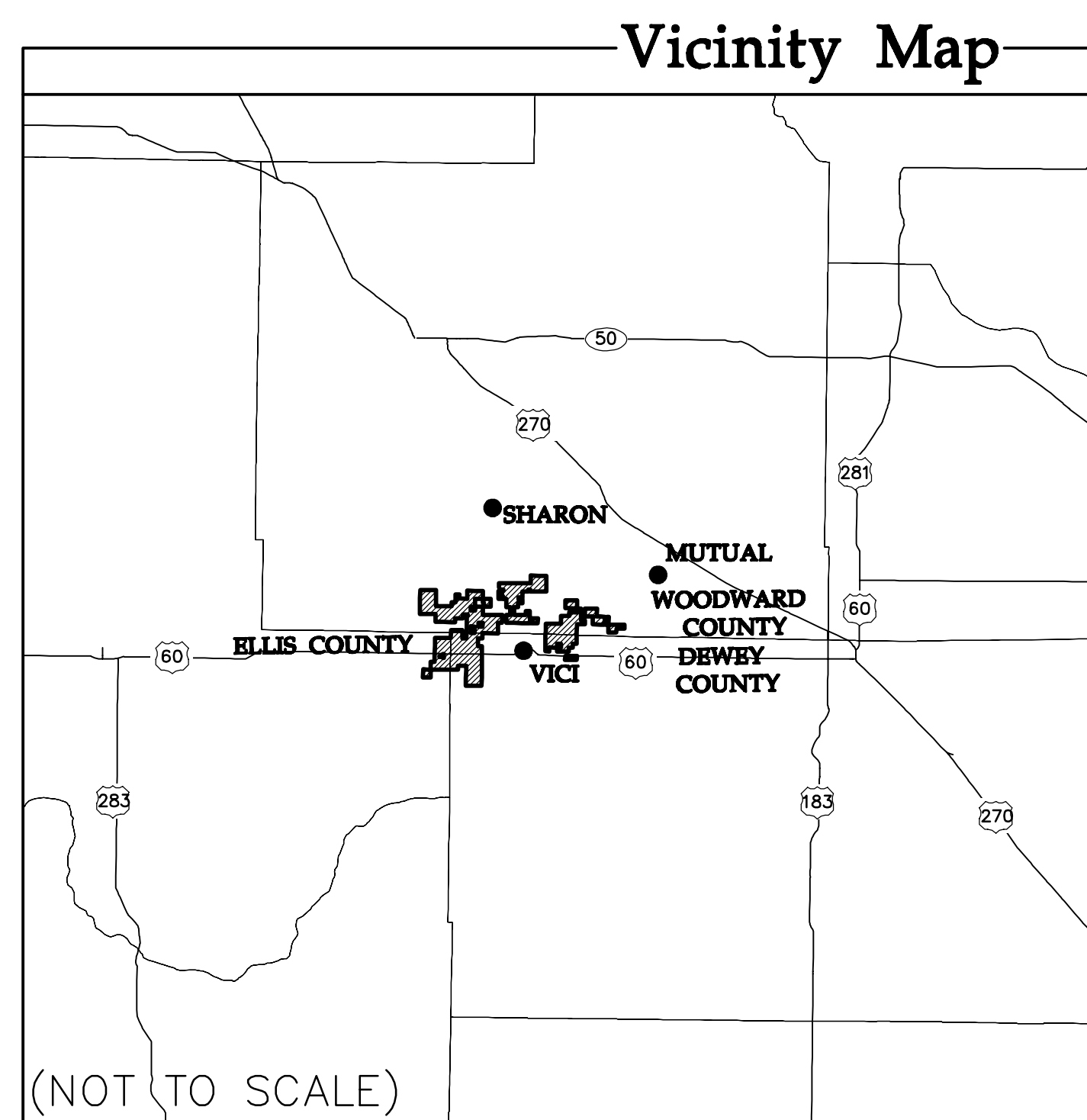
