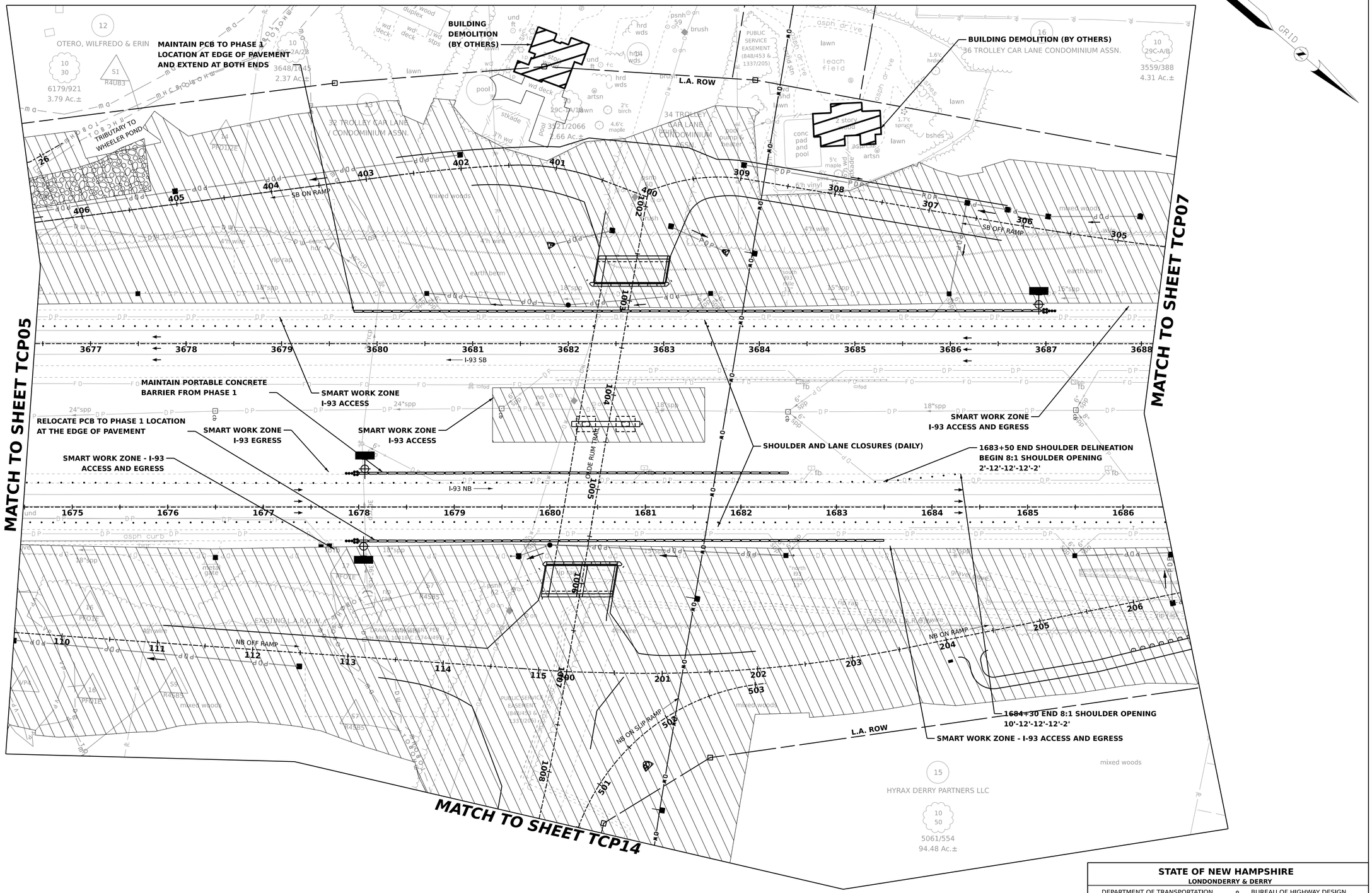
DESCRIPTION	STATION	DATE	NUMBER
REVISIONS AFTER PROPOSAL			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P2	13065A	327	733



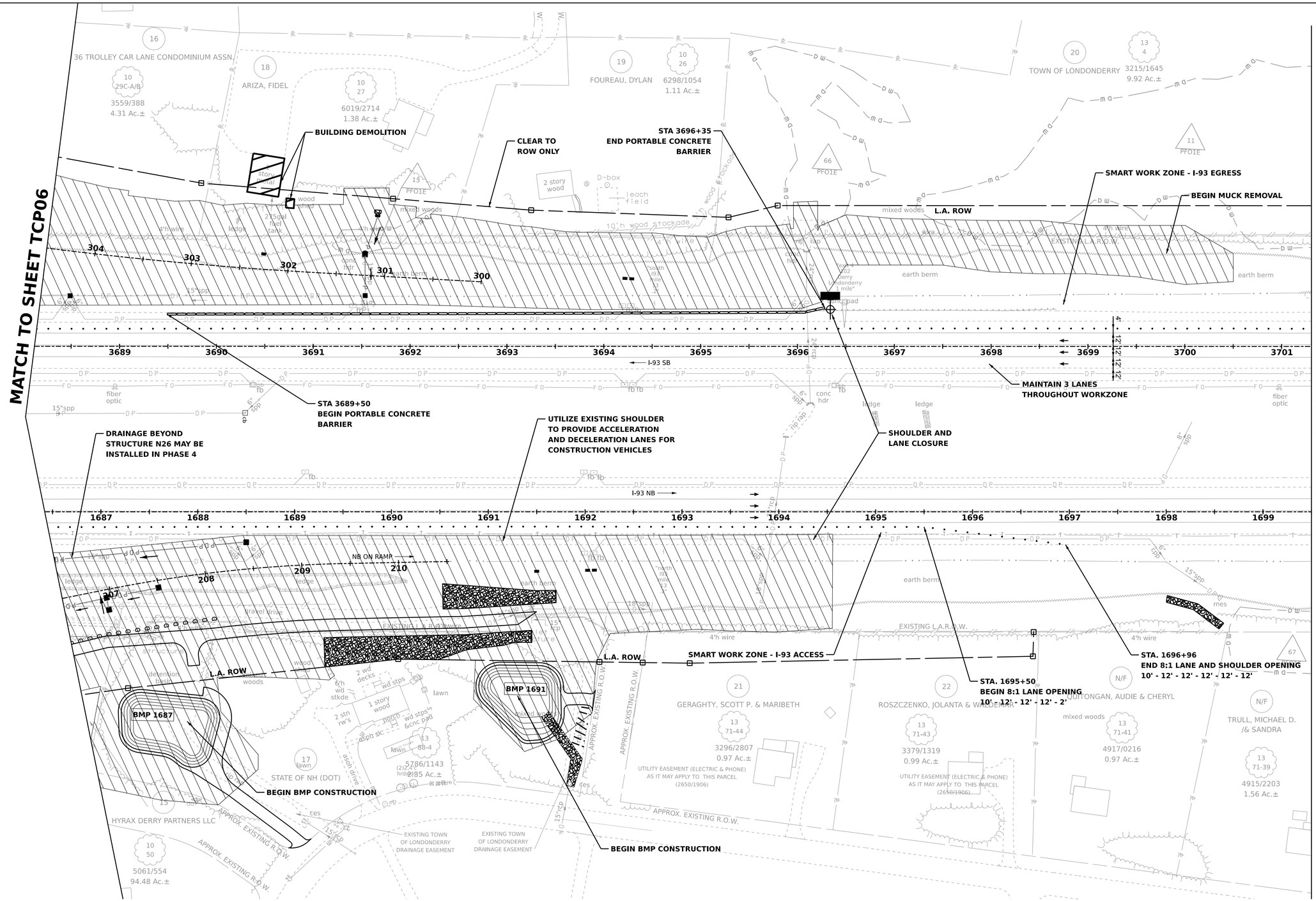
DESCRIPTION	STATION	STATION	NUMBER	DATE
REVISIONS AFTER PROPOSAL				

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP06	13065A_TCP_P2	13065A	328	733



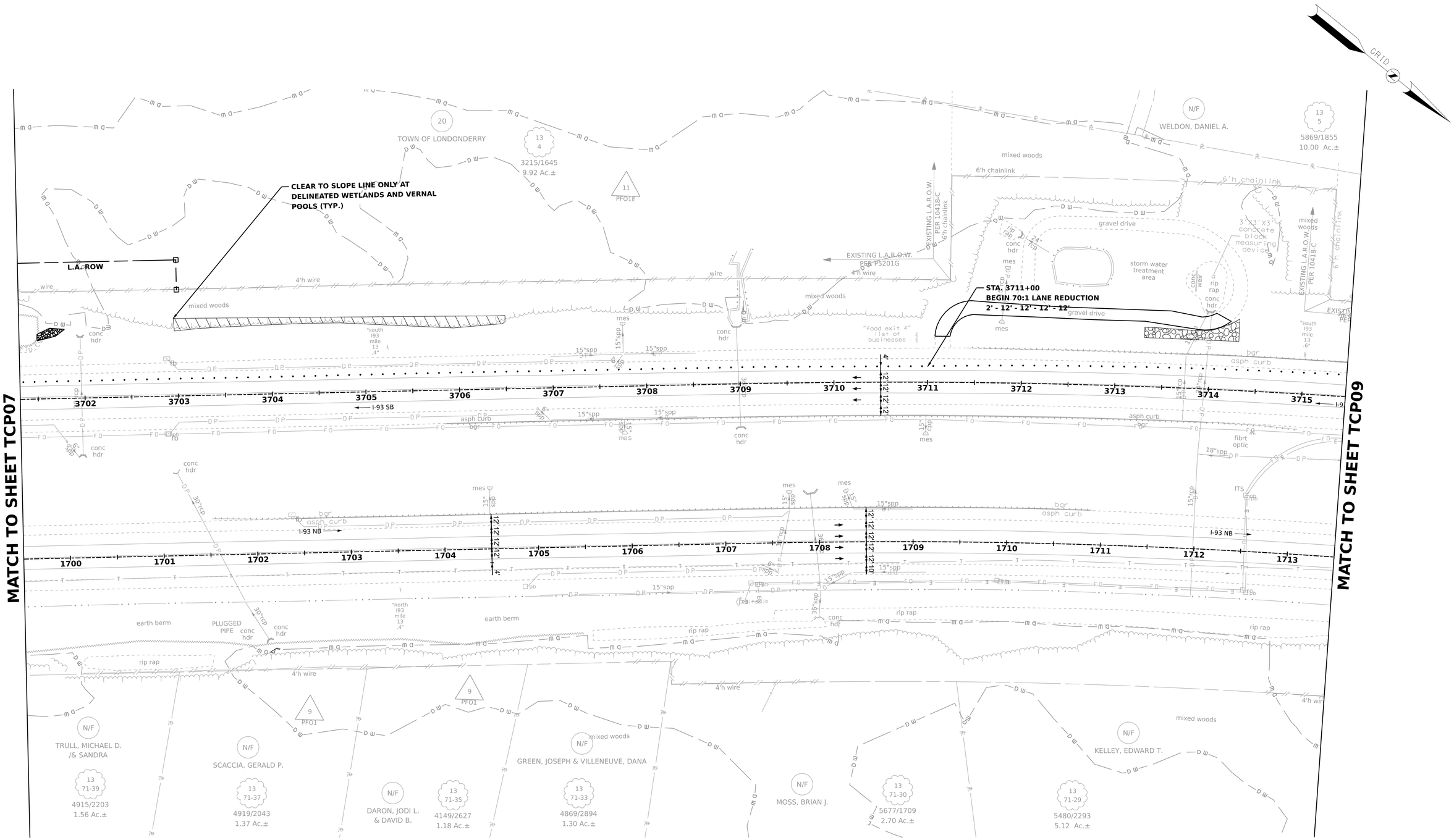
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P2	13065A	329	733



50 0 50 100

SCALE IN FEET

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

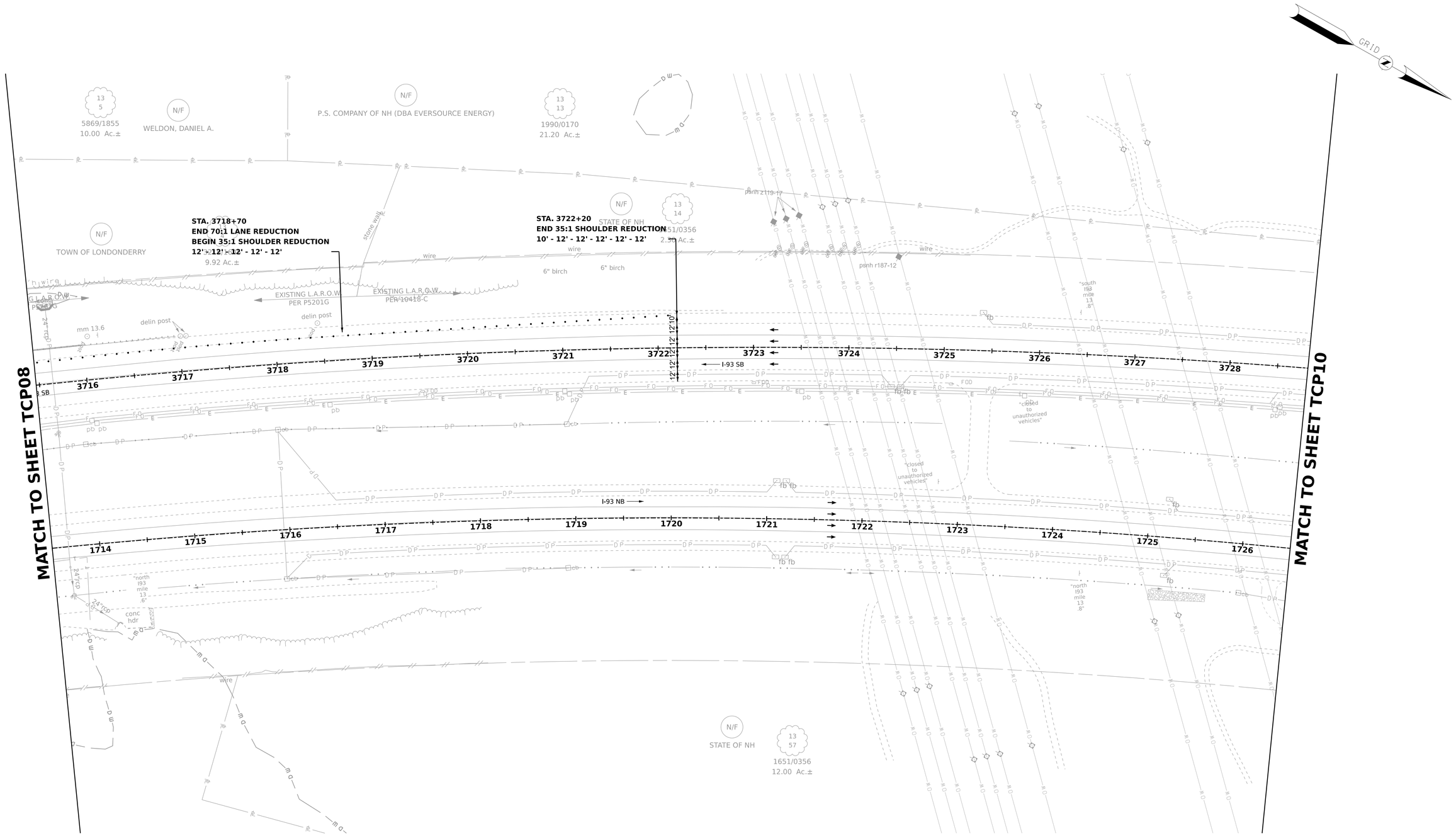
NUMBER	DATE	DESCRIPTION	STATION

REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP08	13065A_TCP_P2	13065A	330	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP09	13065A_TCP_P2	13065A	331	733

MATCH TO SHEET TCP06

MATCH TO SHEET TCP15

MATCH TO SHEET TCP05

L.A. ROW

C.A. ROW

OLDE RUM TRAIL

PUBLIC SERVICE EASEMENT
(848/453 & 1337/205)

BMP 1012

HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±

PILLSBURY REALTY DEVELOPMENT LLC
5155/1933
24.76 Ac.±

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

SCALE IN FEET
50 0 50 100

GRID

REVISIONS AFTER PROPOSAL

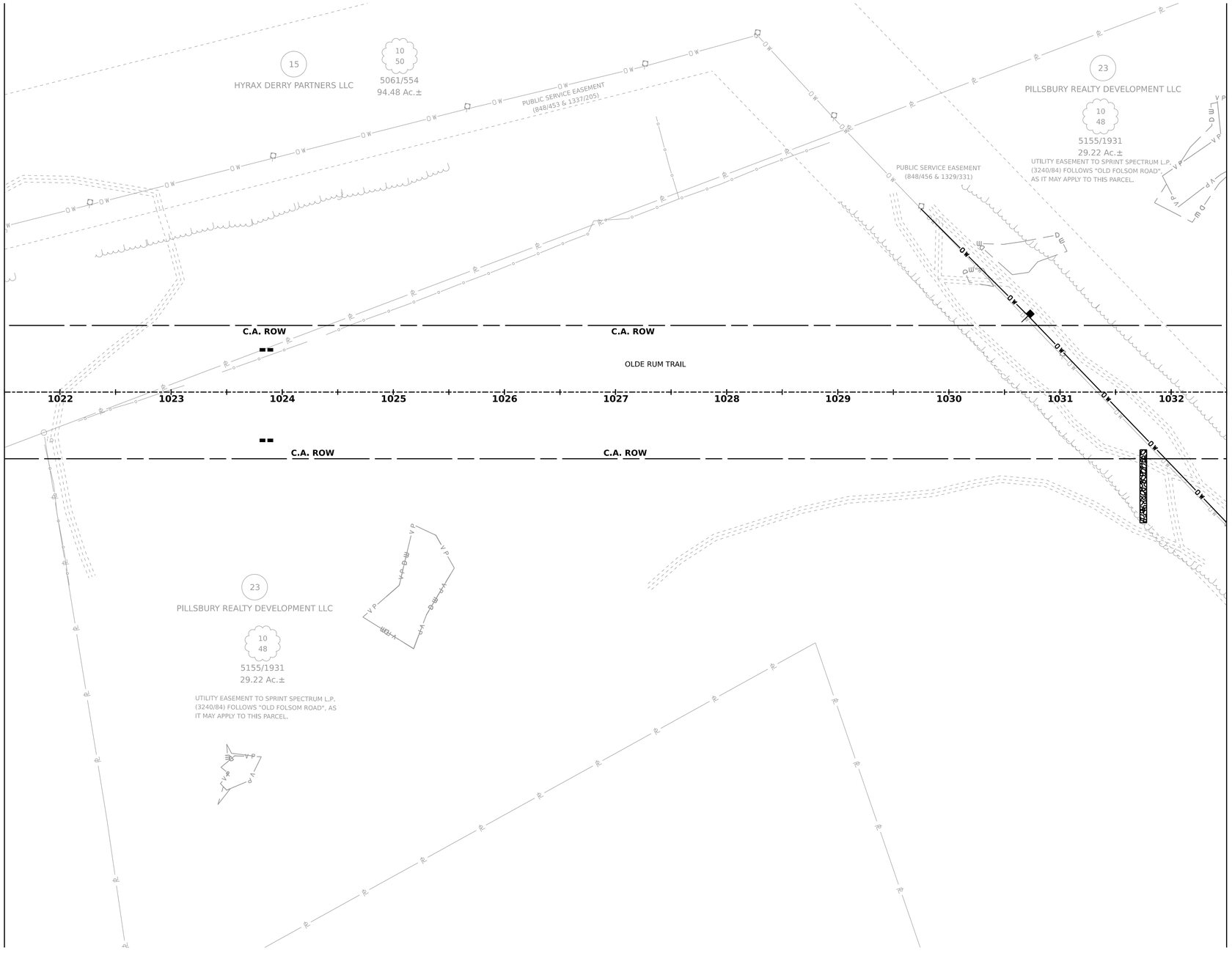
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP14	13065A_TCP_P2	13065A	332	733



50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP15	13065A_TCP_P2	13065A	333	733

MATCH TO SHEET TCP15

MATCH TO SHEET TCP17

DO NOT DISTURB BEYOND PROPERTY LINE

CONSTRUCT PROPOSED BMP B1038 FOR TEMPORARY STORMWATER BMP

BMP 1038

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

CONSTRUCT TEMPORARY ACCESS ROAD FOR MADDEN ROAD

INSTALL TEMPORARY CONSTRUCTION FENCING TO CONTROL ACCESS

MAINTAIN ACCESS TO ALL EXISTING PROPERTIES

C.A. ROW

OLDE RUM TRAIL

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

10 11 12 13 14 15

23 PILLSBURY REALTY DEVELOPMENT LLC
10 48
5155/1931
29.22 Ac.±

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

PUBLIC SERVICE EASEMENT (5094/2987)

24 SEVEN HILLS DEVELOPMENT LLC
10 49
3478/1743
8.84 Ac.±

26 SEVEN HILLS DEVELOPMENT, LLC
31 13
3443/1373
10.93 Ac.±

27 ABBOTT, MARCIA E.
31 12
2932/2232, 1695/86
2.01 Ac.±

SUBJECT TO ACCESS RIGHTS NOTED IN DEED 2932/2232 (LOCUS UNDETERMINED)

XX PILLSBURY REALTY/ DEVELOPMENT LLC

25 DERRY BUSINESS CENTER / UNIT OWNERS ASSN
31 5-6
4863/2112
6.60 Ac.±

90 PFO1E
35 PFO1E
64 PFO1E
39 PEM1F
S11 R4SB5
VP8
VP9

50 0 50 100
SCALE IN FEET

GRID

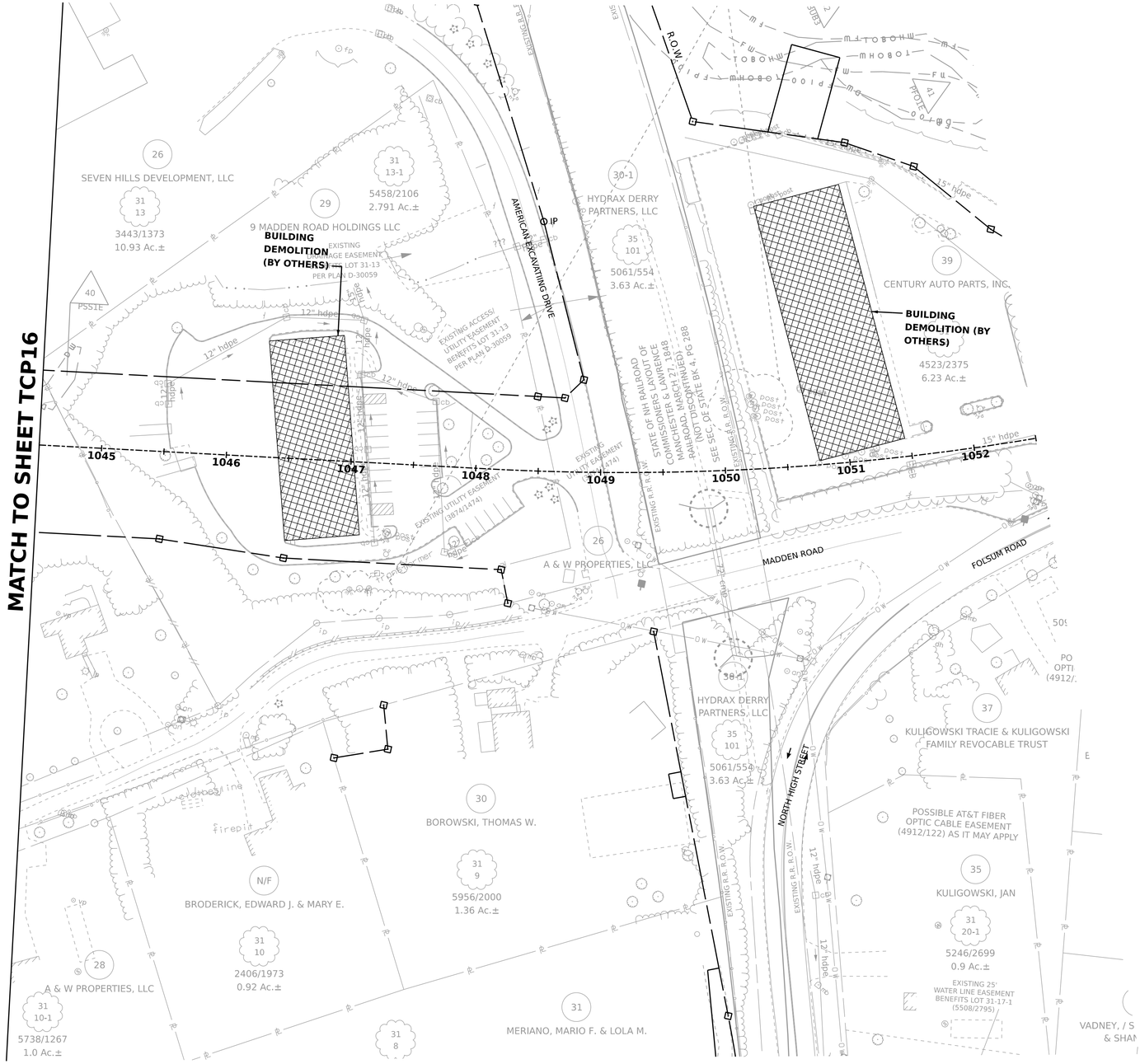
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP16	13065A_TCP_P2	13065A	334	733



50 0 50 100

SCALE IN FEET

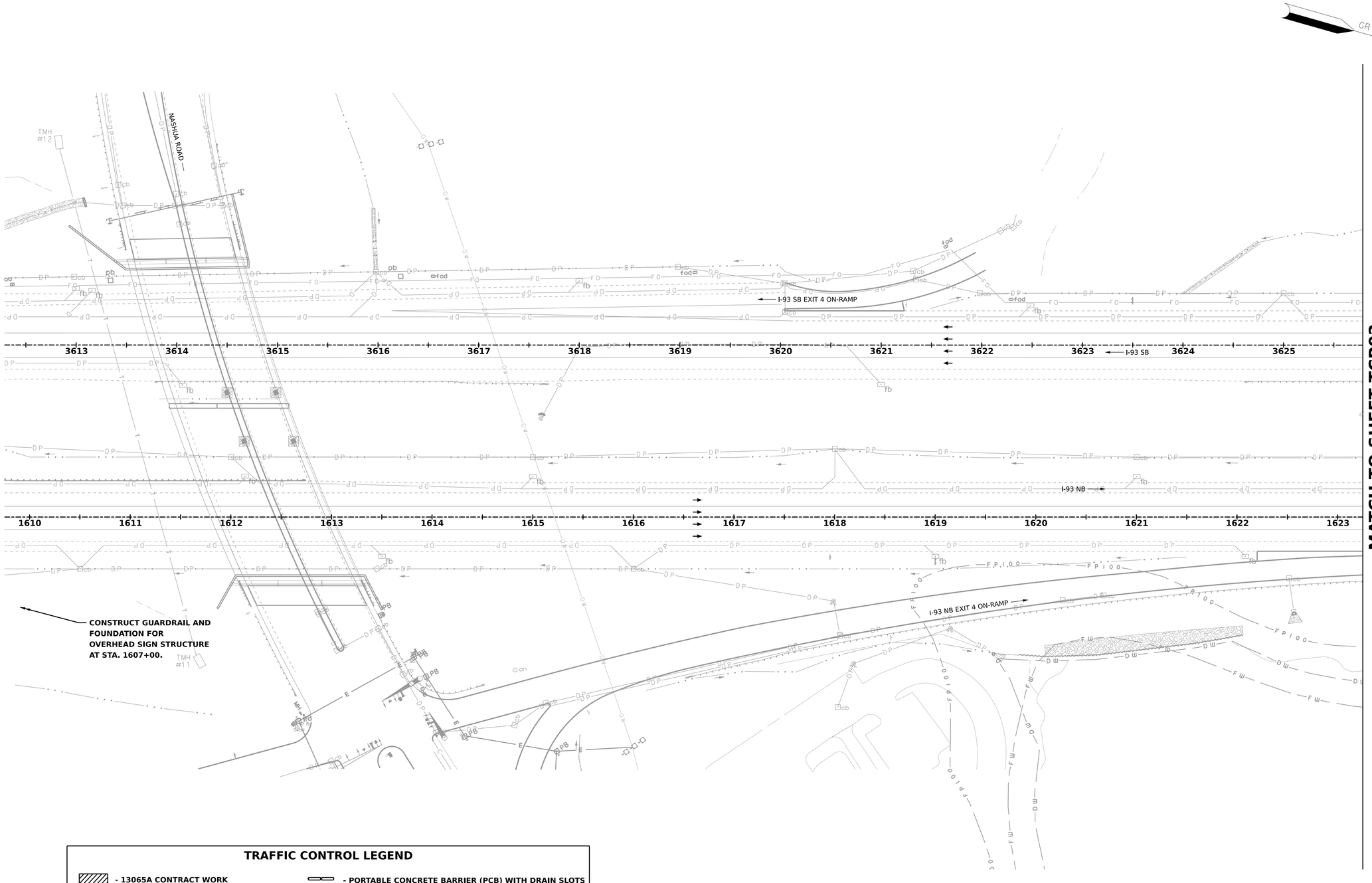
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 2

