

Utah Transit Authority
 669 West 200 South
 Salt Lake City, Utah 84101
 Phone: (801) 741-8885
 Fax: (801) 741-8892



CHANGE ORDER

No. 9

TITLE: C3M - Option 1 and 2 Feeder Cable Replacement
 PROJECT/CODE: SGR397 - TPSS Component Replacement
 TO: C3M
 ATTN: Salvador Benitez

DATE: 4/15/2022
 This is a change order to CONTRACT No: 20-03378VW

DESCRIPTION OF CHANGE: Brief scope, references to scope defining documents such as RFIs, submittals, specified drawings, exhibits, etc.

The following change order refers to the execution of Option 1 and Option 2 of the TPSS Rehabilitation Contract with respect to the replacement of the positive parallel underground feeder between TPSS SRD1 (Delta Center) and the end of the single contact wire section at 700 S (STA 750+02). Options 1B and 1C will replace the positive feeder cables originating from SRT2 (300 S) and SRD1 (Delta Center), respectively. Option 2L and 2M will replace the negative return cables from the wayside to SRT2 (300 South) and SRD1 (Delta Center), respectively.

This change order will also incorporate the replacement of underground positive and negative TPSS feeders for substations E1, E2, and SRS11. Inspection and testing of the TPSS Feeders found that certain cables need to be replaced for safe operations. Field testing found that TPSS Units E1 and E2 had defective positive cables and SRS11 had negative return cable issues. Therefore, this PCO will seek to execute Options 1D (for E1 positive), 1E (for E2 positive), and 2D (for SRS11 negative return).

Also, a change of cable material is sought for this PCO for all positive traction power feeder cables throughout the project. The original contract for the TPSS Rehabilitation Project specified rigid cables for positive feeders (solid cable, not stranded), but specified flexible stranded cable for negative feeders. UTA Systems group is seeking to change the cable material for all positive feeder cables throughout the project to reflect those used for the negative feeders for uniformity, ease of installation, and as a new general policy.

Direction or Authorization to Proceed (DAP) previously executed: YES ___ NO X

It is mutually agreed upon, there is a schedule impact due to this Change order: YES ___ NO X

The amount of any adjustment to time for Substantial Completion and/or Guaranteed Completion or Contract Price includes all known and stated impacts or amounts, direct, indirect and consequential, (as of the date of this Change Order) which may be incurred as a result of the event or matter giving rise to this Change Order. Should conditions arise subsequent to this Change Order that impact the Work under the Contract, including this Change Order, and justify a Change Order under the Contract, or should subsequent Change Orders impact the Work under this Change Order, UTA or the Contractor may initiate a Change Order per the General Provisions, to address such impacts as may arise.

Current Change Order		Contract		Schedule	
Lump Sum:	\$2,563,081	Original Contract Sum:	\$38,077,408	Final Completion Date Prior to This Change:	4/11/2025
Unit Cost:	-	Net Change by Previously Authorized Changes:	\$3,413,990	Contract Time Change This Change Order (Calendar Days):	0
Cost Plus:	-	Previous Project Total:	\$41,491,398	Final Completion Date as of This Change Order:	4/11/2025
T&M NTE:	-	Net Change This Change Order:	\$2,563,081		
Total:	\$2,563,081	Current Project Total:	\$44,054,479		

ACCEPTED Signed by:
 By: Salvador Benitez Jr.
 Date: 5/13/2022

Salvador Benitez
 C3M

By: _____
 Date: _____
Jared Scarbrough
 Project Manager <\$25,000

By: _____
 Date: _____
Jared Scarbrough
 Acting Dir. of Capital Construction <\$75,000

By: _____
 Date: _____
Mary DeLoretto
 Chief Service Dev Officer <\$200,000

By: _____
 Date: _____
Brian Motes
 Procurement

By: _____
 Date: _____
Michael Bell
 Legal Review

By: _____
 Date: _____
Jay Fox
 Executive Director >\$200,000



Change Order Summary Worksheet
Previously Authorized Changes

Contract **20-03378VW C3M**

Change Order No	Date	Amount of CO	Running Contract Total	Subject
Original Contract			\$38,077,408	
1	7/9/2021	\$0	\$38,077,408	Amendment #1
2	8/20/2021	\$0	\$38,077,408	Amendment #2
3	3/18/2022	\$82,684	\$38,160,092	One Click and Trip (Impulse)
4	3/18/2022	\$2,694,731	\$40,854,823	Two (2) Additional DC Breakers
5	3/18/2022	\$121,766	\$40,976,589	Atwood Three (3) Additional Tie-Switches
6	3/18/2022	\$94,192	\$41,070,781	300 South Bypass Switches
7	4/15/2022	\$101,525	\$41,172,306	C3M - Midvale Shop ETS Trip
8	4/15/2022	\$319,092	\$41,491,398	C3M - OCS Overlap Conversion
Total to Date		\$ 3,413,990		



C3M Power Systems Change Proposal

Utah Transit Authority
669 West 200 South
Salt Lake City, UT, 84101

4/5/2022

ATTN: Jared Scarbrough

21036M1 UTA SOGR TPSS REHAB
C3M Contract #20-03378 CCN #810013

SUBJECT: Option 1 & 2 Feeder Cable Replacement

REFERENCE: Utah Transit Authority Construction Change Directive #

Dear Mr. Jared Scarbrough:

We propose to furnish and install the necessary electrical work in accordance with the above reference(s) in addition to our electrical contract price for the sum of **\$2,563,081.28**. Please see the accompanying documentation to substantiate this proposal.

Regarding the project construction schedule, this additional work will require an extension of time of **00** calendar days. Our costs associated with our request for time extension are included in our proposal. Costs associated with preparing modification of the contract schedule program are excluded from our quotation.

We need to be advised that the proposed change will proceed or has been cancelled in order for us to coordinate our electrical installation with the work of other trades. We will be pleased to proceed with this work upon receipt of your change order in the above amount.

Sincerely,

Salvador Benitez Jr
Project Manager
salvador.benitezjr@c3mpowersystems.com

C3M Power Systems, LLC
1030 Hampton Park Boulevard, Suite 200
Capitol Heights, Maryland , 20743
240-319-2322

ORIGINAL



C3M POWER SYSTEMS CHANGE PROPOSAL

CCN# 810013
 Date: 4/5/2022
 Project Name: 21036M1 UTA SOGR TPSS REHAB
 Project Number: 21036M1 UTA SOGR TPSS REHAB

Work Description

Our Scope Includes the Following:

- Price proposal includes the current unit pricing to remove and reinstall the Positive and Negative DC Feeder Cables identified during the feeder cable assessments. The options being exercised by UTA are as follows: Option 1B - SRT2 300 S , Option 1C - SRD1 Delta Center, Option 1D - E1 200 E, Option 1E - E2 900 E, Option 2D - SRS11 Sugar Hwy, Option 2L - SRT2 300 S, and Option 2M - SRD1 Delta Center
- Option 1B SRT 300S will be replaced complete. This includes the parallel feeders that interface with SRD1 Delta Center.
- Option 1C SRD1 Delta Center replaces the positive feeders complete.
- Option 1D - E1 200 E will only replace a set of 3-500s that are feeding from DS-8 at the pad mounted disconnect to the OCS feeder pole at STA. 22+44.
- Option 1E - E2 900 E will only replace a set of 3-500s from DC Feeder Breaker F1 to the pad mounted disconnect switch DS-16.
- Option 2D - SRS11 Sugar Highway will only replace a set of 6-500s from the negative cubicle to the termination on the northbound tracks.
- Option 2L SRT 300 S and Option 2M - SRD1 Delta Center will be replaced complete.
- Pricing also includes the cost associated with changing the DC Feeder Cable specification from a B Class to a G Class Flexible Strand. For all 500 MCM cables, both positive and negative shall be a G259 and for all 750 MCM cables, both positive and negative shall be G427 strand.

