#### APPLICATION NOTES:

- A. THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A
- CHANNEL BY REDUCING FLOW VELOCITY IN THE CHANNEL. B. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE UPSTREAM SIDE OF THE CHECK DAM DUE TO DECREASED
- C. CHECK DAMS ARE NOT INTENDED TO, AND WILL NOT, FILTER SEDIMENT FROM
- D. SLOPES EXCEEDING 10% SHALL INCLUDE A CHANNEL PROTECTIVE LINING. E. AVOID PLACEMENT OF STONE CHECK DAMS WITHIN ROADWAY CLEAR ZONES, INSTEAD CONSIDER SEDIMENT FILTER LOG CHECK DAMS OR PREFABRICATED
- F. CHECK DAMS SHALL BE ANCHORED IN THE CHANNEL BY A CUT OFF TRENCH 1.5 FEET WIDE AND 0.5 FEET DEEP AND LINED WITH FILTER FABRIC TO
- PREVENT SOIL MIGRATION. G. THE UPSTREAM DAM TOE SHALL BE AT EQUAL ELEVATION TO THE DOWN STREAM DAM CREST.

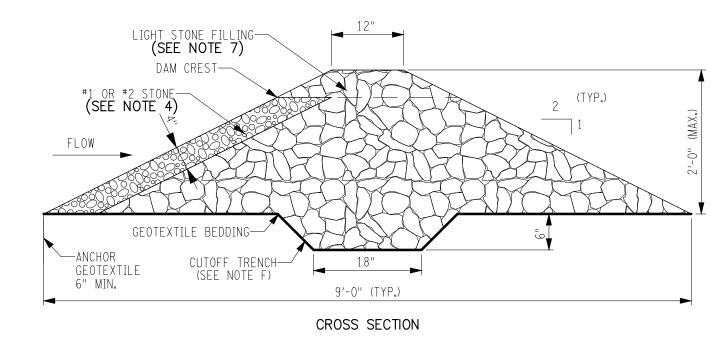
- 1. MAXIMUM DRAINAGE AREA CONTRIBUTING TO TEMPORARY STONE CHECK DAM
- 2. MEASURES SHALL BE INSPECTED EVERY (7) CALENDAR DAYS AND SHOULD BE INSPECTED AFTER EACH RUNOFF EVENT. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
- 3. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
- 4. COARSE AGGREGATE FACING MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF SIZE DESIGNATION #1 OR #2 OF TABLE 703-4 FROM SECTION 703-02 OF THE NYSDOT STANDARD SPECIFICATIONS. STONE FILLING CORE MATERIAL FOR THE STONE CHECK DAM
- SHALL MEET THE GRADATION REQUIREMENTS OF LIGHT STONE FILLING. 5. THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM SHALL BE PROTECTED
- FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE. 6. DURING INSPECTIONS ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCE BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR
- BLOCKAGE FROM DISPLACED STONE. 7. REFER TO SECTION 733-21 OF THE NYSDOT STANDARD SPECIFICATIONS FOR LIGHT STONE FILL GRADATION.

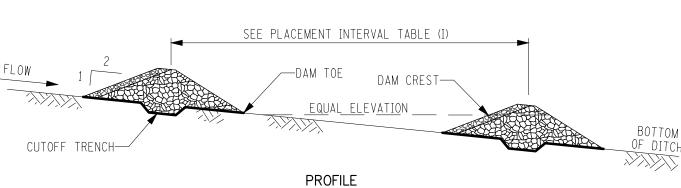
		_
STONE CHECK	DAM PLACEMENT INTERVAL *	
DITCH SLOPE	PLACEMENT INTERVAL (I) (BASED ON 2' HEIGHT)	
1 %	200'	* [ =
2 %	100′	WHERE:
3 %	66′	1 WIILING
4 %	50′	I = CHE
5 %	40′	SP.
6 %	33′	] H = CHE
8 %	25′	
1 0 %	0.07	1 S - CH.

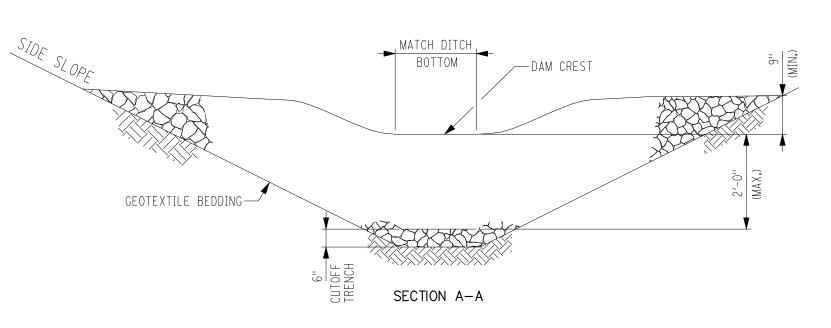
DITCH SLOPE	PLACEMENT INTERVAL (I) (BASED ON 2' HEIGHT)	
1 %	200′	* I = H / S
2 %	100′	WHERE:
3 %	66′	¥¥111C1\C•
4 %	50′	I = CHECK DAM
5 %	40′	SPACING INTERV
6 %	33′	H = CHECK DAM HEIG
8 %	25′	
10 %	20′	S = CHANNEL SLOPE

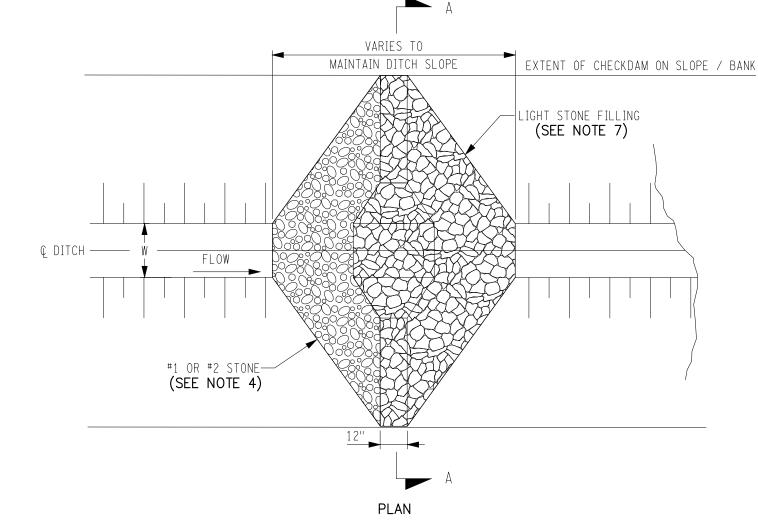
TEMPORARY CHEC	CK DAM VOLUMES
DITCH SIDE SLOPE	VOLUME (CY)
1:2	3.45 CY ±
1:3	4.25 CY ±
1 : 4	5.43 CY ±
1:6	7.81 CY ±

BASED ON V SHAPED DITCH SECTION FOR TRAPEZOIDAL DITCH, ADD 1.70 CUBIC YARD / YARD OF DITCH WIDTH

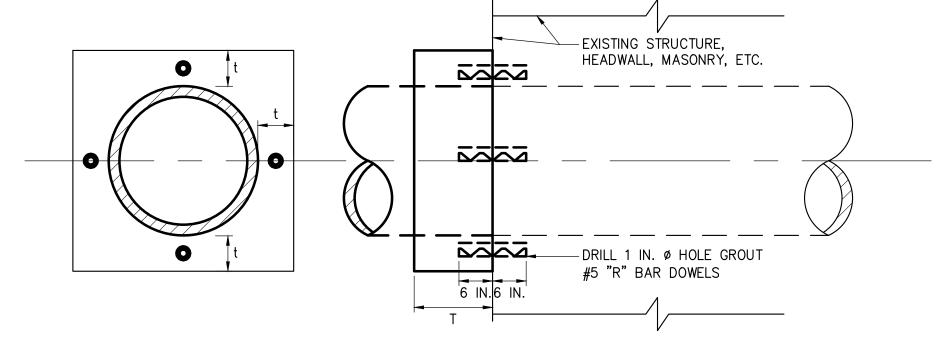








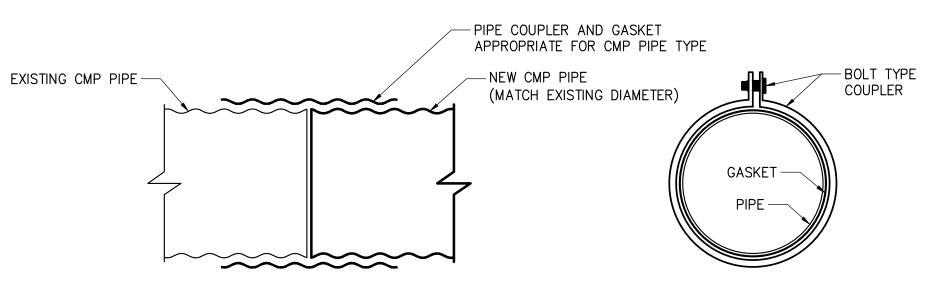
TEMPORARY CHECK DAM DETAIL



INSIDE DIA. IN.	"t" IN.	"T" IN.	NO. DOWLES REQUIRED *
THRU 19	9	12	4
20 – 29	9	12	4
30 – 39	9	12	6
40 - 49	9	12	8
50 - 59	12	18	8
60 - 69	12	18	8
70 – 79	12	18	10
80 – 89	12	18	12

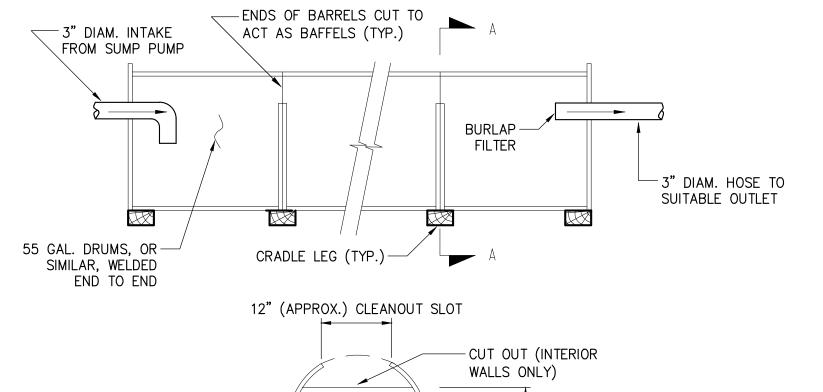
\* SPACE EVENLY AROUND PIPE AS INDICATED.

### CONCRETE COLLARS FOR PIPE EXTENSIONS



CORRUGATED METAL PIPE EXTENSIONS

# PIPE EXTENSION DETAIL



**CONSTRUCTION SPECIFICATIONS** 

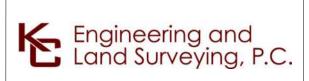
- 1. CLEAN OUT THE SEDIMENT TANK WHEN ONE THIRD (1/3) FILLED WITH SILT.
- 2. STEEL DRUMS ARE USED AS AN EXAMPLE DUE TO THEIR READY AVAILABILITY. ANY TANKS MAY BE USED, PROVIDING THAT THE VOLUME REQUIREMENTS ARE
- 3. ALL SEDIMENT COLLECTED IN THE TANK SHALL BE DISPOSED OF IN A SEDIMENT TRAPPING DEVICE OR AS APPROVED BY THE INSPECTOR.

PORTABLE SEDIMENT TANK

APPROX. 3/4 DIAM. OF BARREL END TO ACT AS BAFFLE

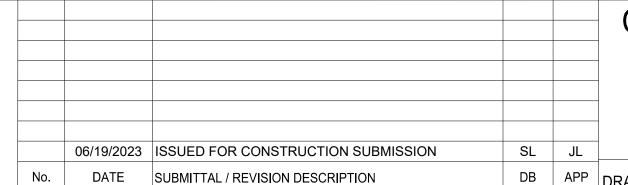








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SECTION A-A

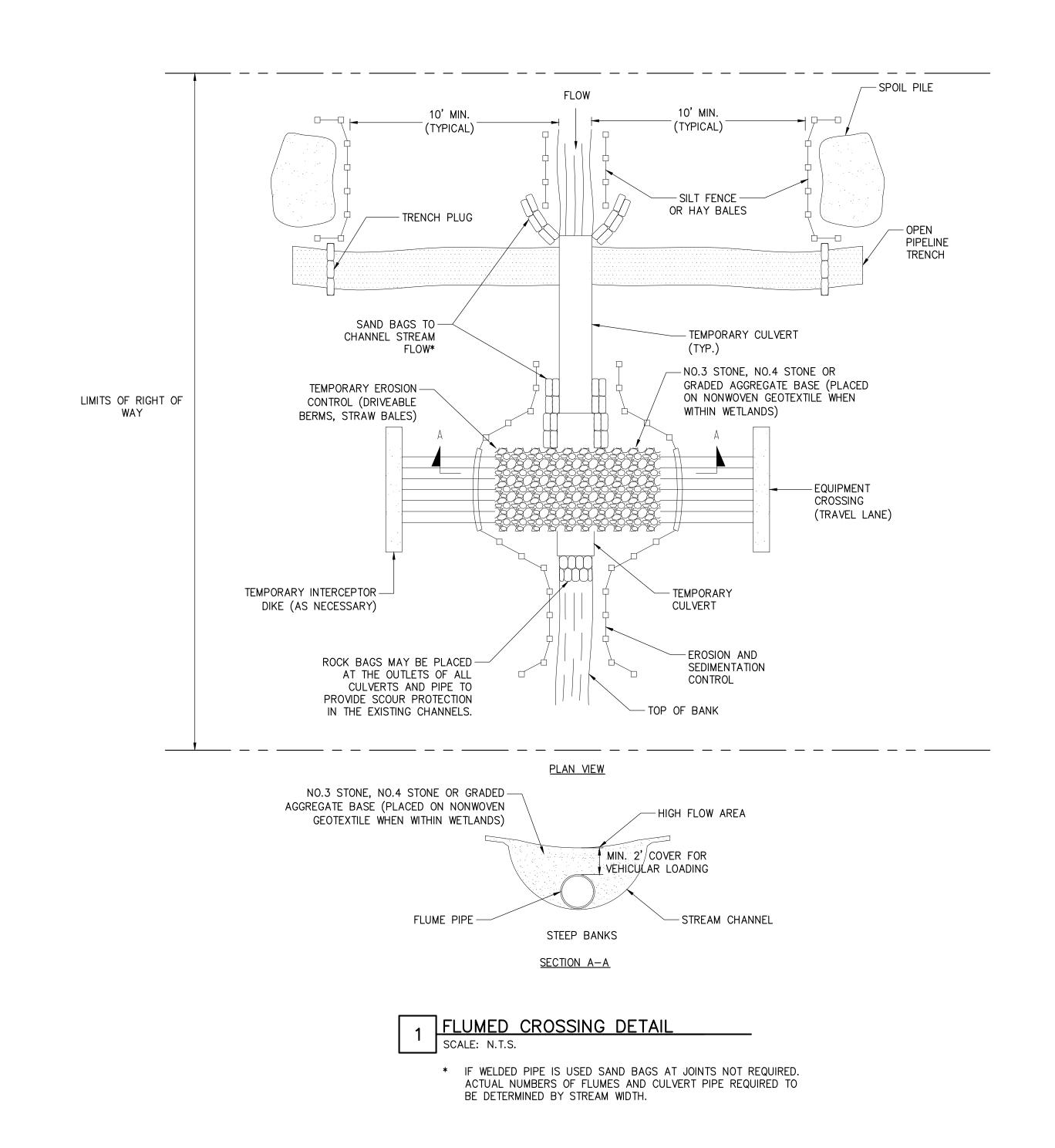
2" X 4" CRADLE

#### CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL

**EROSION AND SEDIMENT CONTROL DETAILS** 

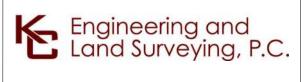
KIEWIT PROJECT NO. 21162 KC PROJECT NO. 120174 DRAWING NO.