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP17	13065A_TCP_P2	13065A	335	733



TRAFFIC CONTROL LEGEND

- 13065A CONTRACT WORK
- WORK BY OTHERS
- TEMPORARY LIGHTING TRAILER
- TYPE III BARRICADE
- PORTABLE CONCRETE BARRIER (PCB) WITH DRAIN SLOTS
- TRAFFIC BARRELS
- TRAFFIC FLOW DIRECTION
- TEMPORARY IMPACT ATTENUATORS

50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

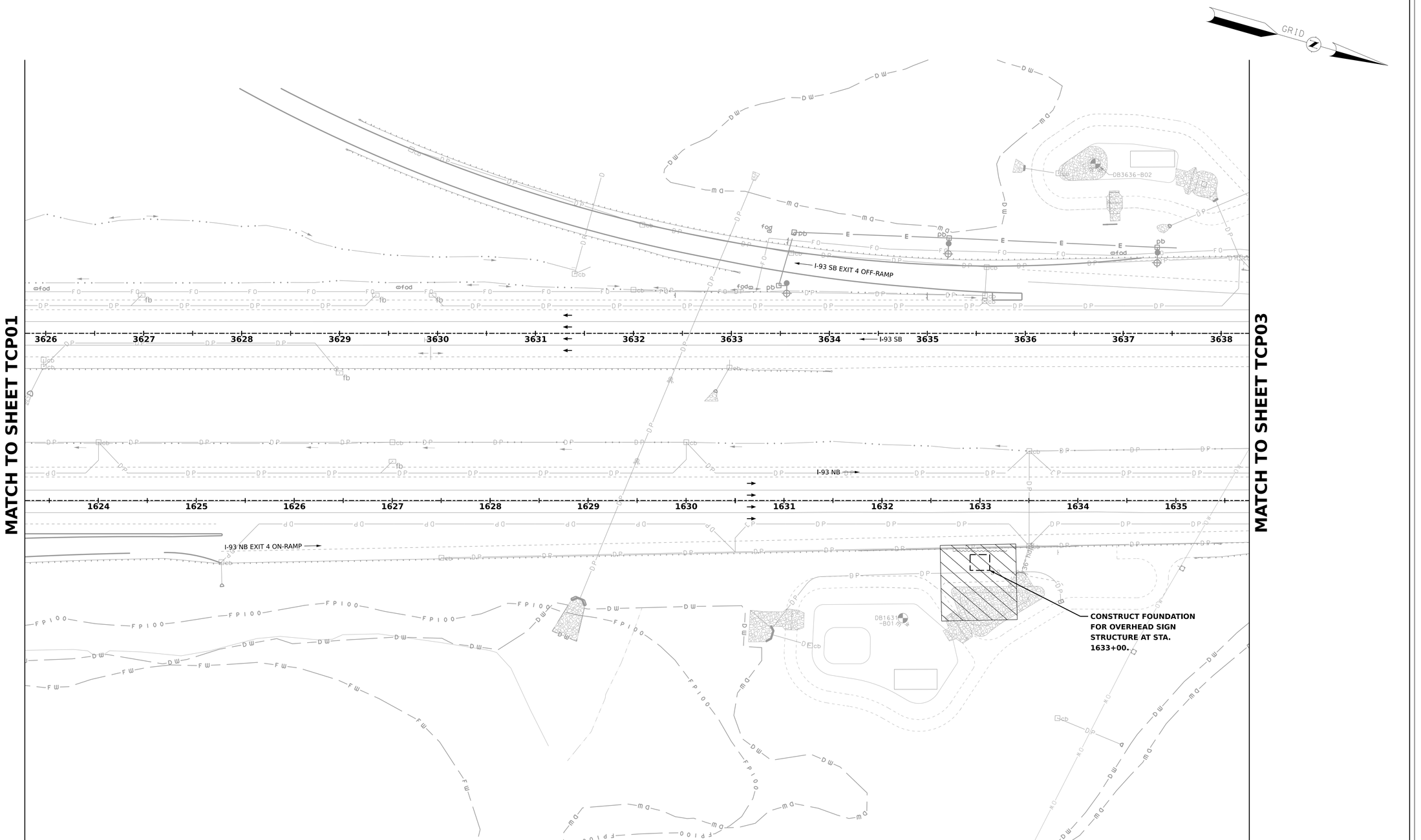
TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP01	13065A_TCP_P3	13065A	336	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP02	13065A_TCP_P3	13065A	337	733

GRID

MATCH TO SHEET TCP02

MATCH TO SHEET TCP04

3639 3640 3641 3642 3643 3644 3645 3646 3647 3648 3649 3650

1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648

I-93 SB

I-93 NB

12' 12' 10'

EXISTING L.A.R.O.W.
PER 5201G RETURN
BK. 1608 PG. 24

STA. 1642+00
BEGIN 35:1 SHOULDER REDUCTION
10' - 12' - 12' - 12' - 12' - 12'

STA. 1646+20
END 35:1 SHOULDER REDUCTION
BEGIN 70:1 LANE REDUCTION
10' - 12' - 12' - 12' - 12'

EXISTING LAROW
PER 10418-C

APPROX. EXISTING R.O.W.

emerg

50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP03	13065A_TCP_P3	13065A	338	733

GRID

MATCH TO SHEET TCP03

MATCH TO SHEET TCP05

STA. 3653+06
BEGIN 8:1 LANE AND SHOULDER OPENING
10' - 12' - 12' - 12' - 12' - 10'

SMART WORK ZONE - I-93 ACCESS

STA. 3654+50
BEGIN PORTABLE CONCRETE BARRIER
END 8:1 LANE OPENING
4' - 12' - 12' - 12' - 10'

STA. 3657+25, LT
BEGIN SOUNDWALL CONSTRUCTION

MILL AND INLAY OUTSIDE LANE AND SHOULDER THROUGH WORKZONE

MAINTAIN 3 LANES THROUGHOUT WORKZONE

STA. 1655+40
END 20:1 PORTABLE CONCRETE BARRIER TAPER
10' - 12' - 12' - 12' -4'

CONSTRUCT FOUNDATION FOR OVERHEAD SIGN STRUCTURE AT STATION 1657+18.

STA. 1654+60
END 70:1 LANE REDUCTION
BEGIN 20:1 PORTABLE CONCRETE BARRIER TAPER
10' - 12' - 12' - 12' - 8'

SMART WORK ZONE - I-93 ACCESS

BMP 1649

I-93 NB

I-93 SB

PILLSBURY ROAD

EXISTING L.A.R.O.W.

APPROX. EXISTING R.O.W.

EXISTING L.A.R.O.W. PER 10418-C

EXISTING L.A.R.O.W. PER 5201G RETURN BK. 1608 PG. 24

TRIBUTARY TO WHEELER POND

L.A. ROW

TOWN OF LONDONDERRY
3012/200
0.20 Ac.±

3717/1127, 5755/1154
1.17 Ac.±
MAZZAGLIA FAMILY TRUST

5761/1400
1.0 Ac.±
TUFTS, JOSEPH D. & NANCY M.

PILLSBURY REALTY DEVELOPMENT LLC
5155/1935
20.48 Ac.±

Approx. location of existing sewer

mixed woods

50 0 50 100
SCALE IN FEET

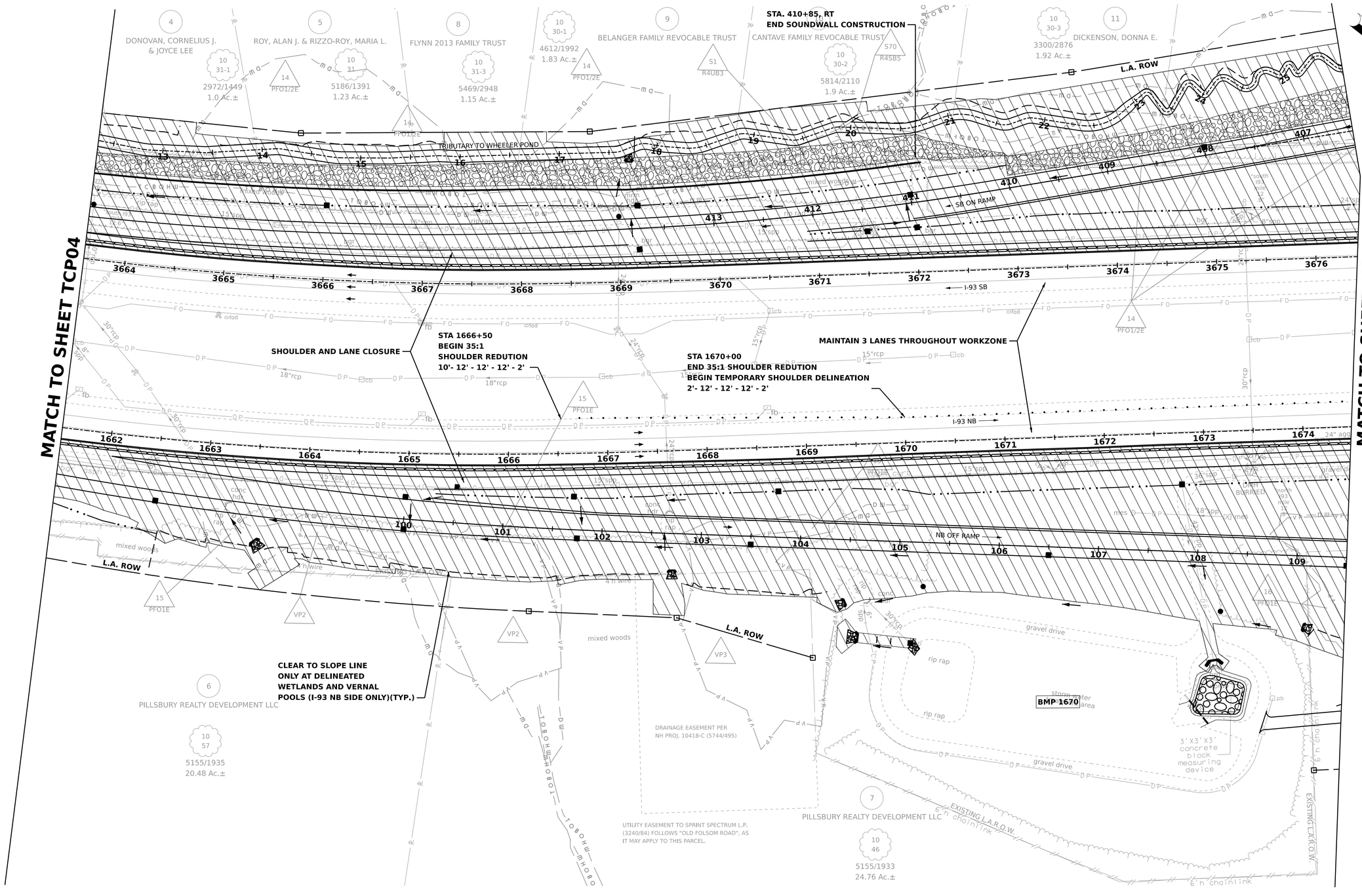
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P3	13065A	339	733



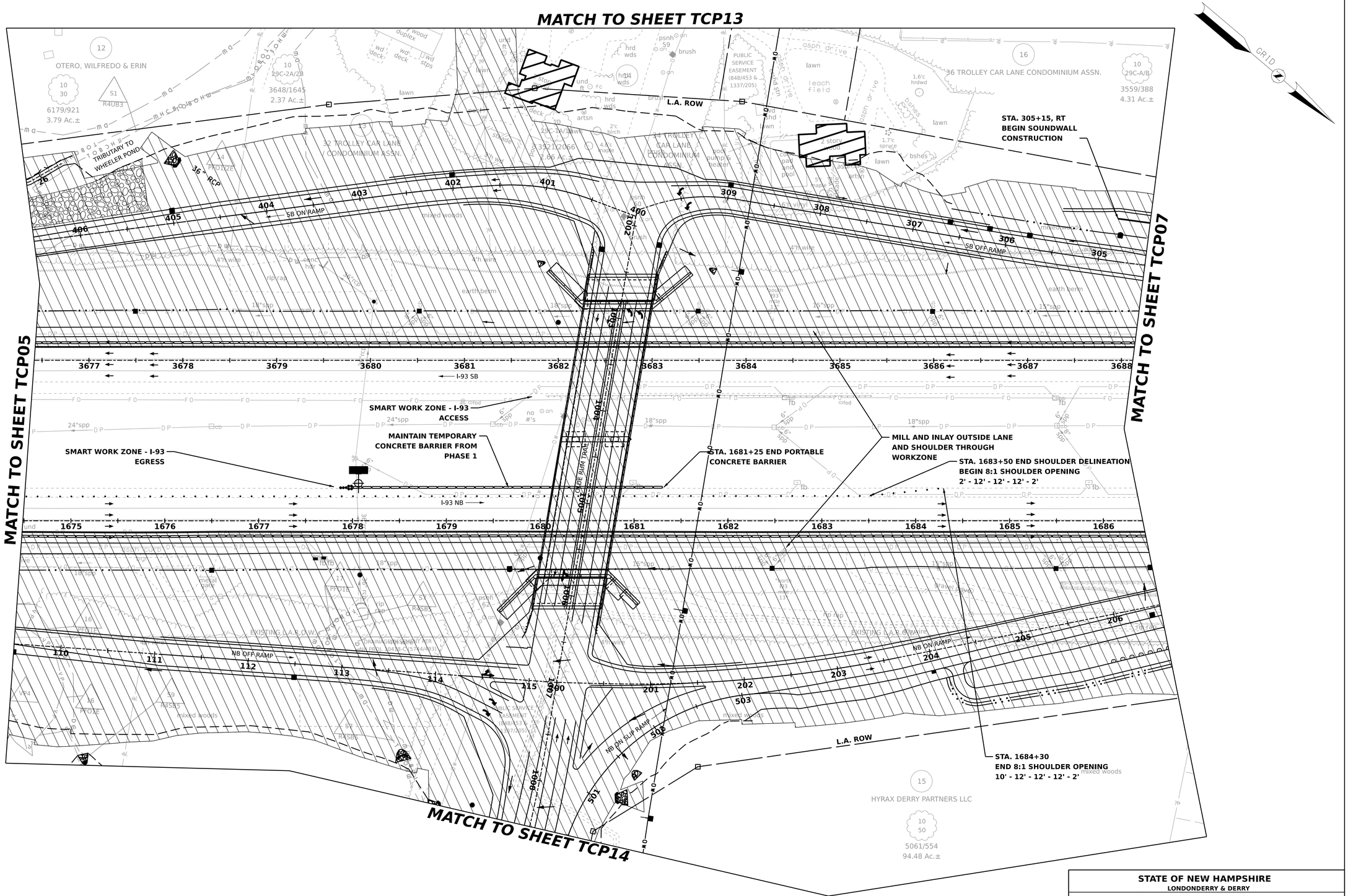
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

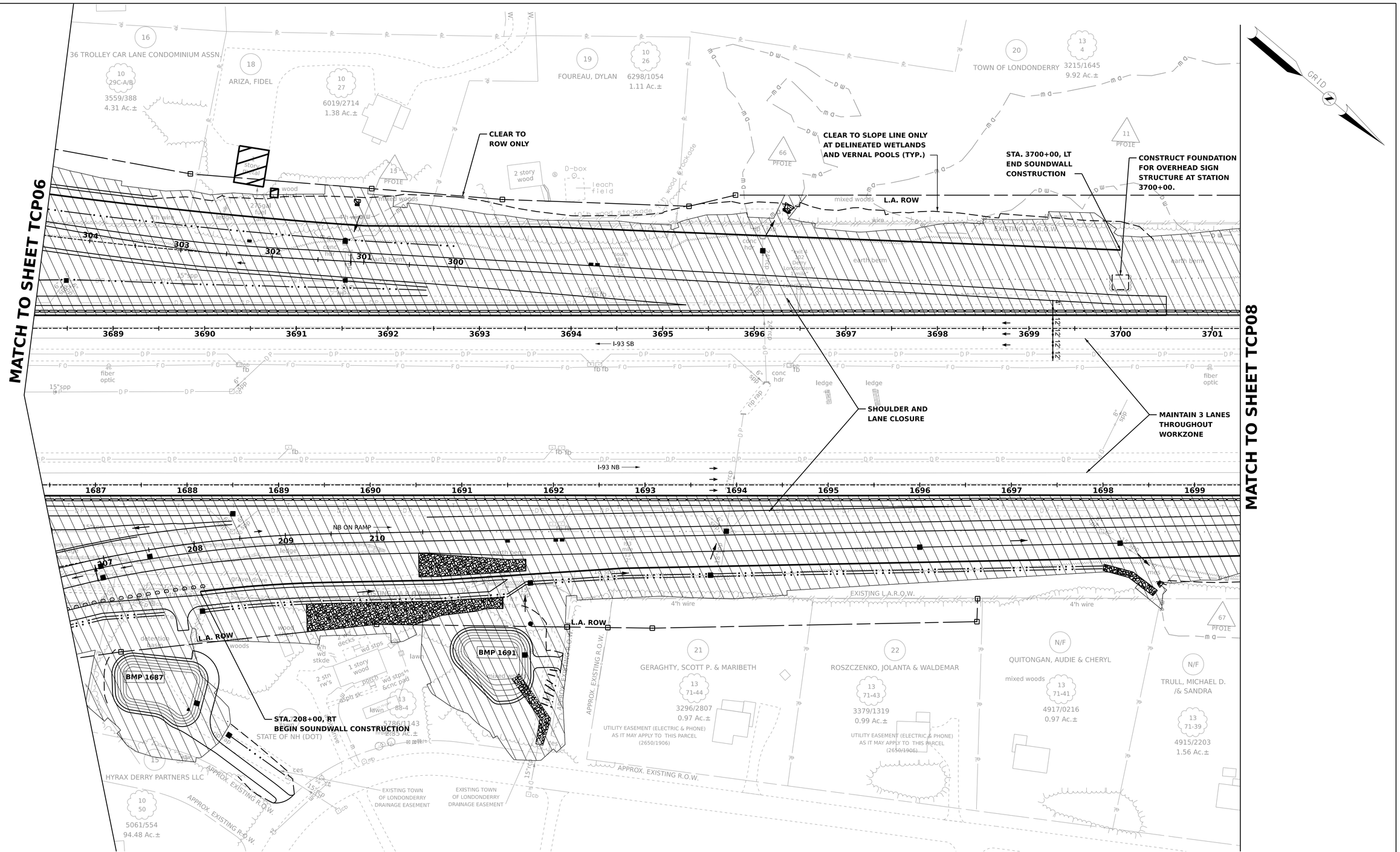
NUMBER	DATE	STATION	DESCRIPTION
REVISIONS AFTER PROPOSAL			

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P3	13065A	340	733


MATCH TO SHEET TCP13
MATCH TO SHEET TCP05
MATCH TO SHEET TCP07
MATCH TO SHEET TCP14
GRID
OTERO, WILFREDO & ERIN
6179/921
3.79 Ac.±
3648/1645
2.37 Ac.±
32 TROLLEY CAR LANE CONDOMINIUM ASSN.
34 TROLLEY CAR LANE CONDOMINIUM ASSN.
36 TROLLEY CAR LANE CONDOMINIUM ASSN.
3559/388
4.31 Ac.±
3521/2066
2.66 Ac.±
L.A. ROW
PUBLIC SERVICE EASEMENT (B48/453 & 1337/205)
TRIBUTARY TO WHEELER POND
36" RCP
SB DN RAMP
SB OFF RAMP
NB OFF RAMP
NB DN RAMP
NB DN SLIP RAMP
STA. 305+15, RT
BEGIN SOUNDWALL CONSTRUCTION
SMART WORK ZONE - I-93 ACCESS
SMART WORK ZONE - I-93 EGRESS
MAINTAIN TEMPORARY CONCRETE BARRIER FROM PHASE 1
STA. 1681+25 END PORTABLE CONCRETE BARRIER
MILL AND INLAY OUTSIDE LANE AND SHOULDER THROUGH WORKZONE
STA. 1683+50 END SHOULDER DELINEATION BEGIN 8:1 SHOULDER OPENING
2' - 12' - 12' - 12' - 2'
STA. 1684+30
END 8:1 SHOULDER OPENING
10' - 12' - 12' - 12' - 2'
I-93 SB
I-93 NB
LONGE RUN TRAIL
EXISTING L.A.R.O.W.
HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±
mixed woods
earth berm
rip-rap
4" h wire
24"spp
18"spp
15"spp
12"spp
6"spp
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040



REVISIONS AFTER PROPOSAL

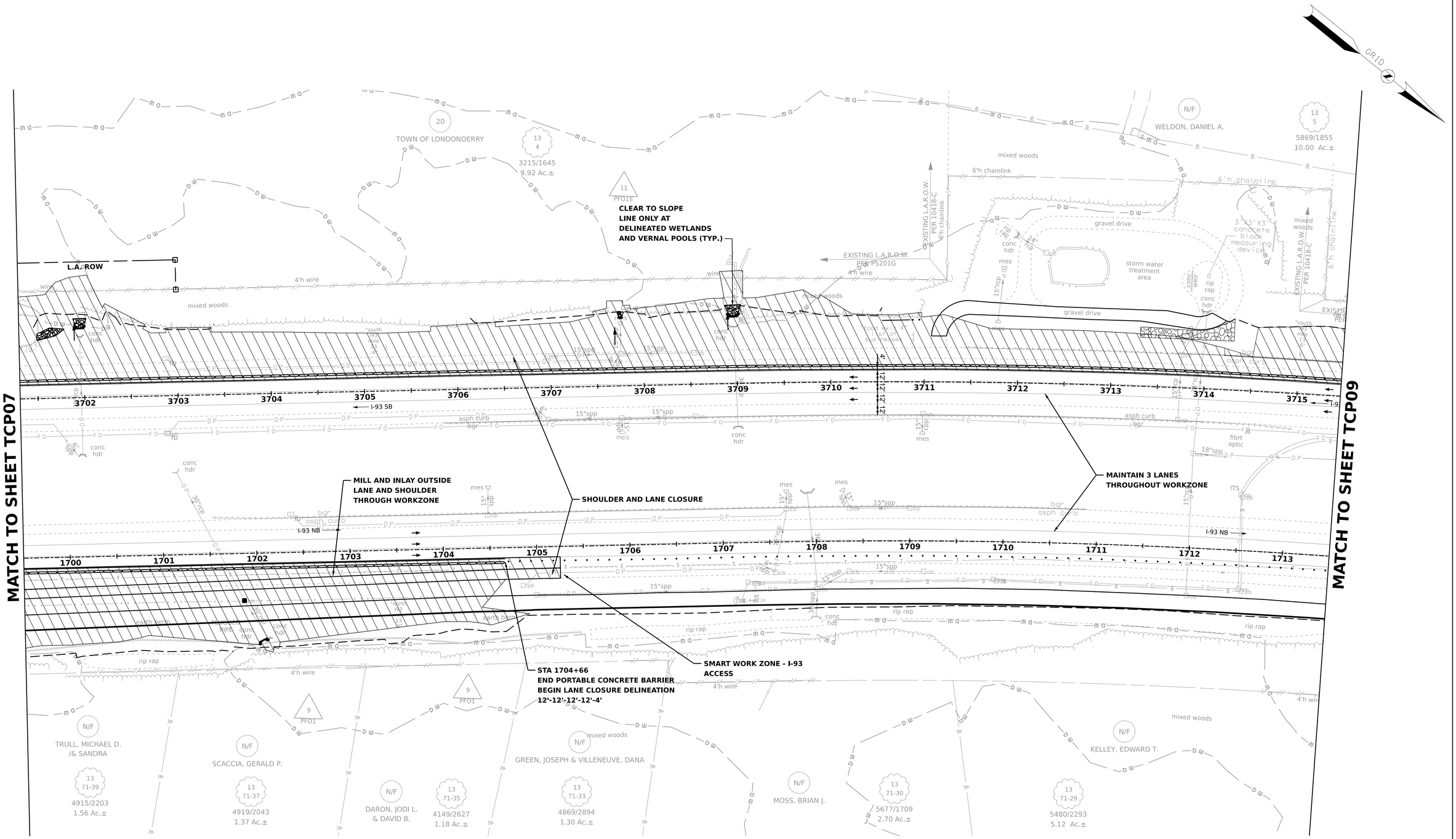
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P3	13065A	342	733



50 0 50 100

SCALE IN FEET

		DESCRIPTION	STATION	DATE	NUMBER
REVISIONS AFTER PROPOSAL					

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP08	13065A_TCP_P3	13065A	343	733

GRID

MATCH TO SHEET TCP08

MATCH TO SHEET TCP10

STA. 3719+50
END PORTABLE CONCRETE BARRIER
4' - 12' - 12' - 12' -12'

SMART WORK ZONE - I-93 EGRESS

CONSTRUCT FOUNDATION FOR OVERHEAD SIGN STRUCTURE AT STATION 3721+50.

