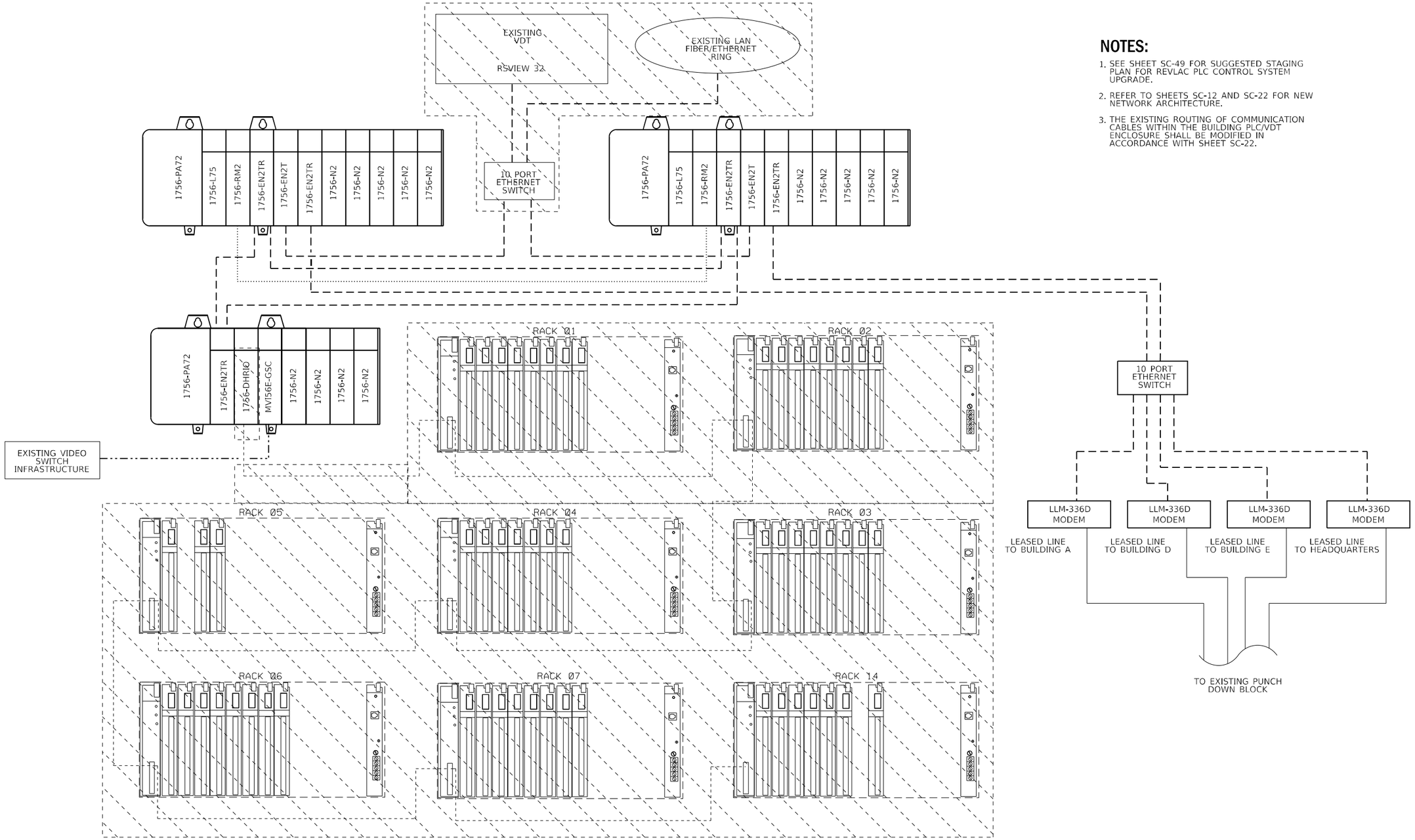

NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. REFER TO SHEETS SC-12 AND SC-22 FOR NEW NETWORK ARCHITECTURE.
3. THE EXISTING ROUTING OF COMMUNICATION CABLES WITHIN THE BUILDING PLC/VDT ENCLOSURE SHALL BE MODIFIED IN ACCORDANCE WITH SHEET SC-22.

SC-05

FILE NAME = D160T46-SC-05-REMOVAL PLANS - BUILDING C PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSFORTATION**
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	DRAWN - MBS	REVISED -	**PLC REMOVAL PLANS BUILDING C PLC/VDT NETWORK ARCHITECTURE**
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	SCALE: NTS SHEET 4 OF 11 SHEETS STA. N/A TO STA. N/A
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	200
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

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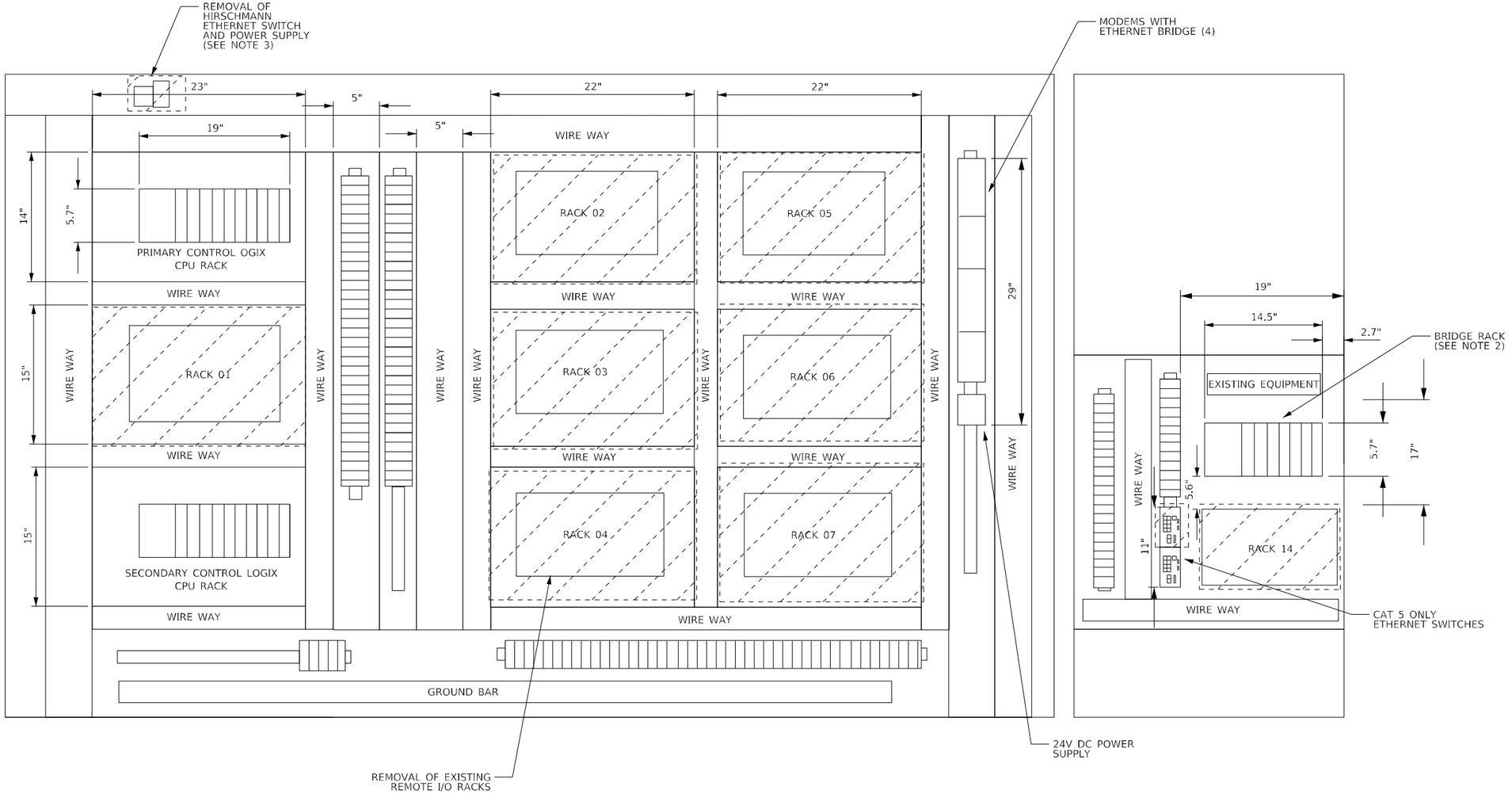

NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. BRIDGE RACK TO BE RELOCATED WITHIN PANEL AS RACK 3. SEE SHEET SC-25 FOR NEW LOCATION AND NAME OF RACK.
3. CONTRACTOR TO VERIFY ALL CONNECTIONS ON HIRSCHMANN SWITCH BEFORE REMOVAL OF SWITCH. ADD TAGS IF CABLES ARE NOT LABELED
4. REFER TO SHEET SC-25 FOR NEW PANEL LAYOUT.
5. THE EXISTING SCP AND VDT CONTROL AND POWER CABLING SHALL BE REMOVED AND REPLACED BY A GUI BASED VDT/SCP CLIENT WORKSTATION. SEE SHEETS SC-26 AND SC-27 FOR DETAILS.

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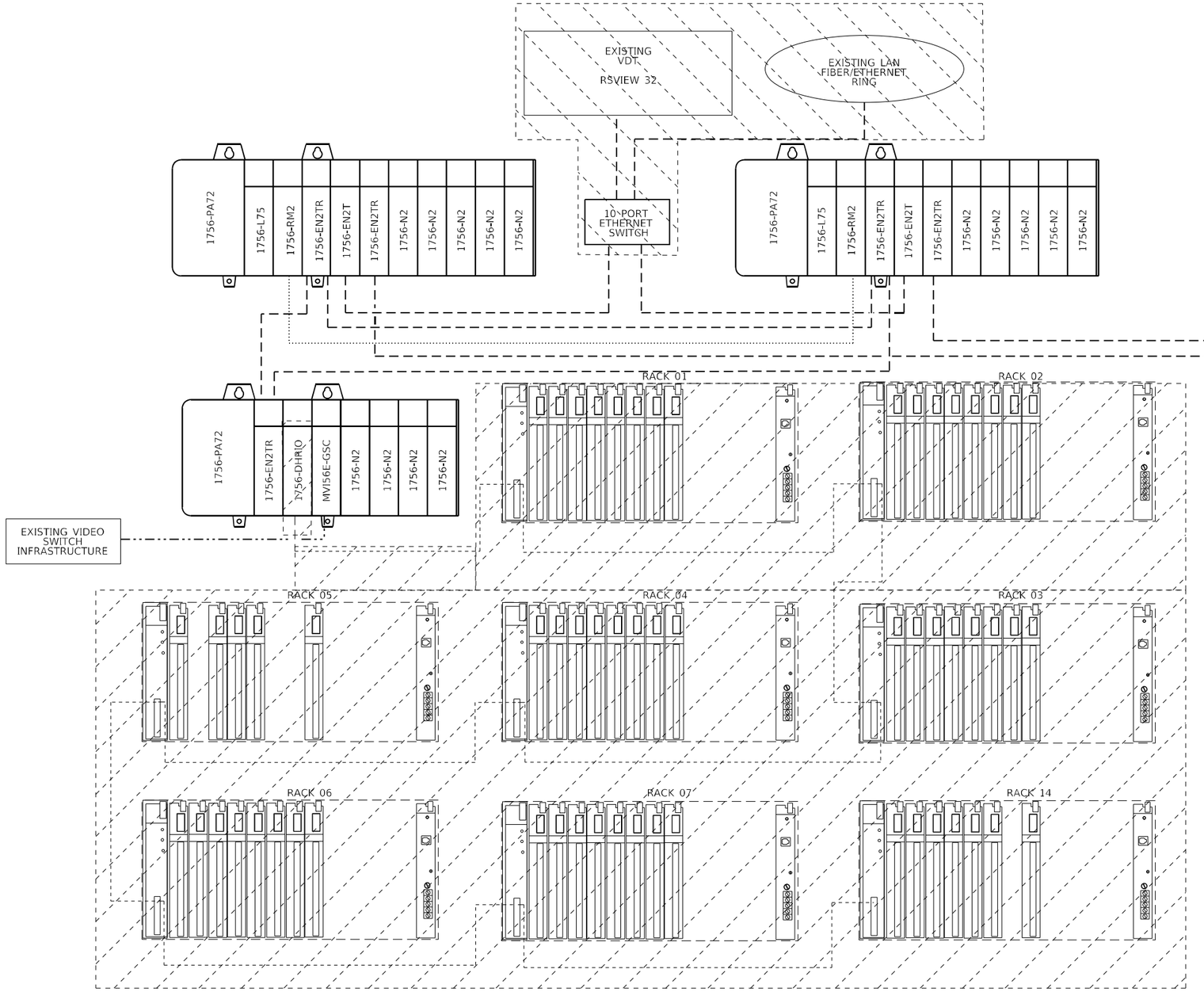
FILE NAME = D160T46-SC-06-REMOVAL PLANS - BUILDING D PLC-VDT ENCLOSURE.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

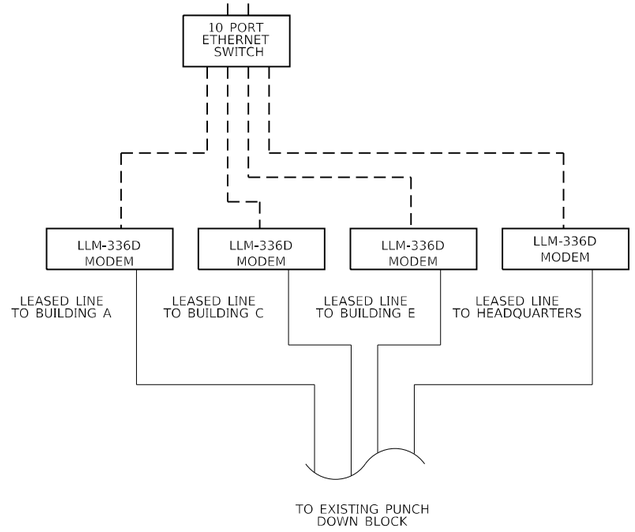
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC REMOVAL PLANS
BUILDING D PLC/VDT ENCLOSURE

SCALE: NTS | SHEET 5 OF 11 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	201
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	





NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. REFER TO SHEETS SC-12 AND SC-27 FOR NEW NETWORK ARCHITECTURE.
3. THE EXISTING ROUTING OF COMMUNICATION CABLES WITHIN THE BUILDING PLC/VDT ENCLOSURE SHALL BE MODIFIED IN ACCORDANCE WITH SHEET SC-27.

SC-07

FILE NAME = D160T46-SC-07-REMOVAL PLANS - BUILDING D PLC-VDT NETWORK ARCHITECTURE.dgn

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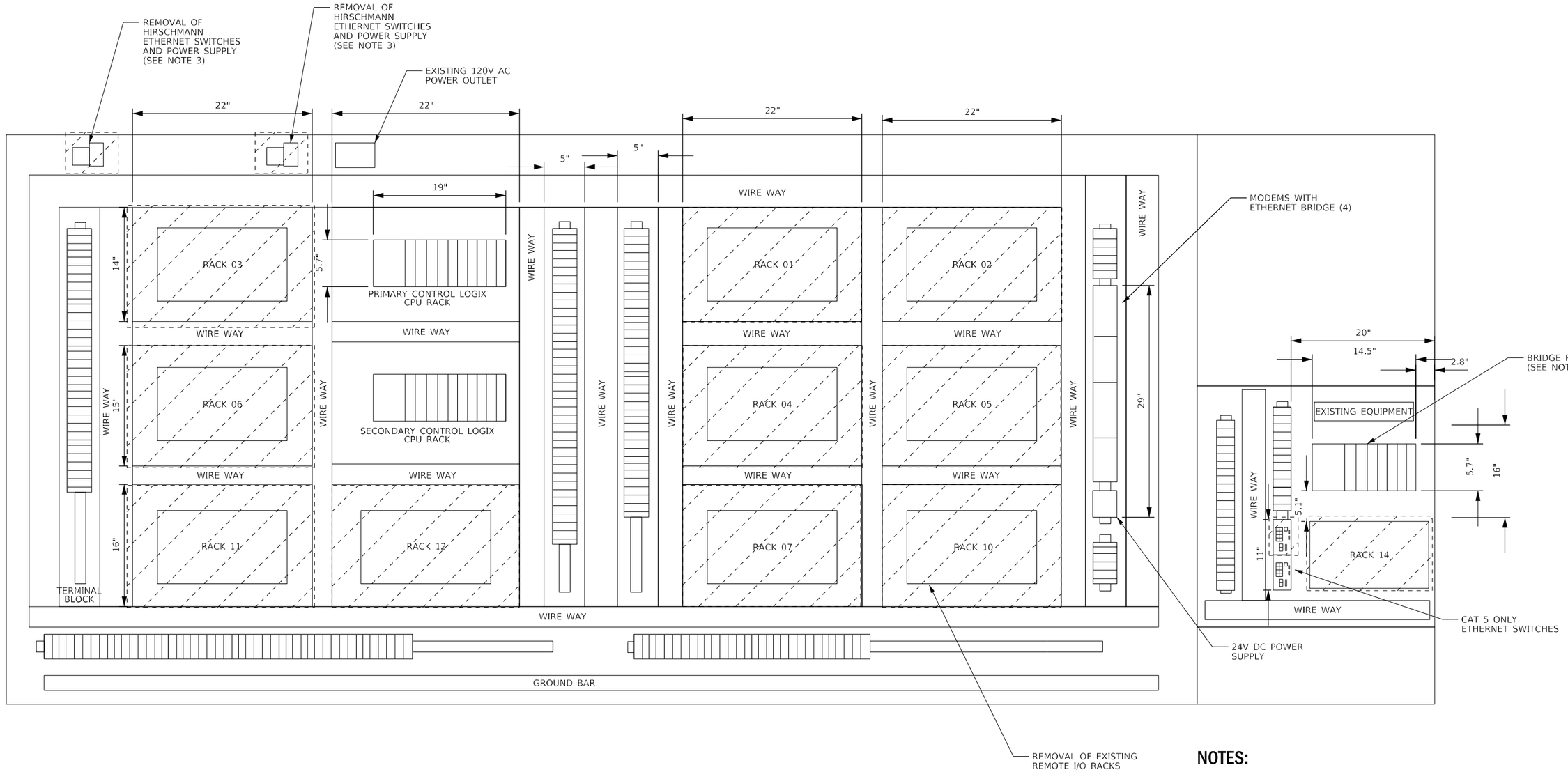
	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC REMOVAL PLANS
BUILDING D PLC/VDT NETWORK ARCHITECTURE

SCALE: NTS | SHEET 7 OF 11 SHEETS | STA. N/A | TO STA. N/A

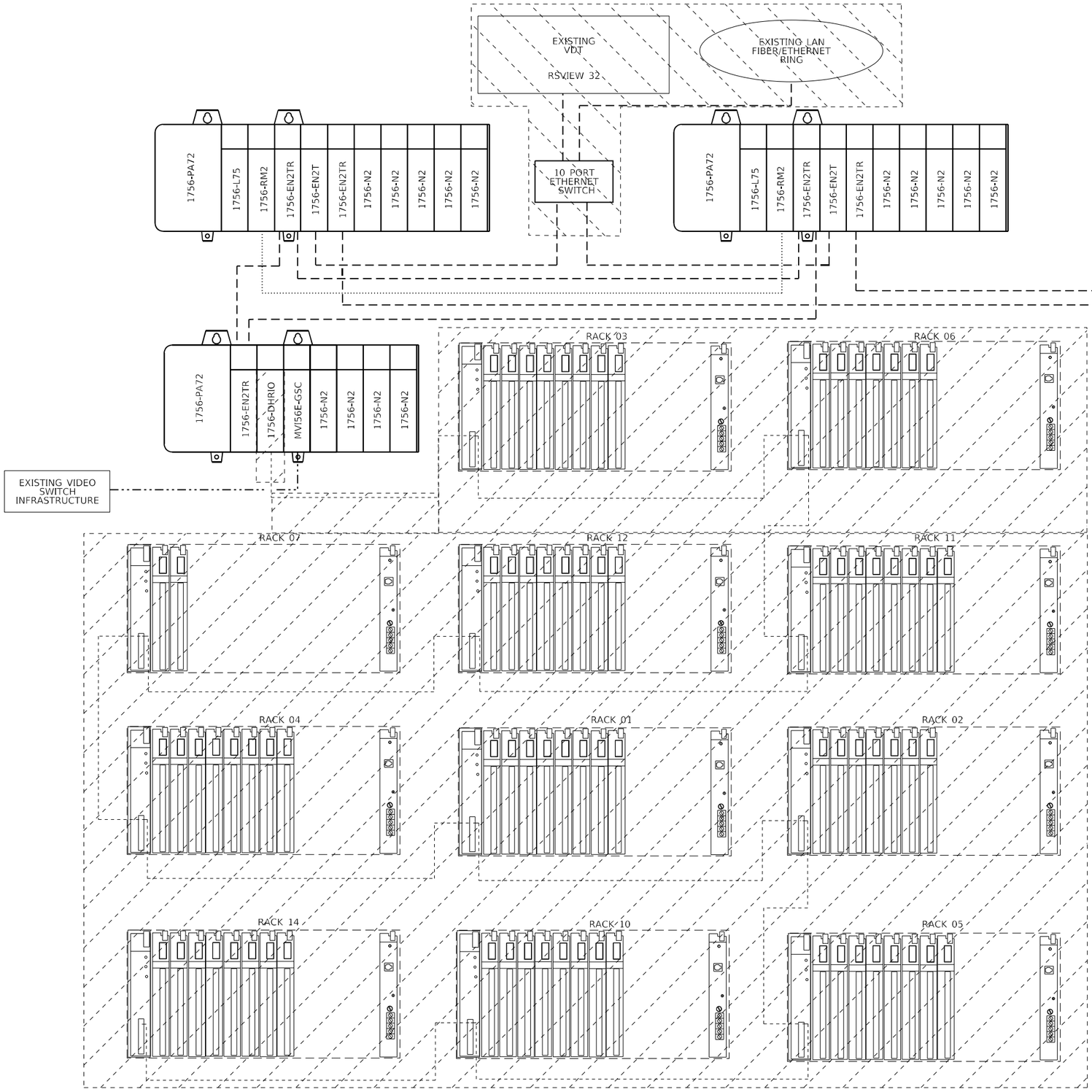
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	202
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. BRIDGE RACK TO BE RELOCATED WITHIN PANEL AS RACK 5. SEE SHEET SC-30 FOR NEW LOCATION AND NAME OF RACK.
3. CONTRACTOR TO VERIFY ALL CONNECTIONS ON HIRSCHMANN SWITCH BEFORE REMOVAL OF SWITCH. ADD TAGS IF CABLES ARE NOT LABELED.
4. REFER TO SHEET SC-30 FOR NEW PANEL LAYOUT.
5. THE EXISTING SCP AND VDT CONTROL AND POWER CABLING SHALL BE REMOVED AND REPLACED BY A GUI BASED VDT/SCP CLIENT WORKSTATION. SEE SHEETS SC-31 AND SC-32 FOR DETAILS.

FILE NAME = D160T46-SC-08-REMOVAL PLANS - BUILDING E PLC-VDT ENCLOSURE.dgn
USER NAME = RJR
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022
DESIGNED - RJR
DRAWN - MBS
CHECKED - RAS
DATE - 1/27/2022
REVISED -
REVISED -
REVISED -
REVISED -
Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLC REMOVAL PLANS
BUILDING E PLC/VDT ENCLOSURE
SCALE: NTS
SHEET 8 OF 11 SHEETS
STA. N/A
TO STA. N/A
F.A.I. RTE. 90/94
SECTION 2012-008I
COUNTY COOK
TOTAL SHEETS 268
SHEET NO. 203
CONTRACT NO. 60T46
ILLINOIS FED. AID PROJECT



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. REFER TO SHEETS SC-12 AND SC-32 FOR NEW NETWORK ARCHITECTURE.
3. THE EXISTING ROUTING OF COMMUNICATION CABLES WITHIN THE BUILDING PLC/VDT ENCLOSURE SHALL BE MODIFIED IN ACCORDANCE WITH SHEET SC-32.

FILE NAME = D160T46-SC-09-REMOVAL PLANS - BUILDING E PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

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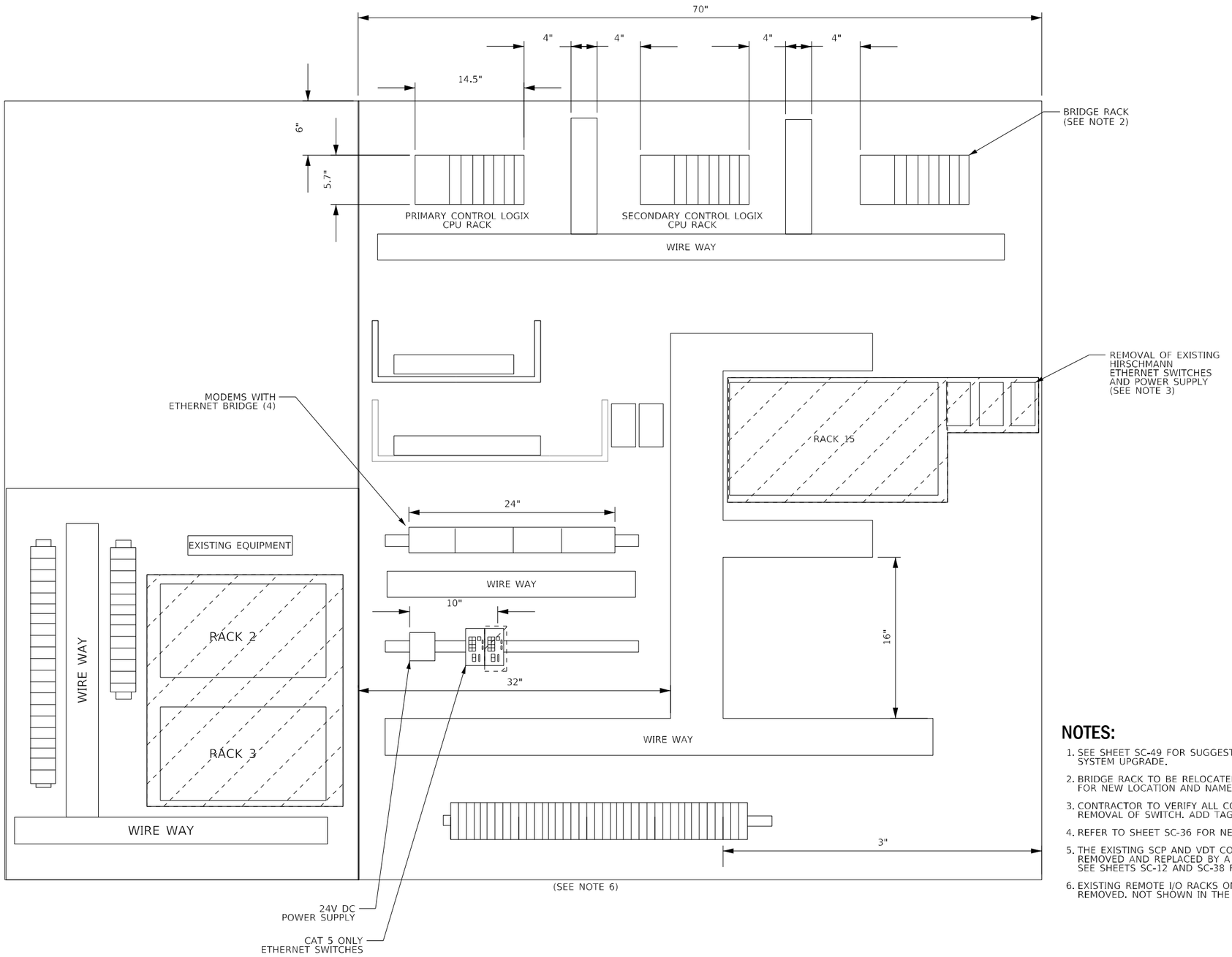
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC REMOVAL PLANS
BUILDING E PLC/VDT NETWORK ARCHITECTURE

SCALE: NTS | SHEET 9 OF 11 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	204
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. BRIDGE RACK TO BE RELOCATED WITHIN PANEL AS RACK 1. SEE SHEET SC-36 FOR NEW LOCATION AND NAME OF RACK.
3. CONTRACTOR TO VERIFY ALL CONNECTIONS ON HIRSCHMANN SWITCH BEFORE REMOVAL OF SWITCH. ADD TAGS IF CABLES ARE NOT LABELED.
4. REFER TO SHEET SC-36 FOR NEW PANEL LAYOUT.
5. THE EXISTING SCP AND VDT CONTROL AND POWER CABLING SHALL BE REMOVED AND REPLACED BY A GUI BASED VDT/SCP CLIENT WORKSTATION. SEE SHEETS SC-12 AND SC-38 FOR DETAILS.
6. EXISTING REMOTE I/O RACKS ON THE FLOOR OF THE ENCLOSURE HAVE TO BE REMOVED. NOT SHOWN IN THE DRAWING.

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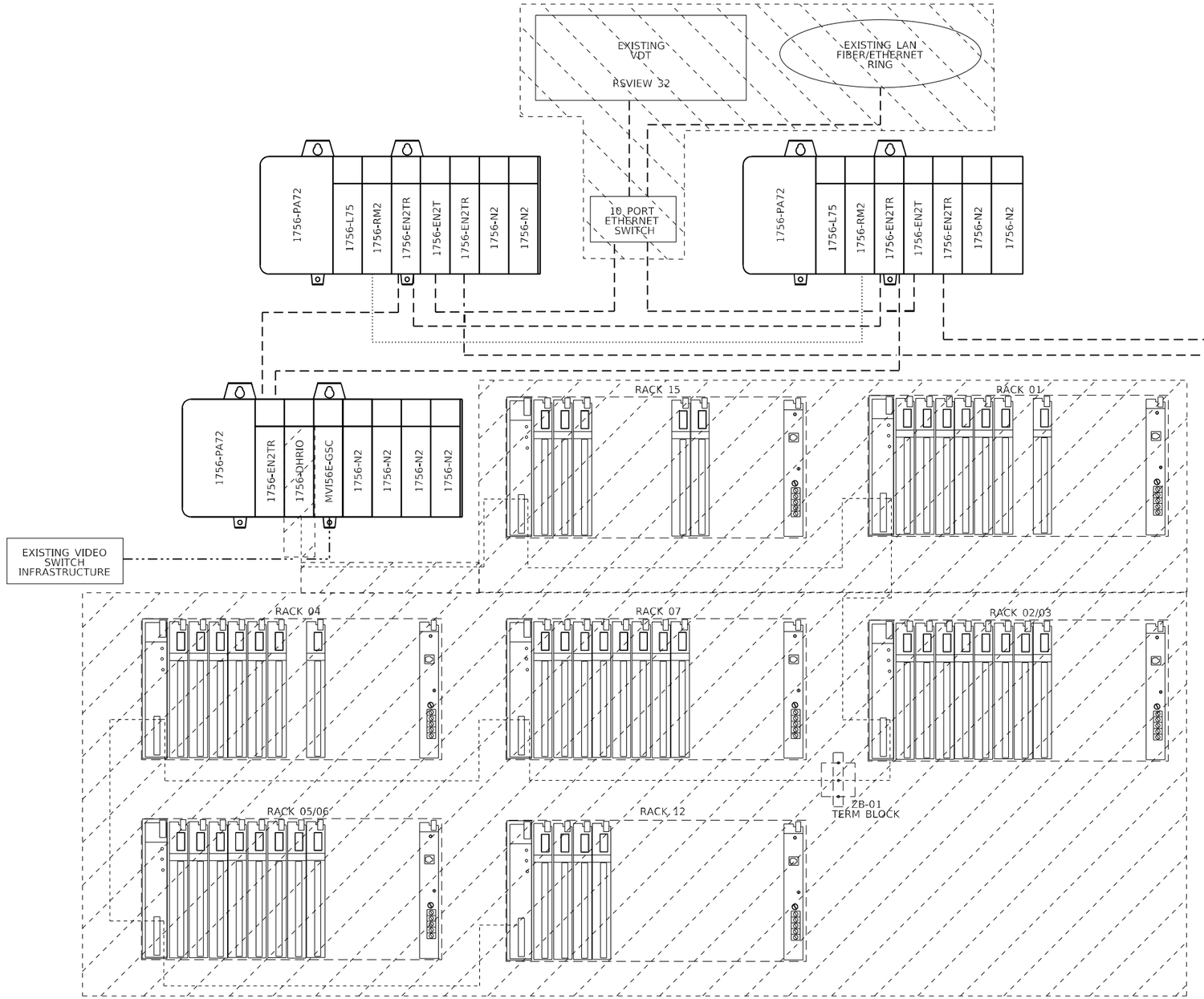
FILE NAME = D160T46-SC-10-REMOVAL PLANS - BUILDING HQ PLC-VDT ENCLOSURE.dgn	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC REMOVAL PLANS
BUILDING HQ PLC/VDT ENCLOSURE

SCALE: NTS | SHEET 10 OF 11 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	205
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. REFER TO SHEETS SC-12 AND SC-38 FOR NEW NETWORK ARCHITECTURE.
3. THE EXISTING ROUTING OF COMMUNICATION CABLES WITHIN THE BUILDING PLC/VDT ENCLOSURE SHALL BE MODIFIED IN ACCORDANCE WITH SHEET SC-38.
4. EXISTING REMOTE I/O RACKS ON THE FLOOR OF THE ENCLOSURE HAVE TO BE REMOVED

SC-11

FILE NAME = D160T46-SC-11-REMOVAL PLANS - BUILDING HQ PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

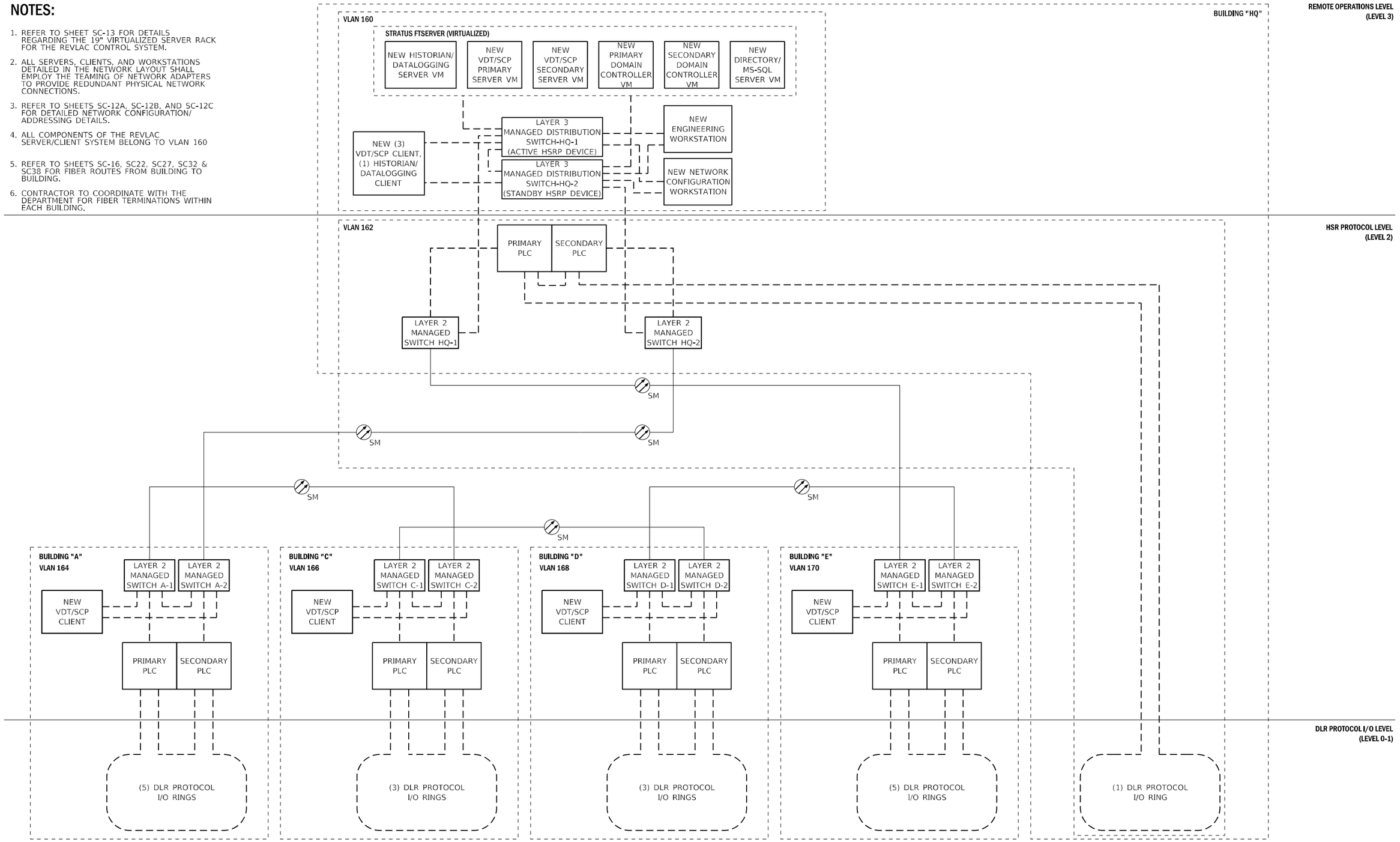
PLC REMOVAL PLANS
BUILDING HQ PLC/VDT NETWORK ARCHITECTURE

SCALE: NTS | SHEET 11 OF 11 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	206
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. REFER TO SHEET SC-13 FOR DETAILS REGARDING THE 19" VIRTUALIZED SERVER RACK FOR THE REVLAC CONTROL SYSTEM.
2. ALL SERVERS, CLIENTS, AND WORKSTATIONS DETAILED IN THE NETWORK LAYOUT SHALL EMPLOY THE TEAMING OF NETWORK ADAPTERS TO PROVIDE REDUNDANT PHYSICAL NETWORK CONNECTIONS.
3. REFER TO SHEETS SC-12A, SC-12B, AND SC-12C FOR DETAILED NETWORK CONFIGURATION/ ADDRESSING DETAILS.
4. ALL COMPONENTS OF THE REVLAC SERVER/CLIENT SYSTEM BELONG TO VLAN 160
5. REFER TO SHEETS SC-16, SC22, SC27, SC32 & SC38 FOR FIBER ROUTES FROM BUILDING TO BUILDING.
6. CONTRACTOR TO COORDINATE WITH THE DEPARTMENT FOR FIBER TERMINATIONS WITHIN EACH BUILDING.



