

TOWN OF ASHFORD

REPLACEMENT OF 2 CULVERTS ON COUNTY ROAD 85 C85-28480 AND C85-28092



DESCRIPTION OF WORK TO BE PERFORMED:
CULVERT REPLACEMENT, ROADWAY RECONSTRUCTION, AND SLOPE RECONSTRUCTION

ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE COVERED BY AND IN CONFORMITY WITH THE SPECIFICATIONS OF THE STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION, ADOPTED MAY 1, 2018 WITH CURRENT ADDITIONS AND MODIFICATIONS AND WITH SUBSEQUENT MODIFICATIONS ON THESE PLANS AND IN THE ITEMIZED PROPOSAL AND INSTRUCTIONS TO BIDDERS.

STANDARD SHEETS:
209-01
209-06
608-04
619-01
619-02



WARNING: IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PREPARED AND RECOMMENDED BY:

Brian J. Carlson
BRIAN J. CARLSON, P.E.
GREENMAN-PEDERSEN, INC.

7/13/2018
DATE

APPROVED BY:

Kathleen M. Ellis
KATHLEEN M. ELLIS
COMMISSIONER
CATTARAUGUS COUNTY DPW

DATE

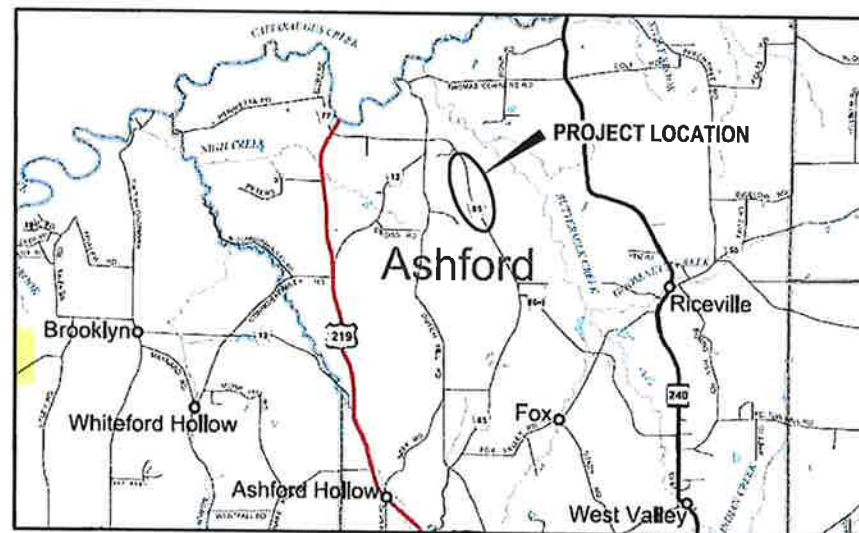
APPROVED BY:

Mark C. Burr
MARK C. BURR, P.E.
DIRECTOR OF ENGINEERING
CATTARAUGUS COUNTY DPW

7/2/2018
DATE

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LOCATION MAP
NOT TO SCALE

Greenman-Pedersen, Inc.
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GPI

WARNING: ALTERATIONS TO THIS DOCUMENT NOT CONFORMING TO SECTION 7006, SUBDIVISION 2, STATE EDUCATION LAW, ARE PROHIBITED.

SCALE	DATE	DWG NO.	NO.	REVISIONS	BY	DATE
NONE	MAY 2018	2017091.00_P.L. C004.1 DWG				

COVER SHEET
CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.
C-1

GENERAL NOTES

1.

CONSTRUCTION AND MATERIAL SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED MAY 1, 2018 WITH CURRENT ADDITIONS AND MODIFICATIONS.
2.

DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
3.

ALL SHOP DRAWINGS SUBMITTED FOR THIS PROJECT SHALL BE IN US CUSTOMARY UNITS.
4.

SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. AT LEAST TWO WORKING DAYS PER DRAWING WITH A MINIMUM OF TEN WORKING DAYS MUST BE ALLOWED FOR EACH SET OF DRAWINGS SUBMITTED FOR REVIEW. NO WORK MAY BEGIN UNTIL THE RESPECTIVE SUBMITTALS ARE APPROVED. ALL COSTS FOR PREPARING THESE PLANS AND CALCULATIONS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
5.

WELDING SHALL CONFORM TO THE NEW YORK STATE STEEL CONSTRUCTION MANUAL., INCLUDING ALL ADDENDA.
6.

NO DIRECT PAYMENT SHALL BE MADE FOR WORK INDICATED ON THE DRAWINGS OR THE SPECIFICATIONS FOR WHICH NO ITEM NUMBER IS INDICATED. THE COST FOR SUCH WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
7.

THE CONTRACTOR WILL BE ALLOWED TO STAGE HIS OPERATIONS WITHIN THE LIMITS OF THE EXISTING ROADWAY SHOULDERS. EXISTING GROUND SURFACES OUTSIDE OF THE PROPOSED WORK LIMITS SHALL NOT BE DISTURBED. ANY DAMAGE TO THE EXISTING ROADWAY AND SHOULDERS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE COUNTY.

EARTHWORK / EXCAVATION NOTES

1.

CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION, AND NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
2.

DEWATERING MAY BE REQUIRED FOR THE INSTALLATION. THE COST OF DEWATERING IS TO BE INCLUDED IN THE VARIOUS EXCAVATION ITEMS.
3.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SUPPORTS, BRACING AND OTHER DEVICES REQUIRED OR DIRECTED BY THE ENGINEER TO PROTECT THE SAFETY OF THE ADJACENT STRUCTURES, ROADWAY AND UTILITIES.
4.

FILL COMPACTION: ALL PLACEMENTS OF SELECT GRANULAR FILL, ITEM 203.07, AND SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE COMPACTED TO 95 PERCENT MAXIMUM DENSITY.
5.

THE COST OF WATER USED FOR THE COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203.21 – SELECT STRUCTURE FILL.
6.

MATERIALS EXCAVATED UNDER ITEM 203.02 AND 206.0201 MAY BE USED AS BORROW MATERIAL IF THE ENGINEER JUDGES SUCH MATERIALS TO BE SUITABLE. THESE EXCAVATIONS ITEMS ARE NOT REFLECTED IN THE EMBANKMENT ITEMS.
7.

THE TOP PAYMENT LIMIT UNDER ITEM 206.01 STRUCTURE EXCAVATION SHALL BE THE SUBGRADE ESTABLISHED UNDER ITEM 203.02 UNCLASSIFIED EXCAVATION AND DISPOSAL. SEE DWGS C–6, C–9, AND C–11.
8.

THE CONTRACTOR SHALL STRICTLY ADHERE TO ALL PERMIT CONDITIONS AND REQUIREMENTS, AS ENUMERATED IN THE SPECIAL INSTRUCTIONS SECTION OF THE PROPOSAL BOOK. AT ANY TIME THE ENGINEER DETERMINES THAT WORK IS NOT IN COMPLIANCE WITH THE PERMIT REQUIREMENTS OR IS ADVERSELY IMPACTING THE STREAM OR ADJACENT PROPERTIES, HE SHALL ORDER SUCH OPERATIONS BE TERMINATED, AND THE CONTRACTOR MUST PROVIDE THE NECESSARY MITIGATION MEASURES PRIOR TO CONTINUING.
9.

WORK IN FLOWING WATER IS STRICTLY PROHIBITED. STREAM FLOW SHALL BE DIVERTED, PUMPED, OR OTHERWISE PREVENTED FROM ENTERING THE WORK AREA AS APPROVED BY THE ENGINEER. PAID FOR UNDER ITEM 553.03000N, TEMPORARY WATERWAY DIVERSION STRUCTURE.

STRUCTURE NOTES

1.

ALL PRECAST AND CAST-IN-PLACE CONCRETE SHALL UTILIZE THE CORROSION-INHIBITING ADMIXTURE DCI IN THE PROPORTIONS RECOMMENDED BY THE MANUFACTURER W.R. GRACE INC., OR APPROVED EQUAL. THE COST SHALL BE INCLUDED IN THE UNIT PRICE FOR THE CONCRETE ITEMS. UNCOATED REINFORCING BARS SHALL BE USED.
2.

ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 1" UNLESS OTHERWISE NOTED.
3.

ALL CONCRETE SURFACES EXPOSED TO VIEW SHALL HAVE ALL PROJECTIONS AND IRREGULARITIES CAREFULLY REMOVED AND ALL CAVITIES NEATLY FILLED WITH MORTAR OF THE PROPORTION USED IN CONCRETE.
4.

MINIMUM COMPRESSIVE STRENGTH OF CONCRETE (f'c) SHALL BE 3000 PSI (CAST-IN-PLACE) AND 5000 PSI (PRECAST UNITS).

UTILITY NOTES

1.

LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.
2.

WORK SHALL NOT COMMENCE UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN STAKED OUT TO SHOW THEIR LOCATION EITHER INSIDE OR OUTSIDE OF THE WORK AREAS. RELOCATION OF EXISTING UTILITIES, ALTHOUGH NOT IN THE SCOPE OF THIS CONTRACT, MAY BE REQUIRED AS PART OF THIS PROJECT.
3.

IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED.
4.

THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART (RULE NO.) 53 RELATING TO CONSTRUCTION EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS NEEDED BY THE NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARDS AND APPEALS.

UTILITY NOTES cont'd

5.

THE METHOD OF REMOVAL OF EXISTING ROADWAY OR SHOULDER PAVEMENT IN THE IMMEDIATE VICINITY OF UNDERGROUND UTILITIES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
6.

HIGH VOLTAGE LINES ARE LOCATED IN PROXIMITY TO THE CULVERT. REFER TO THE ELECTRICAL SAFETY NOTE CONTAINED IN SECTION 107–05 J OF THE STANDARD SPECIFICATIONS FOR SPECIAL CONTRACTOR SAFETY REQUIREMENTS.
7.

EXISTING UNDERGROUND UTILITIES SHOWN ARE BASED ON INFORMATION OBTAINED FROM THE UTILITY COMPANIES AND AVAILABLE RECORDS. THE CONTRACTOR IS CAUTIONED THAT THESE LOCATIONS ARE NOT GUARANTEED, NOR IS THERE A GUARANTEE THAT ALL SUCH LINES IN EXISTENCE HAVE BEEN SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL OWNERS TO LOCATE THEIR UTILITIES IN ADVANCE OF ANY EXCAVATION. THE CONTRACTOR IS RESPONSIBLE TO PERFORM ALL WORK CAREFULLY AND PROTECT ALL EXISTING UTILITIES TO PREVENT DAMAGE.
8.

THE CONTRACTOR SHALL PROTECT AND SUPPORT THE EXISTING UTILITIES ENCOUNTERED IN ANY EXCAVATIONS. THE TYPE OF SUPPORT SHALL BE APPROVED BY THE RESPECTIVE AGENCIES HAVING JURISDICTION.
9.

SHOULD UNCHARTED, OR INCORRECTLY CHARTED, PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CONSULT OWNER'S REPRESENTATIVE IMMEDIATELY FOR DIRECTIONS.
10.

WHERE EXISTING UTILITIES ARE REQUIRED TO BE BRACED OR RELOCATED, THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY CONCERNED REGARDING SUCH BRACING OR RELOCATION. THE COST FOR BRACING OR RELOCATION OF UTILITIES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
11.

FRONTIER COMMUNICATIONS HAS INDICATED THAT THERE IS A BURIED TELEPHONE LINE ADJACENT TO CR85. THE EXACT LOCATION IS UNKNOWN.
12.

