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Ser Start	ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT						1
AND AND AND	OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN						1
	ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE						-
	ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY						-
094103	THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					<u> </u>	-
POFESSIONAL		0	9/21/2022	FINAL EM&CP SUBMISSION	JNK	00	╞
9/21/2022		No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	D
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NOTES:

- FOR ADDITIONAL DESIGN PARAMETERS SEE SPECIFICATIONS.
- ALL GROUND CONNECTIONS SHALL BE IRREVERSIBLE COMPRESSION CONNECTION UNLESS OTHERWISE NOTED.
- A BARE COPPER CONDUCTOR GROUND RING SHALL BE FURNISHED AND INSTALLED AND SHALL BE 3 MOUNTED BETWEEN 6" AND 12" ABOVE THE VAULT FINISHED FLOOR AND 3 TO 4 INCHES FROM CENTER OB BARE COPPER CONDUCTOR TO VAULT WALL.
- 4. LINK BOX WILL CONTAIN FOUR DISCONNECTING LINKS, AS PROVIDED BY VENDOR.
- POLYWATER FST SHALL BE USED TO SEAL CONDUIT.
- ALL STEEL MEMBERS AND HARDWARE TO BE ASTM 304 STAINLESS STEEL.
- RESISTANCE OF GROUND GRID MEASURED RELATIVE TO DEEP EARTH SHALL BE 10 OHMS OR LESS. LENGTH AND NUMBER OF GROUND RODS TO BE DETERMINED BASED ON MEASURED GROUND ROD RESISTANCE.

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09/16/2022

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- KIEWIT HAS PROVIDED GROUNDING AS PER NKT REQUIREMENTS. NO OTHER ELECTRICAL SYSTEM 8. DESIGN HAS BEEN INCLUDED BY KIEWIT.
- 9. ALL SPLICE VAULT SECTIONS TO BE GROUNDED USING GROUND PLATE CONNECTION DETAIL.

	BILL OF	IVIA I EKIALS		
EM IO.	ITEM DESCRIPTION	MANUFACTURER & CATALOG NO.	PROVIDER	INSTALLER
1	LINK BOX	NKT LB.U.E.2.1	NKT	KIEWIT
2	INSULATED COAX BONDING CABLE	AS REQUIRED	NKT	NKT
3	BARE 4/0 GROUND CABLE	AS REQUIRED	KIEWIT	KIEWIT
4	GROUND CONNECTOR	BURNDY GB29	KIEWIT	KIEWIT
5	FEMALE WEDGE ANCHOR	GRAINGER 12DWG	KIEWIT	KIEWIT
6	COMPRESSION CROSS GRID CONNECTOR	BURNDY YGL29C29	KIEWIT	KIEWIT
7	COMPRESSION C CONNECTOR	BURNDY YGHC29C29	KIEWIT	KIEWIT
8	COMPRESSION CONNECTION TO GROUND ROD	BURNDY YGL34C29	KIEWIT	KIEWIT
9	3/4" X 10'-0" GROUND ROD	NVENT ERICO 613400	KIEWIT	KIEWIT
10	BRASS HEX HEAD CAP SCREW	GRAINGER 1YB51	KIEWIT	KIEWIT
11	POLYWATER FST SEALANT	POLYWATER	KIEWIT	KIEWIT
12	FOUR-HOLE GROUNDING PLATE	BURNDY YGF294N	KIEWIT	KIEWIT
13	GROUNDING BUSBAR & ASSEMBLY	NVENT ERICO EGBA14210BB	KIEWIT	KIEWIT
14	ONE HOLE LUG COMPRESSION TERMINAL	BURNDY YAV28L60	KIEWIT	KIEWIT
15	TWO HOLE LONG BARREL LUG	BURNDY YA282N	KIEWIT	KIEWIT
16	UNISTRUT AND SUNDRIES	STAINLESS STEEL	NKT	NKT
17	FLEXIBLE COPPER BRAID	BURNDY BD24N	KIEWIT	KIEWIT
18	BRASS HEX NUT	GRAINGER 1WE22	KIEWIT	KIEWIT
IST	REFERENCE	DOCUMENTS	NITTES.	
10.		DOCUMENT	NO.	
1	STRUCTURAL VAULT DRAWING	S-700		
2	GROUNDING SPECIFICATIONS	260526.01		
	14 ONE-HOLE COMPRESSION CONNECTOR DETAIL F			
	NOT TO SCALE			
Cl	HAMPLAIN HUDSON PO	WER EXPRESS		21162
			CHA P	ROJECT NO.
	TYPICAL VAULT GROUND	ING DETAILS	DRA	WING NO.
				000
			C .	KOX

NOT TO SCALE DATE

SH.NO.