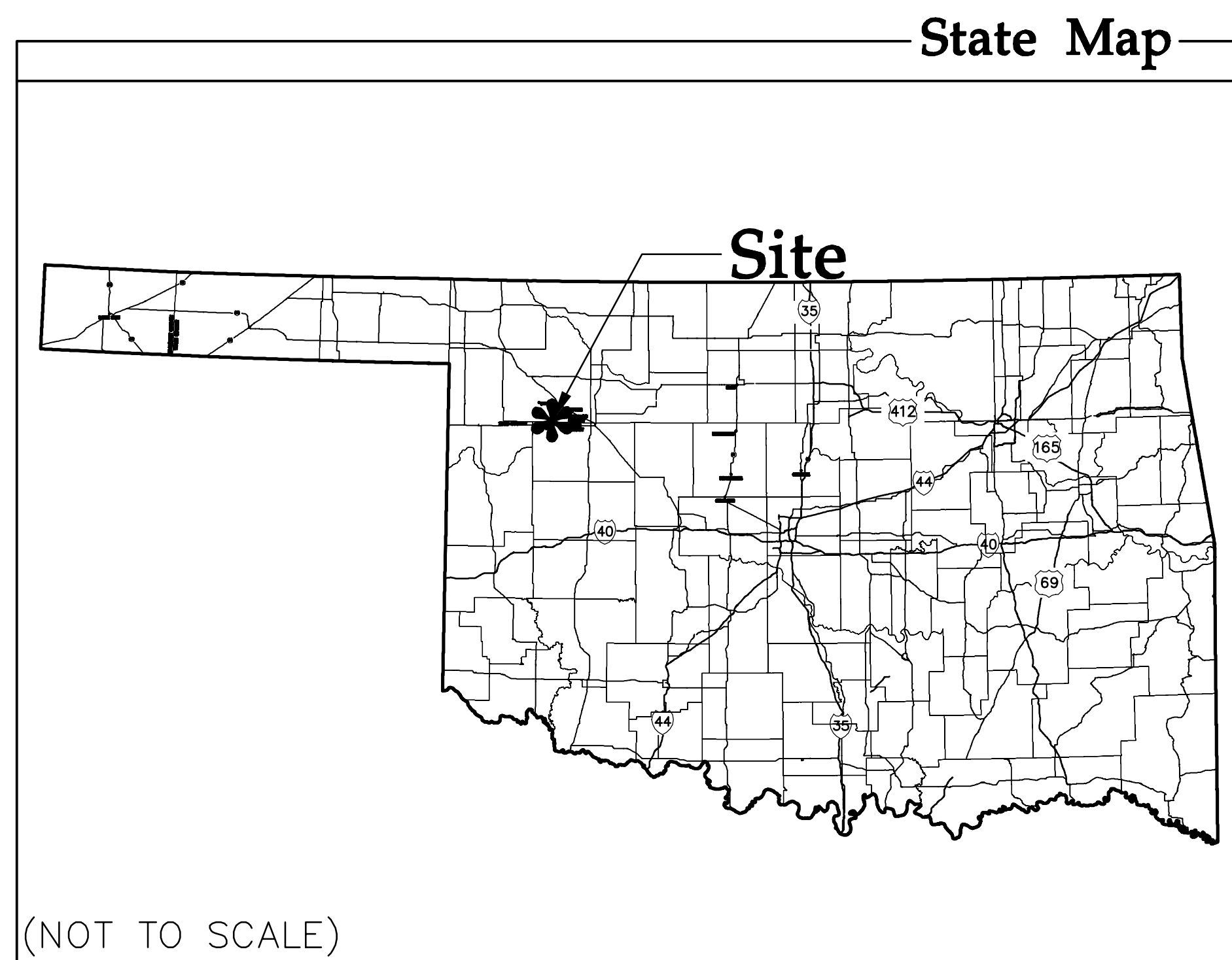