THE CONTRACTOR IS TO CONTACT THE NYS UNDERGROUND UTILITIES HOTLINE IN ADVANCE OF ANY DIGGING TO AVOID INTERRUPTION OF SERVICE PROVIDED BY UNDERGROUND UTILITIES. THE HOTLINE PHONE NUMBER IS 1–800–962–7962.

UTILITIES AND CONTACTS			
UTILITY	OWNER	CONTACT	PHONE NO.
ELECTRIC	NATIONAL GRID	KEVIN URBANSKI	(716) 831–7496
NATURAL GAS	NATIONAL FUEL	TIM NUGENT	(716) 857–7431
TELEPHONE	FRONTIER COMMUNICATIONS	THOMAS THORNTON	(585) 657–9350

MISCELLANEOUS NOTES

1.

THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING, TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2.

UNIT BID PRICES SHALL INCLUDE ANY ADDITIONAL COST INCURRED TO MEET ARMY CORPS OF ENGINEERS, NYSDEC, USEPA AND OSHA REGULATIONS.
3.

WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THE AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.
4.

ALL WORK AREAS AT THE STRUCTURE SHALL BE COMPLETELY FENCED, CONFORMING WITH OSHA REGULATIONS, TO THE SATISFACTION OF THE ENGINEER, TO PROTECT THE PUBLIC AND PREVENT UNAUTHORIZED ENTRY. SEE SECTION 107 OF THE NYSDOT STANDARD SPECIFICATIONS DATED MAY 1, 2018 INCLUDING CURRENT ADDITIONS AND MODIFICATIONS.
5.

THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS AND ALL OTHER SAFETY REQUIREMENTS.
6.

IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL INSURE THE SATISFACTORY COMPLETION OF THE REQUIRED WORK WITH A MINIMUM OF DELAY.
7.

THE DETAILS SHOWN FOR THE CULVERT PIPES ARE BASED ON THE ASSUMPTION THAT THE WATER IN THE STREAM CHANNEL WILL BE DIVERTED DURING THE ENTIRE CONSTRUCTION OF THE PIPE. SHOULD THE CONTRACTOR DESIRE TO DIVERT THE WATER THROUGH THE PIPE BEFORE COMPLETION OF THE ENTIRE PIPE, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
8.

DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY STREAM FROM POLLUTION BY DEBRIS, SEDIMENT OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH STREAMS. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM A STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER RIGHTS AND TO SUSTAIN FISH DOWNSTREAM.
9.

GRASSED AREAS DISTURBED BY THE CONTRACTOR, AS PART OF WORK TO BE PERFORMED UNDER THIS CONTRACT, SHALL BE RESTORED AS SPECIFIED, TO THE SATISFACTION OF THE ENGINEER. ALL DISTURBED GRASS AREAS SHALL BE GRADED IN A MANNER APPROVED BY THE ENGINEER, TOPSOILED UNDER ITEM 610.1401, TOPSOIL, AND SEEDED UNDER ITEM 610.1601, ESTABLISHING TURF. TOPSOIL SHALL ONLY BE PLACED AT EXISTING LAWN AREAS AS APPROVED BY THE ENGINEER. DISTURBED AREAS BEYOND THE GRADING LIMITS SHOWN ON THE DRAWINGS SHALL BE RESTORED AS NOTED ABOVE AT NO ADDITIONAL COST TO THE CITY.
10.

THE CONTRACTOR SHALL EXAMINE AND VERIFY, IN THE FIELD, ALL CONDITIONS AND DIMENSIONS. DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL SUCH FIELD MEASUREMENTS TO ASSURE PROPER FIT OF THE FINISHED WORK, AND THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. IF FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE THE FIELD CONDITIONS AND DIMENSIONS AND HAVE APPROPRIATE CHANGES TO THOSE SHOWN ON THE PLANS, AS APPROVED BY THE ENGINEER. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS MADE SHALL BE INDICATED ON THE SHOP DRAWINGS SUBMITTED FOR REFERENCE OF THE REVIEWER.
11.

RECORD PLANS FOR THESE STRUCTURES ARE AVAILABLE.

MAINTENANCE AND PROTECTION OF TRAFFIC

FOR TEMPORARY DETOUR PLAN, SEE DWG WZTC–1

1.

PROTECTION OF THE PUBLIC: THE CONTRACTOR SHALL MAINTAIN AND PROTECT TRAFFIC IN ACCORDANCE WITH ITEM 619.01, THE TRAFFIC CONTROL DRAWINGS AND PERTINENT PROVISIONS OF THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) INCLUDING NEW YORK STATE SUPPLEMENT (17 NYCRR CHAPTER V) 2011 EDITION INCLUDING REVISIONS #1 AND ALL CURRENT ADDITIONS AND MODIFICATIONS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SECTION 107, LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, OF THE STANDARD SPECIFICATIONS DATED JANUARY 1, 2018 INCLUDING CURRENT ADDITIONS AND MODIFICATIONS.
2.

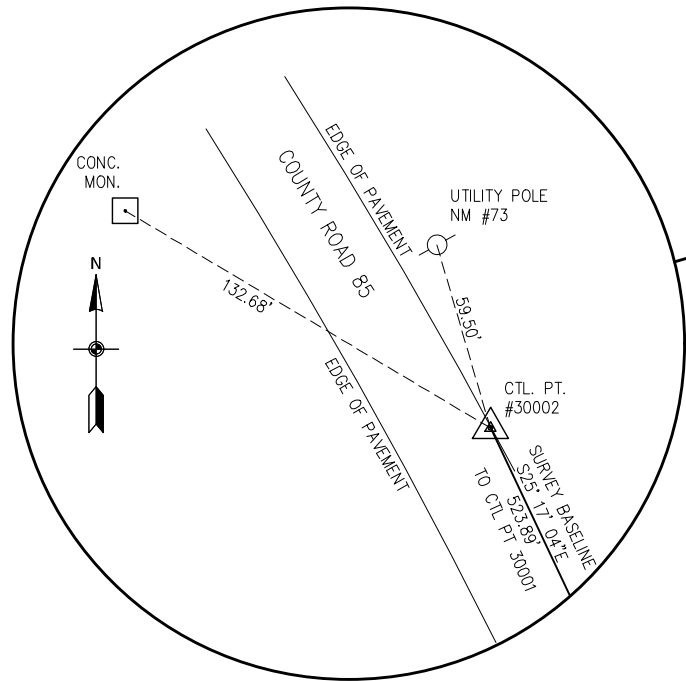
MAINTENANCE AND PROTECTION OF TRAFFIC FOR COUNTY ROUTE 85, FOR THE WORK ZONE TRAFFIC CONTROL WHEN ROAD IS NOT CLOSED, REFER TO THE NYSDOT WORK ZONE TRAFFIC CONTROL MANUAL.
3.

REFER TO THE SPECIAL NOTES SECTION OF THE PROPOSAL BOOK FOR ADDITIONAL WORK ZONE TRAFFIC CONTROL NOTES.

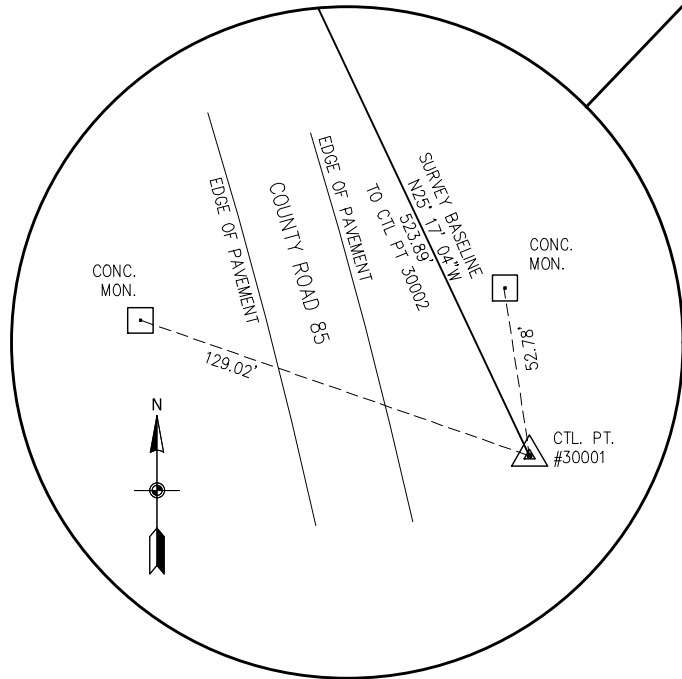
ESTIMATE OF QUANTITIES				
ITEM NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ACTUAL QUANTITY
201.06	CLEARING AND GRUBBING	LS	NEC	
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	710	
203.03	EMBANKMENT IN-PLACE	CY	1695	
203.07	SELECT GRANULAR FILL	CY	400	
C205.01	NYSDERDA COORDINATION	LS	NEC	
C205.02	NYSDERDA WORK STOPPAGE	DAY	5	
C205.03	NYSDERDA TRAINING	D-C	2500	
206.0201	TRENCH AND CULVERT EXCAVATION	CY	7125	
207.20	GEOTEXTILE BEDDING	SY	75	
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	430	
402.096303	9.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON	130	
402.196903	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON	215	
402.378903	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON	175	
407.0102	DILUTED TACK COAT	GAL	195	
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	555	
552.17	SHIELDS AND SHORING	SF	2140	
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EA	1	
553.030002	TEMPORARY WATERWAY DIVERSION STRUCTURE	EA	1	
603.6110	REINFORCED CONCRETE PIPE, CLASS IV, 42 INCH DIAMETER	LF	175	
603.7410	REINFORCED CONCRETE PIPE, CLASS II, 42 INCH DIAMETER	LF	115	
606.5158	RESETTING CORRUGATED BEAM GUIDE RAILING (NEW POSTS)	LF	400	
606.61	REMOVING AND STORING CORRUGATED BEAM GUIDE RAILING	LF	400	
607.97000008	REMOVE AND RESET EXISTING FENCE	LF	335	
610.1401	TOPSOIL - REUSE ON-SITE MATERIALS	CY	375	
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	3305	
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	NEC	
619.04	TYPE III CONSTRUCTION BARRICADES	EA	80	
619.1702	TEMPORARY CONCRETE BARRIER (UNPINNED) WITH WARNING LIGHTS	LF	150	
620.03	STONE FILLING (LIGHT)	CY	20	
620.05	STONE FILLING (HEAVY)	CY	150	
621.5197001	GRADING, CLEANING AND RESHAPING EXISTING CHANNELS, DITCHES AND STREAMBEDS	LF	515	
625.01	SURVEY OPERATIONS	LS	NEC	
627.50140008	CUTTING PAVEMENT	LF	240	
640.20	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES -20 MILS	LF	820	
640.21	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	820	
697.03	FIELD CHANGE PAYMENT	D-C	28800	
699.040001	MOBILIZATION (4% MAX)	LS	NEC	