SC-12

FILE NAME = D160T46-SC-12 -OVERALL ETHERNET COMMUNICATION NETWORK LAYOUT 1 OF 2.dgn

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PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

DESIGNED - RJR | REVISED -
DRAWN - MBS | REVISED -
CHECKED - RAS | REVISED -
DATE - 1/27/2022 | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC OVERALL ETHERNET COMMUNICATION NETWORK LAYOUT

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	207
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	

REMOTE OPERATIONS - BUILDING HQ VLAN 160				
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY
REMOTE OPERATIONS LEVEL 3/HSRP LEVEL 2	LAYER 3 SWITCH HQ-1			
REMOTE OPERATIONS LEVEL 3/HSRP LEVEL 2	LAYER 3 SWITCH HQ-2			
REMOTE OPERATIONS LEVEL 3	ENGINEERING WORKSTATION			
REMOTE OPERATIONS LEVEL 3	NETWORK CONFIGURATION WORKSTATION			
REMOTE OPERATIONS LEVEL 3	VIRTUALIZED STRATUS FT SERVER ETHERNET ADAPTER #1			
REMOTE OPERATIONS LEVEL 3	VIRTUALIZED STRATUS FT SERVER ETHERNET ADAPTER #2			
REMOTE OPERATIONS LEVEL 3	BUILDING HQ -VDT/SCP CLIENT #1			
REMOTE OPERATIONS LEVEL 3	BUILDING HQ -VDT/SCP CLIENT #2			
REMOTE OPERATIONS LEVEL 3	BUILDING HQ -VDT/SCP CLIENT #3			
REMOTE OPERATIONS LEVEL 3	BUILDING A -VDT/SCP CLIENT #4			
REMOTE OPERATIONS LEVEL 3	BUILDING C -VDT/SCP CLIENT #5			
REMOTE OPERATIONS LEVEL 3	BUILDING D -VDT/SCP CLIENT #6			
REMOTE OPERATIONS LEVEL 3	BUILDING E -VDT/SCP CLIENT #7			
REMOTE OPERATIONS LEVEL 3	HISTORIAN/DATA LOGGING CLIENT			

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

BUILDING HQ VLAN 162				
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY
HSRP LEVEL 2	LAYER 2 SWITCH HQ-1			
HSRP LEVEL 2	LAYER 2 SWITCH HQ-2			
HSRP LEVEL 2	BUILDING HQ PRIMARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2T)			
HSRP LEVEL 2	BUILDING HQ SECONDARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2T)			
DLR LEVEL 0-1 (RING 17)	BUILDING HQ CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)			
DLR LEVEL 0-1 (RING 17)	BUILDING HQ PRIMARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)			
DLR LEVEL 0-1 (RING 17)	BUILDING HQ SECONDARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)			

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

SC-12A

	BUILDING A VLAN 164					
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY	POINT I/O NODE IP	POINT I/O NODE ID
HSRP LEVEL 2	SWITCH A-1					
HSRP LEVEL 2	SWITCH A-2					
DLR LEVEL 0-1 (RING 1)	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 2)	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 3)	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 4)	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 5 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 5)	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING A PRIMARY CONTROL LOGIX CPU RACK-SLOT 7 (1756-EN2T)					
DLR LEVEL 0-1 (RING 1)	BUILDING A SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 2)	BUILDING A SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 3)	BUILDING A SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 4 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 4)	BUILDING A SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 5 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 5)	BUILDING A SECONDARY CONTROLLOGIX CPU RACK-LOGIX slot 6 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING A SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 8 (1756-EN2T)					
DLR LEVEL 0-1 (RING 1)	DLR RING 1 SWITCH-2A					
DLR LEVEL 0-1 (RING 1)	DLR RING 1 SWITCH-2B					
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-3					GATE 009-STA-303 + 50
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-4					GATE 007-STA-306 + 15
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-5					RP OORP2 STA 307 + 35
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-6					GATE 004-STA 308 + 55
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-7					GATE 002-STA 310 + 15
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-8					RP OORP1 STA 31 + 00
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-9					GATE 001 STA 310 + 80
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-10					GATE 003 STA 309 + 35
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-11					GATE 005 STA 307 + 75
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-12					GATE 006 STA 306 + 95
DLR LEVEL 0-1 (RING 1)	DLR-RING 1 SWITCH-13					BARR 008 STA 304 + 65
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-14A					
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-14B					
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-15					GATE 008 STA 305 +70
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-16					RP OORP3 STA 401 + 70
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-17					GATE 0012 STA 301 + 45
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-18					GATE 0014 STA 299 + 85
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-19					GATE 0016 STA 398 + 25
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-20					RP 00RP4 STA 397 + 50
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-21					GATE OO15 STA 399 + 05
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-22					GATE OO13 STA 300 + 65
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-23					GATE OO11 STA 302 + 25
DLR LEVEL 0-1 (RING 2)	DLR RING 2 SWITCH-24					GATE OO10 STA 303 + 05
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-25A					
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-25B					
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-26					GATE OM7 STA 15 + 65
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-27					GATE OM9 STA 17 + 25
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-28					GATE OM11 STA 20 + 00
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-29					BARR OMB STA 18 +90
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-30					GATE OM8 STA 16 + 45
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-31					GATE OM6 STA 14 + 85
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-32					GATE OM4 STA 13 + 25
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-33					GATE OM2 STA 11 + 65
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-34					RP OMRP1 STA 110 + 25
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-35					GATE OM1 STA 10 + 85
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-36					GATE OM3 STA 12 + 45
DLR LEVEL 0-1 (RING 3)	DLR RING 3 SWITCH-37					GATE OM5 STA14 + 05
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-38A					
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-38B					
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-39					GATE OM10 STA 17 + 75
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-40					GATE OM13 STA 21 + 25
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-41					GATE OM15 STA 22 + 85
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-42					GATE OM17 STA 324 + 25
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-43					GATE OM19 STA 325 + 85
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-44					GATE OM21 STA 327 + 45
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-45					GATE OM20 STA 326 + 65
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-46					GATE OM18 STA 325 + 05
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-47					GATE OM16 STA 23 + 65
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-48					GATE OM14 STA 22 + 05
DLR LEVEL 0-1 (RING 4)	DLR RING 4 SWITCH-49					GATE OM12 STA 20 + 45
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH 50A					
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH 50B					
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH51					DMS-CM-7 STA 111 + 30
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH52					DMS-CM-6 STA 104 + 75
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH53					DMS-CM-2 STA 760' TO 105 +00
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH54					DMS-CM-1 STA 960' TO CM2
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH55					DMS-CM-3 STA 30 + 50
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH56					DMS-CM-4 STA 18 + 45
DLR LEVEL 0-1 (RING 5)	DLR RING 5 SWITCH57					DMS-CM-5 STA 26 + 77
DLR LEVEL 0-1 (RING 1)	BUILDING A CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 2)	BUILDING A CONTROL LOGIX REMOTE I/O RACK 2-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 3)	BUILDING A CONTROL LOGIX REMOTE I/O RACK 3-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 4)	BUILDING A CONTROL LOGIX REMOTE I/O RACK 4-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 5)	BUILDING A CONTROL LOGIX REMOTE I/O RACK 5-SLOT 0 (1756-EN2TR)					

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

	BUILDING C VLAN 166					
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY	POINT I/O NODE IP	POINT I/O NODE ID
HSRP LEVEL 2	SWITCH C-1					
HSRP LEVEL 2	SWITCH C-2					
DLR LEVEL 0-1 (RING 6)	BUILDING C PRIMARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 7)	BUILDING C PRIMARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 8)	BUILDING C PRIMARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING C PRIMARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2T)					
DLR LEVEL 0-1 (RING 6)	BUILDING C SECONDARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 7)	BUILDING C SECONDARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 8)	BUILDING C SECONDARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING C SECONDARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2T)					
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 59A					
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 59B					
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 60					RR STA 497 + 00
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 61					GATE OS12 STA 12 + 99
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 62					BARRIER OSB STA 12 + 25
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 63					GATE OS10 STA 11 + 00
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 64					GATE OS8 STA 9 + 40
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 65					GATE OS6 STA 7 + 80
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 66					GATE OS4 STA 291 + 80
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 67					GATE OS2 STA 290 + 20
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 68					RP OSRP1 STA 289 + 10
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 69					GATE OS1 STA 289 + 40
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 70					GATE OS3 STA 291 + 00
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 71					GATE OS 5 STA 7 + 00
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 72					GATE OS7 STA 8 + 60
DLR LEVEL 0-1 (RING 6)	DLR R6 SWITCH 73					GATE OS9 STA 10 + 20
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 74A					
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 74B					
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 75					GATE OS19 STA 503 +53
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 76					GATE OS21 STA 505 + 13
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 77					GATE OS20 STA 504 + 33
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 78					GATE OS18 STA 17 + 40
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 79					GATE OS16 STA 15 + 80
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 80					GATE OS14 STA 14 + 20
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 81					GATE OS11 STA 11 + 40
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 82					GATE OS13 STA 13 + 40
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 83					GATE OS15 STA15 + 00
DLR LEVEL 0-1 (RING 7)	DLR R7 SWITCH 84					GATE OS17 STA 16 + 60
DLR LEVEL 0-1 (RING 8)	DLR R8 SWITCH 85A					
DLR LEVEL 0-1 (RING 8)	DLR R8 SWITCH 85B					
DLR LEVEL 0-1 (RING 8)	DLR R8 SWITCH 86					DMS-CM-9 STA: 491 + 80
DLR LEVEL 0-1 (RING 8)	DLR R8 SWITCH 87					DMS-CM-8 STA 265 + 65
DLR LEVEL 0-1 (RING 6)	BUILDING C CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 7)	BUILDING C CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 8)	BUILDING C CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

SC-12B

FILE NAME = D160T46-SC-12B-REVLAC CONTROL SYSTEM NETWORK ADDRESSING AND CONFIGURATION 2 OF 3.dgn	DESIGNED - RJR	REVISED -	
Jacobs	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
525 W. Monroe, Suite 1600, Chicago, IL 60661 — PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REVLAC CONTROL SYSTEM
NETWORK ADDRESSING AND CONFIGURATION DETAILS

SCALE: NTS | SHEET 2 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	209
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	

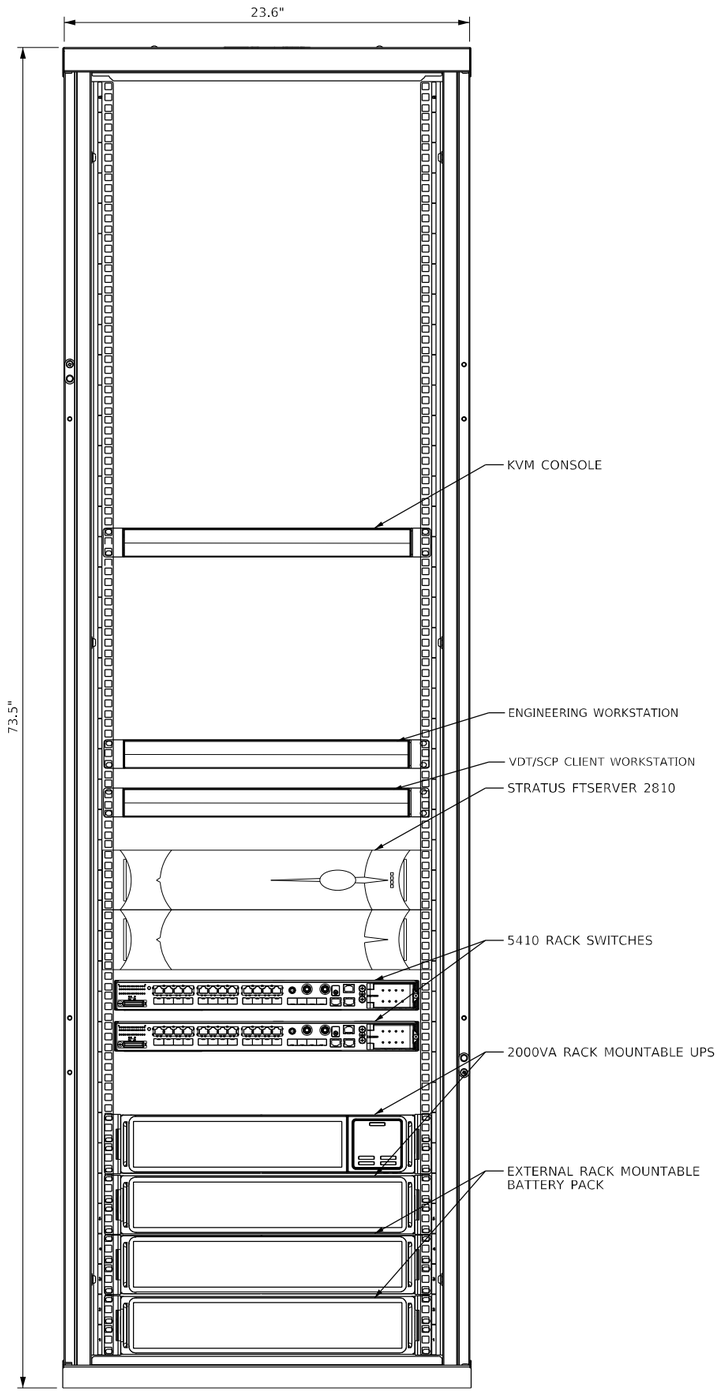
pw:\\USLAS0-APP066CS.jacobs.com:NA1\Documents\CSX12901_REVLAC_Rehabilitation-Phase II\CSX12901\Contract 60T46\700 CADD\Sheets\D160T46-SC-12B-REVLAC CONTROL SYSTEM NETWORK ADDRESSING AND CONFIGURATION 2 OF 3.dgn

BUILDING D VLAN 168						
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY	POINT I/O NODE IP	POINT I/O NODE ID
HSRP LEVEL 2	SWITCH D-1					
HSRP LEVEL 2	SWITCH D-2					
DLR LEVEL 0-1 (RING 9)	BUILDING D PRIMARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 10)	BUILDING D PRIMARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 11)	BUILDING D PRIMARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING D PRIMARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2T)					
DLR LEVEL 0-1 (RING 9)	BUILDING D SECONDARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 10)	BUILDING D SECONDARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 11)	BUILDING D SECONDARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING D SECONDARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2T)					
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 89A					
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 89B					
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 90					GATE IS14 STA 21 + 90
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 91					GATE IS12 STA 14 + 60
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 92					GATE IS10 STA 16 + 95
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 93					BARR ISB STA 16 + 00
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 94					GATE IS8 STA 18 + 15
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 95					GATE IS6 STA 437 + 50
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 96					GATE IS4 STA 439 + 10
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 97					RP ISRP2 STA 540 + 30
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 98					GATE IS1 STA 441 + 50
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 99					RP ISRP1 STA 443 + 00
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 100					GATE IS2 STA 440 + 70
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 101					GATE IS3 STA 439 + 90
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 102					GATE IS5 STA 438 + 30
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 103					GATE IS7 STA 436 + 70
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 104					GATE IS9 STA 17 + 35
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 105					GATE IS1 STA 15 + 10
DLR LEVEL 0-1 (RING 9)	DLR RING 9 SWITCH 106					GATE IS13 STA 13 + 75
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 107A					
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 107B					
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 108					GATE IS20 STA 526 + 15
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 109					GATE IS18 STA 9 + 70
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 110					GATE IS16 STA 11 + 30
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 111					RP ISRP3 STA 530 + 00
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 112					GATE IS15 STA 12 + 10
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 113					GATE IS17 STA 10 + 50
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 114					GATE IS19 STA 526 + 95
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 115					GATE IS21 STA + 35
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 116					GATE IS23 STA 523 + 75
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 117					GATE IS4 STA 522 + 95
DLR LEVEL 0-1 (RING 10)	DLR RING 10 SWITCH 118					GATE IS22 STA 524 + 55
DLR LEVEL 0-1 (RING 11)	DLR RING 11 SWITCH 119A					
DLR LEVEL 0-1 (RING 11)	DLR RING 11 SWITCH 119B					
DLR LEVEL 0-1 (RING 11)	DLR RING 11 SWITCH 120					DMS-CM-10 STA 442 + 50
DLR LEVEL 0-1 (RING 11)	DLR RING 11 SWITCH 121					DMS-CM-11 STA 574 + 50
DLR LEVEL 0-1 (RING 9)	BUILDING D CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 10)	BUILDING D CONTROL LOGIX REMOTE I/O RACK 2-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 11)	BUILDING D CONTROL LOGIX REMOTE I/O RACK 3-SLOT 0 (1756-EN2TR)					

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

BUILDING E VLAN 170						
ETHERNET ARCHITECTURE LEVEL	DEVICE ID	DEVICE IP	SUBNET	GATEWAY	POINT I/O NODE IP	POINT I/O NODE ID
HSRP LEVEL 2	SWITCH E-1					
HSRP LEVEL 2	SWITCH E-2					
DLR LEVEL 0-1 (RING 12)	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 13)	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 14)	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 4 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 15)	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 5 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 16)	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 6 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING E PRIMARY CONTROL LOGIX CPU RACK-SLOT 7 (1756-EN2T)					
DLR LEVEL 0-1 (RING 12)	BUILDING E SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 2 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 13)	BUILDING E SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 3 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 14)	BUILDING E SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 4 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 15)	BUILDING E SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 5 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 16)	BUILDING E SECONDARY CONTROLLOGIX CPU RACK-LOGIX slot 6 (1756-EN2TR)					
HSRP LEVEL 2	BUILDING E SECONDARY CONTROL LOGIX CPU RACK-LOGIX slot 8 (1756-EN2T)					
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 123A					
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 123B					
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 124					GATE IE11 STA: 955 + 80
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 125					BARR IEB STA: 958 + 25
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 126					GATE IE9 STA: 959 + 80
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 127					GATE IE8 STA : 960 + 60
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 128					GATE IE6 STA: 423 + 74
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 129					GATE IE4 STA 425 + 34
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 130					GATE IE 2 STA: 426+ 94
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 131					RP IERP1 STA: 428 + 15
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 132					GATE IE1 STA: 427 + 74
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 133					GATE IE3 STA: 426 +14
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 134					GATE IE5 STA: 424 + 54
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 135					GATE IE7 STA: 422 + 94
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 136					RP IERP2 STA: 960 + 20
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 137					GATE IE10 STA: 959 + 45
DLR LEVEL 0-1 (RING 12)	DLR R12 SWITCH 138					RP IERP3 STA: XX:XX
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 139A					
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 139B					
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 140					GATE IW3 STA: 609 + 85
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 141					GATE IW1 STA: 611 + 45
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 142					RP IWRP1 STA: 612 + 40
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 143					GATE IW2 STA: 610 + 65
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 144					GATE IW4 STA: 609 + 05
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 145					GATE IW6 STA 607 + 45
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 146					GATE IW8 STA: 605 + 85
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 147					GATE IW9 STA: 605 + 05
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 148					GATE IW7 STA: 606 + 85
DLR LEVEL 0-1 (RING 13)	DLR 13 SWITCH 149					GATE IW5 STA: 608 + 25
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 150A					
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 150B					
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 151					GATE IW10 STA: 604 + 55
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 152					GATE IW13 STA: 833 + 20
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 153					GATE IW15 STA: 831 + 70
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 154					GATE IW17 STA: 830 + 10
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 155					GATE IW19 STA: 828 + 50
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 156					RP IWRP3 STA: 827 + 00
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 157					GATE IW20 STA: 827 + 80
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 158					GATE IW18 STA: 829 + 30
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 159					GATE IW16 STA: 830 + 90
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 160					GATE IW14 STA:832 + 45
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 161					GATE IW12 STA: 833 + 95
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 162					GATE IW11 STA: 834 + 60
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 163					RP IWRP2 STA: 834 + 45
DLR LEVEL 0-1 (RING 14)	DLR 14 SWITCH 164					GATE IWB STA: 835 + 20
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 165A					
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 165B					
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 166					GATE IW15 STA: 952 + 95
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 167					GATE IE13 STA: 954 + 55
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 168					GATE IE12 STA: 955 + 35
DLR LEVEL 0-1 (RING 15)	DLR 15 SWITCH 169					GATE IE14 STA: 953 + 75
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 170A					
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 170B					
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 171					DMS-CM-14 STA: 610 + 25
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 172					DMS-CM-15 STA: 3628 + 00
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 173					DMS-CM-12 STA: 425 + 00
DLR LEVEL 0-1 (RING 16)	DLR 16 SWITCH 174					DSS-CM-13 STA:APPROX 2830' FROM IEAS1
DLR LEVEL 0-1 (RING 12)	BUILDING E CONTROL LOGIX REMOTE I/O RACK 1-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 13)	BUILDING E CONTROL LOGIX REMOTE I/O RACK 2-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 14)	BUILDING E CONTROL LOGIX REMOTE I/O RACK 3-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 15)	BUILDING E CONTROL LOGIX REMOTE I/O RACK 4-SLOT 0 (1756-EN2TR)					
DLR LEVEL 0-1 (RING 16)	BUILDING E CONTROL LOGIX REMOTE I/O RACK 5-SLOT 0 (1756-EN2TR)					

CONFIGURATION SETTINGS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER

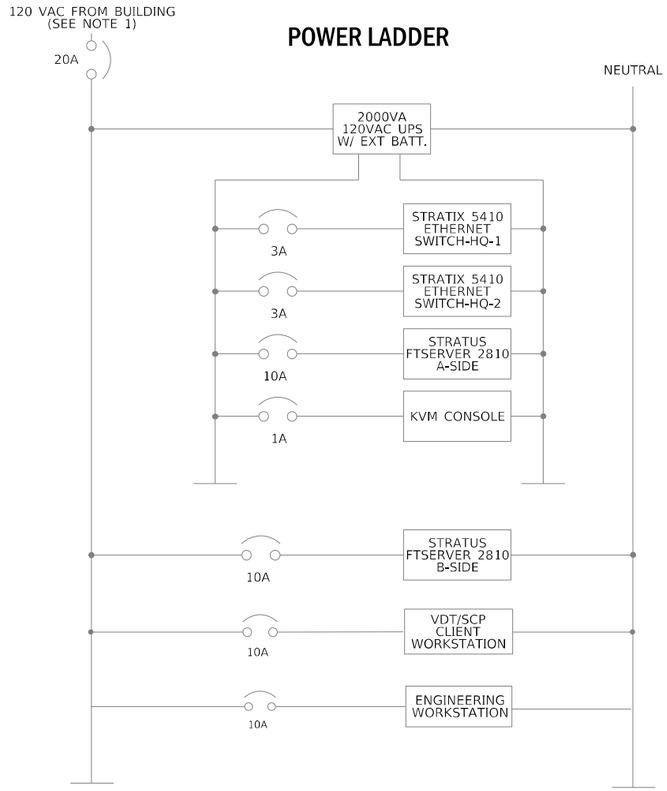


REVLAC SERVER RACK

BILL OF MATERIAL - REVLAC SERVER RACK - HEADQUARTERS

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1A AC CIRCUIT BREAKER		1	
2	3A AC CIRCUIT BREAKER		2	
3	10A AC CIRCUIT BREAKER		4	
4	20A AC CIRCUIT BREAKER		1	
5	STRATIX 5410 NETWORK SWITCH	ROCKWELL	2	1783-IMS28RAC
6	FTSERVER 2810, 1-SOCKET, 2.2GHZ 10-CORE PROCESSOR	STRATUS	1	P2810-1S
7	2000VA 19" 4RU RACK MOUNTABLE UPS, 120VAC		1	
8	4RU EXTERNAL RACK MOUNTABLE BATTERY BACK, 120VAC		1	
9	42RU SERVER RACK ENCLOSURE 600MM X 1070MM		1	
10	1RU RACK MOUNTABLE KVM CONSOLE		1	
11	RACK MOUNTED WORK STATION 1 RU		2	

POWER LADDER



NOTES:

1. CONTRACTOR SHALL IDENTIFY THE 120VAC POWER SOURCE REQUIRED TO FEED THE SERVER RACK.
2. CONTRACTOR SHALL COORDINATE WITH IDOT IN ORDER TO IDENTIFY THE SPACE REQUIRED FOR INSTALLATION OF THE SERVER RACK IN THE HQ BUILDING.
3. THE VIRTUALIZATION SOFTWARE AND SERVER SPECIFIC SOFTWARE REQUIRED FOR A FULLY FUNCTIONAL REVLAC CONTROL SYSTEM SERVER/CLIENT SYSTEM SHALL BE PROCURED BY THE CONTRACTOR.
4. REFER TO SHEET SC-13A FOR THE SUGGESTED ROCKWELL SOFTWARE AND LICENSING REQUIRED FOR THE REVLAC CONTROL SYSTEM SERVER/CLIENT SYSTEM AND WORKSTATIONS.
5. THE VDT/SCP CLIENT WORKSTATION AND THE ENGINEERING WORKSTATION WILL SHARE THE SAME MONITOR AS THE REVLAC SERVER USING THE KVM CONSOLE.

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-13 -BUILDING HQ REVLAC SERVER RACK LAYOUT AND POWER LADDER.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REVLAC SERVER RACK LAYOUT, BOM, AND POWER LADDER
BUILDING HQ

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	211
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

BUILDING "HQ"

STRATUS FTSERVER (VIRTUALIZED)

NEW VDT/SCP PRIMARY SERVER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK VIEW SITE EDITION SERVER 100 DISPLAY	ROCKWELL	1	9701-VWSS100LENE
2	RSLINX ENTERPRISE SERVER	ROCKWELL	1	
3	FACTORYTALK TAG-BASED ALARM SERVER	ROCKWELL	1	
4	FACTORY TALK HISTORIAN SITE EDITION FTLD INTERFACE	ROCKWELL	1	
5	MS-SQL EXPRESS	MICROSOFT	1	

NEW VDT/SCP SECONDARY SERVER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK VIEW SITE EDITION SERVER 100 DISPLAY	ROCKWELL	1	9701-VWSS100LENE
2	RSLINX ENTERPRISE SERVER	ROCKWELL	1	
3	FACTORYTALK TAG-BASED ALARM SERVER	ROCKWELL	1	
4	FACTORY TALK HISTORIAN SITE EDITION FTLD INTERFACE	ROCKWELL	1	
5	MS-SQL EXPRESS	MICROSOFT	1	

NEW DIRECTORY/MS-SQL SERVER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK DIRECTORY SERVER	ROCKWELL	1	-
2	MS-SQL EXPRESS	MICROSOFT	1	-
3	SQL SERVER STANDARD	MICROSOFT	1	-
4	SQL SERVER REPORTING SERVICES	MICROSOFT	1	-

NEW HISTORIAN/DATALOGGING SERVER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	HISTORIAN SE SERVER	ROCKWELL	1	9518-HSE1K
2	MS-SQL EXPRESS	MICROSOFT	1	

NEW PRIMARY DOMAIN CONTROLLER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	DOMAIN CONTROLLER SERVICES	MICROSOFT	1	-

NEW SECONDARY DOMAIN CONTROLLER VM

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	DOMAIN CONTROLLER SERVICES	MICROSOFT	1	-

NEW ENGINEERING WORKSTATION

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK VIEW DEVELOPMENT WITH RSLINX	ROCKWELL	1	9701-VWSTENE
2	RS STUDIO 5000 DEVELOPMENT SOFTWARE FULL EDITION	ROCKWELL	1	9324-RLD700NXENE
3	MICROSOFT OFFICE 2016 PROFESSIONAL	MICROSOFT	1	-

NEW HISTORIAN/DATALOGGING CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK HISTORIAN ACTIVEVIEW CLIENT	ROCKWELL	1	9518-HAVENE
2	FACTORYTALK HISTORIAN PROCESSBOOK	ROCKWELL	1	9518-HPBENE
3	MICROSOFT OFFICE 2016 PROFESSIONAL	MICROSOFT	1	-

NEW (3) VDT/SCP CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	3	9701-VWSCWAENE

NEW NETWORK CONFIGURATION WORKSTATION

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	1	9701-VWSCWAENE

BUILDING "A"

NEW VDT/SCP CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	1	9701-VWSCWAENE

BUILDING "C"

NEW VDT/SCP CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	1	9701-VWSCWAENE

BUILDING "D"

NEW VDT/SCP CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	1	9701-VWSCWAENE

BUILDING "E"

NEW VDT/SCP CLIENT

ITEM	DESCRIPTION	MANUFACTURER	QTY	CATALOG NUMBER
1	FACTORYTALK CLIENT	ROCKWELL	1	9701-VWSCWAENE

NOTES:

1. SERVER, CLIENT, AND WORKSTATION OPERATING SYSTEMS AND VIRTUAL MACHINE SOFTWARE LICENSING MUST BE PROCURED BY THE CONTRACTOR FOR A FULLY FUNCTIONAL REVLAC CONTROL SYSTEM.
2. CONTRACTOR SHALL HOLD EXTENSIVE CONSULTATIONS WITH THE DEPARTMENT AND THE ENGINEER FOR APPROVAL OF THE GRAPHICS/ALARMS/REPORTING TEMPLATE STANDARDS PRIOR TO DEVELOPMENT OF REVLAC CONTROL SYSTEM SERVER CLIENT SOFTWARE.

SC-13A

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-13A-REVLAC SERVER CLIENT SOFTWARE AND LICENSING DETAILS.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

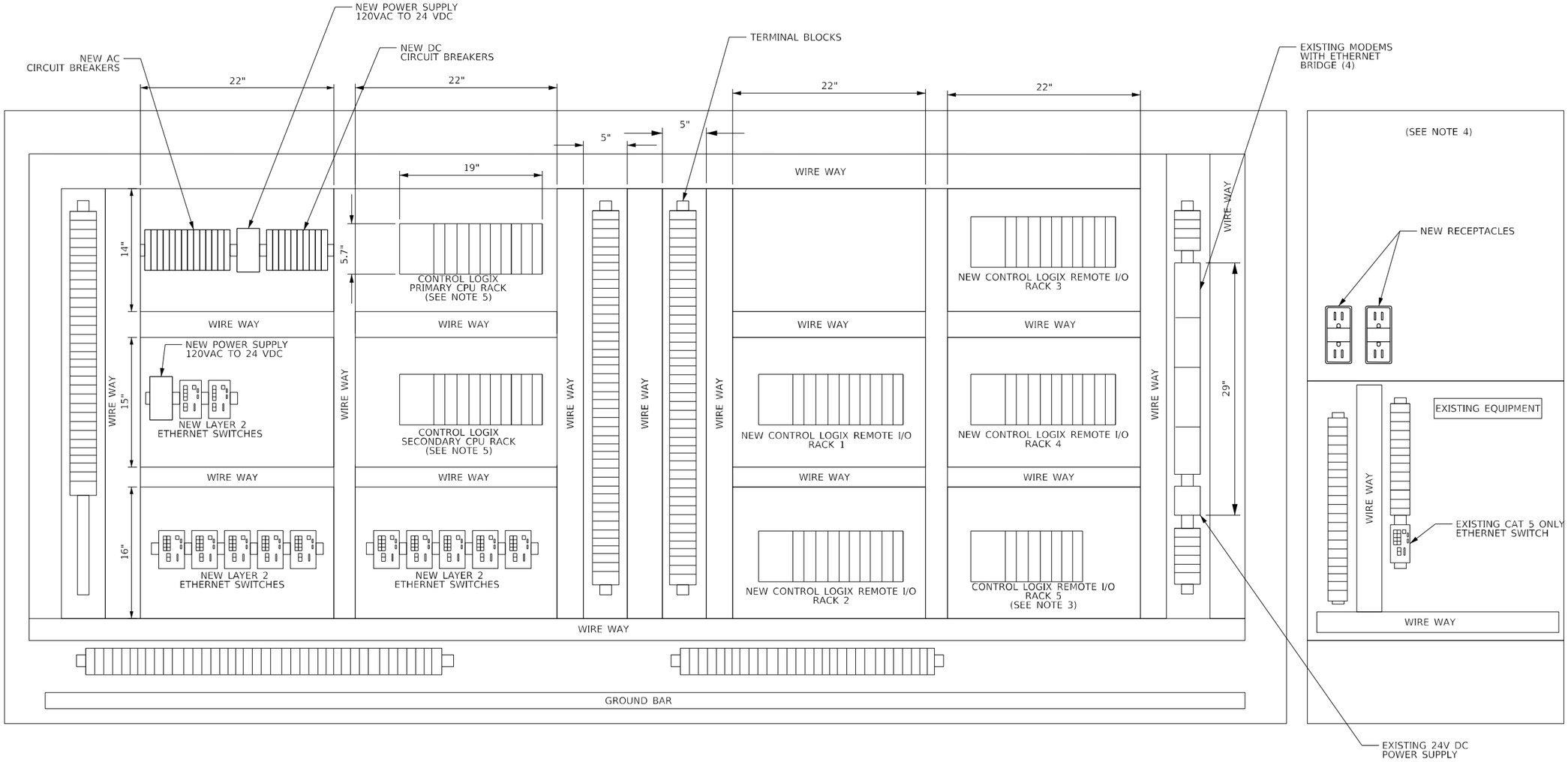
DESIGNED - RJR | REVISED -
DRAWN - MBS | REVISED -
CHECKED - RAS | REVISED -
DATE - 1/27/2022 | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REVLAC SERVER CLIENT
SOFTWARE AND LICENSING DETAILS

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	212
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. CONTRACTOR SHALL REFERENCE SHEET SC-15 FOR BILL OF MATERIALS AND POWER LADDER.
3. CONTROL LOGIX REMOTE I/O RACK 5 IS THE EXISTING BRIDGE RACK. REMOTE I/O RACK HAS BEEN MODIFIED SEE SHEET SC-16 FOR NEW NETWORK LAYOUT AND PARTS.
4. THE CURRENT VDT AND SCP SHALL BE REPLACED BY A NEW VDT/SCP CLIENT WORKSTATION, SINGLE SCREEN APPLICATION. THE SCREEN SHALL BE MOUNTED ON THE ENCLOSURE DOOR WITH A TRAY FOR THE KEYBOARD AND MOUSE. THE ENCLOSURE DOOR MAY NEED REINFORCING TO SUPPORT NEW SCREEN.
5. PRIMARY AND SECONDARY CPU RACKS HAVE BEEN MODIFIED. SEE SHEET SC-16 FOR NEW PARTS.

FILE NAME = D160T46-SC-14-BUILDING A PLC-VDT ENCLOSURE NEW LAYOUT.dgn
USER NAME = ANGANT
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022
DESIGNED - RJR
DRAWN - MBS
CHECKED - RAS
DATE - 1/27/2022
REVISED -
REVISED -
REVISED -
REVISED -

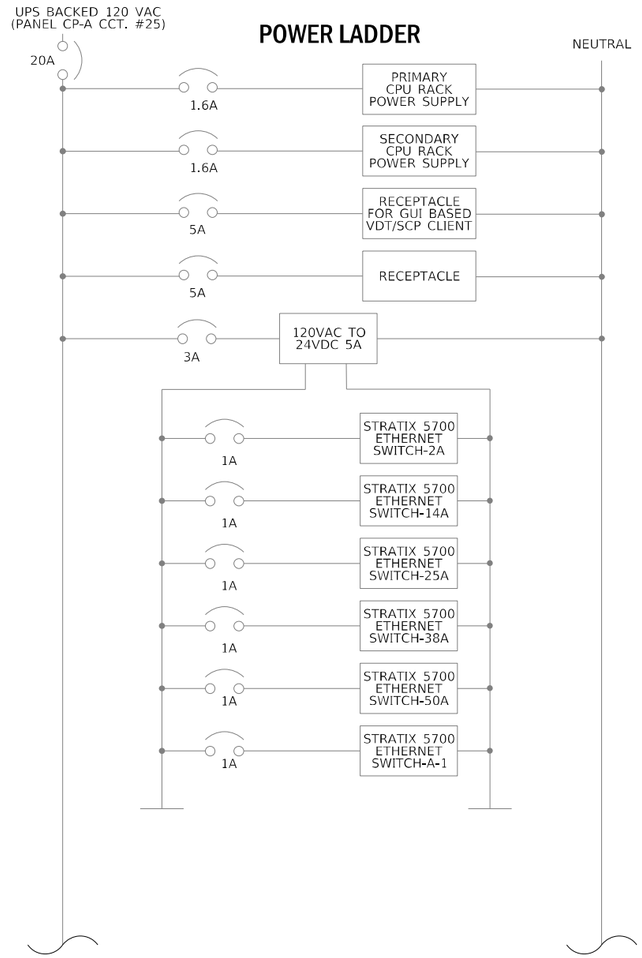
Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

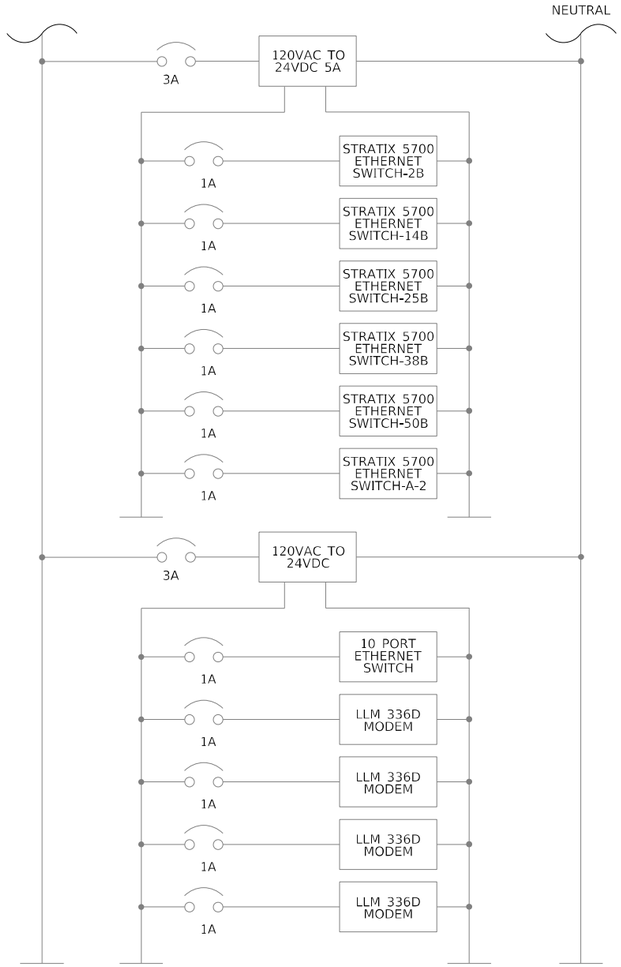
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

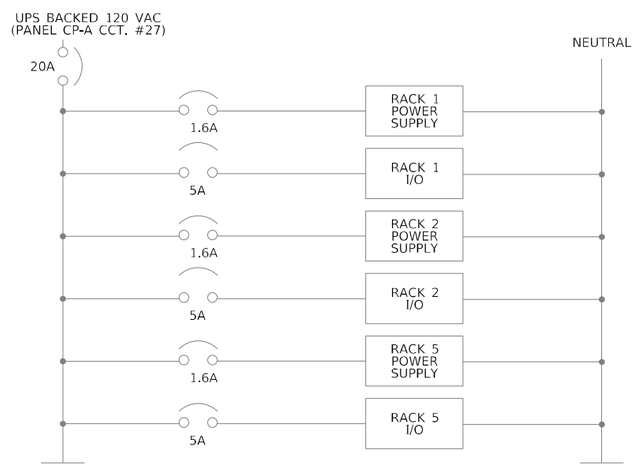
PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING A

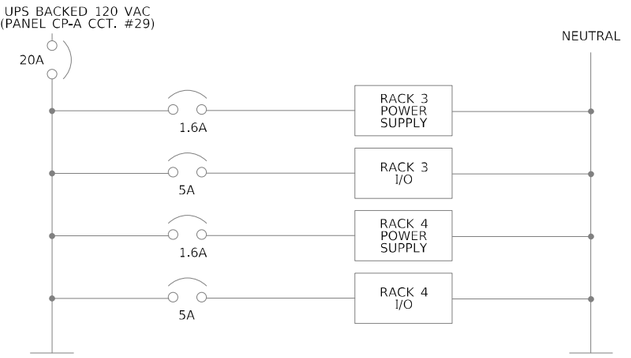
SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	213
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		









BILL OF MATERIAL - PLC/VDT ENCLOSURE - BUILDING A

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1.6A AC CIRCUIT BREAKER		7	
2	3A AC CIRCUIT BREAKER		3	
3	5A AC CIRCUIT BREAKER		7	
4	20A AC CIRCUIT BREAKER		3	
5	1A DC CIRCUIT BREAKER		17	
6	POWER SUPPLY 120VAC TO 24VDC 5A		2	
7	10 SLOT CONTROLLOGIX CHASSIS	ROCKWELL	4	1756-A10
8	CONTROLLOGIX, 85-265 VAC POWER SUPPLY (10AMP @5V)	ROCKWELL	4	1756-PA72
9	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	10	1756-EN2TR
10	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	2	1756-EN2T
11	CONTROLLOGIX 120V AC INPUT MODULE	ROCKWELL	21	1756-IA16
12	CONTROLLOGIX 120/240V AC OUTPUT MODULE	ROCKWELL	12	1756-OA16
13	CONTROLLOGIX REMOVABLE TERMINAL BLOCK FOR I/O MODULE	ROCKWELL	33	1756-TBNH
14	STRATIX 5700 NETWORK SWITCH	ROCKWELL	10	1783-BMS10CGP
15	STRATIX 5700 NETWORK SWITCH	ROCKWELL	2	1783-BMS06SGA
16	STRATIX FIBER SFP, 1000MBIT CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	14	1783-SFP1GLX
17	GUI BASED VDT/SCP CLIENT		1	
18	RECEPTACLE		2	

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. ALL SOFTWARE/LICENSES ARE TO BE PROCURED BY CONTRACTOR FOR THE UPGRADED GUI BASED VDT/SCP CLIENT.
3. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.

pw:\\USI-ASI-APP06CS.jacobs.com:NA1\Documents\C9X12901_REVTAC_Rehbilitation Phase II\C9X12901 Contract 60T46\700 CAD\Sheets\D160T46-SC-15-BUILDING A BILL OF MATERIAL AND POWER LADDER.dgn

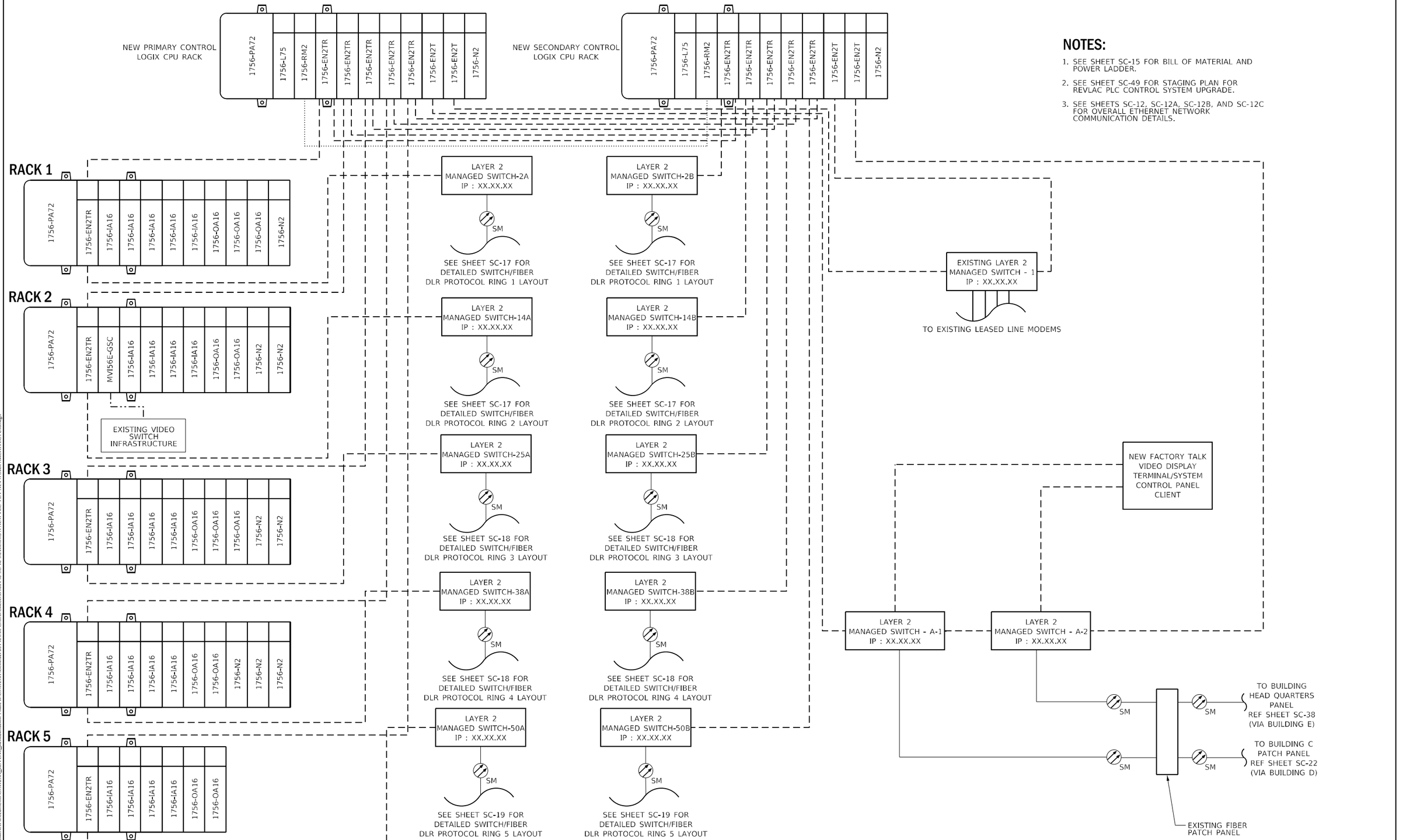
FILE NAME = D160T46-SC-15-BUILDING A BILL OF MATERIAL AND POWER LADDER.dgn		DESIGNED - RJR	REVISED -
Jacobs		DRAWN - MBS	REVISED -
525 W. Monroe, Suite 1600, Chicago, IL 60661	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND POWER LADDER
BUILDING A

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	214
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



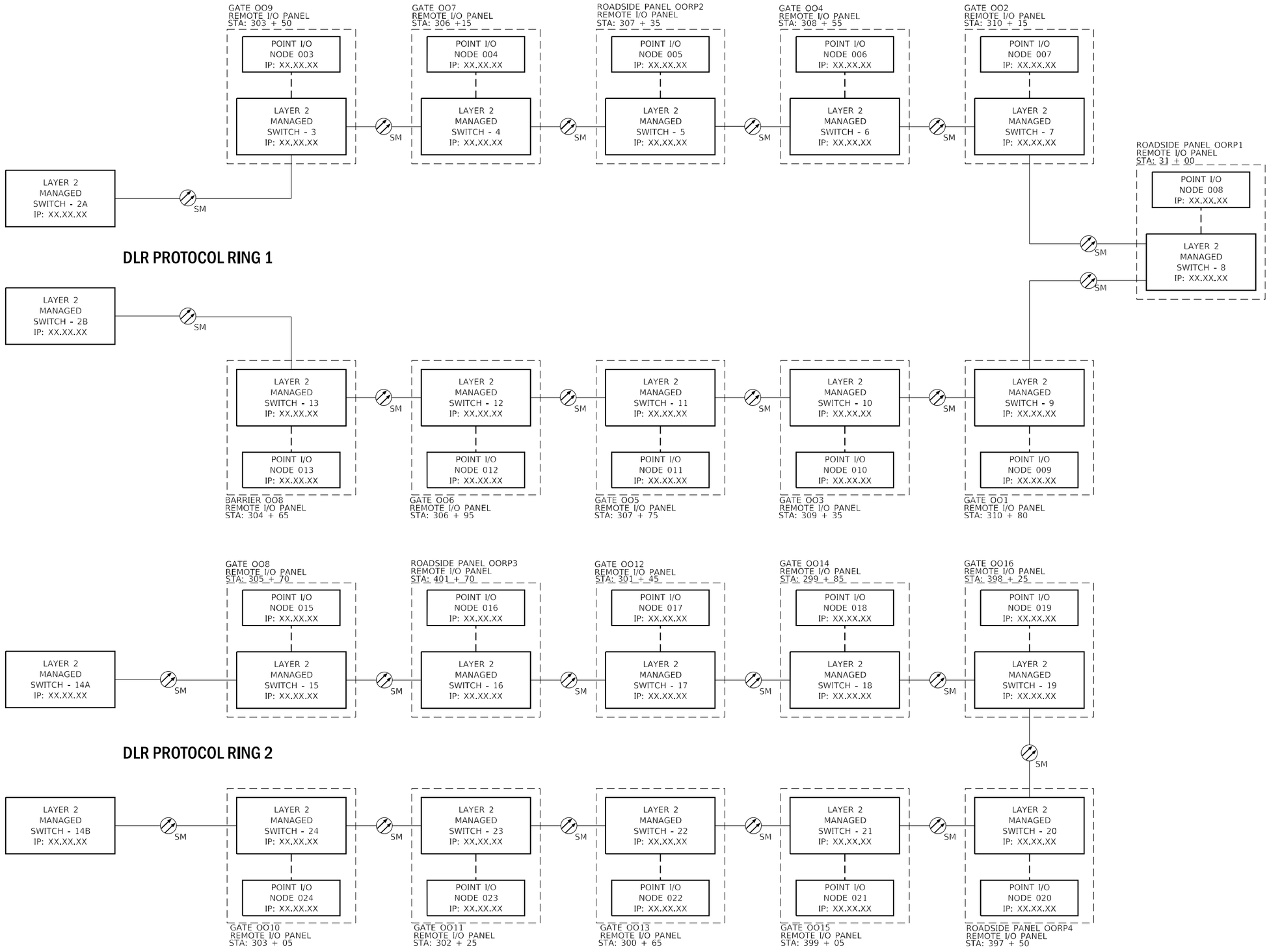
NOTES:

1. SEE SHEET SC-15 FOR BILL OF MATERIAL AND POWER LADDER.
2. SEE SHEET SC-49 FOR STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.