STA. 3725+00
BEGIN 70:1 LANE REDUCTION
4' - 12' - 12' - 12' - 12'

UTILIZE EXISTING SHOULDER TO PROVIDE ACCELERATION AND DECELERATION LANES FOR CONSTRUCTION VEHICLES

SHOULDER AND LANE CLOSURE

UTILIZE EXISTING SHOULDER TO PROVIDE ACCELERATION AND DECELERATION LANES FOR CONSTRUCTION VEHICLES

STA. 1719+94
END 8:1 LANE AND SHOULDER OPENING
12' - 12' - 12' - 12' - 12' - 12' - 10'

STA. 1717+50, RT
END SOUNDWALL CONSTRUCTION

STA. 1717+50
BEGIN 8:1 LANE OPENING
12' - 12' - 12' - 12' -4'

I-93 SB

I-93 NB

N/F
TOWN OF LONDONDERRY
13 4
3215/1645
9.92 Ac.±

N/F
WELDON, DANIEL A.
13 5
5869/1855
10.00 Ac.±

N/F
P.S. COMPANY OF NH (DBA EVERSOURCE ENERGY)
13 13
1990/0170
21.20 Ac.±

N/F
STATE OF NH
13 14
1651/0356
2.30 Ac.±

N/F
STATE OF NH
13 57
1651/0356
12.00 Ac.±

50 0 50 100
SCALE IN FEET

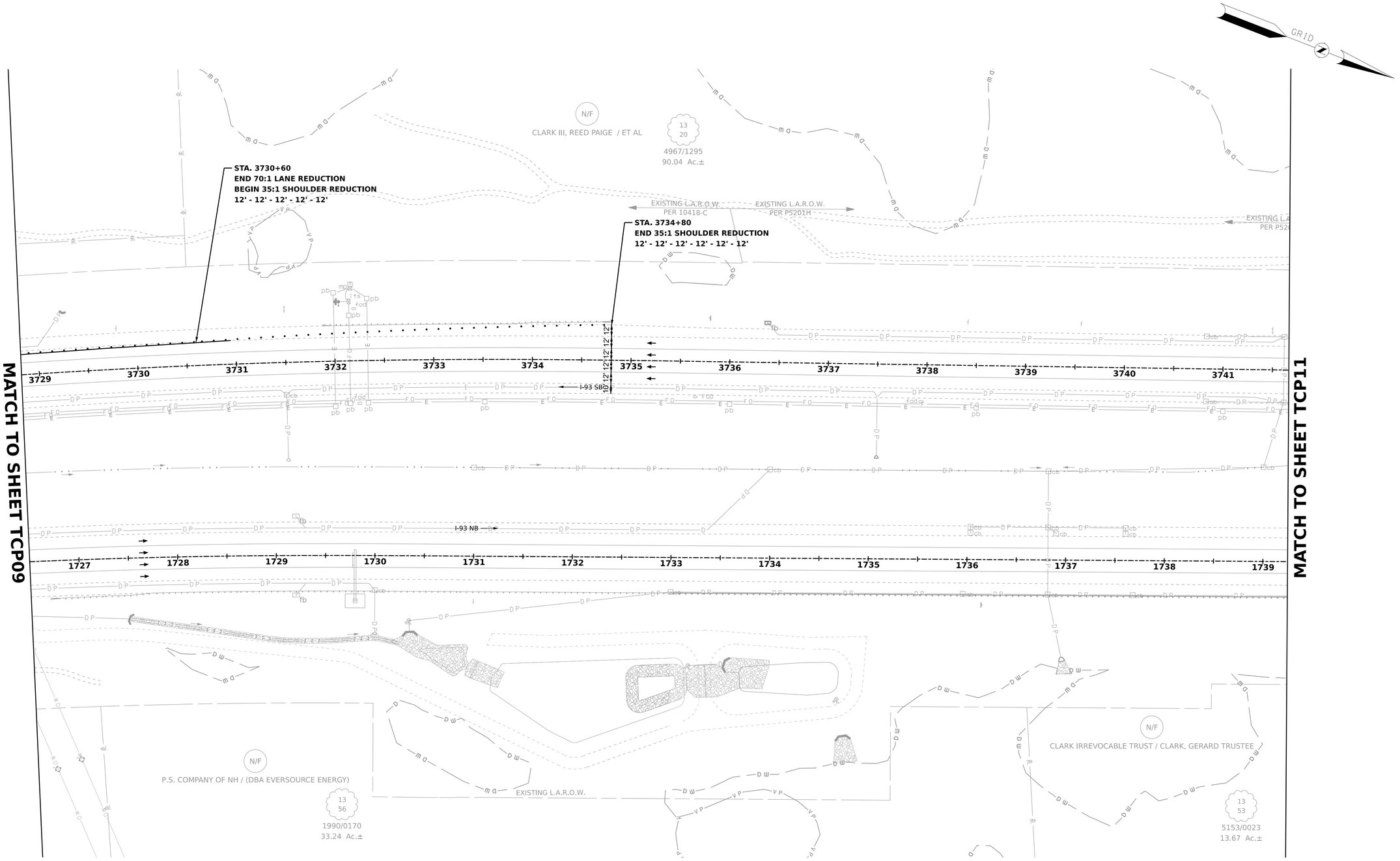
REVISIONS AFTER PROPOSAL	NUMBER	DATE	DESCRIPTION
			STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP09	13065A_TCP_P3	13065A	344	733



50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

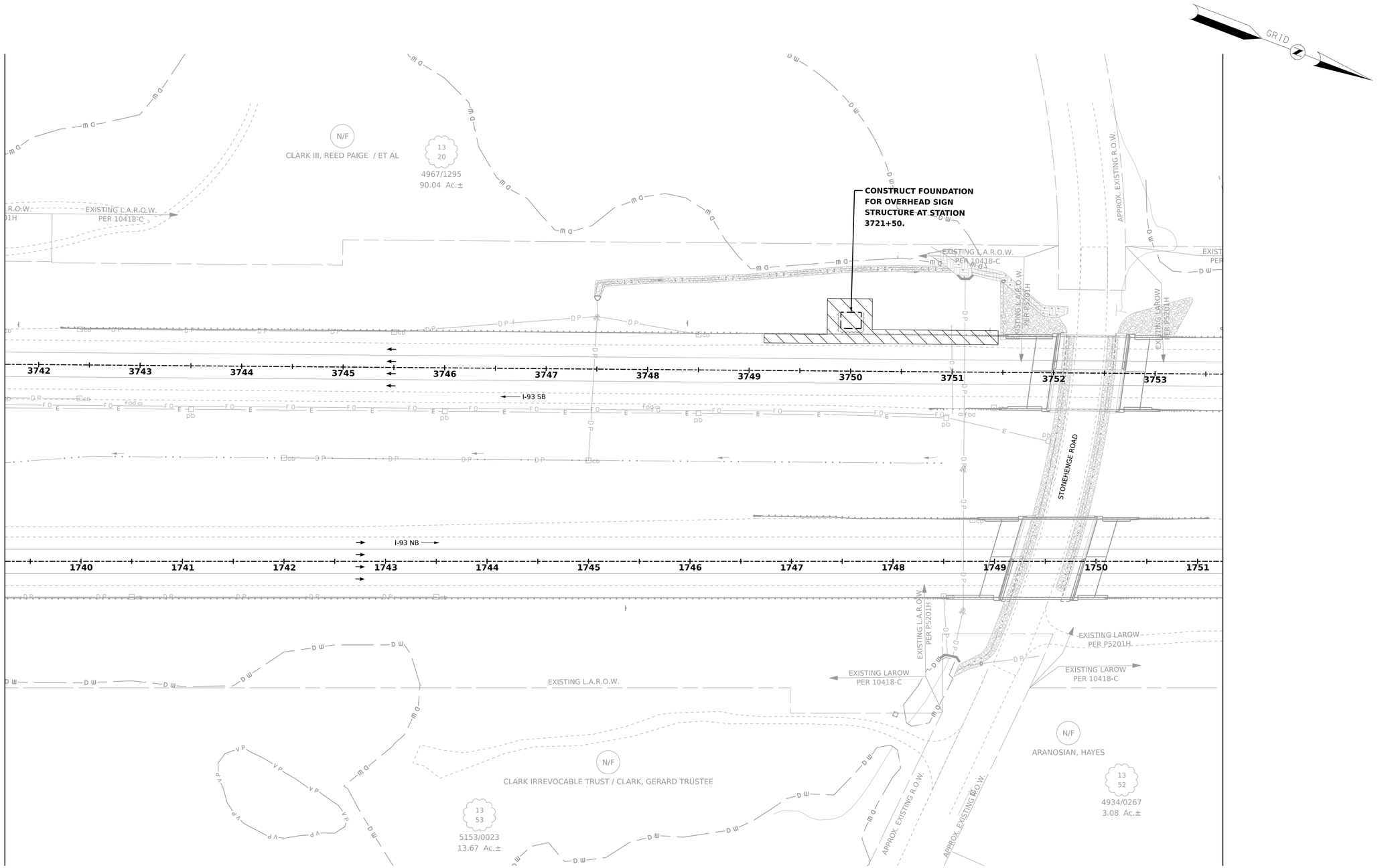
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP10	13065A_TCP_P3	13065A	345	733



50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP11	13065A_TCP_P3	13065A	346	733

GRID

INSTALL CONDUIT FOR POWER FOR TRAFFIC SIGNALS, LIGHTING AND ITS.

TROLLEY CAR LANE

S92
R45B

S91
R45B

91
PFO1/PEM1/
PSS1

bel
231-15

psco
22h-10
net
231
10

13
32 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

EXISTING PHONE & ELECTRIC EASEMENT (3521/2066)

EXISTING DRAINAGE EASEMENT

conc block plntr

1cy bldr

conc slab

1.5 hrdwd

psnh
22H-11
wel11

3'x4'w CONCRETE box culvert

EXISTING MAINTENANCE EASEMENT

mixed woods

10
29C-2A/2B

both sides culvert

1-4.5'c oak
2-7.5'c maple

conc pad

brk plntr

ball
32'
ap

grnd stone

asph drive

wd stps

3'c cherry

2 stone

12
OTERO, WILFREDO & ERIN

10
30
6179/921
3.79 Ac.±

3648/1645
2.37 Ac.±

14
34 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

lawn

leach field

mxd wds

EXISTING DRIVEWAY EASEMENT BENEFITS ABUTTER

10
29C-1A/1B

3521/2066
2.66 Ac.±

22H-12
12 net

EXISTING DRAINAGE EASEMENT

spot shots

brush

PUBLIC SERVICE EASEMENT (848/453 & 1337/205)

psco
22H
13xa
bell
231
13R

16
36 TROLLEY CAR LANE
/ CONDOMINIUM ASSN.

mixed wood

10
29C-A/B
3559/388
4.31 Ac.±

229
psco
22h-13
psnh
365x
58
13
net

15cy
bldr

6T
psnh
22H
13x
bell
13

9"dia
3 sewer
cleanouts

MATCH TO SHEET TCP06

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP13	13065A_TCP_P3	13065A	347	733

CONSTRUCT FOUNDATION FOR OVERHEAD SIGN STRUCTURE AT STATION 1010+00.

MATCH TO SHEET TCP06

MATCH TO SHEET TCP15

L.A. ROW

C.A. ROW

OLDE RUM TRAIL

PUBLIC SERVICE EASEMENT (848/453 & 1337/205)

HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

BMP 1012

CONSTRUCT PROPOSED BMP B1012 TO FINAL CONDITION

PILLSBURY REALTY DEVELOPMENT LLC
5155/1933
24.76 Ac.±

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

MATCH TO SHEET TCP05

GRID

SCALE IN FEET
50 0 50 100

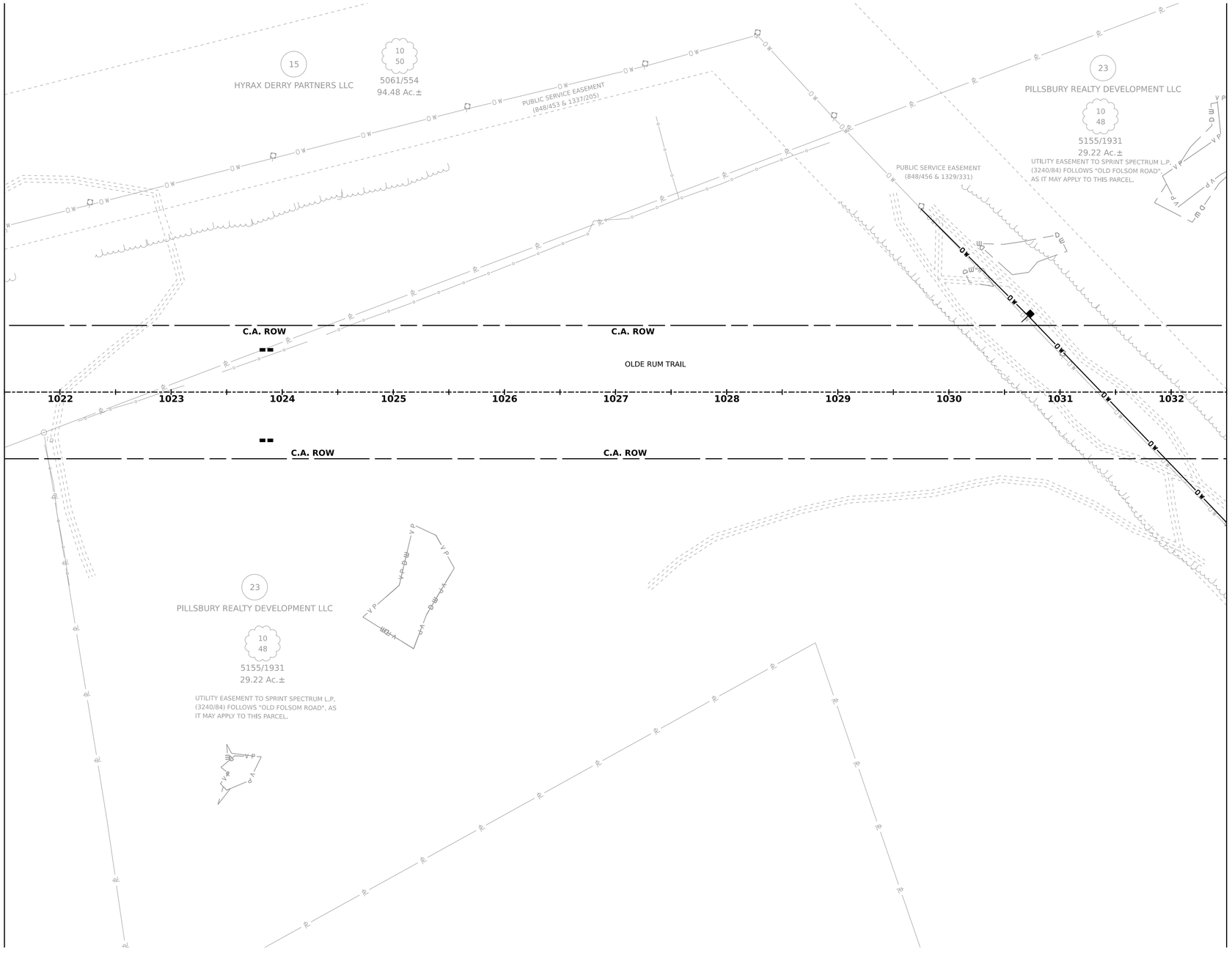
NUMBER	DESCRIPTION	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP14	13065A_TCP_P3	13065A	348	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP15	13065A_TCP_P3	13065A	349	733

MATCH TO SHEET TCP15

DO NOT DISTURB BEYOND PROPERTY LINE

BMP 1038

CLEAR TO SLOPE LINE ONLY AT DELINEATED WETLANDS AND VERNAL POOLS (TYP.)

MAINTAIN ACCESS TO ALL EXISTING PROPERTIES

C.A. ROW

OLDE RUM TRAIL

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

10 11 12 13 14 15

PILLSBURY REALTY DEVELOPMENT LLC
10 48
5155/1931
29.22 Ac.±

SEVEN HILLS DEVELOPMENT, LLC
26
31 13
3443/1373
10.93 Ac.±

SEVEN HILLS DEVELOPMENT LLC
24
10 49
3478/1743
8.84 Ac.±

ABBOTT, MARCIA E.
27
31 12
2932/2232, 1695/86
2.01 Ac.±

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

PUBLIC SERVICE EASEMENT (5094/2987)

SUBJECT TO ACCESS RIGHTS NOTED IN DEED 2932/2232 (LOCUS UNDETERMINED)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

PILLSBURY REALTY/ DEVELOPMENT LLC
XX

DERRY BUSINESS CENTER / UNIT OWNERS ASSN
25
31 5-6
4863/2112
6.60 Ac.±

50 0 50 100
SCALE IN FEET

GRID

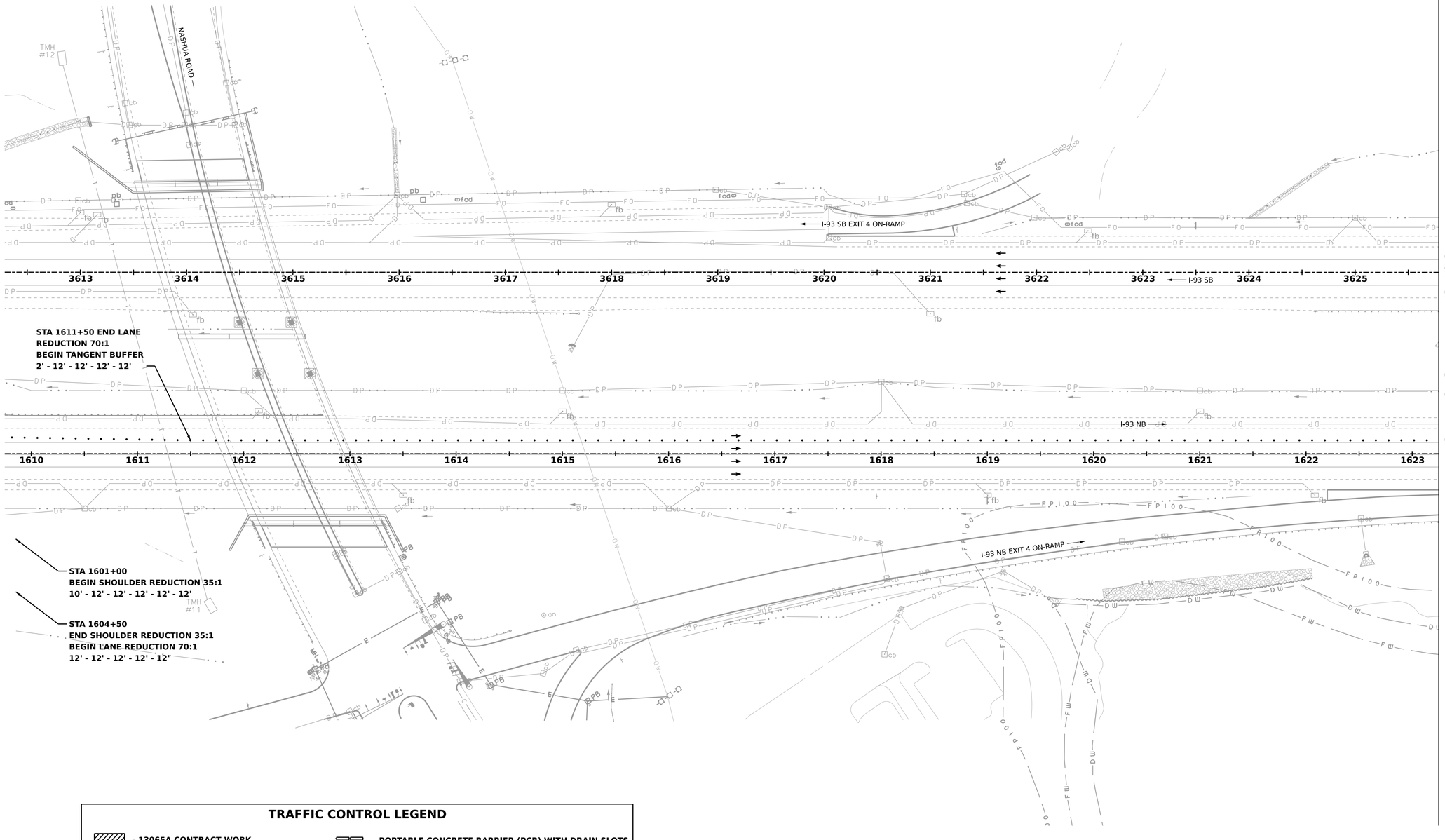
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP16	13065A_TCP_P3	13065A	350	733



TRAFFIC CONTROL LEGEND

- 13065A CONTRACT WORK
- WORK BY OTHERS
- TEMPORARY LIGHTING TRAILER
- TYPE III BARRICADE
- PORTABLE CONCRETE BARRIER (PCB) WITH DRAIN SLOTS
- TRAFFIC BARRELS
- TRAFFIC FLOW DIRECTION
- TEMPORARY IMPACT ATTENUATORS

50 0 50 100

SCALE IN FEET

NUMBER	DATE	DESCRIPTION	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

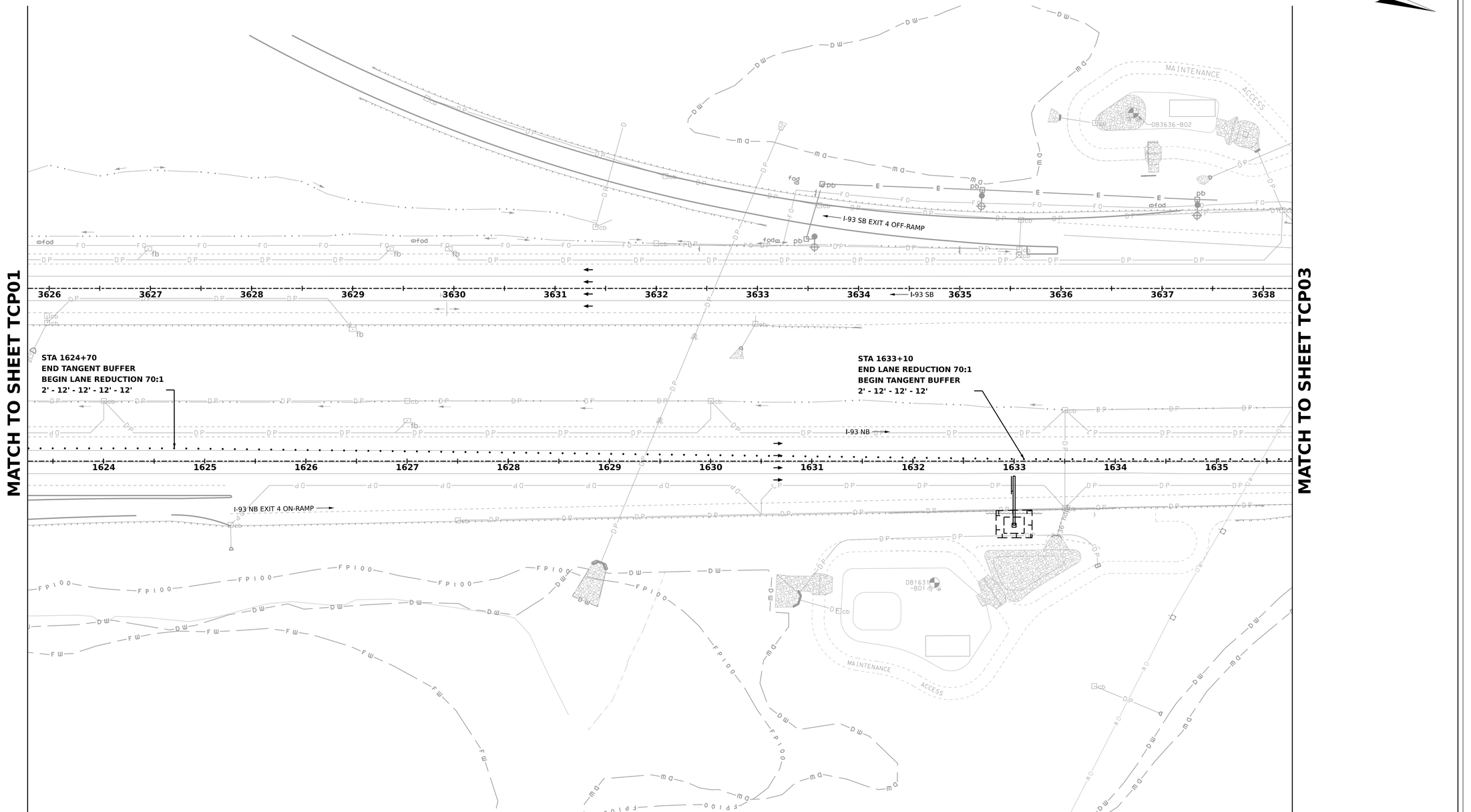
TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP01	13065A_TCP_P3A	13065A	351	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

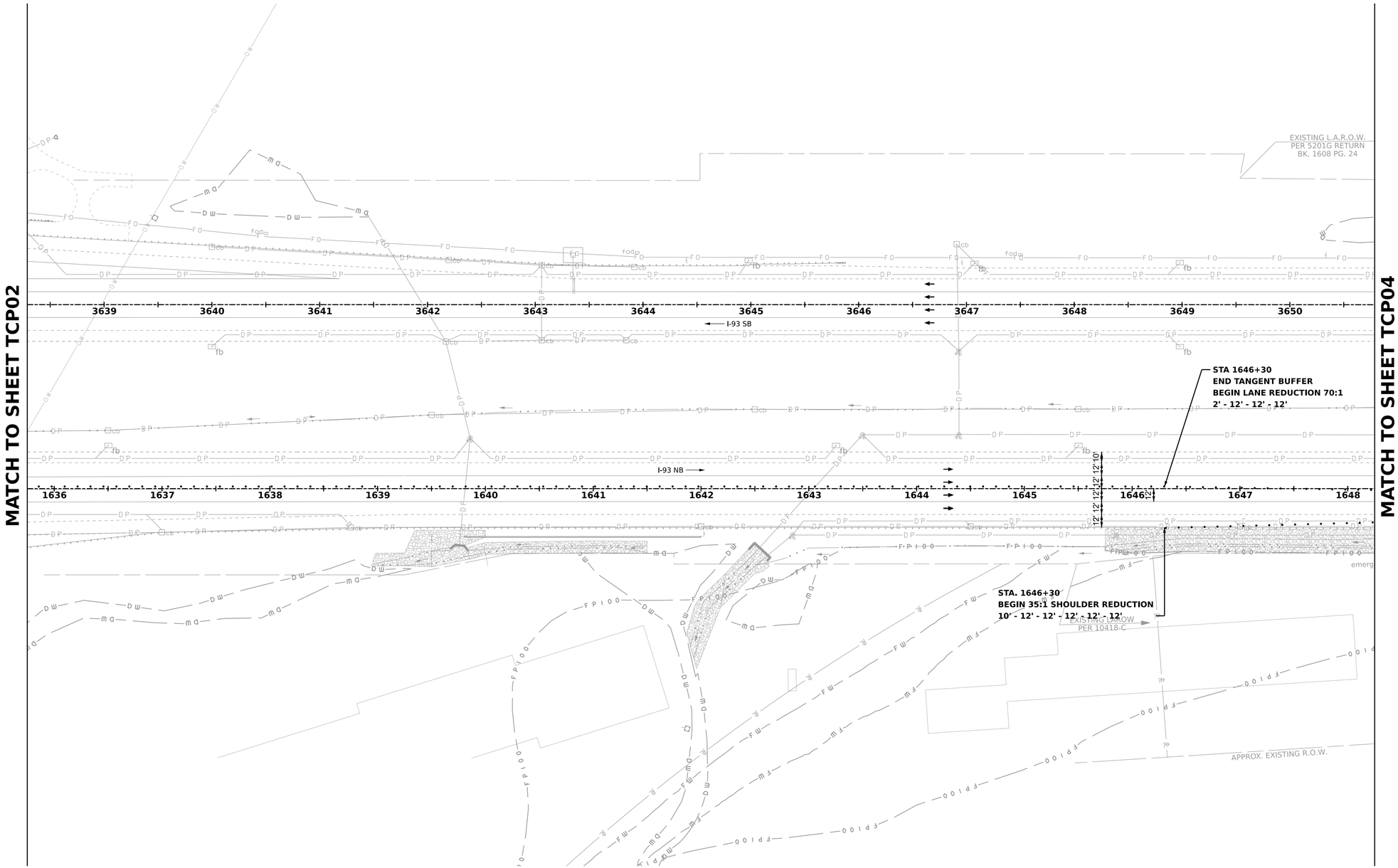
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP02	13065A_TCP_P3A	13065A	352	733

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION
		STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

GRID



50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP03	13065A_TCP_P3A	13065A	353	733

GRID

MATCH TO SHEET TCP03

MATCH TO SHEET TCP05

STA. 3656+06
BEGIN 8:1 LANE AND SHOULDER OPENING
10' - 12' - 12' - 12' - 12' - 10'

STA. 3657+50
END 8:1 LANE OPENING
2' - 12' - 12' - 12' - 12'

SMART WORK ZONE - I-93
ACCESS

STA 3658+76
BEGIN LANE OPENING 8:1
10' - 12' - 12' - 12' - 12' - 12'

STA 3663+40
END LANE OPENING 8:1
10' - 16' - 2'

CONSTRUCT STREAM
RELOCATION

STA. 1650+00
END 35:1 SHOULDER REDUCTION
BEGIN 70:1 LANE REDUCTION
10' - 12' - 12' - 12' - 12'

STA 1654+70
END LANE REDUCTION 70:1
BEGIN TANGENT BUFFER
2' - 12' - 12'

SHOULDER AND LANE CLOSURES (DAILY)

STA 1657+80
END TANGENT BUFFER
BEGIN LANE SHIFT TO OFF-RAMP 35:1
2' - 16' - 12'

MAINTAIN 3 LANES THROUGHOUT
WORKZONE

STA. 1657+50
END 70:1 LANE REDUCTION
10' - 12' - 12' - 12' - 2'

UTILIZE EXISTING
SHOULDER TO PROVIDE
ACCELERATION AND
DECELERATION LANES FOR
CONSTRUCTION VEHICLES

BMP 1649

I-93 NB

I-93 SB

L.A. ROW

EXISTING L.A.R.O.W.