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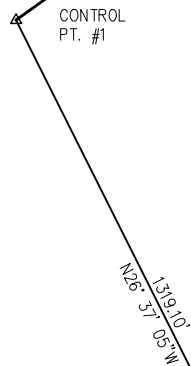
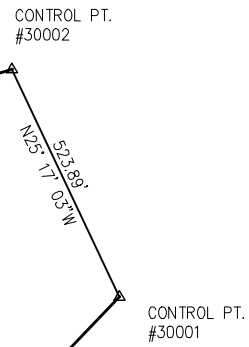
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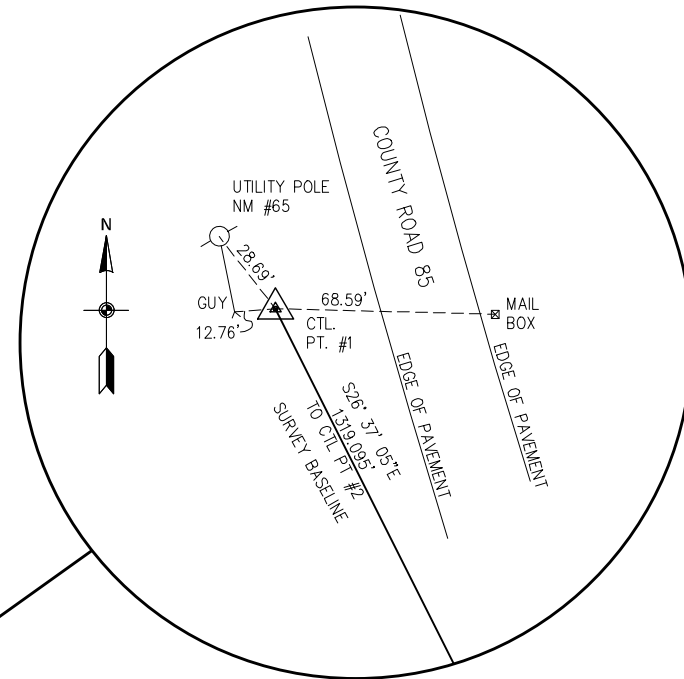
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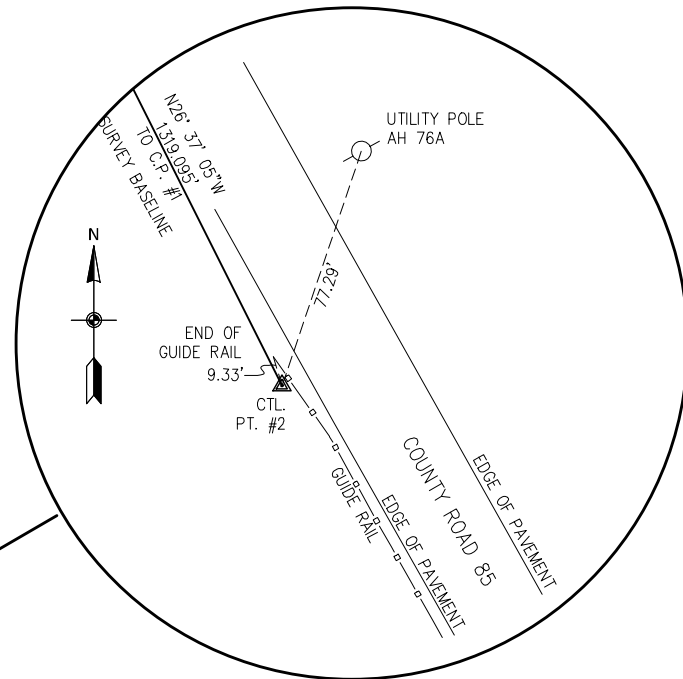
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SURVEY BASELINE
SCALE: 1"=200'



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E 1,126,276.7300
ELEV. 1,446.854'



CONTROL POINT NO. 2
N 896,889.0020
E 1,126,867.7390
ELEV. 1,436.507'

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GPI



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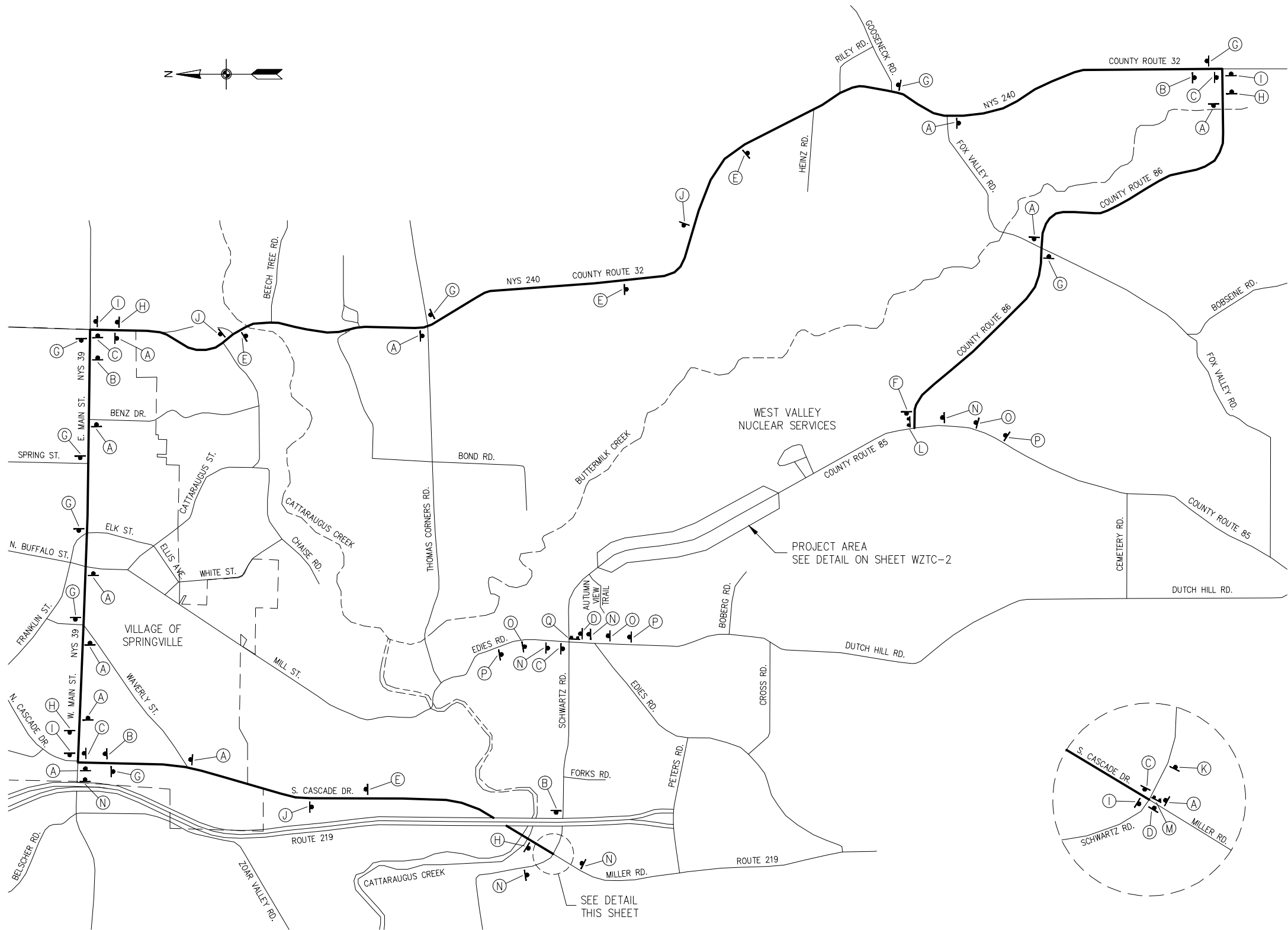
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DATE:	MAY 2018	CHECKED BY:	BJC
DWG NO.:	2017091.00_PL_CTL-1.DWG	JOB NO.:	BUF-2017091.00
NO.	REVISIONS:	BY	DATE

CONTROL POINTS AND ALIGNMENT TIES

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.
C-3

NO. 2017\buf-2017091.00, ashford culvert 22 and 4, additional\2020\Design_Plan\2017091.00_PL_WZTC-01_RPI.dwg Tuesday, 3 July 2018 2:59PM



PROPOSED DETOUR PLAN
APPROX. DETOUR LENGTH = 15.6± MILES
NOT TO SCALE

NOTES:
1. REFER TO SHEET C-5 FOR NOTES

Greenman-Pedersen, Inc.

Engineering and Construction Services

•

Buffalo

(716) 633-4844

•

Rochester

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•

Jamestown

(716) 489-2803

In Western New York:



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SCALE:	AS NOTED	DRAWN BY:	NDB
DATE:	MAY 2018	CHECKED BY:	BJC
DWG NO.:	2017091.00_PL_WZTC-01.DWG	JOB NO.:	BUF-2017091.00
NO.		BY	DATE

CULVERT CLOSURE DETAILS

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

DETOUR SIGN SCHEDULE

(A) (12)

(B) (4)

(C) (5) (SEE NOTE 4)

(D) (2) (SEE NOTE 4)

(E) (4)

(F) (1) (SEE NOTE 4)

(G) (9)

(H) (4)

(I) (4) (SEE NOTE 4)

(J) (3)

(K) (1) (SEE NOTE 4)

(L) (1) R11-3a

(M) (1) R11-3a

(Q) (1) R11-3a

SEE SIGN LABELING TABLE THIS SHEET

(N) (6)

(O) (3)

(P) (3)

LEGEND:

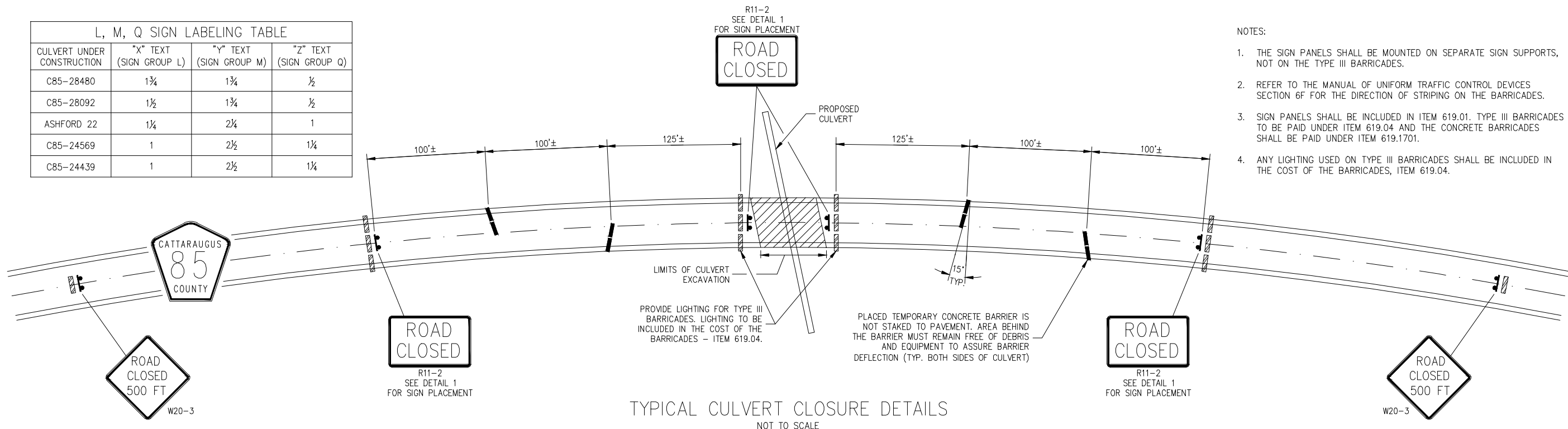
(X) DENOTES INDIVIDUAL SIGNS OR SIGN GROUPS AND LOCATION

(#) DENOTES NUMBER OF INDIVIDUAL SIGNS OR SIGN GROUPS

NOTE: SIGNS IN THE CULVERT CLOSURE DETAIL ARE NOT TABULATED IN THIS TABLE.

-
- A diagram of a Type III Support structure. It shows a vertical post with a sign and lights at the top. The sign is rectangular with the word "SIGN" inside. The lights are circular and positioned on either side of the sign. The post is supported by a base. The diagram is labeled with "SIGN", "LIGHTS", "SUPPORT", and "TYPE III".