SC-16

FILE NAME = D160T46-SC-16-BUILDING A NEW PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	DRAWN - MBS	REVISED -	**NEW PLC/VDT NETWORK ARCHITECTURE BUILDING A**
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	SCALE: NTS SHEET 1 OF 1 SHEETS STA. N/A TO STA. N/A
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	215
		CONTRACT NO. 60T46		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-17

pw:\\US1-AS0-APP06CS.jacobs.com:NA1\Documents\OX12901_REVTAC_Rehabilitation Phase II\OX12901 Contract 60T46\700-CADD\Sheets\D160T46-SC-17- BUILDING A NEW ROADWAY NETWORK ARCHITECTURE 1 OF 3.dgn

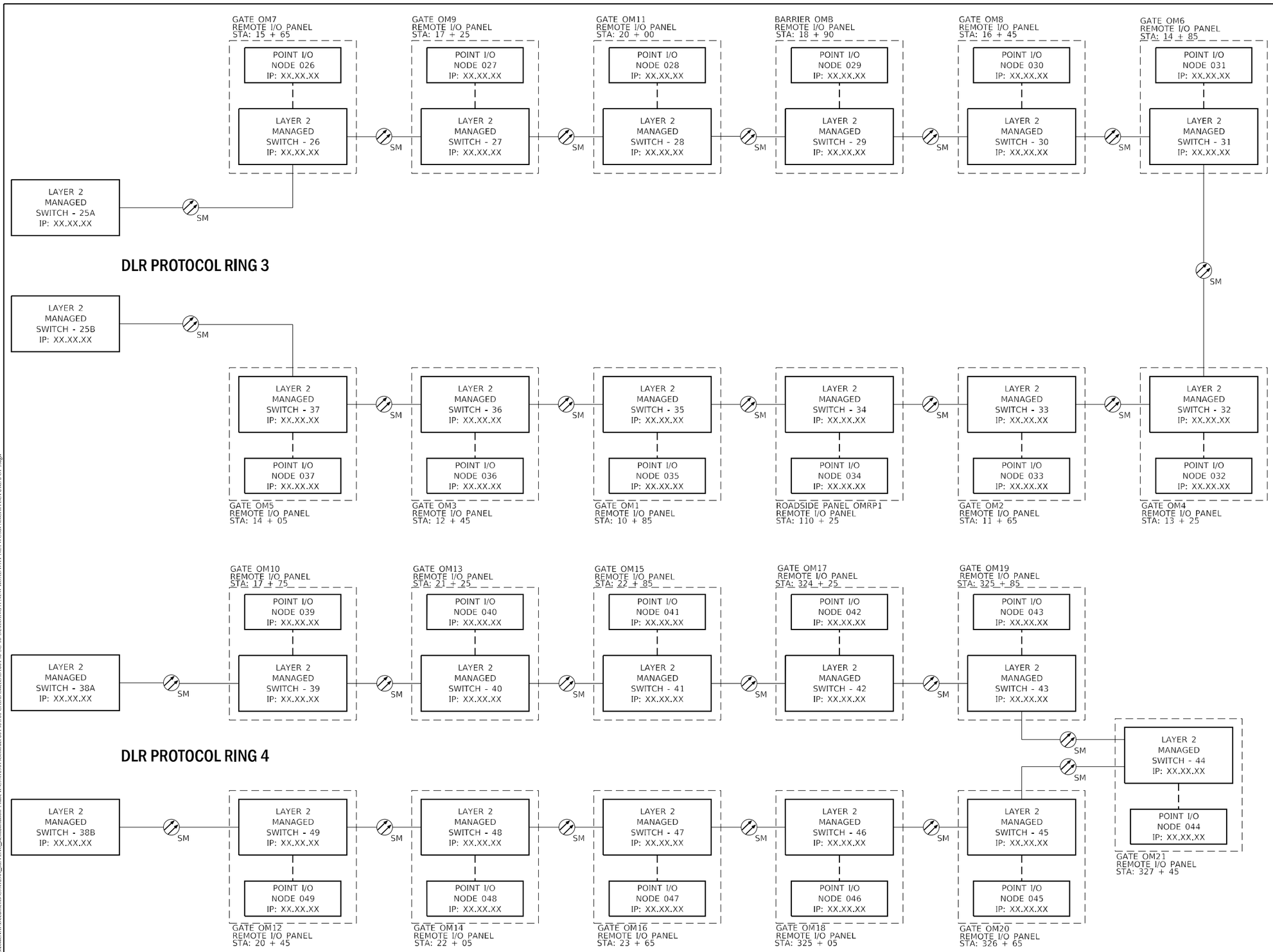
FILE NAME = D160T46-SC-17- BUILDING A NEW ROADWAY NETWORK ARCHITECTURE 1 OF 3.dgn	DESIGNED - RJR	REVISED -	
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING A

SCALE: NTS | SHEET 1 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	216
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



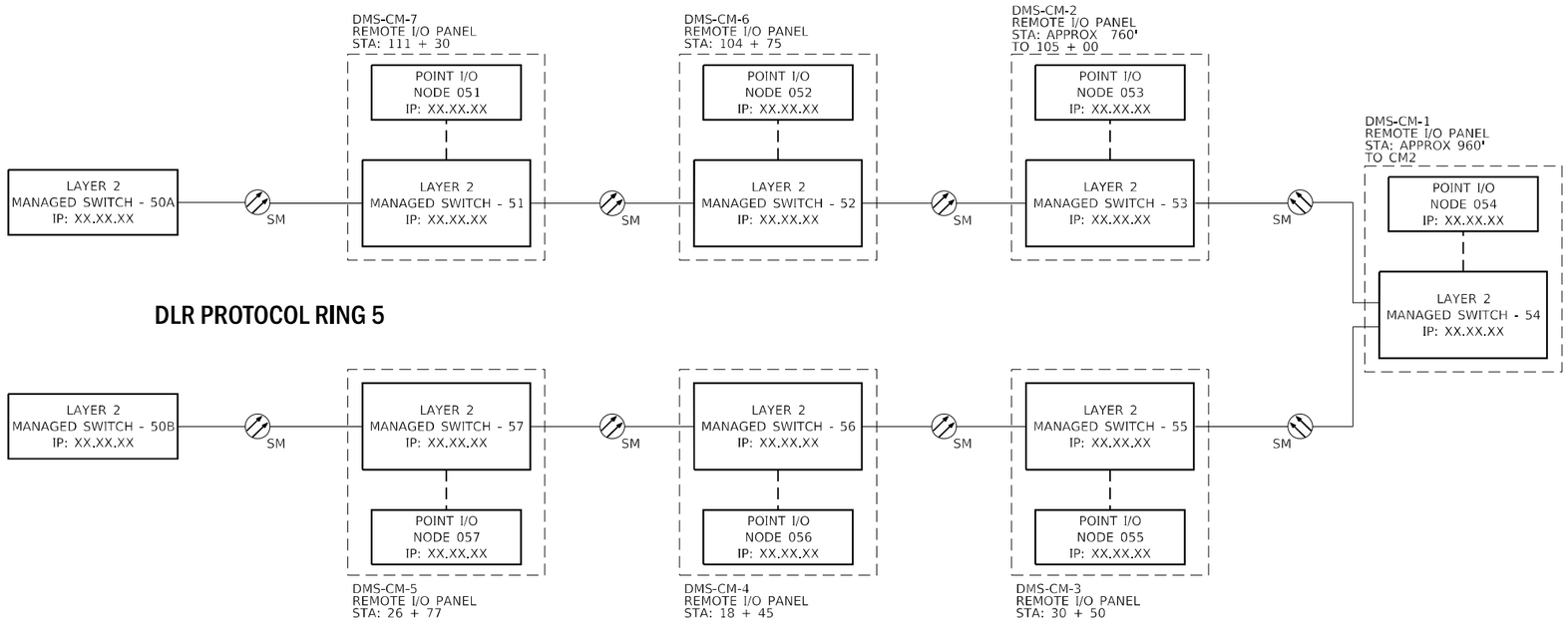
NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-18

FILE NAME = D160T46-SC-18-BUILDING A NEW ROADWAY NETWORK ARCHITECTURE 2 OF 3.dgn		DESIGNED - RJR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NEW ROADWAY NETWORK ARCHITECTURE BUILDING A
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661		DRAWN - MBS	REVISED -		
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -		
	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -		SCALE: NTS SHEET 2 OF 3 SHEETS STA. N/A TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	217
		CONTRACT NO.	60T46	
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-19

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-19-BUILDING A NEW ROADWAY NETWORK ARCHITECTURE 3 OF 3.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

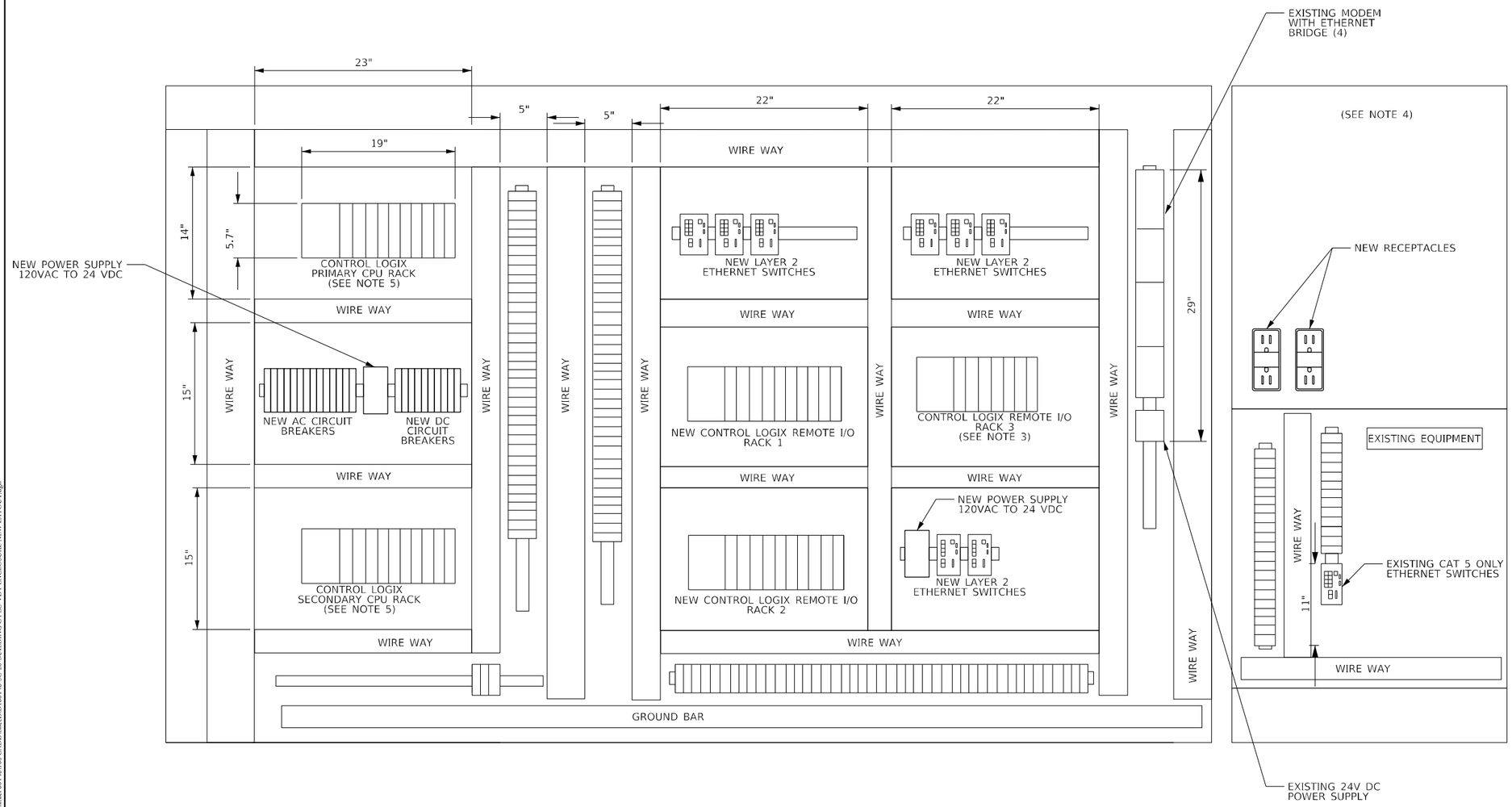
DESIGNED - RJR	REVISED -	
DRAWN - MBS	REVISED -	
CHECKED - RAS	REVISED -	
DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING A

SCALE: NTS | SHEET 3 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	218
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. CONTRACTOR SHALL REFERENCE SHEET SC-21 FOR BILL OF MATERIALS AND POWER LADDER.
3. CONTROL LOGIX REMOTE I/O RACK 3 IS THE EXISTING BRIDGE RACK. REMOTE I/O RACK HAS BEEN MODIFIED SEE SHEET SC-22 FOR NEW NETWORK LAYOUT AND PARTS.
4. THE CURRENT VDT AND SCP SHALL BE REPLACED BY A NEW VDT/SCP CLIENT WORKSTATION, SINGLE SCREEN APPLICATION. THE SCREEN SHALL BE MOUNTED ON THE ENCLOSURE DOOR WITH A TRAY FOR THE KEYBOARD AND MOUSE. THE ENCLOSURE DOOR MAY NEED REINFORCING TO SUPPORT NEW SCREEN.
5. PRIMARY AND SECONDARY CPU RACKS HAVE BEEN MODIFIED. SEE SHEET SC-22 FOR NEW PARTS.

FILE NAME = D160T46-SC-20-BUILDING C PLC-VDT ENCLOSURE NEW LAYOUT.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

USER NAME =	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

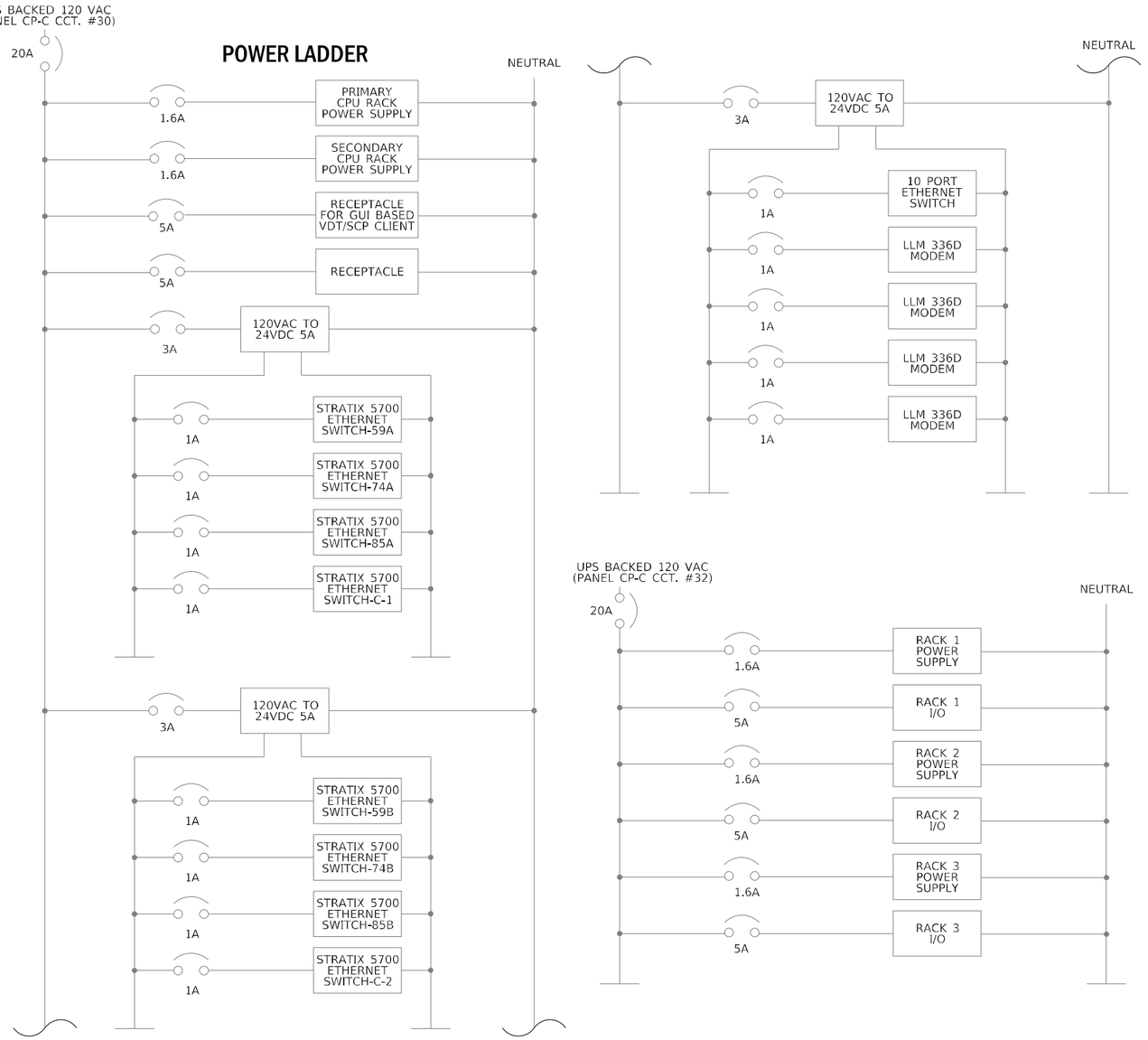
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING C

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	219
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

pw:\\USJAS0-APP0662.Jacobs.com\NAJDocuments\C9X12901_REVLAC_Rehabilitation_Phase II\C9X12901\Contract 60T46\700 CAD\Sheets\D160T46-SC-20-BUILDING C PLC-VDT ENCLOSURE NEW LAYOUT.dgn



BILL OF MATERIAL - PLC/VDT ENCLOSURE - BUILDING C

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1.6A AC CIRCUIT BREAKER		5	
2	3A AC CIRCUIT BREAKER		3	
3	5A AC CIRCUIT BREAKER		5	
4	20A AC CIRCUIT BREAKER		2	
5	1A DC CIRCUIT BREAKER		13	
6	POWER SUPPLY 120VAC TO 24VDC 5A		2	
7	10 SLOT CONTROLLOGIX CHASSIS	ROCKWELL	2	1756-A10
8	CONTROLLOGIX, 85-265 VAC POWER SUPPLY (10AMP @5V)	ROCKWELL	2	1756-PA72
9	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	4	1756-EN2TR
10	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	2	1756-EN2T
11	CONTROLLOGIX 120V AC INPUT MODULE	ROCKWELL	13	1756-IA16
12	CONTROLLOGIX 120/240V AC OUTPUT MODULE	ROCKWELL	6	1756-OA16
13	CONTROLLOGIX REMOVABLE TERMINAL BLOCK FOR I/O MODULE	ROCKWELL	19	1756-TBNH
14	STRATIX 5700 NETWORK SWITCH	ROCKWELL	6	1783-BMS10CGP
15	STRATIX 5700 NETWORK SWITCH	ROCKWELL	2	1783-BMS06SGA
16	STRATIX FIBER SFP, 1000MBIT CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	10	1783-SFP1GLX
17	GUI BASED VDT/SCP CLIENT		1	
18	RECEPTACLE		2	

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. ALL SOFTWARE/LICENSES ARE TO BE PROCURED BY CONTRACTOR FOR THE UPGRADED GUI BASED VDT/SCP CLIENT.
3. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.

pw:\\USA50-APP066CS.jacobs.com:NAT\Documents\C9X12901_REVT-AC_Rehabilitation Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-21 BUILDING C BILL OF MATERIAL AND POWER LADDER.dgn

FILE NAME = D160T46-SC-21-BUILDING C BILL OF MATERIAL AND POWER LADDER.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

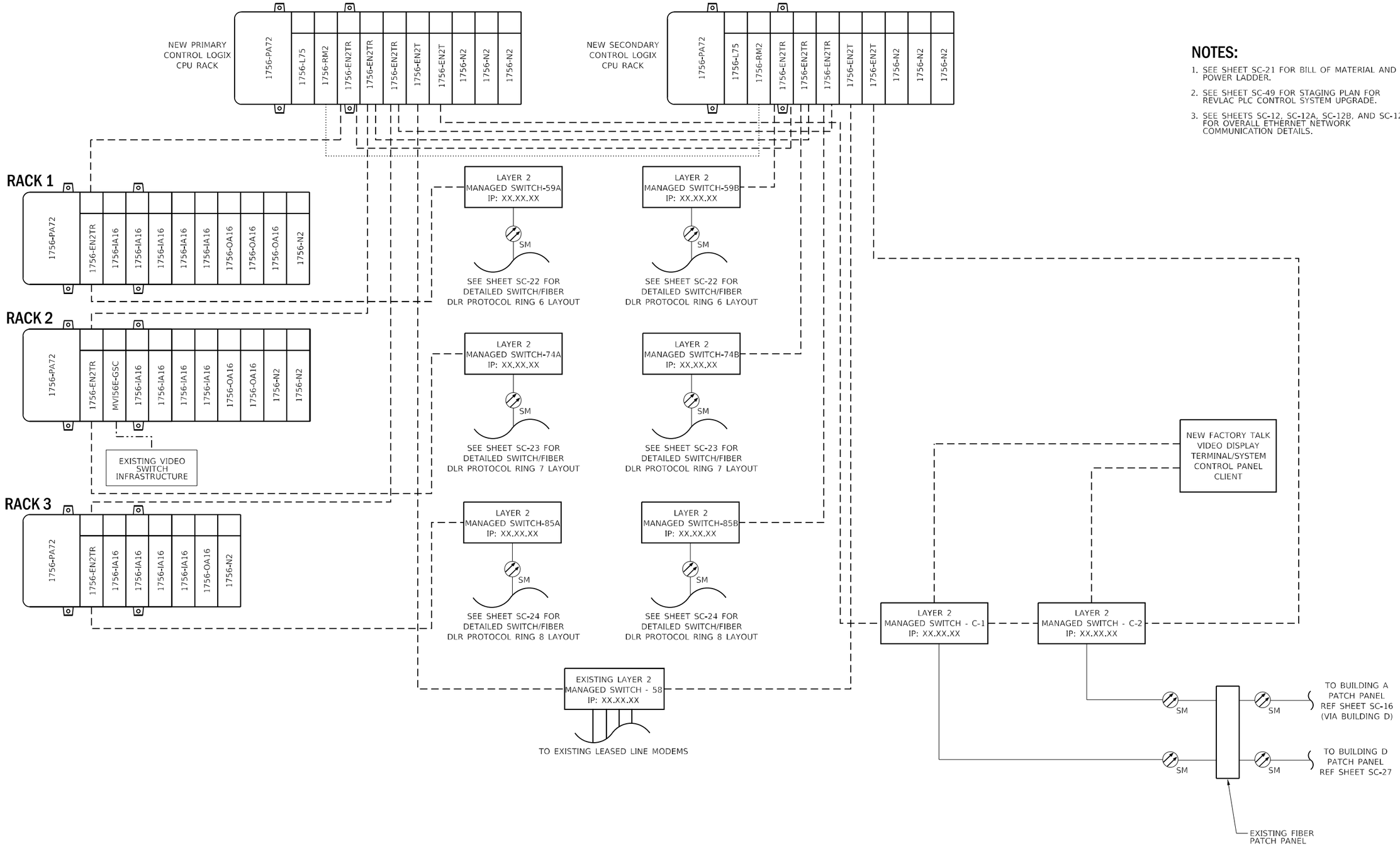
DESIGNED - RJR	DRAWN - MBS	CHECKED - RAS
REVISED -	REVISED -	REVISED -
DATE - 1/27/2022		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND POWER LADDER
BUILDING C

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	220
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-21 FOR BILL OF MATERIAL AND POWER LADDER.
2. SEE SHEET SC-49 FOR STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.

SC-22

FILE NAME = D160T46-SC-22-BUILDING C NEW PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

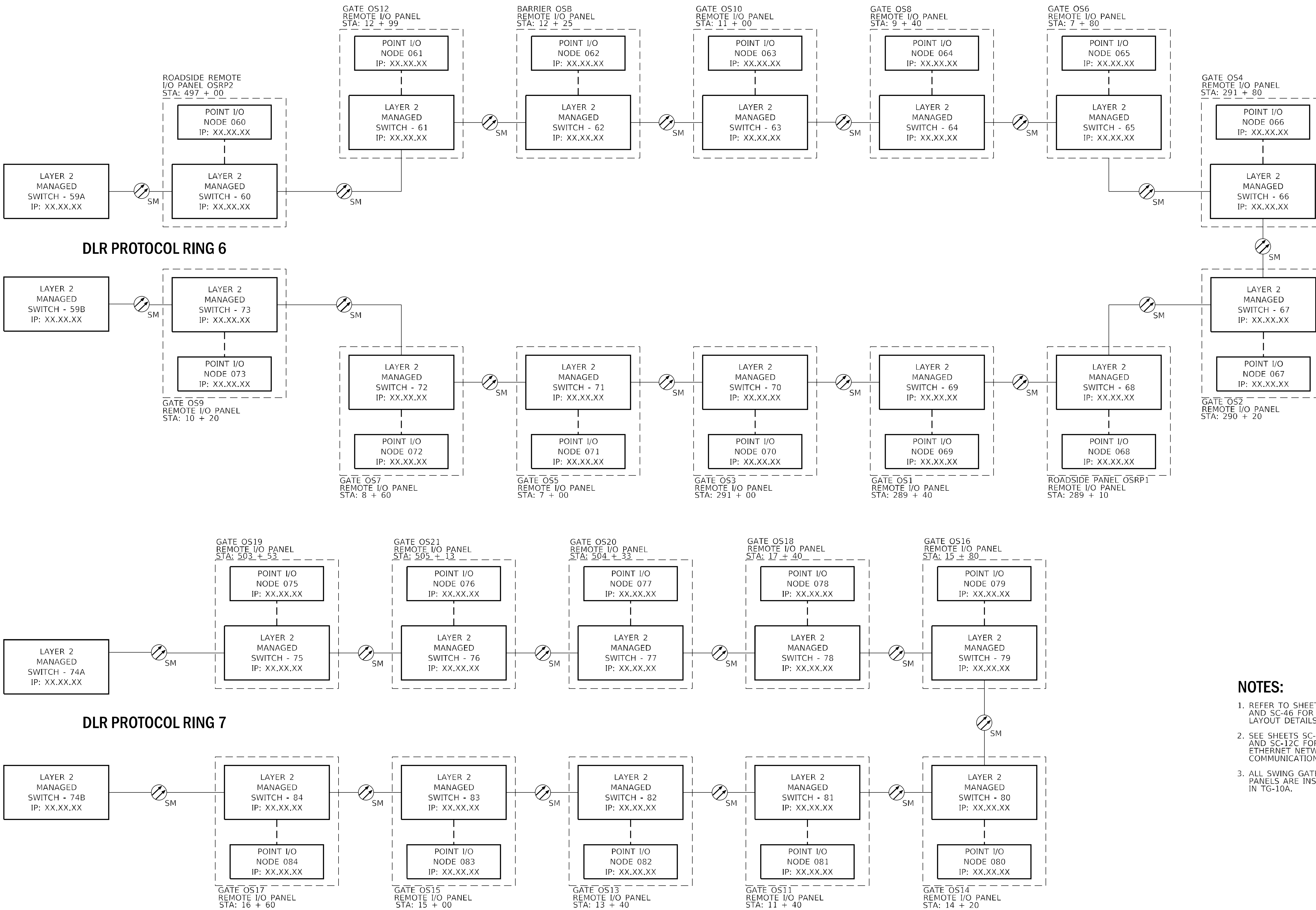
Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW PLC/VDT NETWORK ARCHITECTURE
BUILDING C

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	221
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-23

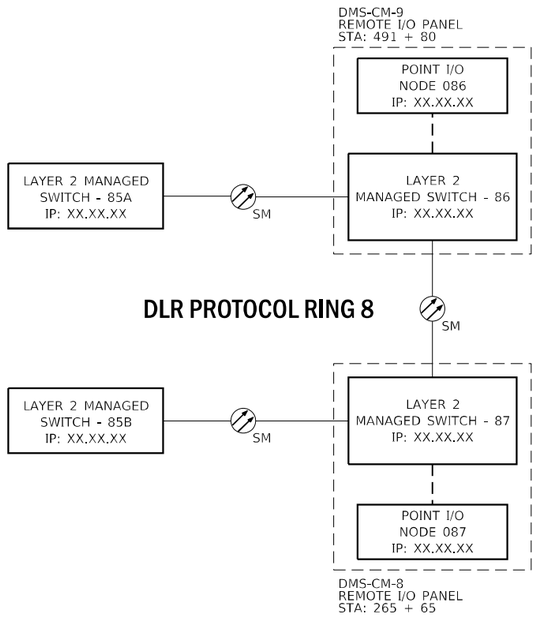
FILE NAME = D160T46-SC-23-BUILDING C NEW ROADWAY NETWORK ARCHITECTURE 1 OF 2.dgn		DESIGNED - RJR	REVISED -
Jacobs		DRAWN - MBS	REVISED -
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
525 W. Monroe, Suite 1600, Chicago, IL 60661	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING C

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	222
		CONTRACT NO. 60T46		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-24

pw:\\USI-ASG-APP0665.jacobs.com:NAI Documents\C9X12901_REVIAC_Rehabilitation Phase II\C9X12901 Contract 60T46\700 CAD\Sheets\D160T46-SC-24-BUILDING C NEW ROADWAY NETWORK ARCHITECTURE 2 OF 2.dgn

FILE NAME = D160T46-SC-24-BUILDING C NEW ROADWAY NETWORK ARCHITECTURE 2 OF 2.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

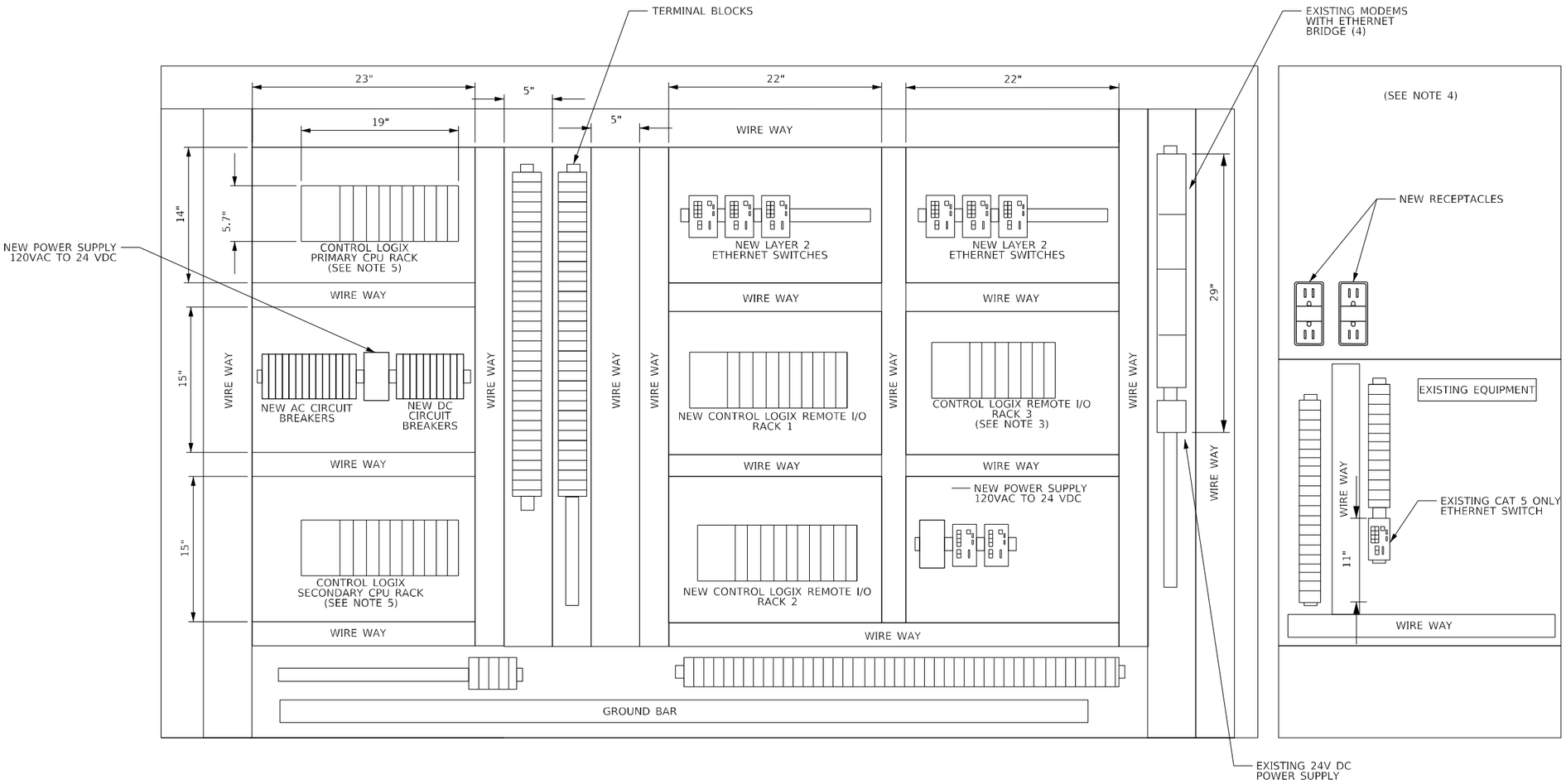
DESIGNED - RJR | REVISED -
DRAWN - MBS | REVISED -
CHECKED - RAS | REVISED -
DATE - 1/27/2022 | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING D

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	223
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. CONTRACTOR SHALL REFERENCE SHEET SC-26 FOR BILL OF MATERIALS AND POWER LADDER.
3. CONTROL LOGIX REMOTE I/O RACK 3 IS THE EXISTING BRIDGE RACK. REMOTE I/O RACK HAS BEEN MODIFIED SEE SHEET SC-27 FOR NEW NETWORK LAYOUT AND PARTS.
4. THE CURRENT VDT AND SCP SHALL BE REPLACED BY A NEW VDT/SCP CLIENT WORKSTATION, SINGLE SCREEN APPLICATION. THE SCREEN SHALL BE MOUNTED ON THE ENCLOSURE DOOR WITH A TRAY FOR THE KEYBOARD AND A MOUSE. THE ENCLOSURE DOOR MAY NEED REINFORCING TO SUPPORT NEW SCREEN.
5. PRIMARY AND SECONDARY CPU RACKS HAVE BEEN MODIFIED. SEE SHEET SC-27 FOR NEW PARTS.