APPROX. EXISTING R.O.W.

PILLSBURY ROAD

TRIBUTARY TO WHEELER POND

TOWN OF LONDONDERRY

MAZZAGLIA FAMILY TRUST

TUFTS, JOSEPH S. & NANCY M.

PILLSBURY REALTY
DEVELOPMENT LLC

3012/200
20.20 Ac.±

3717/1127
1.17 Ac.±

5761/1400
1.0 Ac.±

5155/1935
20.48 Ac.±

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION

REVISIONS AFTER PROPOSAL

DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P3A	13065A	354	733

MATCH TO SHEET TCP04

MATCH TO SHEET TCP06

CONSTRUCT STREAM RELOCATION

BEGIN MUCK REMOVAL

CONSTRUCT STREAM RELOCATION

TRIBUTARY TO WHEELER POND

STA 411+50
BEGIN MERGE DELINEATION

STA 408+25
BEGIN SHOULDER OPENING 8:1
10' - 16' - 2'

STA 407+61
BEGIN SHOULDER OPENING 8:1
2' - 16' - 2'

CONSTRUCT STREAM RESTORATION

BEGIN MUCK REMOVAL

L.A. ROW

SB ON RAMP

I-93 SB

SHOULDER AND LANE CLOSURES (DAILY)

STA 1662+00
END LANE SHIFT TO OFF-RAMP 35:1
2' - 27' - 12'

STA 1666+50 BEGIN 35:1
SHOULDER REDUCTION
10' - 12' - 12' - 12' - 2'

STA 1670+00 END 35:1
SHOULDER REDUCTION
BEGIN TEMPORARY
SHOULDER DELINEATION
2' - 12' - 12' - 12' - 2'

MAINTAIN 3 LANES THROUGHOUT WORKZONE

I-93 NB

NB OFF RAMP

L.A. ROW

STA 100+00
BEGIN SHOULDER REDUCTION 35:1
2' - 18' - 12'

STA 103+50
END SHOULDER REDUCTION 35:1
BEGIN SHOULDER DELINEATION
2' - 16' - 2'

DRAINAGE EASEMENT PER
NH PROJ. 10418-C (5744/495)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P.
(3240/84) FOLLOWS "OLD FOLSOM ROAD", AS
IT MAY APPLY TO THIS PARCEL.

BMP 1670

EXISTING L.A.R.O.W.

EXISTING L.A.R.O.W.

DONOVAN, CORNELIUS J. & JOYCE LEE
10 31-1
2972/1449
1.0 Ac.±

ROY, ALAN J. & RIZZO-ROY, MA
10 31
5186/1391
1.23 Ac.±

FLYNN 2013 FAMILY TRUST
10 31-3
5469/2948
1.15 Ac.±

10 30-1
4612/1992
1.83 Ac.±

BELANGER FAMILY REVOCABLE TRUST

CANTAVE FAMILY REVOCABLE TRUST
10 30-2
5814/2110
1.9 Ac.±

DICKENSON, DONNA E.
10 30-3
3300/287
1.92 Ac.±

PILLSBURY REALTY DEVELOPMENT LLC
6
10 57
5155/1935
20.48 Ac.±

PILLSBURY REALTY DEVELOPMENT LLC
7
10 46
5155/1933
24.76 Ac.±

50 0 50 100
SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

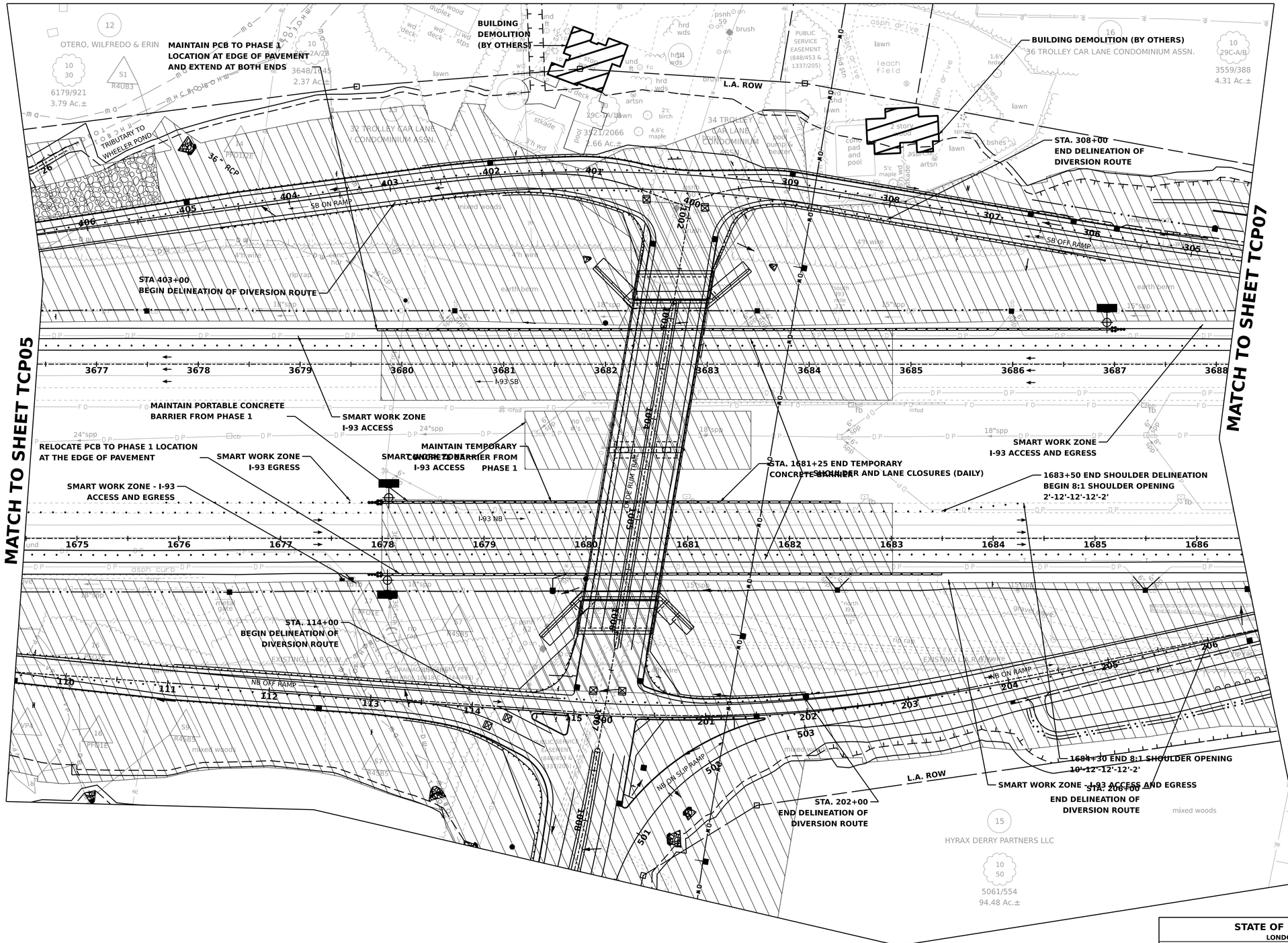
NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P3A	13065A	355	733



50 0 50 100

SCALE IN FEET

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP06	13065A_TCP_P3A	13065A	356	733

MATCH TO SHEET TCP06

MATCH TO SHEET TCP08

STA 302+75
BEGIN SHOULDER REDUCTION 35:1
10' - 20' - 2'

BUILDING DEMOLITION

STA 299+95
END SHOULDER REDUCTION 35:1
10' - 20' - 2'

STA 3696+35
END PORTABLE CONCRETE BARRIER

STA 3695+50
BEGIN LANE SHIFT TO OFF-RAMP 35:1
10' - 27' - 2'

SMART WORK ZONE - I-93 EGRESS

BEGIN MUCK REMOVAL

L.A. ROW

EXISTING L.A.R.O.W.

I-93 SB EXIT 4A OFF-RAMP

I-93 SB

MAINTAIN 3 LANES THROUGHOUT WORKZONE

STA 3699+70
END LANE SHIFT TO OFF-RAMP 35:1
BEGIN TANGENT BUFFER
10' - 12' - 2'

STA 3689+50
BEGIN PORTABLE CONCRETE BARRIER

DRAINAGE BEYOND STRUCTURE N26 MAY BE INSTALLED IN PHASE 4

STA. 208+50, RT
BEGIN MERGE DELINEATION

UTILIZE EXISTING SHOULDER TO PROVIDE ACCELERATION AND DECELERATION LANES FOR CONSTRUCTION VEHICLES

SHOULDER AND LANE CLOSURE

I-93 NB

NB ON RAMP

BMP 1687

BMP 1691

BEGIN BMP CONSTRUCTION

BEGIN BMP CONSTRUCTION

STA. 1695+50
BEGIN 8:1 LANE OPENING
10' - 12' - 12' - 12' - 2'

SMART WORK ZONE - I-93 ACCESS

STA. 1696+96
END 8:1 LANE AND SHOULDER OPENING
10' - 12' - 12' - 12' - 12' - 12'

APPROX. EXISTING R.O.W.

EXISTING TOWN OF LONDONDERRY DRAINAGE EASEMENT

UTILITY EASEMENT (ELECTRIC & PHONE) AS IT MAY APPLY TO THIS PARCEL (2650/1906)

36 TROLLEY CAR LANE CONDOMINIUM ASSN.
3559/388
4.31 Ac.±

ARIZA, FIDEL
6019/2714
1.38 Ac.±

FOUREAU, DYLAN
6298/1054
1.11 Ac.±

TOWN OF LONDONDERRY
3215/1645
9.92 Ac.±

GERAGHTY, SCOTT P. & MARIBETH
3296/2807
0.97 Ac.±

ROSZCZENKO, JOLANTA & WALDEMAR
3379/1319
0.99 Ac.±

QUITONGAN, AUDIE & CHERYL
4917/0216
0.97 Ac.±

TRULL, MICHAEL D. /& SANDRA
4915/2203
1.56 Ac.±

STATE OF NH (DOT)
5786/1143
2.85 Ac.±

HYRAX DERRY PARTNERS LLC
5061/554
94.48 Ac.±

50 0 50 100
SCALE IN FEET

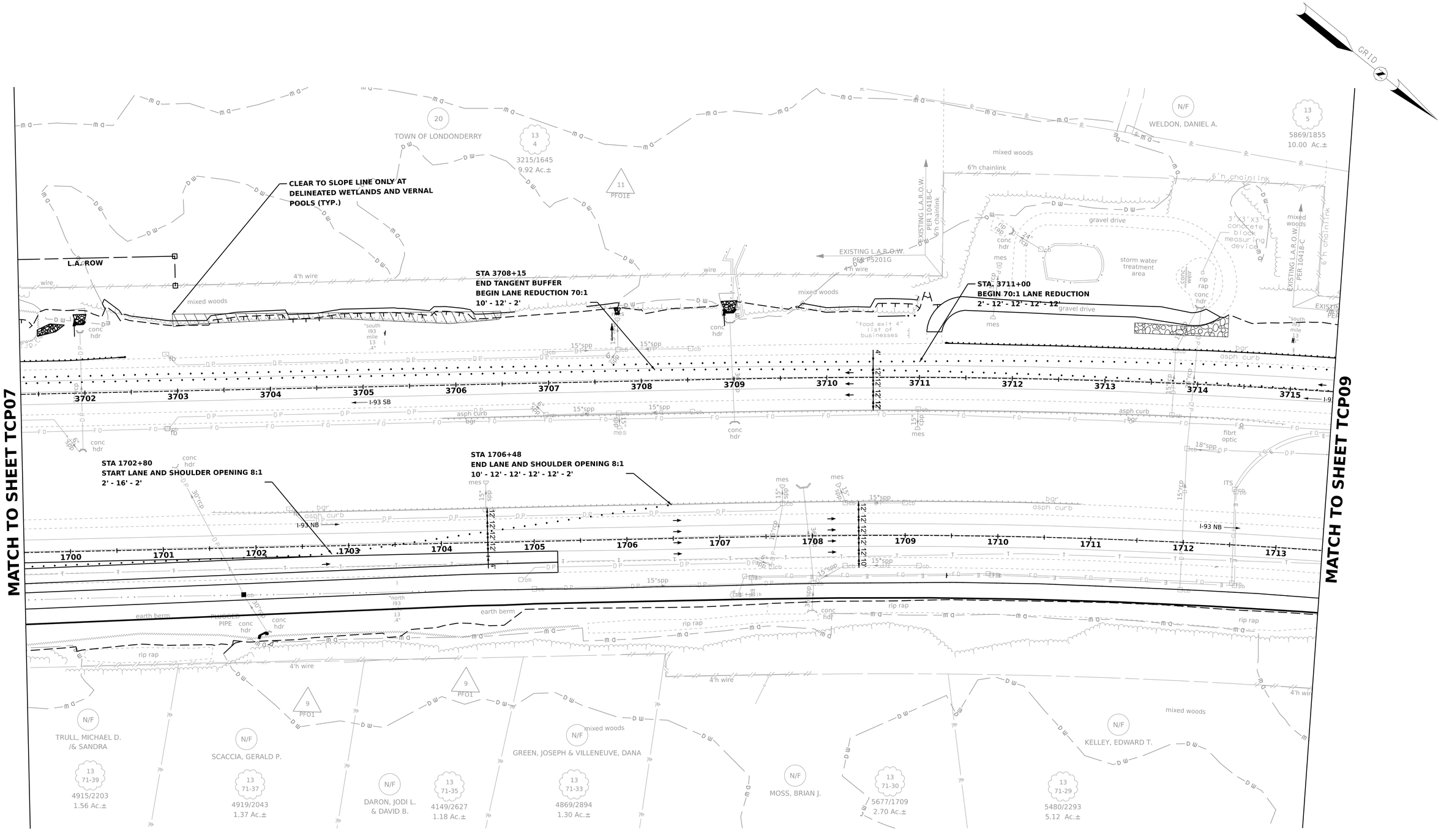
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P3A	13065A	357	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

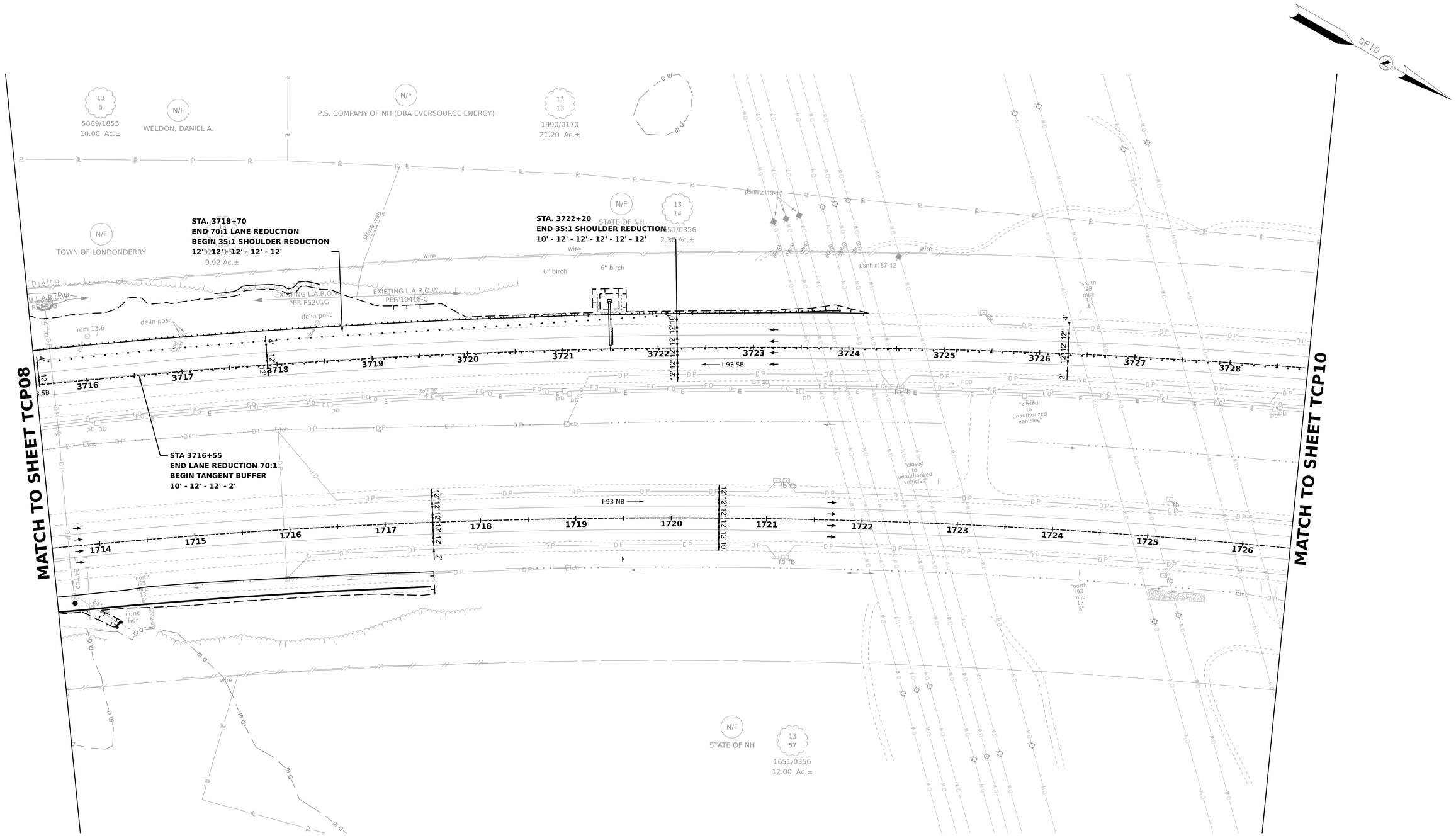
NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP08	13065A_TCP_P3A	13065A	358	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP09	13065A_TCP_P3A	13065A	359	733

GRID

N/F
CLARK III, REED PAIGE / ET AL
13
20
4967/1295
90.04 Ac.±

EXISTING L.A.R.O.W
PER 10418-C

EXISTING L.A.R.O.W.
PER P5201H

EXISTING L.A
PER P52

MATCH TO SHEET TCP09

3729 3730 3731 3732 3733 3734 3735 3736 3737 3738 3739 3740 3741

12' 12' 10' 2'

I-93 SB

STA 3733+35
END TANGENT BUFFER
BEGIN LANE REDUCTION 70:1
10' - 12' - 12' -2'

I-93 NB

1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739

MATCH TO SHEET TCP11

N/F
P.S. COMPANY OF NH / (DBA EVERSOURCE ENERGY)
13
56
1990/0170
33.24 Ac.±

EXISTING L.A.R.O.W.

N/F
CLARK IRREVOCABLE TRUST / CLARK, GERARD TRUSTEE
13
53
5153/0023
13.67 Ac.±

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	STATION

REVISIONS AFTER PROPOSAL

DESCRIPTION

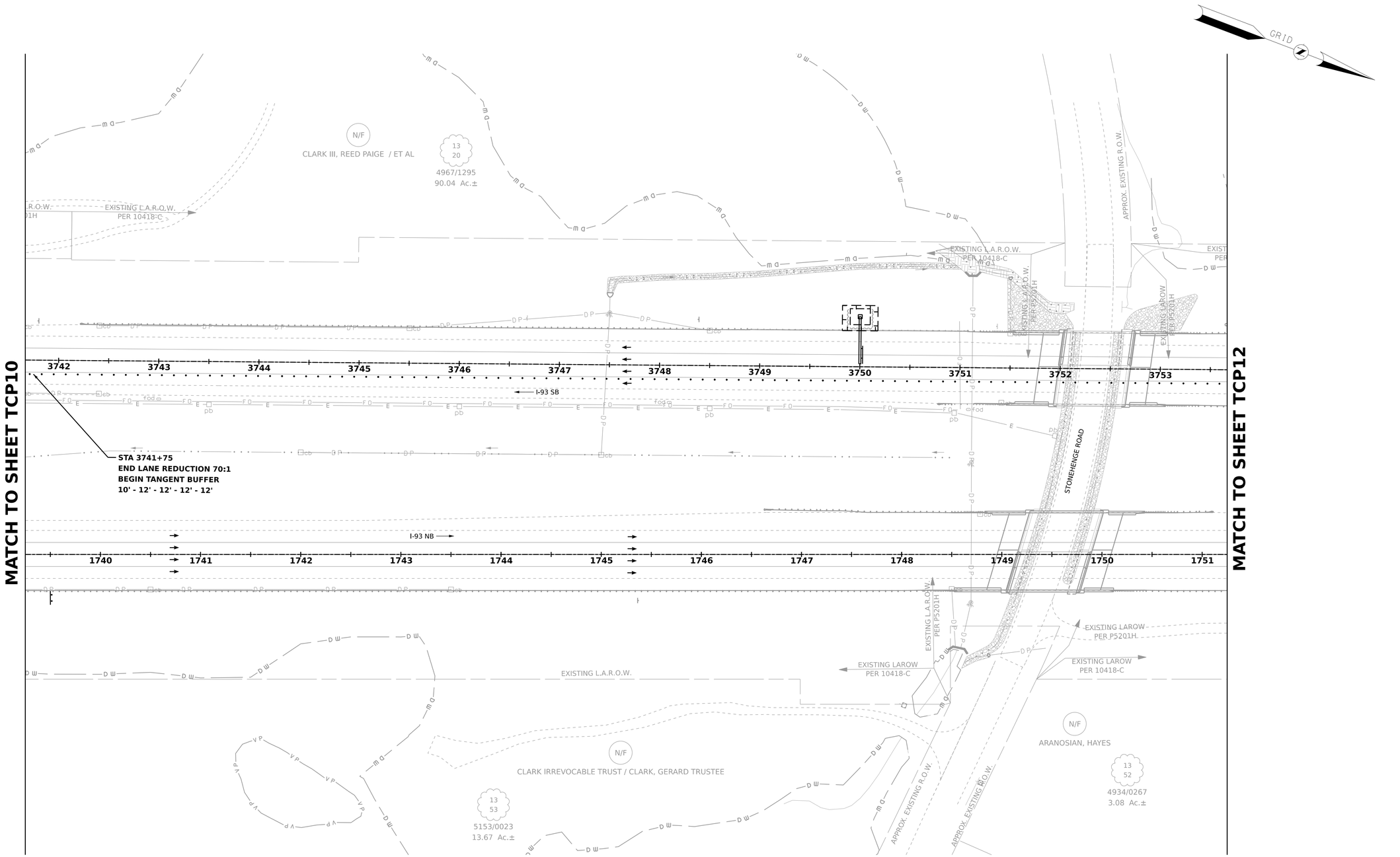
SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP10	13065A_TCP_P3A	13065A	360	733



NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP11	13065A_TCP_P3A	13065A	361	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

MATCH TO SHEET TCP11

GRID

13 22 — 4967/1297 — 2.53 Ac.±

13 23-5 — 5818/2864 — 2.19 Ac.±

13 23-4 — 4917/0225 — 2.50 Ac.±

13 23-3 — 6032/0853 — 3.50 Ac.±

13 23-2 — 5033/2093 — 3.44 Ac.±

13 23 — 5207/0068 — 3.28 Ac.±

13 24-4 — 4915/2198 — 18.15 Ac.±

N/F — CLARK III, REED PAIGE / ET AL

N/F — SHEEHY, ESTHER R. / REVOCABLE TRUST

N/F — NORTON, STEVEN D.

N/F — SQUEGLIA, ANDREA / & JOHN A.

N/F — GRANDE, JUSTIN L.

N/F — BETTEZ ROBERT J.C. REVOCABLE TRUST 2007

N/F — CURRIER, LEIGH A. / & MARCIA M.

EXISTING L.A.R.O.W. PER 10418-C

3754 3755 3756 3757 I-93 SB 3758 3759 3760 3761 3762 3763 3764 3765

STA 3758+55
END TANGENT BUFFER
BEGIN LANE REDUCTION 70:1
10' - 12' - 12' - 12'

STA 3765+55
END LANE REDUCTION 70:1
BEGIN SHOULDER REDUCTION 35:1
10' - 12' - 12' - 12' - 12'

STA 3769+25
END SHOULDER REDUCTION 35:1
10' - 12' - 12' - 12' - 12' - 10'

I-93 NB

1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763

EXISTING L.A.R.O.W. PER 10418-C

N/F — ARANOSIAN, HAYES — 13 52 — 4934/0267 — 3.08 Ac.±

N/F — SOUCY, JEAN-EDUE G / & DEBORAH A. — 13 44-5 — 4932/2928 — 1.57 Ac.±

N/F — HALL, PAMELA A. — 13 44-4 — 4996/1217 — 1.67 Ac.±

N/F — LAURENCIO, MANUEL / & LISA J. — 13 44-3 — 5208/2850 — 1.64 Ac.±

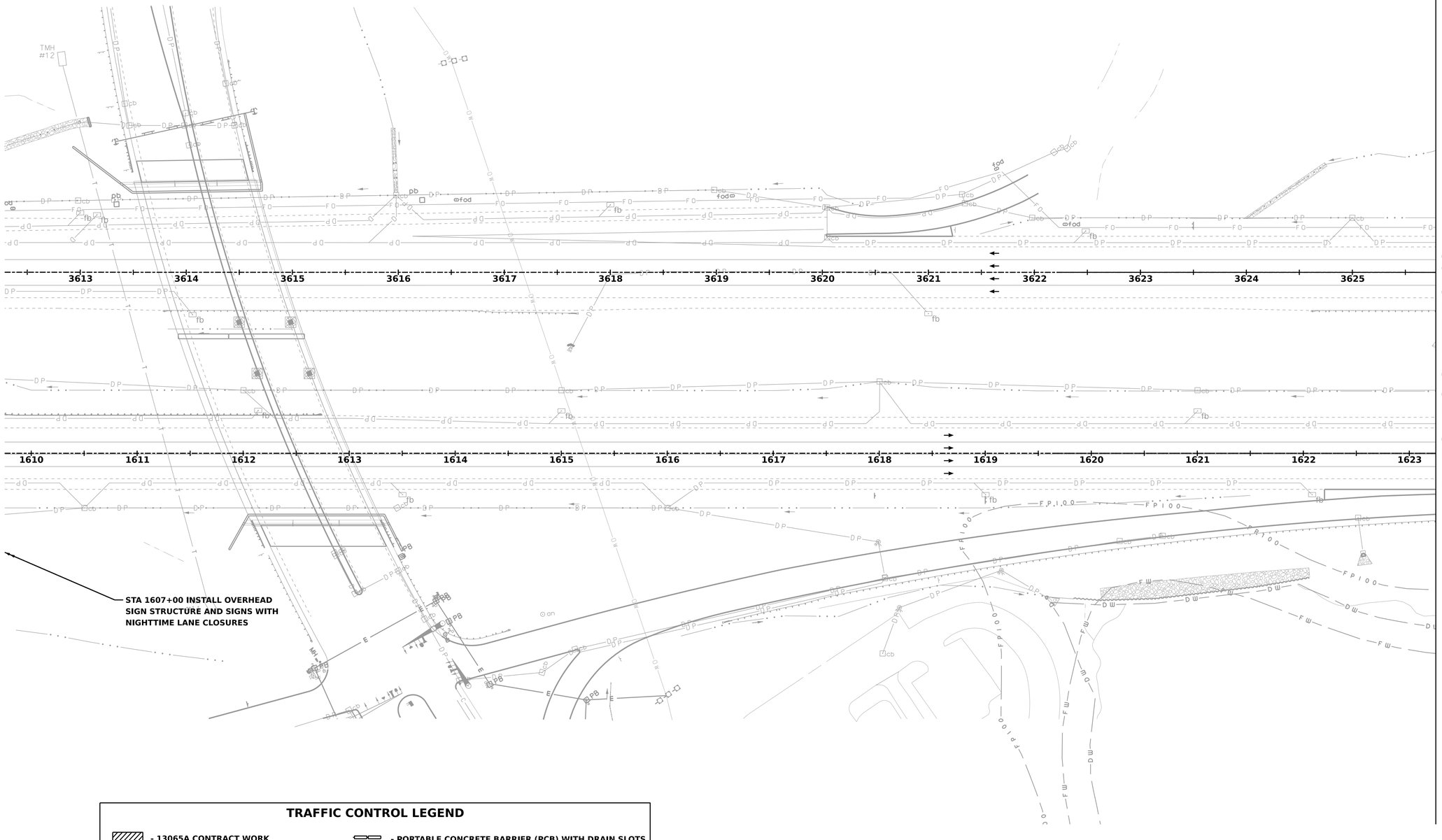
50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 3A