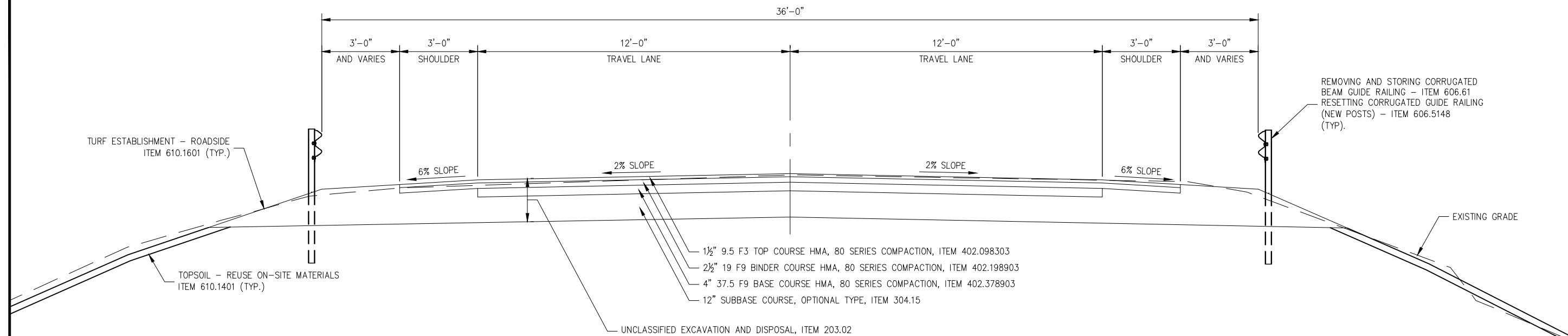
CULVERT UNDER CONSTRUCTION	"X" TEXT (SIGN GROUP L)	"Y" TEXT (SIGN GROUP M)	"Z" TEXT (SIGN GROUP Q)
C85-28480	1¾	1¾	½
C85-28092	1½	1¾	½
ASHFORD 22	1¼	2¼	1
C85-24569	1	2½	1¼
C85-24439	1	2½	1¼



\\na\2017\buf-2017091.00 asbford culvert 22 and 4 additional\CADD\Design Plans\2017091.00 PL WZTC-01 RPI.dwg Tuesday, 3 July 2018 3:09PM

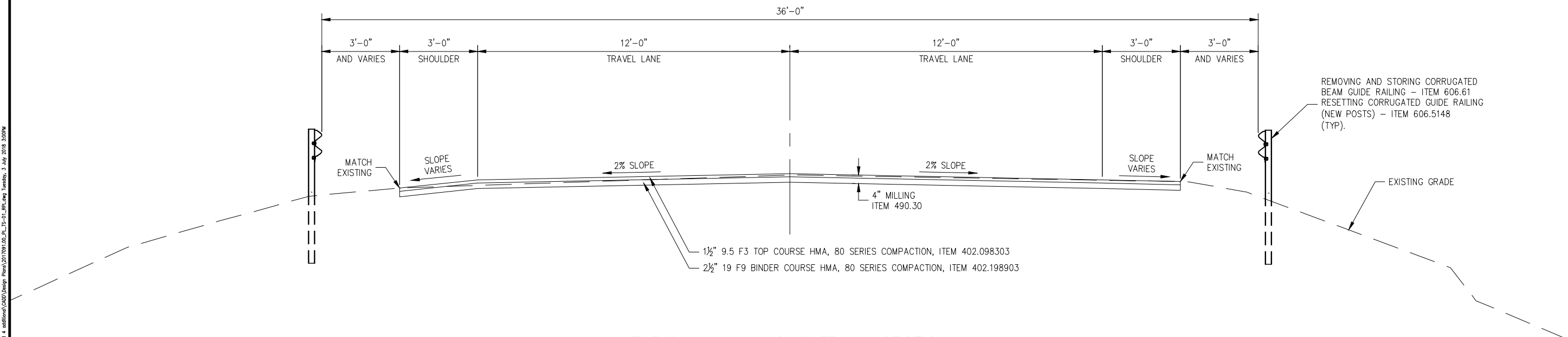
C-5

NO.2017\\sfd-2017091.00_ashford culvert 22 and 4 additional\\CADD\\Design\\Pans\\2017091.00_PL_TS-01_RP.dwg Tuesday, 3 July 2018 3:09PM



TYPICAL FULL DEPTH RECONSTRUCTION SECTION
(SEE GENERAL PLANS FOR STATIONS)

SCALE: $\frac{1}{2}'' = 1'-0''$
0 2' 4'
SCALE IN FEET



TYPICAL MILL AND OVERLAY SECTION
(SEE GENERAL PLANS FOR STATIONS)

SCALE: $\frac{1}{2}'' = 1'-0''$
0 2' 4'
SCALE IN FEET

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TYPICAL SECTIONS

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

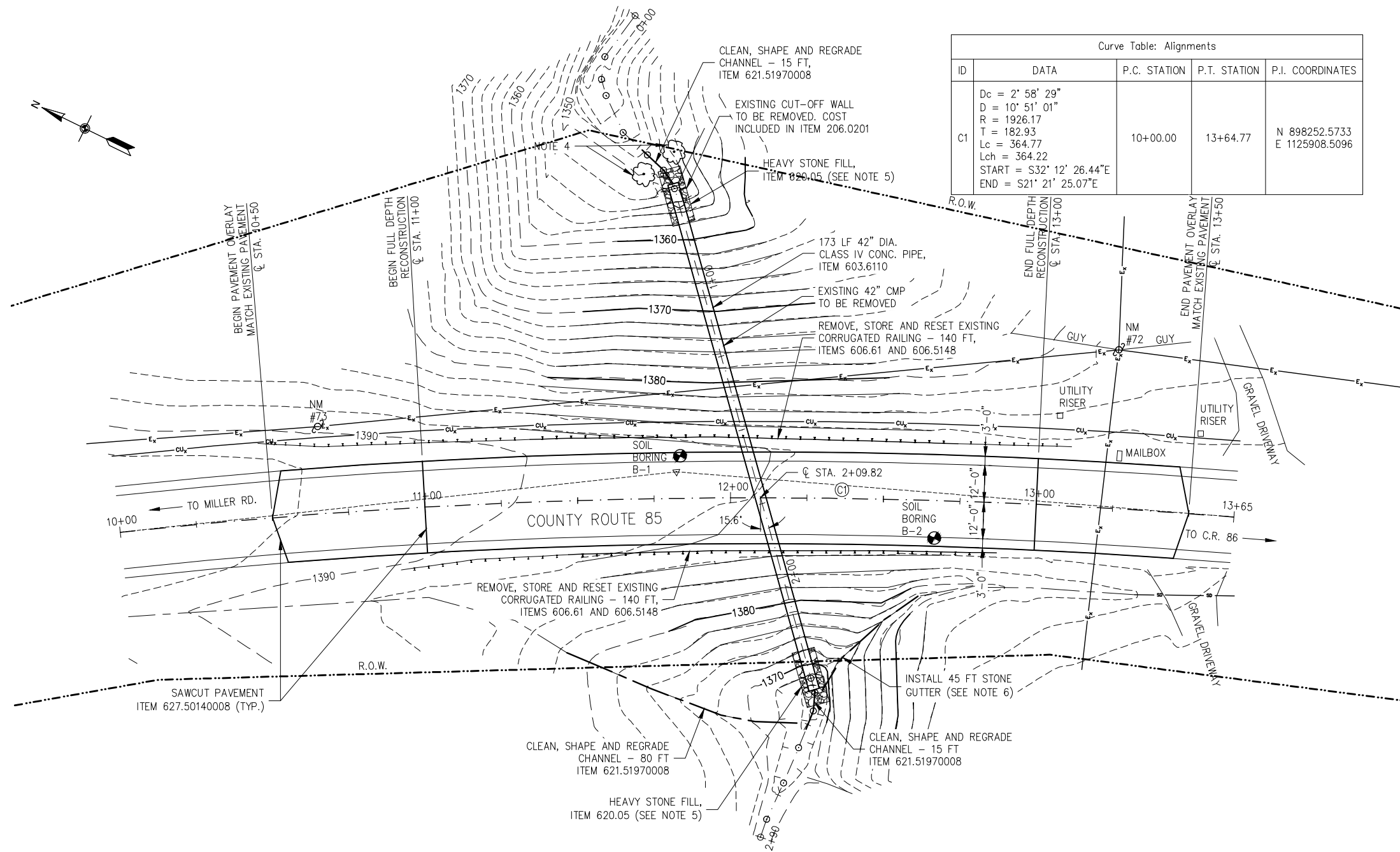
SHEET NO.

C-6

\\N\2017\bu-2017091.00 -addition\CA\Design_Plan\2017091.00_PL-GP-01_BF.dwg, Tuesday, 3 July 2018 3:04PM

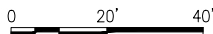
NOTES:

1. CLEAR AND GRUB WITHIN THE GRADING LIMITS SHOWN ON SHEET C-8, PAID UNDER ITEM 201.06.
2. USE A TEMPORARY WATERWAY DIVERSION STRUCTURE - ITEM 553.030001 TO DIVERT THE STREAM CHANNEL.
3. INSTALL SILT FENCE - ITEM 209.13 AND TURBIDITY CURTAIN - ITEM 209.1501 AS DIRECTED BY THE ENGINEER.
4. EXISTING TREES SHALL REMAIN.
5. REFER TO THE STONE APRON DETAIL ON SHEET C-16.
6. REFER TO THE STONE GUTTER DETAIL ON SHEET C-16.



GENERAL PLAN
CULVERT C85-28480

SCALE: 1" = 20'-0"



SCALE IN FEET

Curve Table: Alignments				
ID	DATA	P.C. STATION	P.T. STATION	P.I. COORDINATES
C1	Dc = 2' 58' 29" D = 10' 51' 01" R = 1926.17 T = 182.93 Lc = 364.77 Lch = 364.22 START = S32° 12' 26.44"E END = S21° 21' 25.07"E	10+00.00	13+64.77	N 898252.5733 E 1125908.5096