C-604 AS SHOWN DATE DB APP DRAWN BY: BL DESIGNED BY: SL APPROVED BY: JL REV. NO. 0 SH.NO.











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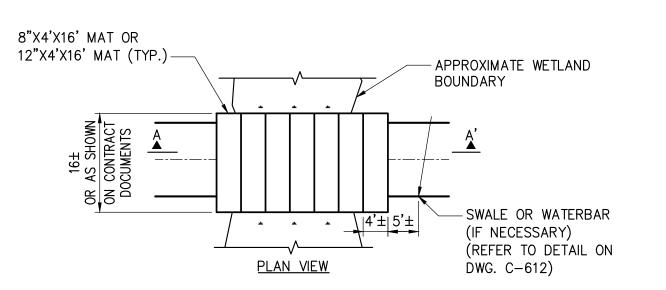
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CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL EROSION AND SEDIMENT CONTROL DETAILS

KIEWIT PROJECT NO. 21162 KC PROJECT NO. 120174 DRAWING NO.

C-605 AS SHOWN DATE

0 SH.NO.



REFER TO NOTE 6

APPROXIMATE WETLAND
BOUNDARY
TIMBER MAT

SWALE OR WATERBAR
(IF NECESSARY)
(REFER TO DETAIL ON DWG. C-612)

8"X4'X16' MAT OR
12"X4'X16' MAT (TYP.)

APPROXIMATE WETLAND |
BOUNDARY

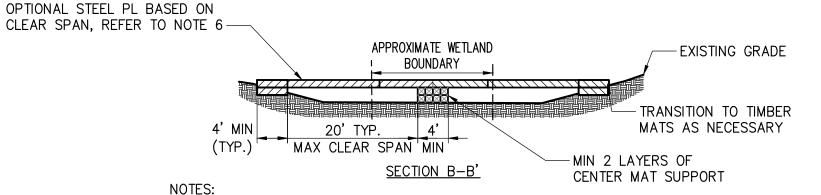
TRANSITION TO TIMBER
MATS AS NECESSARY

NOTE:

- 1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
- 2. FOR CROSSINGS WITH LARGER SPANS THE CONTRACTOR SHALL CONSULT WITH THE TEMPORARY STRUCTURES AND CONSTRUCTION DEVICES ENGINEER.
- TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
   SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT SHOULD BE
- REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.

  5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
- 6. UNLESS PERMITTED FROM REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
- 7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF
- EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.

  8. ALL EQUIPMENTS SHOULD MAINTAIN A MINIMUM OF 2 FT SETBACK FROM EDGE OF THE MATS WHILE CROSSING.
- 9. SINGLE OR MULTIPLE LAYERS OF MATS SHALL BE PLACED BASED ON EXISTING SOIL CONDITIONS.



- 1. IN-STREAM EXCAVATION SHOULD BE COMPLETED IN ACCORDANCE WITH "TEMPORARY ACCESS WATERWAY CROSSING" ON PAGE 2.32 OF THE 2016 NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (OR NEWEST VERSION) AND IN ACCORDANCE WITH SECTION 9.1 WATER BODIES IN THE PROJECT EM&CP.
- 2. THE CONSTRUCTION OF ANY CROSSING SHOULD NOT CAUSE A SIGNIFICANT WATER LEVEL DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. FISH SPAWNING OR MIGRATION DATES CAN VARY ACROSS NEW YORK, AND RESTRICTIONS IMPOSED BY THE NYSDEC MY VARY AND MUST BE VERIFIED. REFER TO CERTIFICATE OF CONDITIONS.
- 3. ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH SHOULD BE LIMITED TO A MAXIMUM HEIGHT OF 2 FT ABOVE THE EXISTING FLOOD PLAIN ELEVATION.
- 4. A WATER DIVERTING STRUCTURE SUCH AS A SWALE OR WATER BAR SHOULD BE CONSTRUCTED (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES) 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING. THIS WILL PREVENT ROADWAY SURFACE RUNOFF FROM DIRECTLY ENTERING THE WATERWAY. THE 50 FEET MEASURED IS MEASURED FROM THE TOP OF THE WATERWAY BANK. IF THE ROADWAY APPROACH IS CONSTRUCTED WITH A REVERSE GRADE AWAY FROM THE WATERWAY, A SEPARATE DIVERTING STRUCTURE IS NOT REQUIRED.
- 5. ALL EQUIPMENTS SHOULD MAINTAIN A MINIMUM OF 2 FT SETBACK FROM EDGE OF THE MATS WHILE CROSSING.
- 6. CONTRACTOR SHALL CONSULT WITH TEMPORARY STRUCTURES AND CONSTRUCTION DEVICES ENGINEER FOR APPROPRIATE MATTING SIZES AND LENGTHS AND REQUIRED SOIL BEARING PRESSURES.

PTION "A"

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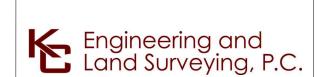
1 TIMBER MATTING (WETLAND CROSSING)

GENERAL NOTES:

- 1. TIMBER SHALL BE SELECT STRUCTURAL MIXED OAK WITH A MINIMUM BENDING STRESS OF 1250 PSI OR BETTER.
- 2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO COMMENCING WORK. ANY ERRORS, OMISSIONS, OR UNUSUAL CONDITIONS ARE TO BE REPORTED TO THE TEMPORARY STRUCTURES AND CONSTRUCTION DEVICES ENGINEER IMMEDIATELY









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06/19/2023 ISSUED FOR CONSTRUCTION SUBMISSION SL JL

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL
WETLAND CROSSING DETAILS

KIEWIT PROJECT NO.
21162
KC PROJECT NO.
120174
DRAWING NO.

C-611

No. DATE SUBMITTAL / REVISION DESCRIPTION DB APP DRAWN BY: BL DESIGNED BY: SL APPROVED BY: JL REV. NO. 0 SH.NO. 0F

WATER SHALL BE DIVERTED OFF THE DISTURBED RIGHT-OF-WAY AT AN OUTSLOPE OF THREE TO FIVE PERCENT BY CONSTRUCTING DIVERSION DITCH ACCORDING TO THE FOLLOWING

1. AT THE PROPOSED INTERCEPTOR DITCH LOCATION ESTABLISH A HORIZONTAL CONTOUR LINE (USING A POCKET TRANSIT OR HAND LEVEL) WHICH EXTENDS COMPLETELY ACROSS THE DISTURBED RIGHT-OF-WAY. THIS LINE WILL ALWAYS BE PERPENDICULAR TO THE DIRECTION OF WATER FLOW AND SHOULD BE PARALLEL TO THE MAP CONTOURS SHOWN ON THE PLAN DRAWINGS.

2. DETERMINE WHICH SIDE OF THE RIGHT-OF-WAY IS BEST SUITED FOR THE DITCH OUTLET (EVALUATE VEGETATION DENSITY, LOCAL TOPOGRAPHY, ETC.) AND DEVIATE DIKE AWAY FROM THE HORIZONTAL CONTOUR LINE SLIGHTLY DOWNWARD TOWARD THE SELECTED OUTLET SIDE MAINTAINING A THREE TO FIVE PERCENT SLOPE. AS AN EXAMPLE, THE CHART AT THE RIGHT SHOWS DIMENSIONS ASSUMING A FOUR PERCENT

3. WHEN OUTLETTING NEAR WATER BODIES, STREAMS, DITCHES, & CROP FIELDS, A FILTER FENCE OR STRAW BALE FENCE SHOULD BE PLACED ON OUTLET END OF THE DIVERSION

#### TEMPORARY DRAINAGE DITCH

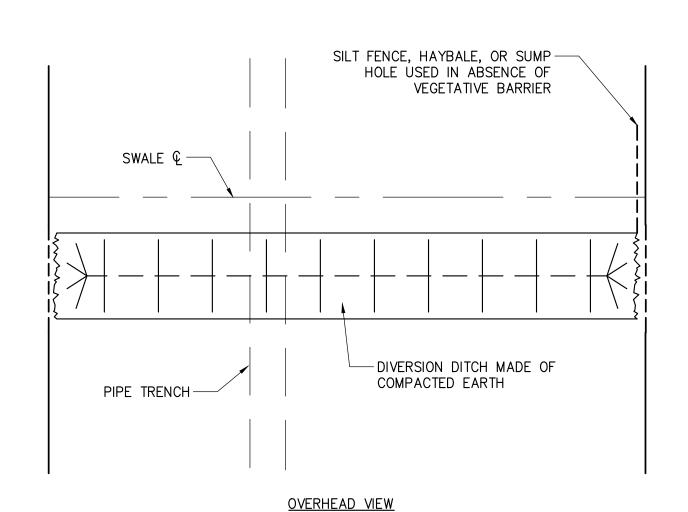
1. TEMPORARY DIVERSION DITCH SHOULD BE BUILT SIMILAR TO THE PERMANENT DITCH CONFIGURATION BUT THE DIMENSION CAN BE SCALED BACK.

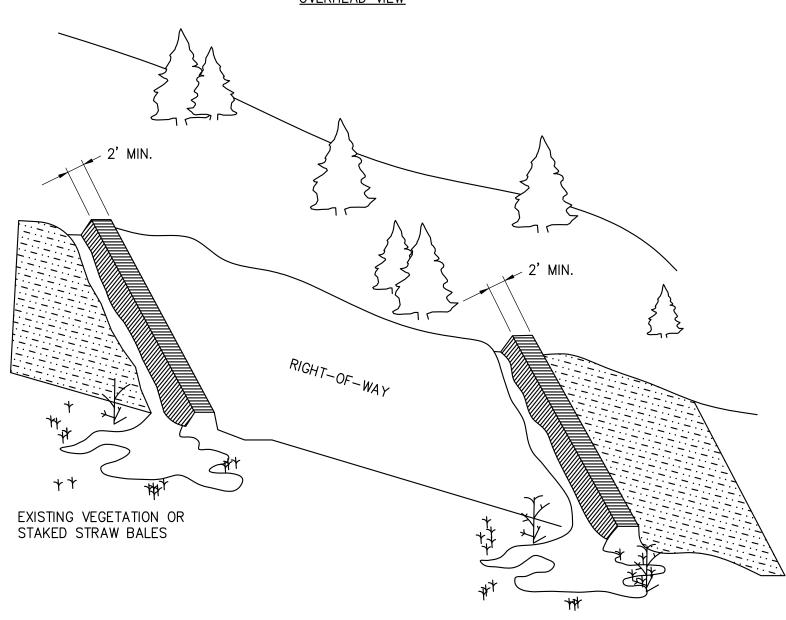
2. MAXIMUM HEIGHT SHOULD BE 12" AND SHOULD BE COMPACTED.

3. SPACING BETWEEN DIVERSION DITCHES AND SKEW OF THE DIVERSION DITCHES CAN VARY

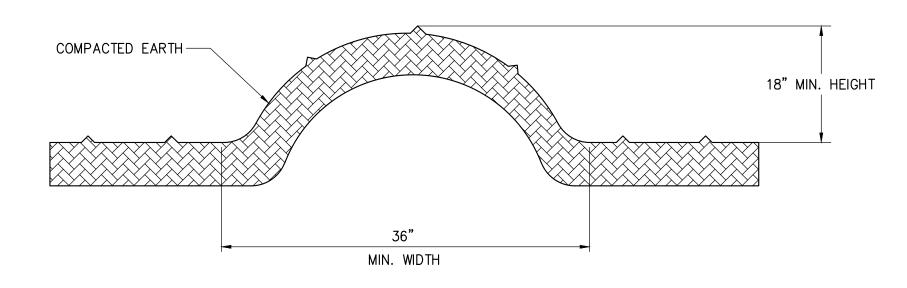
FROM THE PERMANENT DIVERSION DITCHES. 4. WHEN CONSTRUCTING TEMPORARY DIVERSION DITCHES THEY SHOULD BE FUNCTIONAL, WHILE MAINLINE CONSTRUCTION IS PROCEEDING, UNTIL RESTORATION BEGINS AND PERMANENT DIVERSION DITCHES ARE THEN CONSTRUCTED.