FILE NAME = D160T46-SC-25-BUILDING D PLC-VDT ENCLOSURE NEW LAYOUT.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

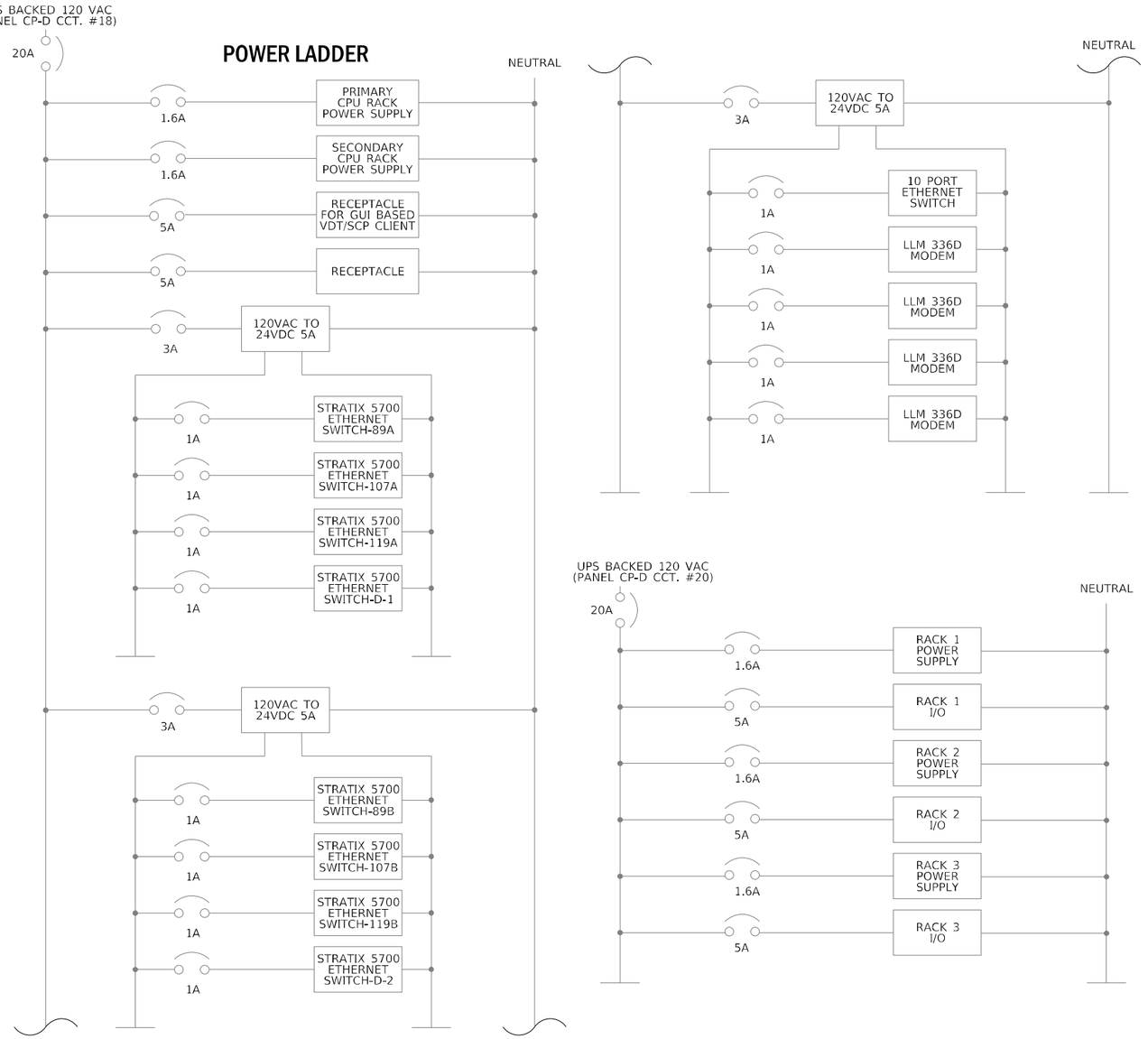
USER NAME =	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING C

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	224
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



BILL OF MATERIAL - PLC/VDT ENCLOSURE - BUILDING D

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1.6A AC CIRCUIT BREAKER		5	
2	3A AC CIRCUIT BREAKER		3	
3	5A AC CIRCUIT BREAKER		5	
4	20A AC CIRCUIT BREAKER		2	
5	1A DC CIRCUIT BREAKER		13	
6	POWER SUPPLY 120VAC TO 24VDC 5A		2	
7	10 SLOT CONTROLLOGIX CHASSIS	ROCKWELL	2	1756-A10
8	CONTROLLOGIX, 85-265 VAC POWER SUPPLY (10AMP @5V)	ROCKWELL	2	1756-PA72
9	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	4	1756-EN2TR
10	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	2	1756-EN2T
11	CONTROLLOGIX 120V AC INPUT MODULE	ROCKWELL	13	1756-IA16
12	CONTROLLOGIX 120/240V AC OUTPUT MODULE	ROCKWELL	6	1756-OA16
13	CONTROLLOGIX REMOVABLE TERMINAL BLOCK FOR I/O MODULE	ROCKWELL	19	1756-TBNH
14	STRATIX 5700 NETWORK SWITCH	ROCKWELL	6	1783-BMS10CGP
15	STRATIX 5700 NETWORK SWITCH	ROCKWELL	2	1783-BMS06SGA
16	STRATIX FIBER SFP, 1000MBIT CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	10	1783-SFP1GLX
17	GUI BASED VDT/SCP CLIENT		1	
18	RECEPTACLE		2	

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. ALL SOFTWARE/LICENSES ARE TO BE PROCURED BY CONTRACTOR FOR THE UPGRADED GUI BASED VDT/SCP CLIENT.
3. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.

pw:\\UUSAS0-APP066CS.jacobs.com:NAD\Documents\CSX1290_REVLAC_Rehabilitation_Phase II\CSX1290\Contract 60T46\700 CADD\Sheets\D160T46-SC-26-BUILDING D BILL OF MATERIAL AND POWER LADDER.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-26-BUILDING D BILL OF MATERIAL AND POWER LADDER.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

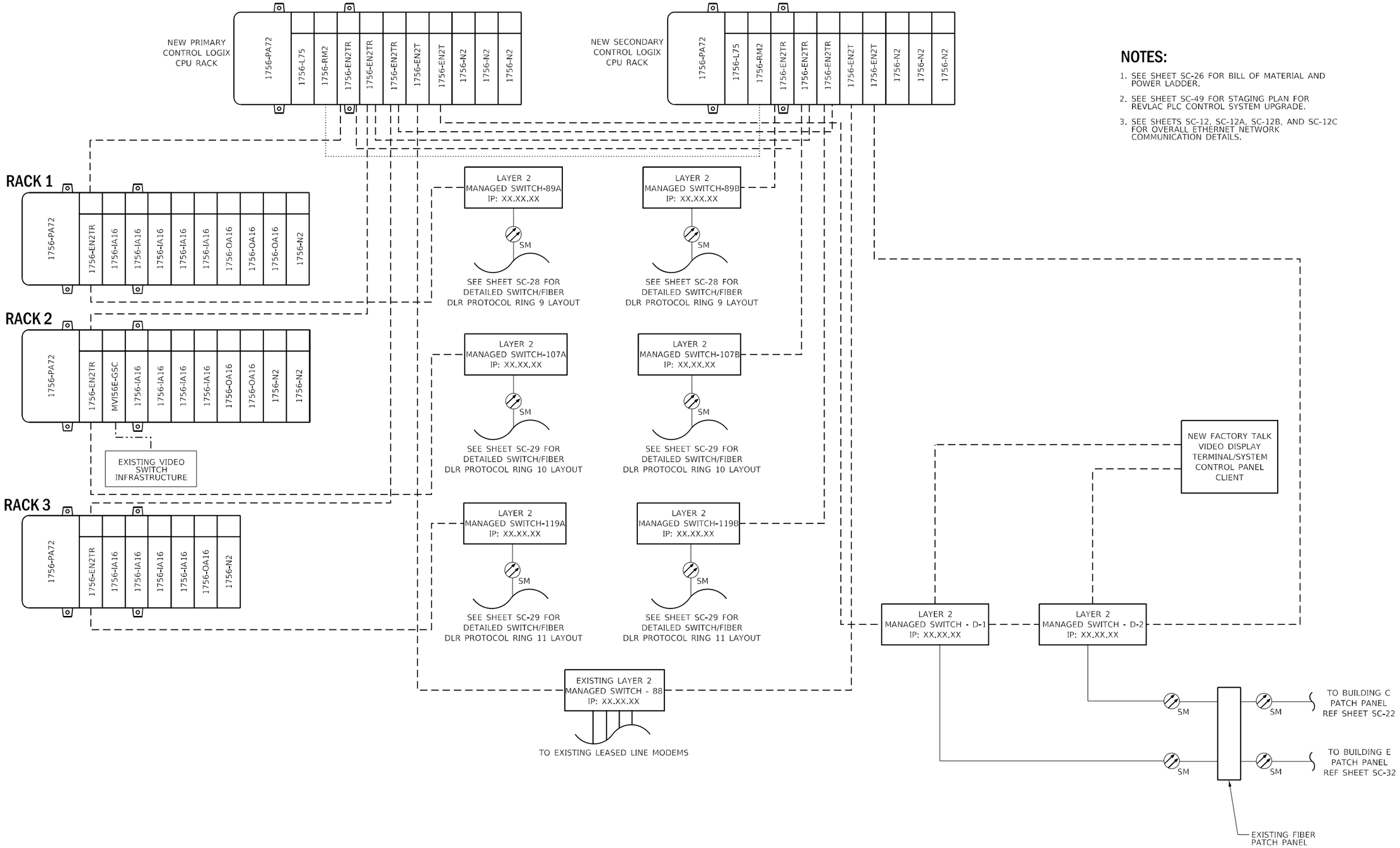
DESIGNED - RJR	REVISED -	
DRAWN - MBS	REVISED -	
CHECKED - RAS	REVISED -	
DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND POWER LADDER
BUILDING D

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	225
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-26 FOR BILL OF MATERIAL AND POWER LADDER.
2. SEE SHEET SC-49 FOR STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.

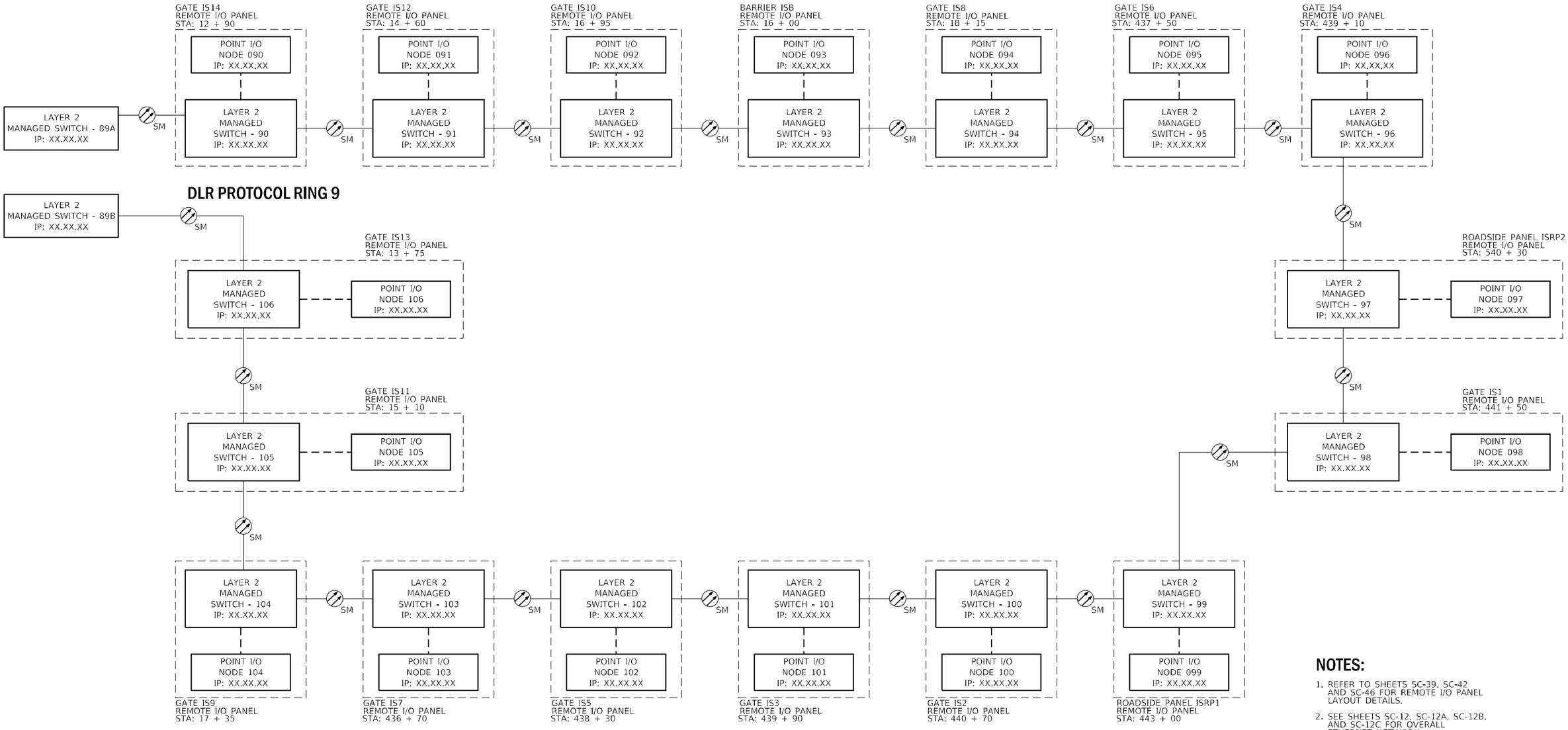
SC-27

FILE NAME = D160T46-SC-27-BUILDING D NEW PLC-VDT NETWORK ARCHITECTURE.dgn	DESIGNED - RJR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

NEW PLC/VDT NETWORK ARCHITECTURE BUILDING D

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	226
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

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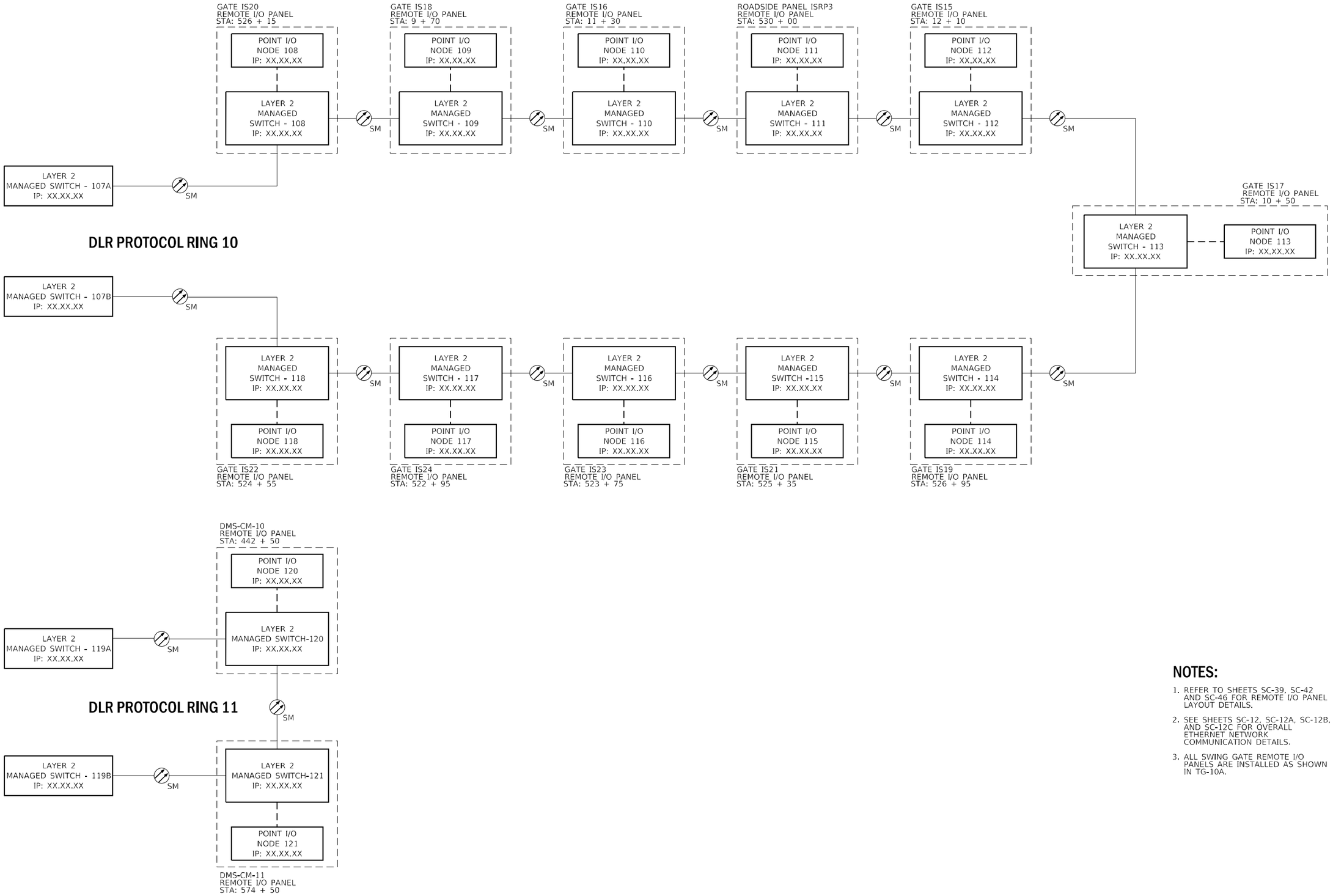
FILE NAME = D160T46-SC-28-BUILDING D NEW ROADWAY NETWORK ARCHITECTURE 1 OF 2.dgn	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING D

SCALE: NTS | SHEET 1 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	227
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-29

FILE NAME = D160T46-SC-29-BUILDING D NEW ROADWAY NETWORK ARCHITECTURE 2 OF 2.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING D

SCALE: NTS | SHEET 2 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	228
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		

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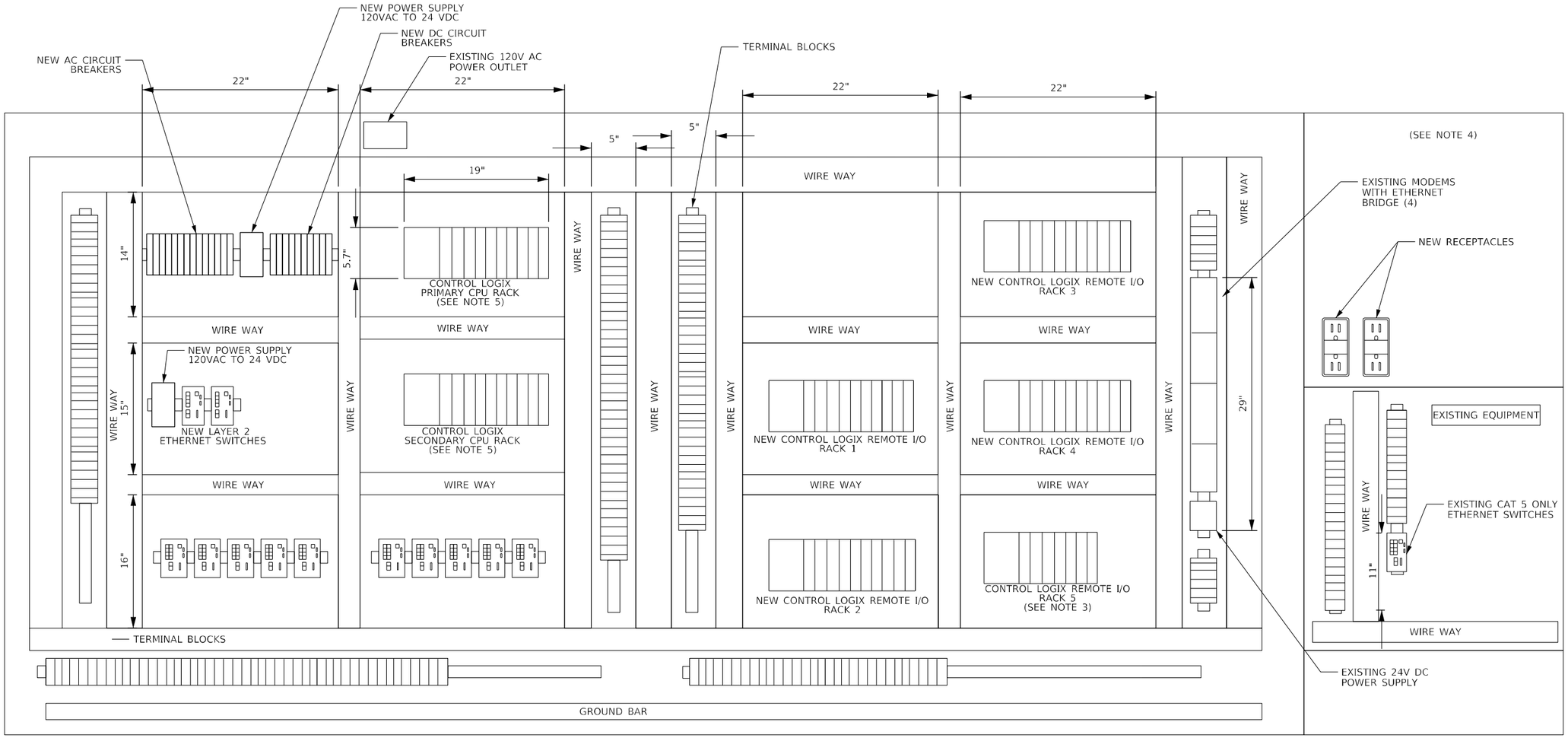


NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. CONTRACTOR SHALL REFERENCE SHEET SC-31 FOR BILL OF MATERIALS AND POWER LADDER.
3. CONTROL LOGIX REMOTE I/O RACK 5 IS THE EXISTING BRIDGE RACK. REMOTE I/O RACK HAS BEEN MODIFIED SEE SHEET SC-32 FOR NEW NETWORK LAYOUT AND PARTS.
4. THE CURRENT VDT AND SCP SHALL BE REPLACED BY A NEW VDT/SCP CLIENT WORKSTATION, SINGLE SCREEN APPLICATION. THE SCREEN SHALL BE MOUNTED ON THE ENCLOSURE DOOR WITH A TRAY FOR THE KEYBOARD AND A MOUSE. THE ENCLOSURE DOOR MAY NEED REINFORCING TO SUPPORT NEW SCREEN.
5. PRIMARY AND SECONDARY CPU RACKS HAVE BEEN MODIFIED. SEE SHEET SC-32 FOR NEW PARTS.

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-30-BUILDING E PLC-VDT NEW ENCLOSURE LAYOUT.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

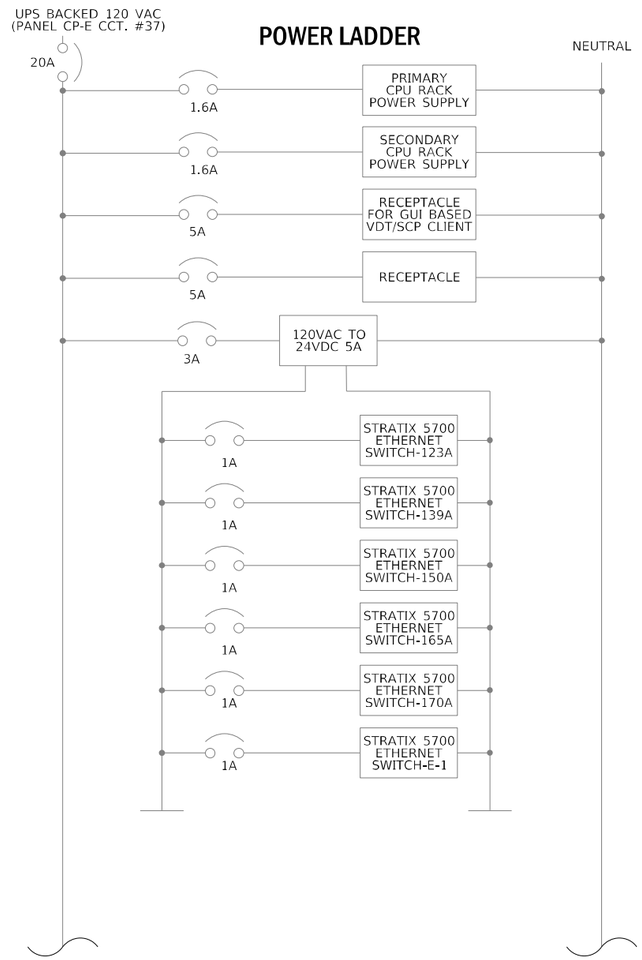
DESIGNED - RJR	REVISED -	
DRAWN - MBS	REVISED -	
CHECKED - RAS	REVISED -	
DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

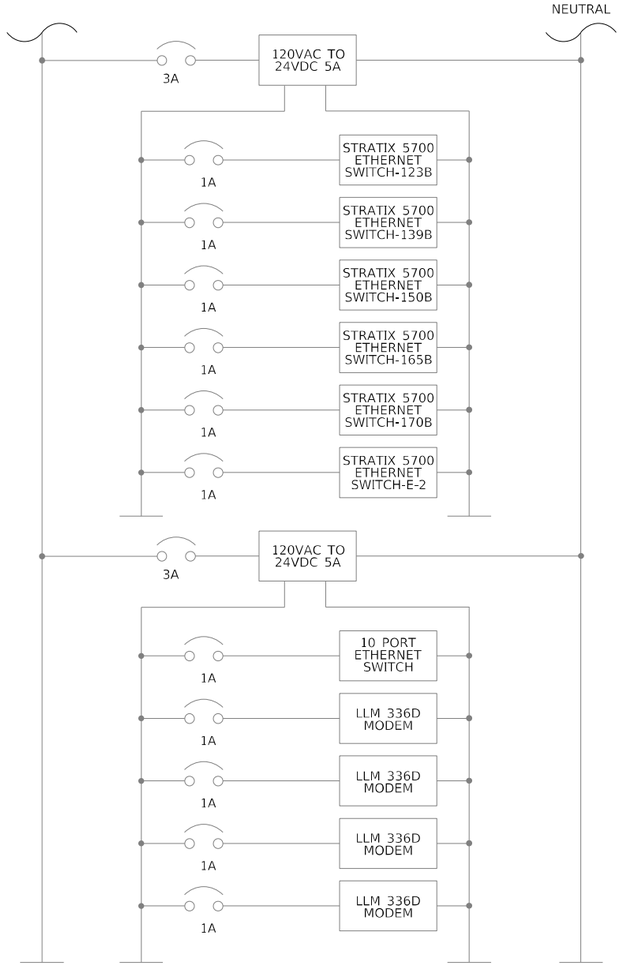
PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING E

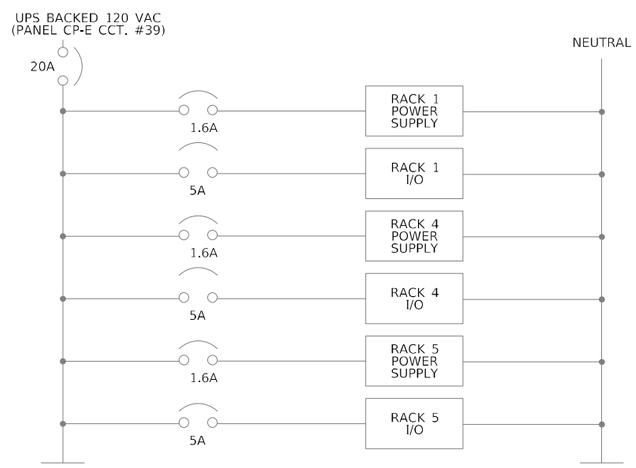
SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

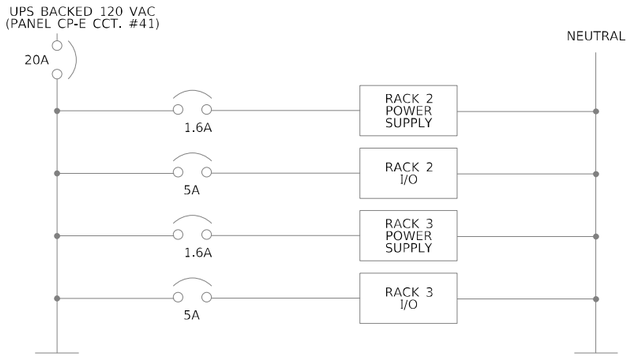
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	229
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



POWER LADDER







BILL OF MATERIAL - PLC/VDT ENCLOSURE - BUILDING E

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1.6A AC CIRCUIT BREAKER		7	
2	3A AC CIRCUIT BREAKER		3	
3	5A AC CIRCUIT BREAKER		7	
4	20A AC CIRCUIT BREAKER		3	
5	1A DC CIRCUIT BREAKER		17	
6	POWER SUPPLY 120VAC TO 24VDC 5A		2	
7	10 SLOT CONTROLLOGIX CHASSIS	ROCKWELL	4	1756-A10
8	CONTROLLOGIX, 85-265 VAC POWER SUPPLY (10AMP @5V)	ROCKWELL	4	1756-PA72
9	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	10	1756-EN2TR
10	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	2	1756-EN2T
11	CONTROLLOGIX 120V AC INPUT MODULE	ROCKWELL	21	1756-IA16
12	CONTROLLOGIX 120/240V AC OUTPUT MODULE	ROCKWELL	11	1756-OA16
13	CONTROLLOGIX REMOVABLE TERMINAL BLOCK FOR I/O MODULE	ROCKWELL	32	1756-TBNH
14	STRATIX 5700 NETWORK SWITCH	ROCKWELL	10	1783-BMS10CGP
15	STRATIX 5700 NETWORK SWITCH	ROCKWELL	2	1783-BMS06SGA
16	STRATIX FIBER SFP, 1000MBIT CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	14	1783-SFP1GLX
17	GUI BASED VDT/SCP CLIENT		1	
18	RECEPTACLE		2	

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. ALL SOFTWARE/LICENSES ARE TO BE PROCURED BY CONTRACTOR FOR THE UPGRADED GUI BASED VDT/SCP CLIENT.
3. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.

pw:\\US1ASI-APP06CS.jacobs.com:NA1\Documents\C9X12901_REVTAC_Refurbishment-Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-31-BUILDING E BILL OF MATERIAL AND POWER LADDER.dgn

FILE NAME = D160T46-SC-31-BUILDING E BILL OF MATERIAL AND POWER LADDER.dgn	USER NAME = RAS	DESIGNED - RJR	REVISED -
		DRAWN - MBS	REVISED -
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND POWER LADDER
BUILDING E

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	230
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

NEW PRIMARY CONTROL LOGIX CPU RACK

1756-PA72 | 1756-L75 | 1756-RM2 | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2T | 1756-EN2T | 1756-N2

NEW SECONDARY CONTROL LOGIX CPU RACK

1756-PA72 | 1756-L75 | 1756-RM2 | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2TR | 1756-EN2T | 1756-EN2T | 1756-N2

NOTES:

1. SEE SHEET SC-31 FOR BILL OF MATERIAL AND POWER LADDER.
2. SEE SHEET SC-49 FOR STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.

RACK 1

1756-PA72 | 1756-EN2TR | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16 | 1756-OA16 | 1756-N2

RACK 2

1756-PA72 | 1756-EN2TR | MVI56E-GSC | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16 | 1756-N2 | 1756-N2

EXISTING VIDEO SWITCH INFRASTRUCTURE

RACK 3

1756-PA72 | 1756-EN2TR | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16 | 1756-N2 | 1756-N2 | 1756-N2

RACK 4

1756-PA72 | 1756-EN2TR | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16 | 1756-N2 | 1756-N2 | 1756-N2

RACK 5

1756-PA72 | 1756-EN2TR | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16

LAYER 2 MANAGED SWITCH-123A IP: XX.XX.XX — SM — SEE SHEET SC-33 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 12 LAYOUT

LAYER 2 MANAGED SWITCH-123B IP: XX.XX.XX — SM — SEE SHEET SC-33 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 12 LAYOUT

LAYER 2 MANAGED SWITCH-139A IP: XX.XX.XX — SM — SEE SHEET SC-33 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 13 LAYOUT

LAYER 2 MANAGED SWITCH-139B IP: XX.XX.XX — SM — SEE SHEET SC-33 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 13 LAYOUT

LAYER 2 MANAGED SWITCH-150A IP: XX.XX.XX — SM — SEE SHEET SC-34 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 14 LAYOUT

LAYER 2 MANAGED SWITCH-150B IP: XX.XX.XX — SM — SEE SHEET SC-34 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 14 LAYOUT

LAYER 2 MANAGED SWITCH-165A IP: XX.XX.XX — SM — SEE SHEET SC-34 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 15 LAYOUT

LAYER 2 MANAGED SWITCH-165B IP: XX.XX.XX — SM — SEE SHEET SC-34 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 15 LAYOUT

LAYER 2 MANAGED SWITCH-170A IP: XX.XX.XX — SM — SEE SHEET SC-35 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 16 LAYOUT

LAYER 2 MANAGED SWITCH-170B IP: XX.XX.XX — SM — SEE SHEET SC-35 FOR DETAILED SWITCH/FIBER DLR PROTOCOL RING 16 LAYOUT

EXISTING LAYER 2 MANAGED SWITCH - 122 IP: XX.XX.XX

TO EXISTING LEASED LINE MODEMS

NEW FACTORY TALK VIDEO DISPLAY TERMINAL/SYSTEM CONTROL PANEL CLIENT

LAYER 2 MANAGED SWITCH - E-1 IP: XX.XX.XX

LAYER 2 MANAGED SWITCH - E-2 IP: XX.XX.XX

SM — TO BUILDING D PATCH PANEL REF SHEET SC-27

SM — TO BUILDING HQ PATCH PANEL REF SHEET SC-38

EXISTING FIBER PATCH PANEL

SC-32

FILE NAME = D160T46-SC-32-BUILDING E NEW PLC-VDT NETWORK ARCHITECTURE.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

DESIGNED - RJR	REVISED -	
DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

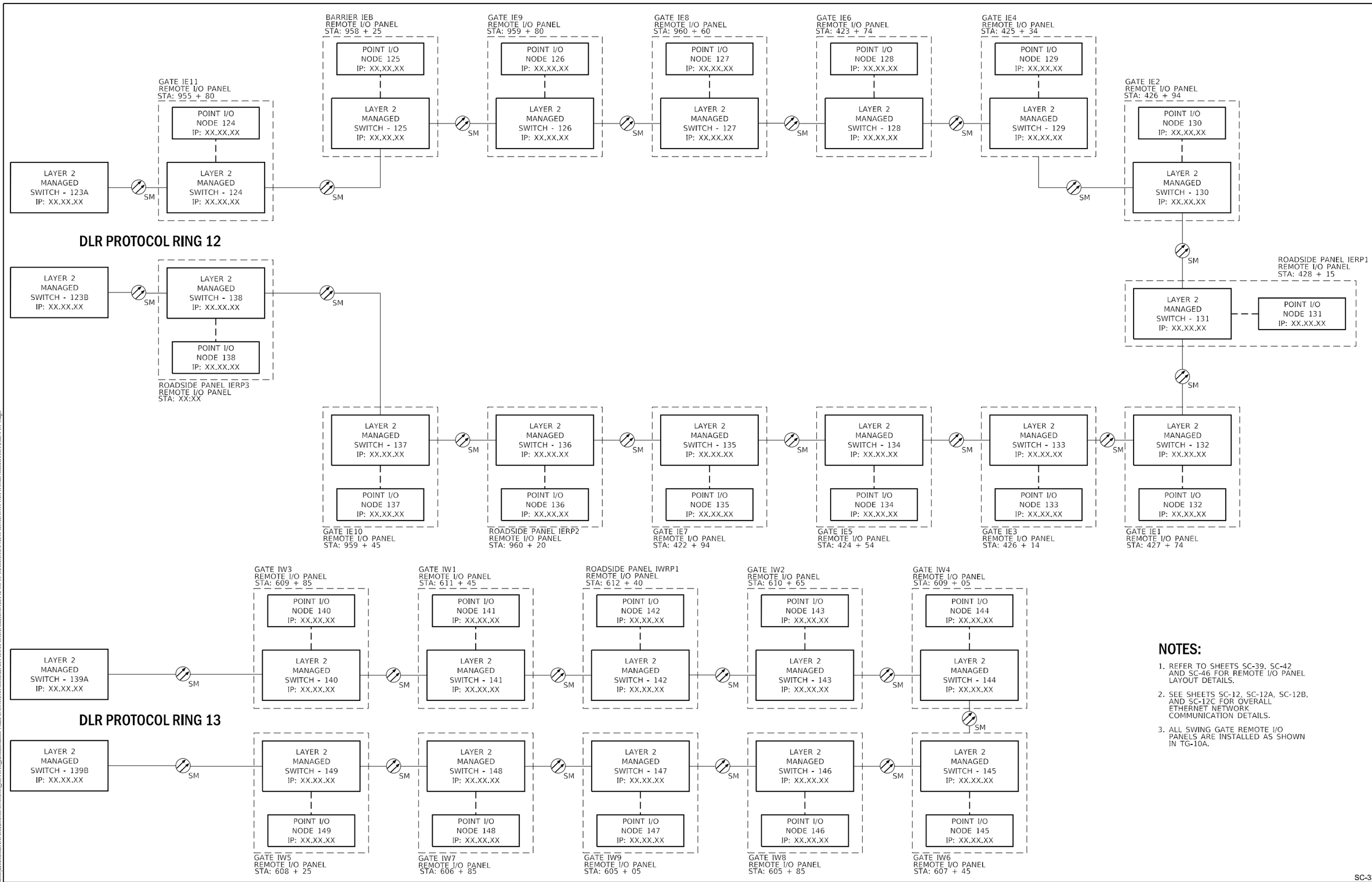
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW PLC/VDT NETWORK ARCHITECTURE
BUILDING E

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	231
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		

pw:\\USASQ-APP006CS.jacobs.com\NAD\Documents\CSX\1290_REVLAC_Rehabilitation Phase II\CSX1290\1\Contract 60T46\700 CADD\Sheets\D160T46-SC-32-BUILDING E NEW PLC-VDT NETWORK ARCHITECTURE.dgn



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-33

pw:\\USI-ASI-APP06CS.jacobs.com:NA1\Documents\C9X12901_REVTAC_Rehbilitation-Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-33-BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 1 OF 3.dgn

FILE NAME = D160T46-SC-33-BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 1 OF 3.dgn

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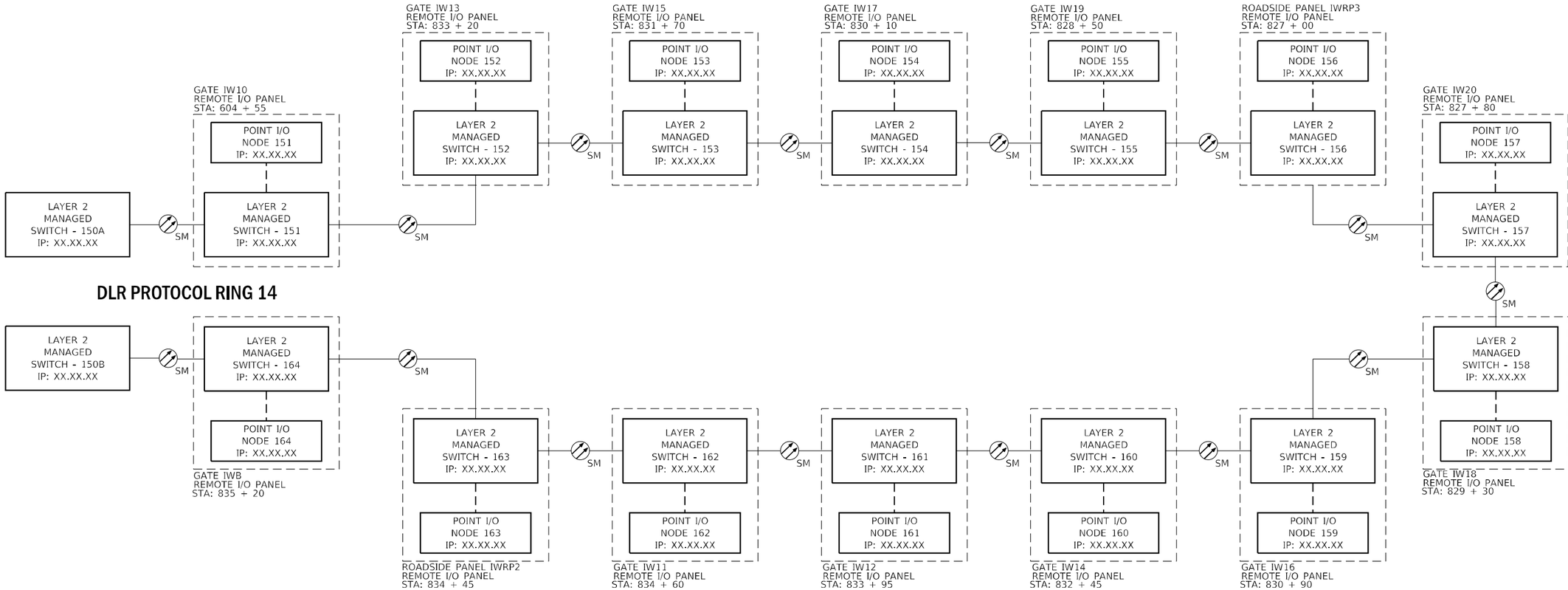
	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING E

SCALE: NTS | SHEET 1 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	232
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

pw:\\US1-AS0-APP06CS.jacobs.com:NA1\Documents\C9X12901_REVTAC_Rehabilitation Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-34 BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 2 OF 3.dgn

FILE NAME = D160T46-SC-34 BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 2 OF 3.dgn
PLOT SCALE = 2.0000 ' / in.
PLOT DATE = 3/23/2022

DESIGNED - RJR
DRAWN - MBS
CHECKED - RAS
DATE - 1/27/2022

REVISED -
REVISED -
REVISED -
REVISED -

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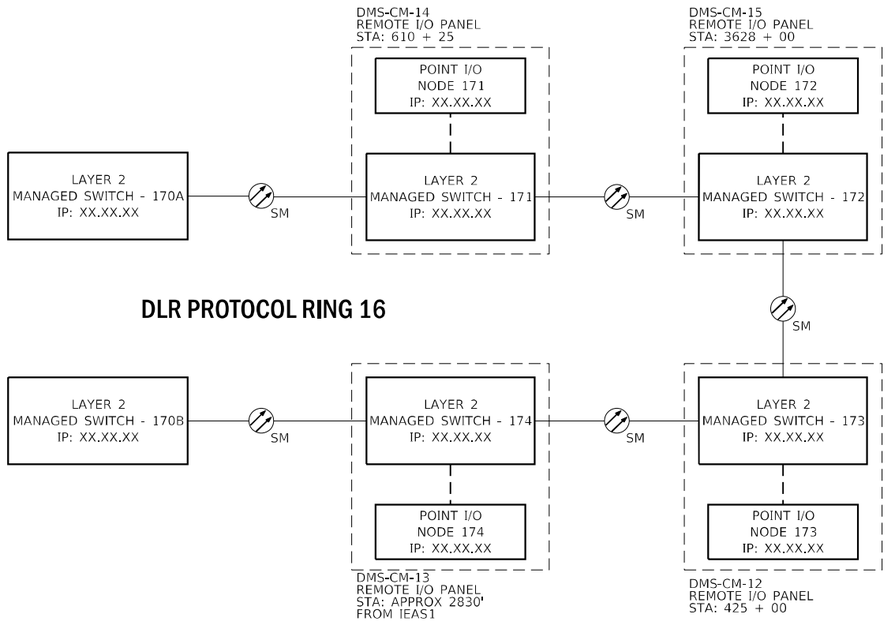
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING E

SCALE: NTS | SHEET 2 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	233
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	



NOTES:

1. REFER TO SHEETS SC-39, SC-42 AND SC-46 FOR REMOTE I/O PANEL LAYOUT DETAILS.
2. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
3. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN TG-10A.