GENERAL PLAN
CULVERT C85-28480

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

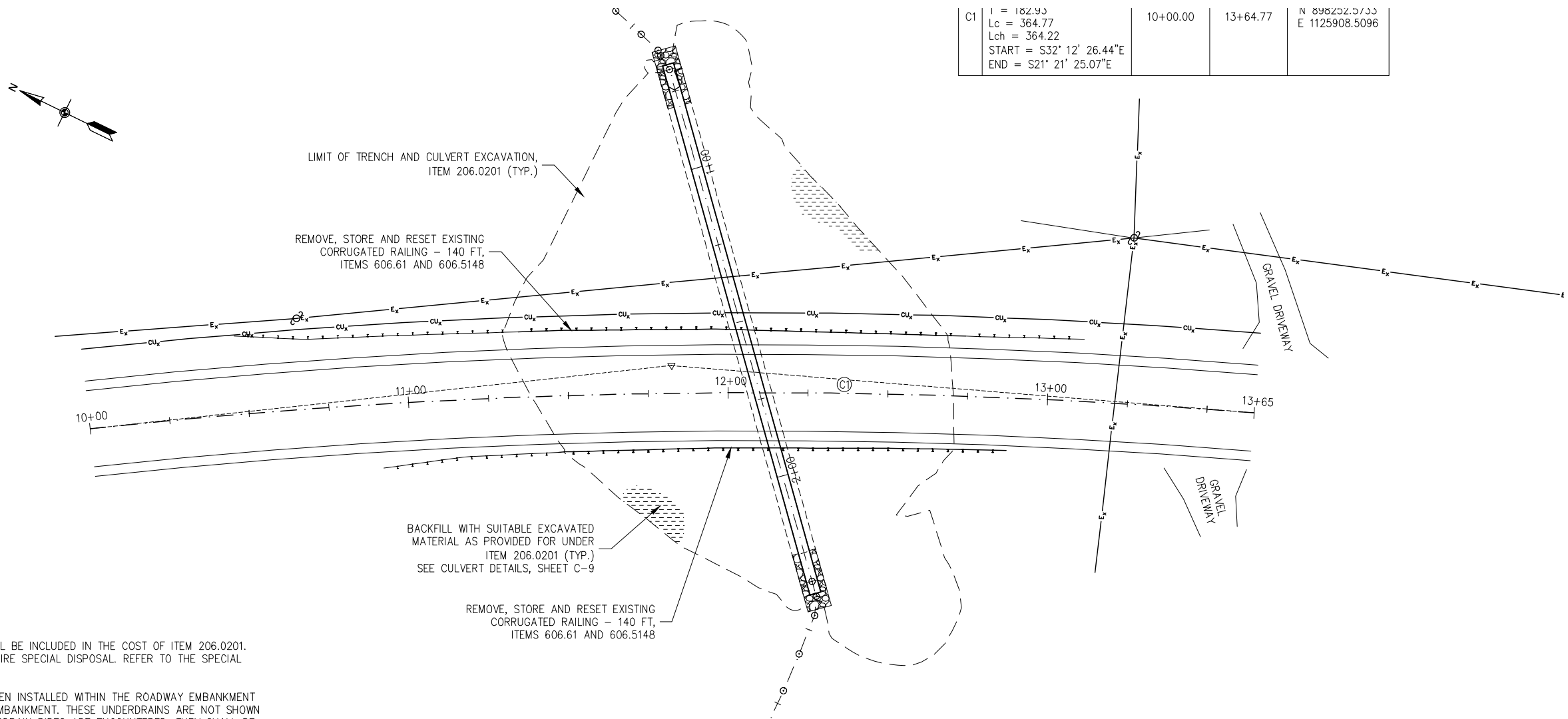
C-7

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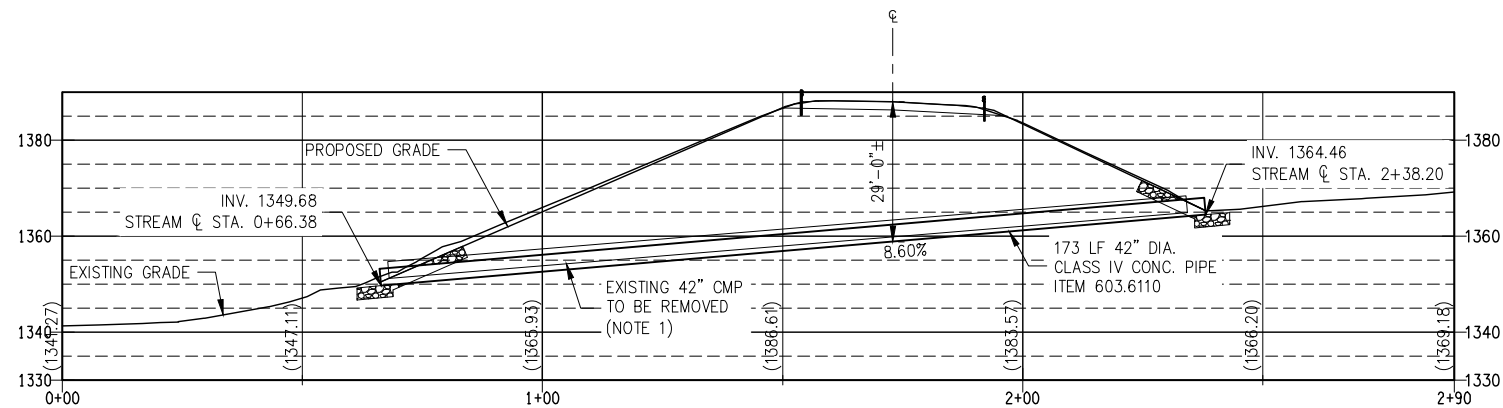
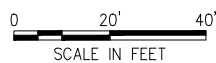


- NOTES:
- EXISTING CULVERT REMOVAL SHALL BE INCLUDED IN THE COST OF ITEM 206.0201. THE EXISTING CULVERT MAY REQUIRE SPECIAL DISPOSAL. REFER TO THE SPECIAL NOTES IN THE PROPOSAL BOOK.
 - UNDERDRAIN PIPES MAY HAVE BEEN INSTALLED WITHIN THE ROADWAY EMBANKMENT DURING CONSTRUCTION OF THE EMBANKMENT. THESE UNDERDRAINS ARE NOT SHOWN ON THE RECORD PLANS. IF UNDERDRAIN PIPES ARE ENCOUNTERED, THEY SHALL BE REMOVED AND REPLACED AND/OR MODIFIED AS DIRECTED BY THE ENGINEER. A CONTINGENCY QUANTITY OF ITEMS 605.1501 AND 605.1502 ARE INCLUDED IN THE ENGINEER'S ESTIMATE.

EXCAVATION AND EMBANKMENT PLAN

CULVERT C85-28480

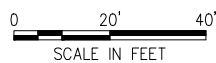
SCALE: 1" = 20'-0"



CULVERT LONGITUDINAL SECTION

CULVERT C85-28480

SCALE: 1" = 20'-0"



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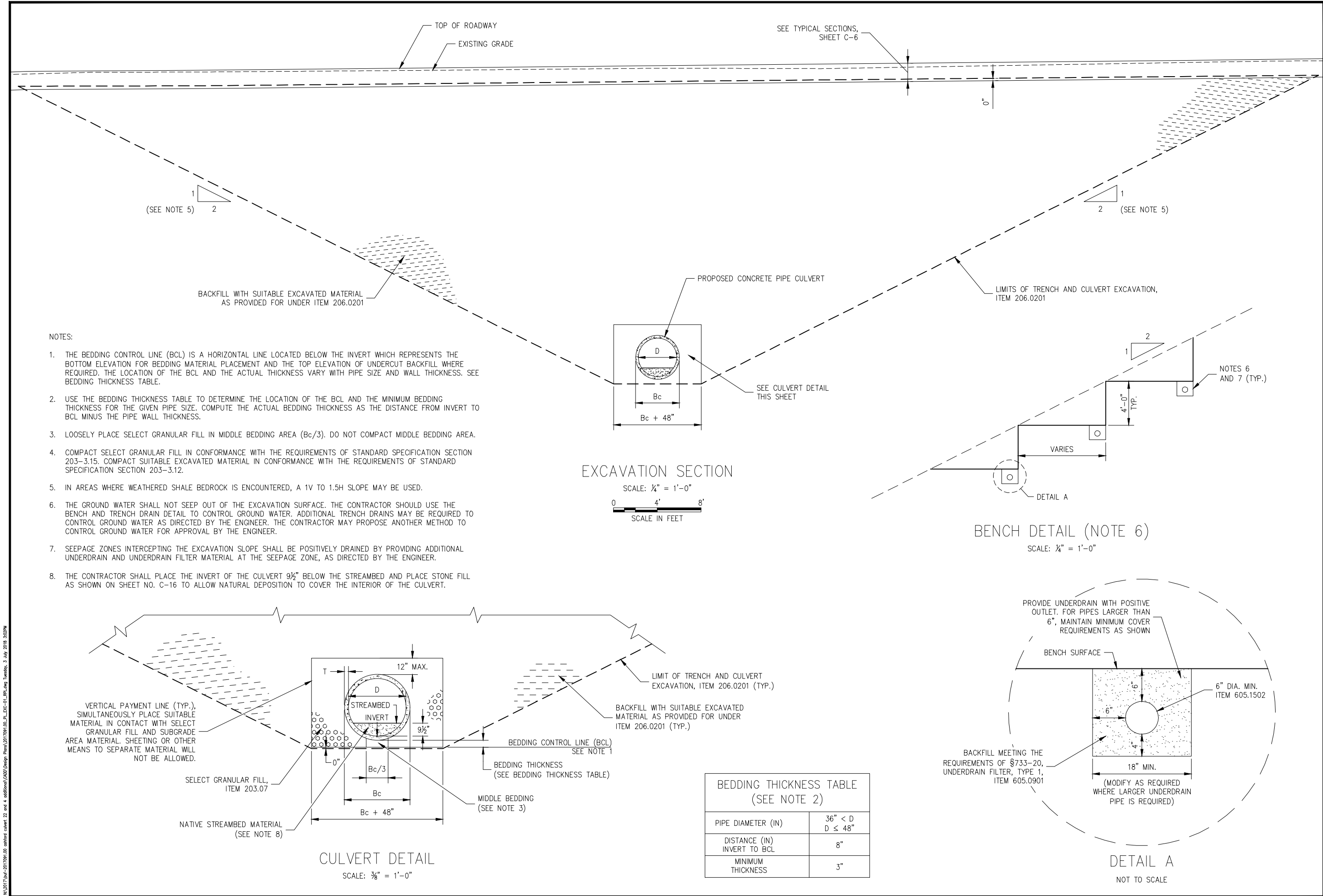
EXCAVATION PLAN
CULVERT C85-28480

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-8

NO. 2017\ref-2017091.00_ashford culvert 22 and 4 additional\CAD\Design_Plan\2017091.00_PL_E02-C-01_RFI.dwg Tuesday, 3 July 2018 3:02PM



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EXCAVATION SECTION AND DETAILS
CULVERT C85-28480