Our Scope Excludes the Following:

- The pricing is subject to the current market conditions and copper escalation/de-escalation if additional options are to be exercised by UTA.

We reserve the right to correct this quote for errors and omissions.

This quote covers direct costs only and we reserve the right to claim for impact and consequential costs.

This price is good for acceptance within **30** days from the date of receipt.

We request a time extension of **0** days.

We will supply and install all materials, labor, and equipment as per your instructions on **CCN# 810013**.

Itemized Breakdown

Description	Qty	Total Mat.
Cable Specification Change	1	89,864.81
Option 1B - SRT2 300 S	40,895	1,944,148.30
Option 1C - SRD1 Delta Center	4,830	205,902.90
Option 1D - E1 200 E	2,050	77,900.00
Option 1E - E2 900 E	100	3,900.00
Option 2D - SRS11 Sugar Hwy	900	34,200.00
Option 2L - SRT2 300 S	3,500	140,000.00

ORIGINAL

C3M POWER SYSTEMS CHANGE PROPOSAL

CCN# 810013
Date: 4/5/2022
Project Name: 21036M1 UTA SOGR TPSS REHAB
Project Number: 21036M1 UTA SOGR TPSS REHAB

Description	Qty	Total Mat.	Total Hrs.
Option 2M - SRD1 Delta Center	500	20,000.00	0.00
Totals	52,776	2,515,916.01	0.00

Summary

P&P Bond	(@ 0.879 %)	22,114.90
Limited Liability	(@ 0.987 %)	25,050.37
Subtotal		2,563,081.28
Final Amount		\$2,563,081.28

CLIENT ACCEPTANCE

CCN # 810013
Final Amount: \$2,563,081.28

Name: _____

Date: _____

Signature: _____

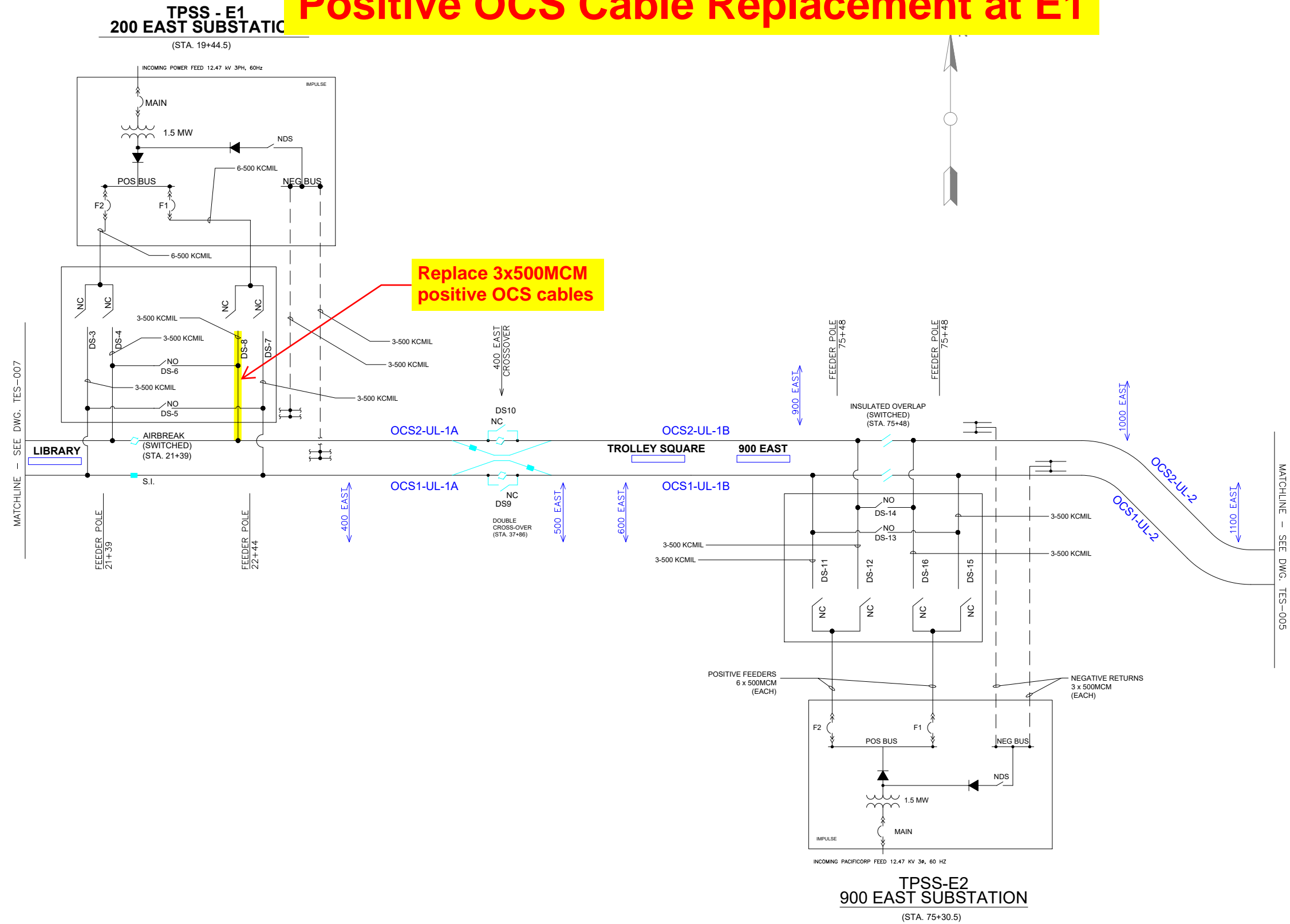
Change Order #: _____

I hereby accept this quotation and authorize the contractor to complete the above described work.

ORIGINAL

Bid Item	SUBMITTED TO UTA			Updated Pricing (Update in Copper & Spec Change)			750	500	
	LF	Unit Price	Price Submitted to UTA	LF	Updated Unit Price	Total - Final			
Option 1B (With Demo)				3339			X		
Option 1B Parallel Feeders	21002	\$ 38.06	\$ 799,336.12	37556	\$ 47.54	\$ 1,944,148.30	X		Unit Price Increase %
Option 1C (With Demo)				4830			X		Labor 0%
Option 1C Parallel Feeders	31352	\$ 36.16	\$ 1,133,688.32	0	\$ 42.63	\$ 205,902.90	X		Copper 9%
Option 1D (With Demo)	6996	\$ 32.73	\$ 228,979.08	2050	\$ 38.00	\$ 77,900.00		X	Type 16%
Option 1E (With Demo)	4140	\$ 33.73	\$ 139,642.20	100	\$ 39.00	\$ 3,900.00		X	
Option 2D	900	\$ 32.24	\$ 29,016.00	900	\$ 38.00	\$ 34,200.00		X	Increase 25%
Option 2L (With Demo)	4140	\$ 33.31	\$ 137,903.40	3500	\$ 40.00	\$ 140,000.00		X	
Option 2M (With Demo)	12420	\$ 33.48	\$ 415,821.60	500	\$ 40.00	\$ 20,000.00		X	
SUB TOTAL	80950		\$ 2,884,386.72	52775		\$ 2,426,051.20	4	5	