SC-35

pw:\\US1-ASO-APP066CS.jacobs.com:NA1\Documents\C9X12901_REVIT_AC_Rehabilitation_Phase II\C9X12901\Contract 60T46\700 CADD\Sheets\D160T46-SC-35- BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 3 OF 3.dgn

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525 W. Monroe, Suite 1600, Chicago, IL 60661

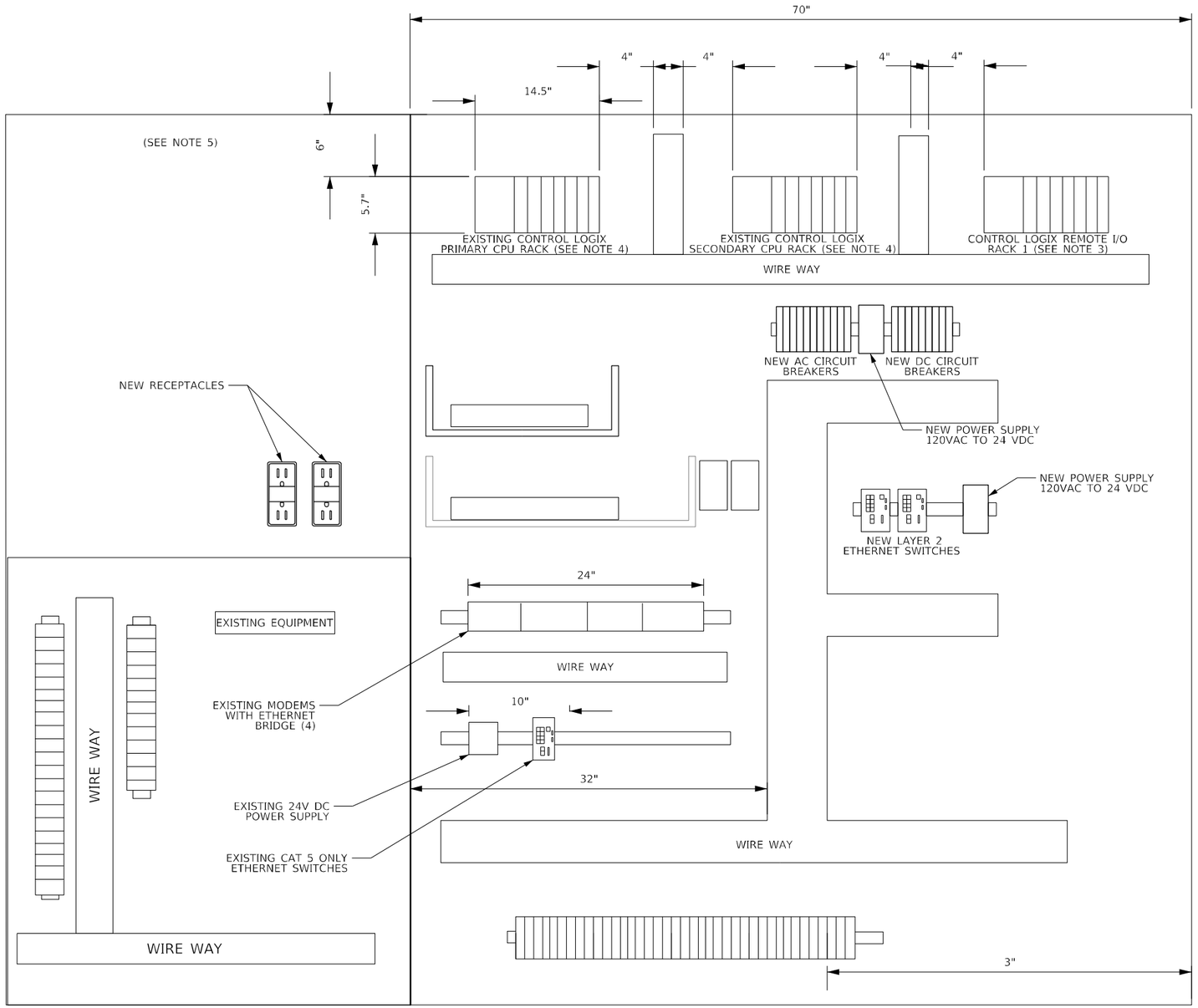
FILE NAME = D160T46-SC-35- BUILDING E NEW ROADWAY NETWORK ARCHITECTURE 3 OF 3.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW ROADWAY NETWORK ARCHITECTURE
BUILDING E

SCALE: NTS | SHEET 3 OF 3 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	234
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
2. CONTRACTOR SHALL REFERENCE SHEET SC-37 FOR BILL OF MATERIALS AND POWER LADDER.
3. CONTROL LOGIX REMOTE I/O RACK 1 IS THE EXISTING BRIDGE RACK. REMOTE I/O RACK HAS BEEN MODIFIED SEE SHEET SC-38 FOR NEW NETWORK LAYOUT AND PARTS.
4. EXISTING PRIMARY AND SECONDARY CPU RACKS HAVE BEEN MODIFIED. SEE SHEET SC-38 FOR MODIFIED RACK COMPONENTS.
5. THE CURRENT VDT AND SCP SHALL BE REPLACED BY A NEW VDT/SCP CLIENT WORKSTATION, SINGLE SCREEN APPLICATION. THE SCREEN SHALL BE MOUNTED ON THE ENCLOSURE DOOR WITH A TRAY FOR THE KEYBOARD AND A MOUSE. THE ENCLOSURE DOOR MAY NEED REINFORCING TO SUPPORT NEW SCREEN.

pw:\\USI-ASI-APP06eCS.jacobs.com:NA1\Documents\C9X12901_REVLAC_Rehbilitation-Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-36-BUILDING HQ PLC-VDT ENCLOSURE NEW LAYOUT.dgn

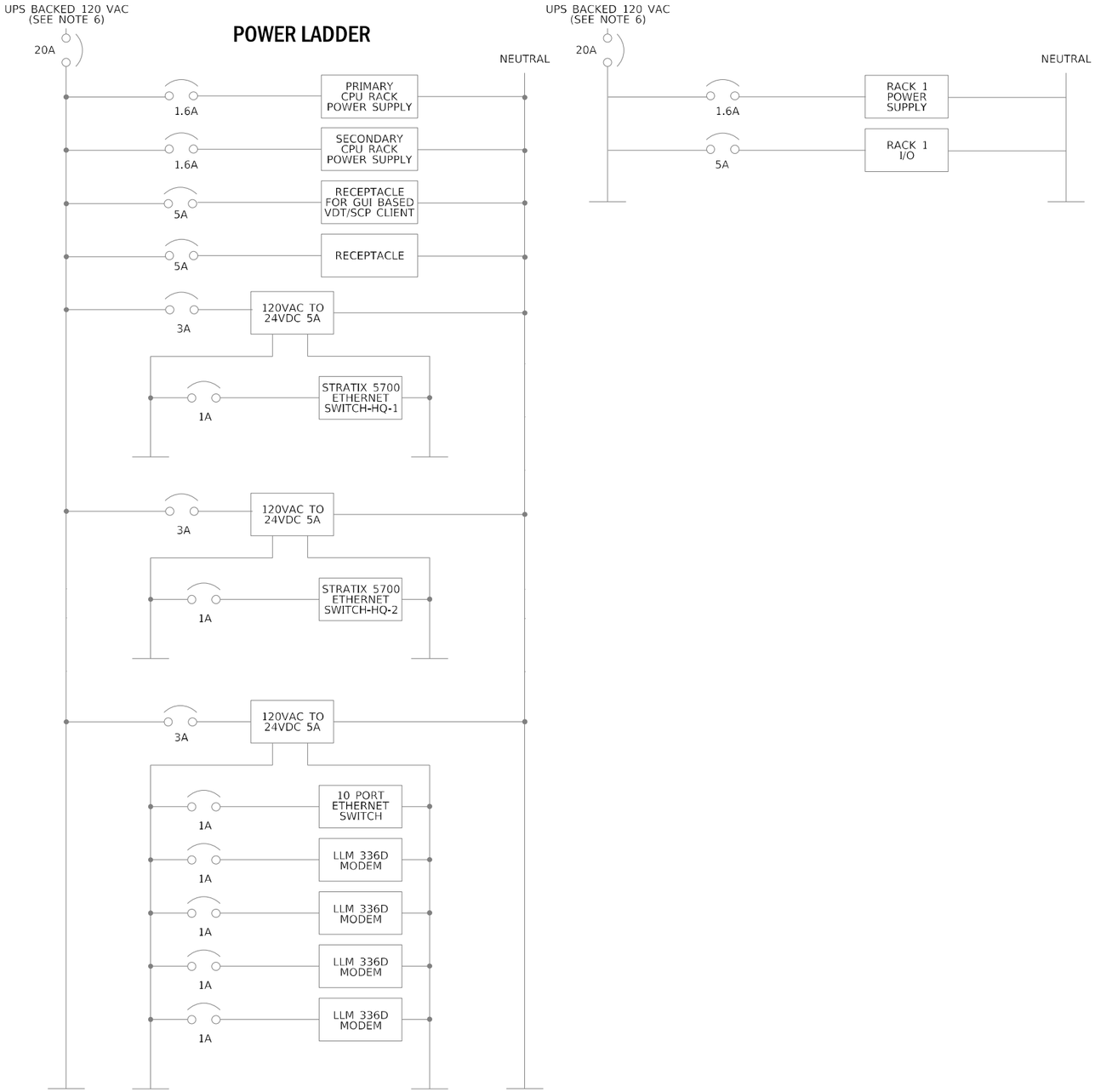
FILE NAME = D160T46-SC-36-BUILDING HQ PLC-VDT ENCLOSURE NEW LAYOUT.dgn		DESIGNED - RJR	REVISED -	
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661		DRAWN - MBS	REVISED -	
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLC/VDT ENCLOSURE NEW LAYOUT
BUILDING HQ

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	235
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	



BILL OF MATERIAL - PLC/VDT ENCLOSURE - BUILDING HQ

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1.6A AC CIRCUIT BREAKER		3	
2	3A AC CIRCUIT BREAKER		3	
3	5A AC CIRCUIT BREAKER		3	
4	20A AC CIRCUIT BREAKER		2	
5	1A DC CIRCUIT BREAKER		7	
6	POWER SUPPLY 120VAC TO 24VDC 5A		2	
7	ETHERNET 10-100M INTERFACE MODULE (SUPPORTS 128 TCP/IP CONNECTIONS)	ROCKWELL	2	1756-EN2T
8	CONTROLLOGIX 120V AC INPUT MODULE	ROCKWELL	2	1756-IA16
9	CONTROLLOGIX 120/240V AC OUTPUT MODULE	ROCKWELL	2	1756-OA16
10	CONTROLLOGIX REMOVABLE TERMINAL BLOCK FOR I/O MODULE	ROCKWELL	4	1756-TBNH
11	STRATIX 5700 NETWORK SERVICE	ROCKWELL	2	1783-BMS06SGA
12	STRATIX FIBER SFP, 1000MBIT CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	4	1783-SFP1GLX
13	GUI BASED VDT/SCP CLIENT		2	
14	NETWORK CONFIGURATION WORKSTATION		1	
15	HISTORIAN/DATALOGGING CLIENT		1	
16	RECEPTACLE		2	

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. ALL SOFTWARE/LICENSES ARE TO BE PROCURED BY CONTRACTOR FOR THE UPGRADED GUI BASED VDT/SCP CLIENT.
3. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.
6. CONTRACTOR SHALL IDENTIFY THE 120VAC UPS BACKED POWER SOURCE REQUIRED TO FEED THE PLC/VDT ENCLOSURE.

FILE NAME = D160T46-SC-37-BUILDING HQ BILL OF MATERIAL AND POWER LADDER.dgn

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USER NAME =	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND POWER LADDER
BUILDING HQ

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	236
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. SEE SHEET SC-39 FOR BILL OF MATERIAL AND POWER LADDER.
2. SEE SHEET SC-49 FOR STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. SEE SHEETS SC-12, SC-12A, SC-12B, AND SC-12C FOR OVERALL ETHERNET NETWORK COMMUNICATION DETAILS.
4. REFER TO SHEET SC-13 FOR REVLAC CONTROL SYSTEM SERVER RACK DETAILS.
5. ONE VDT/SCP CLIENT SHALL BE LOCATED NEXT TO THE BUILDING HQ PLC/VDT ENCLOSURE.
6. ONE VDT/SCP CLIENT, ONE HISTORIAN/DATALOGGING CLIENT, AND ONE NETWORK CONFIGURATION WORKSTATION SHALL BE LOCATED ON A MULTISCREEN OPERATOR CONSOLE IN THE OPERATION CONTROL ROOM IN BUILDING HQ. THE VDT/SCP CLIENT WORKSTATION LOCATED IN OPERATION CONTROL ROOM IN BUILDING HQ SHALL BE A DUAL SCREEN APPLICATION.
7. ONE VDT/SCP CLIENT, ONE ENGINEERING WORKSTATION SHALL BE LOCATED IN THE REVLAC SERVER RACK CONNECTED TO THE KVM CONSOLE.

EXISTING PRIMARY CONTROL LOGIX CPU RACK

1756-PA72 | 1756-L75 | 1756-RM2 | 1756-EN2TR | 1756-EN2T | 1756-EN2T | 1756-N2 | 1756-N2

EXISTING SECONDARY CONTROL LOGIX CPU RACK

1756-PA72 | 1756-L75 | 1756-RM2 | 1756-EN2TR | 1756-EN2T | 1756-EN2T | 1756-N2 | 1756-N2

DLR PROTOCOL RING 17

RACK 1

1756-PA72 | 1756-EN2TR | MVI56E-GSC | 1756-IA16 | 1756-IA16 | 1756-OA16 | 1756-OA16 | 1756-N2

EXISTING LAYER 2 MANAGED SWITCH - 175 IP: XX.XX.XX

TO EXISTING LEASED LINE MODEMS

EXISTING VIDEO SWITCH INFRASTRUCTURE

REVLAC SERVER RACK

STRATUS FTSERVER (VIRTUALIZED)

- NEW HISTORIAN/ DATALOGGING VM SERVER
- NEW VIDEO DISPLAY TERMINAL/SYSTEM CONTROL PANEL PRIMARY VM SERVER
- NEW VIDEO DISPLAY TERMINAL/SYSTEM CONTROL PANEL SECONDARY VM SERVER
- NEW PRIMARY VM DOMAIN CONTROLLER
- NEW SECONDARY VM DOMAIN CONTROLLER
- NEW DIRECTORY/ MS-SQL VM SERVER

NEW (3) VIDEO DISPLAY TERMINAL/ SYSTEM CONTROL PANEL CLIENT, (1) HISTORIAN/ DATALOGGING CLIENT

LAYER 3 MANAGED DISTRIBUTION SWITCH-HQ-1 IP: XX.XX.XX

LAYER 3 MANAGED DISTRIBUTION SWITCH-HQ-2 IP: XX.XX.XX

NEW ENGINEERING WORKSTATION

NEW NETWORK CONFIGURATION WORKSTATION

LAYER 2 MANAGED SWITCH-HQ-1 IP: XX.XX.XX

LAYER 2 MANAGED SWITCH-HQ-2 IP: XX.XX.XX

EXISTING FIBER PATCH PANEL

SM

TO BUILDING E PATCH PANEL REF SHEET SC-27

TO BUILDING A PATCH PANEL REF SHEET SC-16 (VIA BUILDING E)

FILE NAME = D160T46-SC-38- BUILDING HQ NEW PLC-VDT NETWORK ARCHITECTURE.dgn

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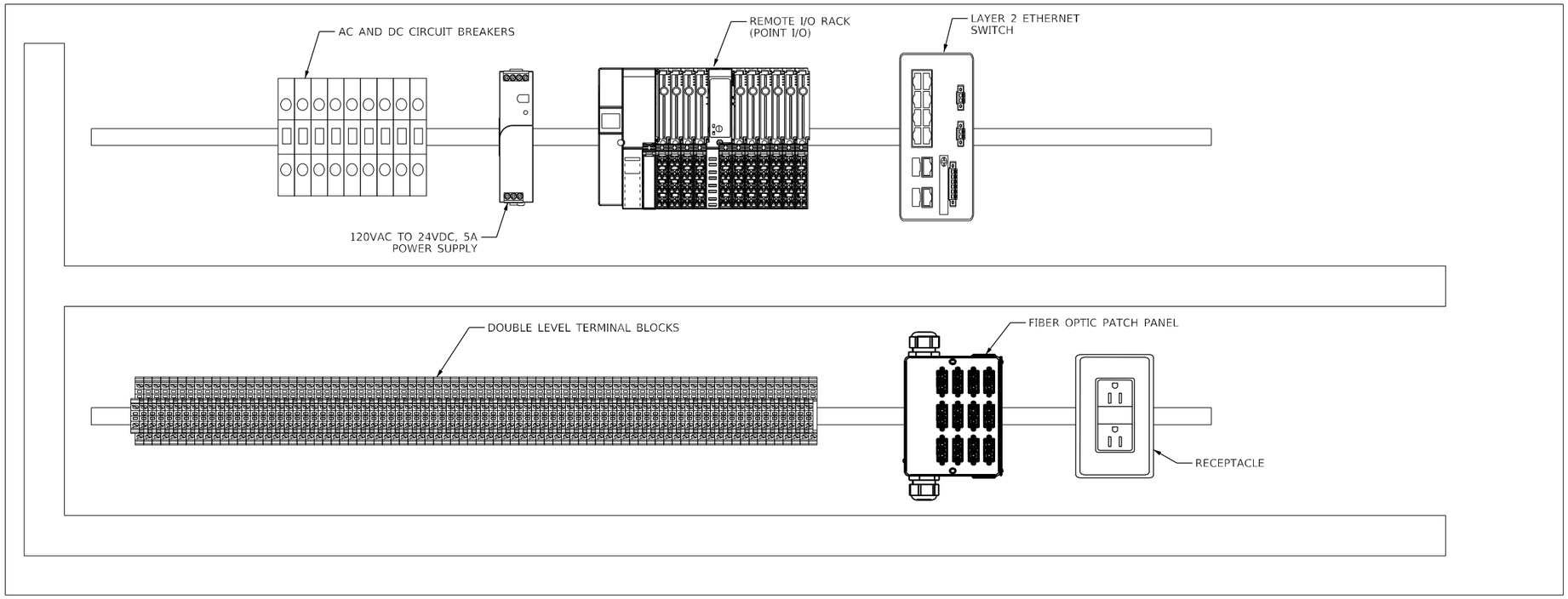
	DESIGNED - RJR	REVISED -
	DRAWN - MBS	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NEW PLC/VDT NETWORK ARCHITECTURE
BUILDING HQ

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	237
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		

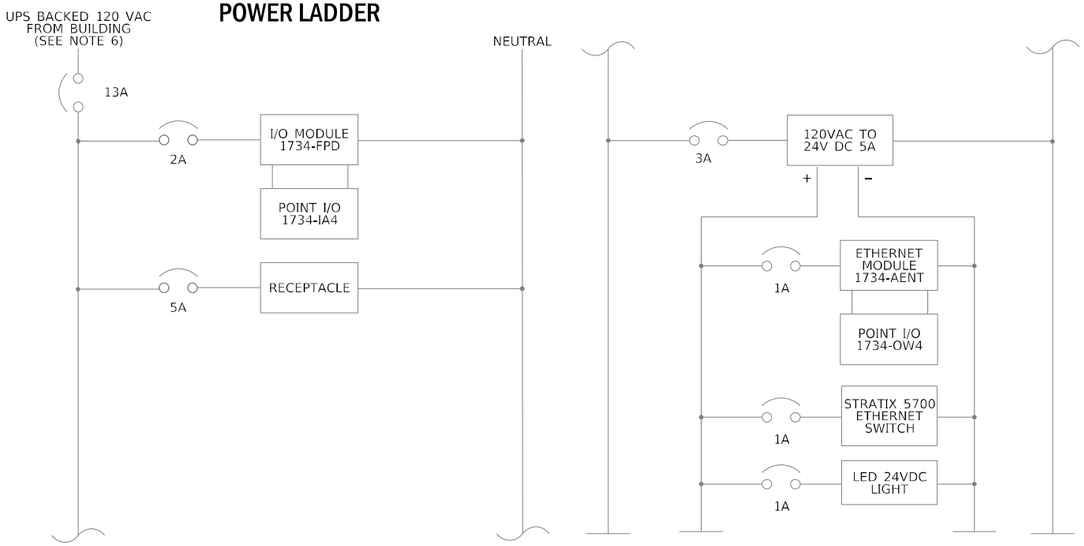


SWING GATE REMOTE I/O PANEL TYPICAL

NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
4. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.
5. REFER TO E-11 FOR CP PANEL SCHEDULES.
6. ALL SWING GATE REMOTE I/O PANELS ARE INSTALLED AS SHOWN IN DRAWING TG-10A.

POWER LADDER



BILL OF MATERIAL - SWING GATE REMOTE I/O PANEL

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1734-AENT ETHERNET/IP TWISTED PAIR MEDIA I/O ADAPTER	ROCKWELL	1	1734-AENT
2	1734-FPD POINT I/O FIELD POTENTIAL DISTRIBUTOR MODULE	ROCKWELL	1	1734-FPD
3	1734-IA4 POINT I/O 120VAC 4-CHANNEL INPUT MODULE	ROCKWELL	6	1734-IA4
4	1734-OW4 POINT DIGITAL CONTACT OUTPUT MODULE 24VDC	ROCKWELL	4	1734-OW4
5	POINT I/O MODULE BASE	ROCKWELL	10	1734-TB
6	POWER SUPPLY 120VAC TO 24VDC DC POWER SUPPLY 5A		1	
7	STRATIX 5700 NETWORK SWITCH	STRATIX	1	1783-BMS10CGP
8	12 PORT FIBER PATCH PANEL	DINSPACE	1	SNAP-12ST-SC-SM
9	STRATIX FIBER SFP, 1000MB CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	2	1783-SFP1GLX
10	WIREWAY		LOT	---
11	2A AC CIRCUIT BREAKER		1	
12	3A AC CIRCUIT BREAKER		1	
13	5A AC CIRCUIT BREAKER		1	
14	7A AC CIRCUIT BREAKER		1	
15	13A AC/DC CIRCUIT BREAKER		1	
16	1A DC CIRCUIT BREAKER		3	
17	DOUBLE LEVEL TERMINAL SPRING CLAMP STYLE BLOCK		80	
18	BACK PANEL FITS 24 X 60		1	
19	RECEPTACLE		1	

FILE NAME = D160T46-SC-39-SWING GATE REMOTE I/O PANEL LAYOUT AND POWER LADDER TYP.dgn

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525 W. Monroe, Suite 1600, Chicago, IL 60661

PLOT SCALE = 24.0000 in / in.
PLOT DATE = 3/23/2022

DESIGNED - RJR | REVISED -
DRAWN - MBS | REVISED -
CHECKED - RAS | REVISED -
DATE - 1/27/2022 | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SWING GATE REMOTE I/O PANEL
LAYOUT, BOM, AND POWER LADDER TYPICAL

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	238
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

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SHEET INTENTIONALLY LEFT BLANK

pw:\\USTASQ-APP066CS.jacobs.com\Documents\CSX12901_REVIAC_Rehabilitation Phase II\CSX12901\Contract 60T46\700 CADD\Sheets\Not used\D160T46-SC-40-SWING GATE REMOTE IO PANEL MOUNTING PANEL DETAIL.dgn

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525 W. Monroe, Suite 1600, Chicago, IL 60661

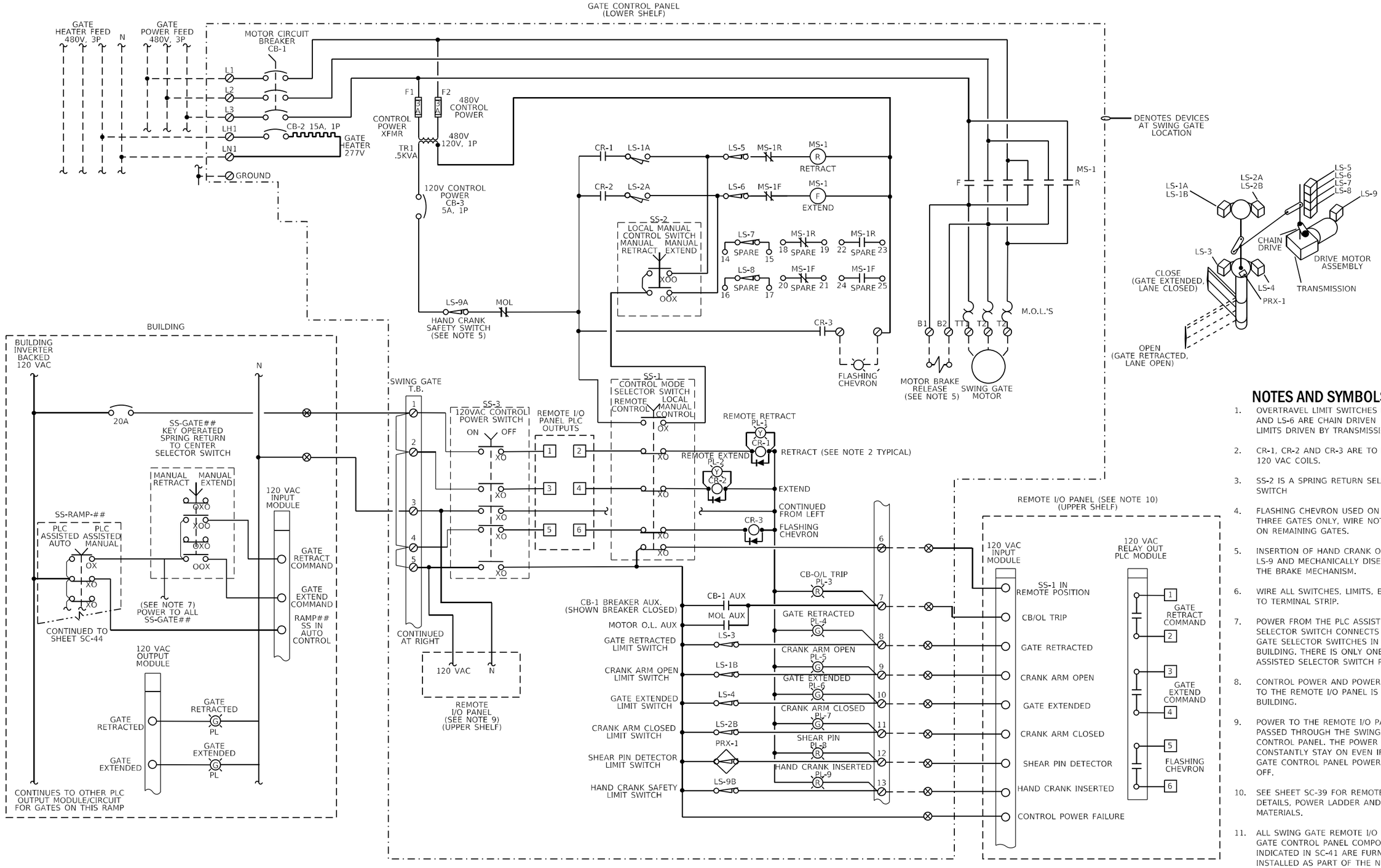
FILE NAME = D160T46-SC-40-SWING GATE REMOTE IO PANEL MOUNTING PANEL DETAIL.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SWING GATE REMOTE I/O PANEL
MOUNTING DETAIL TYPICAL

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	239
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES AND SYMBOLS

1. OVERTRAVEL LIMIT SWITCHES LS-5 AND LS-6 ARE CHAIN DRIVEN LIMITS DRIVEN BY TRANSMISSION.
2. CR-1, CR-2 AND CR-3 ARE TO HAVE 120 VAC COILS.
3. SS-2 IS A SPRING RETURN SELECTOR SWITCH
4. FLASHING CHEVRON USED ON FIRST THREE GATES ONLY, WIRE NOT USED ON REMAINING GATES.
5. INSERTION OF HAND CRANK OPENS LS-9 AND MECHANICALLY DISENGAGES THE BRAKE MECHANISM.
6. WIRE ALL SWITCHES, LIMITS, ETC. TO TERMINAL STRIP.
7. POWER FROM THE PLC ASSISTED SELECTOR SWITCH CONNECTS TO ALL GATE SELECTOR SWITCHES IN THE BUILDING. THERE IS ONLY ONE PLC ASSISTED SELECTOR SWITCH PER RAMP.
8. CONTROL POWER AND POWER PROVIDED TO THE REMOTE I/O PANEL IS FROM THE BUILDING.
9. POWER TO THE REMOTE I/O PANEL IS PASSED THROUGH THE SWING GATE CONTROL PANEL. THE POWER MUST CONSTANTLY STAY ON EVEN IF THE SWING GATE CONTROL PANEL POWER IS SHUT OFF.
10. SEE SHEET SC-39 FOR REMOTE I/O PANEL DETAILS, POWER LADDER AND BILL OF MATERIALS.
11. ALL SWING GATE REMOTE I/O PANEL AND GATE CONTROL PANEL COMPONENTS INDICATED IN SC-41 ARE FURNISHED AND INSTALLED AS PART OF THE NEW SWING GATE CONTROL ENCLOSURE, SHOWN IN TG-10A.

DENOTES RAMP I.D. AND GATE NUMBER

SC-41

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

FILE NAME = D160T46-SC-41-SWING GATE CONTROL WIRING DIAGRAM TYPICAL.dgn
USER NAME = rschaap

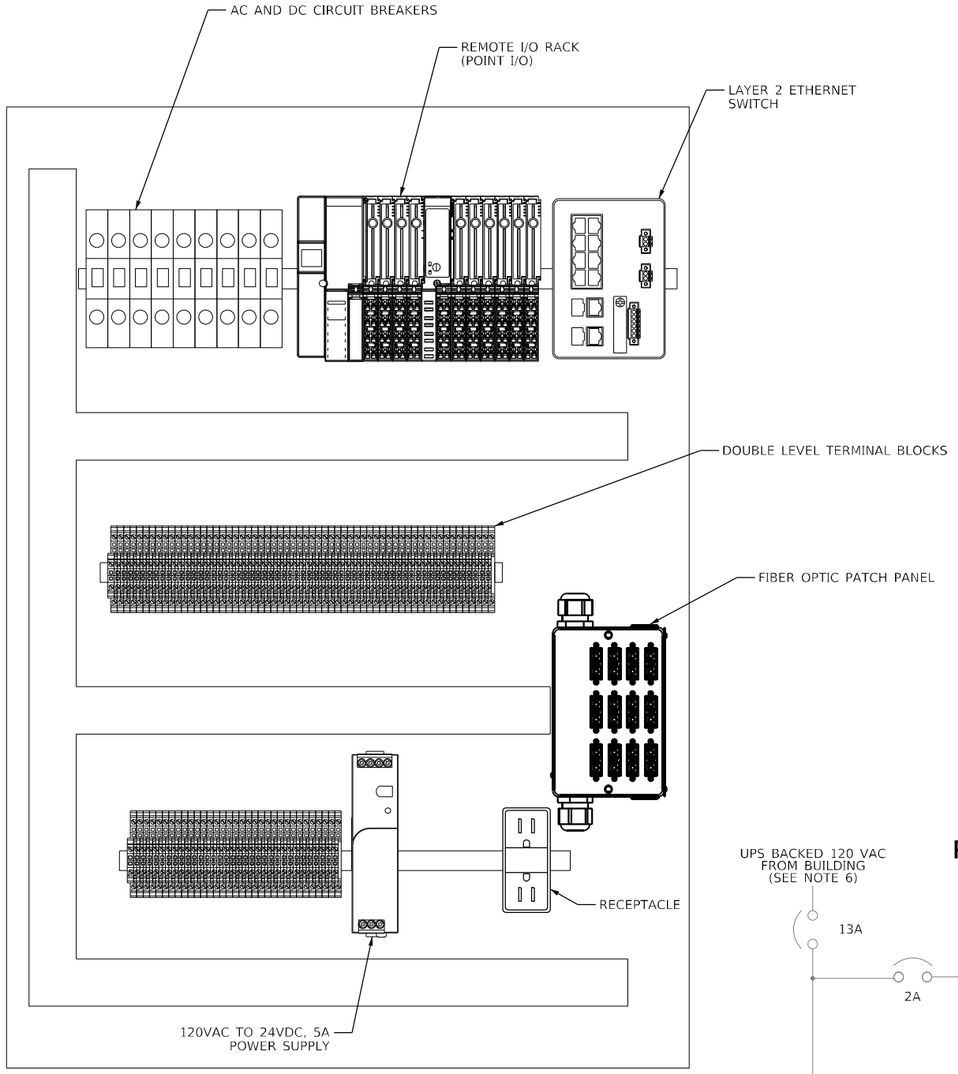
	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SWING GATE
CONTROL WIRING DIAGRAM TYPICAL

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	240
		CONTRACT NO.	60T46	
	ILLINOIS	FED. AID PROJECT		

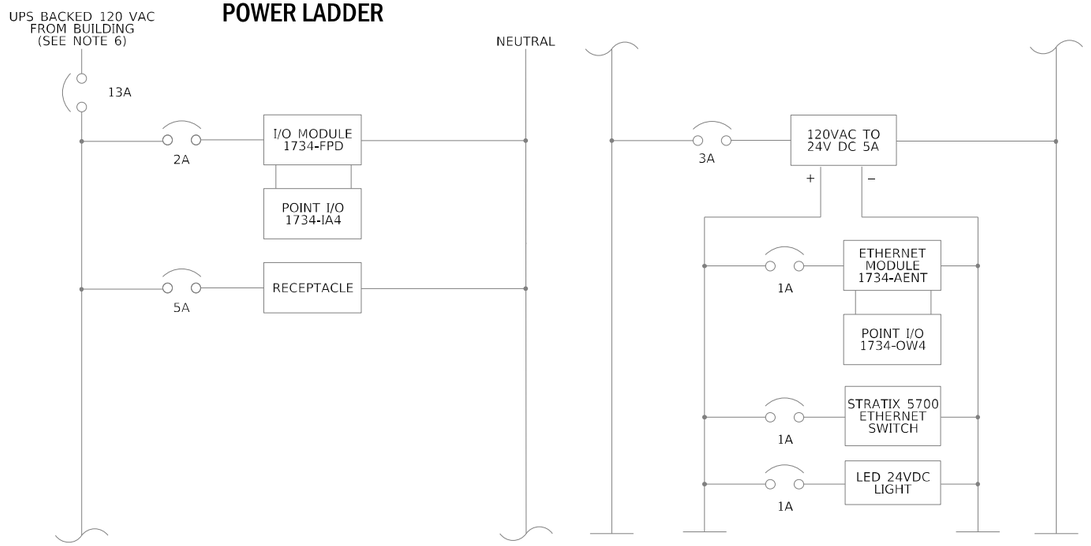


RESTRAINING BARRIER REMOTE I/O PANEL TYPICAL

BILL OF MATERIAL - RESTRAINING BARRIER REMOTE I/O PANEL

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1734-AENT ETHERNET/IP TWISTED PAIR MEDIA I/O ADAPTER	ROCKWELL	1	1734-AENT
2	1734-FPD POINT I/O FIELD POTENTIAL DISTRIBUTOR MODULE	ROCKWELL	1	1734-FPD
3	1734-IA4 POINT I/O 120VAC 4-CHANNEL INPUT MODULE	ROCKWELL	6	1734-IA4
4	1734-OW4 POINT DIGITAL CONTACT OUTPUT MODULE 24VDC	ROCKWELL	4	1734-OW4
5	POINT I/O MODULE BASE	ROCKWELL	10	1734-TB
6	POWER SUPPLY 120VAC TO 24VDC DC POWER SUPPLY 5A		1	
7	STRATIX 5700 NETWORK SWITCH	ROCKWELL	1	1783-BMS10CGP
8	12 PORT FIBER PATCH PANEL	DINSPACE	1	SNAP-12ST-SC-SM
9	STRATIX FIBER SFP, 1000MB CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	2	1783-SFP1GLX
10	WIREWAY		LOT	---
11	2A AC CIRCUIT BREAKER		1	
12	3A AC CIRCUIT BREAKER		1	
13	5A AC CIRCUIT BREAKER		1	
14	7A AC CIRCUIT BREAKER		1	
15	13A AC CIRCUIT BREAKER		1	
16	1A DC CIRCUIT BREAKER		3	
17	13A DC CIRCUIT BREAKER		1	
18	DOUBLE LEVEL TERMINAL SPRING CLAMP STYLE BLOCK		80	
19	36" X 30" X 12" NEMA 4X PANEL		1	
20	BACK PANEL FITS 36 X 30		1	
21	PADLOCK LATCH KIT		1	
22	PANELITE LED ENCLOSURE LIGHT		1	
23	RECEPTACLE		1	
24	SOLAR SHIELD TOP		1	

POWER LADDER



NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. CONTRACTOR TO INSTALL LED LIGHT WITH DOOR SWITCH IN RESTAINING BARRIER REMOTE I/O PANEL.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.
6. REFER TO E-11 FOR CP PANEL SCHEDULES.
7. PANEL SHALL BE FITTED WITH APPROPRIATE SOLAR SHIELD TOP AS DETAILED IN THE SPECIFICATIONS.

FILE NAME = D160T46-SC-42-BARRIER REMOTE IO PANEL LAYOUT AND POWER LADDER.dgn	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 24.0000 in / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

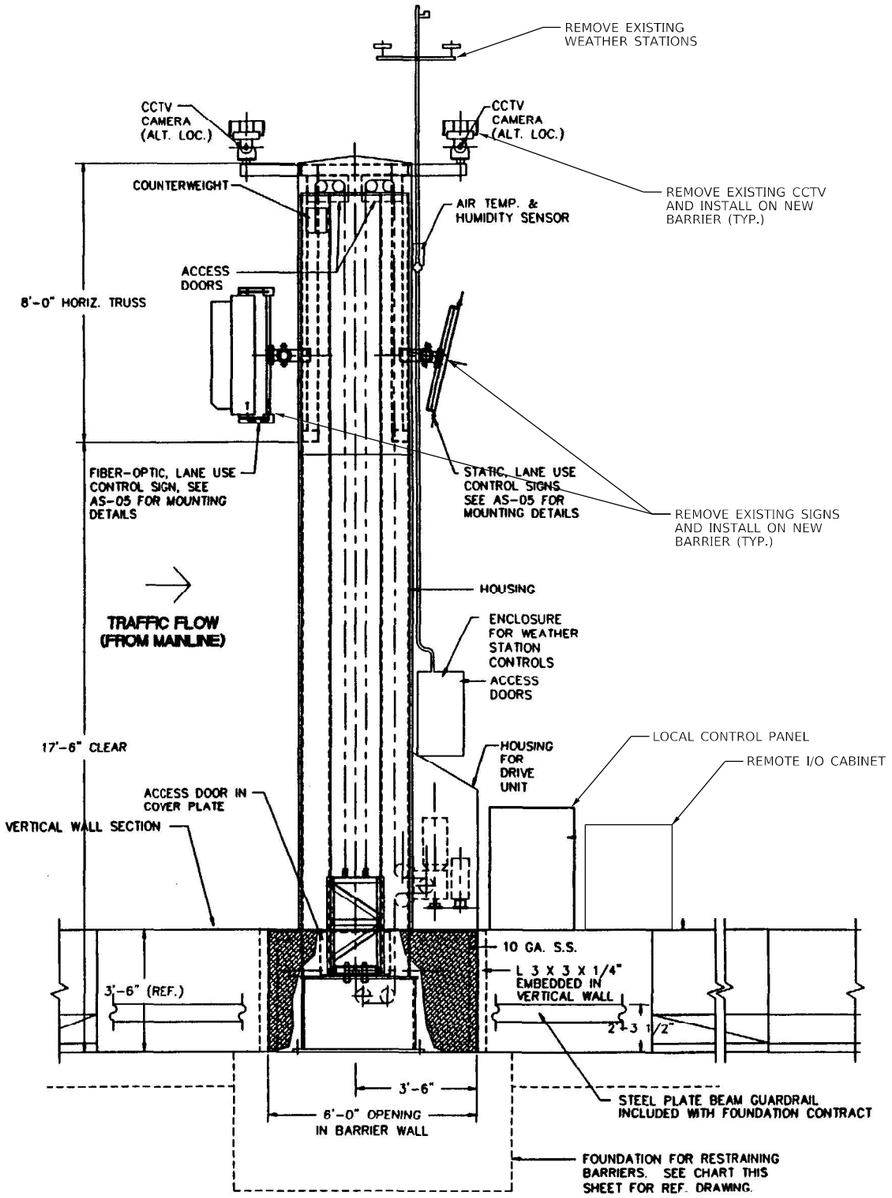
Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

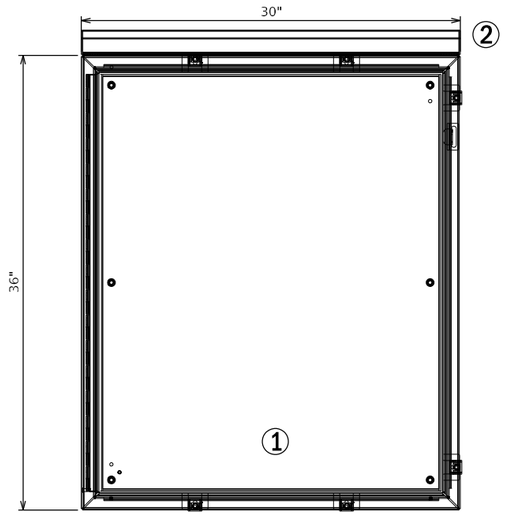
RESTRAINING BARRIER REMOTE I/O PANEL
LAYOUT, BOM, AND POWER LADDER

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	241
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



RESTRAINING BARRIER REMOTE I/O



REMOTE I/O CABINET (TYPICAL)

ITEM	DESCRIPTION	QUANTITY
1	NEMA 4X CABINET 36"X30"X12", STAINLESS STEEL	1
2	TOP OF CABINET SUN SHIELD TO MATCH CABINET	1

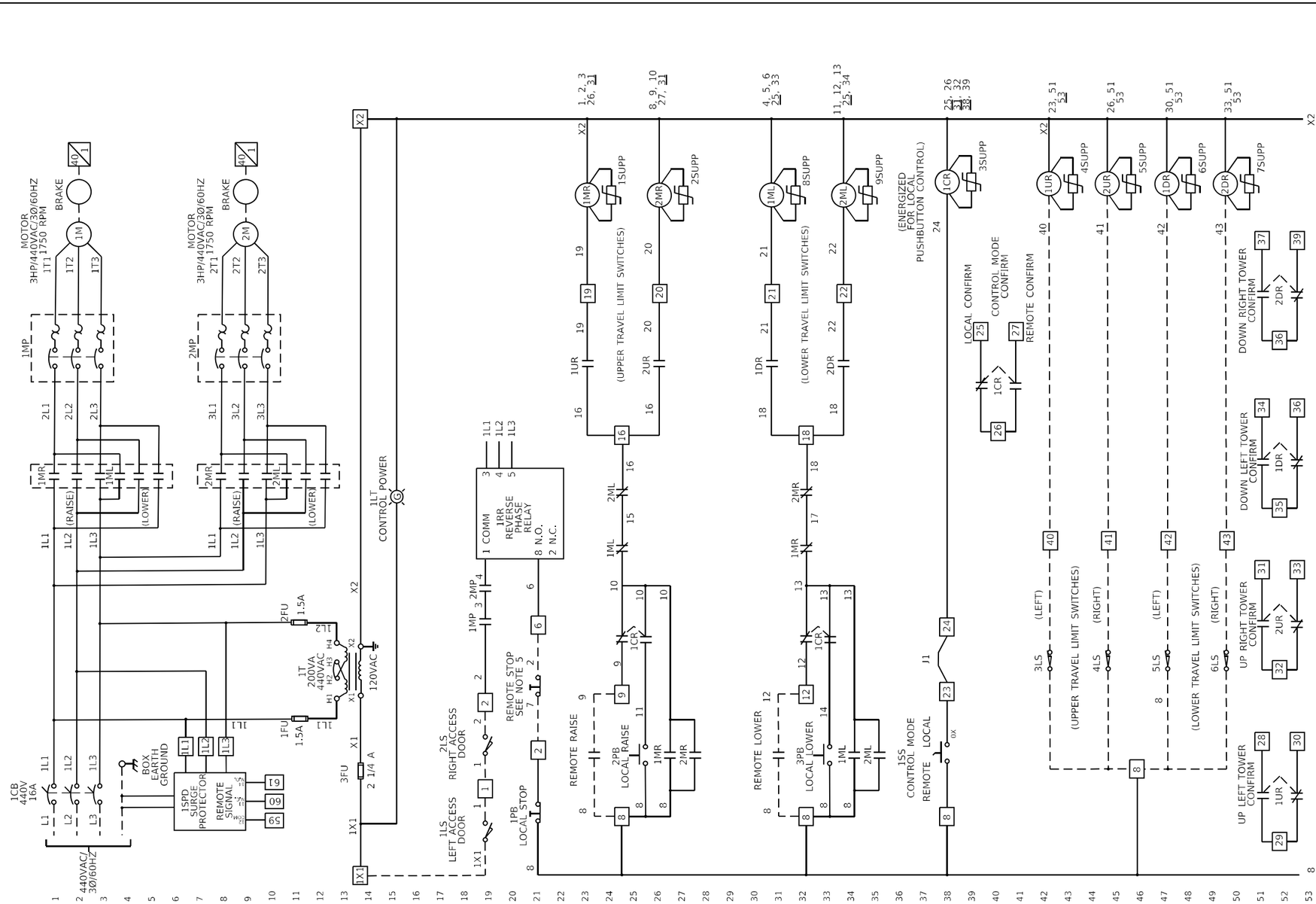
NOTES

1. EXISTING BARRIER WALL DETAIL SHOWN. COORDINATE LOCATION OF REMOTE I/O CABINET WITH RESTRAINING BARRIER WALL MANUFACTURER. ACCESS TO REMOTE I/O CABINET SHALL BE FROM THE REVERSIBLE LANE RAMP. SUBMIT MOUNTING DETAILS AND LOCATIONS TO ENGINEER FOR APPROVAL.
2. ALL MOUNTING HARDWARE AND BRACKETS SHALL BE STAINLESS STEEL.
3. INSTALL PVC COATED RGS CONDUIT BETWEEN BARRIER CONTROL ENCLOSURE AND REMOTE I/O CABINET, IF REMOTE I/O CABINET IS NOT ATTACHED TO GATE CONTROL ENCLOSURE. SEAL OPENING WITH FIRESTOP. SEAL ALL PENETRATIONS WITH RUBBER GASKETS AND/OR SILICONE SEALANT.
4. INSTALL PVC COATED RGC AND ROUTE NEW AND EXISTING CONDUCTORS TO BARRIER ENCLOSURE AND TO REMOTE I/O CABINET AS NEEDED.
5. COORDINATE THE MOUTNING AND INSTALLATION OF SIGNS AND CCTV WITH RESTRAINING BARRIER MANUFACTURER. SUBMIT TO ENGINEER FOR APPROVAL.
6. THE REMOTE I/O CABINETS SHALL BE PROVIDED WITH APPROPRIATE SIZE AIR VENTS AND FILTERS.