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP12	13065A_TCP_P3A	13065A	362	733



TRAFFIC CONTROL LEGEND

- 13065A CONTRACT WORK
- WORK BY OTHERS
- TEMPORARY LIGHTING TRAILER
- TYPE III BARRICADE
- PORTABLE CONCRETE BARRIER (PCB) WITH DRAIN SLOTS
- TRAFFIC BARRELS
- TRAFFIC FLOW DIRECTION
- TEMPORARY IMPACT ATTENUATORS

50 0 50 100

SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

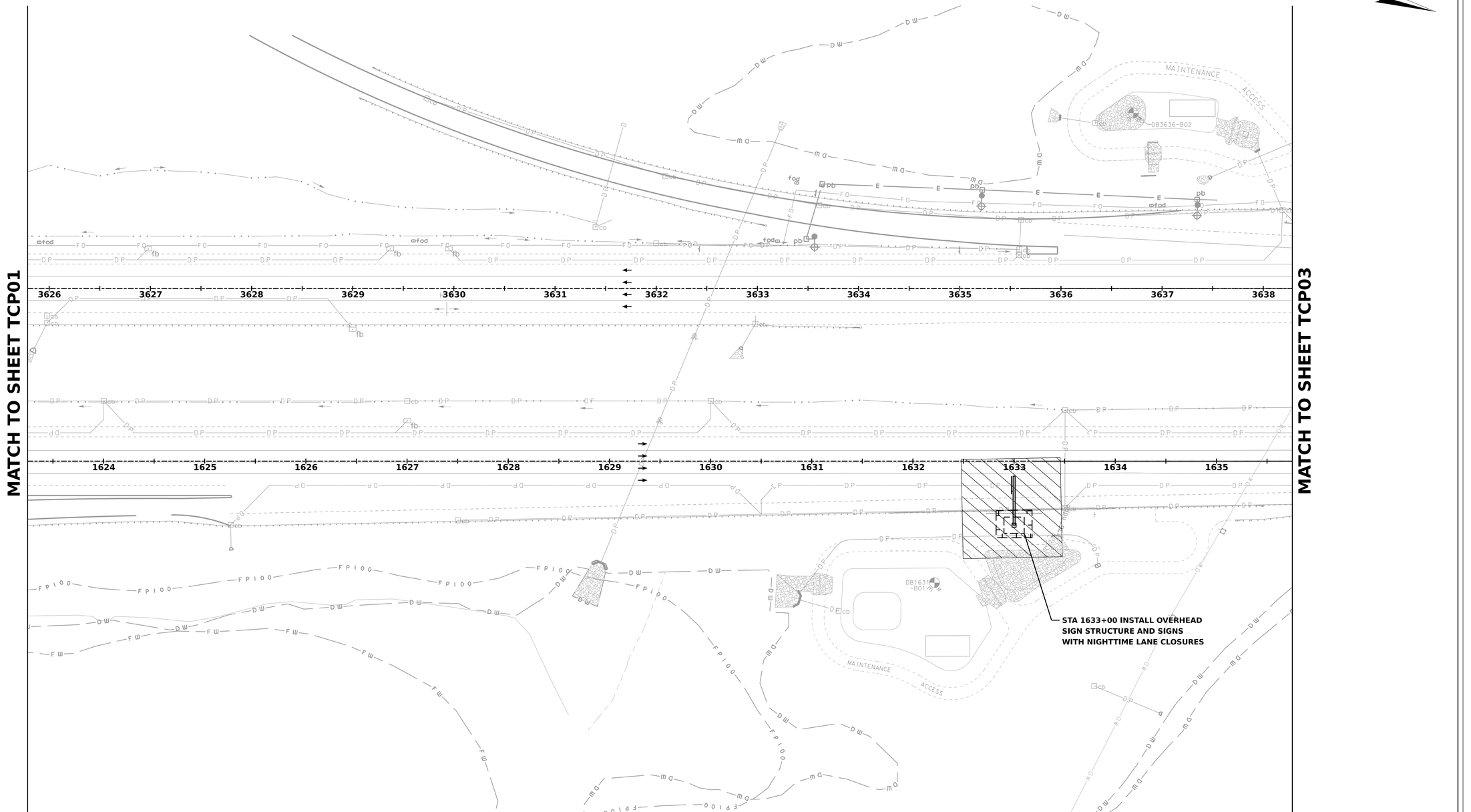
TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP01	13065A_TCP_P4	13065A	363	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE



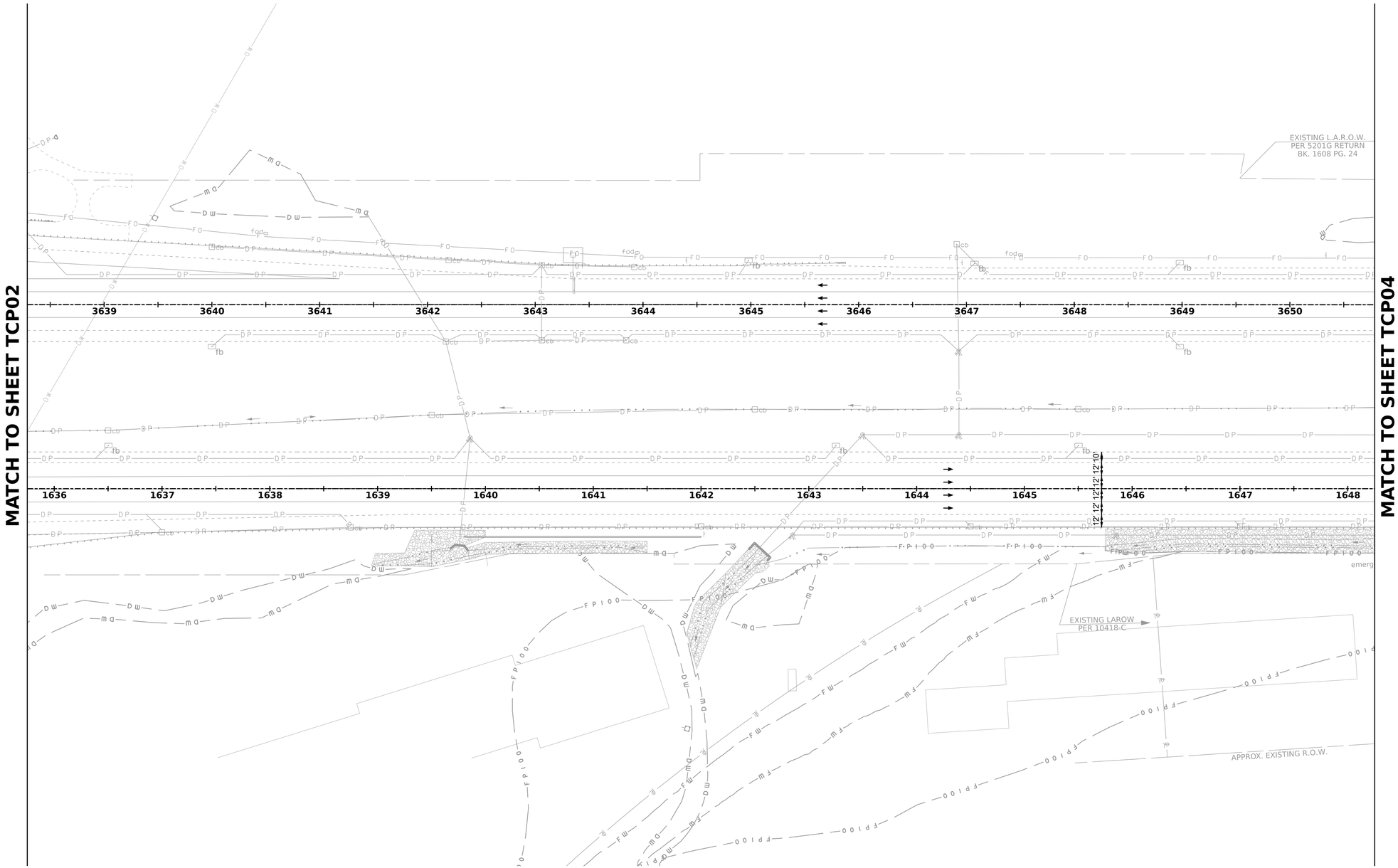
50 0 50 100

SCALE IN FEET

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP02	13065A_TCP_P4	13065A	364	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP03	13065A_TCP_P4	13065A	365	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

MATCH TO SHEET TCP03

MATCH TO SHEET TCP05

STA. 3654+70
BEGIN SHOULDER OPENING 8:1
12'-12'-12'-12'-12'-12'

STA. 3655+50
BEGIN SHOULDER DELINEATION
END SHOULDER OPENING 8:1
2'-12'-12'-12'-12'-12'

SMART WORK ZONE - I-93 ACCESS

USE DRUMS TO CLOSE ON-RAMP
EXCEPT FOR CONSTRUCTION
TRAFFIC

MAINTAIN 4 LANES
THROUGHOUT THE WORKZONE

STA. 1652+50
BEGIN SHOULDER REDUCTION 35:1
12'-12'-12'-12'-12'-12'

STA. 1656+00
END SHOULDER REDUCTION 35:1
BEGIN SHOULDER DELINEATION
10'-12'-12'-12'-12'-2'

STA 1657+18 INSTALL OVERHEAD
SIGN STRUCTURE AND SIGNS
WITH NIGHTTIME LANE CLOSURES

COMPLETE ITS EQUIPMENT

SMART WORK ZONE - I-93 EGRESS

INTERSTATE 93 SOUTHBOUND

INTERSTATE 93 NORTHBOUND

LONDONDERRY ROAD

ILLSBURY ROAD

TROLLEY CR...

TOWN OF LONDONDERRY
L.A. ROW

MAZZAGLIA FAMILY TRUST
3717/1127, 5755/1154
1.17 Ac.±

TUFTS, JOSEPH D. & NANCY M.
5761/1400
1.0 Ac.±

3012/200
0.20 Ac.±

PILLSBURY REALTY
DEVELOPMENT LLC
5155/1935
20.48 Ac.±

EXISTING L.A.R.O.W.
PER 10418-C

EXISTING L.A.R.O.W.
PER 5201G RETURN
BK. 1608 PG. 24

EXISTING L.A.R.O.W.
PER 5201G RETURN
BK. 1608 PG. 26

APPROX. EXISTING R.O.W.

Approx. location of existing sewer

SCALE IN FEET
50 0 50 100

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP04	13065A_TCP_P4	13065A	366	733

MATCH TO SHEET TCP04

MATCH TO SHEET TCP06

INTERSTATE 93 SOUTHBOUND

INTERSTATE 93 NORTHBOUND

GRID

DONOVAN, CORNELIUS J. & JOYCE LEE
10 31-1
2972/1449
1.0 Ac.±

ROY, ALAN J. & RIZZO-ROY, MARIA L.
10 31
5186/1391
1.23 Ac.±

FLYNN 2013 FAMILY TRUST
10 31-3
5469/2948
1.15 Ac.±

10 30-1
4612/1992
1.83 Ac.±

BELANGER FAMILY REVOCABLE TRUST

CANTAVE FAMILY REVOCABLE TRUST
10 30-2
5814/2110
1.9 Ac.±

10 30-3
3300/2876
1.92 Ac.±

DICKENSON, DONNA E.

L.A. ROW

STA. 3672+00
END SHOULDER DELINEATION
BEGIN SHOULDER REDUCTION 35:1
2'-12'-12'-12'-12'-10'

STA. 3675+50
END SHOULDER REDUCTION 35:1
10'-12'-12'-12'-12'-10'

MAINTAIN 4 LANES
THROUGHOUT THE WORKZONE

USE DRUMS TO CLOSE ON-RAMP
EXCEPT FOR CONSTRUCTION TRAFFIC

STA. 1668+50
END SHOULDER DELINEATION
10'-12'-12'-12'-12'-2'

EXISTING L.A.R.O.W.

6
PILLSBURY REALTY DEVELOPMENT LLC
10 57
5155/1935
20.48 Ac.±

7
PILLSBURY REALTY DEVELOPMENT LLC
10 46
5155/1933
24.76 Ac.±

DRAINAGE EASEMENT PER
NH PROJ. 10418-C (5744/495)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P.
(3240/84) FOLLOWS "OLD FOLSOM ROAD", AS
IT MAY APPLY TO THIS PARCEL.

SCALE IN FEET
50 0 50 100

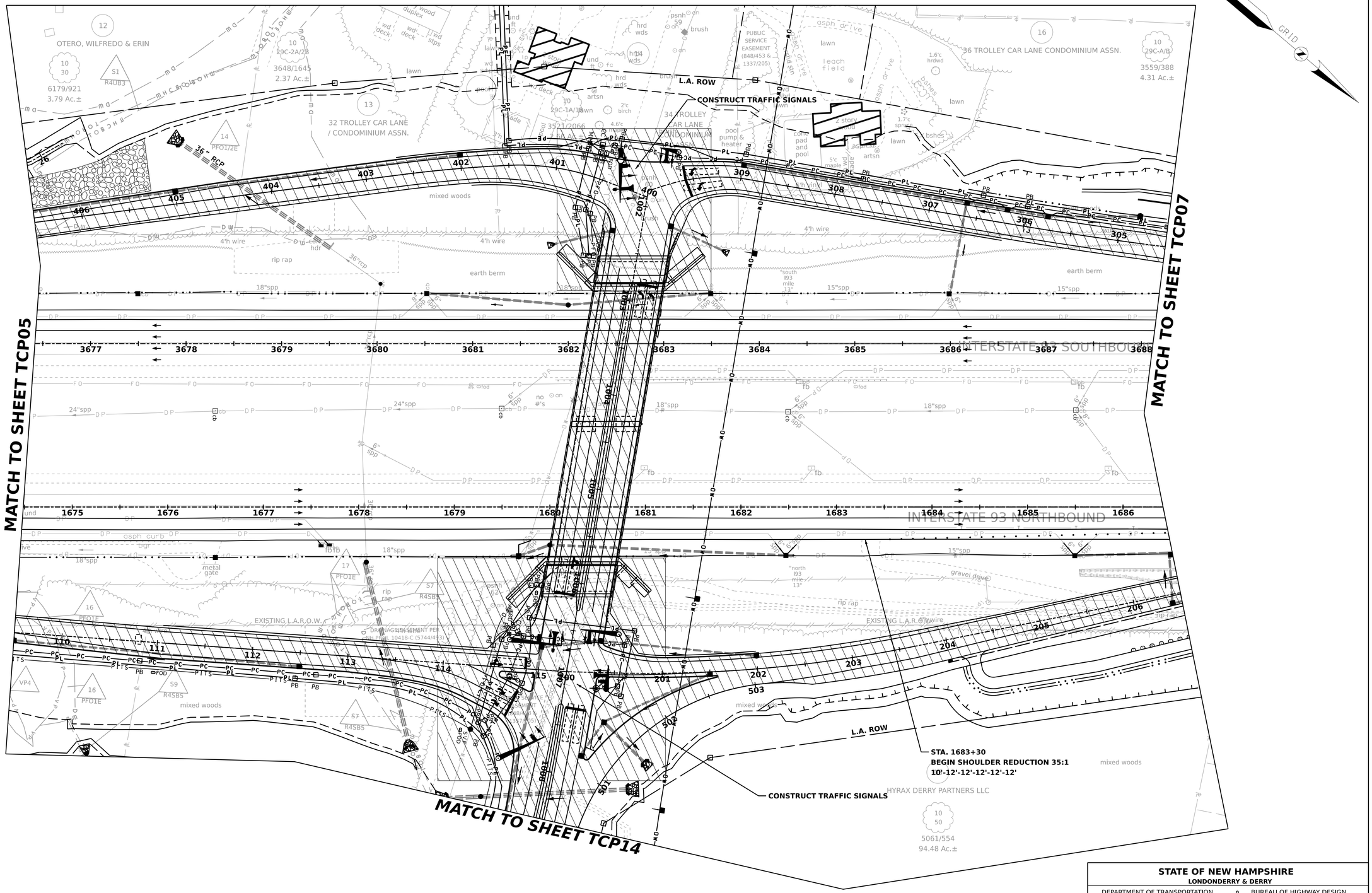
DESCRIPTION	STATION	DATE	NUMBER
REVISIONS AFTER PROPOSAL			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP05	13065A_TCP_P4	13065A	367	733



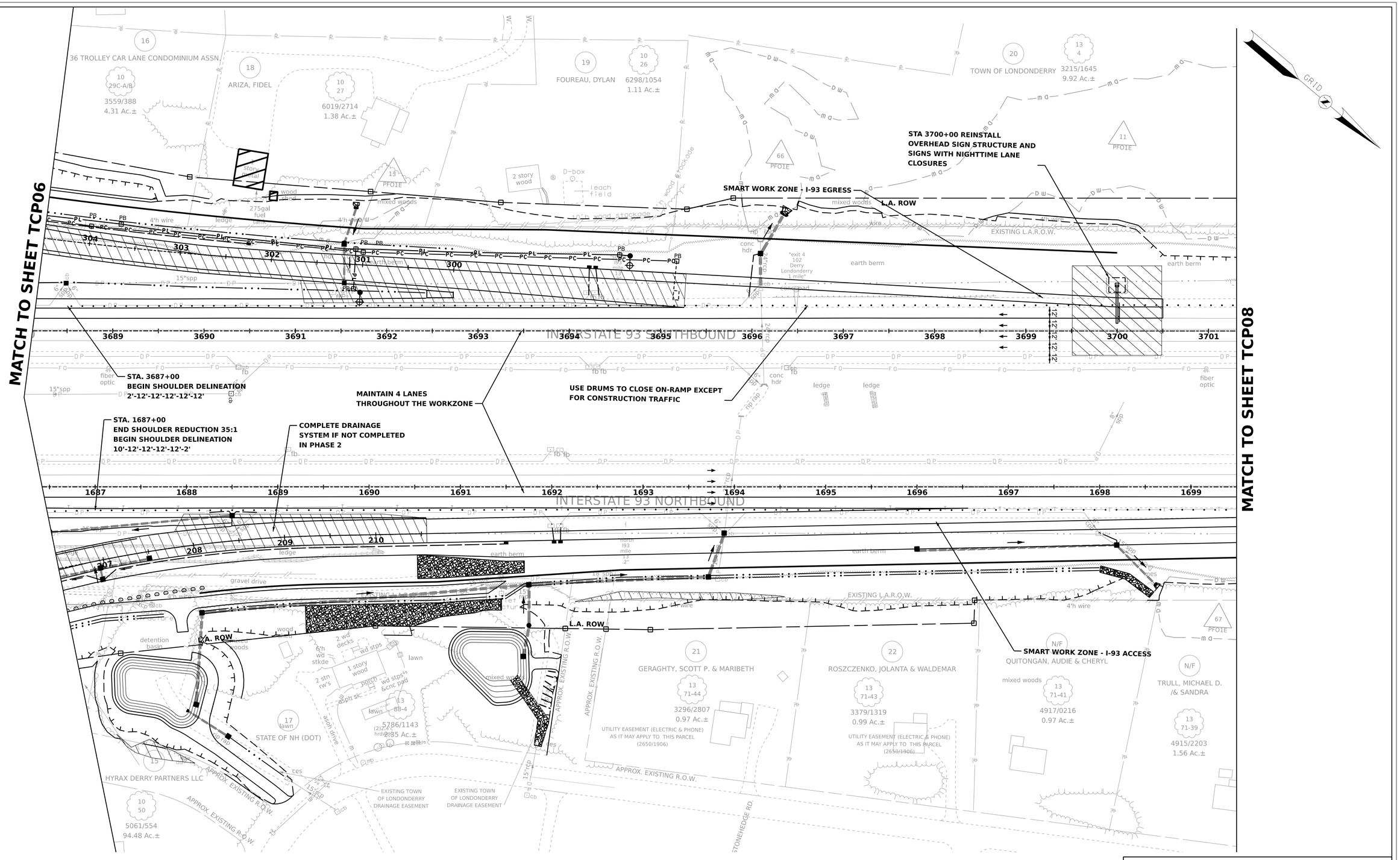
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP06	13065A_TCP_P4	13065A	368	733



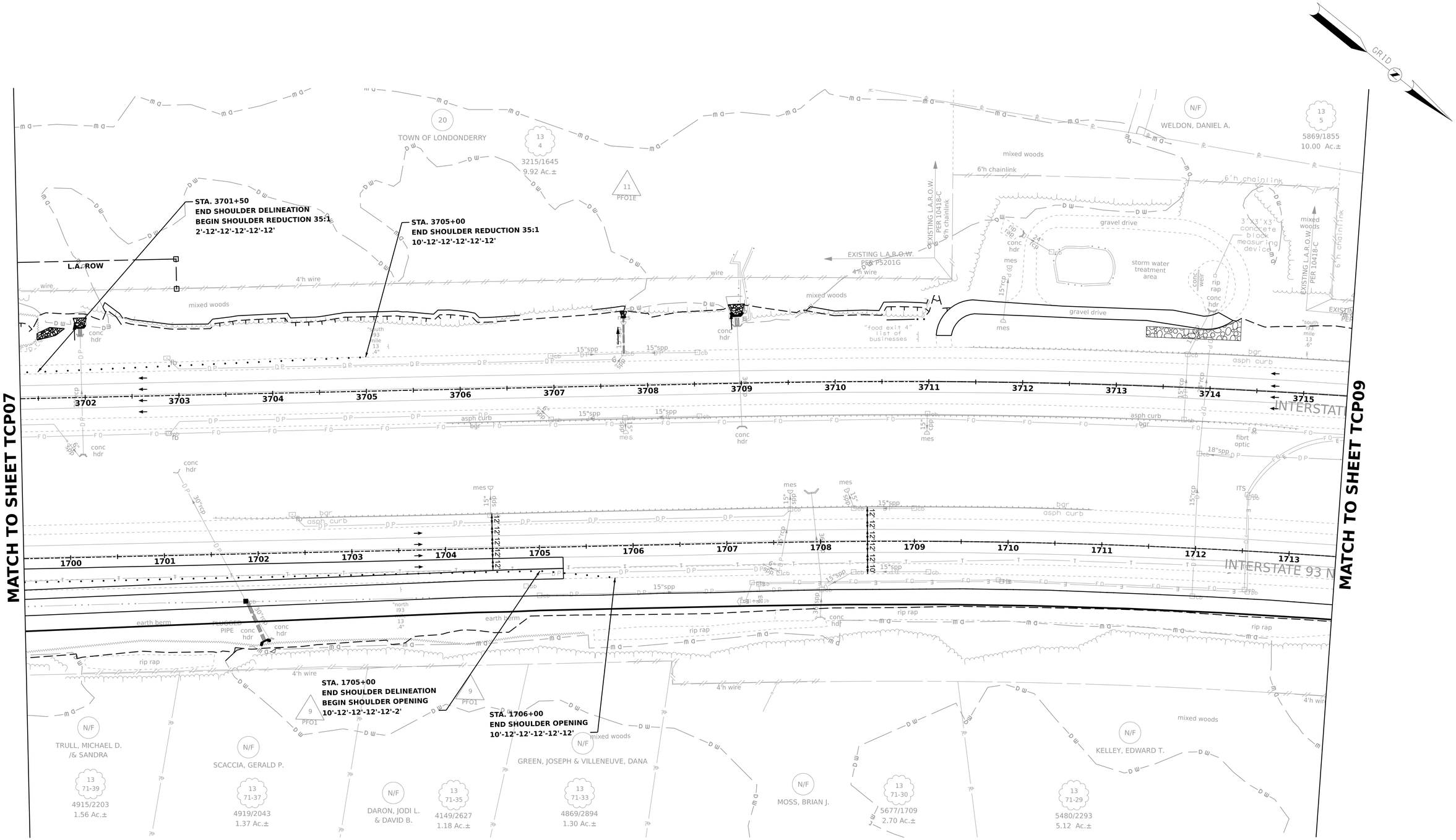
DESCRIPTION	STATION	DATE	NUMBER
REVISIONS AFTER PROPOSAL			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP07	13065A_TCP_P4	13065A	369	733



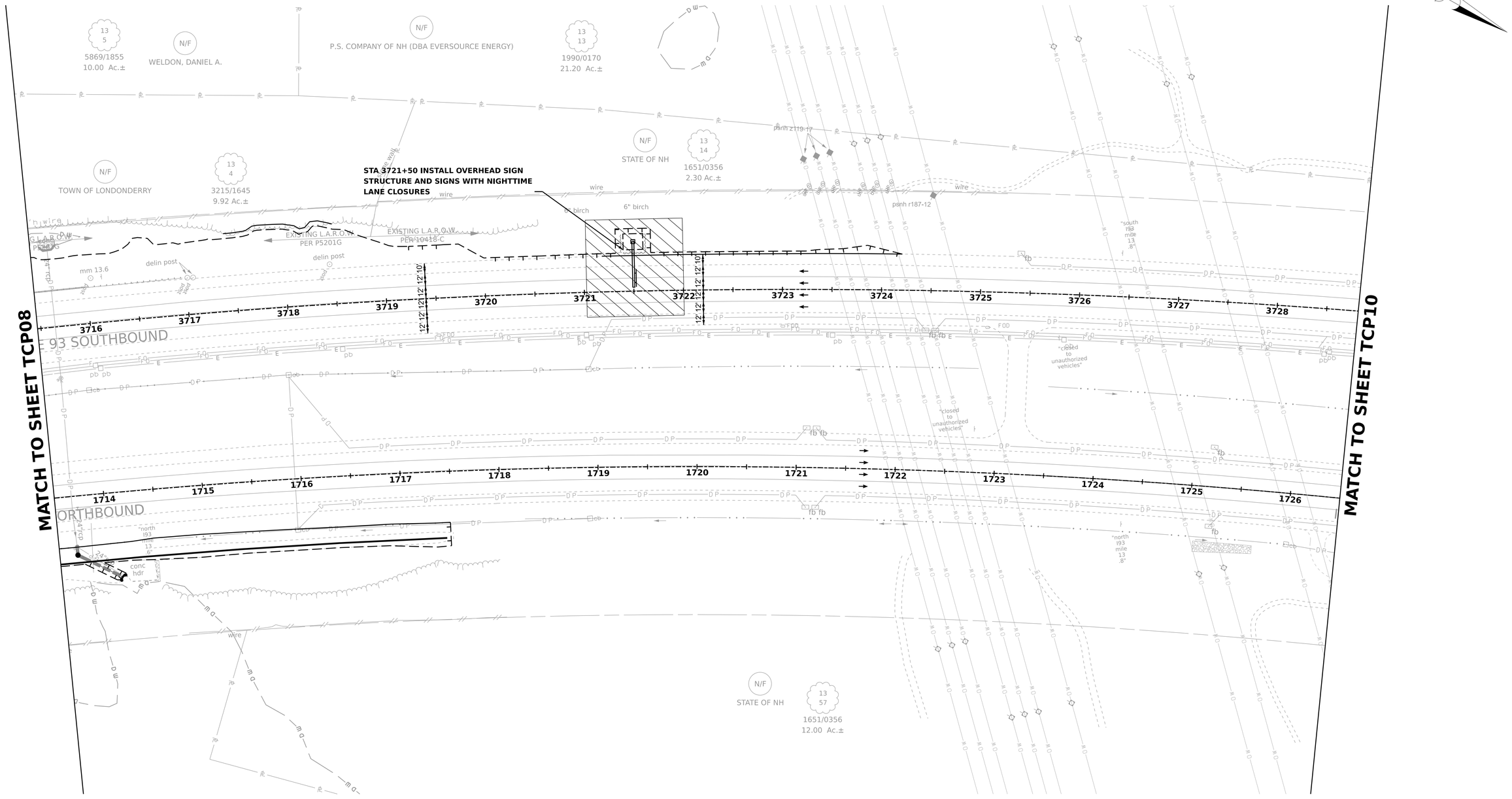
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP08	13065A_TCP_P4	13065A	370	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL	NUMBER	DATE	DESCRIPTION
STATION			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP09	13065A_TCP_P4	13065A	371	733

GRID

STA 3750+00 INSTALL OVERHEAD SIGN STRUCTURE AND SIGNS WITH NIGHTTIME LANE CLOSURES

STONEHENGE RD.