CHA III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 . www.chacompanies.com

Kiewit

Champlain Hudson

Power Express

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J. J	THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A						
703646	SPECIFIC DESCRIPTION OF THE ALTERATION.	0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	SD	ASM	╞
FESSION A discharge R. Wheeler P.E. Ublack on Experience Group FESSION A discharge R. Wheeler P.E. Ublack on Experience Group Reach 1 an approving this document Date: 3022015 15		No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DF

				KIEWIT	PROJECT NO.		
		JOIN FOUL			21162		
				CHA PROJECT NO.			
				066076			
	MANHOLE	MARKING DET	AILS	DRAWING NO.			
				C-	807		
			SCALE	DATE	09/16/2022		
RAWN BY: DLM	. DESIGNED BY: S□	● APPROVED BY: ASM	REV. NO.	SH NO.	OF XXX		

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Albany, NY 12205-0269 518.453.4500 . www.chacompanies.com



FIBER OPTIC SLACK ENCLOSURE

NOT TO SCALE



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NC 1.

LIST NO. 1

2 3

DETAIL 2 FIBER OPTIC SPLICE CLOSURE

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NOTE: TO BE INSTALLED AS REQUIRED. SEE DRAWING (LATER) FOR LOCATIONS

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NOTES:

1. NKT TO LASH/CLAMP FIBER OPTIC CABLE AND ATTACH SPLICE CLOSURES AS NEEDED.

2. SPLICE CLOSURE ONLY AT SPECIFIED LOCATIONS. SEE PLAN AND PROFILE.

REFERENCE DOCUMENTS

DOCUMENT NAME	DOCUMENT NO.
SPLICE VAULT PLAN AND ELEVATION	S-700
SPLICE VAULT SECTION AND DETAILS	S-701
SLACK ENCLOSURE DIAGRAM	C-856

SECTION A-A NOT TO SCALE



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48 FIBERS

FIBER OPTIC CABLE SPLICE DIAGRAM TYPICAL NOT TO SCALE













FIBER OPTIC CABLE SPLICE DIAGRAM AT DTS HUT NOT TO SCALE

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for EMCP approval only

NOTES:

1. GROUNDING DETAILS. TBD.

- 2. MAINTAIN 18" SWEEPS ON ALL CONDUITS.
- 3. DTS HUT FIBERS WILL SPLICE TO BLUE TUBE FIBER COLORS BLUE, ORANGE, GREEN AND BROWN.

48 FIBERS

KIEWIT PROJECT NO. CHAMPLAIN HUDSON POWER EXPRESS 21162 CHA PROJECT NO. 066076 FIBER OPTIC SPLICE DIAGRAM DRAWING NO. **C-855** AWN BY: тјмо DESIGNED BY: мк APPROVED BY: XX REV. NO. 09/16/2022 OF XXX DATE SH.NO.











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103646	THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.	C) 09/	16/2022	EM&CP REGULATORY RE-SUBMISSION	DM	MK	L
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NOTES:

- 1. DO NOT KINK OR TWIST FIBER OPTIC CABLE.
- 2. IN VAULT PULL FROM DISTANT MANHOLE THEN COIL AND PLACE IN THE FIBER OPTIC SLACK ENCLOSURE.

REFERENCE DOCUMENTS

ST O.	DOCUMENT NAME	DOCUMENT NO.
1	TRANSITION VAULT WITH FIBER OPTIC DETAILS	C-850
2	ENCLOSED VAULT WITH FIBER OPTIC DETAILS	C-852

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2 TYPICAL DUCTBANK IN ROADWAY - HORIZONTAL SEPARATION





Not for Construction, for EMCP approval only



EXIST. UTILITY (DEPTH AND DIAMETER VARIES/TO BE CONFIRMED PRIOR TO CONSTRUCTION) -













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0	09/21/22	FINAL EM&CP SUBMISSION	WSO		
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APPENDIX A

NYSDOT STANDARD SHEETS

NOT FOR CONSTRUCTION FOR EM&CP PERMIT ONLY



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1. ALL POSTS SHALL BE S3 X 5.7 ROLLED STEEL SECTION. THE ANCHOR POST STUB SHALL BE S3 X 7.5.

2. WHERE THE RAIL IS PARALLEL TO THE EDGE OF THE PAVEMENT, EVERY SIXTH (6TH) POST STARTING WITH THE FIRST SHALL BE REFLECTORIZED. DO NOT REFLECTORIZE POSTS IN THE INTERMEDIATE ANCHORAGE SECTION, TYPICAL APPROACH AND TERMINAL SECTION, OR WHEN USED AS A MEDIAN BARRIER.