4% FLOW CHART								
HORIZONTAL DISTANCE BETWEEN WATERBAR INLET & OUTLET (FEET)	ELEVATION DISTANCE BETWEEN WATERBAR INLET AND OUTLET (FEET)							
75	3							
100	4							
125	5							
150	6							
175	7							





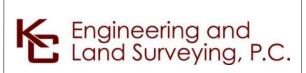
### PERMANENT DIVERSION DITCH DETAIL



2 MINIMAL HEIGHT & WIDTH DIMENSIONS FOR WATERBAR CONSTRUCTION SCALE: N.T.S.









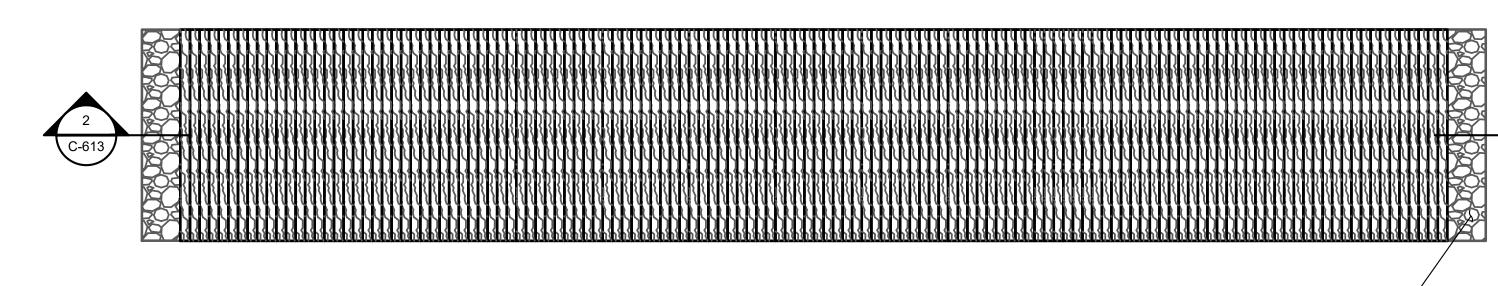
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CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL WATERBAR DETAILS

KIEWIT PROJECT NO. 21162 KC PROJECT NO. 120174 DRAWING NO.

C-612



NO. 3 STONE, NO. 4 STONE OR **GRADED AGGREGATE BASE** 

STACKED TIMBER

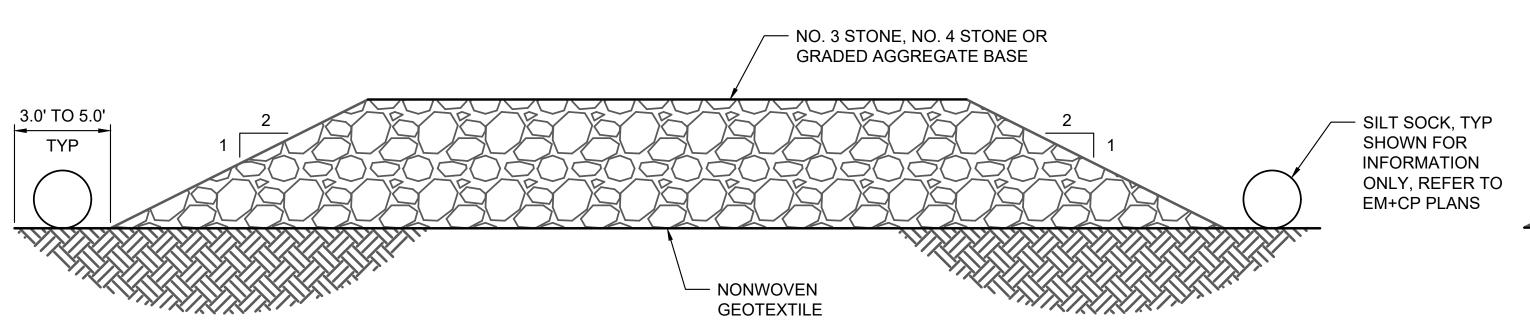
MAT 8"x4'x16' OR

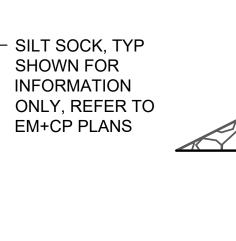
### WETLAND AND AGRICULTURAL LANDS WORKING SURFACE PLAN - OPTION A

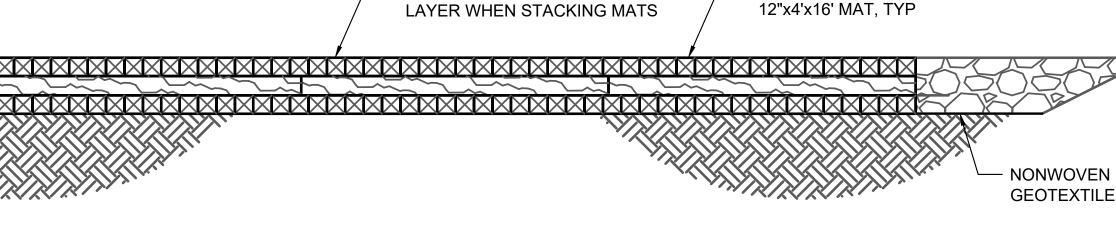
#### WETLAND AND AGRICULTURAL LANDS WORKING SURFACE PLAN - OPTION B

ORIENTATION MATS 90

**DEGREES TO PREVIOUS** 







# **SECTION**

#### NOTES:

- 1. UNDERCUT AND REMOVE TOP SOIL PRIOR TO PLACING GEOTEXTILE FABRIC.
- 2. A LAYER OF CLEAN CRUSHED STONE SHALL BE LAID ON TOP OF THE GEOTEXTILE FABRIC.
- 3. GEOTEXTILE FABRIC SHALL EXTEND AT LEAST 3 FT TO 5 FT BEYOND THE EDGE OF STONE PLACEMENT TO MINIMIZE STONE ENTERING THE WETLAND AND FACILITATE REMOVAL OF THE ROAD.
- 4. SUITABLE CROSS DRAINING SHALL BE PROVIDED ACROSS THE ROAD FOR STREAM CHANNELS AND SURFACE FLOW.
- REFER TO EM+CP PLANS FOR EROSION CONTROL DETAILS.
- REFER TO EM+CP PLANS FOR RESTORATION OF WETLAND.

#### **GENERAL NOTES:**

- TIMBER:
- A. TIMBER SHALL BE SELECT STRUCTURAL MIXED OAK WITH A MINIMUM BENDING STRESS OF 1250 PSI OR BETTER.
- 2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO COMMENCING WORK. ANY
- ERRORS, OMISSIONS, OR UNUSUAL CONDITIONS ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY. NONWOVEN GEOTEXTILE SHALL BE MIRAFI 180N OR EQUIVALENT APPROVED BY EOR.

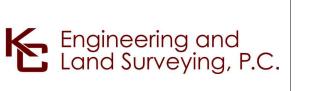


#### NOTES:

- TIMBER MATS SHOULD BE INSTALLED IN WETLANDS, AGRICULTURAL LANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
- 2. BASED ON ACTUAL SITE CONDITIONS, NUMBER OF TIMBER MAT
- LAYERS TO BE DETERMINED ON SITE.
- 3. TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
- 4. SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND AND AGRICULTURAL LAND DURING RAIN EVENTS. SEDIMENT SHOULD BE REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.
- 5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
- 6. UNLESS PERMITTED FROM REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
- 7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.
- REFER TO EM+CP PLANS FOR EROSION CONTROL DETAILS.
- REFER TO EM+CP PLANS FOR RESTORATION OF WETLAND.









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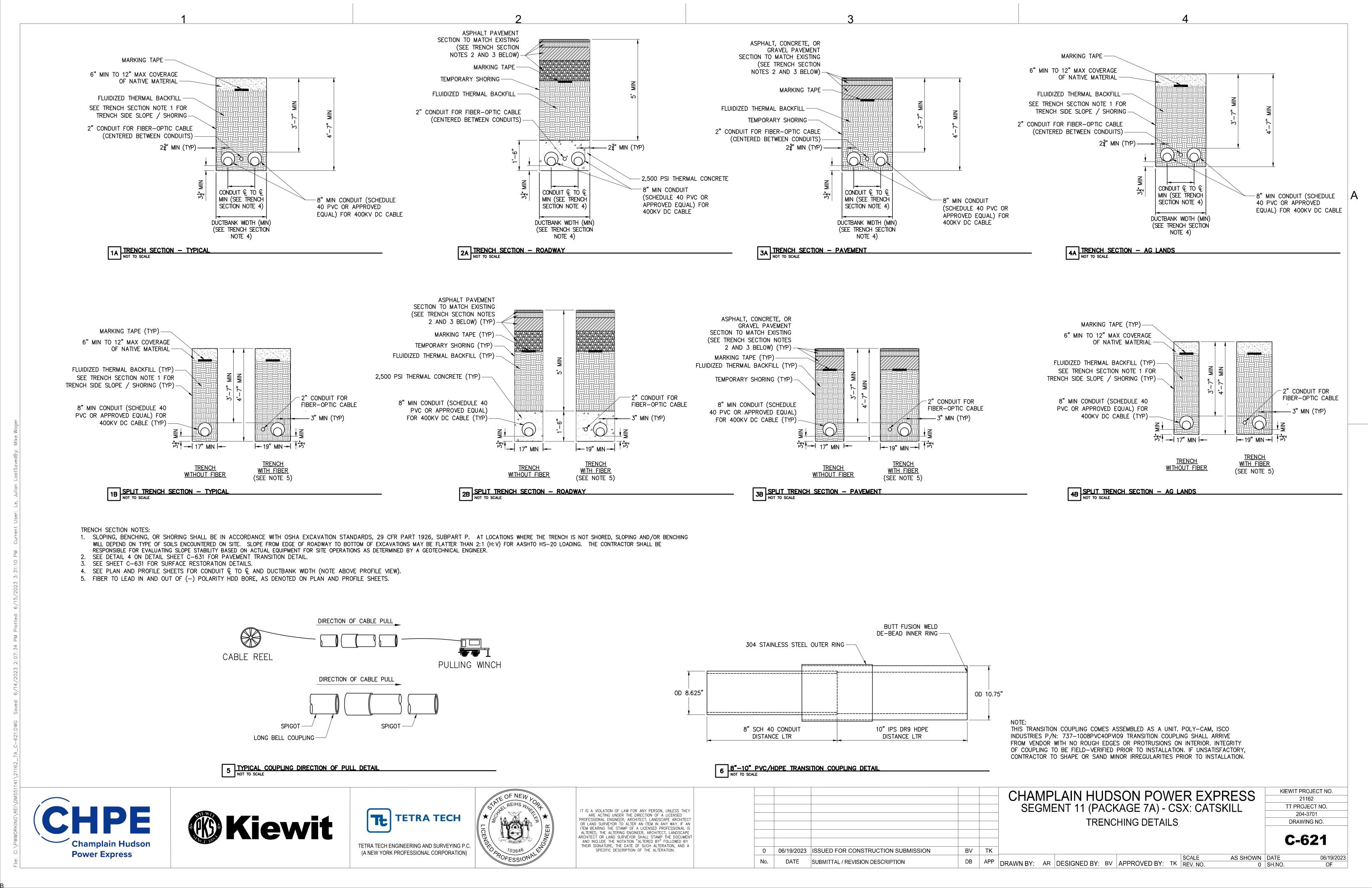
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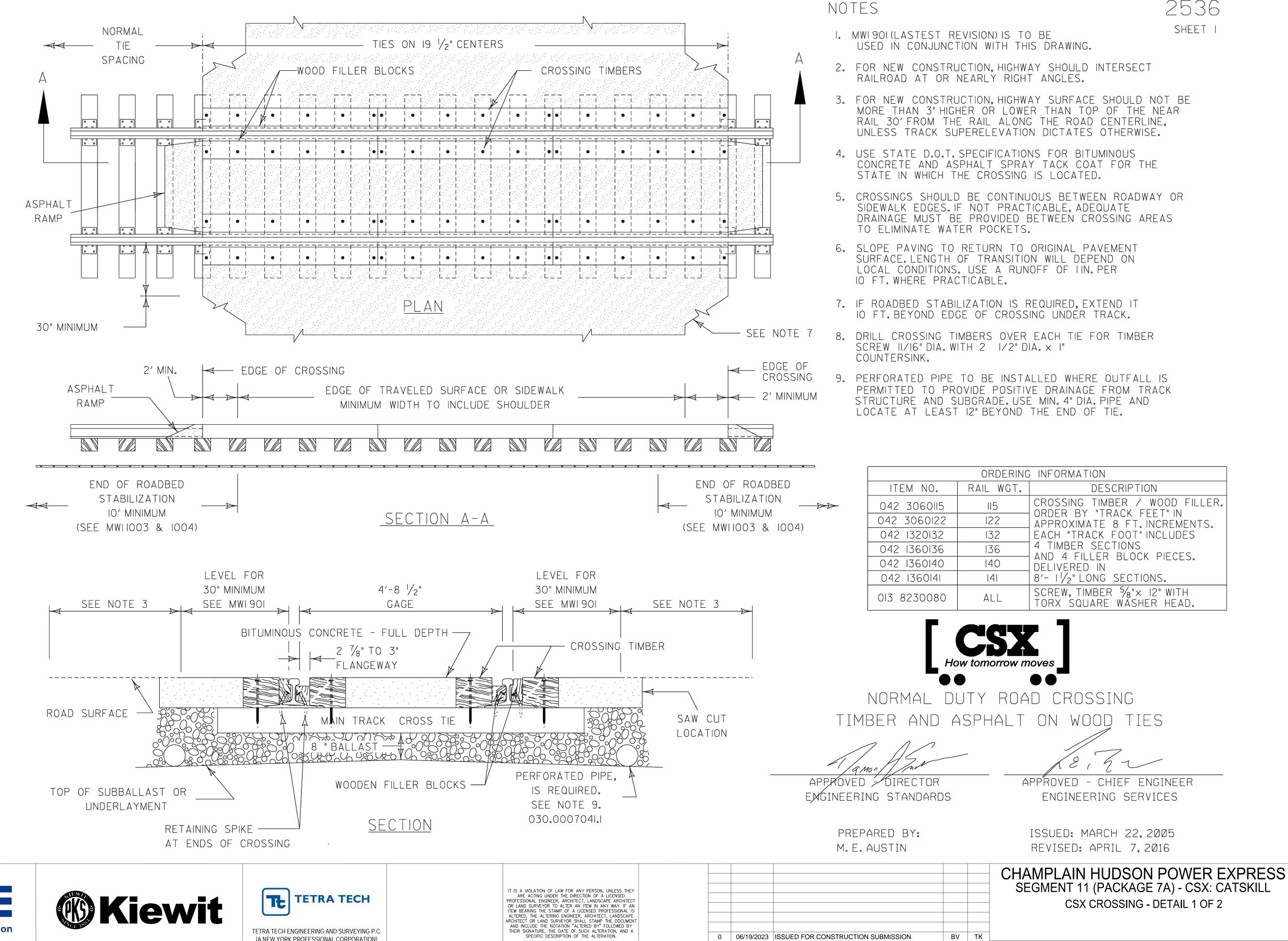
CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL

WETLAND AND AGRICULTURAL LAND **WORKING SURFACE** 

KIEWIT PROJECT NO. 21162 KC PROJECT NO. 120174 DRAWING NO.