Option 1D. Positive OCS Cable Replacement at E1



REV	DATE	DESCRIPTION
1	02/11/2022	DRAFT SUBMITTAL

HNTB

7730 S. UNION PARK AVE. STE. 110
MIDVALE, UT 84047
PHONE: 801-656-2101

CONTRACT NO.: 20210623



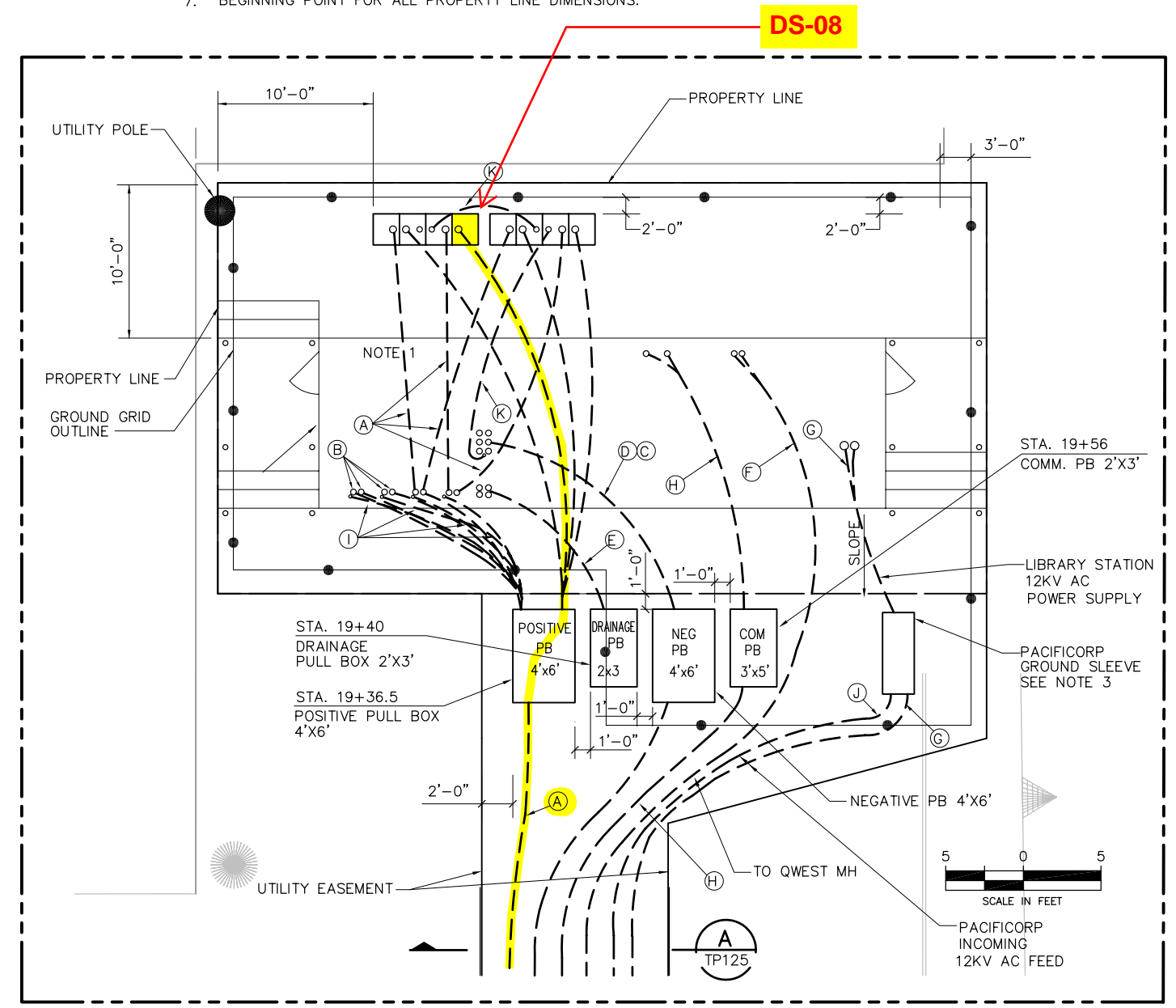
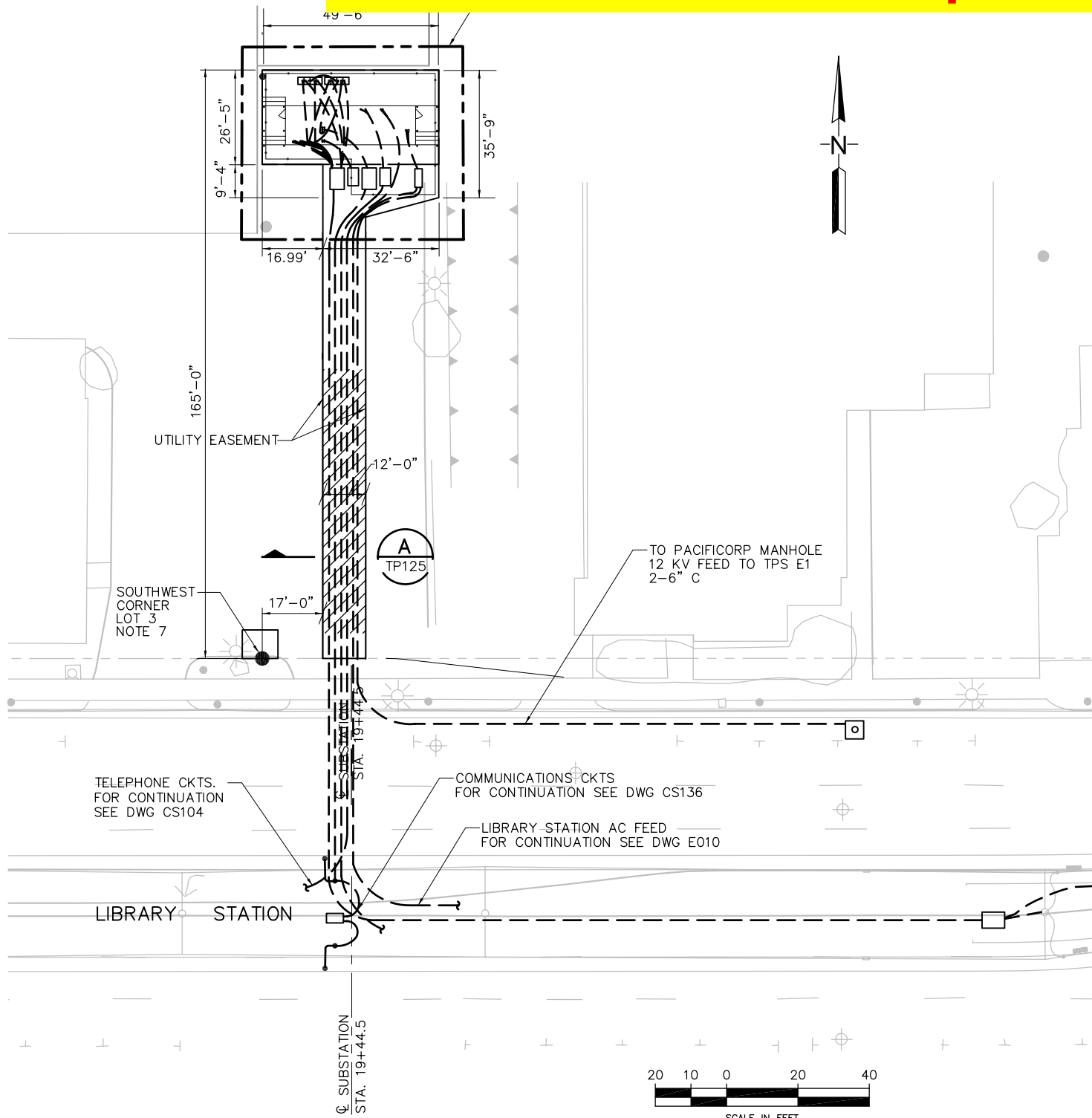
UTA
UTAH TRANSIT AUTHORITY