3. REFLECTORS SHALL BE ALUMINUM ALLOY 1/16 " THICK WITH REFLECTIVE SHEETING. THE REFLECTIVE SHEETING SHALL BE WHITE WHEN INSTALLED ON THE RIGHT SIDE OF TRAFFIC AND FLUORESCENT YELLOW WHEN ON THE LEFT.

4. STAGGER CABLE SPLICES. PROVIDE A MINIMUM OF 20' BETWEEN ANY PAIR. PROVIDE A MINIMUM OF 100' BETWEEN CABLE SPLICES ON THE SAME CABLE.

5. FOR ARRANGEMENT OF SPRING CABLE END ASSEMBLIES (COMPENSATING DEVICE) AND TURNBUCKLE CABLE END ASSEMBLIES, THE FOLLOWING CRITERIA SHALL APPLY:

LENGTH OF CABLE RUN -LENGTH OF CABLE RUNS UP TO 1000' - USE COMPENSATING DEVICE (DETAIL B) ON ONE END, AND TURNBUCKLE (DETAIL A) ON THE OTHER END OF EACH INDIVIDUAL

CABLE. -LENGTH OF CABLE RUNS 1000' TO 2000' - USE COMPENSATING DEVICE (DETAIL B) ON THE ENDS OF EACH INDIVIDUAL CABLE. -LENGTH OF CABLE RUNS 0VER 2000' - START A NEW STRETCH BY INTERLACING AT LAST PARALLEL POST (SEE TYPICAL INTERMEDIATE ANCHORAGE DETAILS).

PRIOR TO FINAL ACCEPTANCE BY THE STATE, THE FOLLOWING VALUES SHALL BE USED TO TIGHTEN THE TURNBUCKLES, DEPENDING ON THE TEMPERATURE AT THE TIME OF

	TEMPERATURE (DEGREES FARENHEIT)											
09 0 00	99 TO 90	89 TO 80	79 T0 70	69 TO 60	59 T0 50	49 TO 40	39 TO 30	29 T0 20	19 TO 10	9 TO 0	-1 T0 -10	-11 T0 -20
[NG	NG COMPRESSION FROM UNLOADED POSITION IN EACH SPRING - MEASURED IN INCHES											
1/4	11/2	1¾	2	21/4	21/2	23/4	3	31/4	31/2	3¾	4	41/2

6. THE CONCRETE ANCHOR SHALL BE SET INTO THE EXCAVATION AS DETAILED. THE BOTTOM OF THE ANCHOR SHALL HAVE A FULL AND EVEN BEARING ON THE SURFACE UNDER IT. BACK FILL IN ACCORDANCE WITH THE REQUIREMENTS OF §203-3.15 "FILL AND BACK FILL AT STRUCTURES, CULVERTS, PIPES, CONDUITS, AND DIRECT BURIAL

7. RAIL MOUNTING HEIGHT IS TO BE MEASURED FROM PAVEMENT IF OFFSET BETWEEN PAVEMENT AND CURB IS ≤ 12" AND FROM GROUND BENEATH RAIL IF OFFSET > 12".

8. LIFTING DEVICES, IF EMBEDDED IN CONCRETE, SHALL BE RATED BY THEIR MANUFACTURER AS HAVING A "SAFE WORKING LOAD" OF FOUR TONS (4 TONS).

9. AT ALL LOCATIONS WHERE THE CABLE IS CONNECTED TO A CABLE SOCKET WITH A WEDGE TYPE CONNECTION, ONE WIRE OF THE WIRE ROPE SHALL BE CRIMPED OVER THE BASE OF THE WEDGE TO HOLD IT FIRMLY IN PLACE.

10. CABLE ENDS SHALL BE FABRICATED FROM MALLEABLE IRON (§715-09) OR CAST STEEL (§715-02). THE CABLE SPLICE AND WEDGE SHALL BE FABRICATED FROM MALLEABLE IRON OR ASTM A536 DUCTILE IRON GRADE 65-45-12.

	STATE DEPARTMENT	OF NEW YORK OF TRANSPORTATION
	U.S. CUSTOMARY STANDARD SHEET	
	CABLE GUIDE RAILING (SHEET 1 OF 3)	
	APPROVED FEBRUARY 14, 2012	ISSUED UNDER EB 12-003
1: EFF. 05/01/18 WITH EB 18-003	DEPUTY CHIEF ENGINEER DESIGN (ACTING)	606-01





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DEPUTY CHIEF ENGINEER DESIGN (ACTING)

606-01