APPROX. EXISTING R.O.W.

EXISTING L.A.R.O.W. PER 10418-C

EXISTING L.A.R.O.W. PER P5201H

EXISTING LAROW PER P5201H

EXISTING LAROW PER 10418-C

N/F

CLARK III, REED PAIGE / ET AL

13 20

4967/1295

90.04 Ac.±

3742 3743 3744 3745 3746 3747 3748 3749 3750 3751 3752 3753

ERSTATE 93 SOUTHBOUND

INTE

MATCH TO SHEET TCP10

1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751

E 93 NORTHBOUND

INTE

EXISTING L.A.R.O.W.

EXISTING LAROW PER P5201H

EXISTING LAROW PER 10418-C

EXISTING LAROW PER 10418-C

STONEHENGE RD.

N/F

ARANOSIAN, HAYES

13 52

4934/0267

3.08 Ac.±

N/F

CLARK IRREVOCABLE TRUST / CLARK, GERARD TRUSTEE

13 53

5153/0023

13.67 Ac.±

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

50 0 50 100

SCALE IN FEET

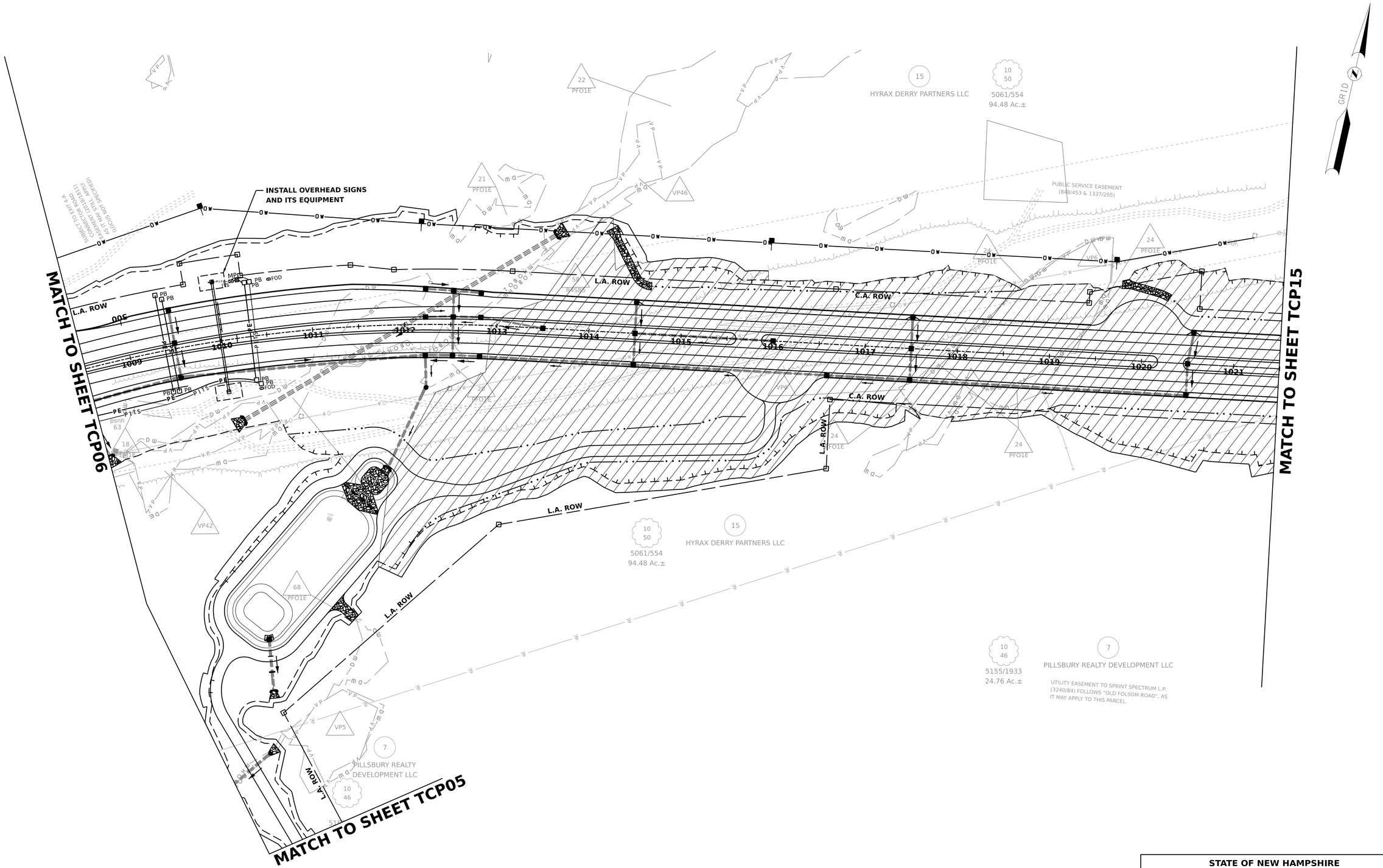
REVISIONS AFTER PROPOSAL	NUMBER	DATE	STATION
DESCRIPTION			
AS BUILT DETAILS			

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP11	13065A_TCP_P4	13065A	372	733



50 0 50 100

SCALE IN FEET

REVISIONS AFTER PROPOSAL

	NUMBER	DATE	STATION
DESCRIPTION			
STATION			
STATION			

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP14	13065A_TCP_P4	13065A	373	733

MATCH TO SHEET TCP14

MATCH TO SHEET TCP16

15
HYRAX DERRY PARTNERS LLC
10
50
5061/554
94.48 Ac.±

23
PILLSBURY REALTY DEVELOPMENT LLC
10
48
5155/1931
29.22 Ac.±
UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

PUBLIC SERVICE EASEMENT (848/453 & 1337/205)

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

C.A. ROW

1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032

GRID

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS
PHASE 4

DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP15	13065A_TCP_P4	13065A	374	733

MATCH TO SHEET TCP15

CONSTRUCT PROPOSED BMP B1038 TO FINAL CONDITION

COMPLETE TEMPORARY ACCESS ROAD

C.A. ROW

1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

10 11 12 13 14 15 16

MAINTAIN ACCESS TO ALL EXISTING PROPERTIES

23 PILLSBURY REALTY DEVELOPMENT LLC
10 48
5155/1931
29.22 Ac.±

24 SEVEN HILLS DEVELOPMENT LLC
10 49
3478/1743
8.84 Ac.±

26 SEVEN HILLS DEVELOPMENT, LLC
31 13
3443/1373
10.93 Ac.±

27 ABBOTT, MARCIA E.
31 12
2932/2232, 1695/86
2.01 Ac.±

25 DERRY BUSINESS CENTER / UNIT OWNERS ASSN
31 5-6
4863/2112
6.60 Ac.±

XX PILLSBURY REALTY/ DEVELOPMENT LLC

PUBLIC SERVICE EASEMENT (848/456 & 1329/331)

PUBLIC SERVICE EASEMENT (5094/2987)

SUBJECT TO ACCESS RIGHTS NOTED IN DEED 2932/2232 (LOCUS UNDETERMINED)

UTILITY EASEMENT TO SPRINT SPECTRUM L.P. (3240/84) FOLLOWS "OLD FOLSOM ROAD", AS IT MAY APPLY TO THIS PARCEL.

90 PFO1E
35 PFO1E
64 PFO1E
39 PEM1F
VP8
VP9

S11 R4SB5

GRID

50 0 50 100
SCALE IN FEET

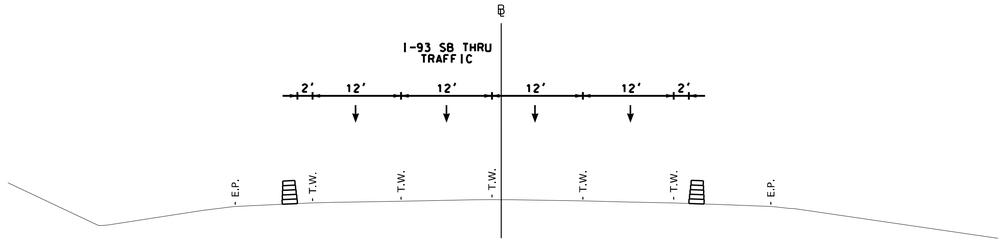
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

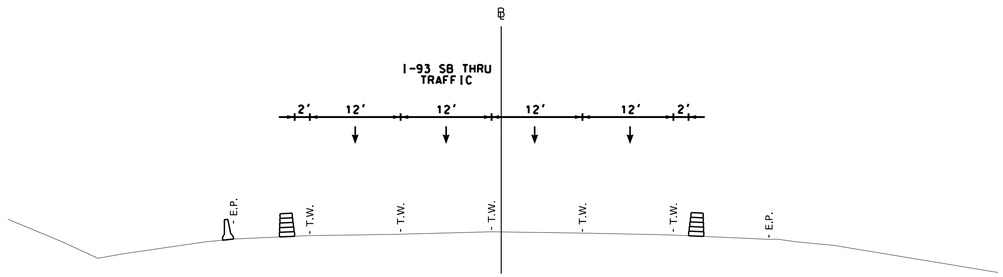
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TRAFFIC CONTROL PLANS PHASE 4

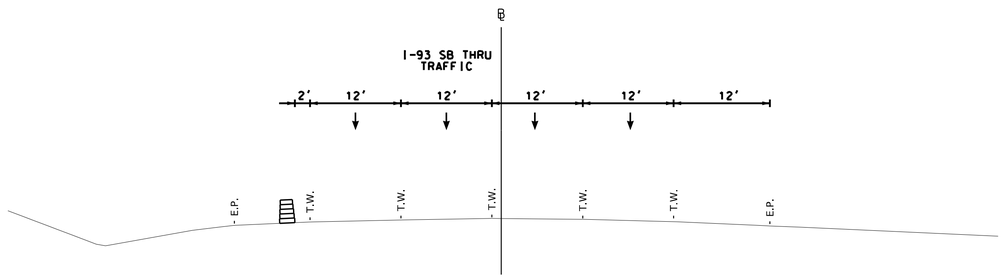
DATE PLOTTED	VHB PROJECT NO.	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	TCP16	13065A_TCP_P4	13065A	375	733



STA 3692+00

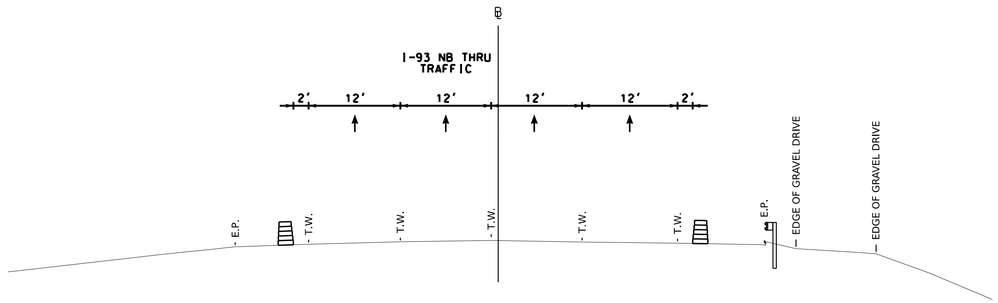


STA 3688+50

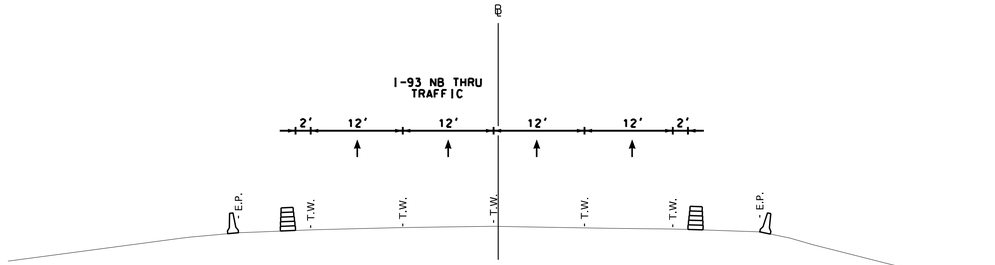


STA 3677+75

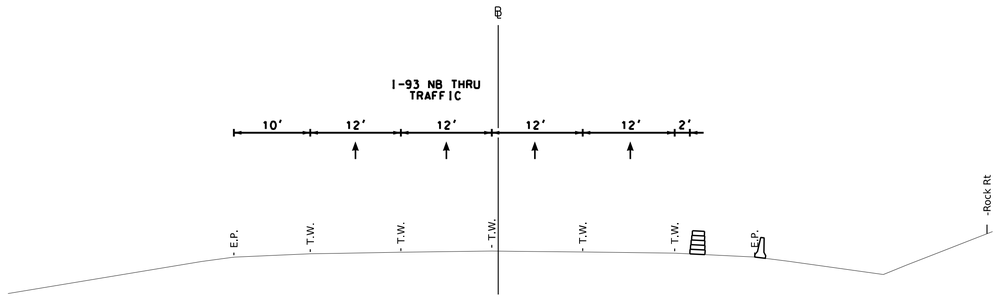
I-93 SOUTHBOUND



STA 1675+50



STA 1678+00



STA 1686+50

I-93 NORTHBOUND

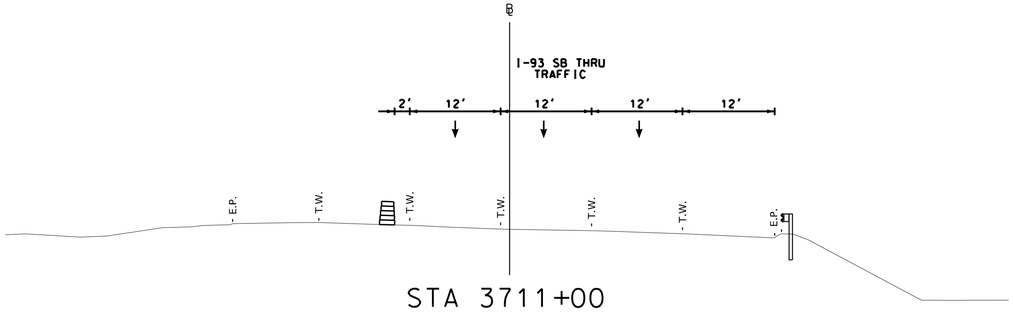
NUMBER	DATE	DESCRIPTION	STATION	STATION
		REVISIONS AFTER PROPOSAL		

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

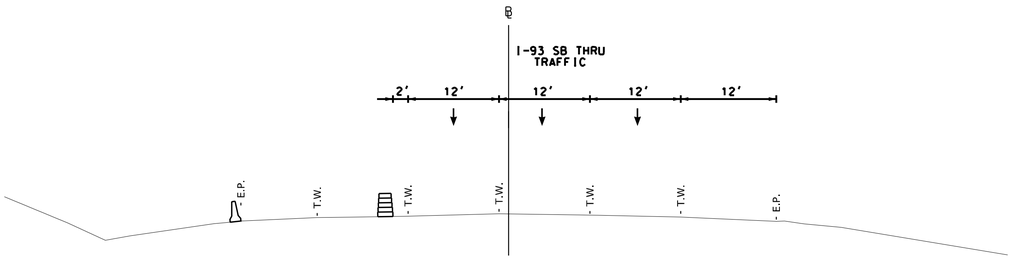
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS
I-93 PHASE 1

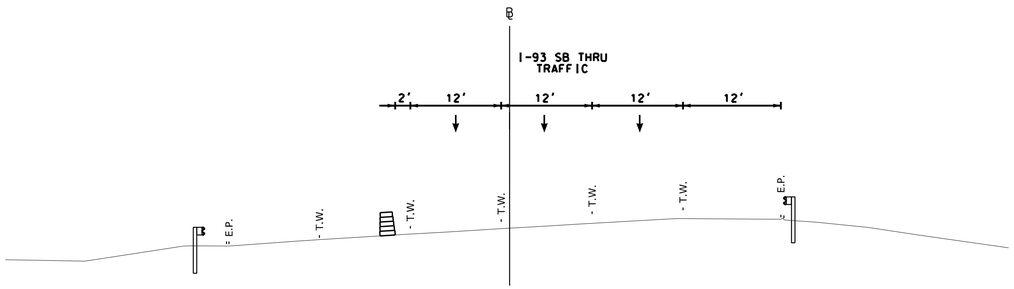
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	376	733



STA 3711+00

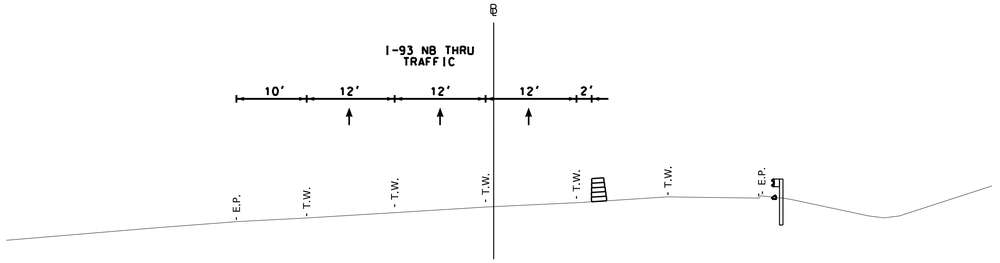


STA 3685+50

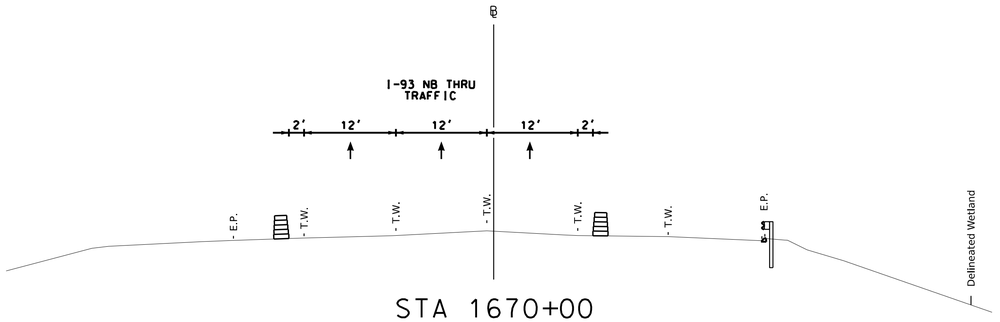


STA 3657+50

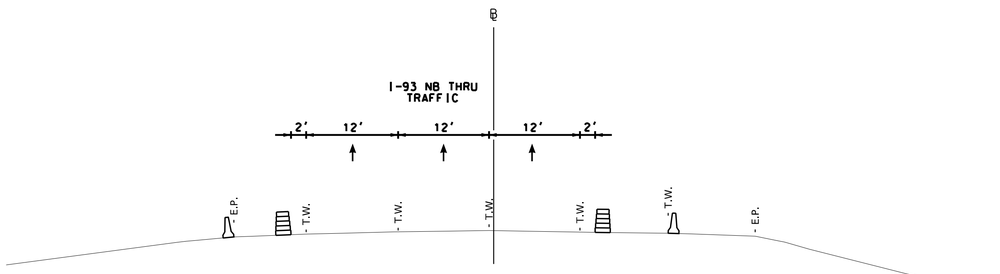
I-93 SOUTHBOUND



STA 1657+50



STA 1670+00



STA 1678+00

I-93 NORTHBOUND

REVISIONS AFTER PROPOSAL

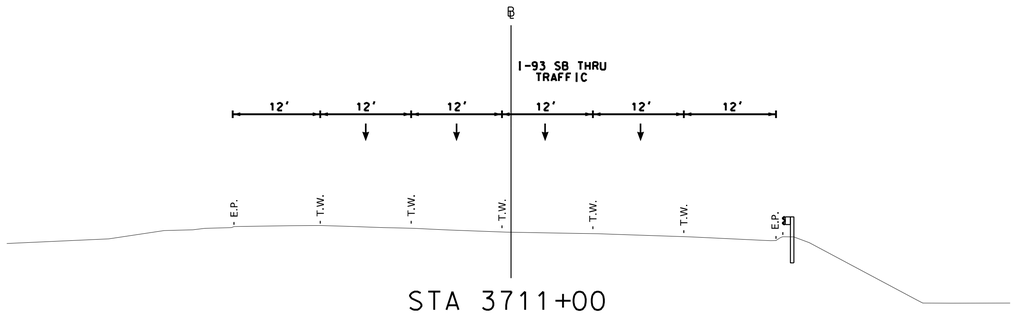
NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

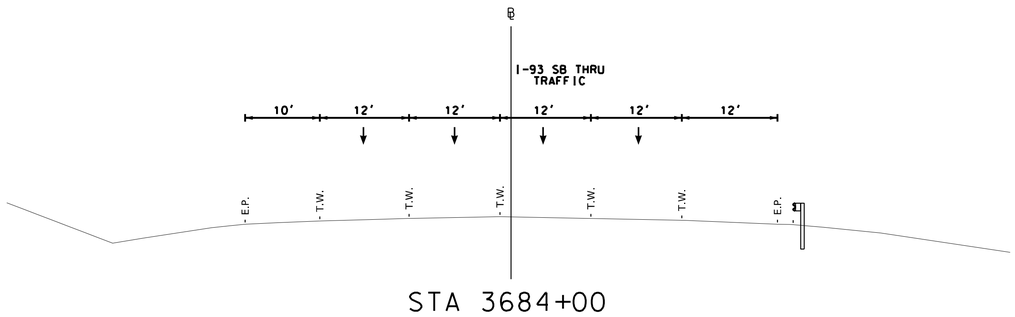
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS
I-93 PHASE 2

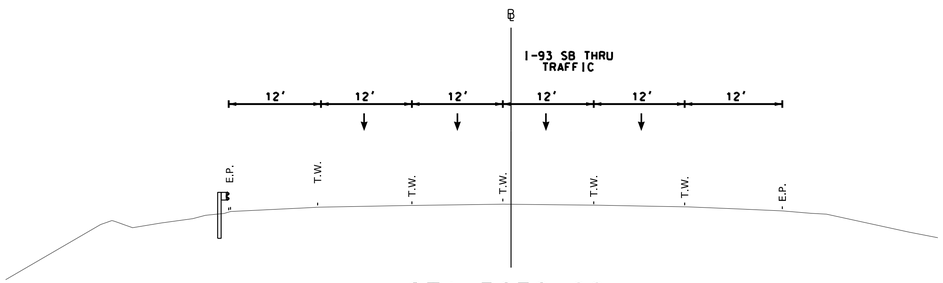
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	377	733



STA 3711+00

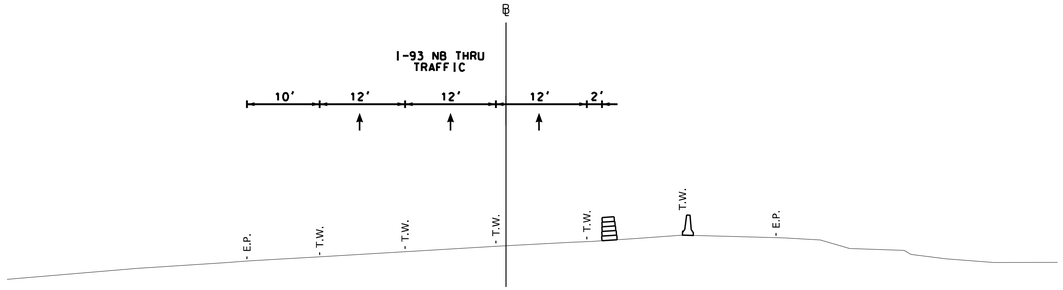


STA 3684+00

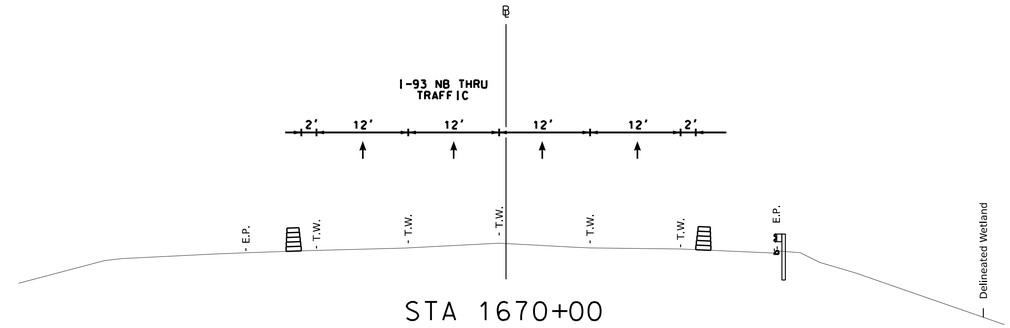


STA 3672+00

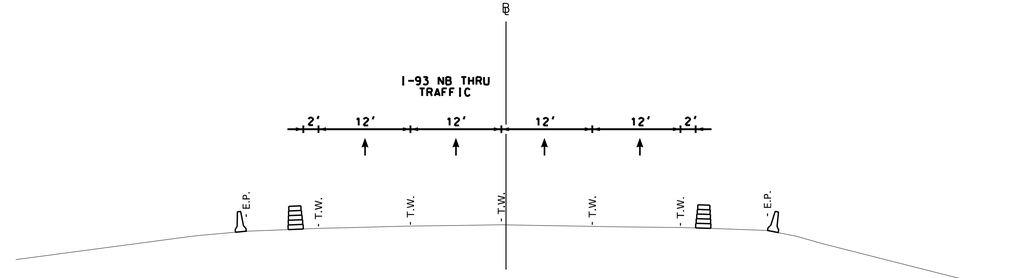
I-93 SOUTHBOUND



STA 1655+00



STA 1670+00



STA 1678+00

I-93 NORTHBOUND

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

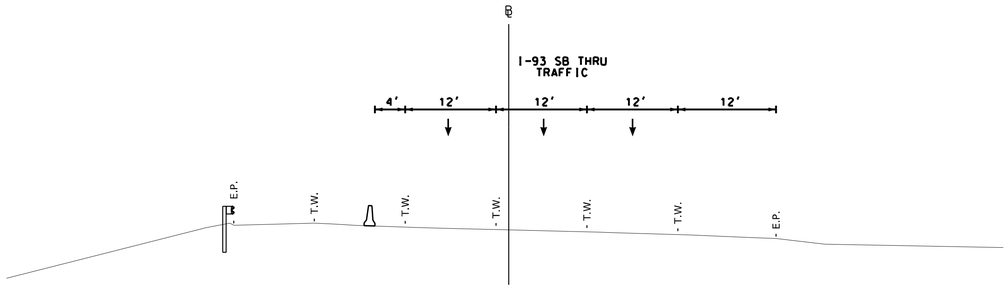
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS I-93 PHASE 1A

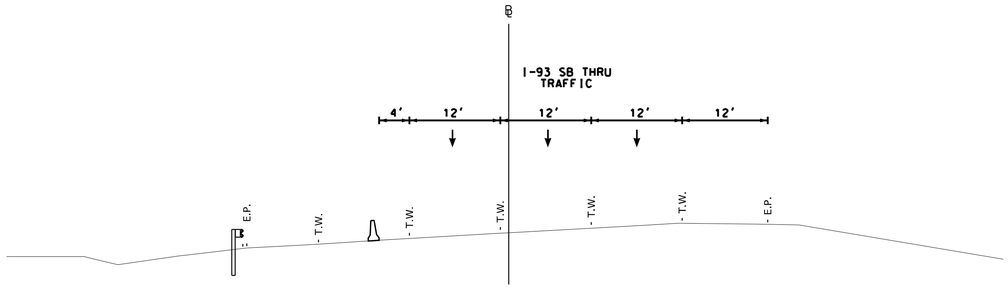
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	378	733

REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	DATE	NUMBER

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

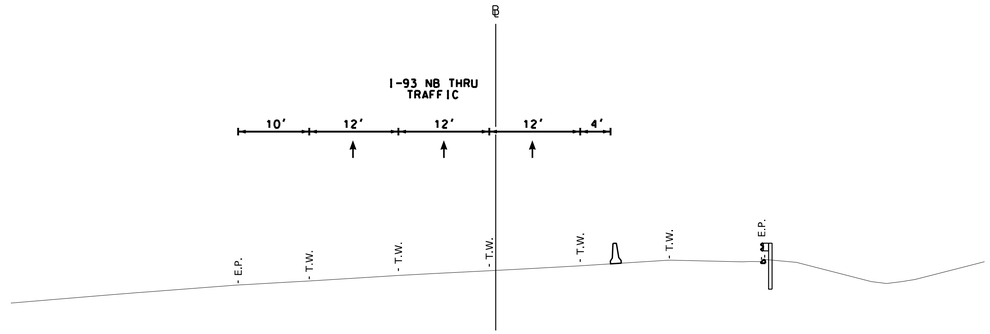


STA 3715+50

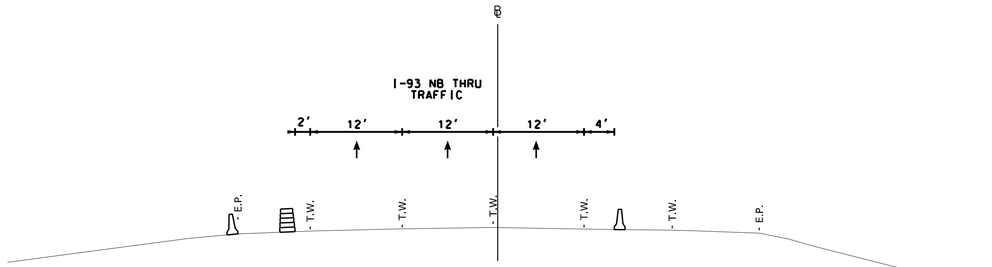


STA 3660+00

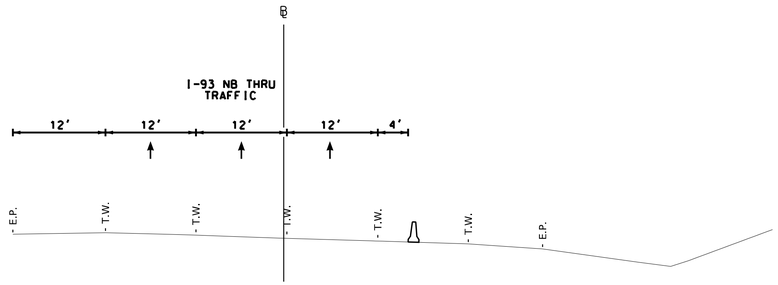
I-93 SOUTHBOUND



STA 1657+00



STA 1678+00



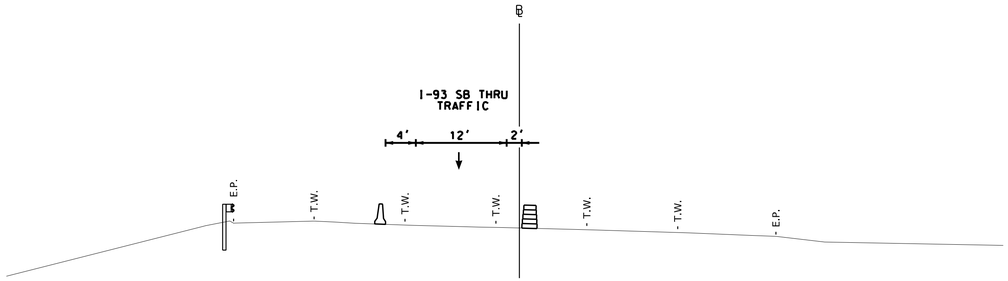
STA 1704+00

I-93 NORTHBOUND

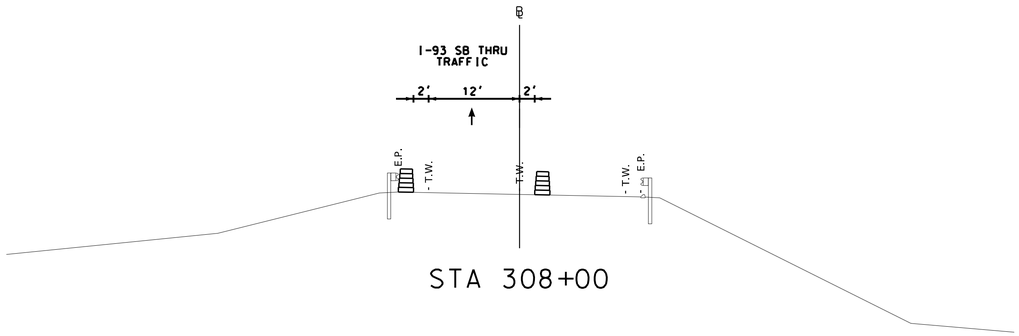
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS
I-93 PHASE 3

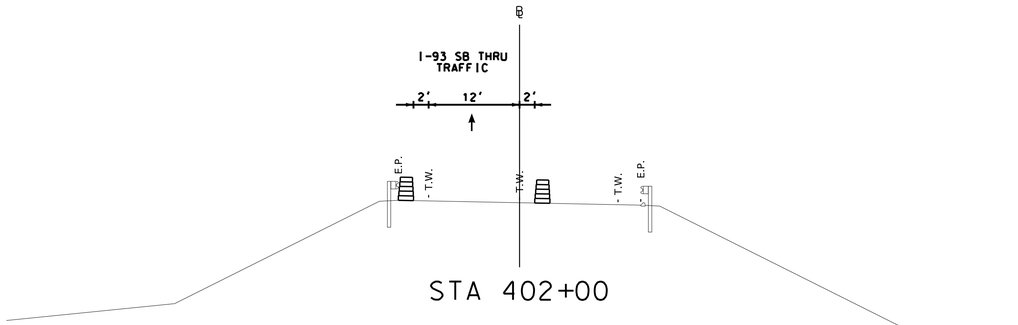
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	379	733



STA 3715+50

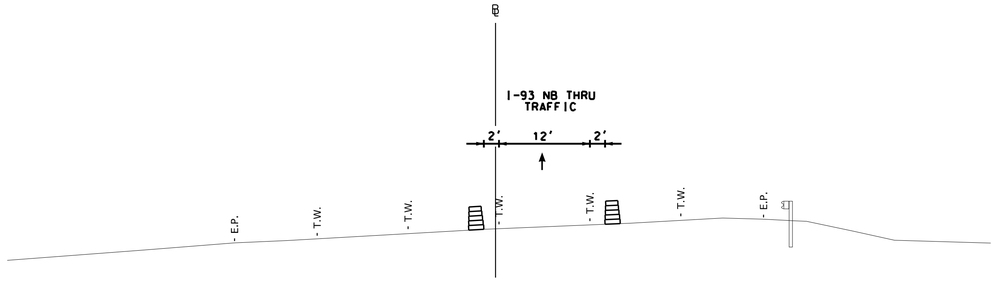


STA 308+00

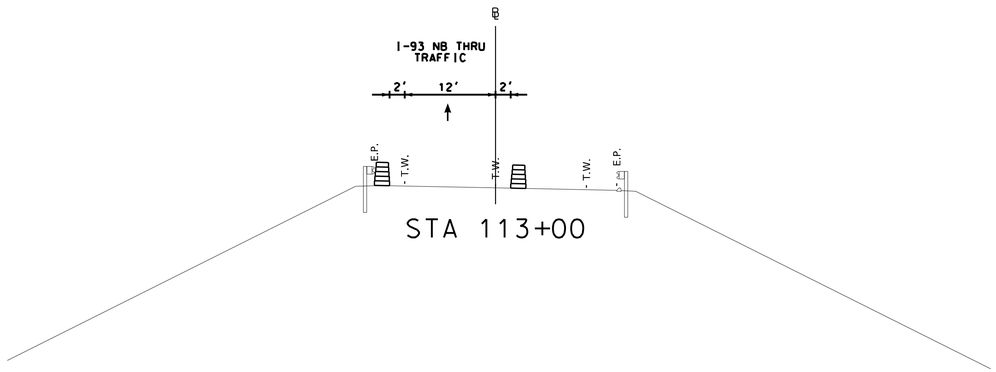


STA 402+00

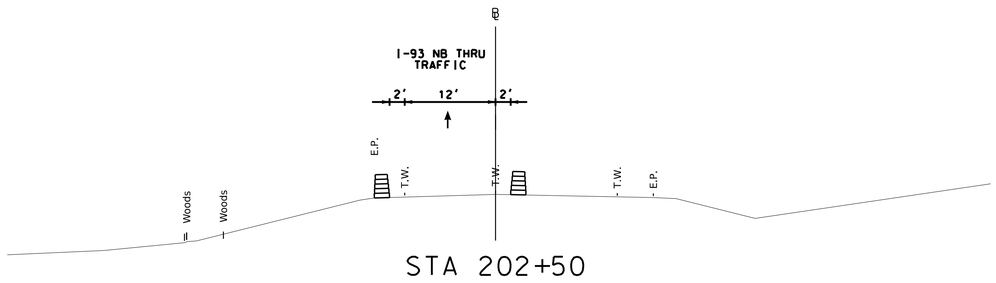
I-93 SOUTHBOUND



STA 1654+50



STA 113+00



STA 202+50

I-93 NORTHBOUND

REVISIONS AFTER PROPOSAL

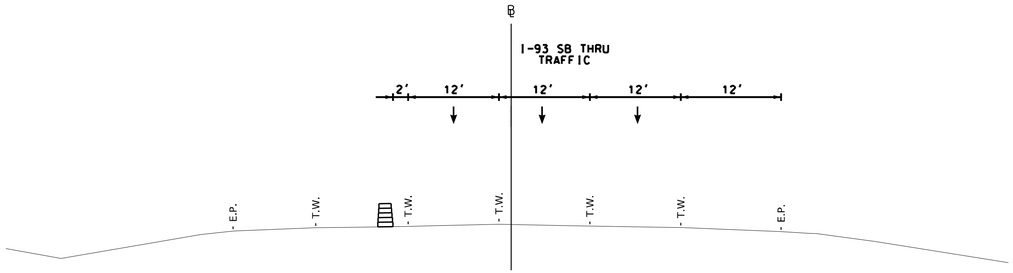
NUMBER	DESCRIPTION	DATE	STATION	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

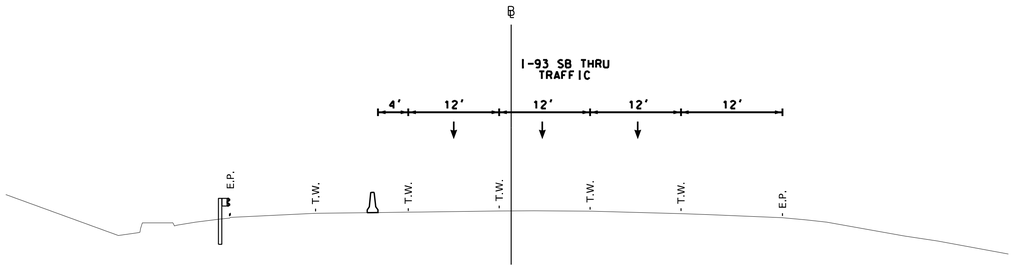
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS I-93 PHASE 3A

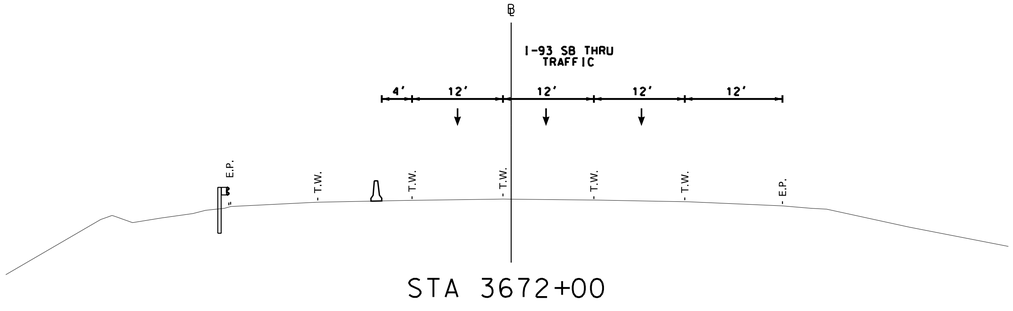
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	380	733



STA 3704+00

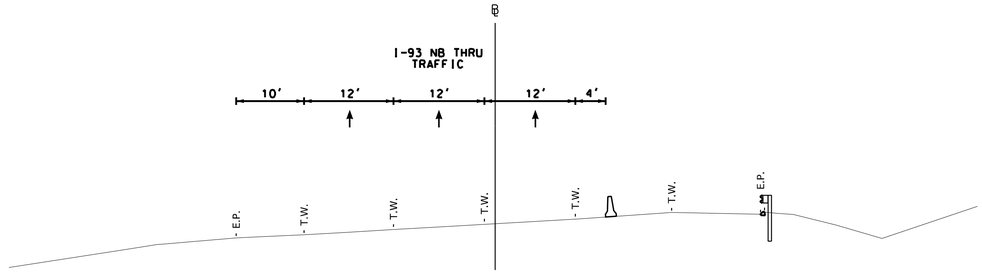


STA 3696+50

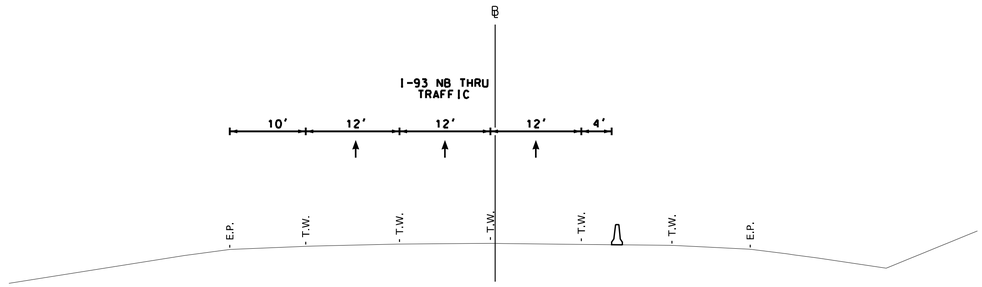


STA 3672+00

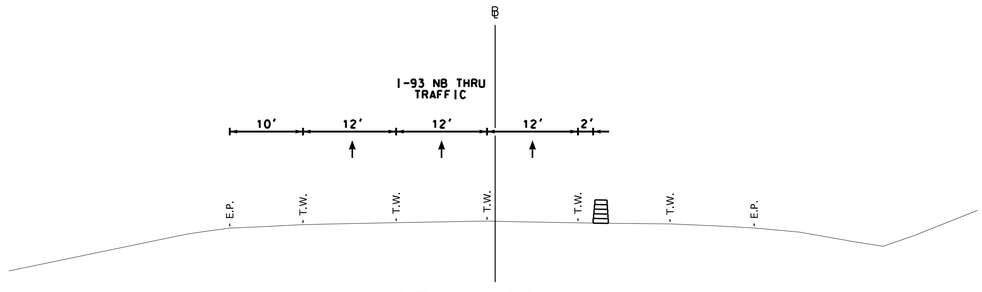
I-93 SOUTHBOUND



STA 1661+00



STA 1688+00



STA 1699+00

I-93 NORTHBOUND

REVISIONS AFTER PROPOSAL

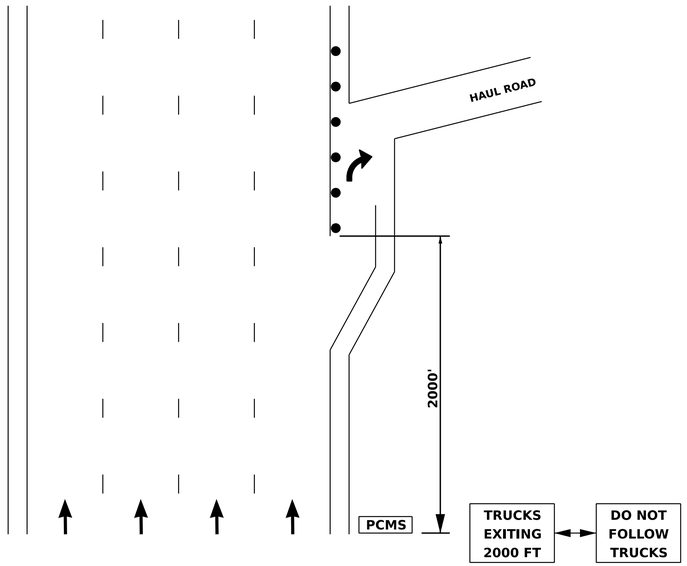
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

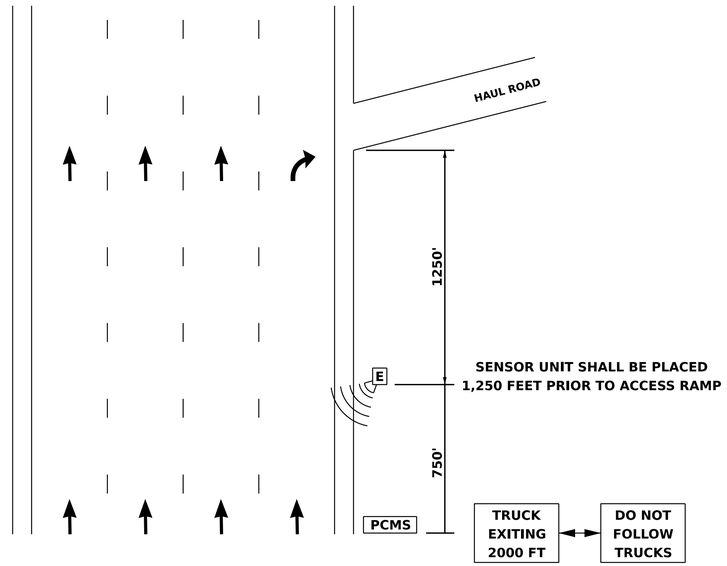
STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

TCP CRITICAL SECTIONS
I-93 PHASE 4

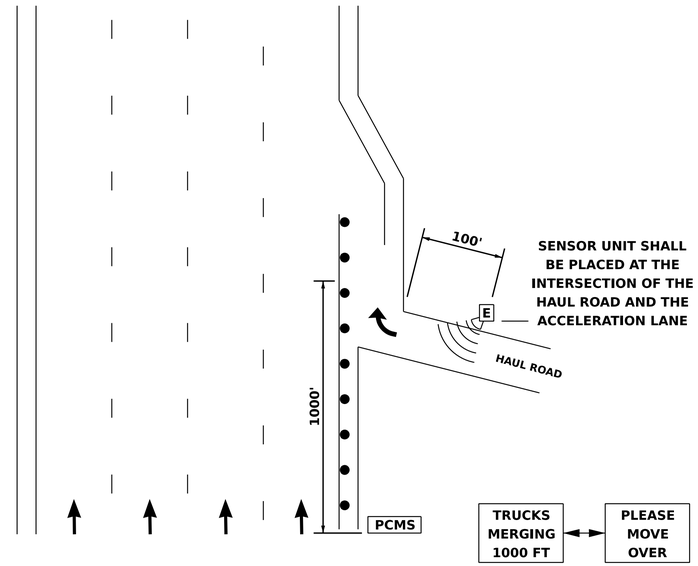
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_TCP_CXS	13065A	381	733



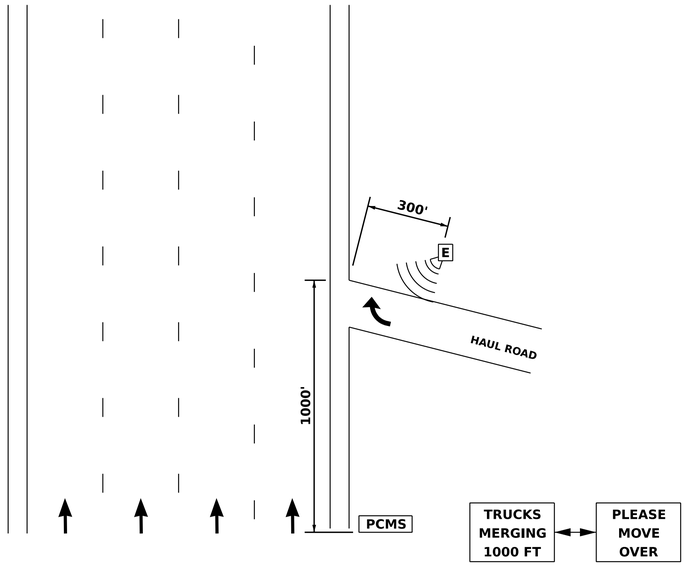
SMART WORK ZONE DETAIL #1
WORK ZONE ACCESS WITH PARALLEL DECELERATION LANE
NOT TO SCALE



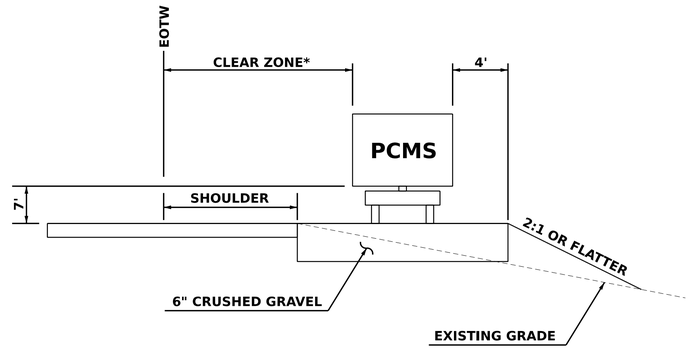
SMART WORK ZONE DETAIL #2
WORK ZONE ACCESS WITH TAPERED EXIT
NOT TO SCALE



SMART WORK ZONE DETAIL #3
WORK ZONE EGRESS WITH PARALLEL ACCELERATION LANE
NOT TO SCALE



SMART WORK ZONE DETAIL #4
WORK ZONE EGRESS WITH TAPERED APPROACH
NOT TO SCALE



TEMPORARY PLATFORM DETAIL
FOR PCMS
NOT TO SCALE

NOTE: SEE NHDOT STANDARD SPECIFICATION SECTION 203
* OR 10 FT. MINIMUM FROM FACE OF CRASH WORTHY GUARDRAIL/BARRIER

NOTES:

1. ADVANCED WARNING SIGNS AND OTHER STANDARD TEMPORARY TRAFFIC CONTROL DEVICES HAVE NOT BEEN SHOWN ON THESE DETAILS. OTHER TRAFFIC CONTROL DEVICES AND SIGNING SHALL BE AS SHOWN ON THE APPROVED TRAFFIC CONTROL PLANS.
2. SMART WORK ZONE CHANGEABLE MESSAGE SIGN LEGENDS/MESSAGES SHALL BE APPROVED BY THE NHDOT TRANSPORTATION SYSTEMS, MANAGEMENT & OPERATIONS (TSMO).
3. SEE SPECIAL PROVISION 203 SMART WORK ZONE PLATFORMS FOR ADDITIONAL INFORMATION.
4. SEE SPECIAL PROVISION 619 SMART WORK ZONE FOR ADDITIONAL INFORMATION.
5. NON INTRUSIVE DETECTION SENSOR SHALL BE PLACED ALONG THE ROADWAY ROADWAY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AS NEEDED FOR PROPER SYSTEM OPERATION.

LEGEND

PCMS - PORTABLE CHANGEABLE MESSAGE SIGN

E - SMART WORK ZONE SENSOR

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

SMART WORK ZONE DETAILS

DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_Det_SWZ_01	13065A	382	733

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
FEDERAL AID PROJECT

A005(073)
N.H. PROJECT NO. 13065A
INTERSTATE 93
EXIT 4A INTERCHANGE

VOLUME 2 of 2
CROSS SECTIONS

SHEET NO.	DESCRIPTION
383	VOLUME 2
	CROSS SECTIONS
384-467	I-93 NORTHBOUND
468-534	I-93 SOUTHBOUND
535-553	NB OFF RAMP
554-576	NB ON RAMP
577-594	SB OFF RAMP
595-610	SB ON RAMP
611-614	NB SLIP RAMP
615-698	OLDE RUM TRAIL
699-705	MADDEN ROAD
	STREAM RELOCATION
706-716	STREAM RELOCATION PLANS
717-733	WHEELER BROOK CROSS SECTIONS

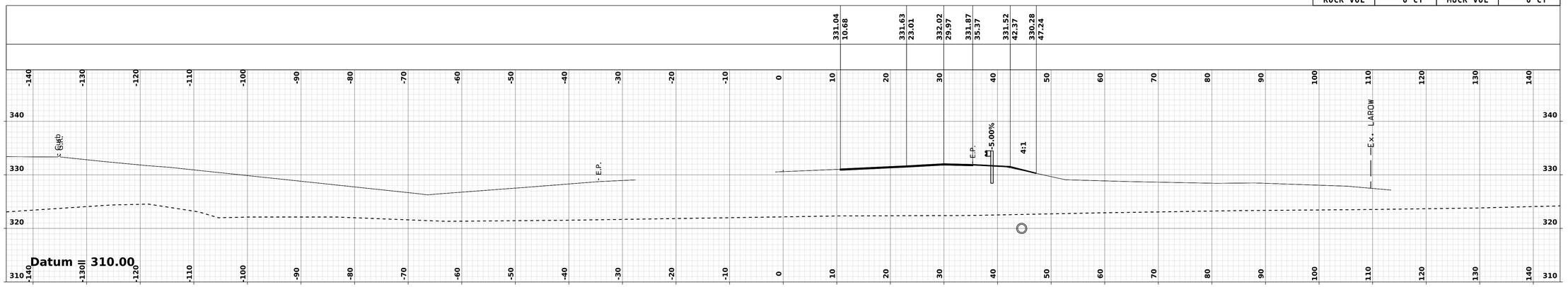
vhb

STATE OF NEW HAMPSHIRE
LONDONDERRY & DERRY
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

VOLUME 2

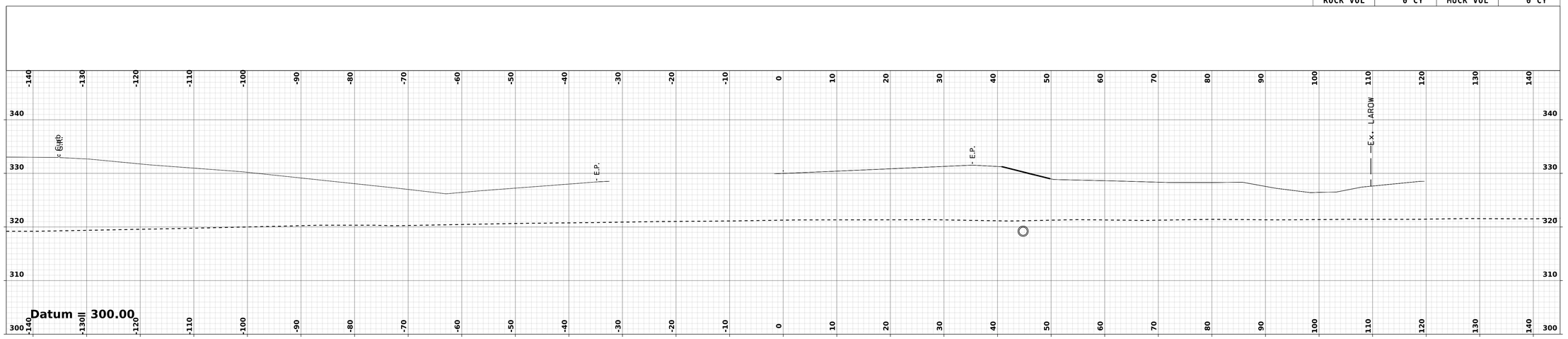
DATE PLOTTED	VHB PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
4/12/2022	52768.00	13065A_FSV2	13065A	383	733

CUT VOL	1 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



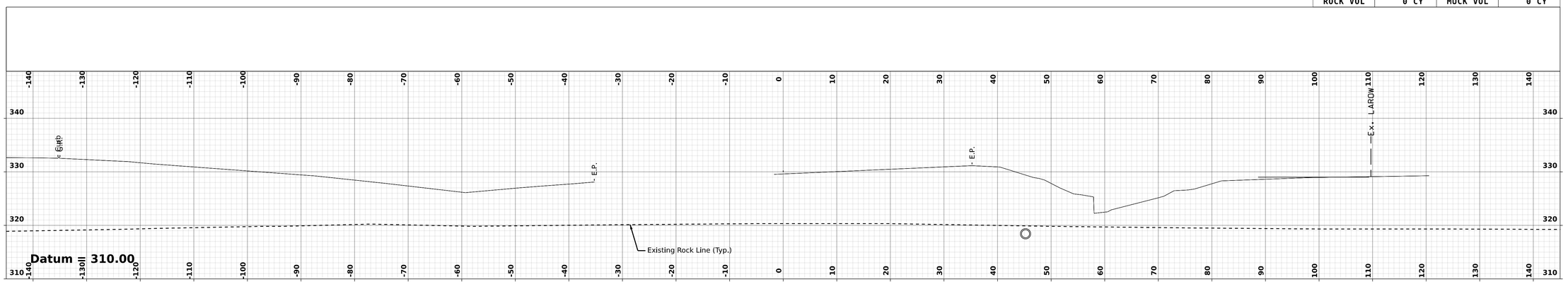
I-93 NB **STA. 1654+50.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1654+25.00**

CUT VOL	0 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1654+00.00**

NOTES:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

FOR ADDITIONAL INFORMATION, SEE THE PREVIOUS SALEM-MANCHESTER 14633D AND 14633I AS-BUILT PLANS.