DESIGNED BY: K TEGATZ
DRAWN BY: J HURLBURT
CHECKED BY: F PIERSON
APPROVED BY: D FARLEY

UTA SYSTEMS ENGINEERING
UTA TRACTION ELECTRIFICATION SYSTEM
SPRING 2022
UNIVERSITY ALIGNMENT

SCALE: NOT TO SCALE
CADD FILENAME: TES_004.DWG
SUBMITTAL DATE: 02/11/2022
DRAWING No.: TES-004
SHEET No.: 4 OF 23

Option 1D. Positive OCS Cable Replacement at E1



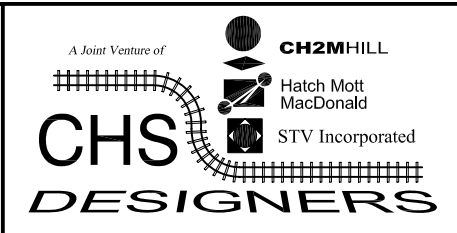
- RACEWAY AND CABLE INSTALLATION SCHEDULE REFER TO DWG TP106. INSTALL SUFFICIENT
E FOR CONNECTION FROM DC SWITCHGEAR TO DISCONNECT SWITCHES, OCS AND RAIL
USED
- TRACTOR SHALL CO-ORDINATE & INSTALL PVC CONDUITS FOR THE UTILITY POWER SUPPLY IN
ACCORDANCE WITH PACIFICORP REQUIREMENTS. GROUND SLEEVE SUPPLIED/INSTALLED BY PACIFICORP.
90 DEGREE LONG SWEEPS SHALL BE RIGID STEEL CONDUIT.
4. STUBOUT AND CAP CONDUITS
 5. FOR SYMBOLS AND ABBREVIATIONS AND GENERAL NOTES SEE DWG TP100.
 6. FOR FOUNDATION AND GROUND MAT REQUIREMENTS SEE DRAWING TP119,
TP120 & TP122.
 7. BEGINNING POINT FOR ALL PROPERTY LINE DIMENSIONS.

DS-08

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REVISION BLOCK

REV	DATE	Description
△		
△		
△	2/15/02	AS-BUILT
△	5/4/01	CORRECTED STUBUP LOCATION OF CONDUIT #28
△	12/7/00	ISSUED FOR CONSTRUCTION



Designed By:
R. WILSON

Drawn By:
N. PURIFICACION

Checked By:
F. JOAINO

Approved By:
J. ADELA

TRACTION POWER SYSTEM
200 EAST SUBSTATION
UNDERGROUND RACEWAY AND CABLE PLAN
SUBSTATION TPS E1
SHEET 1 OF 2

Scale:	AS SHOWN
CADD Filename:	TP105AB.DWG
Submittal Date:	12/07/00
UTA Contract No.:	UT99-05VT-DB WE
Drawing No.:	TP105
Sheet No.:	89



Option 1D. Positive OCS Cable Replacement at E1

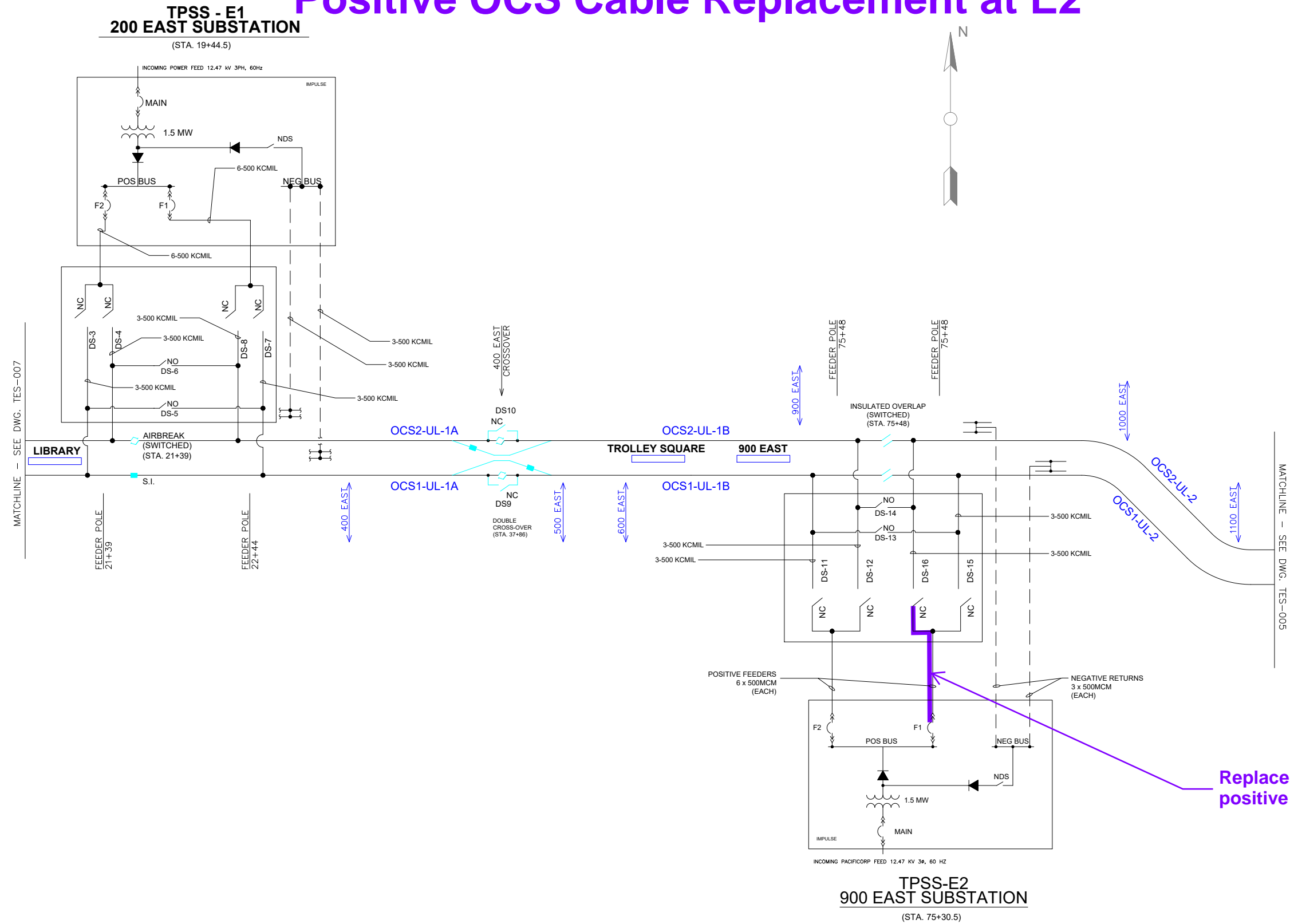
COMMENTS / NOTES

The POS feeder cables at E1 200E passed megger testing from the feeder breakers to the OCS. One cable from DS-07 to OCS tested 1GOhm but still above the 5MOhm lower limit set by UTA. Another cable from DS-08 to OCS was found to be cut at both ends (see pictures below). The cable tested good (2.2 GOhms) but is recommended for replacement to bring the system back to its original state. The two adjacent cables that share a conduit with this cable will also need to be replaced to facilitate installation. The NEG cables were not tested at this location as they are welded to the embedded rail with no impedance bonds to disconnect and test from.