C-613 06/19/2023





(A NEW YORK PROFESSIONAL CORPORATION)

**Power Express** 

2536

SHEET I

2. FOR NEW CONSTRUCTION, HIGHWAY SHOULD INTERSECT

3. FOR NEW CONSTRUCTION, HIGHWAY SURFACE SHOULD NOT BE MORE THAN 3" HIGHER OR LOWER THAN TOP OF THE NEAR RAIL 30' FROM THE RAIL ALONG THE ROAD CENTERLINE,

CONCRETE AND ASPHALT SPRAY TACK COAT FOR THE

5. CROSSINGS SHOULD BE CONTINUOUS BETWEEN ROADWAY OR DRAINAGE MUST BE PROVIDED BETWEEN CROSSING AREAS

9. PERFORATED PIPE TO BE INSTALLED WHERE OUTFALL IS PERMITTED TO PROVIDE POSITIVE DRAINAGE FROM TRACK STRUCTURE AND SUBGRADE. USE MIN. 4" DIA. PIPE AND

ORDERING INFORMATION									
ITEM NO.	RAIL WGT.	DESCRIPTION							
042 3060  5	115	CROSSING TIMBER / WOOD FILLER. ORDER BY "TRACK FEET" IN							
042 3060122	122	APPROXIMATE 8 FT. INCREMENTS.							
042   320  32	132	EACH "TRACK FOOT" INCLUDES							
042   360  36	136	4 TIMBER SECTIONS   AND 4 FILLER BLOCK PIECES							
042   1360  40	140	DELIVERED IN							
042   360 4	141	8'- 11/2" LONG SECTIONS.							
013 8230080	ALL	SCREW, TIMBER 5/8"x 12" WITH TORX SQUARE WASHER HEAD.							

APPROVED - CHIEF ENGINEER

DB APP DRAWN BY: AR DESIGNED BY: BV APPROVED BY: TK REV. NO.

SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL CSX CROSSING - DETAIL 1 OF 2

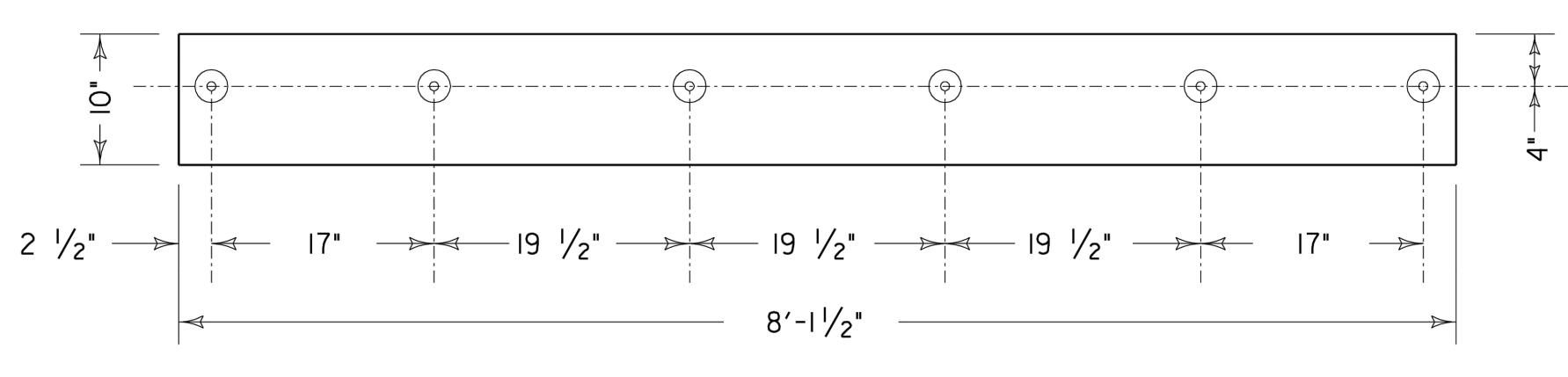
BV TK

06/19/2023 ISSUED FOR CONSTRUCTION SUBMISSION

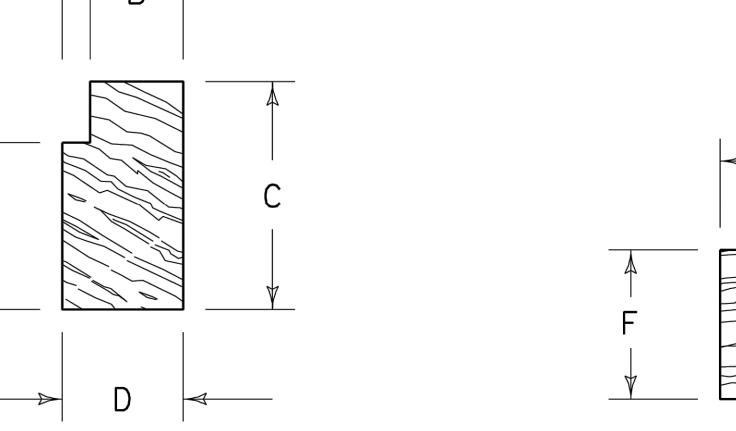
SUBMITTAL / REVISION DESCRIPTION

KIEWIT PROJECT NO. 21162 TT PROJECT NO. 204-3701 DRAWING NO.

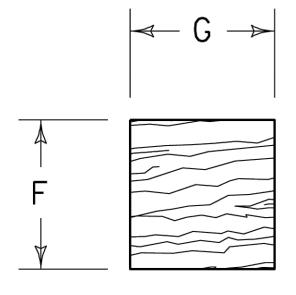
C-625



# CROSSING TIMBER PLAN VIEW



FIELD SIDE FILLER BLOCK DETAIL



GAGE SIDE FILLER BLOCK DETAIL

RAIL WGT	А	В	С	D	E	F	G	Н
II5 RE	3/4	2 3/4	5 3/8	3 1/2	3 1/8	3 3/8	4	7 1/2
122 CB	3/4	2 3/4	5 5/8	3 1/2	4	3 5/8	4	7 1/2
132 RE	5/8	2 1/8	6	3 1/2	4 1/2	3 1/8	3 1/8	8
136 RE	5/8	2 1/8	6 1/4	3 1/2	4 1/2	3 1/8	3 1/8	8 3/8
140 RE	3/4	2 3/4	6 1/16	3 1/2	4 5/16	3 1/8	4	8 3/8
I4I RE	11/16	2 13/16	6 3/8	3 1/2	4 1/2	3 1/8	3 1/8	8 3/8

NOTES

- I. TIMBERS ARE NOT PREDRILLED UNLESS SPECIFIED IN THE REQUISITION.
- 2. GAGE AND FIELD TIMBERS ARE IDENTICAL.
- 3. TOLERANCES: A, E, AND G :  $\frac{1}{16}$ " +/-ALL OTHERS : 1/8" +/-
- 4. CROSSING TIMBER TO BE OAK OR GUM. TREATMENT PER MW SPEC 99001 LIKE CROSSTIES
- 5. FILLER BLOCKS TO BE SOUTHERN YELLOW PINE GRADE 2 WITH IO LB / CU FT TREATMENT
- 6. TIMBERS & FILLERS TO BE MARKED FOR RAIL SIZE



TIMBER SCREW

3/8" -

II/<sub>I6</sub>" DIA

2 1/2" DIA

CROSSING TIMBER

SECTION AT SCREW LOCATION

3/4"

TIMBER AND ASPHALT CROSSING CROSSING TIMBER AND FILLER BLOCK DETAILS

MAINTENANCE OF WAY

PREPARED BY: J. E. BEYERL

ISSUED: MARCH 22, 2005 REVISED: NOVEMBER 14, 2005

ENGINEERING

CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL

21162 TT PROJECT NO. 204-3701 CSX CROSSING - DETAIL 2 OF 2 DRAWING NO.

2536

SHEET 2

C-626

KIEWIT PROJECT NO.

06/19/2023 ISSUED FOR CONSTRUCTION SUBMISSION

SUBMITTAL / REVISION DESCRIPTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT

ALL DIMENSIONS ARE IN INCHES.

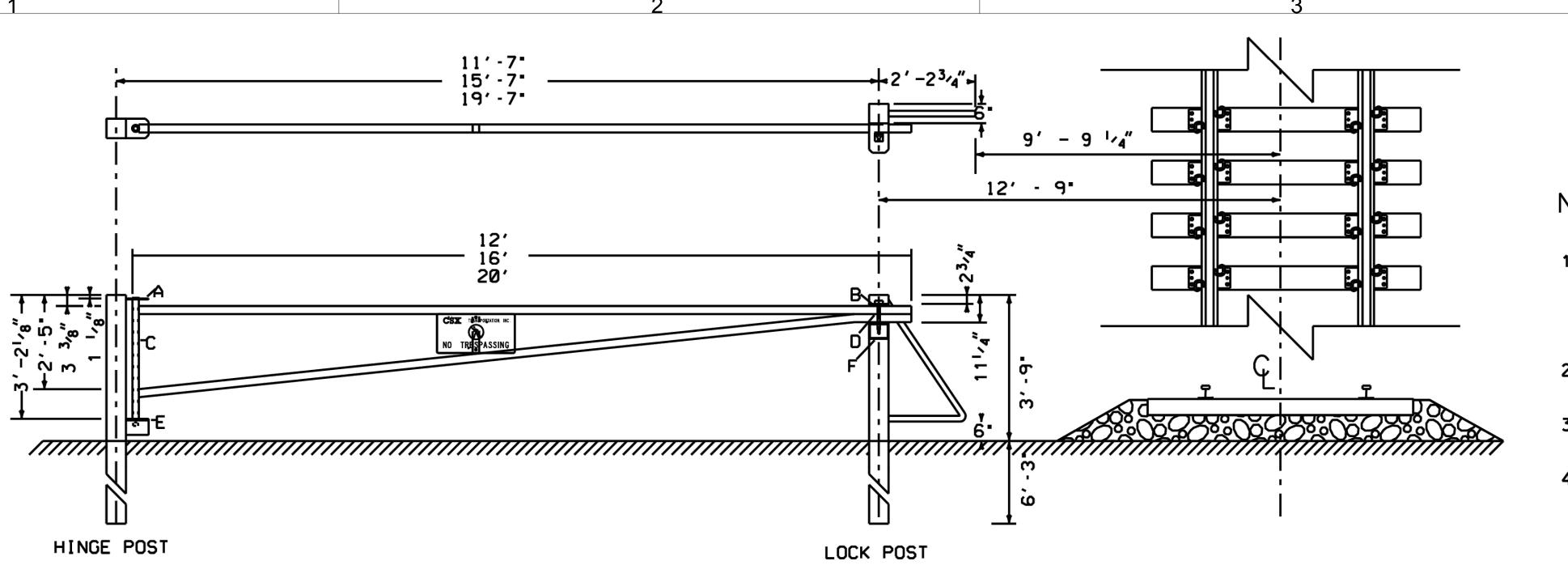




TETRA TECH TETRA TECH ENGINEERING AND SURVEYING P.C (A NEW YORK PROFESSIONAL CORPORATION) PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE 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.

BV TK

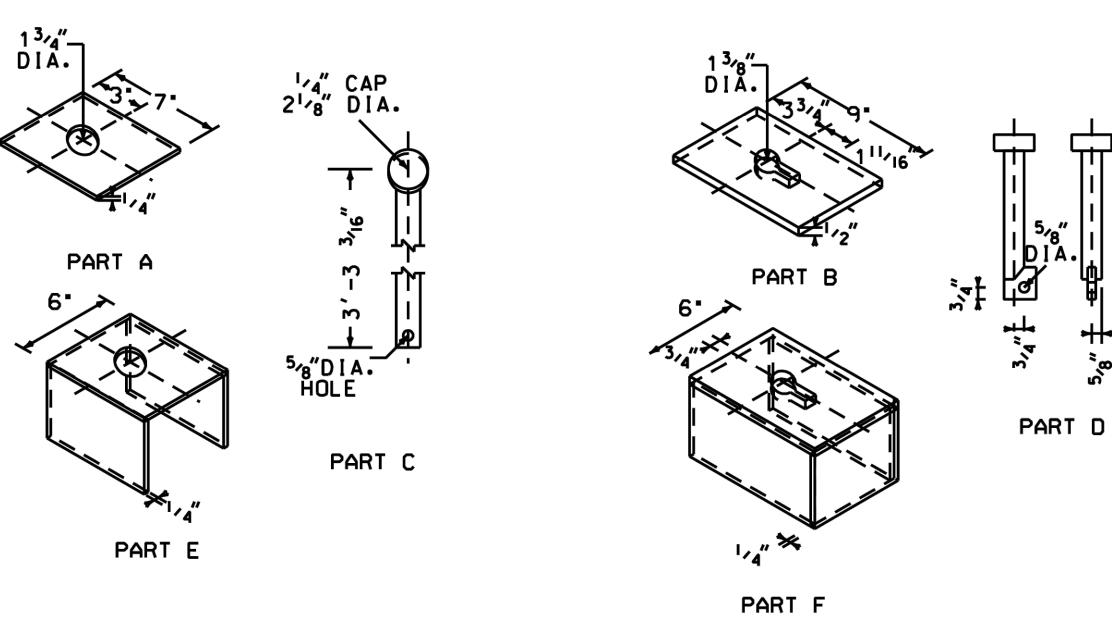
DB APP DRAWN BY: AR DESIGNED BY: BV APPROVED BY: TK REV. NO.