SC-43

FILE NAME = D160T46-SC-43-RESTAINING BARRIER REMOTE IO PANEL MOUNTING PANEL DETAIL.dgn	USER NAME =	DESIGNED - RJR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RESTRAINING BARRIER REMOTE I/O PANEL MOUNTING DETAIL TYPICAL
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661		DRAWN - MBS	REVISED -		SCALE: NTS SHEET 1 OF 1 SHEETS STA. N/A TO STA. N/A
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -		
	PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	242
		CONTRACT NO. 60T46		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. ALL LIMIT SWITCHES ARE SHOWN IN THE RELEASED POSITION.
2. RELAYS ARE SHOWN WITH COIL DE-ENERGIZED.
3. ---------- INDICATES EXTERNAL FIELD WIRING.
4. TERMINAL BLOCK CONNECTIONS ARE DESIGNATED IN ☐ SYMBOL.
5. INSTALL JUMPER IF REMOTE STOP IS NOT USED.
6. SWING GATE STARTERS, CONTROL RELAYS, AND LOCAL CONTROL IS FURNISHED AND INSTALLED AS PART OF THE NEW RESTRAINING BARRIER ASSEMBLIES.
7. CONTROL CIRCUIT DIAGRAM IS BASED ON IMPACT BARRIER'S LOCAL CONTROL CIRCUIT DESIGN. PLC INTERFACE SHALL BE COORDINATED WITH MANUFACTURER OF BARRIER.

SC-44

pw:\\USI-ASP006CS.jacobs.com\NA1\Documents\C9X12901_REVTAC_Rehabilitation-Phase II\C9X12901 Contract 60T46\700 CADD\Sheets\D160T46-SC-44-RESTRAINING BARRIER WIRING DIAGRAM TYPICAL.dgn

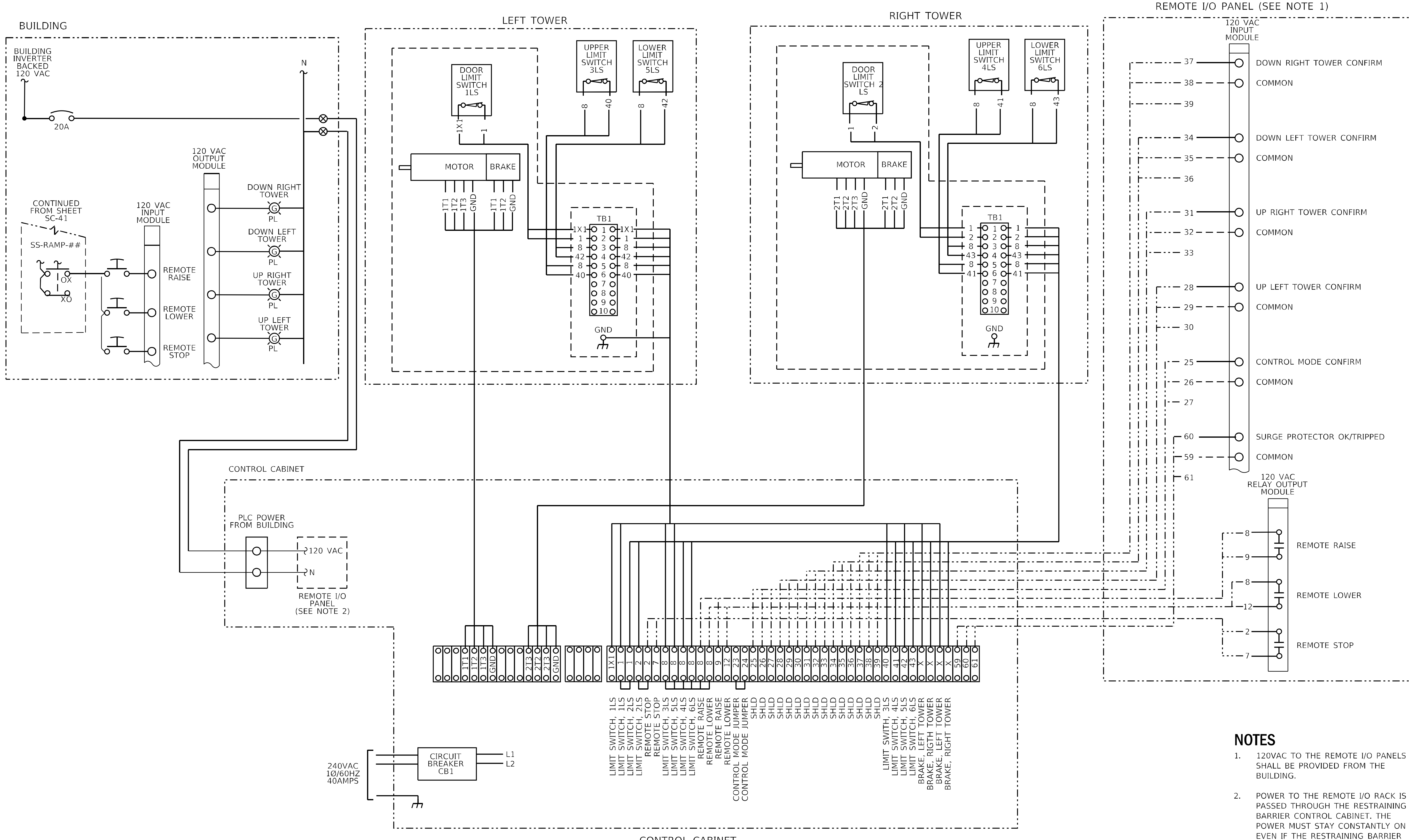
FILE NAME = D160T46-SC-44-RESTRAINING BARRIER WIRING DIAGRAM TYPICAL.dgn	DESIGNED - RJR	REVISED -	
Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RESTRAINING BARRIER
CONTROL WIRING DIAGRAM TYPICAL

SCALE: NTS | SHEET 1 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	268	243
		CONTRACT NO.	60T46	
	ILLINOIS	FED. AID PROJECT		



BUILDING
BUILDING INVERTER BACKED 120 VAC
20A
N
120 VAC OUTPUT MODULE
DOWN RIGHT TOWER
DOWN LEFT TOWER
UP RIGHT TOWER
UP LEFT TOWER
PL
CONTINUED FROM SHEET SC-41
SS-RAMP-##
OX
XO
120 VAC INPUT MODULE
REMOTE RAISE
REMOTE LOWER
REMOTE STOP
LEFT TOWER
DOOR LIMIT SWITCH 1LS
UPPER LIMIT SWITCH 3LS
LOWER LIMIT SWITCH 5LS
MOTOR
BRAKE
TB1
GND
RIGHT TOWER
DOOR LIMIT SWITCH 2 LS
UPPER LIMIT SWITCH 4LS
LOWER LIMIT SWITCH 6LS
REMOTE I/O PANEL (SEE NOTE 1)
120 VAC INPUT MODULE
DOWN RIGHT TOWER CONFIRM
COMMON
DOWN LEFT TOWER CONFIRM
UP RIGHT TOWER CONFIRM
UP LEFT TOWER CONFIRM
CONTROL MODE CONFIRM
SURGE PROTECTOR OK/TRIPPED
120 VAC RELAY OUTPUT MODULE
REMOTE RAISE
REMOTE LOWER
REMOTE STOP
CONTROL CABINET
PLC POWER FROM BUILDING
120 VAC
N
REMOTE I/O PANEL (SEE NOTE 2)
LIMIT SWITCH, 1LS
LIMIT SWITCH, 1LS
LIMIT SWITCH, 2LS
LIMIT SWITCH, 2LS
REMOTE STOP
REMOTE STOP
LIMIT SWITCH, 3LS
LIMIT SWITCH, 5LS
LIMIT SWITCH, 4LS
LIMIT SWITCH, 6LS
REMOTE RAISE
REMOTE RAISE
REMOTE LOWER
REMOTE LOWER
CONTROL MODE JUMPER
CONTROL MODE JUMPER
SHLD
LIMIT SWITH, 3LS
LIMIT SWITCH, 4LS
LIMIT SWITCH, 5LS
LIMIT SWITCH, 6LS
BRAKE, LEFT TOWER
BRAKE, RIGTH TOWER
BRAKE, LEFT TOWER
BRAKE, RIGHT TOWER
240VAC 1Ø/60HZ 40AMPS
CIRCUIT BREAKER CB1
L1
L2
CONTROL CABINET

NOTES

1. 120VAC TO THE REMOTE I/O PANELS SHALL BE PROVIDED FROM THE BUILDING.
2. POWER TO THE REMOTE I/O RACK IS PASSED THROUGH THE RESTRAINING BARRIER CONTROL CABINET. THE POWER MUST STAY CONSTANTLY ON EVEN IF THE RESTRAINING BARRIER CONTROL CABINET IS SHUT OFF.

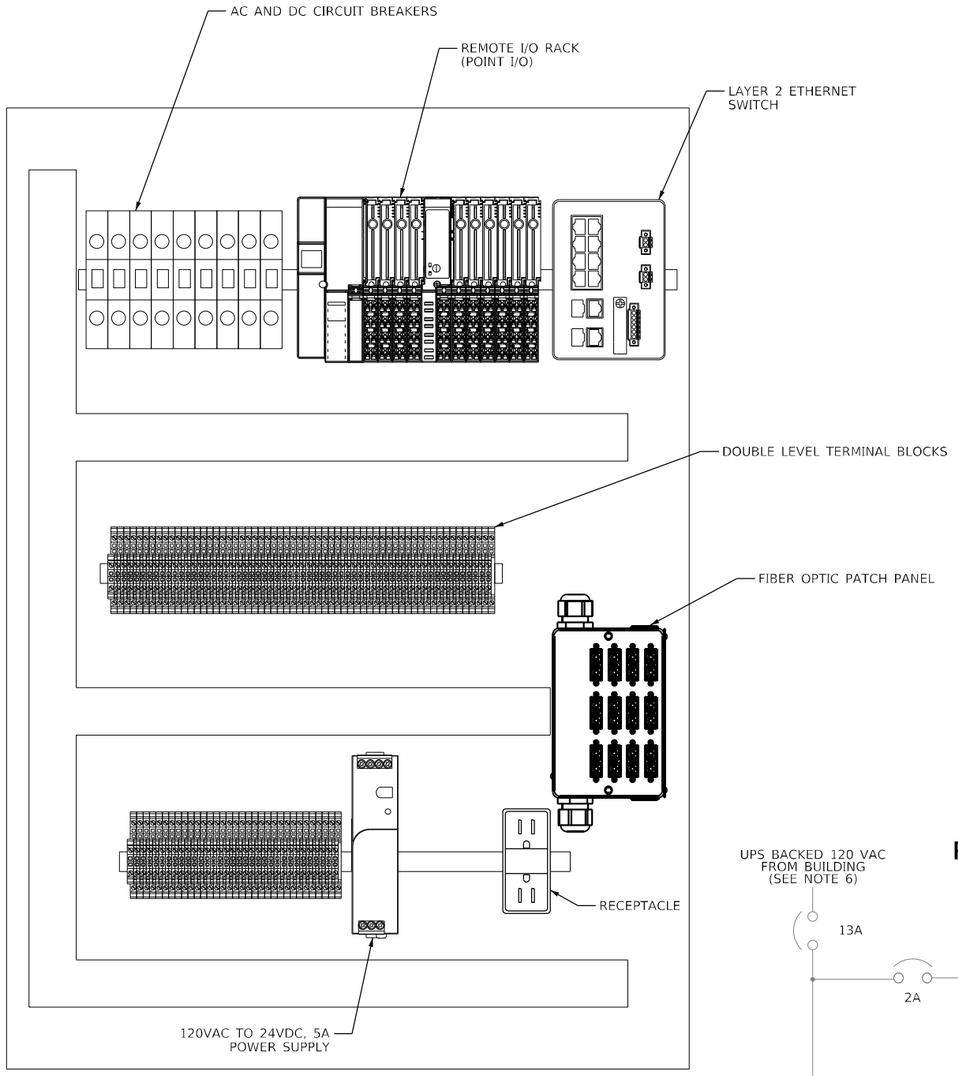
SC-45

FILE NAME = D160T46-SC-45-RESTRAINING BARRIER CONTROL WIRING DIAGRAM TYPICAL.dgn	DESIGNED - RJR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
Jacobs	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
525 W. Monroe, Suite 1600, Chicago, IL 60661 / PLOT DATE = 3/23/2022	DATE - 1/27/2022	REVISED -	

RESTRAINING BARRIER CONTROL WIRING DIAGRAM TYPICAL

SCALE: NTS | SHEET 2 OF 2 SHEETS | STA. N/A TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	244
		CONTRACT NO. 60T46		
		ILLINOIS FED. AID PROJECT		

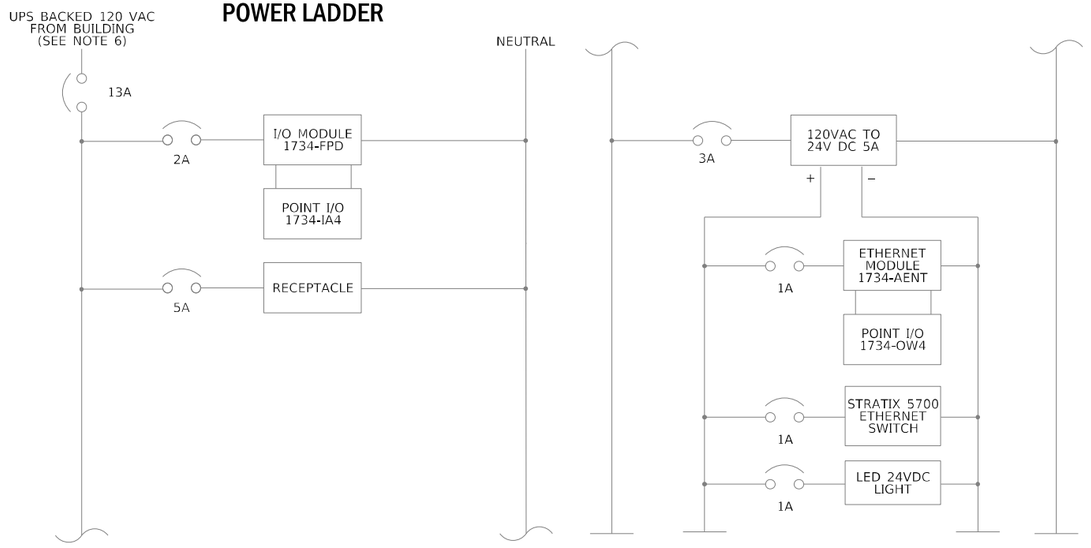


DMS REMOTE I/O PANEL TYPICAL

BILL OF MATERIAL - DMS REMOTE I/O PANEL

ITEM	DESCRIPTION	MANUFACTURER	QUANTITY	CATALOG NUMBER
1	1734-AENT ETHERNET/IP TWISTED PAIR MEDIA I/O ADAPTER	ROCKWELL	1	1734-AENT
2	1734-FPD POINT I/O FIELD POTENTIAL DISTRIBUTOR MODULE	ROCKWELL	1	1734-FPD
3	1734-IA4 POINT I/O 120VAC 4-CHANNEL INPUT MODULE	ROCKWELL	6	1734-IA4
4	1734-OW4 POINT DIGITAL CONTACT OUTPUT MODULE 24VDC	ROCKWELL	4	1734-OW4
5	POINT I/O MODULE BASE	ROCKWELL	10	1734-TB
6	POWER SUPPLY 120VAC TO 24VDC DC POWER SUPPLY 5A		1	
7	STRATIX 5700 NETWORK SWITCH	ROCKWELL	1	1783-BMS10CGP
8	12 PORT FIBER PATCH PANEL	DINSPACE	1	SNAP-12ST-SC-SM
9	STRATIX FIBER SFP, 1000MB CONNECTIVITY OVER SINGLE MODE FIBER	ROCKWELL	2	1783-SFP1GLX
10	WIREWAY		LOT	---
11	2A AC CIRCUIT BREAKER		1	
12	3A AC CIRCUIT BREAKER		1	
13	5A AC CIRCUIT BREAKER		1	
14	7A AC CIRCUIT BREAKER		1	
15	13A AC CIRCUIT BREAKER		1	
16	1A DC CIRCUIT BREAKER		3	
17	13A DC CIRCUIT BREAKER		1	
18	DOUBLE LEVEL TERMINAL SPRING CLAMP STYLE BLOCK		80	
19	36" X 30" X 12" NEMA 4X PANEL		1	
20	BACK PANEL FITS 36 X 30		1	
21	PADLOCK LATCH KIT		1	
22	PANELITE LED ENCLOSURE LIGHT		1	
23	RECEPTACLE		1	
24	SOLAR SHIELD TOP		1	

POWER LADDER



NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE PARTS SHOWN.
2. SEE SHEET SC-49 FOR SUGGESTED STAGING PLAN FOR REVLAC PLC CONTROL SYSTEM UPGRADE.
3. CONTRACTOR TO INSTALL LED LIGHT WITH DOOR SWITCH IN DMS REMOTE I/O PANEL.
4. WHERE PART NUMBER IS NOT SPECIFIED, THE CONTRACTOR SHALL PROVIDE MATERIALS THAT CONFORM TO SPECIAL PROVISIONS AND/OR STANDARD SPECIFICATIONS.
5. MISCELLANEOUS MATERIALS, SUCH AS CONNECTORS, TERMINAL BLOCKS, WIRE DUCT, WIRE, ETC. THAT ARE REQUIRED FOR INSTALLATION ARE NOT SHOWN, BUT SHALL BE PROVIDED AND INCLUDED AS PART OF THE WORK.
6. REFER TO E-11 FOR CP PANEL SCHEDULES.
7. PANEL SHALL BE FITTED WITH SOLAR SHIELD TOP AS DETAILED IN THE SPECIFICATIONS.

pw:\\US1ASP-APP06CS.jacobs.com:NA1Documents\C9X12901_REVTAC_Rehabilitation Phase II\C9X12901 Contract 60T46\700 CAD\Sheets\D160T46-SC-46 DMS REMOTE IO PANEL LAYOUT AND POWER LADDER.dgn

FILE NAME = D160T46-SC-46-DMS REMOTE IO PANEL LAYOUT AND POWER LADDER
PLOT SCALE = 24.0000 in / in.
PLOT DATE = 3/23/2022

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

DESIGNED - RJR | REVISED -
DRAWN - MBS | REVISED -
CHECKED - RAS | REVISED -
DATE - 1/27/2022 | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

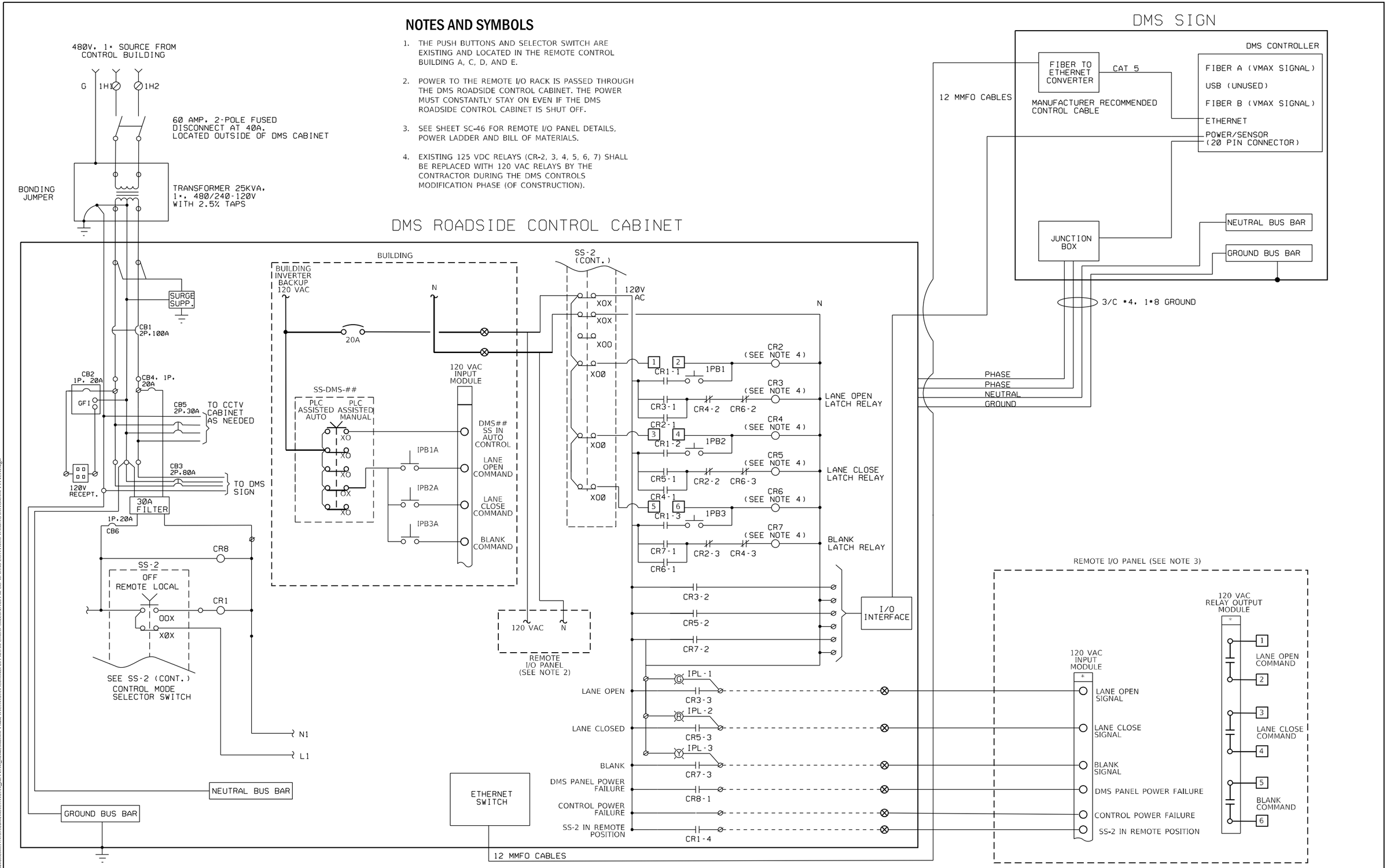
DMS REMOTE I/O PANEL
LAYOUT, BOM, AND POWER LADDER

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	245
		CONTRACT NO. 60T46		
		ILLINOIS	FED. AID PROJECT	

NOTES AND SYMBOLS

1. THE PUSH BUTTONS AND SELECTOR SWITCH ARE EXISTING AND LOCATED IN THE REMOTE CONTROL BUILDING A, C, D, AND E.
2. POWER TO THE REMOTE I/O RACK IS PASSED THROUGH THE DMS ROADSIDE CONTROL CABINET. THE POWER MUST CONSTANTLY STAY ON EVEN IF THE DMS ROADSIDE CONTROL CABINET IS SHUT OFF.
3. SEE SHEET SC-46 FOR REMOTE I/O PANEL DETAILS, POWER LADDER AND BILL OF MATERIALS.
4. EXISTING 125 VDC RELAYS (CR-2, 3, 4, 5, 6, 7) SHALL BE REPLACED WITH 120 VAC RELAYS BY THE CONTRACTOR DURING THE DMS CONTROLS MODIFICATION PHASE (OF CONSTRUCTION).



SC-48

Jacobs 525 W. Monroe, Suite 1600, Chicago, IL 60661	USER NAME = HANNARS	DESIGNED - RJR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DMS CONTROL WIRING DIAGRAM TYPICAL**
		DRAWN - MBS	REVISED -		
	PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -		SCALE: NTS SHEET 1 OF 1 SHEETS STA. N/A TO STA. N/A
	PLOT DATE = 5/10/2022	DATE - 1/27/2022	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-0081	COOK	258	247
		CONTRACT NO.	60T46	
		ILLINOIS	FED. AID PROJECT	

pw:\\ProjectWiseAMER.jacobs.com:NA1\Documents\C9X1290I_DEVT.AC_Rehabilitation-Phase II\C9X1290I Contract 60T46\100 CADD\Sheets\D1\60T46-SC-48-DMS CONTROL WIRING DIAGRAM TYPICAL.dgn

SUGGESTED PHASING PLAN FOR REVLAC PLC BASED CONTROL SYSTEM UPGRADE

(I) PREREQUISITES FOR PHASED UPGRADE OF THE REVLAC PLC BASED CONTROL SYSTEM:

1. THE CONTRACTOR SHALL SUBMIT A COMPREHENSIVE PHASING PLAN (FOR THE PHASED UPGRADE OF THE REVLAC PLC CONTROL SYSTEM) INCLUDING A DETAILED PROJECT SCHEDULE FOR APPROVAL BY THE ENGINEER PRIOR TO PERFORMING ANY UPGRADE OF THE REVLAC PLC CONTROL SYSTEM.
2. THE CONTRACTOR SHALL PROVIDE A FORMAL RAMP CLOSURE REQUEST TO THE DEPARTMENT ONE WEEK PRIOR TO FIELD WORK INCLUDING THE FOLLOWING :
   - A. REMOVAL OF EXISTING BUILDING PLC-5 REMOTE I/O.
   - B. INSTALLATION OF NEW ROADWAY REMOTE I/O PANEL (FOR EACH SWING GATE, RESTRAINING BARRIER, ROADSIDE PANEL AND DMS SIGNS).
   - C. INSTALLATION AND CONFIGURATION OF THE NEW ETHERNET BASED REVLAC CONTROL SYSTEM COMMUNICATION NETWORK.
   - D. INDIVIDUAL BUILDING/INTEGRATED FIELD TEST.

NOTE: THE RAMP CLOSURE REQUEST WILL DETAIL THE SCOPE OF WORK BEING UNDERTAKEN BY THE CONTRACTOR, ALONG WITH POTENTIAL OPERATIONAL IMPACT/RISKS ON THE REVLAC CONTROL SYSTEM DURING THE RAMP CLOSURE AND STEPS TAKEN BY THE CONTRACTOR TO MITIGATE POTENTIAL OPERATIONAL IMPACT/RISKS.

(II) REVLAC PLC CONTROL SYSTEM UPGRADE PHASING PLAN:

1. CONTRACTOR SHALL PROCURE THE HARDWARE/ SOFTWARE (INCLUDING SOFTWARE LICENSE AND SPARE PARTS) LISTED IN THE CONTRACT DOCUMENTS NEEDED FOR THE UPGRADE OF THE REVLAC PLC BASED CONTROL SYSTEM . ESP SHALL CONFIGURE AND PROGRAM ALL HARDWARE/ SOFTWARE AT THE CONTRACTORS FACILITY.
2. ESP SHALL ENSURE THE NETWORK SWITCHES, CONTROL LOGIX HARDWARE (PROCESSOR RACKS AND REMOTE I/O) AND ROADWAY POINT I/O HARDWARE IS LOADED WITH COMPATIBLE REDUNDANCY BUNDLE FIRMWARE AT THE CONTRACTORS FACILITY FOR BUILDINGS A, C, D, E, AND HQ.
3. ESP SHALL SUBMIT DETAILED TESTING PROCEDURES FOR APPROVAL TO THE ENGINEER PRIOR TO ALL PHASES OF TESTING LISTED BELOW.
4. ESP SHALL PROVIDE NO LESS THAN SIX WEEKS ADVANCE NOTIFICATION FOR ALL PHASES OF TESTING AND SHALL CONFIRM THE TEST DATE NO LESS THAN 14 DAYS PRIOR TO THE TEST DATE. ESP SHALL VERIFY WITH THE DEPARTMENT IF THE DEPARTMENT OR THEIR REPRESENTATIVE WILL WITNESS THE TEST PHASES.
5. ESP SHALL PROVIDE CERTIFIED TEST RESULTS TO THE ENGINEER AND THE DEPARTMENT FOR APPROVAL.
6. ESP SHALL HAVE EXTENSIVE CONSULTATION WITH DEPARTMENT/ENGINEER TO DEVELOP REVLAC SERVER/CLIENT GRAPHICS, ALARMS, AND PERIODIC REPORTING STANDARDS AND TEMPLATES. ESP SHALL MAKE SUBMISSIONS IN THIS REGARD TO THE ENGINEER AND THE DEPARTMENT FOR THEIR APPROVAL. REFER TO SPECIAL PROVISIONS FOR FURTHER DETAILS.

NOTE: ESP SHALL NOT PROCEED WITH PROGRAMMING THE REVLAC SERVER/CLIENT SYSTEM UNTIL ALL THE GRAPHICS, ALARMS, AND PERIODIC REPORTING STANDARDS AND TEMPLATES HAVE BEEN APPROVED BY THE DEPARTMENT AND THE ENGINEER.

(III) SHOP TEST:

1. INDIVIDUAL BUILDING SHOP TEST (AT CONTRACTOR FACILITY):
   - A. THE CONTRACTOR SHALL HOST AND PROVIDE ALL NECESSARY SUPPORT TO ESP FOR INDIVIDUAL BUILDING SHOP TEST. THIS INCLUDES PROVIDING SPACE, NECESSARY TEMPORARY EQUIPMENT/POWER FOR THE TEST, AND ADEQUATE OFF STREET PARKING.
   - B. ESP SHALL PROGRAM/CONFIGURE THE ETHERNET NETWORK SWITCHES/ROUTERS, CONTROL LOGIX PROCESSOR, REMOTE I/O RACK, ROADWAY POINT I/O AND THE REVLAC SERVER/CLIENT SYSTEM AS SHOWN IN THE CONTRACT DOCUMENTS FOR AN INDIVIDUAL BUILDING. A SOFTWARE SIMULATOR TO PROVIDE FEEDBACK FROM THE ROADWAY DEVICES MUST ALSO BE PROGRAMMED BY ESP FOR THE SHOP TEST. ONCE THE CONFIGURATION AND PROGRAMMING IS COMPLETE, ESP WILL TEST EACH BUILDING PLC PROGRAMMING SEQUENCE ON AN INDIVIDUAL BASIS AT THE CONTRACTOR FACILITY.
   - C. AT THE SUCCESSFUL CONCLUSION OF THE INDIVIDUAL BUILDING SHOP TESTS AND TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, ESP SHALL PREPARE FOR THE INTEGRATED SHOP TEST AT THE CONTRACTOR FACILITY.
2. INTEGRATED SHOP TEST (AT CONTRACTOR FACILITY):
   - A. THE CONTRACTOR SHALL HOST AND PROVIDE ALL NECESSARY SUPPORT TO ESP FOR THE INTEGRATED SHOP TEST. THIS INCLUDES PROVIDING SPACE, NECESSARY TEMPORARY EQUIPMENT/POWER FOR THE TEST, AND ADEQUATE OFF STREET PARKING.
   - B. ESP SHALL CONFIGURE AND PROGRAM THE ENTIRE ETHERNET COMMUNICATION NETWORK (INCLUDING INTER VLAN ROUTING AND NETWORK SEGMENTATION) BETWEEN THE NODAL BUILDINGS (A, C, D, E, AND HQ) AS SHOWN IN THE CONTRACT DOCUMENTS PRIOR TO COMMENCEMENT OF THE INTEGRATED SHOP TEST.
   - C. ESP SHALL PERFORM A DOCUMENTED INTEGRATED SHOP TEST WITH THE ETHERNET NETWORK SWITCHES/ROUTER, CONTROL LOGIX PROCESSOR HARDWARE, CONTROL LOGIX REMOTE I/O, ROADWAY POINT I/O, AND REVLAC SERVER/CLIENT INFRASTRUCTURE. THIS TEST SHALL INCLUDE SIMULATION OF THE PROGRAMMING SEQUENCE FOR THE BUILDING (A, C, D, E AND HQ) PLC WITH THE NEW CONTROL LOGIX LOCAL REMOTE I/O, ROADWAY POINT I/O AND REVLAC SERVER/ CLIENT SYSTEM. THE EXISTING INTER PROCESSOR PLC MESSAGING BETWEEN THE BUILDING PLC'S OVER THE ETHERNET NETWORK SHALL BE REMOVED PRIOR TO CONDUCTING THIS TEST.
   - D. ALL REVLAC CONTROL SYSTEM FUNCTIONS SHALL BE DEMONSTRATED IN THIS TEST. RAMP DEVICES SHALL BE SIMULATED AND FAILURE MODES TESTED. THIS PHASE OF TESTING SHALL DEMONSTRATE THE LOGGING OF ALARMS, FAILURES, EVENTS, AND PERIODIC REPORTING ON THE SERVER/CLIENT INFRASTRUCTURE IN THE NODAL BUILDINGS (A, C, D E, AND HQ). COMMANDS SHALL BE SIMULATED FROM THE SERVER/CLIENT SYSTEM, THE ROADSIDE CONTROL PANELS, THE SWITCHES, AND PUSH BUTTONS ON THE PLC ENCLOSURES AND THE CATTRON CONTROLLER. THE COMMANDS SENT SHALL INCLUDE NORMAL RAMP TRANSMISSIONS AND ABNORMAL RAMP/DEVICE TRANSMISSIONS.
   - E. ALL ETHERNET NETWORK DEVICES, CONTROL LOGIX LOCAL REMOTE I/O, POINT I/O DIAGNOSTIC ALARMS SHALL BE PROGRAMMED ON THE REVLAC SERVER/CLIENT SYSTEM FOR ALL NODAL BUILDINGS AND TESTED IN THE INTEGRATED SHOP TEST BY ESP.
   - F. ALL ASPECTS OF THE REVLAC SERVER/CLIENT SYSTEM INCLUDING GRAPHICS, ALARMS, HISTORIAN DATALOGGING, PERIODIC REPORTING, REMOTE NETWORK CONFIGURATION, AND REDUNDANCY SHALL BE TESTED DURING THIS PHASE.
   - G. AT THE SUCCESSFUL COMPLETION OF THE INTEGRATED SHOP TEST AND AFTER TEST RESULT DOCUMENTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL SHIP THE HARDWARE TO EACH SITE.