Cut POS feeder cable inside DS-08

Option 1E. Positive OCS Cable Replacement at E2



REV	DATE	DESCRIPTION
1	02/11/2022	DRAFT SUBMITTAL

HNTB

7730 S. UNION PARK AVE. STE. 110
MIDVALE, UT 84047
PHONE: 801-656-2101

UTA
UTAH TRANSIT AUTHORITY

CONTRACT NO.: 20210623

DESIGNED BY: K TEGATZ
DRAWN BY: J HURLBURT
CHECKED BY: F PIERSON
APPROVED BY: D FARLEY

UTA SYSTEMS ENGINEERING
UTA TRACTION ELECTRIFICATION SYSTEM
SPRING 2022
UNIVERSITY ALIGNMENT

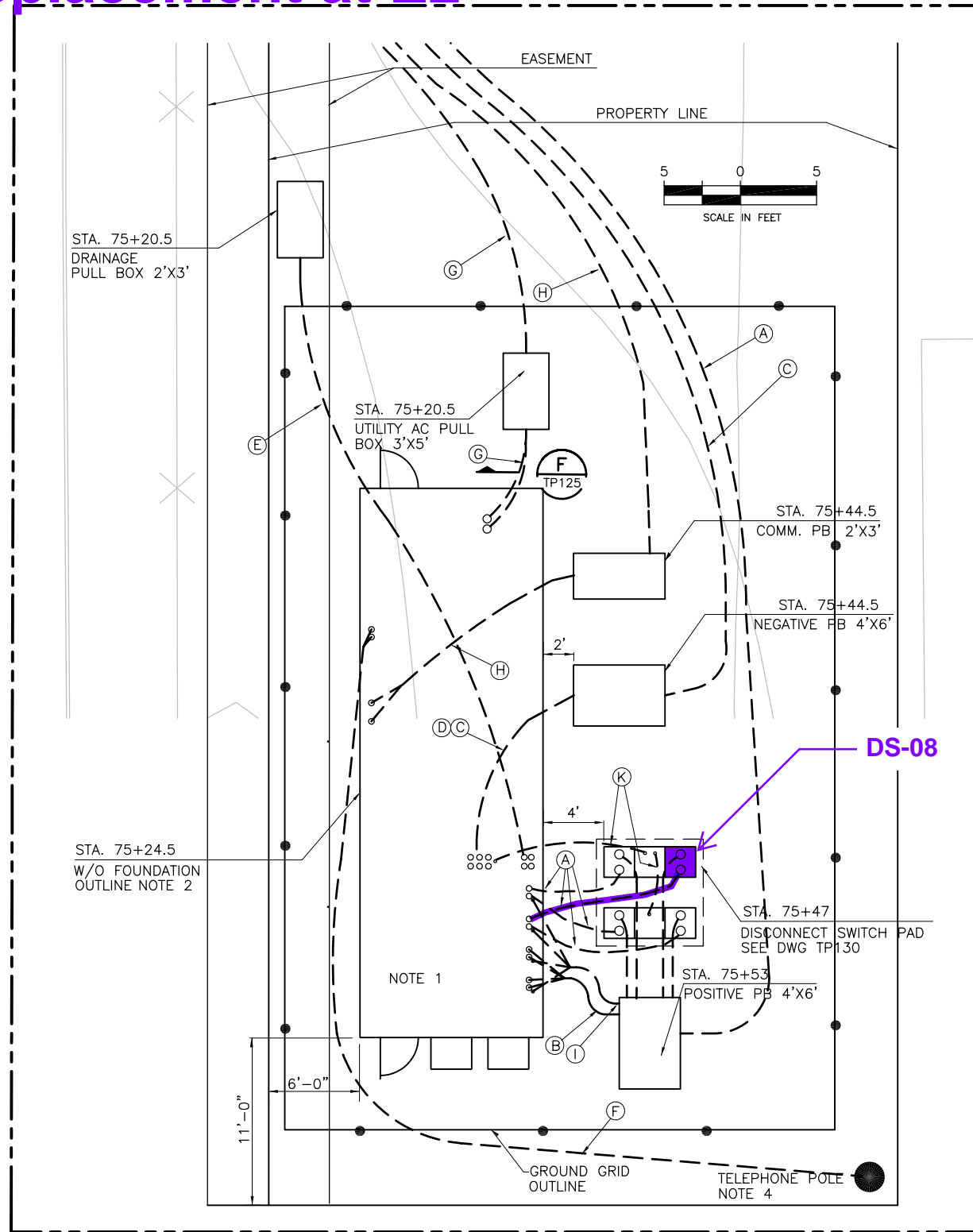
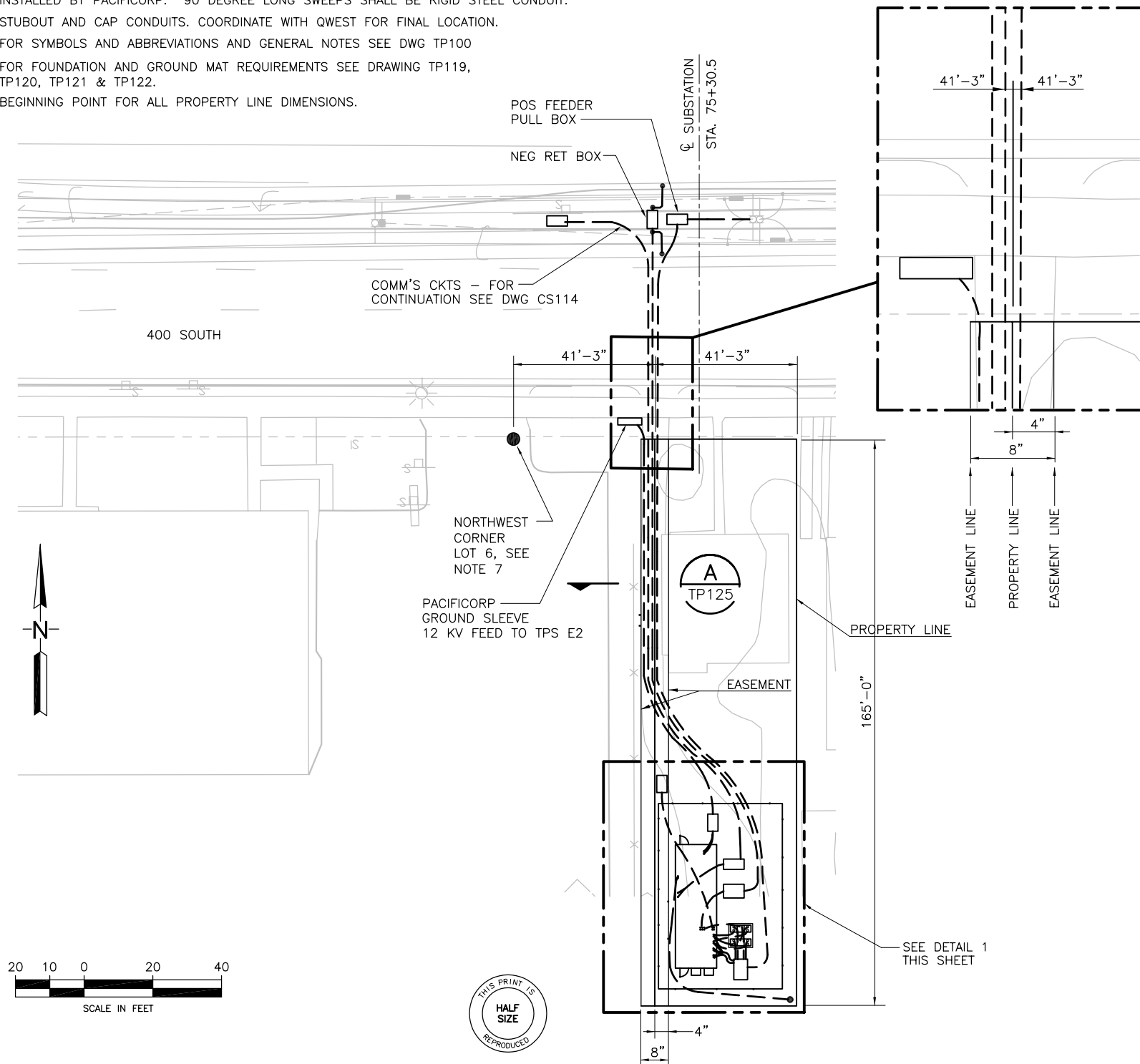
SCALE: NOT TO SCALE
CADD FILENAME: TES_004.DWG
SUBMITTAL DATE: 02/11/2022
DRAWING No.: TES-004
SHEET No.: 4 OF 23