2614

## NOTES

- 1. METAL WEDGE SIGN MOUNT SHALL BE 21/2" WIDE, WELDED IN THE CENTER OF THE GATE WITH HOLES DRILLED FOR THE ATTACHMENT OF NO TRESPASSING SIGN
- 2. SIGN SPECIFICATION IS FOUND IN STANDARD DRAWING 2703
- 3. ENTIRE GATE ASSEMBLY TO BE PAINTED AREMA YELLOW.
- 4. CSX SWITCH LOCK TO BE USED FOR GATE LOCK.



PART F	
50' MINIMUM	
50' MINIMUM	<b>→</b>
	TRACK

DESCRIPTION	UNITS	CLASS	ITEM NUMBER
GATE, RIGHT OF WAY, 12'	EACH	014	0409045
GATE, RIGHT OF WAY, 16'	EACH	014	0409043
GATE, RIGHT OF WAY, 20'	EACH	014	0409041
LOCK, SWITCH AMERICAN H10	EACH	450	0008580



RIGHT-OF-WAY SECURITY GATE

J. E. BEYERL FOR

APPROVED - DIRECTOR ENGINEERING STANDARDS

> PREPARED BY: M. E. AUSTIN

APPRÓVED - VICE PRESIDENT

ENGINEERING

ISSUED: JANUARY 10, 2011 REVISED : INITIAL ISSUE

**Power Express** 





TETRA TECH ENGINEERING AND SURVEYING P.C.

(A NEW YORK PROFESSIONAL CORPORATION)

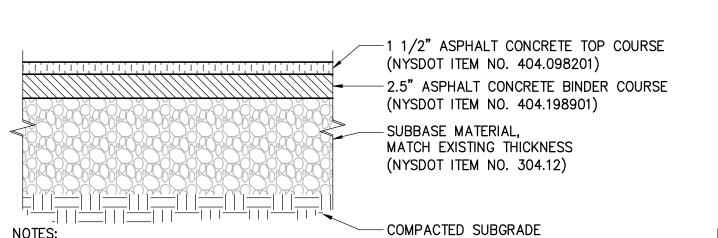
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE 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.

0	06/19/2023	ISSUED FOR CONSTRUCTION SUBMISSION	BV	TK	CHAMPI SEGME	NT 11 (PA	\C	SON PO (AGE 7A) RITY GATE	- CS	SX: CA
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: AR	DESIGNED BY:	BV	APPROVED BY	: TK	SCALE REV. NO.

CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL CSX SECURITY GATE DETAIL

KIEWIT PROJECT NO. 21162 TT PROJECT NO. 204-3701 DRAWING NO.

C-627



ABOVE SECTION IS THE MINIMUM FOR INSTALLATION. MATCH EXISTING SECTION IF EXISTING THICKNESS IS GREATER ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS.

3. APPLY STRAIGHT TACK COAT TO BETWEEN PAVEMENT SECTIONS NYSDOT ITEM407.0103 ASPHALT CONCRETE PAVEMENT DETAIL

SLOPE AS INDICATED ON PLAN

-LAYER THICKNESS PER TABLE

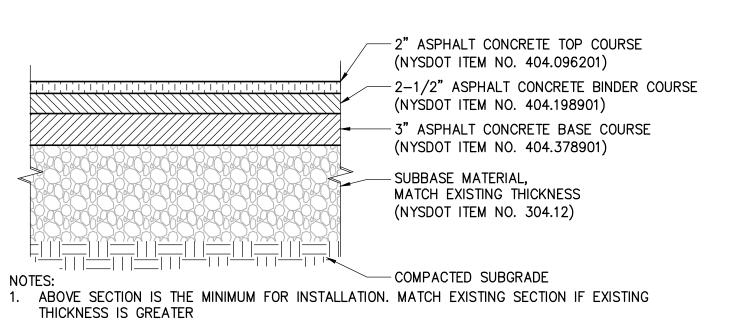
(PRIVATE DRIVEWAY) SCALE: N.T.S.

-2" ASPHALT CONCRETE TOP COURSE (NYSDOT ITEM NO. 404.096201) -2.5" ASPHALT CONCRETE BINDER COURSE (NYSDOT ITEM NO. 404.198901) -8" ASPHALT CONCRETE BASE COURSE (NYSDOT ITEM NO. 404.378901) -SUBBASE MATERIAL, MATCH EXISTING THICKNESS NYSDOT TYPE 2 (ITEM NO. 304.12) - COMPACTED SUBGRADE 1. ABOVE SECTION IS THE MINIMUM FOR INSTALLATION. MATCH EXISTING SECTION IF EXISTING THICKNESS IS GREATER

2. ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS 3. APPLY STRAIGHT TACK COAT TO BETWEEN PAVEMENT SECTIONS NYSDOT ITEM 407.0103

ASPHALT CONCRETE PAVEMENT (WITHIN NYSDOT ROADWAYS)

SCALE: N.T.S.



ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS 3. APPLY STRAIGHT TACK COAT TO BETWEEN PAVEMENT SECTIONS NYSDOT ITEM407.0103

<u>ASPHALT CONCRETE PAVEMENT</u> (WITHIN COUNTY OR TOWN ROADWAYS) SCALE: N.T.S.

COLD MILL EXISTING PAVEMENT TOP COURSE, TACK COAT AND INSTALL NEW TOP COURSE -— SAW CUT TOP COURSE PER — EXISTING PAVEMENT PAVEMENT DETAIL - ASPHALT PAVEMENT JOINT ADHESIVE (NYSDOT ITEM NO. 418.7603) —|||—||| COLD MILL EXISTING PAVEMENT 24" MIN. BEYOND THE TRENCH WALL

1. ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS

PAVEMENT TRANSITION DETAIL (WITHIN NYSDOT, COUNTY, OR TOWN ROADWAYS) SCALE: N.T.S.

TEMPORARY ACCESS ROAD SECTION <sup>1,2,3,4</sup>							
CBR <sup>5</sup>	UNSTABILIZED	MIRAFI 180N GEOTEXTILE <sup>6</sup>	TENSAR BX1200 GEOGRID <sup>6</sup>	MIRAFI RSI SERIES GEOTEXTILE <sup>6</sup>			
0.5		20 INCH RIP RAP <sup>7</sup> + 6 INCH AGGREGATE		20 INCH RIP RAP <sup>7</sup> + 4 INCH AGGREGATE (RS580I)			
1.0		18 INCH AGGREGATE	12 INCH AGGREGATE	15 INCH AGGREGATE (RS280I)			
1.5		12 INCH AGGREGATE	9 INCH AGGREGATE	9 INCH AGGREGATE (RS280I)			
2.0	18 INCH AGGREGATE	11 INCH AGGREGATE	6 INCH AGGREGATE	9 INCH AGGREGATE (RS280I)			
3.0+	15 INCH AGGREGATE	8 INCH AGGREGATE	6 INCH AGGREGATE	9 INCH AGGREGATE (RS280I)			
NOTES:	-						

TEMPORARY ACCESS ROAD SECTIONS PER KIEWIT ENGINEERING (NY) CORP.

 $^{\prime}$  AGGREGATE SHALL BE NYSDOT TYPE 2 CRUSHED AGGREGATE OR APPROVED ALTERNATIVE.

BESIGN CONSIDERS 1,000 PASSES OF MAXIMUM 22—KIP AXLE LOAD AND A DESIGN RUT DEPTH OF 3 INCHES. ADDITIONAL AXLE PASSES, HEAVIER AXLE LOADS, AND DETERIORATED SUBGRADE CONDITIONS MAY REQUIRE THICKER AGGREGATE SECTIONS OR ADDITIONAL MAINTENANCE. ALTERNATE TEMPORARY ACCESS ROAD DESIGNS MAY BE PROVIDED BY KIEWIT ENGINEERING, AS REQUIRED, BASED ON FIELD CONDITIONS AND TRAFFIC LOADING.

ESTIMATE CBR IN THE FIELD USING A DYNAMIC CONE PENETROMETER OR ALTERNATIVE METHOD APPROVED BY GEOTECHNICAL ENGINEER OF RECORD (EOR). CBR OF IN-SITU SOIL MAY VARY SEASONALLY DUE TO FREEZE/THAW AND BASED ON MOISTURE CONDITIONS.

GEOGRID AND GEOTEXTILE A GEOGRID AND GEOTEXTILES SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION INCLUDING OVERLAP AND EDGE DETAILS.

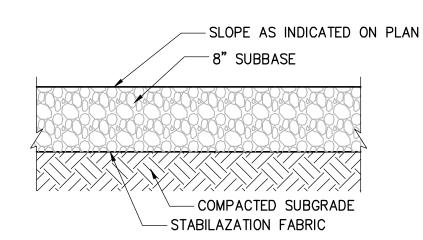
B SPECIFIED GEOTEXTILE OR GEOGRID MAY BE REPLACED BY EQUIVALENT MATERIAL APPROVED BY EOR.

<sup>C</sup> GEOTEXTILE IS REQUIRED IN REGULATED WETLANDS AND AGRICULTURAL LANDS.

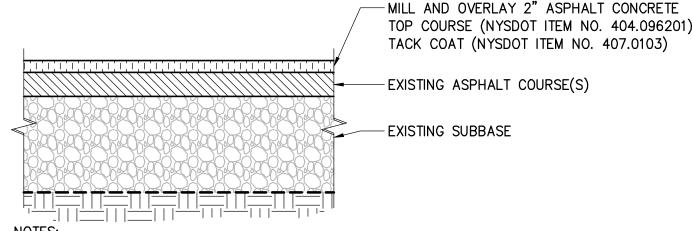
D GEOTEXTILE SEPARATOR FABRIC IS REQUIRED BENEATH GEOGRID ON COHESIVE SUBGRADE

A RIP RAP SHALL BE NYSDOT LIGHT STONE FILL OR APPROVED ALTERNATIVE.

B A LAYER OF #57 STONE IS RECOMMENDED ON TOP OF GEOTEXTILE TO PREVENT DAMAGING OR PUNCHING OF THE GEOTEXTILE FABRIC WHERE RIP RAP IS USED.



GRAVEL PAVEMENT



1. APPLY TACKCOAT TO MILLED SURFACE PRIOR TO PLACING ASPHALT

CONCRETE TOP COURSE. 2. ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS

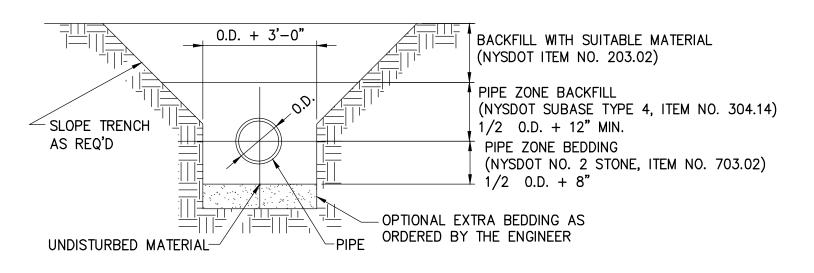
7 MILL AND OVERLAY ASPHALT CONCRETE PAVEMENT DETAIL

5 TEMPORARY ACCESS ROAD SCALE: N.T.S.

- COMPACTED SUBGRADE

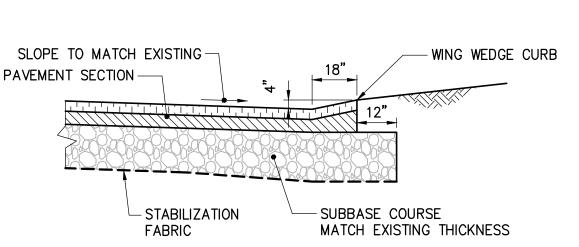
GEOGRID, AS REQUIRED<sup>6</sup>

- GEOTEXTILE FABRIC AND/OR



NOTES: 1. WHERE IDENTIFIED ON PLANS, CULVERT REPLACEMENTS AND/OR REPAIR TO BE COMPLETED IN ACCORDANCE WITH NYSDOT STANDARD SHEETS (NYSDOT STANDARD SHEET GROUP 603 CULVERTS AND STORM DRAINS AND NYSDOT BRIDGE DETAIL SHEETS BD-CB1 THRU BD-CB13)

CULVERT REPLACEMENT SCALE: N.T.S.