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.
C-9

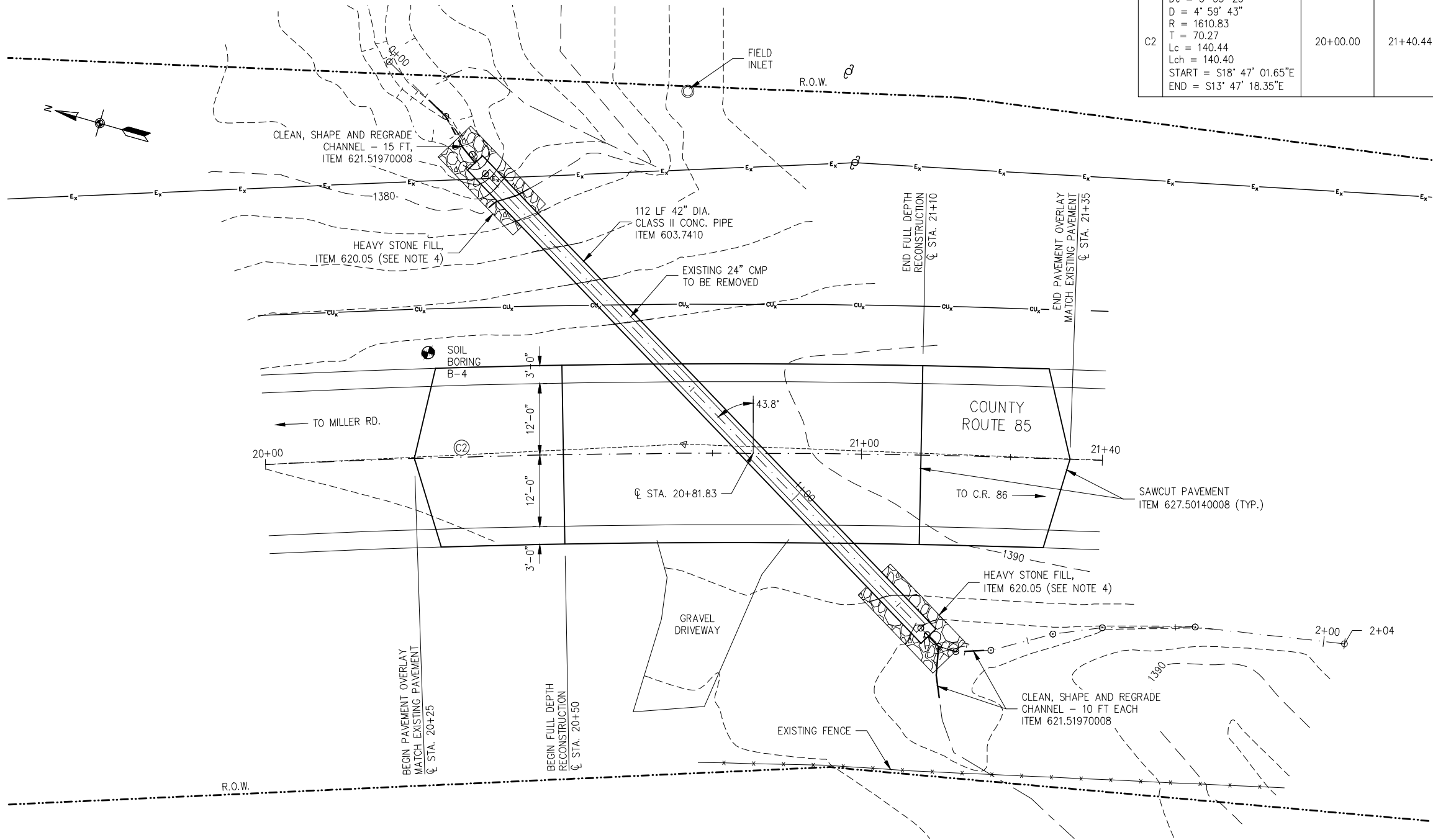
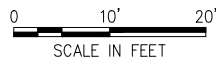
\\N\2017\2017-2017091.00 - addendum\CA\05\Design_Plan\2017091.00_PL_C85-28092.dwg, 3 July 2018 3:05PM

NOTES:

1. CLEAR AND GRUB WITHIN THE GRADING LIMITS SHOWN ON SHEET C-11, PAID UNDER ITEM 201.06.
2. USE A TEMPORARY WATERWAY DIVERSION STRUCTURE - ITEM 553.030002 TO DIVERT THE STREAM CHANNEL.
3. INSTALL SILT FENCE - ITEM 209.13 AND TURBIDITY CURTAIN - ITEM 209.1501 AS DIRECTED BY THE ENGINEER.
4. REFER TO THE STONE APRON DETAIL ON SHEET C-16.

GENERAL PLAN
CULVERT C85-28092

SCALE: 1" = 10'-0"



Curve Table: Alignments				
ID	DATA	P.C. STATION	P.T. STATION	P.I. COORDINATES
C2	Dc = 3' 33' 25" D = 4' 59' 43" R = 1610.83 T = 70.27 Lc = 140.44 Lch = 140.40 START = S18° 47' 01.65"E END = S13° 47' 18.35"E	20+00.00	21+40.44	N 897914.4632 E 1126034.6002

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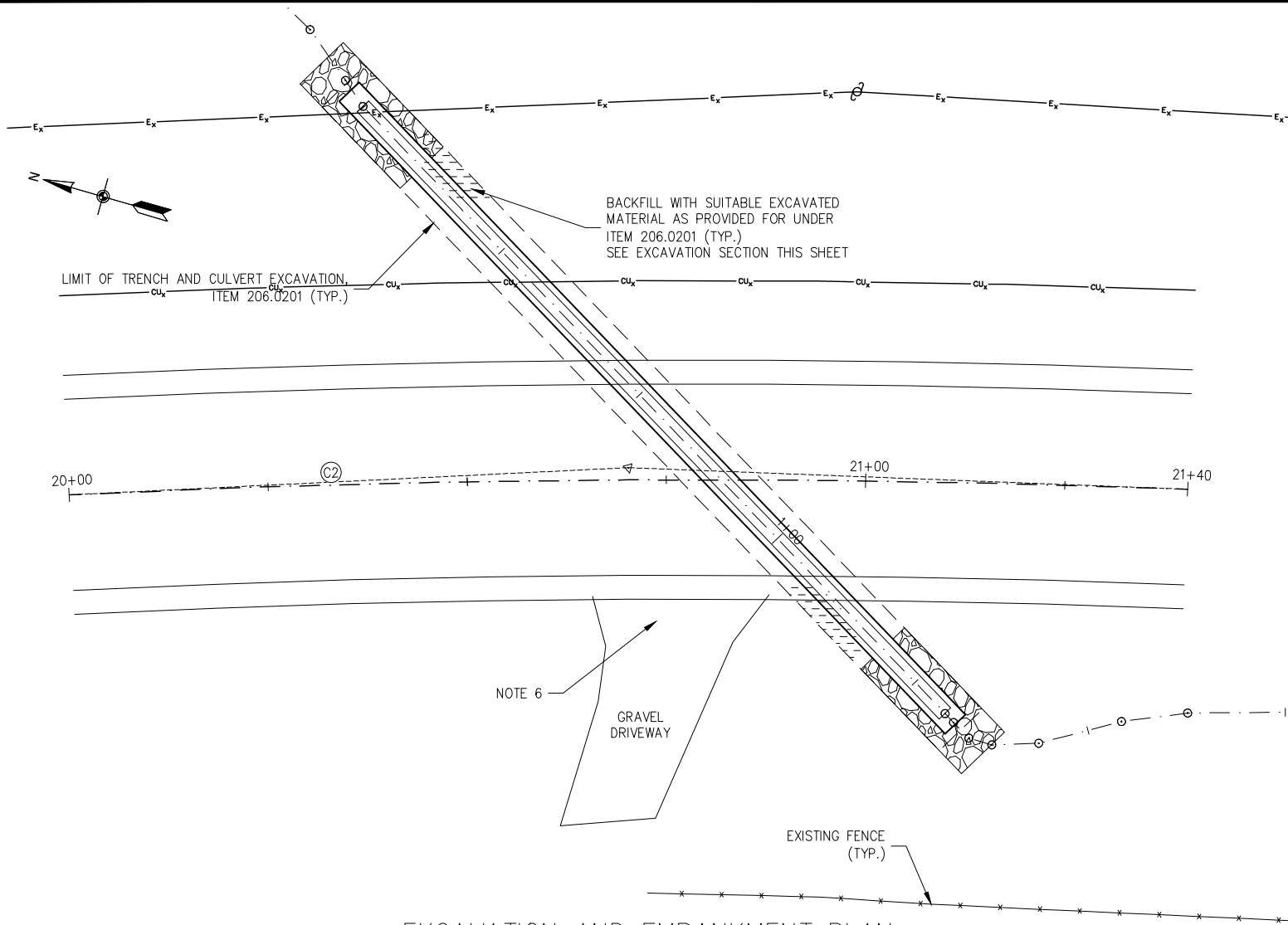
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GENERAL PLAN
CULVERT C85-28092

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

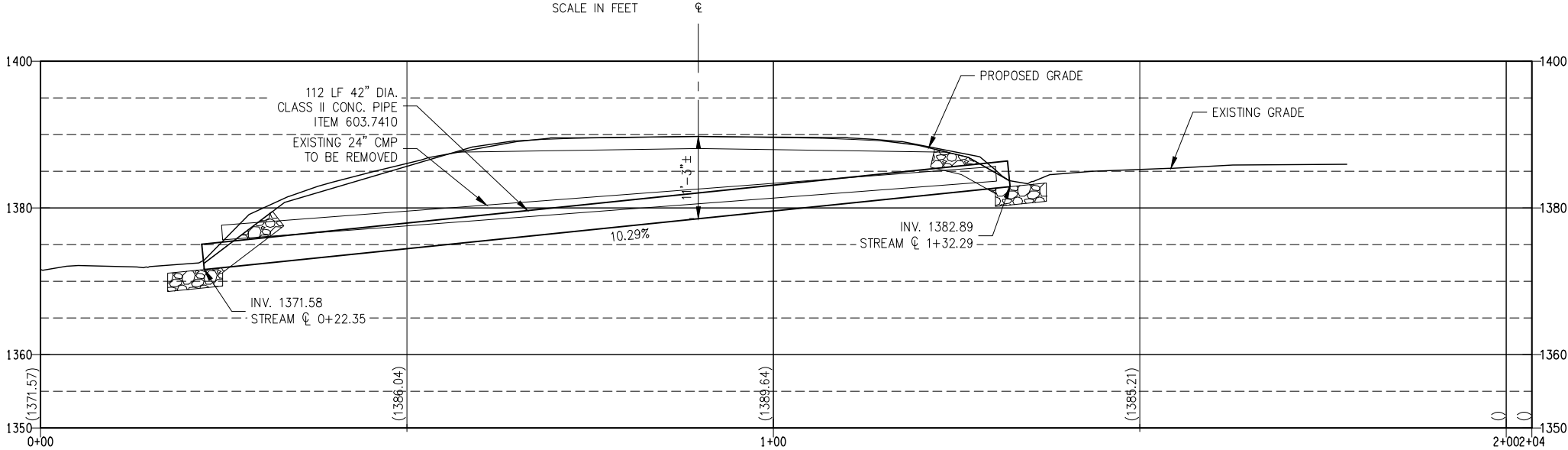
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C-10



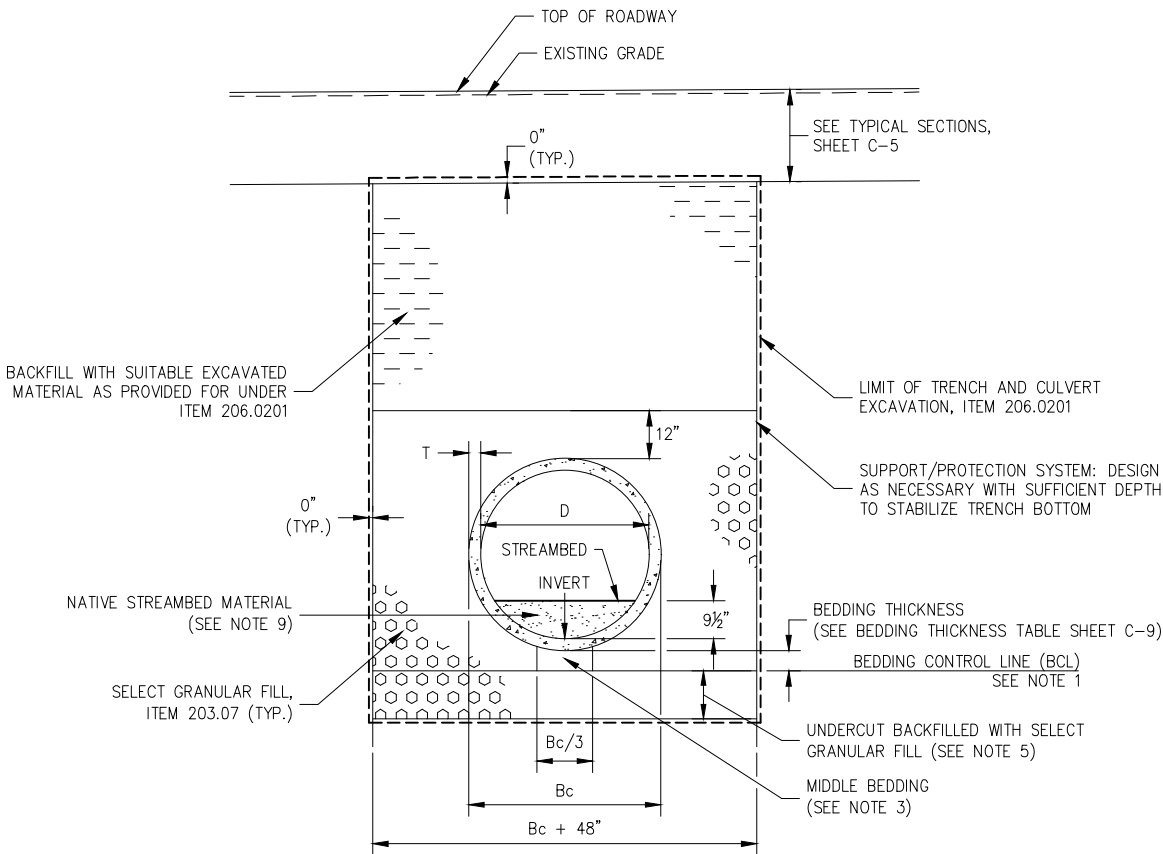
EXCAVATION AND EMBANKMENT PLAN
CULVERT C85-28092