# Record Civil Plans

for  
**Wind Turbine Generators,  
 Access Roads, and Drainage**

**RECORD CIVIL PLANS**  
 CONFORMING TO FIELD SURVEY PROVIDED BY  
 WESTWOOD PROFESSIONAL SERVICES, COMPLETED  
 JUNE, 2018.

## Persimmon Creek Wind Project Dewey, Ellis, and Woodward Counties, Oklahoma



Sheet List Table	
Sheet Number	Sheet Title
1	Cover
2	Overall Site Plan
3	Delivery Flow Plan
4	Construction Details
5	Construction Details
6	Construction Details
7	Construction Details
8	Construction Details
9	Construction Details
10	Construction Details
11	Construction Notes
12	Civil Site Plan T-90, T-91
13	Civil Site Plan T-92, T-93, T-94, T-95
14	Civil Site Plan T-80, T-81
15	Civil Site Plan T-81, T-82, T-83
16	Civil Site Plan T-86, T-87, T-88
17	Civil Site Plan T-88
18	Civil Site Plan T-77, T-78, T-79
19	Civil Site Plan T-39, T-40, T-41
20	Civil Site Plan T-42, T-43, T-44, T-45, T-46
21	Civil Site Plan T-47, T-48, T-49, T-50
22	Civil Site Plan T-51, T-52
23	Civil Site Plan T-53, T-54, T-55
24	Civil Site Plan
25	Civil Site Plan T-68, T-69, T-70, T-71
26	Civil Site Plan
27	Civil Site Plan T-72, T-73, T-74
28	Civil Site Plan T-34
29	Civil Site Plan T-35, T-36, T-37, T-38
30	Civil Site Plan T-65, T-66, T-67
31	Civil Site Plan T-61, T-62, T-63
32	Civil Site Plan T-75, T-76
33	Civil Site Plan T-21, T-22, T-23, T-24
34	Civil Site Plan T-25, T-27, T-28
35	Civil Site Plan T-29, T-30, T-31, T-32, T-33
36	Civil Site Plan T-57, T-58, T-59
37	Civil Site Plan T-7
38	Civil Site Plan T-8, T-9
39	Civil Site Plan T-12, T-13, T-14, T-15
40	Civil Site Plan T-16, T-17, T-18
41	Civil Site Plan T-5, T-6

NO.	DATE	REVISION	SHEETS
A	11/10/17	ISSUED FOR CONSTRUCTION	ALL
B	12/13/17	TURBINE AND ACCESS ROAD UPDATES	2,9,10,12-41
C	6/15/18	RECORD PLANS	ALL
D	8/17/18	RECORD PLANS	ALL

DATA SET INFORMATION			
BASE FILE	FILE NAME / NOTES	PROVIDER	DATE
AERIAL IMAGE	0011217.00-Persimmon Creek Wind Mosaic.170223.sid	Westwood	2/23/2017
LAND CONTROL	Persimmon Creek Summary 20170929.kmz	Wanzek	10/11/2017
ALTA SURVEY	NEW OVERALL.dwg	Wanzek	12/8/2017
TOPOGRAPHY	0011217.00 Persimmon Creek Wind 2ft Contours.dxf	Westwood	3/2/2017
RECORD TURBINE ARRAY	0011217TURB-GOOGLE.dwg	Westwood	6/14/2018
RECORD UNDERGROUND COLLECTIO	0011217RECO.dwg	Wanzek	12/13/2017
STREAMS/WETLANDS	CRsites.kmz;Persimmon_Creek_Delineated_Aquatic_Features_102717.kmz	Wanzek	11/16/2017
RECORD SURVEY	0011217RECO.dwg	Westwood	6/15/2018
RECORD GEN-TIE	0011217RECO.dwg	Westwood	6/15/2018

**Designed:** DJF  
**Checked:** DDB  
**Drawn:** JAM

**As-Built Drawing:**

Revisions #	DATE	DESCRIPTION
1	2/3/17	30% Civil Site Plan
2	3/9/17	Permitting Civil Plans
3	8/21/17	60% Civil Site Plan
4	8/30/17	60% Civil Site Plan Comments
5	10/26/17	90% Civil Site Plan
A	11/10/17	IFC Civil Site Plan
B	12/13/17	Turbine and Access Road Updates
C	6/15/18	Record Plans
D	8/17/18	Record Plans
E	9/12/18	Record Plans

Prepared for:

**WANZEK**  
 a MasTec company

2028 2nd Avenue NW  
 West Fargo, ND 58078

**Persimmon Creek  
 Wind Project**  
 Dewey, Ellis, and Woodward  
 Counties, Oklahoma

**Cover**

**Record Civil Plans**

Date: 9/12/18  
 Sheet: 1 OF 41

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**Westwood**

Phone (952) 937-5150 7699 Anagram Drive  
 Fax (952) 937-5822 Eden Prairie, MN 55344  
 Toll Free (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.