1. ALL MATERIALS TO MEET NYSDOT STANDARD SPECIFICATIONS

9 WING WEDGE CURB DETAIL SCALE: N.T.S.







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					<b>'</b>
0	06/19/2023	ISSUED FOR CONSTRUCTION SUBMISSION	BV	TK	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DR

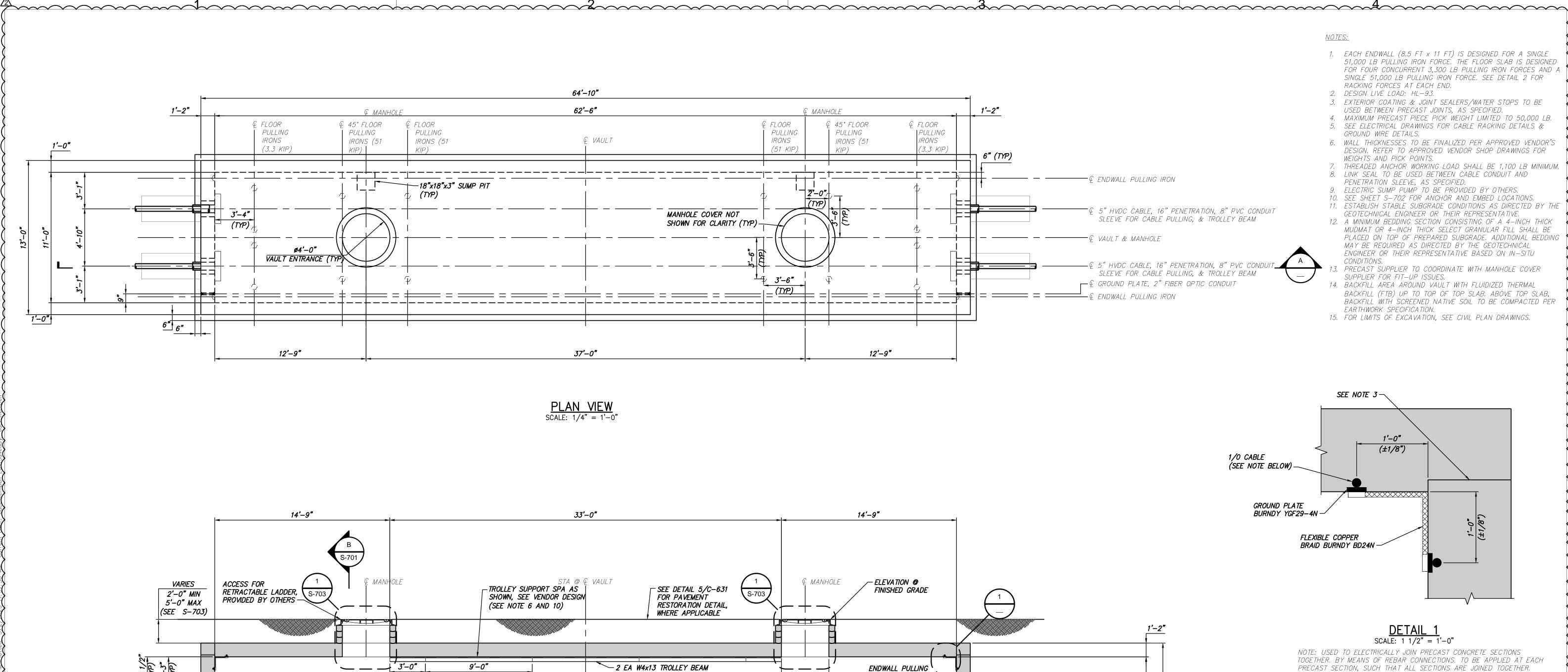
CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 11 (PACKAGE 7A) - CSX: CATSKILL SURFACE RESTORATION DETAILS

DESIGNED BY: BV APPROVED BY: TK REV. NO

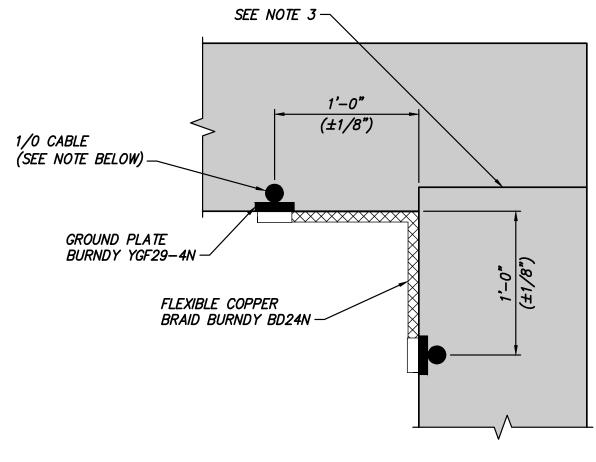
KIEWIT PROJECT NO. 21162 TT PROJECT NO. 204-3701 DRAWING NO.

AS SHOWN DATE

**C-631** 

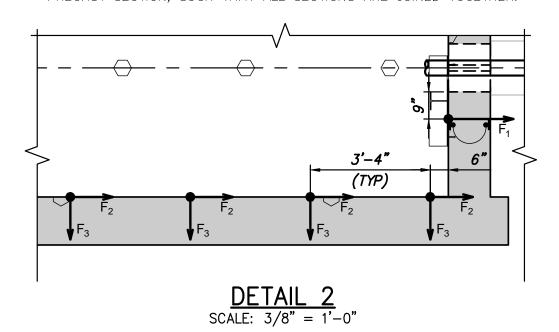


- 1. EACH ENDWALL (8.5 FT x 11 FT) IS DESIGNED FOR A SINGLE 51,000 LB PULLING IRON FORCE. THE FLOOR SLAB IS DESIGNED FOR FOUR CONCURRENT 3,300 LB PULLING IRON FORCES AND A SINGLE 51,000 LB PULLING IRON FORCE. SEE DETAIL 2 FOR RACKING FORCES AT EACH END.
- 3. EXTERIOR COATING & JOINT SEALERS/WATER STOPS TO BE
- USED BETWEEN PRECAST JOINTS, AS SPECIFIED. 4. MAXIMUM PRECAST PIECE PICK WEIGHT LIMITED TO 50,000 LB.
- 5. SEE ELECTRICAL DRAWINGS FOR CABLE RACKING DETAILS & GROUND WIRE DETAILS.
- 6. WALL THICKNESSES TO BE FINALIZED PER APPROVED VENDOR'S DESIGN. REFER TO APPROVED VENDOR SHOP DRAWINGS FOR
- 7. THREADED ANCHOR WORKING LOAD SHALL BE 1,100 LB MINIMUM.
- 8. LINK SEAL TO BE USED BETWEEN CABLE CONDUIT AND
- PENETRATION SLEEVE, AS SPECIFIED.
- 9. ELECTRIC SUMP PUMP TO BE PROVIDED BY OTHERS.
- 10. SEE SHEET S-702 FOR ANCHOR AND EMBED LOCATIONS. 11. ESTABLISH STABLE SUBGRADE CONDITIONS AS DIRECTED BY THE
- GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. 12. A MINIMUM BEDDING SECTION CONSISTING OF A 4-INCH THICK MUDMAT OR 4-INCH THICK SELECT GRANULAR FILL SHALL BE
- PLACED ON TOP OF PREPARED SUBGRADE. ADDITIONAL BEDDING MAY BE REQUIRED AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE BASED ON IN-SITU
- PRECAST SUPPLIER TO COORDINATE WITH MANHOLE COVER SUPPLIER FOR FIT-UP ISSUES.
- 14. BACKFILL AREA AROUND VAULT WITH FLUIDIZED THERMAL BACKFILL (FTB) UP TO TOP OF TOP SLAB. ABOVE TOP SLAB. BACKFILL WITH SCREENED NATIVE SOIL TO BE COMPACTED PER
- 15. FOR LIMITS OF EXCAVATION, SEE CIVIL PLAN DRAWINGS.



# SCALE: $1 \frac{1}{2} = 1'-0''$

NOTE: USED TO ELECTRICALLY JOIN PRECAST CONCRETE SECTIONS TOGETHER. BY MEANS OF REBAR CONNECTIONS. TO BE APPLIED AT EACH PRECAST SECTION, SUCH THAT ALL SECTIONS ARE JOINED TOGETHER.



NOTE: FORCES PROVIDED IN DETAIL 2 ARE PER CABLE AND ARE THE RESULT OF POST-INSTALLED CABLE RACKING EQUIPMENT. FORCES ARE POSITIVE IN THE DIRECTION IN WHICH THEY ARE DRAWN AND ARE ALIGNED WITH & HVDC CABLE. RACKING FORCES ARE NOT CONCURRENT WITH FLOOR PULLING IRON OR ENDWALL PULLING IRON FORCES. RACKING INSTALLED AT EACH END OF

THE VAULT, FORCES APPLIED SYMMETRICALLY AT EACH END.  $F_1 = 9.0 \text{ KIP}$   $F_2 = 2.3 \text{ KIP}$   $F_3 = 7.9 \text{ KIP}$ 



**Power Express** 

GROUND PLATE BURNDY YGF29-4N

EACH FACE (TYP)-

4/0 CABLE (TYP)-



1'-7 1/2"

(TYP)

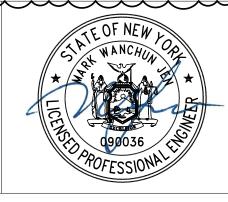
−18"x18"x3'

SUMP PIT

(TYP)

FLOOR PULLING

IRON (TYP)



SECTION VIEW A

THREADED ANCHOR INSERTS ON LONG WALLS

PRECAST VAULT

(SEE NOTE 6) —

(SEE NOTE 7 AND 10) (TYP)

OVER CONDUIT PATH

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ELEVATION @

BEDDING (SEE NOTES 11 AND 12)

PREPARED SUBGRADE AND

BOTTOM OF VAULT -

2	05/03/2023	RFC - VAULT UPDATES	JNK	00	_
1	02/10/2023	REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES	JNK	00	
0	12/21/2022	IFC SUBMISSION	JNK	00	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAV
	1 0	1 02/10/2023 0 12/21/2022	1 02/10/2023 REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES 0 12/21/2022 IFC SUBMISSION	1 02/10/2023 REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES JNK 0 12/21/2022 IFC SUBMISSION JNK	1         02/10/2023         REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES         JNK         OO           0         12/21/2022         IFC SUBMISSION         JNK         OO

DUCTBANK CAST

AGAINST VAULT -

Q 8" PVC CONDUIT SLEEVE TO BE CAST IN

PLACE WITH 10 DEGREE ANGLE.

PENETRATION, 2" FIBER OPTIC CONDUIT, THREADED

1'-4"

ANCHOR INSERTS

IRON (51KIP) (TYP)

4'-0"

# CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT PLAN AND ELEVATION

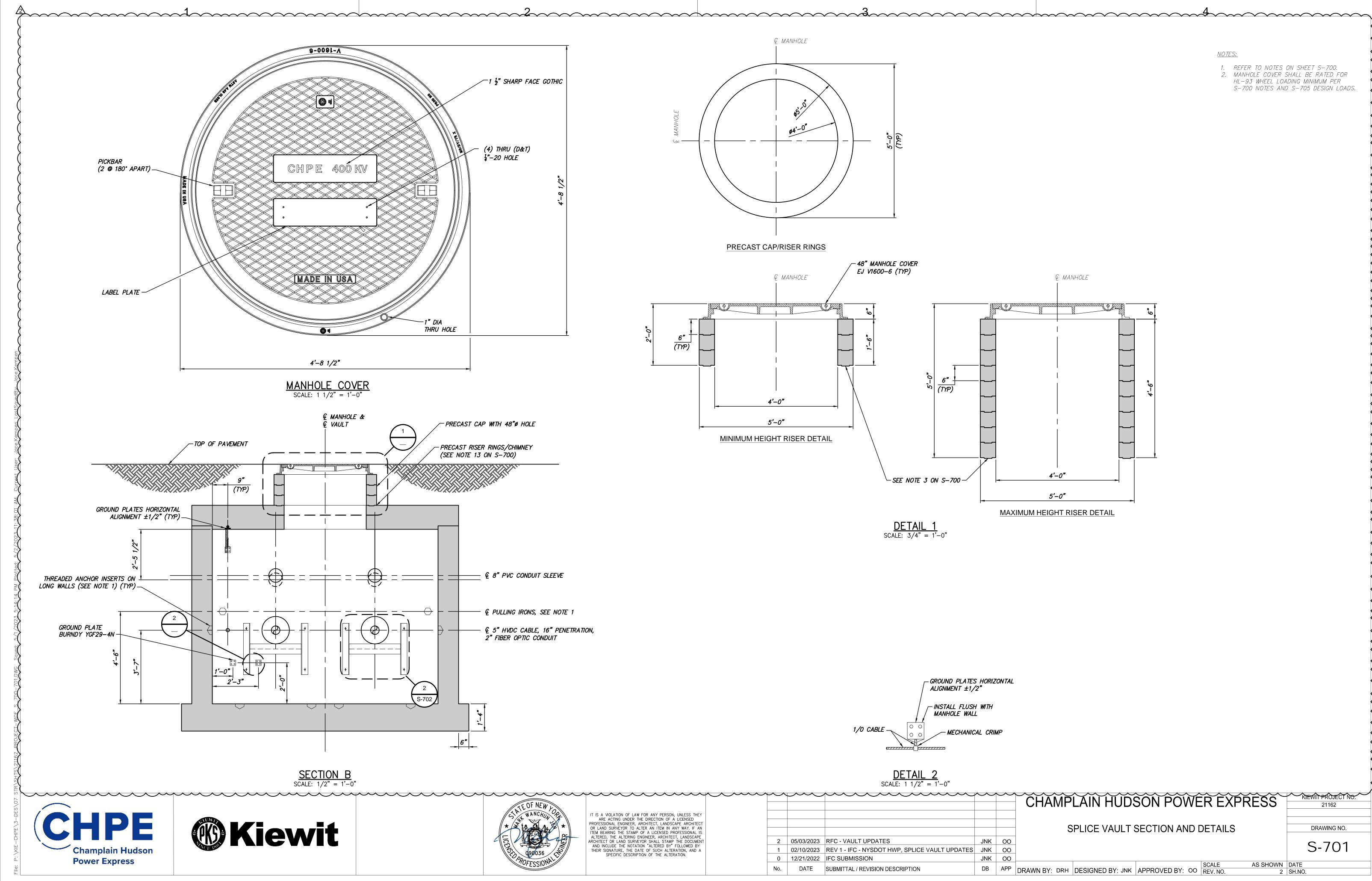
DRAWING NO.