SCALE: 1" = 10'-0"
0 10' 20'
SCALE IN FEET



CULVERT LONGITUDINAL SECTION
CULVERT C85-28092

SCALE: 1" = 10'-0"



EXCAVATION SECTION
CULVERT C85-28092

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

0 2' 4'
SCALE IN FEET

NOTES:

1. THE BEDDING CONTROL LINE (BCL) IS A HORIZONTAL LINE LOCATED BELOW THE INVERT WHICH REPRESENTS THE BOTTOM ELEVATION FOR BEDDING MATERIAL PLACEMENT AND THE TOP ELEVATION OF UNDERCUT BACKFILL WHERE REQUIRED. THE LOCATION OF THE BCL AND THE ACTUAL THICKNESS VARY WITH PIPE SIZE AND WALL THICKNESS. SEE BEDDING THICKNESS TABLE.
2. USE THE BEDDING THICKNESS TABLE TO DETERMINE THE LOCATION OF THE BCL AND THE MINIMUM BEDDING THICKNESS FOR THE GIVEN PIPE SIZE. COMPUTE THE ACTUAL BEDDING THICKNESS AS THE DISTANCE FROM INVERT TO BCL MINUS THE PIPE WALL THICKNESS.
3. LOOSELY PLACE SELECT GRANULAR FILL IN MIDDLE BEDDING AREA ($B_c/3$). DO NOT COMPACT MIDDLE BEDDING AREA.
4. COMPACT SELECT GRANULAR FILL IN CONFORMANCE WITH THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 203-3.15. COMPACT SUIABLE EXCAVATED MATERIAL IN CONFORMANCE WITH THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 203-3.12.
5. TO ESTABLISH STABLE BEDDING CONDITIONS, AN UNDERCUT BACKFILLED WITH SELECT GRANULAR FILL MATERIAL MAY BE ORDERED BY THE ENGINEER IN CHARGE. THE MINIMUM DEPTH OF UNDERCUT AS MEASURED FROM THE BCL IS 12" AND THE MAXIMUM IS 24".
6. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE DRIVEWAY DURING EXCAVATION. THE DRIVEWAY MAY BE TEMPORARILY CLOSED DURING ROADWAY RECONSTRUCTION ONLY.
7. UNDERDRAIN PIPES MAY HAVE BEEN INSTALLED WITHIN THE ROADWAY EMBANKMENT DURING CONSTRUCTION. THESE UNDERDRAINS ARE NOT SHOWN ON THE RECORD PLANS. IF UNDERDRAIN PIPES ARE ENCOUNTERED, THEY SHALL BE REMOVED AND REPLACED AND/OR MODIFIED AS DIRECTED BY THE ENGINEER. A CONTINGENCY QUANTITY OF ITEMS 605.1501 AND 605.1502 ARE INCLUDED IN THE ENGINEER'S ESTIMATE.
8. EXISTING CULVERT REMOVAL SHALL BE INCLUDED IN THE COST OF ITEM 206.0201. EXISTING CULVERT MAY REQUIRE SPECIAL DISPOSAL. REFER TO THE SPECIAL NOTES IN THE PROPOSAL BOOK.
9. THE CONTRACTOR SHALL PLACE THE INVERT OF THE CULVERT 9 1/2" BELOW THE STREAMBED AND PLACE STONE FILL AS SHOWN ON SHEET NO. C-16 TO ALLOW NATURAL DEPOSITION TO COVER THE INTERIOR OF THE CULVERT.

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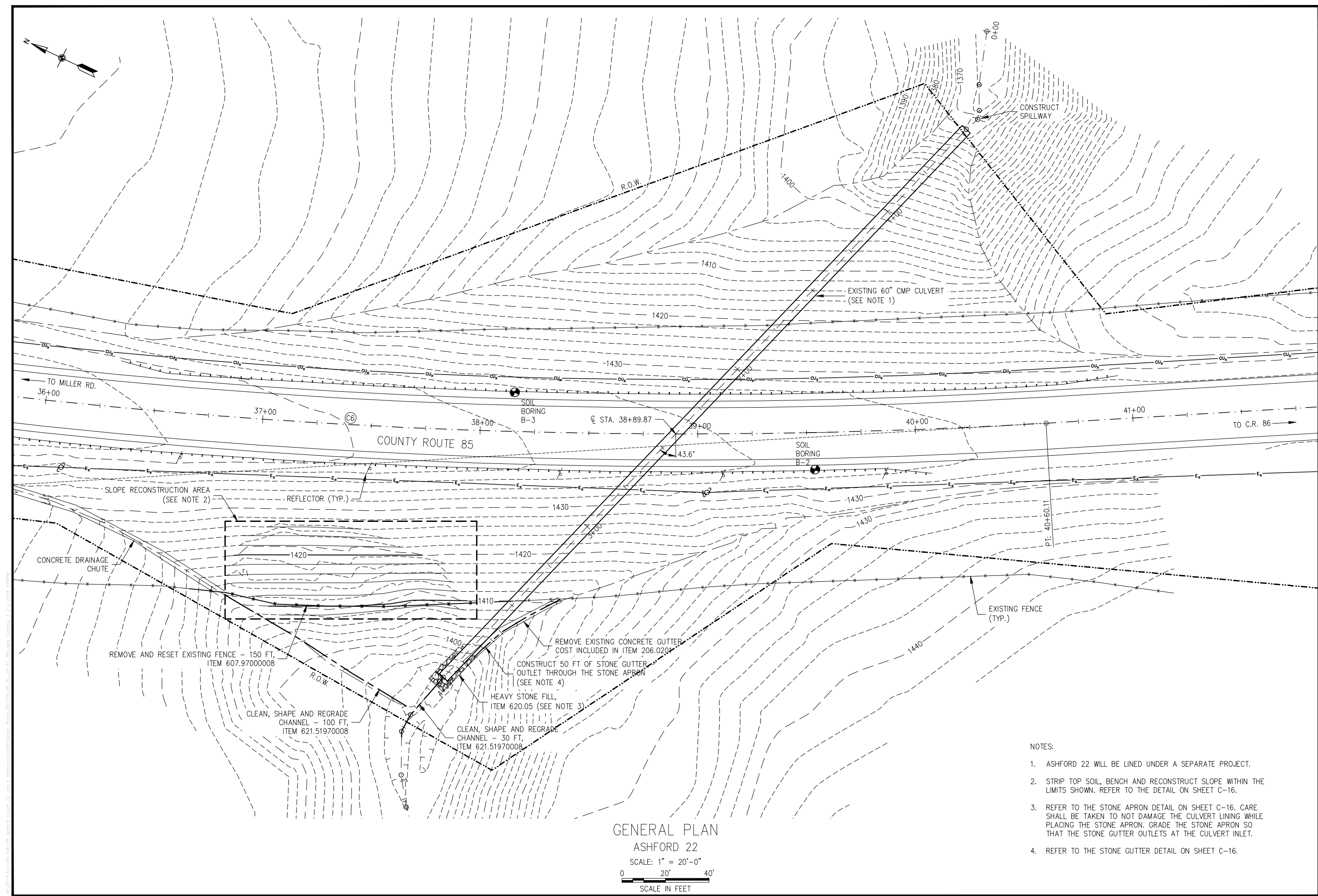
EXCAVATION PLAN AND DETAILS
CULVERT C85-28092

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-11

\\N20172\hnt-2017091.00_ashford\subent 22.dwg 4. add\hnt\CA\AS\Design_Plan\2017091.00_PL_GP-01_SRF.dwg Tuesday, 3 Jul 2018 3:04PM



- NOTES:
1. ASHFORD 22 WILL BE LINED UNDER A SEPARATE PROJECT.
 2. STRIP TOP SOIL, BENCH AND RECONSTRUCT SLOPE WITHIN THE LIMITS SHOWN. REFER TO THE DETAIL ON SHEET C-16.
 3. REFER TO THE STONE APRON DETAIL ON SHEET C-16. CARE SHALL BE TAKEN TO NOT DAMAGE THE CULVERT LINING WHILE PLACING THE STONE APRON. GRADE THE STONE APRON SO THAT THE STONE GUTTER OUTLETS AT THE CULVERT INLET.
 4. REFER TO THE STONE GUTTER DETAIL ON SHEET C-16.

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GENERAL PLAN
ASHFORD 22

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SCALE: AS NOTED
DATE: MAY 2018
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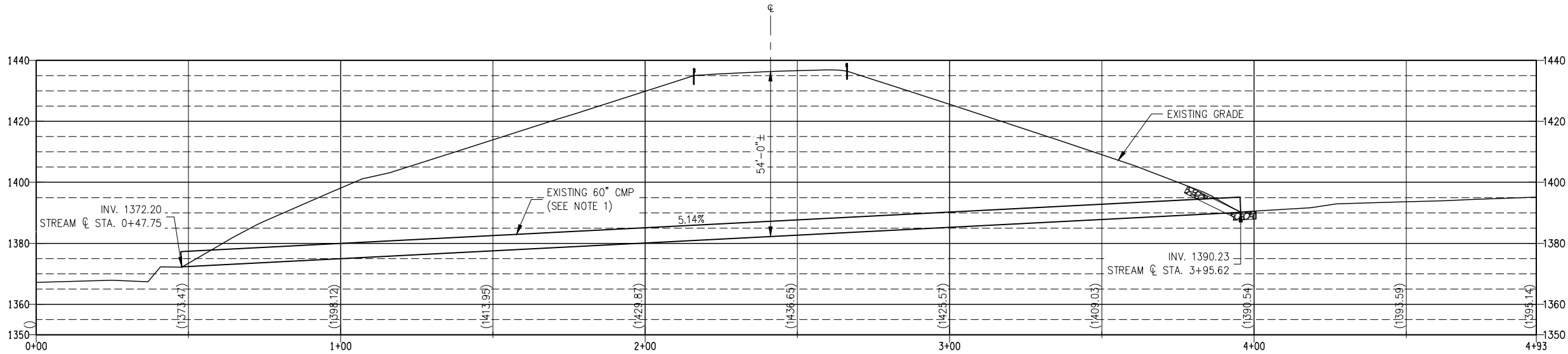
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C-12

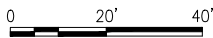
\\N\2017\Buf-2017091.00_ashford culvert 22 and 4_ashford\CAD\Design_Plan\2017091.00_PL_GRP-01_BUF.dwg, Tuesday, 3 July 2018 3:03PM



CULVERT LONGITUDINAL SECTION

ASHFORD 22

SCALE: 1" = 20'-0"



SCALE IN FEET

NOTES:

- ASHFORD 22 WILL BE LINED UNDER A SEPARATE PROJECT.