Option 1E.

Positive OCS Cable Replacement at E2

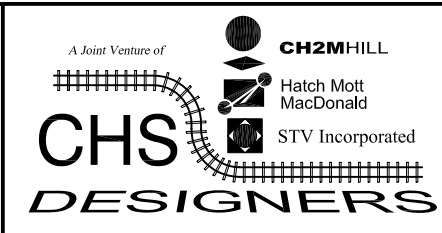
NOTES:

- FOR RACEWAY AND CABLE INSTALLATION SCHEDULE REFER TO DWG TP108. INSTALL SUFFICIENT CABLE FOR CONNECTION FROM DC SWITCHGEAR TO DISCONNECT SWITCHES, OCS AND RAIL.
- STATIONING OF EQUIPMENT ALIGNS WITH SIDE THAT ARROW POINTS TO (TYP.)
- CONTRACTOR SHALL COORDINATE AND INSTALL PVC CONDUITS FOR THE UTILITY POWER SUPPLY IN ACCORDANCE WITH PACIFICORP REQUIREMENTS. GROUND SLEEVE SUPPLIED/INSTALLED BY PACIFICORP. 90 DEGREE LONG SWEEPS SHALL BE RIGID STEEL CONDUIT.
- STUBOUT AND CAP CONDUITS. COORDINATE WITH QWEST FOR FINAL LOCATION.
- FOR SYMBOLS AND ABBREVIATIONS AND GENERAL NOTES SEE DWG TP100
- FOR FOUNDATION AND GROUND MAT REQUIREMENTS SEE DRAWING TP119, TP120, TP121 & TP122.
- BEGINNING POINT FOR ALL PROPERTY LINE DIMENSIONS.



DETAIL 1

REV	DATE	Description
1	2/15/02	AS-BUILT
2	5/4/01	CORRECTED STUDUP LOCATION OF CONDUIT #28
3	12/7/00	ISSUED FOR CONSTRUCTION



Designed By:	R. WILSON
Drawn By:	N. PURIFICACION
Checked By:	F. JOANINO
Approved By:	J. ADELA

TRACTION POWER SYSTEM
900 EAST SUBSTATION
 UNDERGROUND RACEWAY AND CABLE PLANS
 SUBSTATION TPS E2
 SHEET 1 OF 2

Scale:	AS SHOWN
CADD Filename:	TP107AB.DWG
Submission Date:	12/07/00
UTA Contract No.:	UT99-05VT-DB WE
Drawing No.:	TP107
Sheet No.:	91

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Option 1E. Positive OCS Cable Replacement at E2

UTA Job: 20-03378VW
C3M Job: 21036M1



TPSS: E2

From / To: DSL6 TO FEEDER 2 BREAKER

Wire #	Wire Nomenclature	Correct Tagging Verified (Check = Yes)	Termination Point Verified (Check = Yes)	Continuity Verified (Check = Yes)	Resistance to Ground (OHMS) or Megger Max. Designation (Enter Value)	Resistance to Adjacent Cable Wire (Check = Complete)
1	DSL6-4	✓	✓	✓	2.6 MΩ	✓
2	DSL6-5	✓	✓	✓	2.2 GΩ	✓
3	DSL6-6	✓	✓	✓	2.2 GΩ	✓
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Tested By: JASON WOLFE

Witnessed By: [Signature]

Date: 02/18/2022

Ambient Temp: 31°F % Humidity: 62%

Option 1E.