Designed: DJF  
 Checked: DDB  
 Drawn: JAM

**As-Built Drawing:**

Revisions #	DATE	DESCRIPTION
1	2/3/17	30% Civil Site Plan
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B	12/13/17	Turbine and Access Road Updates
C	6/15/18	Record Plans
D	8/17/18	Record Plans
E	9/12/18	Record Plans

Prepared for:



2028 2nd Avenue NW  
 West Fargo, ND 58078



**Persimmon Creek  
 Wind Project**  
 Dewey, Ellis, and Woodward  
 Counties, Oklahoma

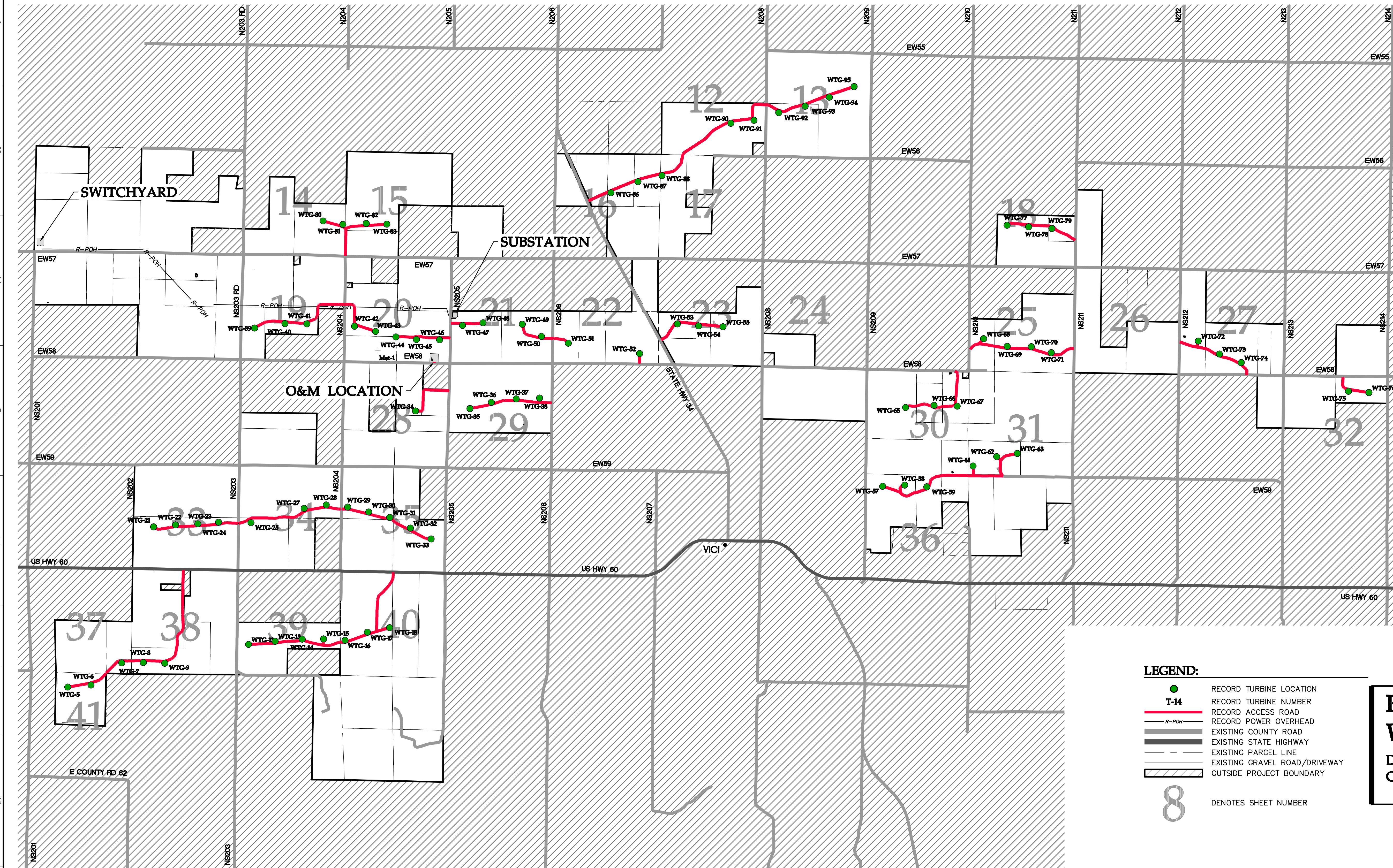
Overall Site Plan

Record Civil Plans

Date: 9/12/18

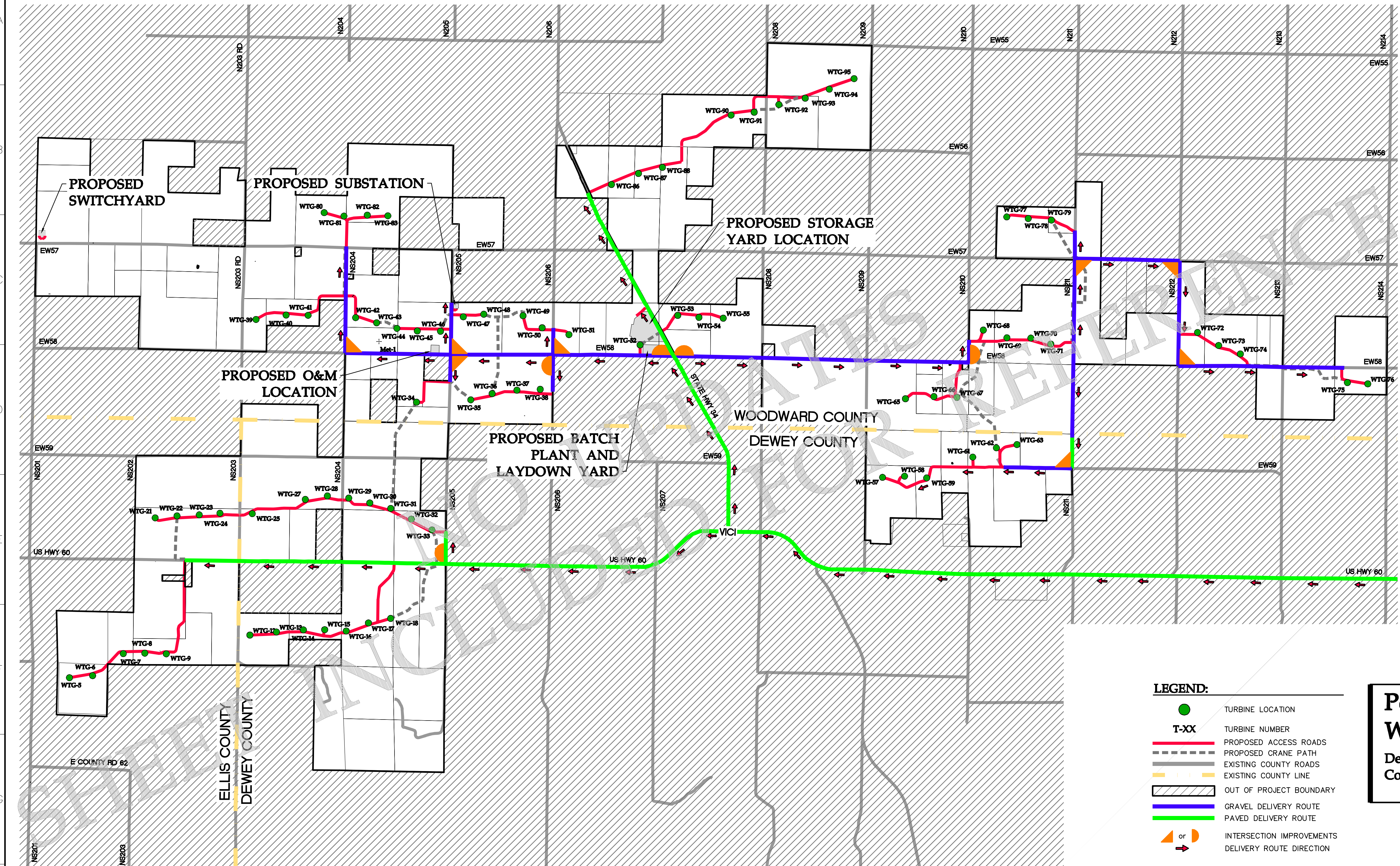
Sheet: 2 OF 41

00112170AF01.dwg



**LEGEND:**

- RECORD TURBINE LOCATION
- T-14** RECORD TURBINE NUMBER
- RECORD ACCESS ROAD