LONGITUDINAL SECTION
ASHFORD 22

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-13

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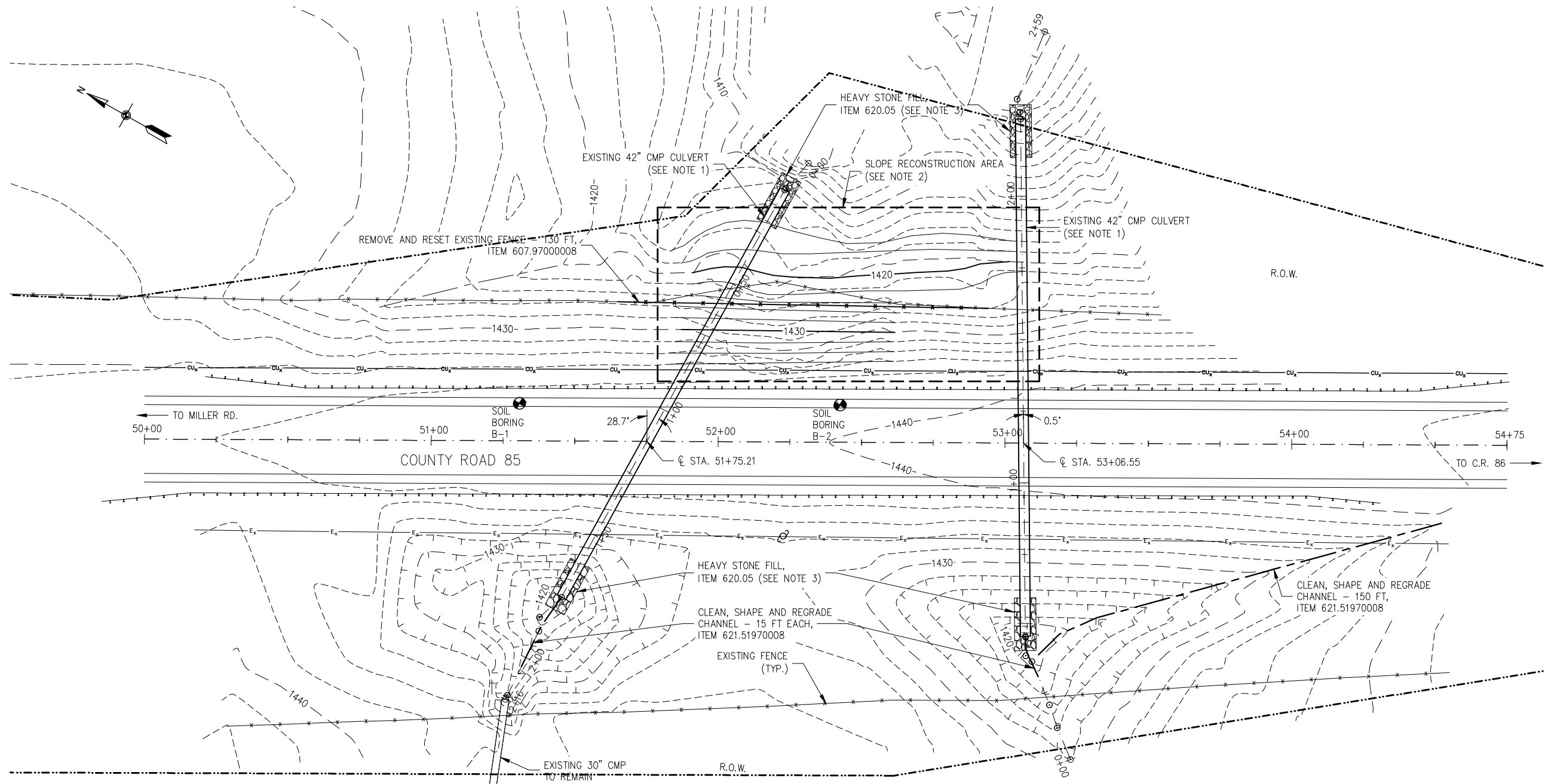
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GENERAL PLAN
CULVERTS C85-24569 AND C85-24439

SCALE: 1" = 20'-0"
0 20' 40'
SCALE IN FEET

NOTES:

- BOTH C85-24569 AND C85-24439 WILL BE LINED UNDER A SEPARATE PROJECT.
- STRIP TOP SOIL, BENCH AND RECONSTRUCT SLOPE WITHIN THE LIMITS SHOWN. REFER TO THE DETAIL ON SHEET C-16.
- REFER TO THE STONE APRON DETAIL ON SHEET C-16. CARE SHALL BE TAKEN TO NOT DAMAGE THE CULVERT LININGS WHILE PLACING THE STONE APRONS.

GENERAL PLAN
CULVERTS C85-24569 & C85-24439

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-14

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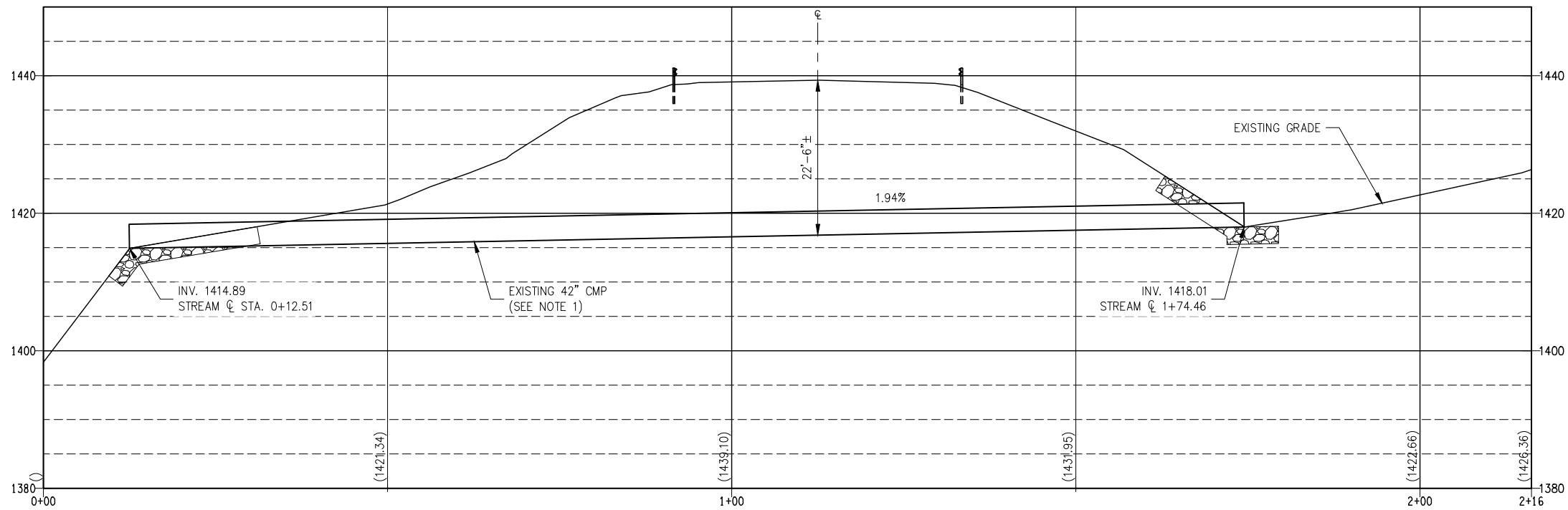
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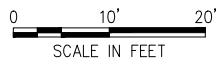
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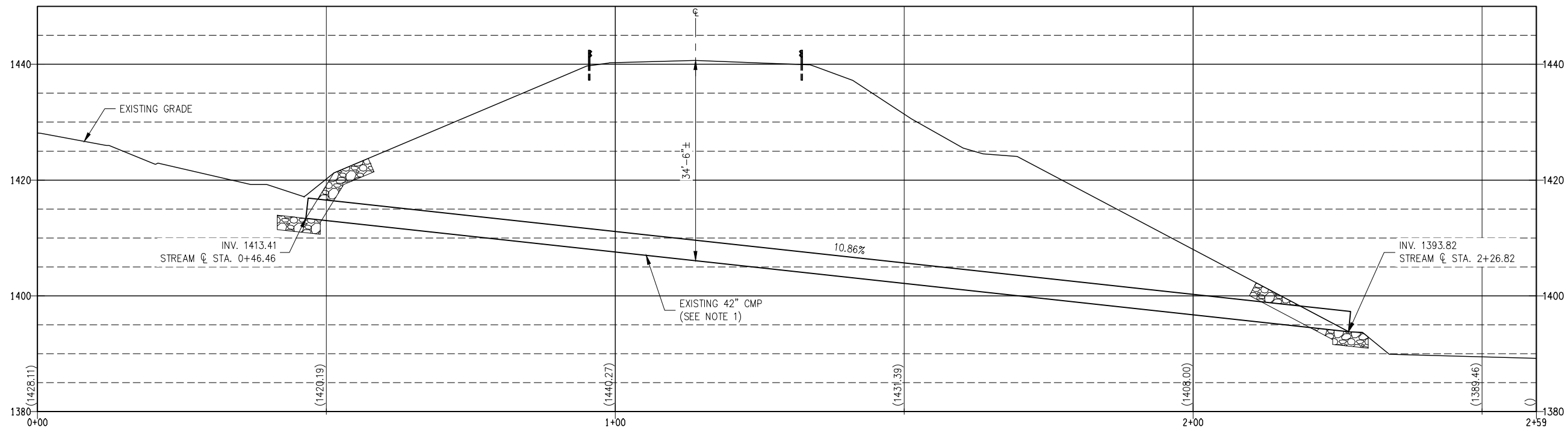
CULVERT LONGITUDINAL SECTION

CULVERT C85-24569

SCALE: 1" = 10'-0"



SCALE IN FEET



CULVERT LONGITUDINAL SECTION

CULVERT C85-24439

SCALE: 1" = 10'-0"



SCALE IN FEET

NOTES:

- BOTH C85-24569 AND C85-24439 WILL BE LINED UNDER A SEPARATE PROJECT.

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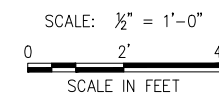
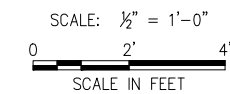
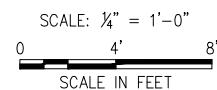
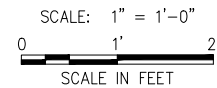
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LONGITUDINAL SECTIONS
CULVERTS C85-24569 & C85-24439

CR-85 CULVERT REPLACEMENTS
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-15



- NOTES:
1. ON THE DOWNSTREAM END, PLACE HEAVY STONE FILL AT THE STREAMBED ELEVATION AS A BULKHEAD TO FACILITATE RETENTION OF THE NATURAL STREAMBED MATERIAL IN THE CULVERT.
 2. FOR THE CULVERTS THAT ARE LINED: NO NATURAL STREAMBED MATERIAL SHALL BE PLACED.

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MISCELLANEOUS DETAILS

CR-85 CULVERT REPLACEMENT
TOWN OF ASHFORD, CATTARAUGUS COUNTY, NY

SHEET NO.

C-16