Positive OCS Cable Replacement at E2

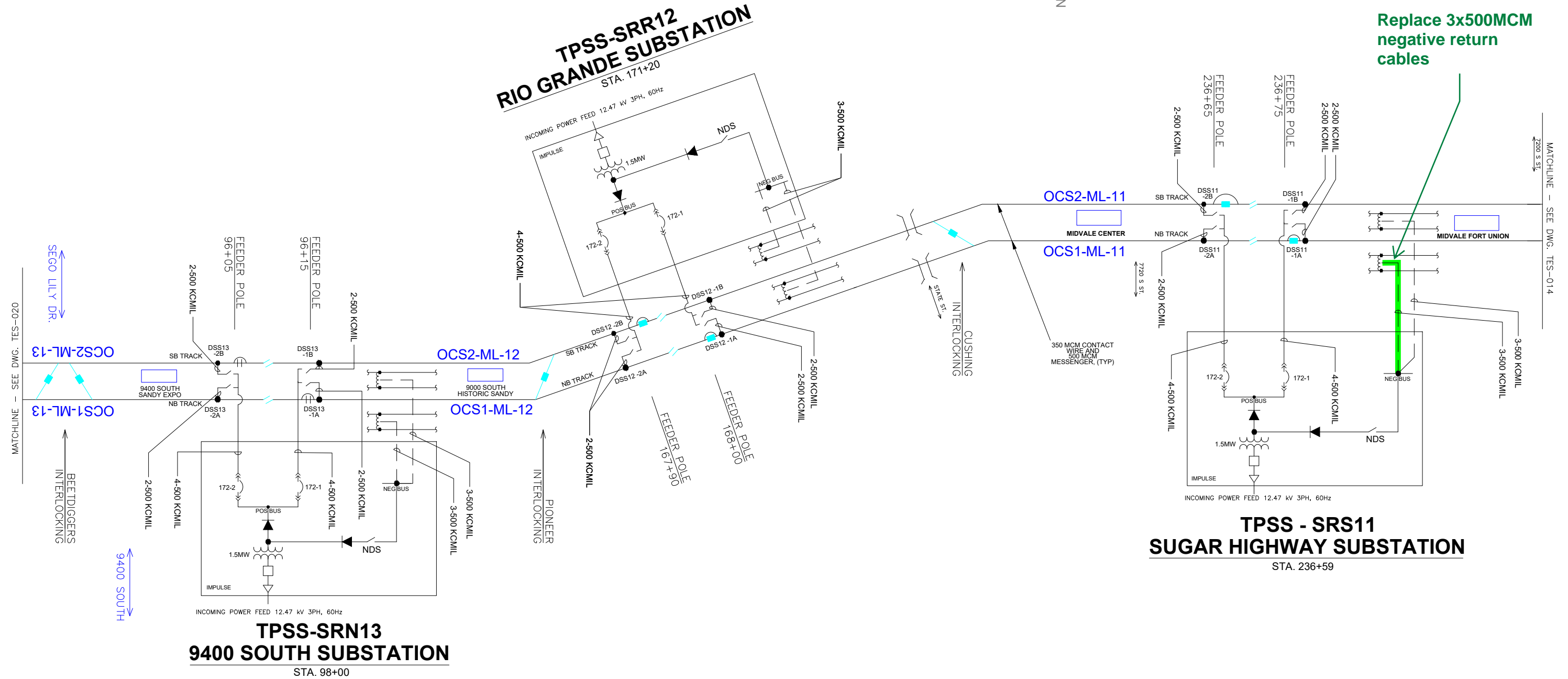
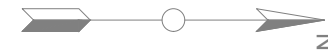
COMMENTS / NOTES

The POS feeder cables at E2 900E were megger testing from the feeder breakers to the OCS. One cable from Feeder Breaker 2 to DS-16 tested at 2.6 MOhms which is below the limit of 5 MOhms set by the UTA and is recommended for replacement. The cable was marked with orange tape to identify it (see photos). The two adjacent cables that share a conduit with this cable will also need to be replaced to facilitate installation. Other cables from DS-11 to OCS and DS-16 to OCS tested below the max of 2.2 GOhms but above the lower limit of 5 MOhms (see megger sheets). The NEG cables were not tested at this location as they are welded to the embedded rail with no impedance bonds to disconnect and test from.



Failed POS cable marked with orange tape inside Feeder Breaker 2

Option 2D. Negative Return Cable Replacement at SRS11



REV	DATE	DESCRIPTION
1	02/11/2022	DRAFT SUBMITTAL

HNTB

7730 S. UNION PARK AVE. STE. 110
MIDVALE, UT 84047
PHONE: 801-656-2101

UTA
UTAH TRANSIT AUTHORITY

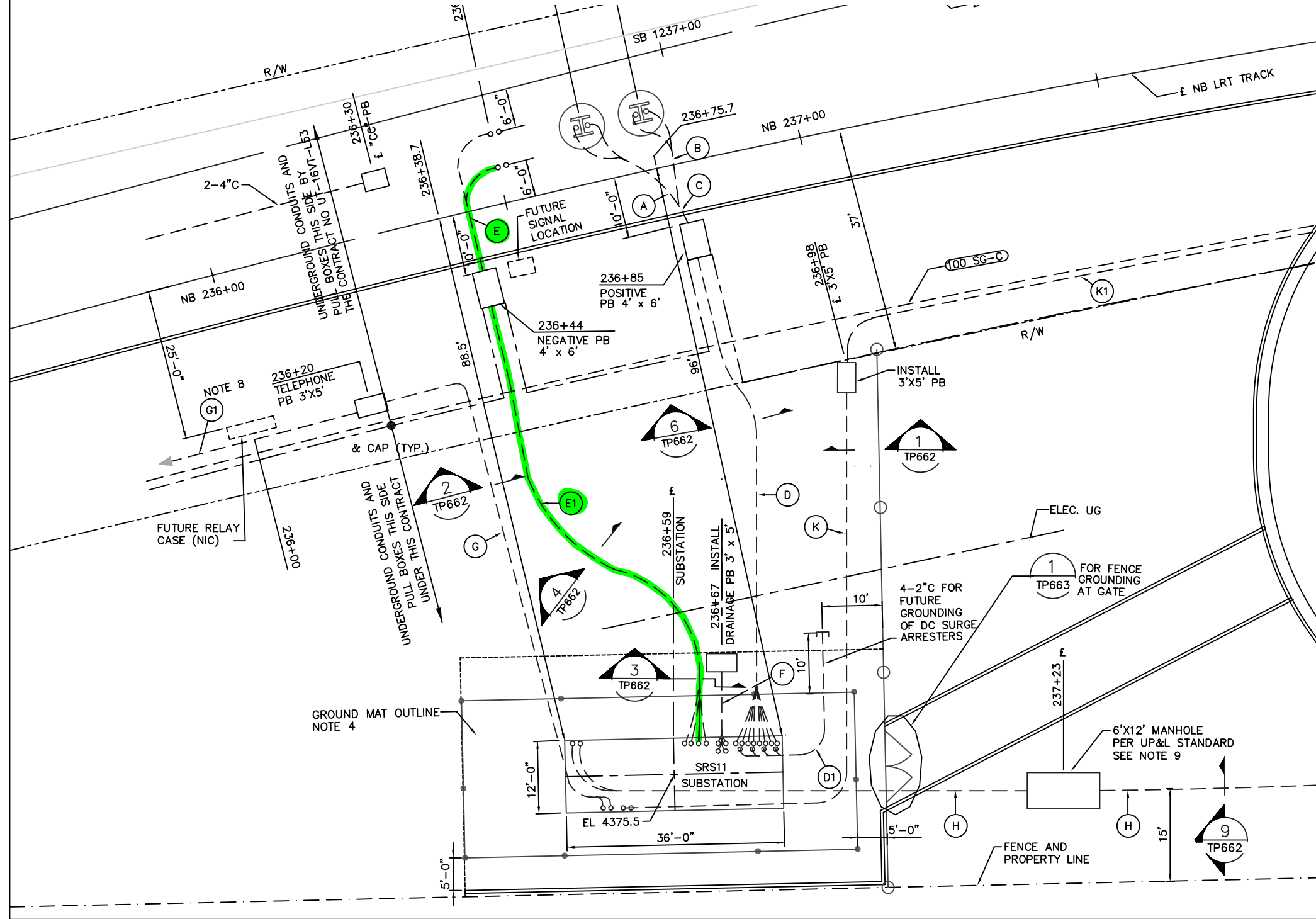
CONTRACT NO.: 20210623

DESIGNED BY: K TEGATZ
DRAWN BY: J HURLBURT
CHECKED BY: F PIERSON
APPROVED BY: D FARLEY

UTA SYSTEMS ENGINEERING
UTA TRACTION ELECTIFICATION SYSTEM
SPRING 2022
DRAPER ALIGNMENT

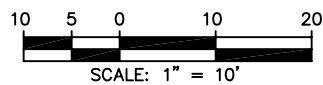
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SUBMITTAL DATE: 02/11/2022
DRAWING No.: TES-019
SHEET No.: 19 OF 23

Option 2D. Negative Return Cable Replacement at SRS11



9. INSTALL UTILITY VAULT PER PACIFIC CORP. STANDARD DETAIL GV521B. VAULT SHALL BE TRAFFIC RATED 6' X 12' WITH FULL TRAFFIC COVER CAT. # GV741. ALL CONDUITS SHALL BE SLOPED TOWARD THE VAULT.