S-700

KIEWIT PROJECT NO.

21162

AS SHOWN DATE AWN BY: DRH | DESIGNED BY: JNK | APPROVED BY: OO | REV. NO. 2 SH.NO.



NOTES:

REFER TO NOTES ON SHEET S-700.
 MANHOLE COVER SHALL BE RATED FOR
 HL-93 WHEEL LOADING MINIMUM PER
 S-700 NOTES AND S-705 DESIGN LOADS.

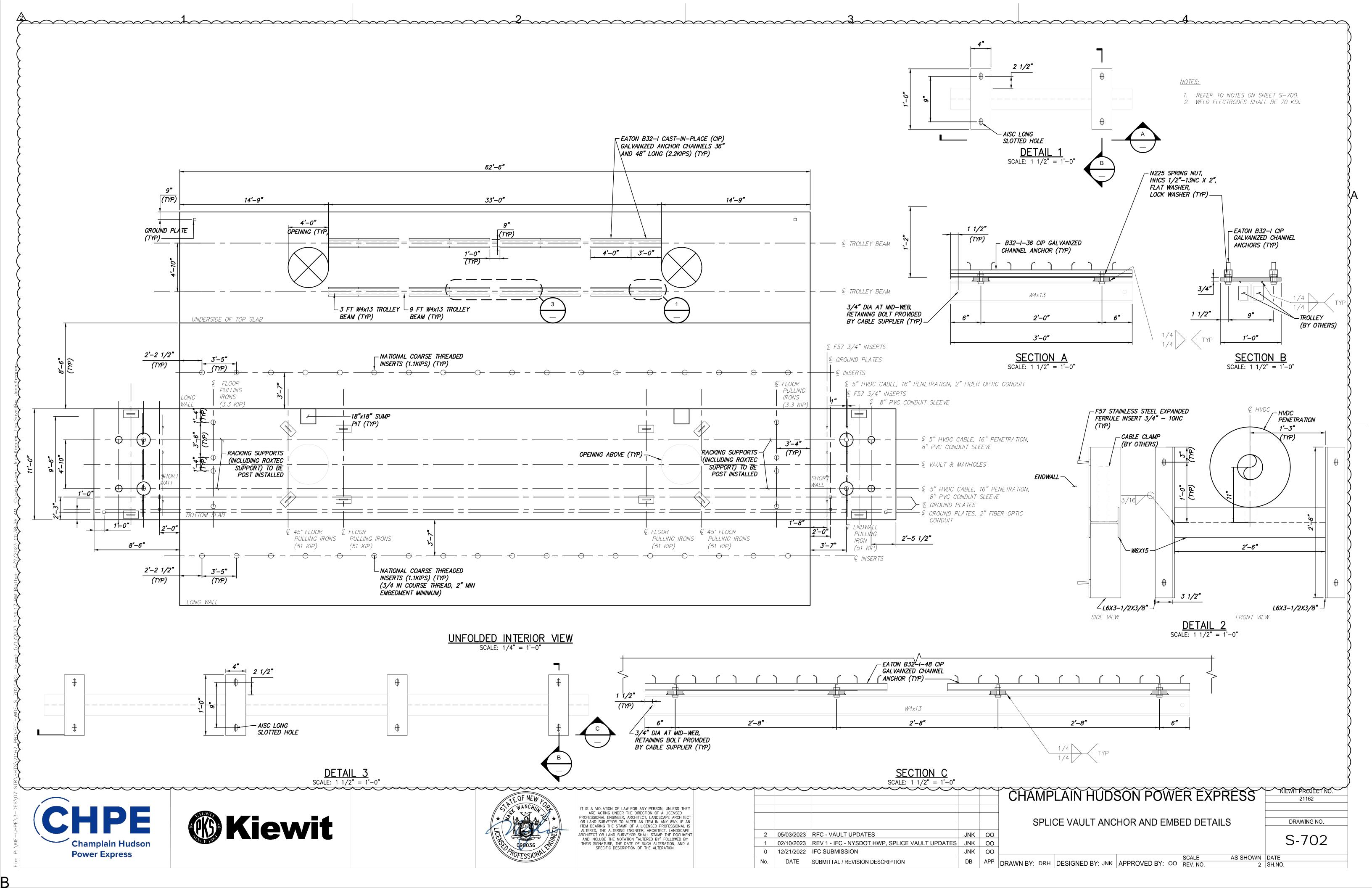
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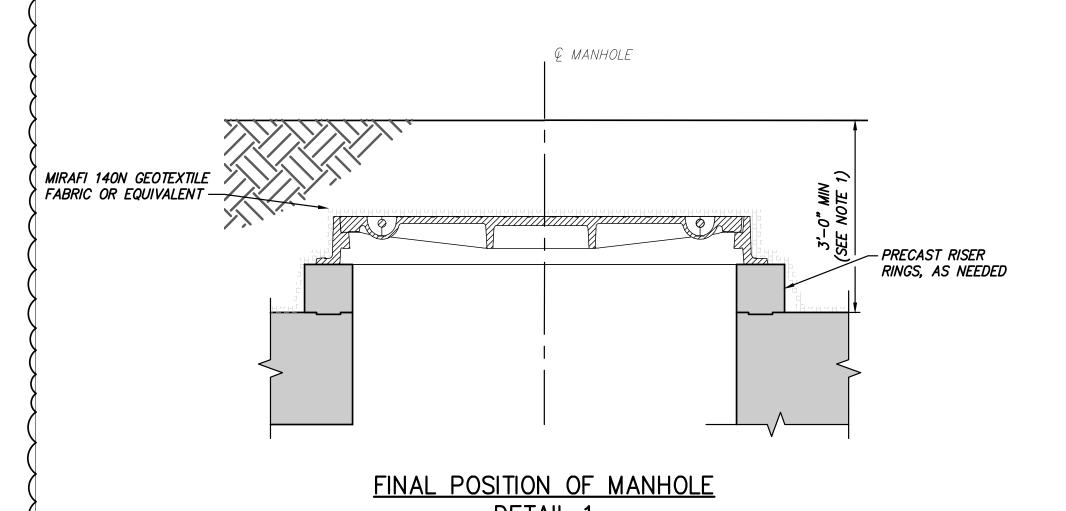
DRAWING NO.

S-701

AS SHOWN DATE

2 SH.NO.





<u>NOTES:</u>

1. FOR ALL SPLICE VAULT MANHOLES IN PACKAGES 1A AND 1B WITHIN DOT ROW OR UNDER PAVEMENT SECTION: AFTER CABLE COMMISSIONING, RISERS TO BE REMOVED, MANHOLE FRAMES AND COVERS TO BE LOWERED TO FINAL POSITION. MANHOLE COVER NOT TO EXTEND INTO PAVEMENT SECTION. MANHOLE FRAMES AND COVERS TO BE COVERED WITH 8'X 8' MIRAFI 140N GEOTEXTILE FABRIC OR EQUIVALENT. FULL DEPTH PAVEMENT WILL BE RESTORED PRIOR TO MILL AND OVERLAY AFTER CABLE COMMISSIONING.







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2	05/03/2023	RFC - VAULT UPDATES	JNK	00	
1	02/10/2023	REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES	JNK	00	
0	12/21/2022	IFC SUBMISSION	JNK	00	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	D
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CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT DETAILS

DRAWING NO.

S-703

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO REV. NO. 2 SH.NO.

**D** 

#### DESIGN SPECIFICATIONS

4. AREMA MANUAL FOR RAILWAY ENGINEERING, VOLUME 2 STRUCTURES, 2016 5. ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES DESIGN LOADS 1. DEAD LOADS 1.1. CONCRETE UNIT WEIGHT = 150 PCF 1.2. STEEL UNIT WEIGHT = 490 PCF 2. SUPERIMPOSED DEAD LOADS 2.1. WEIGHT OF TWO HVDC CABLES + ONE FIBER OPTIC CABLE AND ASSOCIATED CONDUIT = 47.53 PLF2.2. WEIGHT OF CABLE TRAY = 20.57 PLF2.3. PULLING IRON, TROLLEY BEAM, ANCHORAGE, EMBED FORCES NOTED ON DRAWINGS WHERE APPLICABLE. 3. EARTH LOADS 3.1. SOIL BACKFILL UNIT WEIGHT = 125 PCF 4. LIVE LOAD SURCHARGE 4.1. 100 PSF MINIMUM 5. LIVE LOADS 5.1. 300 PSF MINIMUM AT GROUND SURFACE OF TRENCH SECTIONS AND VAULTS. 5.2. HL-93 5.3. COOPER E-80 5.4. ANSI-SCTE TIER 22 (FOR HANDHOLES ONLY, SEE MATERIALS 7.1 BELOW) 6. WIND LOADS 6.1. 50 PSF TRANSVERSE 6.2. 10 PSF LONGITUDINAL 7. SNOW LOADS 7.1. 50 PSF 8. WATER 8.1. STRUCTURES ARE ASSUMED TO BE SUBMERGED. 9. THERMAL LOADS 9.1. STRUCTURES ARE SUBJECT TO THERMOMECHANICAL LOADING FROM HVDC CABLES. 9.2. TEMPERATURE GRADIENT. 10. SEISMIC LOADING 10.1. BURIED STRUCTURES ARE NOT SUBJECT TO SEISMIC PROVISIONS. MATERIALS: 1. REINFORCED CONCRETE 1.1. f'c = 4,500 PSI AT 28 DAYS, UNO1.2. F2 FREEZE-THAW CATEGORY WHERE NOTED

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020

2. NYSDOT LRFD BRIDGE DESIGN SPECIFICATIONS, 2021

3. NYSDOT LRFD BLUE PAGES, 2021

**Power Express** 

2. REINFORCING STEEL

3. STRUCTURAL STEEL 3.1. ASTM A36, UNO

4.1. ASTM A325, UNO

5.1. ASTM A563, UNO

6.1. ASTM F436, UNO 7. POLYMER CONCRETE

7.1. ANSI-SCTE 77 2017

8. REINFORCED THERMOSETTING RESIN CONDUIT

4. BOLTS

5. NUTS

9. PVC

6. WASHERS

8.1. NEC 355

9.1. SCH 40

2.1. ASTM A706, GRADE 60, UNO





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.

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	2	05/03/2023	RFC - VAULT UPDATES	JNK	00
	1	02/10/2023	REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES	JNK	00
	0	12/21/2022	IFC SUBMISSION	JNK	00
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#### ABBREVIATIONS:

APPR	APPROACH
BRG	BEARING
CIP	CAST IN PLACE
CL	CENTERLINE
CLR	CLEAR COVER
DIA	DIAMETER
EL	ELEVATION
G	GIRDER
HS	HIGH STRENGTH
ICS	INTERMEDIATE CONDUIT SUPPORT
ID	INSIDE DIAMETER
IPS	IRON PIPE SIZE
KSI	KIPS PER SQUARE INCH
LLV	LONG LEG VERTICAL
NOM	NOMINAL
OD	OUTSIDE DIAMETER
PC	PRECAST
PL	PLATE
PROT	PROTECTIVE
PVC	POLYVINYL CHLORIDE
RT	ROUTE
STA	STATION
SW	STANDARD WALL
T	THICKNESS
UNO	UNLESS NOTED OTHERWISE