(IV) FIELD TEST:

1. PREREQUISITES FOR PERFORMING FIELD TEST:
   - A. THE CONTRACTOR SHALL PROVIDE A SEPARATE 120VAC POWER IN ALL NODAL BUILDING EXISTING PLC/VDT ENCLOSURES WITH ASSOCIATED CIRCUIT BREAKERS AS SHOWN IN THE CONTRACT DOCUMENTS.
   - B. THE CONTRACTOR SHALL PROVIDE POWER AND INSTALL THE CONFIGURED ETHERNET NETWORK SWITCHES/ROUTER IN ALL NODAL BUILDING PLC/VDT ENCLOSURES ONLY REQUIRED FOR INTERBUILDING COMMUNICATIONS SHOWN IN THE CONTRACT DOCUMENTS.
   - C. THE INTERBUILDING COMMUNICATIONS NETWORK SWITCHES/ROUTER SHALL BE CONNECTED TO EACH OTHER AS SHOWN IN THE CONTRACT DOCUMENTS USING THE EXISTING SPARE FIBER CABLES AVAILABLE BETWEEN THE NODAL BUILDINGS IN ORDER TO FORM A SEPARATE INTER BUILDING ETHERNET COMMUNICATION NETWORK.
   - D. ESP SHALL ENSURE THE NEWLY CONFIGURED SEPARATE ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS IS COMPLETELY OPERATIONAL. ESP SHALL INSTALL/CONFIGURE THE NEW CONTROL LOGIX ETHERNET MODULES IN EACH OF THE EXISTING NODAL BUILDING CONTROL LOGIX PROCESSOR RACKS AS SHOWN IN THE CONTRACT DOCUMENTS.
   - E. THE NEW CONTROL LOGIX ETHERNET MODULES ARE CONNECTED TO THE SEPARATE INTERBUILDING SWITCH BASED ETHERNET NETWORK AS SHOWN IN THE CONTRACT DOCUMENT. HENCE AT THIS POINT IN TIME THE EXISTING CONTROL LOGIX PROCESSOR RACKS ARE CONNECTED TO THE EXISTING HIRSCHMAN SWITCH BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS AND THE NEWLY CONFIGURED INTERBUILDING COMMUNICATION SWITCH BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDING. ESP WILL ENSURE THAT INTER PROCESSOR COMMUNICATIONS BETWEEN EACH NODAL BUILDING IS OPERATIONAL ON BOTH ETHERNET NETWORKS.
   - F. ESP SHALL CONFIGURE/INSTALL/OPERATIONALIZE THE ENTIRE REVLAC SERVER/CLIENT INFRASTRUCTURE ACROSS ALL THE NODAL BUILDINGS AND MAKE NECESSARY NETWORK CONNECTIONS TO THE SEPARATELY INSTALLED INTERBUILDING COMMUNICATION ETHERNET NETWORK, AS SHOWN IN THE CONTRACT DOCUMENTS.
   - G. THE EXISTING BUILDING PROCESSOR RACKS SHALL BE DISCONNECTED FROM EXISTING HIRSCHMAN BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS.
   - H. THE SCP'S, VDT'S, AND THE PLC-5 I/O (CONNECTED TO THE SCP'S) IS POWERED DOWN IN EACH OF THE BUILDINGS.
   - I. ESP SHALL COMPLETELY TEST THE FUNCTIONALITY OF EACH OF THE REVLAC SERVER/CLIENT SYSTEM IN EACH NODAL BUILDING ON THE SEPARATELY INSTALLED INTERBUILDING ETHERNET COMMUNICATION NETWORK. AT THE SUCCESSFUL COMPLETION OF THE REVLAC SERVER/CLIENT SYSTEM TEST IN EACH NODAL BUILDING AND AFTER THE TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR WILL REMOVE THE EXISTING SCP'S AND ASSOCIATED PLC-5 REMOTE I/O RACKS IN EACH OF THE NODAL BUILDINGS.
   - J. THE CONTRACTOR SHALL PERMANENTLY INSTALL THE NEW REVLAC SERVER/CLIENT SYSTEM IN EACH OF THE NODAL BUILDINGS WITH ASSOCIATED ETHERNET NETWORK CONNECTIVITY TO THE NEW INTERBUILDING SWITCH BASED ETHERNET NETWORK.
   - K. THE HIRSCHMAN SWITCH BASED ETHERNET COMMUNICATION NETWORK SHALL BE COMPLETELY UNINSTALLED FROM ALL THE PLC/VDT ENCLOSURES.
2. INDIVIDUAL BUILDING FIELD TEST (BUILDING A):
   (NOTE: STEPS A-M SHALL BE REPEATED FOR BUILDINGS C, D, E AND HQ BY THE CONTRACTOR, ONE BUILDING AT A TIME)
   - A. THE CONTRACTOR SHALL INSTALL THE ROADWAY POINT I/O ENCLOSURES, REFURBISHED SWING GATE/ RESTRAINING BARRIER CONTROL ENCLOSURES AND PERFORM INSTRUMENTATION/POWER WIRING TERMINATIONS FOR ONE PARTICULAR RAMP.
   - B. THE CONTRACTOR SHALL INSTALL REQUIRED POWER CABLE/CONDUIT (ASSOCIATED BREAKER CIRCUITRY) TO PROVIDE 120VAC POWER TO EACH OF THE ROADWAY POINT I/O ENCLOSURES FOR THAT PARTICULAR RAMP.
   - C. FIBER OPTIC CABLING/CONDUIT SHALL BE INSTALLED TO PROVIDE ETHERNET NETWORK CONNECTIVITY BETWEEN ROADWAY POINT I/O TO THE BUILDING PLC/VDT ENCLOSURE FOR THAT PARTICULAR RAMP.
   - D. THE CONTRACTOR SHALL PERFORM THE INTERCONNECTION WIRING BETWEEN THE CONTROL ENCLOSURES OF THE ROADWAY DEVICES (SUCH AS DMS'S, SWING GATES, RESTRAINING BARRIERS AND ROADSIDE PANELS) AND THE ASSOCIATED ROADWAY POINT I/O ENCLOSURES FOR THAT PARTICULAR RAMP.
   - E. THE CONTRACTOR SHALL INSTALL THE NEW CONTROL LOGIX LOCAL REMOTE I/O RACK AND THE LAYER 2 ETHERNET NETWORK SWITCHES IN THE BUILDING PLC/VDT ENCLOSURE AS SHOWN IN THE CONTRACT DRAWING.
   - F. ESP SHALL PERFORM THE NECESSARY CONFIGURATION AND PROVIDE NETWORK CONNECTIVITY TO ROADWAY POINT I/O AND LOCAL REMOTE CONTROL LOGIX RACK FROM BUILDING A CONTROL LOGIX PLC RACK.
   - G. ALL REQUIRED I/O TERMINATIONS FROM THE PUSH BUTTONS, SELECTOR SWITCHES AND PILOT LIGHTS ASSOCIATED WITH THAT PARTICULAR RAMP ARE TERMINATED TO THE NEWLY INSTALLED CONTROL LOGIX LOCAL REMOTE I/O RACK.
   - H. THE ROADWAY DEVICE CONTROL ENCLOSURES, ROADWAY POINT I/O ENCLOSURES AND NEW EQUIPMENT IN THE PLC/VDT ENCLOSURE SHALL BE POWERED UP.
   - I. ESP SHALL DOWNLOAD THE NEW PLC PROGRAM WITH THE MODIFIED I/O ADDRESSING FOR THAT PARTICULAR RAMP INTO THE BUILDING A CONTROL LOGIX PROCESSORS.
   - J. ESP SHALL TEST ONLY THE PLC SEQUENCE RELATED TO THAT PARTICULAR RAMP FOR BUILDING A. THE CONTROL AND MONITORING CAPABILITY FROM THE FOLLOWING LOCATIONS MUST BE TESTED:
     - I. REVLAC SERVER/CLIENT SYSTEM LOCATED IN ALL NODAL BUILDINGS
     - II. THE CATTRON UNIT
     - III. THE SELECTOR SWITCHES AND PUSH BUTTONS ON THE FRONT OF THE PLC/VDT ENCLOSURE
     - IV. THE SELECTOR SWITCHES AND PUSH BUTTONS LOCATED IN EQUIPMENT INSTALLED ON THE ROADWAY
   - K. AT THE COMPLETION OF TESTING OF THE PLC SEQUENCE FOR THAT PARTICULAR RAMP, THE EXISTING PLC -5 LOCAL REMOTE I/O (ASSOCIATED WITH THE RAMP) SHALL BE DISCONNECTED AND REMOVED FROM THE PLC/VDT ENCLOSURE.
   - L. STEPS A-K SHALL BE REPEATED FOR TESTING OF THE PLC SEQUENCE FOR THE ROADWAY DEVICES ASSOCIATED WITH EACH RAMP FOR BUILDING A.
   - M. AT THE SUCCESSFUL COMPLETION OF THE INDIVIDUAL BUILDING FIELD TESTS AND AFTER TEST RESULT DOCUMENTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN THE INTEGRATED FIELD TESTS.
3. INTEGRATED FIELD TEST:
   - A. AT THE BEGINNING OF THIS PHASE OF TESTING:
     - I. ALL NETWORK SWITCHES/ROUTER, LOCAL REMOTE CONTROL LOGIX I/O RACKS, REVLAC SERVER/CLIENT SYSTEM IN ALL BUILDING PLC/VDT ENCLOSURES MUST BE PERMANENTLY INSTALLED AND POWERED UP AS PER CONTRACT DRAWINGS.
     - II. ALL ROADWAY POINT I/O ENCLOSURES AND REFURBISHED CONTROL ENCLOSURES ALONG ALL ROADWAY RAMPS MUST BE PERMANENTLY INSTALLED AND POWERED UP AS PER CONTRACT DRAWINGS.
     - III. ALL ETHERNET NETWORK DEVICES, BUILDING CONTROL LOGIX PLC RACKS, LOCAL REMOTE I/O RACKS, ROADWAY POINT I/O AND THE REVLAC SERVER/CLIENT SYSTEM ASSOCIATED WITH ALL NODAL BUILDINGS MUST BE CORRECTLY PROGRAMMED AND CONFIGURED AS PER THE CONTRACT DRAWINGS.
     - IV. ALL PLC-5 REMOTE I/O IN THE RESPECTIVE BUILDING PLC/VDT ENCLOSURES SHALL BE PERMANENTLY REMOVED.
   - B. THE NEW EQUIPMENT SHALL BE SETUP AND A COMPREHENSIVE INTEGRATED FIELD TEST OF THE CONTROL LOGIX BASED REVLAC CONTROL SYSTEM SHALL BE PERFORMED BY ESP IN ACCORDANCE WITH THE APPROVED TEST PLANS.
   - C. ESP SHALL RESTORE THE (FOR EACH BUILDING) THE CONTROL LOGIX PLC CONTROL SYSTEM TO ITS ORIGINAL STATE AT THE END OF EACH DAY FOR THIS PHASE OF THE TEST. THE REVLAC CONTROL SYSTEM AT ALL FIVE BUILDINGS SHALL BE RESTORED TO ITS ORIGINAL STATE SIMULTANEOUSLY IN ORDER TO MAXIMIZE THE TIME AVAILABLE FOR TESTING.

(V) SIXTY DAY OBSERVATION PERIOD:

1. AT THE SUCCESSFUL CONCLUSION OF THE INTERGRATED FIELD TEST, A SIXTY DAY OBSERVATION PERIOD WILL BEGIN. AFTER THE FIRST 30 DAYS OF THE OBSERVATION PERIOD THE CONTRACTOR SHALL REMOVE ALL UNUSED EQUIPMENT IN THE BUILDING PLC/VDT ENCLOSURE IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

NOTE: ANY ISSUE IDENTIFIED BY THE DEPARTMENT DURING THE 60 DAY OBSERVATION PERIOD IN EITHER THE NEW CONTROL LOGIX HARDWARE OR SOFTWARE, WILL REQUIRE FOR EVERY ONE (1) DAY THE CONTRACTOR IS REQUIRED TO MITIGATE/FIX A PROBLEM, AND ADDITIONAL ONE (1) DAY WILL BE ADDED TO THE 60-DAY PERIOD.

SC-49

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

USER NAME = HANNARS	DESIGNED - RJR	REVISED -	
	DRAWN - MBS	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - RAS	REVISED -	
PLOT DATE = 5/10/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REVLAC PLC CONTROL SYSTEM UPGRADE
STAGING PLAN

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	268	248
		CONTRACT NO. 60T46		
		ILLINOIS FED. AID PROJECT		

SUGGESTED PHASING PLAN FOR REVLAC PLC BASED CONTROL SYSTEM UPGRADE

(I) PREREQUISITES FOR PHASED UPGRADE OF THE REVLAC PLC BASED CONTROL SYSTEM:

1. THE CONTRACTOR SHALL SUBMIT A COMPREHENSIVE PHASING PLAN (FOR THE PHASED UPGRADE OF THE REVLAC PLC CONTROL SYSTEM) INCLUDING A DETAILED PROJECT SCHEDULE FOR APPROVAL BY THE ENGINEER PRIOR TO PERFORMING ANY UPGRADE OF THE REVLAC PLC CONTROL SYSTEM.
2. THE CONTRACTOR SHALL PROVIDE A FORMAL RAMP CLOSURE REQUEST TO THE DEPARTMENT ONE WEEK PRIOR TO FIELD WORK INCLUDING THE FOLLOWING :
   A. REMOVAL OF EXISTING BUILDING PLC-5 REMOTE I/O.
   B. INSTALLATION OF NEW ROADWAY REMOTE I/O PANEL (FOR EACH SWING GATE, RESTRAINING BARRIER, ROADSIDE PANEL AND DMS SIGNS).
   C. INSTALLATION AND CONFIGURATION OF THE NEW ETHERNET BASED REVLAC CONTROL SYSTEM COMMUNICATION NETWORK.
   D. INDIVIDUAL BUILDING/INTEGRATED FIELD TEST.

NOTE: THE RAMP CLOSURE REQUEST WILL DETAIL THE SCOPE OF WORK BEING UNDERTAKEN BY THE CONTRACTOR, ALONG WITH POTENTIAL OPERATIONAL IMPACT/RISKS ON THE REVLAC CONTROL SYSTEM DURING THE RAMP CLOSURE AND STEPS TAKEN BY THE CONTRACTOR TO MITIGATE POTENTIAL OPERATIONAL IMPACT/RISKS.

(II) REVLAC PLC CONTROL SYSTEM UPGRADE PHASING PLAN:

1. CONTRACTOR SHALL PROCURE THE HARDWARE/ SOFTWARE (INCLUDING SOFTWARE LICENSE AND SPARE PARTS) LISTED IN THE CONTRACT DOCUMENTS NEEDED FOR THE UPGRADE OF THE REVLAC PLC BASED CONTROL SYSTEM . ESP SHALL CONFIGURE AND PROGRAM ALL HARDWARE/ SOFTWARE AT THE CONTRACTORS FACILITY.
2. ESP SHALL ENSURE THE NETWORK SWITCHES, CONTROL LOGIX HARDWARE (PROCESSOR RACKS AND REMOTE I/O) AND ROADWAY POINT I/O HARDWARE IS LOADED WITH COMPATIBLE REDUNDANCY BUNDLE FIRMWARE AT THE CONTRACTORS FACILITY FOR BUILDINGS A, C, D, E, AND HQ.
3. ESP SHALL SUBMIT DETAILED TESTING PROCEDURES FOR APPROVAL TO THE ENGINEER PRIOR TO ALL PHASES OF TESTING LISTED BELOW.
4. ESP SHALL PROVIDE NO LESS THAN SIX WEEKS ADVANCE NOTIFICATION FOR ALL PHASES OF TESTING AND SHALL CONFIRM THE TEST DATE NO LESS THAN 14 DAYS PRIOR TO THE TEST DATE. ESP SHALL VERIFY WITH THE DEPARTMENT IF THE DEPARTMENT OR THEIR REPRESENTATIVE WILL WITNESS THE TEST PHASES.
5. ESP SHALL PROVIDE CERTIFIED TEST RESULTS TO THE ENGINEER AND THE DEPARTMENT FOR APPROVAL.
6. ESP SHALL HAVE EXTENSIVE CONSULTATION WITH DEPARTMENT/ENGINEER TO DEVELOP REVLAC SERVER/CLIENT GRAPHICS, ALARMS, AND PERIODIC REPORTING STANDARDS AND TEMPLATES. ESP SHALL MAKE SUBMISSIONS IN THIS REGARD TO THE ENGINEER AND THE DEPARTMENT FOR THEIR APPROVAL. REFER TO SPECIAL PROVISIONS FOR FURTHER DETAILS.

NOTE: ESP SHALL NOT PROCEED WITH PROGRAMMING THE REVLAC SERVER/CLIENT SYSTEM UNTIL ALL THE GRAPHICS, ALARMS, AND PERIODIC REPORTING STANDARDS AND TEMPLATES HAVE BEEN APPROVED BY THE DEPARTMENT AND THE ENGINEER.

(III) SHOP TEST:

1. INDIVIDUAL BUILDING SHOP TEST (AT CONTRACTOR FACILITY):
   A. THE CONTRACTOR SHALL HOST AND PROVIDE ALL NECESSARY SUPPORT TO ESP FOR INDIVIDUAL BUILDING SHOP TEST. THIS INCLUDES PROVIDING SPACE, NECESSARY TEMPORARY EQUIPMENT/POWER FOR THE TEST, AND ADEQUATE OFF STREET PARKING.
   B. ESP SHALL PROGRAM/CONFIGURE THE ETHERNET NETWORK SWITCHES/ROUTERS, CONTROL LOGIX PROCESSOR, REMOTE I/O RACK, ROADWAY POINT I/O AND THE REVLAC SERVER/CLIENT SYSTEM AS SHOWN IN THE CONTRACT DOCUMENTS FOR AN INDIVIDUAL BUILDING. A SOFTWARE SIMULATOR TO PROVIDE FEEDBACK FROM THE ROADWAY DEVICES MUST ALSO BE PROGRAMMED BY ESP FOR THE SHOP TEST. ONCE THE CONFIGURATION AND PROGRAMMING IS COMPLETE, ESP WILL TEST EACH BUILDING PLC PROGRAMMING SEQUENCE ON AN INDIVIDUAL BASIS AT THE CONTRACTOR FACILITY.
   C. AT THE SUCCESSFUL CONCLUSION OF THE INDIVIDUAL BUILDING SHOP TESTS AND TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, ESP SHALL PREPARE FOR THE INTEGRATED SHOP TEST AT THE CONTRACTOR FACILITY.
2. INTEGRATED SHOP TEST (AT CONTRACTOR FACILITY):
   A. THE CONTRACTOR SHALL HOST AND PROVIDE ALL NECESSARY SUPPORT TO ESP FOR THE INTEGRATED SHOP TEST. THIS INCLUDES PROVIDING SPACE, NECESSARY TEMPORARY EQUIPMENT/POWER FOR THE TEST, AND ADEQUATE OFF STREET PARKING.
   B. ESP SHALL CONFIGURE AND PROGRAM THE ENTIRE ETHERNET COMMUNICATION NETWORK (INCLUDING INTER VLAN ROUTING AND NETWORK SEGMENTATION) BETWEEN THE NODAL BUILDINGS (A, C, D, E, AND HQ) AS SHOWN IN THE CONTRACT DOCUMENTS PRIOR TO COMMENCEMENT OF THE INTEGRATED SHOP TEST.
   C. ESP SHALL PERFORM A DOCUMENTED INTEGRATED SHOP TEST WITH THE ETHERNET NETWORK SWITCHES/ROUTER, CONTROL LOGIX PROCESSOR HARDWARE, CONTROL LOGIX REMOTE I/O, ROADWAY POINT I/O, AND REVLAC SERVER/CLIENT INFRASTRUCTURE. THIS TEST SHALL INCLUDE SIMULATION OF THE PROGRAMMING SEQUENCE FOR THE BUILDING (A, C, D, E AND HQ) PLC WITH THE NEW CONTROL LOGIX LOCAL REMOTE I/O, ROADWAY POINT I/O AND REVLAC SERVER/ CLIENT SYSTEM. THE EXISTING INTER PROCESSOR PLC MESSAGING BETWEEN THE BUILDING PLC'S OVER THE ETHERNET NETWORK SHALL BE REMOVED PRIOR TO CONDUCTING THIS TEST.
   D. ALL REVLAC CONTROL SYSTEM FUNCTIONS SHALL BE DEMONSTRATED IN THIS TEST. RAMP DEVICES SHALL BE SIMULATED AND FAILURE MODES TESTED. THIS PHASE OF TESTING SHALL DEMONSTRATE THE LOGGING OF ALARMS, FAILURES, EVENTS, AND PERIODIC REPORTING ON THE SERVER/CLIENT INFRASTRUCTURE IN THE NODAL BUILDINGS (A, C, D E, AND HQ). COMMANDS SHALL BE SIMULATED FROM THE SERVER/CLIENT SYSTEM, THE ROADSIDE CONTROL PANELS, THE SWITCHES, AND PUSH BUTTONS ON THE PLC ENCLOSURES AND THE CATTRON CONTROLLER. THE COMMANDS SENT SHALL INCLUDE NORMAL RAMP TRANSMISSIONS AND ABNORMAL RAMP/DEVICE TRANSMISSIONS.
   E. ALL ETHERNET NETWORK DEVICES, CONTROL LOGIX LOCAL REMOTE I/O, POINT I/O DIAGNOSTIC ALARMS SHALL BE PROGRAMMED ON THE REVLAC SERVER/CLIENT SYSTEM FOR ALL NODAL BUILDINGS AND TESTED IN THE INTEGRATED SHOP TEST BY ESP.
   F. ALL ASPECTS OF THE REVLAC SERVER/CLIENT SYSTEM INCLUDING GRAPHICS, ALARMS, HISTORIAN DATALOGGING, PERIODIC REPORTING, REMOTE NETWORK CONFIGURATION, AND REDUNDANCY SHALL BE TESTED DURING THIS PHASE.
   G. AT THE SUCCESSFUL COMPLETION OF THE INTEGRATED SHOP TEST AND AFTER TEST RESULT DOCUMENTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL SHIP THE HARDWARE TO EACH SITE.

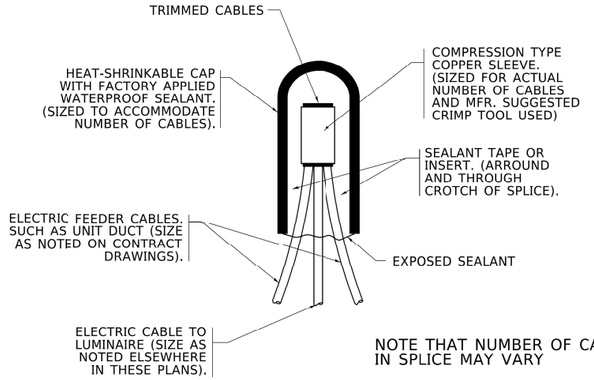
(IV) FIELD TEST:

1. PREREQUISITES FOR PERFORMING FIELD TEST:
   A. THE CONTRACTOR SHALL PROVIDE A SEPARATE 120VAC POWER IN ALL NODAL BUILDING EXISTING PLC/VDT ENCLOSURES WITH ASSOCIATED CIRCUIT BREAKERS AS SHOWN IN THE CONTRACT DOCUMENTS.
   B. THE CONTRACTOR SHALL PROVIDE POWER AND INSTALL THE CONFIGURED ETHERNET NETWORK SWITCHES/ROUTER IN ALL NODAL BUILDING PLC/VDT ENCLOSURES ONLY REQUIRED FOR INTERBUILDING COMMUNICATIONS SHOWN IN THE CONTRACT DOCUMENTS.
   C. THE INTERBUILDING COMMUNICATIONS NETWORK SWITCHES/ROUTER SHALL BE CONNECTED TO EACH OTHER AS SHOWN IN THE CONTRACT DOCUMENTS USING THE EXISTING SPARE FIBER CABLES AVAILABLE BETWEEN THE NODAL BUILDINGS IN ORDER TO FORM A SEPARATE INTER BUILDING ETHERNET COMMUNICATION NETWORK.
   D. ESP SHALL ENSURE THE NEWLY CONFIGURED SEPARATE ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS IS COMPLETELY OPERATIONAL. ESP SHALL INSTALL/CONFIGURE THE NEW CONTROL LOGIX ETHERNET MODULES IN EACH OF THE EXISTING NODAL BUILDING CONTROL LOGIX PROCESSOR RACKS AS SHOWN IN THE CONTRACT DOCUMENTS.
   E. THE NEW CONTROL LOGIX ETHERNET MODULES ARE CONNECTED TO THE SEPARATE INTERBUILDING SWITCH BASED ETHERNET NETWORK AS SHOWN IN THE CONTRACT DOCUMENT. HENCE AT THIS POINT IN TIME THE EXISTING CONTROL LOGIX PROCESSOR RACKS ARE CONNECTED TO THE EXISTING HIRSCHMAN SWITCH BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS AND THE NEWLY CONFIGURED INTERBUILDING COMMUNICATION SWITCH BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDING. ESP WILL ENSURE THAT INTER PROCESSOR COMMUNICATIONS BETWEEN EACH NODAL BUILDING IS OPERATIONAL ON BOTH ETHERNET NETWORKS.
   F. ESP SHALL CONFIGURE/INSTALL/OPERATIONALIZE THE ENTIRE REVLAC SERVER/CLIENT INFRASTRUCTURE ACROSS ALL THE NODAL BUILDINGS AND MAKE NECESSARY NETWORK CONNECTIONS TO THE SEPARATELY INSTALLED INTERBUILDING COMMUNICATION ETHERNET NETWORK, AS SHOWN IN THE CONTRACT DOCUMENTS.
   G. THE EXISTING BUILDING PROCESSOR RACKS SHALL BE DISCONNECTED FROM EXISTING HIRSCHMAN BASED ETHERNET NETWORK BETWEEN THE NODAL BUILDINGS.
   H. THE SCP'S, VDT'S, AND THE PLC-5 I/O (CONNECTED TO THE SCP'S) IS POWERED DOWN IN EACH OF THE BUILDINGS.
   I. ESP SHALL COMPLETELY TEST THE FUNCTIONALITY OF EACH OF THE REVLAC SERVER/CLIENT SYSTEM IN EACH NODAL BUILDING ON THE SEPARATELY INSTALLED INTERBUILDING ETHERNET COMMUNICATION NETWORK. AT THE SUCCESSFUL COMPLETION OF THE REVLAC SERVER/CLIENT SYSTEM TEST IN EACH NODAL BUILDING AND AFTER THE TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR WILL REMOVE THE EXISTING SCP'S AND ASSOCIATED PLC-5 REMOTE I/O RACKS IN EACH OF THE NODAL BUILDINGS.
   J. THE CONTRACTOR SHALL PERMANENTLY INSTALL THE NEW REVLAC SERVER/CLIENT SYSTEM IN EACH OF THE NODAL BUILDINGS WITH ASSOCIATED ETHERNET NETWORK CONNECTIVITY TO THE NEW INTERBUILDING SWITCH BASED ETHERNET NETWORK.
   K. THE HIRSCHMAN SWITCH BASED ETHERNET COMMUNICATION NETWORK SHALL BE COMPLETELY UNINSTALLED FROM ALL THE PLC/VDT ENCLOSURES.
2. INDIVIDUAL BUILDING FIELD TEST (BUILDING A):
   (NOTE: STEPS A-M SHALL BE REPEATED FOR BUILDINGS C, D, E AND HQ BY THE CONTRACTOR, ONE BUILDING AT A TIME)
   A. THE CONTRACTOR SHALL INSTALL THE ROADWAY POINT I/O ENCLOSURES, REFURBISHED SWING GATE/ RESTRAINING BARRIER CONTROL ENCLOSURES AND PERFORM INSTRUMENTATION/POWER WIRING TERMINATIONS FOR ONE PARTICULAR RAMP.
   B. THE CONTRACTOR SHALL INSTALL REQUIRED POWER CABLE/CONDUIT (ASSOCIATED BREAKER CIRCUITRY) TO PROVIDE 120VAC POWER TO EACH OF THE ROADWAY POINT I/O ENCLOSURES FOR THAT PARTICULAR RAMP.
   C. FIBER OPTIC CABLING/CONDUIT SHALL BE INSTALLED TO PROVIDE ETHERNET NETWORK CONNECTIVITY BETWEEN ROADWAY POINT I/O TO THE BUILDING PLC/VDT ENCLOSURE FOR THAT PARTICULAR RAMP.
   D. THE CONTRACTOR SHALL PERFORM THE INTERCONNECTION WIRING BETWEEN THE CONTROL ENCLOSURES OF THE ROADWAY DEVICES (SUCH AS DMS'S, SWING GATES, RESTRAINING BARRIERS AND ROADSIDE PANELS) AND THE ASSOCIATED ROADWAY POINT I/O ENCLOSURES FOR THAT PARTICULAR RAMP.
   E. THE CONTRACTOR SHALL INSTALL THE NEW CONTROL LOGIX LOCAL REMOTE I/O RACK AND THE LAYER 2 ETHERNET NETWORK SWITCHES IN THE BUILDING PLC/VDT ENCLOSURE AS SHOWN IN THE CONTRACT DRAWING.
   F. ESP SHALL PERFORM THE NECESSARY CONFIGURATION AND PROVIDE NETWORK CONNECTIVITY TO ROADWAY POINT I/O AND LOCAL REMOTE CONTROL LOGIX RACK FROM BUILDING A CONTROL LOGIX PLC RACK.
   G. ALL REQUIRED I/O TERMINATIONS FROM THE PUSH BUTTONS, SELECTOR SWITCHES AND PILOT LIGHTS ASSOCIATED WITH THAT PARTICULAR RAMP ARE TERMINATED TO THE NEWLY INSTALLED CONTROL LOGIX LOCAL REMOTE I/O RACK.
   H. THE ROADWAY DEVICE CONTROL ENCLOSURES, ROADWAY POINT I/O ENCLOSURES AND NEW EQUIPMENT IN THE PLC/VDT ENCLOSURE SHALL BE POWERED UP.
   I. ESP SHALL DOWNLOAD THE NEW PLC PROGRAM WITH THE MODIFIED I/O ADDRESSING FOR THAT PARTICULAR RAMP INTO THE BUILDING A CONTROL LOGIX PROCESSORS.
   J. ESP SHALL TEST ONLY THE PLC SEQUENCE RELATED TO THAT PARTICULAR RAMP FOR BUILDING A. THE CONTROL AND MONITORING CAPABILITY FROM THE FOLLOWING LOCATIONS MUST BE TESTED:
      I. REVLAC SERVER/CLIENT SYSTEM LOCATED IN ALL NODAL BUILDINGS
      II. THE CATTRON UNIT
      III. THE SELECTOR SWITCHES AND PUSH BUTTONS ON THE FRONT OF THE PLC/VDT ENCLOSURE
      IV. THE SELECTOR SWITCHES AND PUSH BUTTONS LOCATED IN EQUIPMENT INSTALLED ON THE ROADWAY
   K. AT THE COMPLETION OF TESTING OF THE PLC SEQUENCE FOR THAT PARTICULAR RAMP, THE EXISTING PLC -5 LOCAL REMOTE I/O (ASSOCIATED WITH THE RAMP) SHALL BE DISCONNECTED AND REMOVED FROM THE PLC/VDT ENCLOSURE.
   L. STEPS A-K SHALL BE REPEATED FOR TESTING OF THE PLC SEQUENCE FOR THE ROADWAY DEVICES ASSOCIATED WITH EACH RAMP FOR BUILDING A.
   M. AT THE SUCCESSFUL COMPLETION OF THE INDIVIDUAL BUILDING FIELD TESTS AND AFTER TEST RESULT DOCUMENTS HAVE BEEN APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL BEGIN THE INTEGRATED FIELD TESTS.
3. INTEGRATED FIELD TEST:
   A. AT THE BEGINNING OF THIS PHASE OF TESTING:
      I. ALL NETWORK SWITCHES/ROUTER, LOCAL REMOTE CONTROL LOGIX I/O RACKS, REVLAC SERVER/CLIENT SYSTEM IN ALL BUILDING PLC/VDT ENCLOSURES MUST BE PERMANENTLY INSTALLED AND POWERED UP AS PER CONTRACT DRAWINGS.
      II. ALL ROADWAY POINT I/O ENCLOSURES AND REFURBISHED CONTROL ENCLOSURES ALONG ALL ROADWAY RAMPS MUST BE PERMANENTLY INSTALLED AND POWERED UP AS PER CONTRACT DRAWINGS.
      III. ALL ETHERNET NETWORK DEVICES, BUILDING CONTROL LOGIX PLC RACKS, LOCAL REMOTE I/O RACKS, ROADWAY POINT I/O AND THE REVLAC SERVER/CLIENT SYSTEM ASSOCIATED WITH ALL NODAL BUILDINGS MUST BE CORRECTLY PROGRAMMED AND CONFIGURED AS PER THE CONTRACT DRAWINGS.
      IV. ALL PLC-5 REMOTE I/O IN THE RESPECTIVE BUILDING PLC/VDT ENCLOSURES SHALL BE PERMANENTLY REMOVED.
   B. THE NEW EQUIPMENT SHALL BE SETUP AND A COMPREHENSIVE INTEGRATED FIELD TEST OF THE CONTROL LOGIX BASED REVLAC CONTROL SYSTEM SHALL BE PERFORMED BY ESP IN ACCORDANCE WITH THE APPROVED TEST PLANS.
   C. ESP SHALL RESTORE THE (FOR EACH BUILDING) THE CONTROL LOGIX PLC CONTROL SYSTEM TO ITS ORIGINAL STATE AT THE END OF EACH DAY FOR THIS PHASE OF THE TEST. THE REVLAC CONTROL SYSTEM AT ALL FIVE BUILDINGS SHALL BE RESTORED TO ITS ORIGINAL STATE SIMULTANEOUSLY IN ORDER TO MAXIMIZE THE TIME AVAILABLE FOR TESTING.

(V) SIXTY DAY OBSERVATION PERIOD:

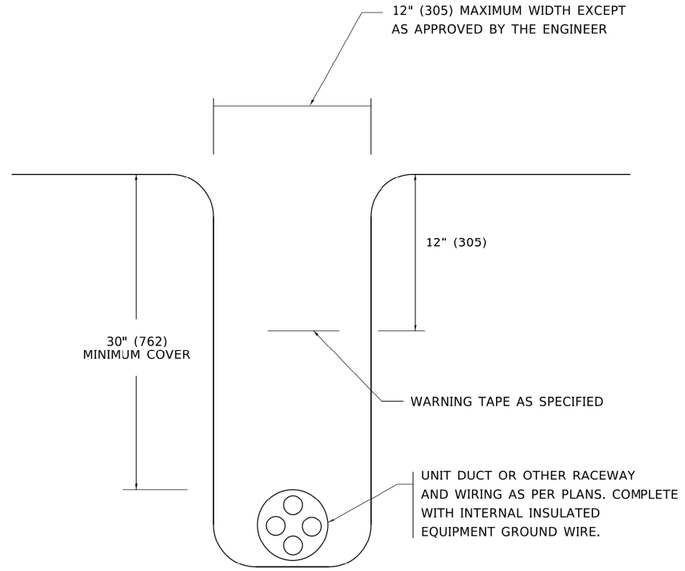
1. AT THE SUCCESSFUL CONCLUSION OF THE INTERGRATED FIELD TEST, A SIXTY DAY OBSERVATION PERIOD WILL BEGIN. AFTER THE FIRST 30 DAYS OF THE OBSERVATION PERIOD THE CONTRACTOR SHALL REMOVE ALL UNUSED EQUIPMENT IN THE BUILDING PLC/VDT ENCLOSURE IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

NOTE: ANY ISSUE IDENTIFIED BY THE DEPARTMENT DURING THE 60 DAY OBSERVATION PERIOD IN EITHER THE NEW CONTROL LOGIX HARDWARE OR SOFTWARE, WILL REQUIRE FOR EVERY ONE (1) DAY THE CONTRACTOR IS REQUIRED TO MITIGATE/FIX A PROBLEM, AND ADDITIONAL ONE (1) DAY WILL BE ADDED TO THE 60-DAY PERIOD.

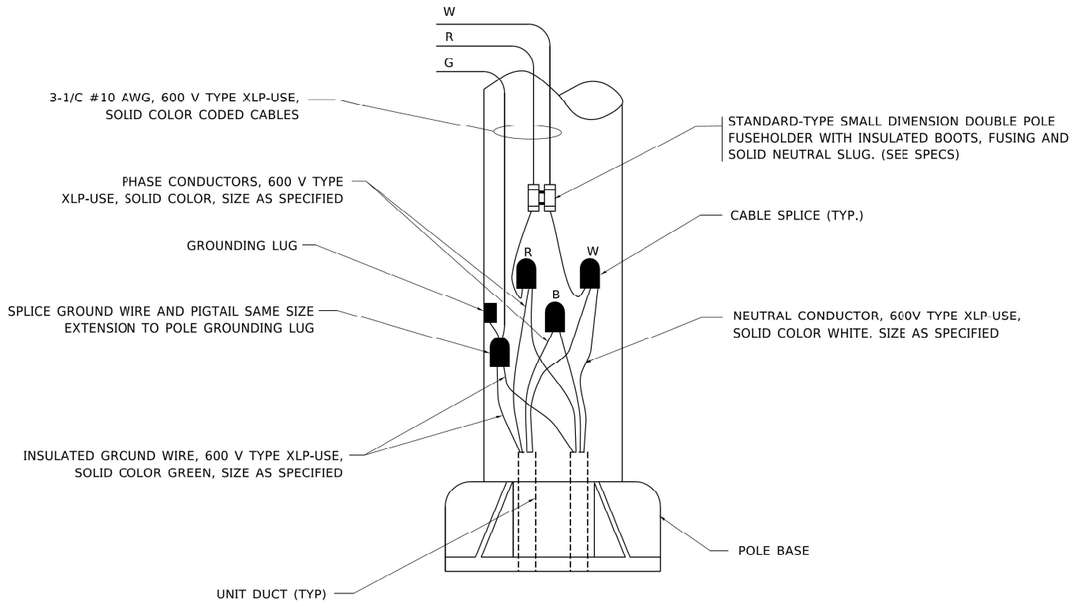


NOTE THAT NUMBER OF CABLES IN SPLICE MAY VARY

TYPICAL SPLICE DETAIL
N.T.S.



TYPICAL WIRING IN TRENCH DETAIL
N.T.S.



POLE WIRING DETAIL
N.T.S.

MODEL: Default
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USER NAME = leysa	DESIGNED -	REVISED - 02/04/2020	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MISC. ELECTRICAL DETAILS SHEET A	F.A.I. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN -	REVISED -			
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -		SCALE: NONE / SHEET 1 OF 1 SHEETS / STA. / TO STA.	BE-702 / CONTRACT NO.
PLOT DATE = 3/2/2020	DATE - 08/08/2003	REVISED -			ILLINOIS / FED. AID PROJECT

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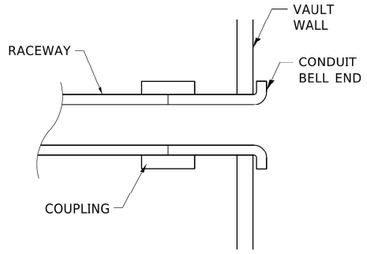
	DRAWN - MPK	REVISED -	
PLOT SCALE = 2.00 ' / in.	CHECKED - CRH	REVISED -	
PLOT DATE = 4/12/2022	DATE - 1/27/2022	REVISED -	

DISTRICT 1 STANDARDS
BE-702

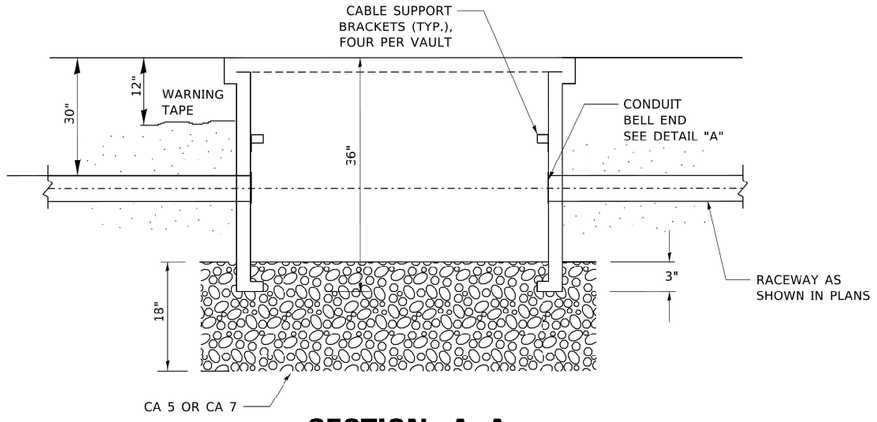
SCALE: NTS / SHEET 1 OF 1 SHEETS / STA. N/A / TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249A
		CONTRACT NO.	60T46	
		ILLINOIS	FED. AID PROJECT	

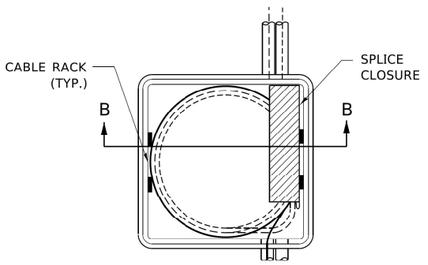
COMMUNICATIONS VAULT LOAD RATINGS			
COMPONENT	ANSI TIER	LOADING	
		DESIGN	TEST
BOX	22	22,500 lbs.	37,750 lbs.
COVER	22	22,500 lbs.	37,750 lbs.



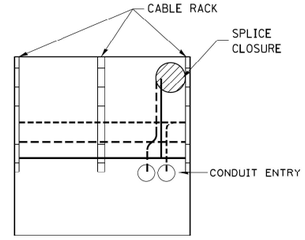
DETAIL A



SECTION A–A



TOP VIEW



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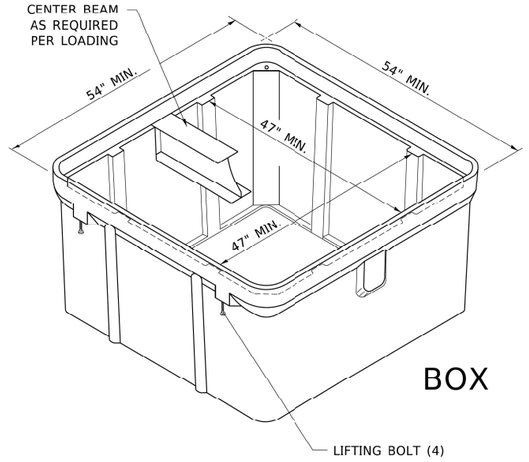
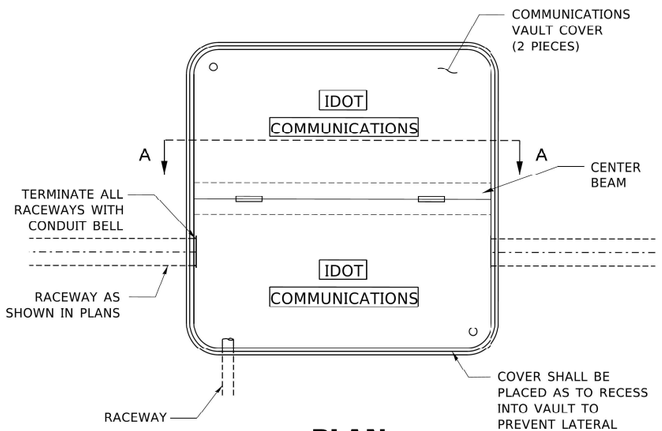


BOX

ISOMETRIC



PLAN

NOTES:

1. BOX SHALL HAVE AN OPEN BASE.
2. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT. IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
3. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.
4. ALL DIMENSIONS ARE MINIMUM AND A LARGER SIZE HANDHOLE MAY BE USED, WITH THE APPROVAL OF THE ENGINEER, TO FACILITATE USING A MANUFACTURER'S STANDARD PRODUCT.