7. NOT USED.
8. CONTINUE 350 FEET SOUTH FROM TELEPHONE PULL BOX. STUB OUT AND CAP NEAR U.S. WEST COMMUNICATION SERVICE POLE. (N.I.C)



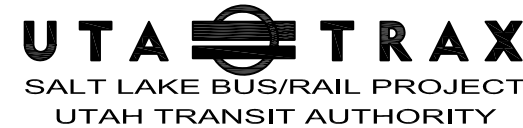
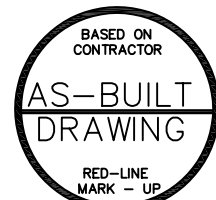
RACEWAY AND CABLE INSTALLATION SCHEDULE				
DUCT BANKS	CONDUIT	CABLE	FEEDER	CONDUIT ASSIGNMENT
(A)	1-4" (NIC)	2-500 MCM	172-2	FEEDER SOUTH SECTION
	1-4" (NIC)	2-500 MCM	172-2	FEEDER SOUTH SECTION
(B)	1-4" (NIC)	2-500 MCM	172-1	FEEDER NORTH SECTION
	1-4" (NIC)	2-500 MCM	172-1	FEEDER NORTH SECTION
(C)	1-4" (NIC)	2-500 MCM	172-2	FEEDER SOUTH SECTION
	1-4" (NIC)	2-500 MCM	172-2	FEEDER SOUTH SECTION
	1-4" (NIC)	2-500 MCM	172-1	FEEDER NORTH SECTION
	1-4" (NIC)	2-500 MCM	172-1	FEEDER NORTH SECTION
(D)	4-2"	--	--	FUTURE GROUNDING OF DC SURGE ARREST
	1-4"	2-500 MCM	172-2	FEEDER SOUTH SECTION
(D)	1-4"	2-500 MCM	172-2	FEEDER SOUTH SECTION
	1-4"	2-500 MCM	172-1	FEEDER NORTH SECTION
	1-4"	2-500 MCM	172-1	FEEDER NORTH SECTION
	1-4"	2-500 MCM	172-1	FEEDER NORTH SECTION
	2-4"	SPARE		FUTURE SOUTH SECTION
	2-4"	SPARE		FUTURE NORTH SECTION
(E)	1-4"	3-500 MCM		NEGATIVE RETURN
	1-4"	3-500 MCM		NEGATIVE RETURN
	2-4"	SPARE		FUTURE NEGATIVE RETURN
(E)	1-4" (NIC)	3-500 MCM		NEGATIVE RETURN
	1-4" (NIC)	3-500 MCM		NEGATIVE RETURN
	2-4" (NIC)	SPARE		FUTURE NEGATIVE RETURN
(F)	4-4"	--	DR1-DR4 CONTACTORS	DRAINAGE CKT
(G)	2-4"	--		TELEPHONE
(G)	2-4" NOTE 8 (NIC)	--		TELEPHONE
(H)	2-6" NOTE 1	--		UTILITY 12KV POWER SUPPLY
(K)	2-2"	--		COMMUNICATION
(K)	2-2" (NIC)	--		COMMUNICATION

NOTES:

- CONTRACTOR SHALL INSTALL PVC CONDUITS FOR THE UTILITY POWER SUPPLY IN ACCORDANCE WITH UP & L REQUIREMENTS.
- NOT USED.
- FOR SYMBOLS AND ABBREVIATIONS AND GENERAL NOTES, SEE DWG TP601.
- FOR FOUNDATION AND GROUND MAT REQUIREMENTS, SEE DRAWING TP661 AND TP664.
- FOR FEEDER CABLE CONNECTION AT POLE MOUNTED DISCONNECT SWITCHES, SEE DWG TP603 AND TP668.
- CONNECT NEGATIVE RETURN CABLES TO IMPEDANCE BONDS AT TRACKS SB AND NB.

PROJECT CONTROL DATE: 01/22/98 14:41:17 CAD FILENAME: D:\UTA\L54TP628.dwg (C27) JG/C.M.W. PLOTTED SCALE: 1"=10'-0"

REV	DATE	Description
△		
△		
△	8/21/02	AS-BUILT MARK UP BY UTA
△	1/20/98	PC 07
△	12/01/97	PC 04
△	8/23/97	ISSUED FOR CONSTRUCTION



Designed By:
R. DHINGRA
Drawn By:
C.M. WONG
Checked By:
Approved By:

TRACTION POWER AND SIGNALING
SUGAR HIGHWAY SUBSTATION
UNDERGROUND RACEWAY AND CABLE PLANS
SUBSTATION SRS11
SHEET 1 OF 3

Scale:
1"=10'-0"
CADD Filename:
L54TP628
Submital Date
MAY 13, 1997
UTA Contract No.:
UT-17VT-L54
Drawing No.:
TP628
Sheet No.:



Option 2D. Negative Return Cable Replacement at SRS11

TPSS: SRS11 (SUGAR HIGHWAY) From / To: NEGATIVE CUBICAL TO IMPEDANCE BOND

Wire #	Wire Nomenclature	Correct Tagging Verified (Check = Yes)	Termination Point Verified (Check = Yes)	Continuity Verified (Check = Yes)	Resistance to Ground (OHMS) or Megger Max. Designation (Enter Value)	Resistance to Adjacent Cable Wire (Check = Complete)
1	NEG 1	✓ NB	✓	✓	2.2GΩ	✓
2	NEG 2	✓ NB	✓	✓	2.6MΩ	✓
3	NEG 3	✓ NB	✓	✓	2.2GΩ	✓
4	NEG 4	✓ SB	✓	✓	2.2GΩ	✓
5	NEG 5	✓ SB	✓	✓	2.2GΩ	✓
6	NEG 6	✓ SB	✓	✓	2.2GΩ	✓
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Tested By: JASON WOLFE

Witnessed By: Braden Bond

Date: 02/04/2022

Ambient Temp: 15° % Humidity: 86%

Option 2D. Negative Return Cable Replacement at SRS11

COMMENTS / NOTES

The NEG feeder cables at SRS11 Sugar Hwy were megger tested from the cubicle to the impedance bond, one cable gave a low reading of only 2.6MOhms. Per the UTA approved testing procedure any cable testing less than 5MOhms is to be considered for replacement. This cable shares a conduit with two other cables and C3M recommends they also be replaced to ease replacement of the low testing cable. The cable which tested low is number 2 counting from front to back from inside the TPSS. The cable was also wrapped in orange tape to help identify it in the future.

Additionally, the insulation of the negative jumper cable at the impedance bonds was found to be damaged. The cable connects the northbound and southbound impedance bonds together; the damage is near the southbound impedance bond.



Feeder Cable #2 (counted front to rear) tested 2.6MOhms