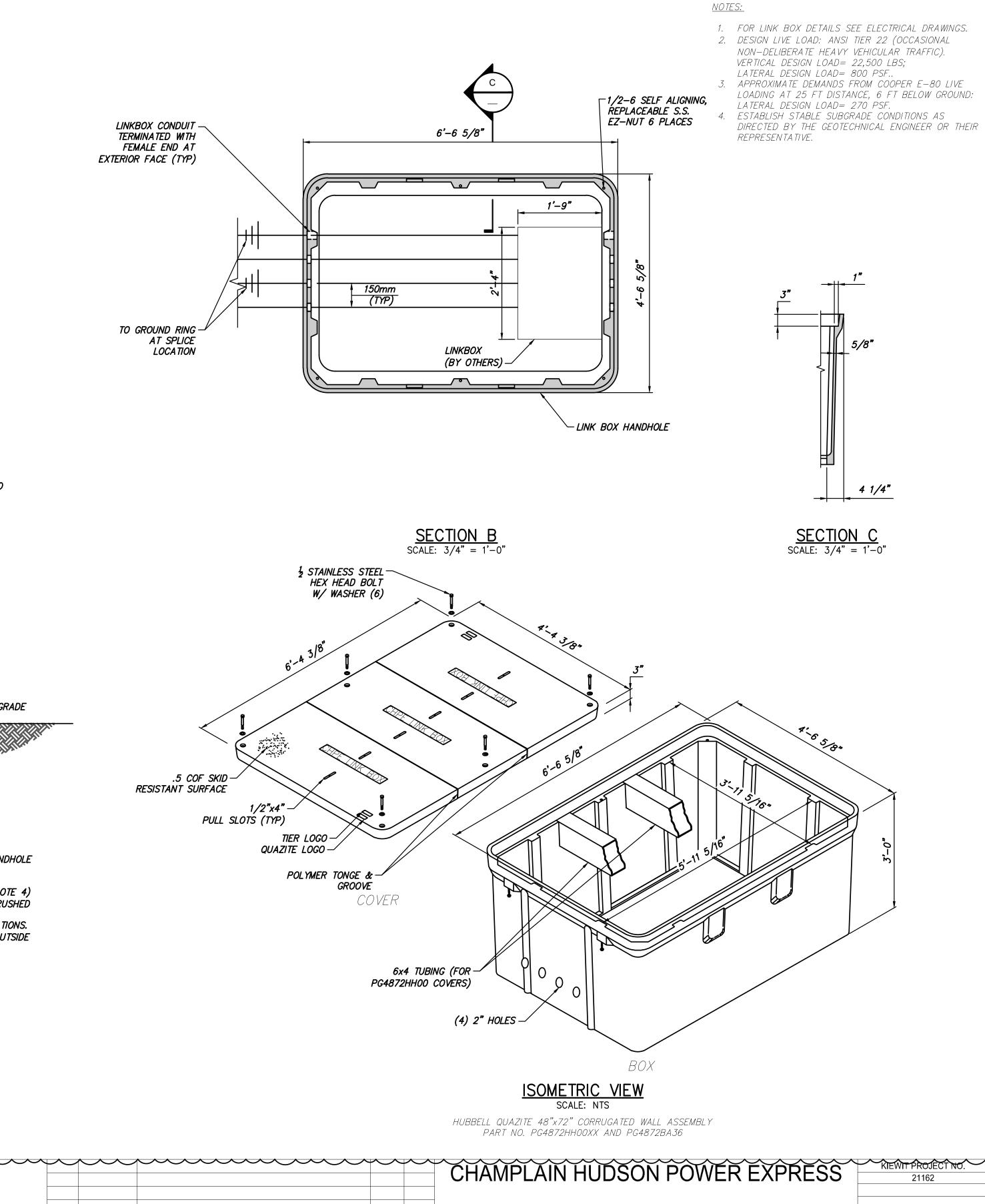
CHAMPLAIN HUDSON POWER EXPRESS

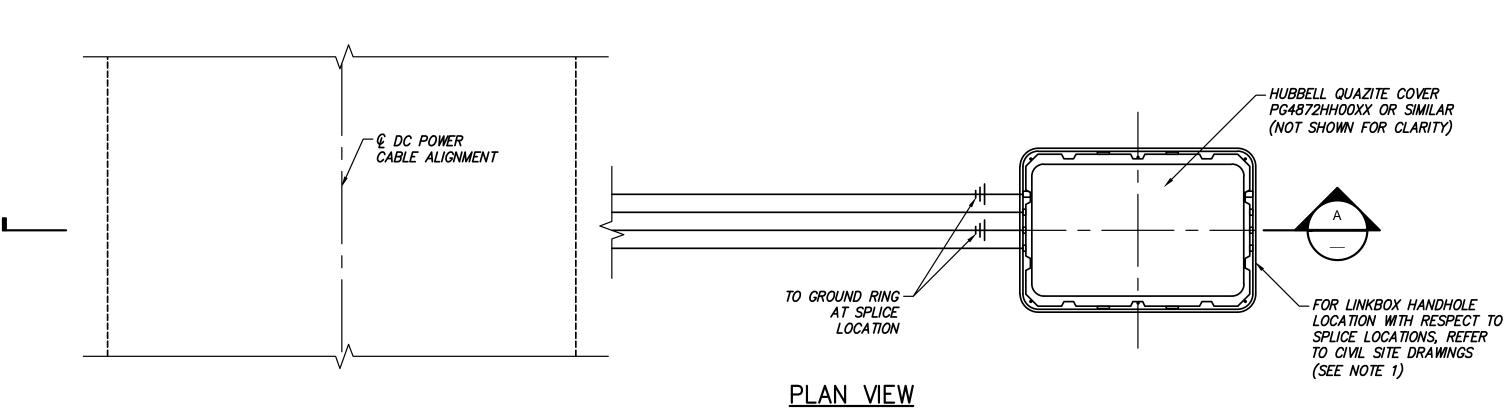
STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

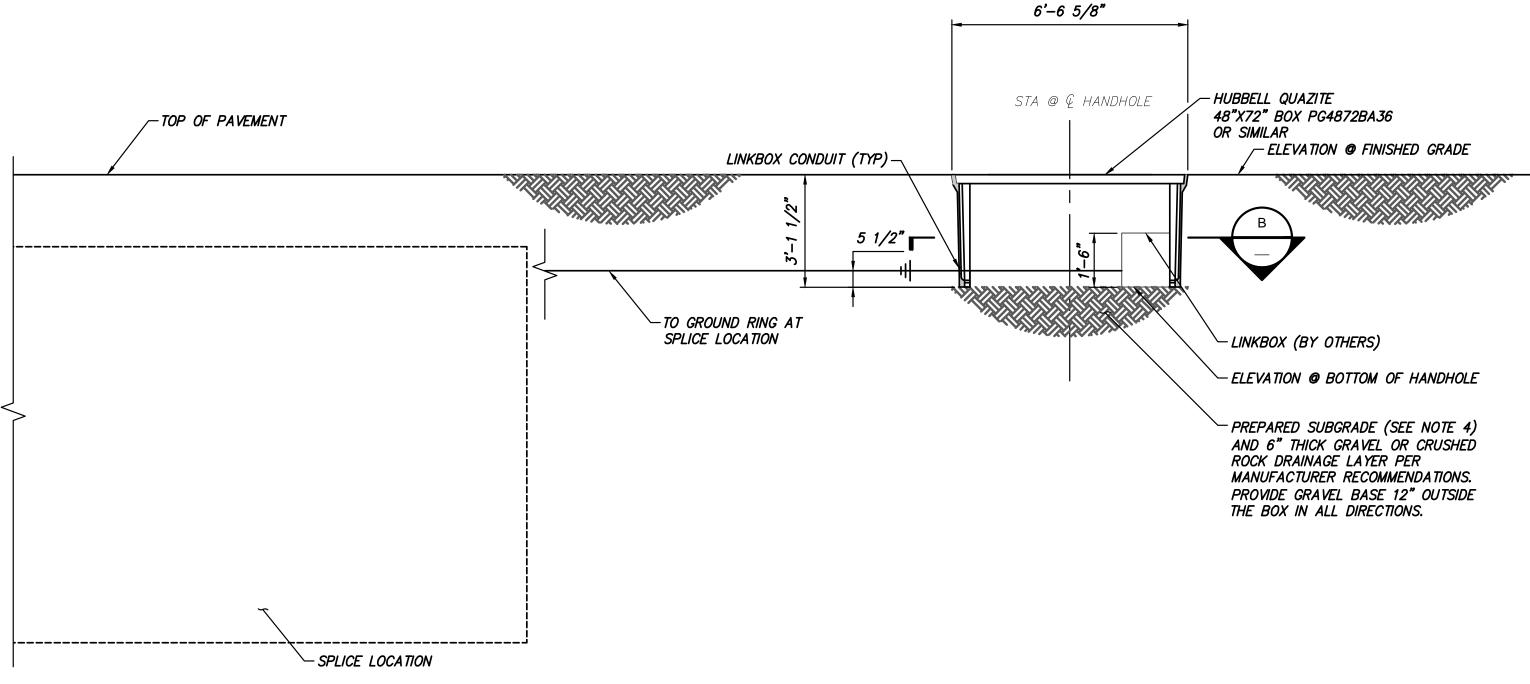
DRAWING NO. S-705

KIEWIT PROJECT NO.

AS SHOWN DATE DRAWN BY: DRH | DESIGNED BY: JNK | APPROVED BY: OO | REV. NO.







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

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







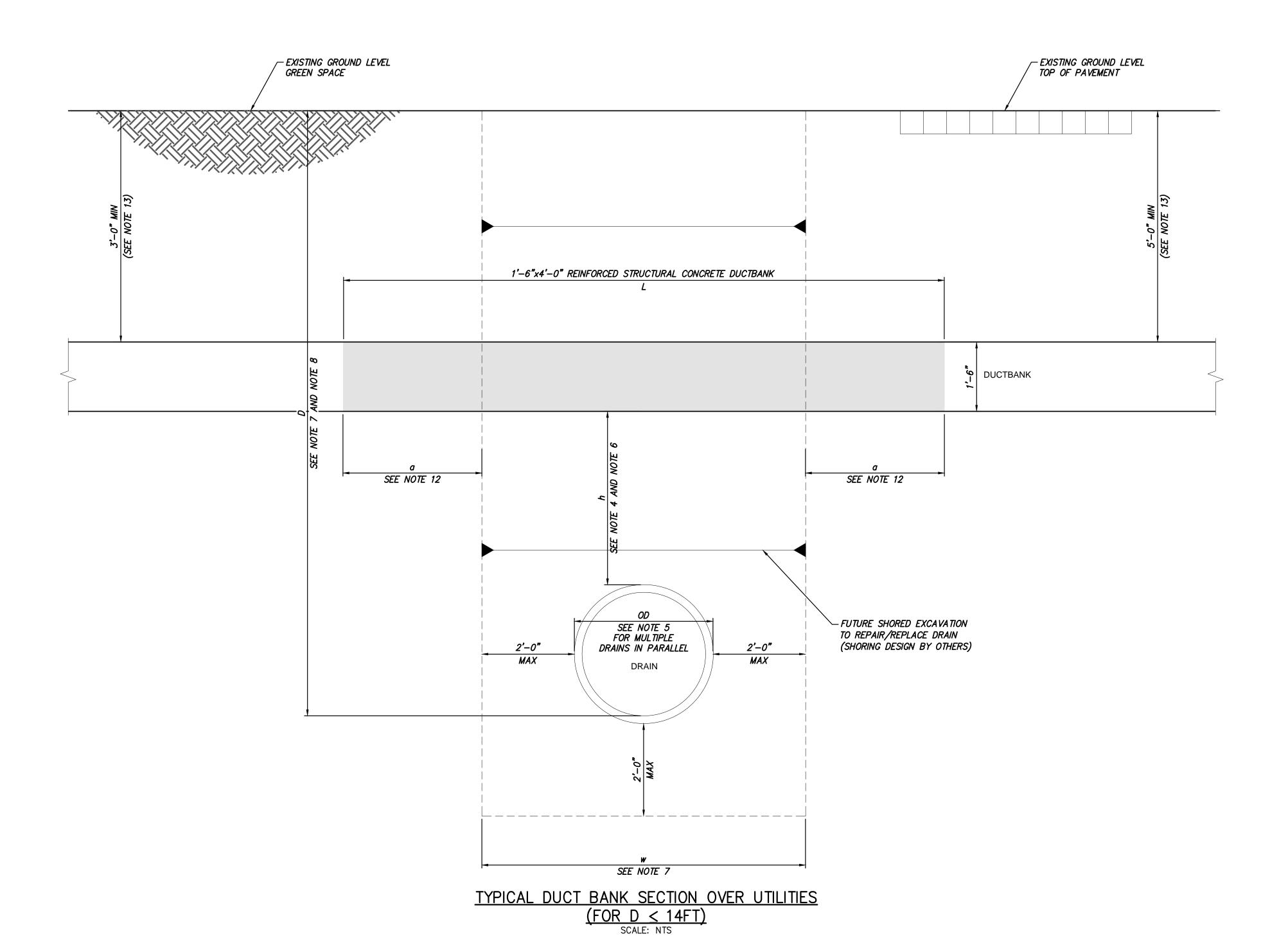
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS 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.

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2 05/03/2023 RFC - VAULT UPDATES 02/10/2023 REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES JNK OO 0 12/21/2022 IFC SUBMISSION DB | APP | DRAWN BY: DRH | DESIGNED BY: JNK | APPROVED BY: OO | REV. NO. DATE SUBMITTAL / REVISION DESCRIPTION

FRP LINK BOX HANDHOLES

DRAWING NO. S-711









IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED 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.

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	D
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#### NOTES:

- 1. TYPICAL SECTION AND FOLLOWING NOTES PROVIDED PROPOSED DESIGN CRITERIA TO BE APPLIED FOR DRAINS OR OTHER UTILITIES LOCATED BELOW THE DUCT BANK WITHIN THE NYSDOT RIGHT OF WAY AND/OR OTHER PRIVATE PROPERTY OWNERS AND JURISDICTIONS, PENDING APPROVAL.
- 2. EXCAVATION FOR / CONSTRUCTION OF FUTURE DRAIN REPAIRS/REPLACEMENTS, AND RELATED SHORING CALCULATIONS BY OTHERS.
- 3. D = DISTANCE FROM EXISTING GROUND LEVEL TO DRAIN INVERT.
- 4. h = DISTANCE FROM BOTTOM OF TRENCH PROTECTIVE CONCRETE/BOTTOM OFBRIDGING SUPPORT, TO TOP OF EXISTING DRAINAGE PIPE.
- 5. FOR SINGLE PIPE, OD = OUTSIDE DIAMETER OF PIPE; FOR MULTIPLE PIPES IN
- PARALLEL, OD = DISTANCE BETWEEN OUTSIDE EDGES OF EXTERIOR PIPES. 6. REFER TO CIVIL PLAN & PROFILE DRAWINGS FOR VALUE OF "h".
- 7. FOR D≤14FT, ALL FUTURE EXCAVATIONS TO REPAIR/REPLACE EXISTING DRAINAGE PIPES WILL BE SHORED EXCAVATION, WITH MAXIMUM EXCAVATION WIDTH OF
- w=2FT+OD+2FT (DESIGN/CONSTRUCTION BY OTHERS). 8. FOR D>14FT, TRENCH-LESS METHOD WILL BE USED TO REPAIR/REPLACE EXISTING DRAINAGE PIPES (DESIGN/CONSTRUCTION BY OTHERS).
- 9. BRIDGING SUPPORT IS PROVIDED OVER LENGTH L = w+2a.
- 10. BRIDGING SUPPORT IS NOT PROVIDED WHEN D>14FT.
- 11. BRIDGING SUPPORT IS DESIGNED TO CARRY DUCT BANK WEIGHT, ONLY. SOIL
- ABOVE THE DUCT BANK IS REMOVED BEFORE EXCAVATING UNDER THE DUCT BANK. 12. "a" DIMENSION IS 3'-0" MINIMUM.
- PER GEOTECHNICAL TRENCH REPORT, 1.5 KSF MINIMUM BEARING CAPACITY ASSUMED.
- 13. SEE NOTE 11/S-721, SPECIFIC TO PACKAGE 8: FOR STA. 80000+50 TO 80001+50 (ADJACENT TO WILLIS AVE. BRIDGE), MINIMUM
- COVER IS 2'-0". TYPICAL COVER IN PACKAGE 8 IS 3'-0" MINIMUM.

## CHAMPLAIN HUDSON POWER EXPRESS

REINFORCING TRAY OVER UTILITIES

DRAWING NO.

S-720

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO REV. NO.