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	DRAWN -	REVISED -	
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PLOT DATE = 4/19/2019	DATE - 03-22-10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COMMUNICATIONS VAULT, COMPOSITE CONCRETE

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-705	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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USER NAME = korabmp	DESIGNED - RAS	REVISED -	
	DRAWN - MPK	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARDS
BE-705

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249B
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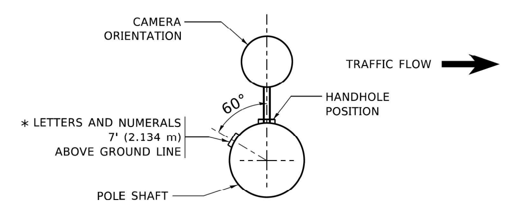
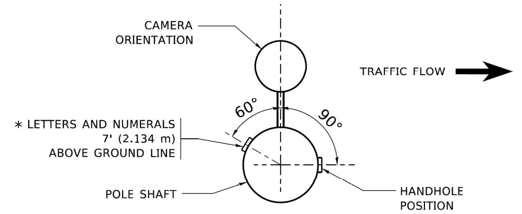
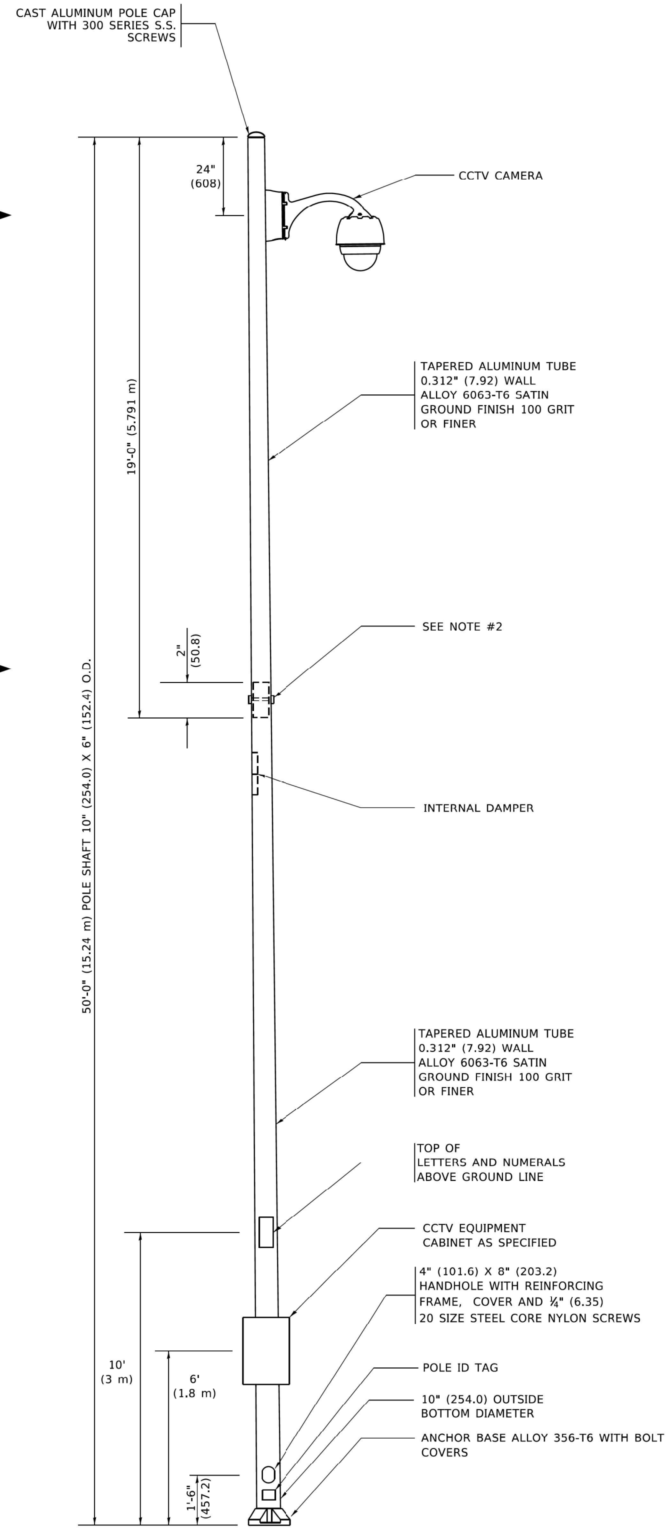
	ILLINOIS	FED. AID PROJECT		



POSITION OF HANDHOLE AND CAMERA NUMBER FOR POLE MOUNTED ON BRIDGE PARAPET OR BARRIER WALL

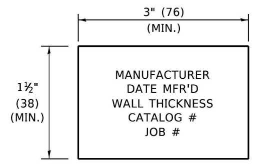


POSITION OF HANDHOLE AND CAMERA NUMBER



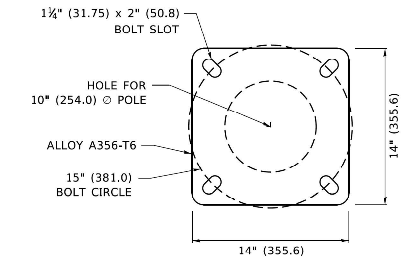
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
3. THE POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
4. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
5. POLES WILL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.
6. POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.



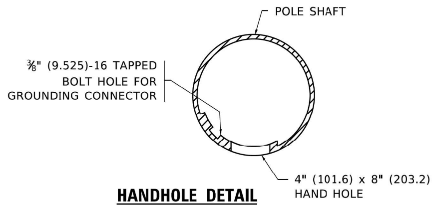
POLE ID TAG

NTS



POLE BASE PLATE DETAIL

15 INCH (381.0) BOLT CIRCLE



HANDHOLE DETAIL

(N.T.S.)

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	DRAWN -	REVISED - R. TOMSONS 09-03-03	
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PLOT DATE = 4/22/2019	DATE -	REVISED - R. TOMSONS 05-04-14	

CCTV CAMERA STRUCTURE
50' (15.24 m) MOUNTING HEIGHT

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-1000	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

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Jacobs		DRAWN - MPK	REVISED -	
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525 W. Monroe, Suite 1600, Chicago, IL 60661	PLOT DATE = 4/12/2022	DATE - 1/27/2022	REVISED -	

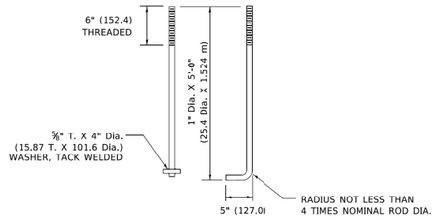
DISTRICT 1 STANDARDS
BE-1000

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

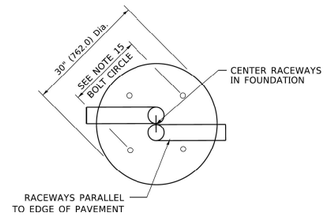
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249C
		CONTRACT NO. 60T46		
		ILLINOIS FED. AID PROJECT		

CCTV CAMERA POLE FOUNDATION DEPTH TABLE

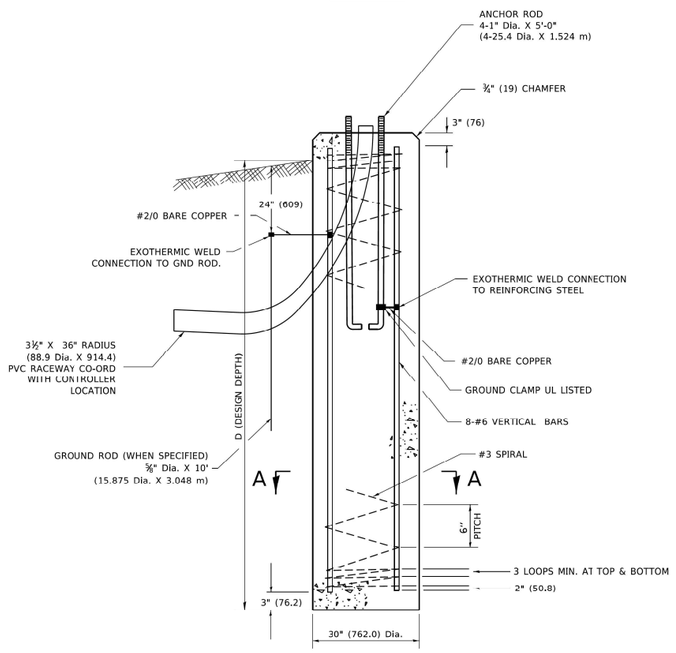
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION
SOFT CLAY Qu = 0.375 TON/SQ. FT.	13'-0" (3.96 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT	9'-0" (2.09 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)
LOOSE SAND } = 34°	9'-0" (2.74 m)
MEDIUM SAND } = 37.5°	8'-3" (2.52 m)
DENSE SAND } = 40°	7'-9" (2.36 m)



ANCHOR ROD DETAIL



TOP VIEW



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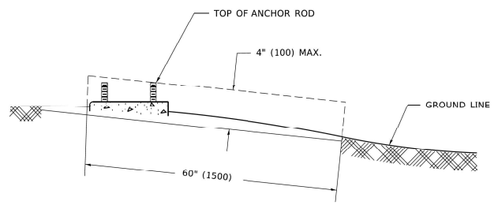
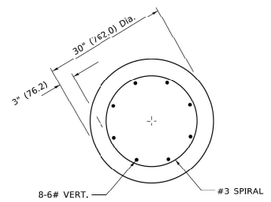


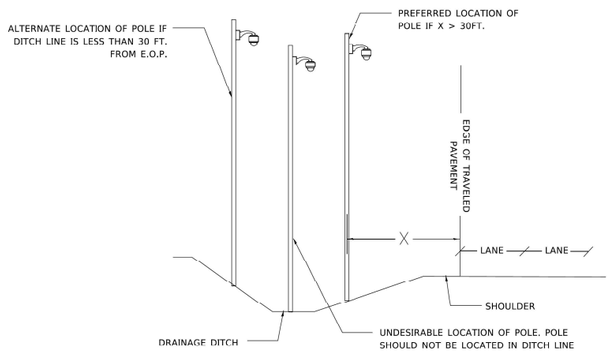
FOUNDATION EXTENSION DETAIL



SECTION A–A

NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
3. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
5. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED ¾-IN. (20 mm).
6. THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
11. ANCHOR RODS SHALL PROJECT 2¾" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
12. THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
14. THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
15. ANCHOR ROD BOLT CIRCLE TO BE COORDINATED WITH CAMERA STRUCTURE



CAMERA POLE PLACEMENT

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	DRAWN -		REVISED -
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PLOT DATE = 4/22/2019	DATE - 03-11-13		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CCTV CAMERA STRUCTURE FOUNDATION
50' (15 – 24m) MOUNTING HEIGHT

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE–1001	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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525 W. Monroe, Suite 1600, Chicago, IL 60661

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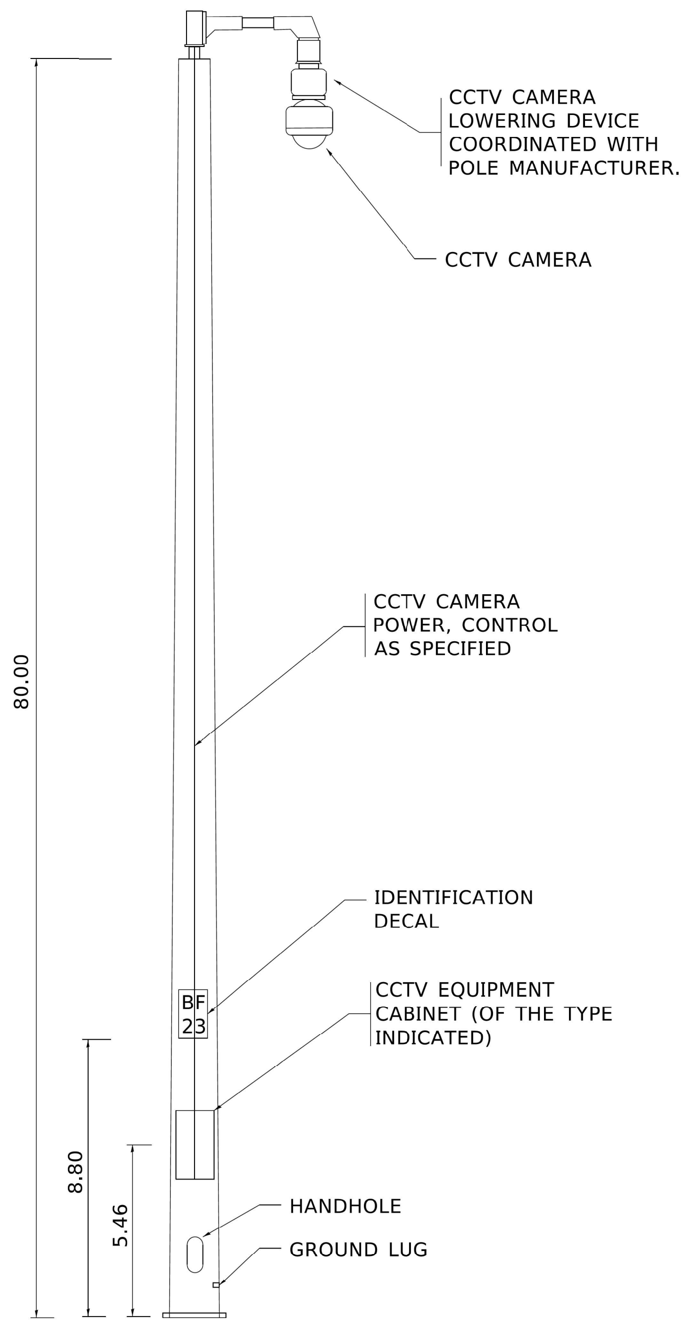
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

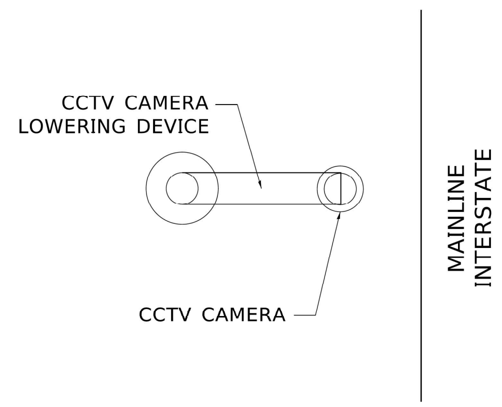
DISTRICT 1 STANDARDS
BE-1001

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249D
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			



ELEVATION



TOP VIEW

GENERAL NOTES:

1. LOCATIONS OF THE CCTV CAMERA INSTALLATIONS ARE APPROXIMATE. THE CONTRACTOR MAY ADJUST THE LOCATIONS OF THE INSTALLATIONS TO FACILITATE INSTALLATION WITH WRITTEN APPROVAL OF THE RESIDENT ENGINEER AND THE ELECTRICAL DESIGN SECTION. ALL STANDARD NON-FRANGIBLE SETBACK REQUIREMENTS AS WELL AS CLEAR ZONE REQUIREMENTS SHALL BE MAINTAINED.
2. THE POLE SHALL BE A MAXIMUM OF THREE SECTIONS FOR FIELD ASSEMBLY.
3. THE POLE SHAFTS SHALL BE A ROUND CROSS SECTION. THE BOTTOM SECTION SHALL HAVE A MINIMUM .3125 WALL THICKNESS AND A MINIMUM DIAMETER THE TOP AND BOTTOM TO PREVENT CONDENSATION BUILDUP ON THE INTERIOR OF THE POLE SHAFT.
4. CABLE SUPPORTS SHALL BE PROVIDED FOR ALL CABLES INSIDE OF POLE SO THAT NO CABLE LOADING IS EXCEEDED. CALCULATIONS SHALL BE SUBMITTED FOR THE CABLES BEING FURNISHED.
5. ALL EQUIPMENT SHALL BE GROUNDED.
6. DOCUMENTATION SHALL BE SUBMITTED THAT THE POLE IS FULLY COORDINATED WITH THE CAMERA LOWERING DEVICE.
7. ALL CABLES, INCLUDING LOWERING DEVICE CABLES, SHALL BE WITHIN THE POLE SHAFT. EXTERNAL CABLING WILL NOT BE PERMITTED.
8. UNLESS OTHERWISE INDICATED, OR AS DIRECTED BY THE ENGINEER, THE CAMERA LOWERING DEVICE SHALL BE ORIENTED PERPENDICULAR TO THE MAINLINE INTERSTATE FOR THE LEAST OBSTRUCTED VIEW OF THE INTERSTATE ROADWAY.

MATERIAL REQUIREMENTS

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT	A572, OR A1011	50
BASE PLATE	A572, OR A1011	50
POLE TOP PLATE	A572, OR A1011	50
ANCHOR BOLTS	F1554	55
GALVANIZING, STRUCTURE	A123	N/A
GALVANIZING, HARDWARE	A153	N/A

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DESIGNED - R. Tomsons | DRAWN - | CHECKED - | DATE - 04/17/2017 | REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CCTV CAMERA STRUCTURE, 80 FT. MOUNTING HEIGHT

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.

BE 1002 | CONTRACT NO.

ILLINOIS FED. AID PROJECT

FILE NAME = D160T46-sht-District 1 Std_05.dgn

Jacobs

525 W. Monroe, Suite 1600, Chicago, IL 60661

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DESIGNED - RAS | DRAWN - MPK | CHECKED - CRH | DATE - 1/27/2022 | REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

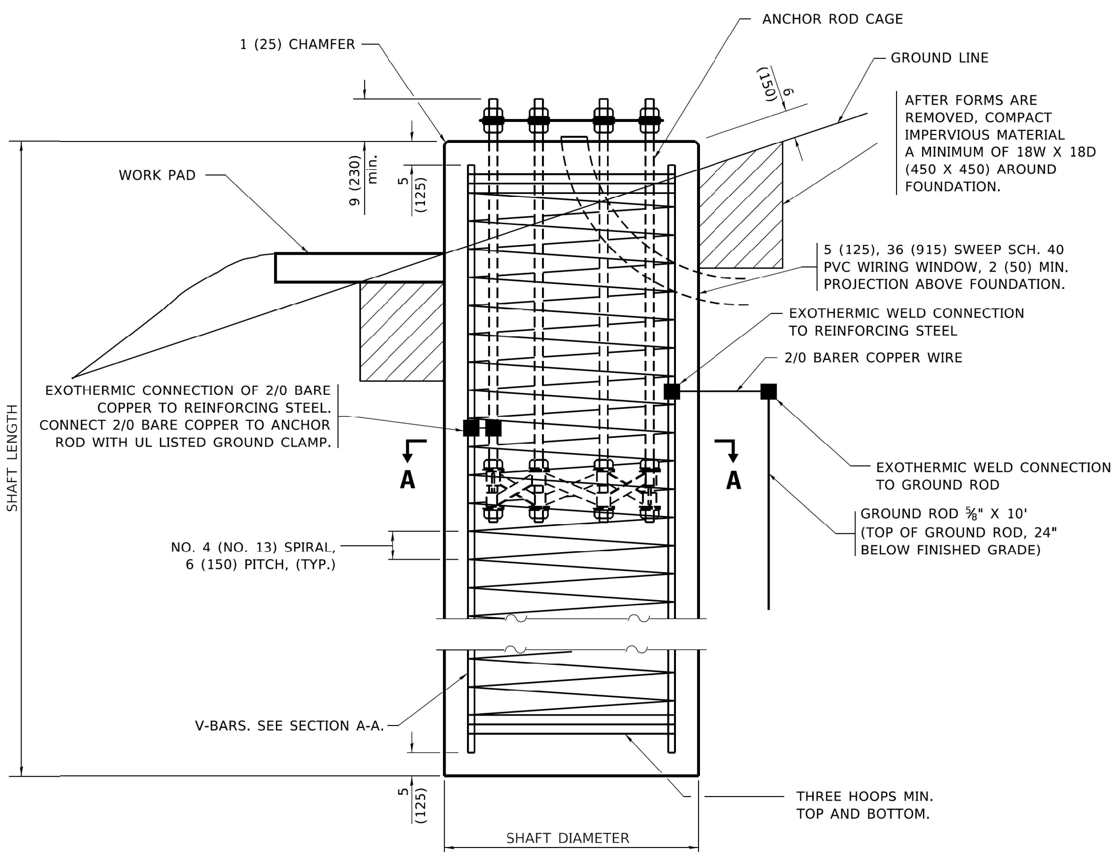
DISTRICT 1 STANDARDS
BE-1002

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249E

CONTRACT NO. 60T46

ILLINOIS FED. AID PROJECT



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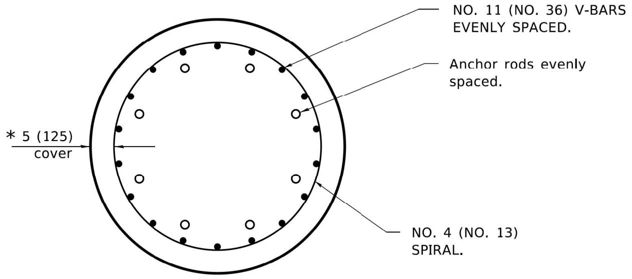


SECTION A–A

* SEE ROD AND REINFORCEMENT TABLE.

SHAFT LENGTH TABLE			
SOIL CONSISTENCY		AVERAGE STRENGTH Qu in tsf (Qu in kPa)	HEIGHT 80' (24 m)
Cohesive	SOFT	< 0.5 (< 50)	20'-6" (6.2 m)
	MEDIUM	0.5 to 1 (50 to 100)	17'-0" (5.1 m)
	STIFF	1 to 2 (100 to 200)	14'-6" (4.4 m)
	VERY STIFF	2 to 4 (200 to 400)	13'-0" (3.8 m)
	HARD	> 4 (> 400)	11'-6" (3.5 m)
		N in BLOWS/FT. (N in BLOWS/0.3m)	
Granular	VERY LOOSE	< 5 (< 5)	16'-6" (5.0 m)
	LOOSE	5 to 10 (5 to 10)	15'-0" (4.6 m)
	MEDIUM	10 to 25 (10 to 25)	14'-6" (4.4 m)
	DENSE	25 to 50 (25 to 50)	14'-0" (4.1 m)
	VERY DENSE	> 50 (> 50)	13'-0" (3.9 m)

USER NAME = footemj | PLOT SCALE = 50.0000 ' / in. | PLOT DATE = 4/22/2019
DESIGNED - R. Tomsons | DRAWN - | CHECKED - | DATE - 04/17/2017
REVISED - | REVISED - | REVISED - | REVISED -
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CCTV CAMERA STRUCTURE, 80 FT. MOUNTING HEIGHT FOUNDATION, SHEET 1 OF 2
SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. TO STA.
F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.
BE 1003 | CONTRACT NO.
ILLINOIS FED. AID PROJECT

FILE NAME = D160T46-sht-District 1 Std_06.dgn
Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661
USER NAME = korabmp | PLOT SCALE = 2.00 ' / in. | PLOT DATE = 4/12/2022
DESIGNED - RAS | DRAWN - MPK | CHECKED - CRH | DATE - 1/27/2022
REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARDS
BE-1003 (SHEET 1 OF 2)

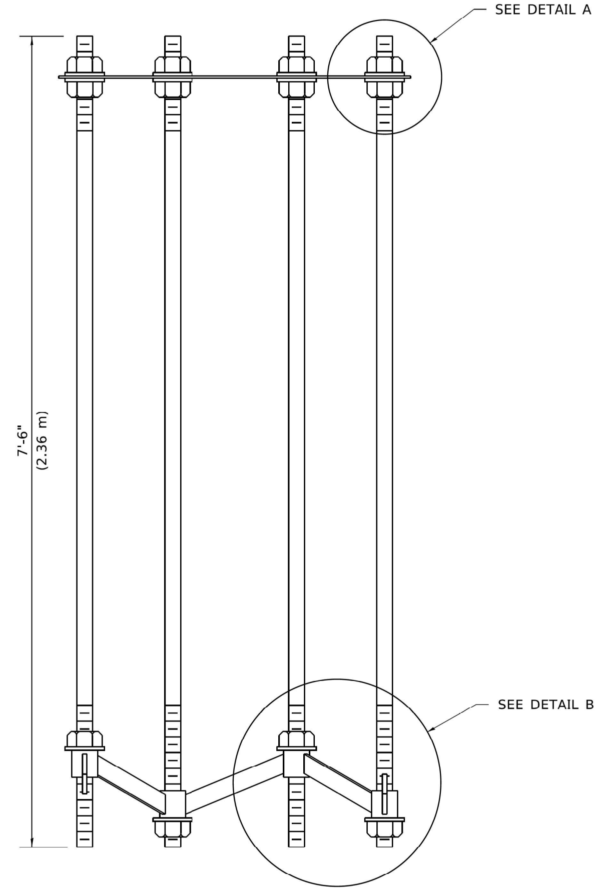
SCALE: NTS | SHEET 1 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249F

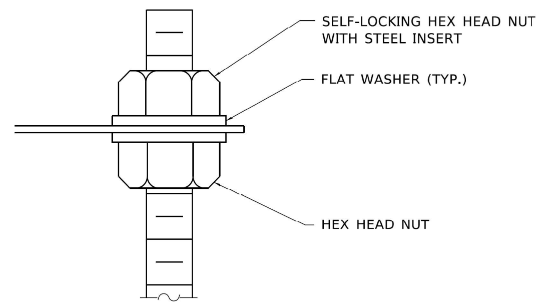
CONTRACT NO. 60T46
ILLINOIS FED. AID PROJECT

ROD AND REINFORCEMENT TABLE					
TOWER HEIGHT	ANCHOR ROD DIAM. (MIN)	ROD CIRCLE DIAM. (MIN)	TOWER BASE DIAM. (MIN)	DRILLED SHAFT DIAM. (1)	V BAR QTY.
80' (25 m)	1½ (38)	30 (760)	24 (610)	4'-0" (1.2 m)	14

(1) DIAMETER BASED ON A 5 (125) CONC. COVER. THE MIN. COVER SHALL BE 3 (75) IN DRY SHAFT EXCAVATION AND 4 (100) IN A WET HOLE. WHEN ROCK IS ENCOUNTERED A 5 (125) COVER AGAINST SOIL AND A 2 (50) COVER AGAINST ROCK SHALL BE REQUIRED.



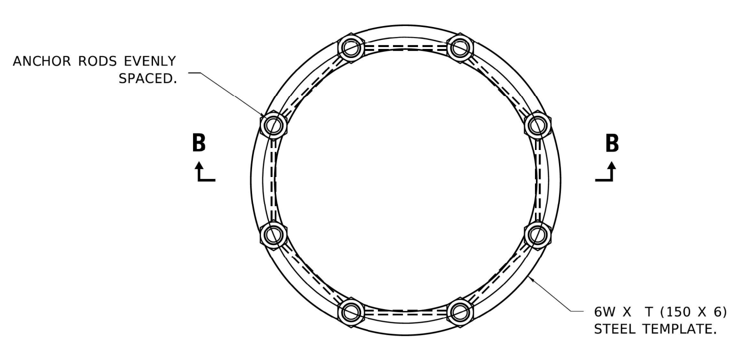
SECTION B–B



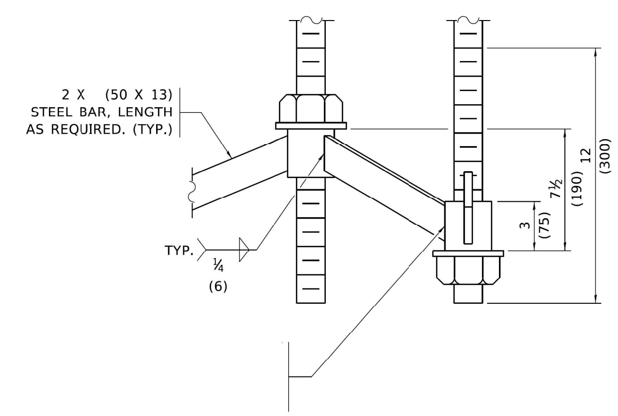
DETAIL A

GENERAL NOTES:

1. ANCHOR ROD QUANTITY, DIAMETER, AND LENGTH SHALL BE DETERMINED BY THE CCTV STRUCTURE MANUFACTURER AND APPROVED BY THE ENGINEER. EACH FOUNDATION SHALL HAVE A MINIMUM OF 8 ANCHOR RODS.
2. ALL FOUNDATION REINFORCEMENT STEEL SHALL BE EPOXY COATED.
3. THE COST OF REINFORCEMENT SHALL BE INCLUDED IN THE COST OF THE FOUNDATION.
4. STEEL ANCHOR ROD FORMS SHALL NOT BE REMOVED FOR A MINIMUM OF 3 DAYS AFTER CONCRETE IS POURED. THE TOWER SHALL NOT BE SET FOR A MINIMUM OF 7 DAYS OR AS APPROVED BY THE ENGINEER.
5. COORDINATE THE ROD CIRCLE DIAMETER OF THE STRUCTURE WITH THE DIAMETER OF THE ANCHOR ROD CAGE.
6. THE FOUNDATION SHALL BE POURED MONOLITHICALLY AND SHALL HAVE NO CONSTRUCTION JOINTS.
7. GROUNDING ELECTRODES SHALL BE INSTALLED IN AN ACCESS WELL WHEN THERE IS A CONFLICT IN USING THE METHOD SHOWN.
8. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.



ANCHOR ROD CAGE (PLAN)

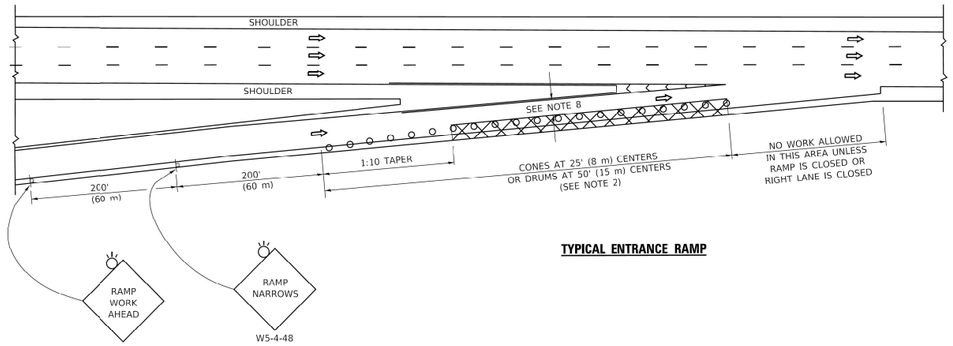


DETAIL B

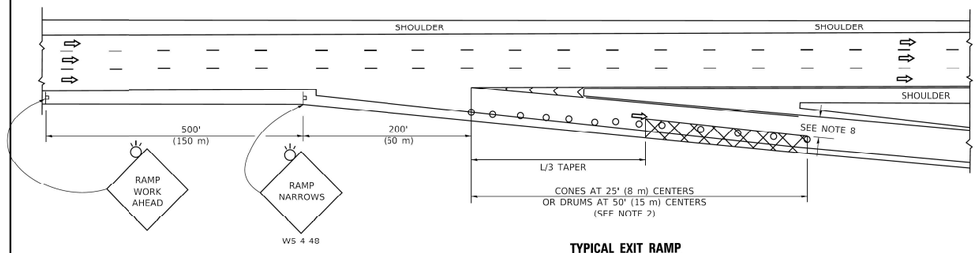
USER NAME = footemj	DESIGNED - R. Tomsons	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CCTV CAMERA STRUCTURE, 80 FT. MOUNTING HEIGHT FOUNDATION, SHEET 2 OF 2	F.A. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN -	REVISED -			BE 1003
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -		SCALE: NONE / SHEET 1 OF 1 SHEETS / STA. / TO STA.	CONTRACT NO.
PLOT DATE = 4/22/2019	DATE - 04/17/2017	REVISED -			ILLINOIS FED. AID PROJECT

FILE NAME = D160T46-sht-District 1 Std_07.dgn	USER NAME = korabmp	DESIGNED - RAS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 STANDARDS BE-1003 (SHEET 2 OF 2)
Jacobs		DRAWN - MPK	REVISED -		F.A.I. RTE. 90/94 / SECTION 2012-008I / COUNTY COOK / TOTAL SHEETS 249 / SHEET NO. 249G
525 W. Monroe, Suite 1600, Chicago, IL 60661	PLOT SCALE = 2.00 ' / in.	CHECKED - CRH	REVISED -		CONTRACT NO. 60T46
	PLOT DATE = 4/12/2022	DATE - 1/27/2022	REVISED -		SCALE: NTS / SHEET 2 OF 2 SHEETS / STA. N/A / TO STA. N/A / ILLINOIS FED. AID PROJECT

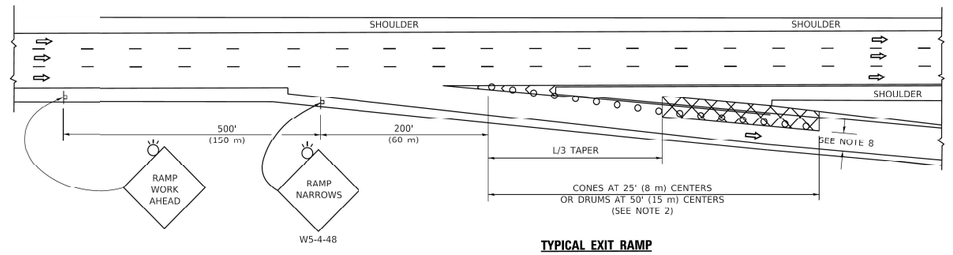
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP

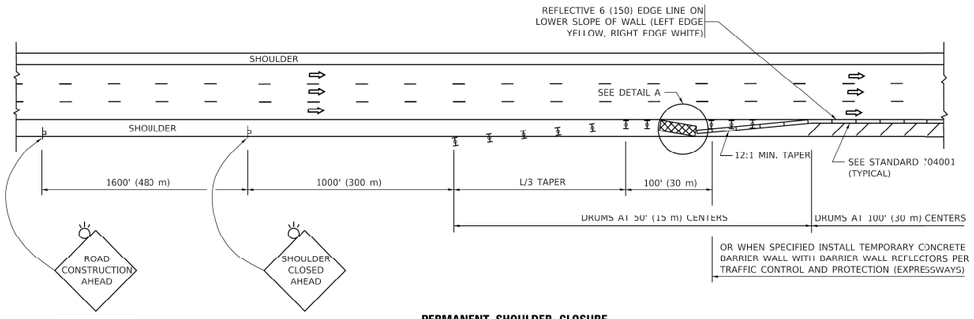


TYPICAL EXIT RAMP

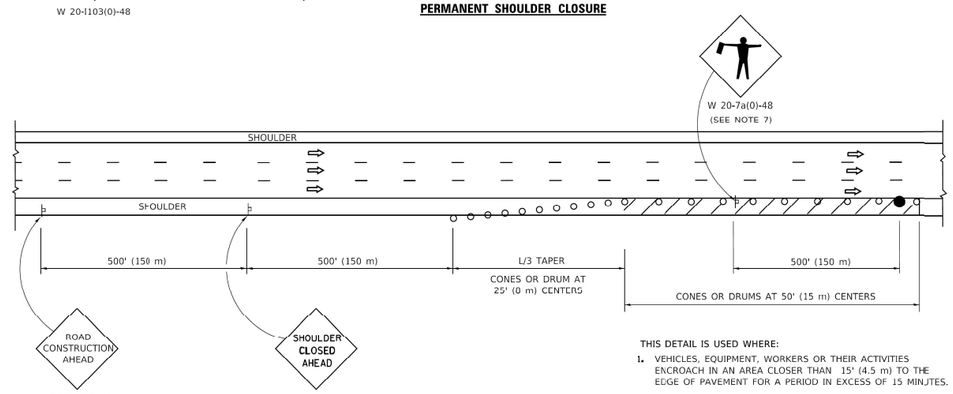


TYPICAL EXIT RAMP

SHOULDER CLOSURE DETAILS



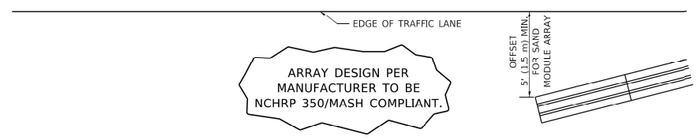
PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES:

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER:	METRIC	ENGLISH
	L=0.65(WHS)	L=(WHS)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTICLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
   16' MIN. WIDTH CURVE SECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: Default
FILE NAME = pw:\\USI-ASB-APP006CS.jacobs.com\Documents\C9X12901_REVT.AC_Rehabilitation_Phase II\C9X12901\Contract 60T46\700 CAD\D-Sheets\D160T46-ihi-District 1 Std_08.dgn

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		DRAWN -	D.W.S.	REVISED -	S.P.B. 12-09
	PLOT SCALE = 50.0000 ' / in.	CHECKED -		REVISED -	M.D. 06-13
	PLOT DATE = 3/4/2019	DATE -	11-96	REVISED -	M.D. 01-18

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-17	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

tc17.dgn 3/4/2019 10:41:43 AM User=footemj

FILE NAME = D160T46-ihi-District 1 Std_08.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

	USER NAME = korabmp	DESIGNED -	RAS	REVISED -	
		DRAWN -	MPK	REVISED -	
	PLOT SCALE = 2.00 ' / in.	CHECKED -	CRH	REVISED -	
	PLOT DATE = 4/12/2022	DATE -	1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

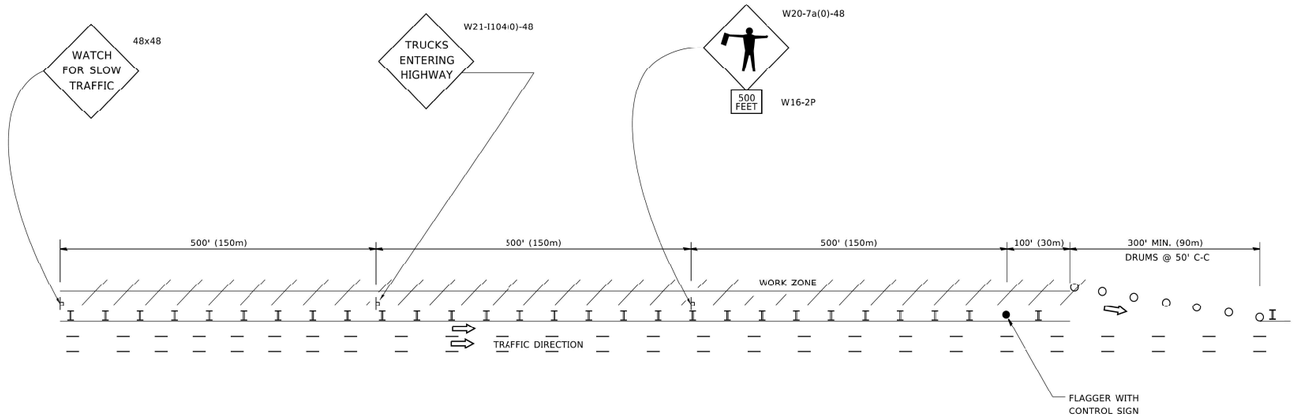
DISTRICT 1 STANDARDS
TC-17

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

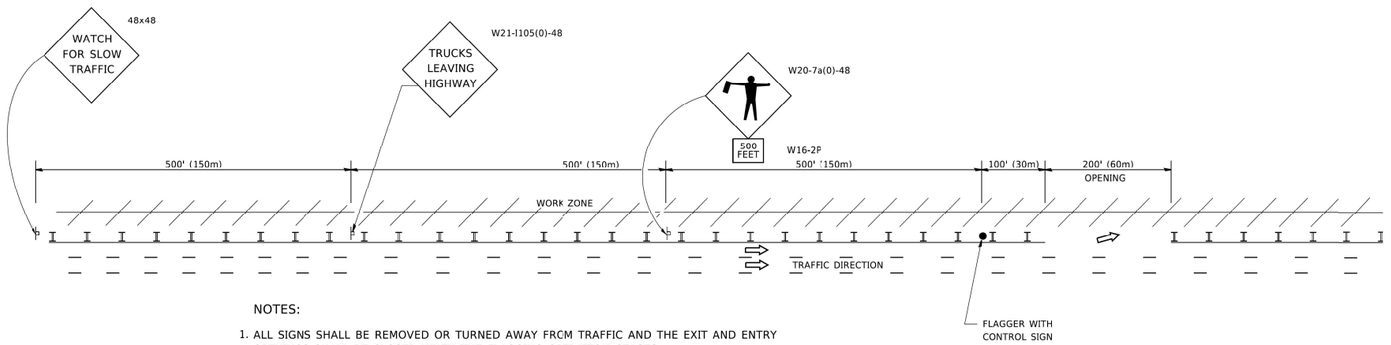
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249H
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMPS.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

MODEL: Default
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USER NAME = footemj	DESIGNED -	REVISED -	J.A.F. 02-06
	DRAWN -	REVISED -	S.P.B. 01-07
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	S.P.B. 12-09
PLOT DATE = 3/4/2019	DATE -	REVISED -	M.D.06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FREEWAY /EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS ON FREEWAYS /EXPRESSWAYS

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-18	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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FILE NAME = D160T46-sht-District 1 Std_08.dgn

Jacobs
525 W. Monroe, Suite 1600, Chicago, IL 60661

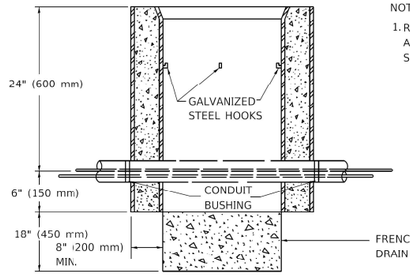
USER NAME = korabmp	DESIGNED - RAS	REVISED -	
	DRAWN - MPK	REVISED -	
PLOT SCALE = 2.00 ' / in.	CHECKED - CRH	REVISED -	
PLOT DATE = 4/12/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARDS
TC-18

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

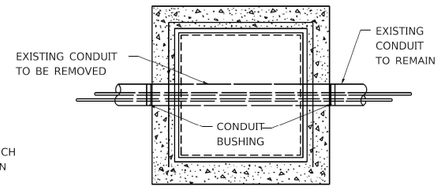
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249I
		CONTRACT NO.	60T46	
	ILLINOIS FED. AID PROJECT			



ELEVATION

NOTES:

1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



PLAN

DETAIL

HANDHOLE TO INTERCEPT EXISTING CONDUIT

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PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/4/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HANDHOLE TO INTERCEPT EXISTING CONDUIT

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-03	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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FILE NAME = D160T46-shi-District 1 Std_10.dgn

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USER NAME = korabmp	DESIGNED - RAS	REVISED -	
	DRAWN - MPK	REVISED -	
PLOT SCALE = 2.00 ' / in.	CHECKED - CRH	REVISED -	
PLOT DATE = 4/12/2022	DATE - 1/27/2022	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARDS
TS-03

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. N/A TO STA. N/A

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-008I	COOK	249	249J
		CONTRACT NO. 60T46		
	ILLINOIS FED. AID PROJECT			