REVISIONS AFTER PROPOSAL

	DESCRIPTION	STATION	STATION	DATE	NUMBER

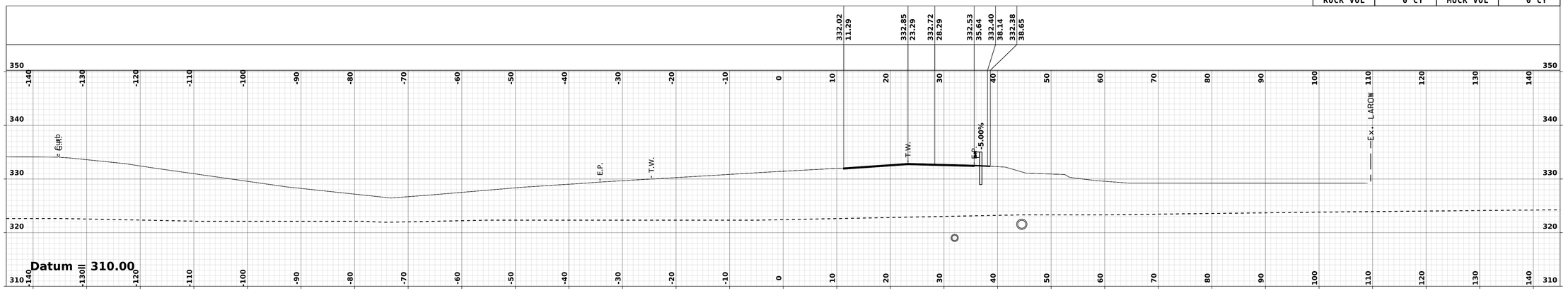
SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

LONDONDERRY & DERRY

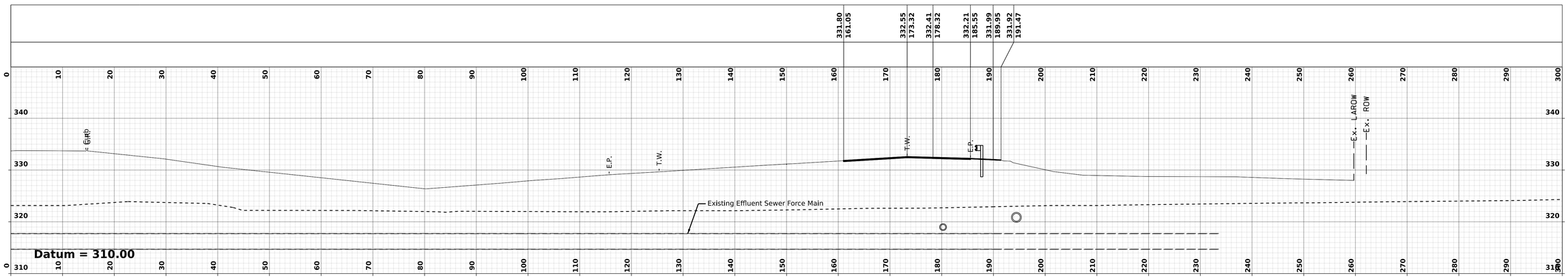
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	384	733

I-93 NB - 1654+00.00-1 [Sheet]

CUT VOL	3 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY

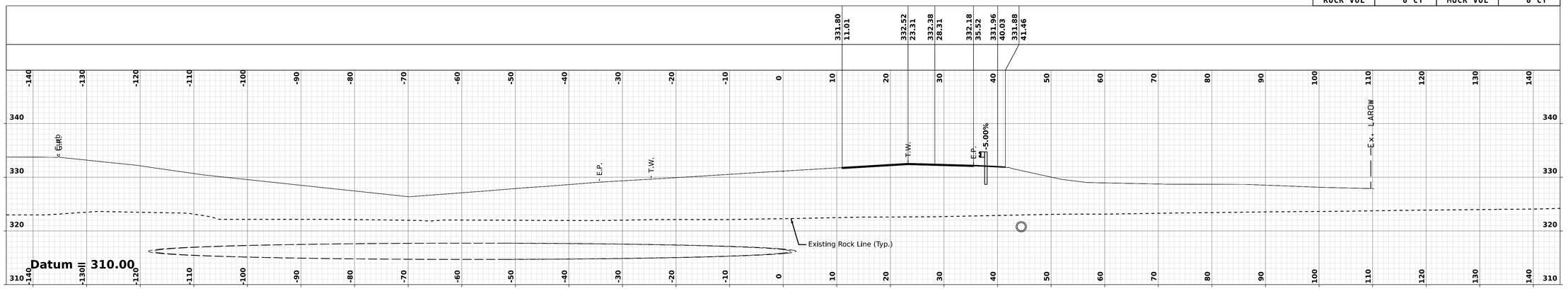


I-93 NB **STA. 1655+00.00**



I-93 NB **STA. 1654+76 SKEWED**

CUT VOL	3 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1654+75.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

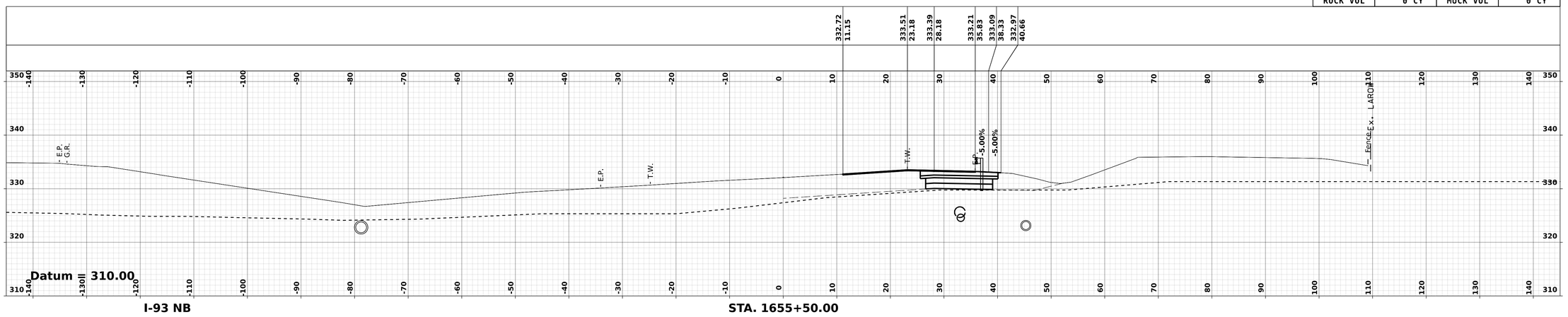
vhb

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	385	733

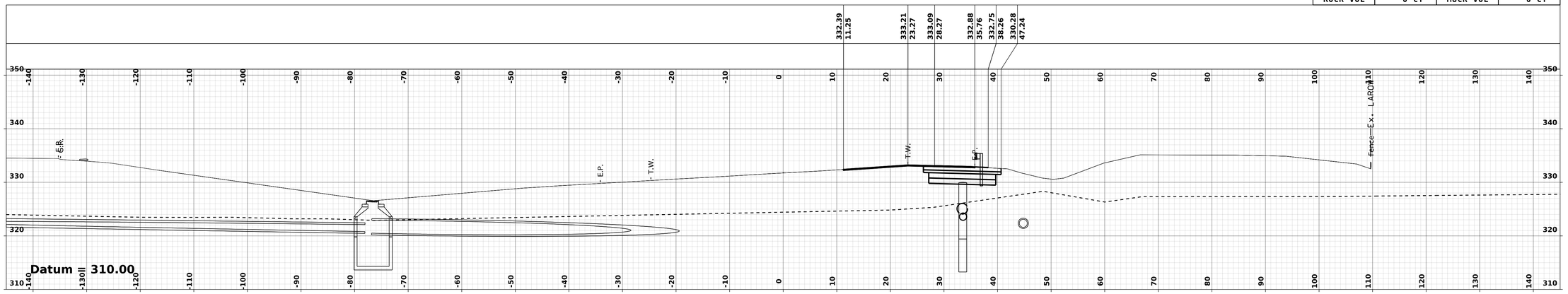
I-93 NB - 1654+75.00 [Sheet]

CUT VOL	44 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



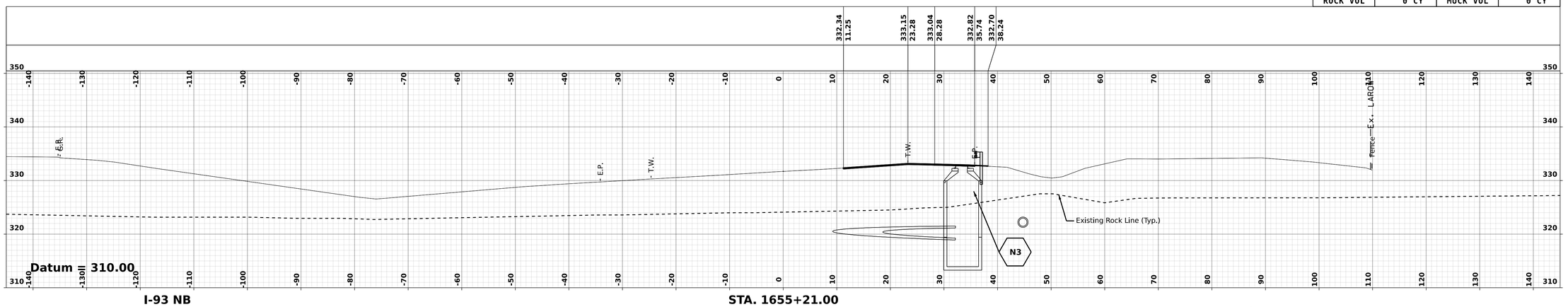
I-93 NB **STA. 1655+50.00**

CUT VOL	4 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1655+25.00**

CUT VOL	2 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1655+21.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

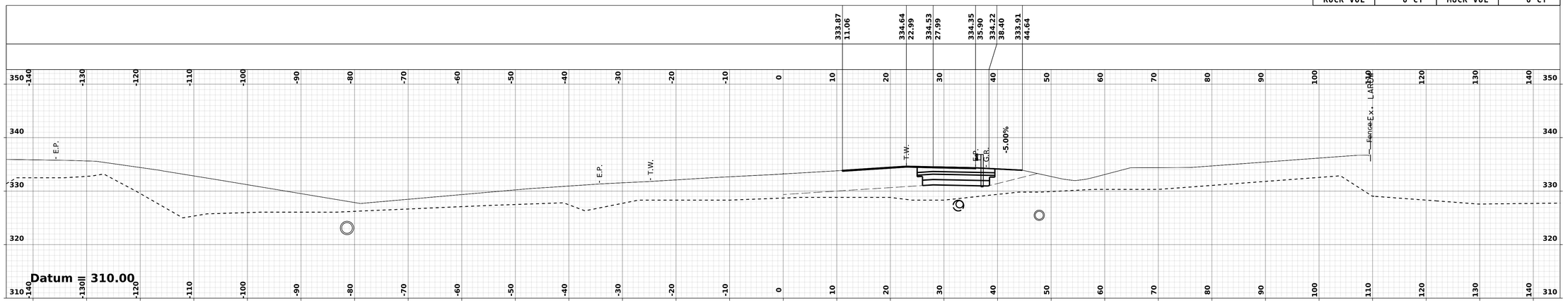
vhb

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	386	733

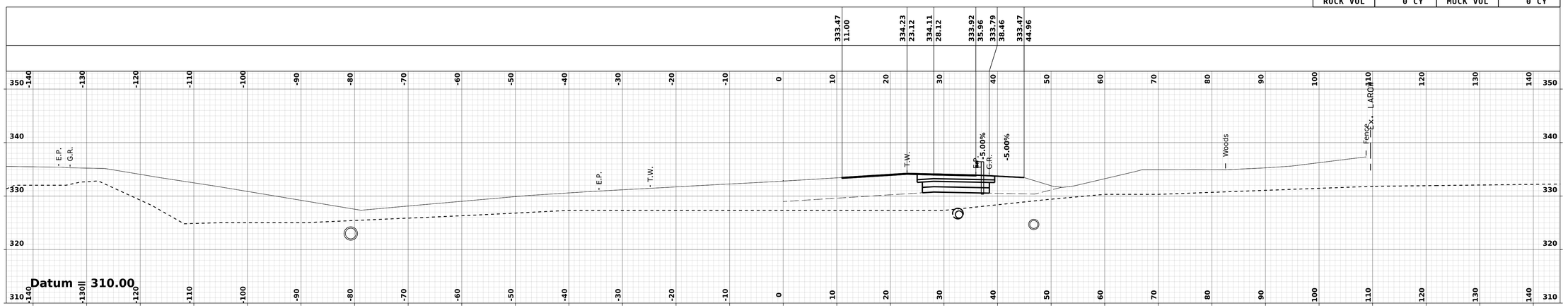
I-93 NB - 1655+25.00 [Sheet]

CUT VOL	45 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



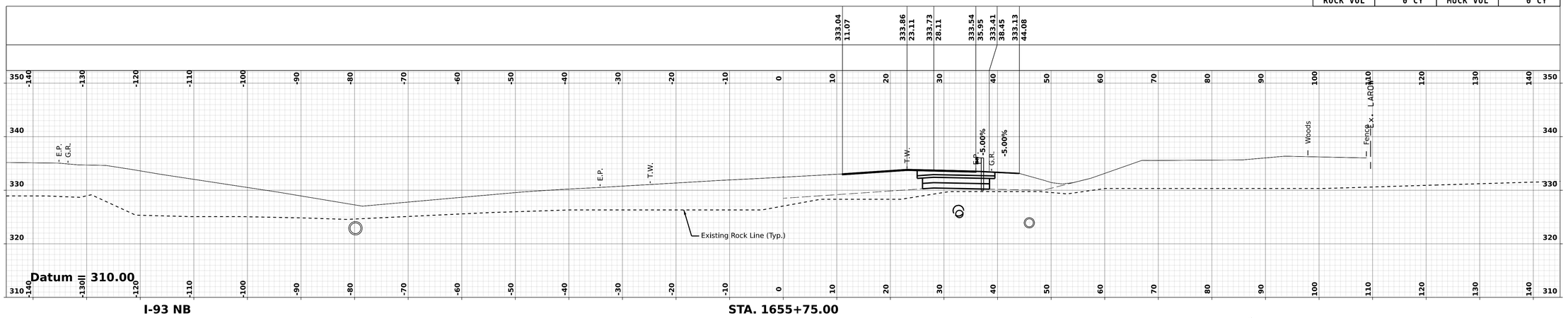
I-93 NB **STA. 1656+25.00**

CUT VOL	44 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1656+00.00**

CUT VOL	44 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB **STA. 1655+75.00**

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

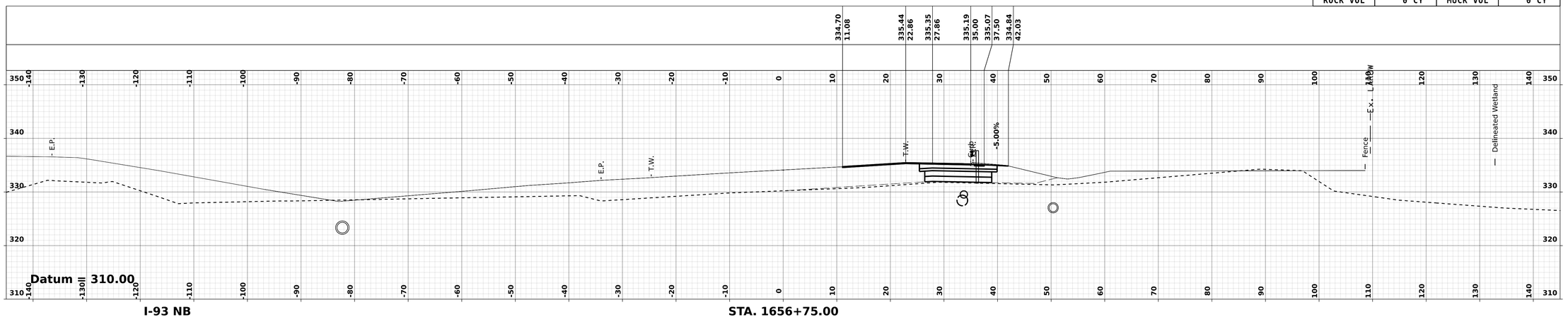
vhb

I-93 NB - 1656+00.00-1 [Sheet]

LONDONDERRY & DERRY

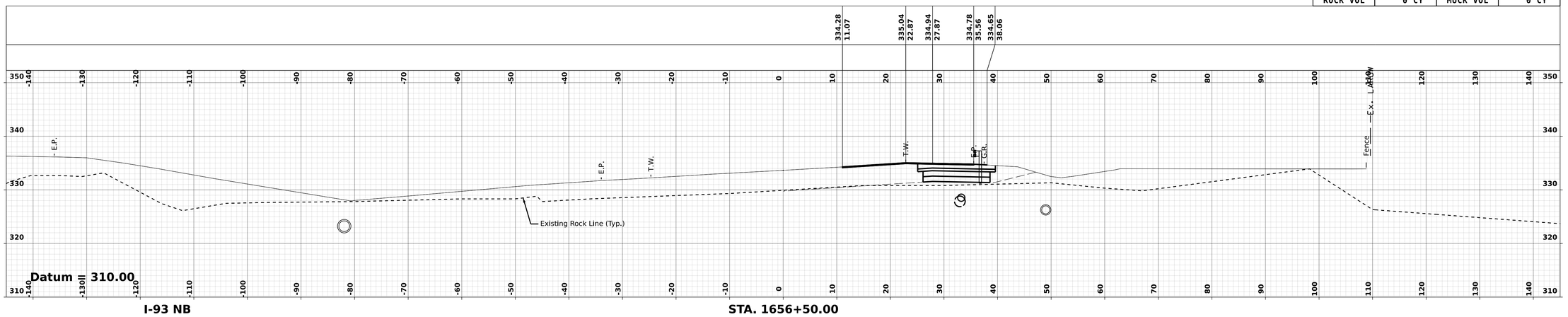
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	387	733

CUT VOL	46 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB STA. 1656+75.00

CUT VOL	45 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



I-93 NB STA. 1656+50.00

NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

I-93 NB - 1656+50.00-1 [Sheet]

LONDONDERRY & DERRY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	388	733

REVISIONS AFTER PROPOSAL

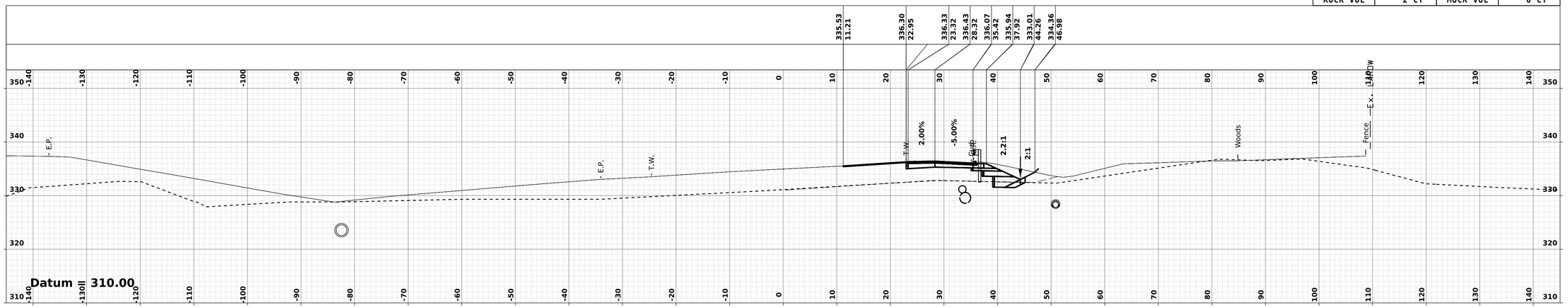
NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	VHB TEAM/NHDOT	DATE 2/8/2022
NEW DESIGN	VHB TEAM	DATE 4/12/2022
SHEET CHECKED	J. HILTON	DATE 4/12/2022
AS BUILT DETAILS		DATE

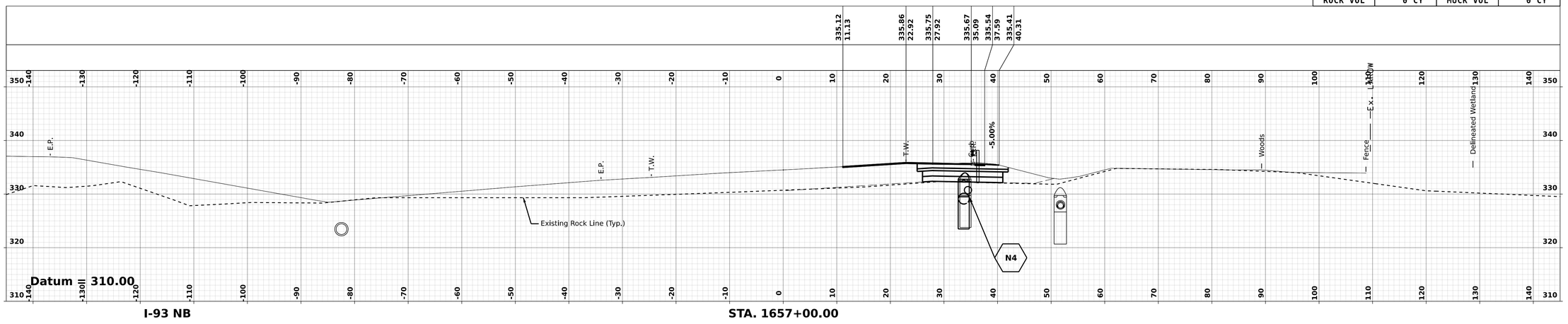
REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	VHB TEAM/NHDOT	DATE	2/8/2022
NEW DESIGN	VHB TEAM	DATE	4/12/2022
SHEET CHECKED	J. HILTON	DATE	4/12/2022
AS BUILT DETAILS		DATE	

CUT VOL	46 CY	FILL VOL	0 CY
ROCK VOL	2 CY	MUCK VOL	0 CY



CUT VOL	51 CY	FILL VOL	0 CY
ROCK VOL	0 CY	MUCK VOL	0 CY



NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

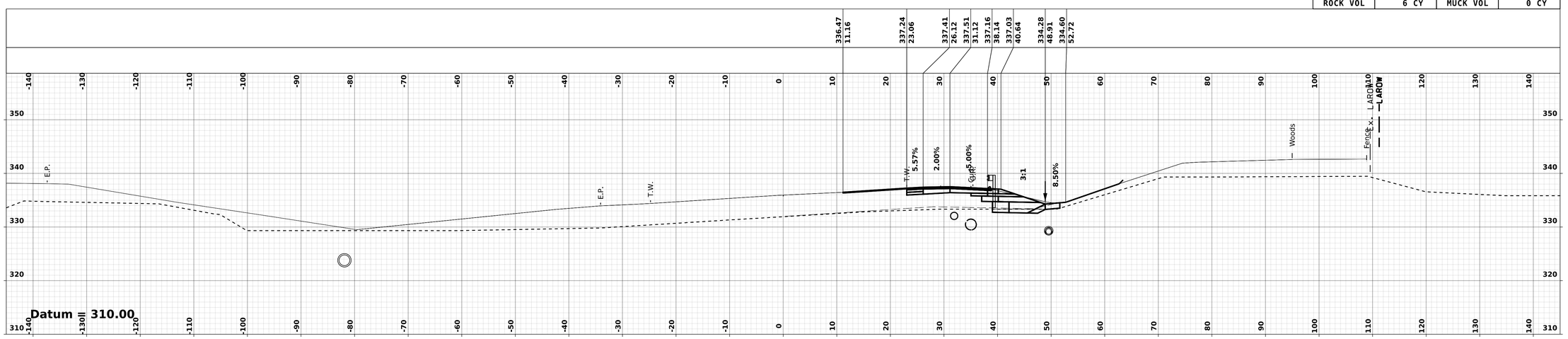
vhb

LONDONDERRY & DERRY

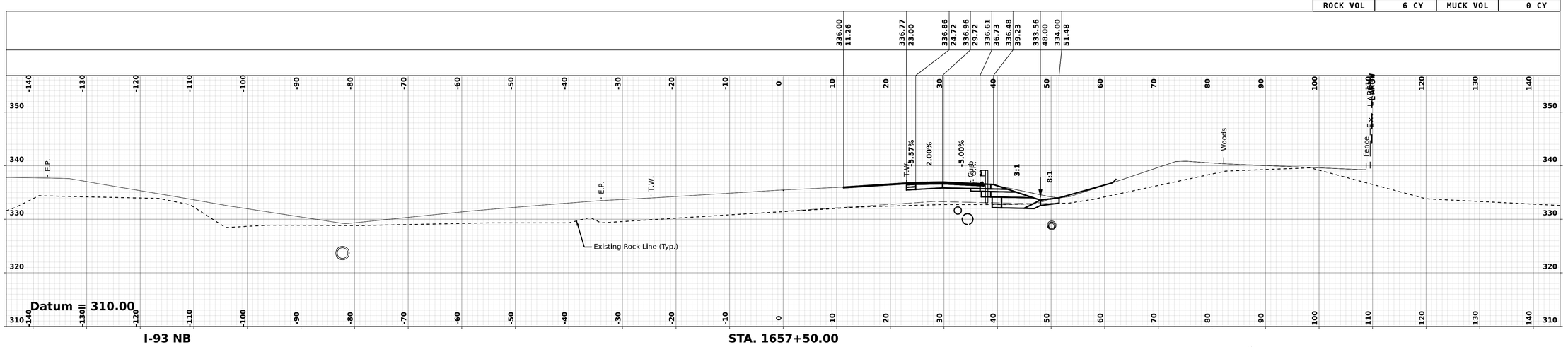
I-93 NB - 1656+75.00 [Sheet]

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	389	733

CUT VOL	45 CY	FILL VOL	1 CY
ROCK VOL	6 CY	MUCK VOL	0 CY



CUT VOL	42 CY	FILL VOL	1 CY
ROCK VOL	6 CY	MUCK VOL	0 CY



NOTE:

FOR UNDERDRAIN INFORMATION, SEE DRAINAGE PLANS AND DRAINAGE NOTES.

REVISIONS AFTER PROPOSAL

	NUMBER	DATE	STATION	DESCRIPTION

		DATE
SDR PROCESSED	VHB TEAM/NHDOT	2/8/2022
NEW DESIGN	VHB TEAM	4/12/2022
SHEET CHECKED	J. HILTON	4/12/2022
AS BUILT DETAILS		DATE

vhb

LONDONDERRY & DERRY

I-93 NB - 1657+50.00-2 [Sheet]

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13065A_XS_NB I-93	13065A	390	733