- - - RECORD POWER OVERHEAD
- EXISTING COUNTY ROAD
- EXISTING STATE HIGHWAY
- EXISTING PARCEL LINE
- EXISTING GRAVEL ROAD/DRIVEWAY
- OUTSIDE PROJECT BOUNDARY
- 8** DENOTES SHEET NUMBER



Designed: DJF  
 Checked: DDB  
 Drawn: JAM

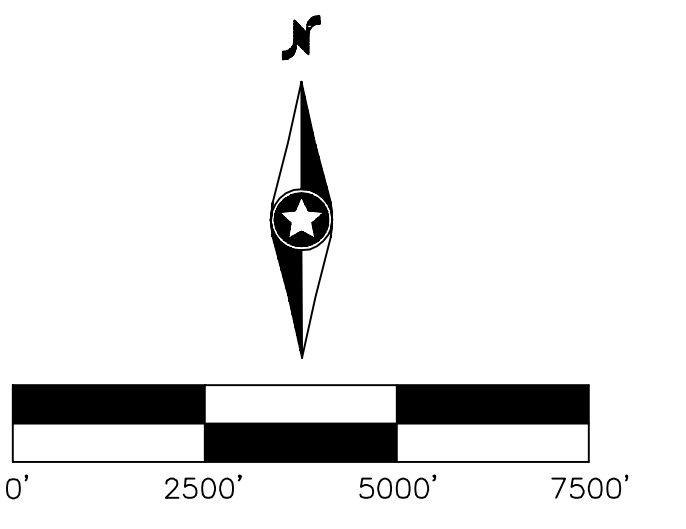
**As-Built Drawing:**

Revisions #	DATE	DESCRIPTION
1	2/3/17	30% Civil Site Plan
2	3/9/17	Permitting Civil Plans
3	8/21/17	60% Civil Site Plan
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B	12/13/17	Turbine and Access Road Updates
C	6/15/18	Record Plans
D	8/17/18	Record Plans
E	9/12/18	Record Plans

Prepared for:



2028 2nd Avenue NW  
 West Fargo, ND 58078



- LEGEND:**
- TURBINE LOCATION
  - T-XX** TURBINE NUMBER
  - PROPOSED ACCESS ROADS
  - - - PROPOSED CRANE PATH
  - EXISTING COUNTY ROADS
  - EXISTING COUNTY LINE
  - OUT OF PROJECT BOUNDARY
  - GRAVEL DELIVERY ROUTE
  - PAVED DELIVERY ROUTE
  - ▲ or ▶ INTERSECTION IMPROVEMENTS
  - DELIVERY ROUTE DIRECTION

**Persimmon Creek Wind Project**  
 Dewey, Ellis, and Woodward Counties, Oklahoma

**Delivery Flow Plan**

**Record Civil Plans**

Date: 9/12/18  
 Sheet: 3 OF 41

# Cover Page

## GE Renewable Energy 2.3MW

WTG Drw No. : TS\_828281\_Persimmon Creek Wind Farm

WTG No.: : 23165406 - 23165412

Project/CMS No.: Persimmon Creek Wind Farm / 828281

Customer: Persimmon Creek Wind Farm 1, LLC

Component: One Line Drawings - 2.0/2.3 MW 50/60 Hz

Comp No.:

Comp-Drw. No.: 109W8358


Comp-Part No.: N / A

Frequency: 50 / 60 Hz


Rated Voltage: 690V / 400V

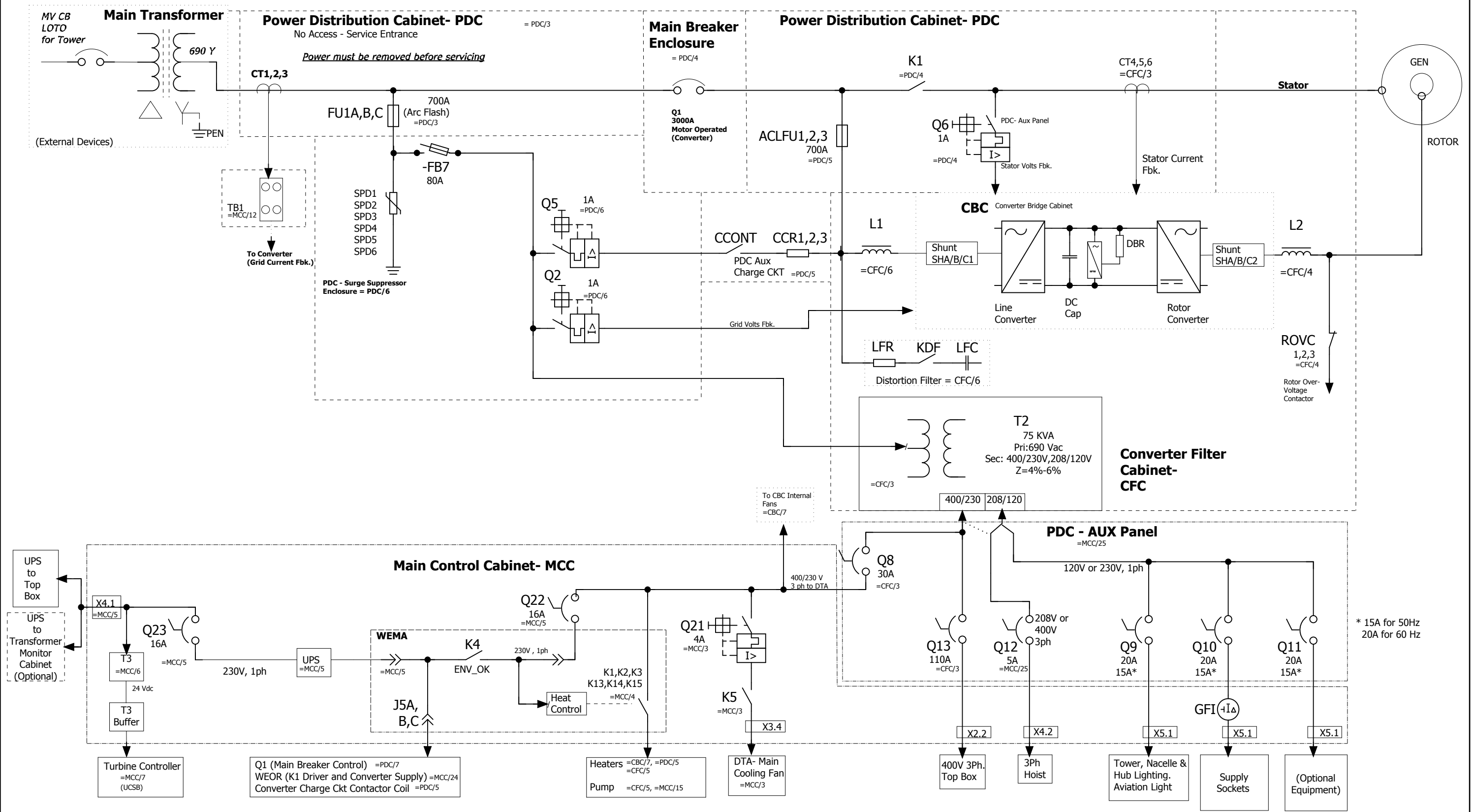
Control Voltage: 230V / 24VDC

2 next

SIGNATURE		DATE	 GE Renewable Energy GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY
DRAWN	502228306	30-OCT-2014	
CHECKED	See PLM		
ENGINEER	See PLM		
ISSUED	See PLM		One Line Drawing 2.3-116 60Hz

previous =GI/3

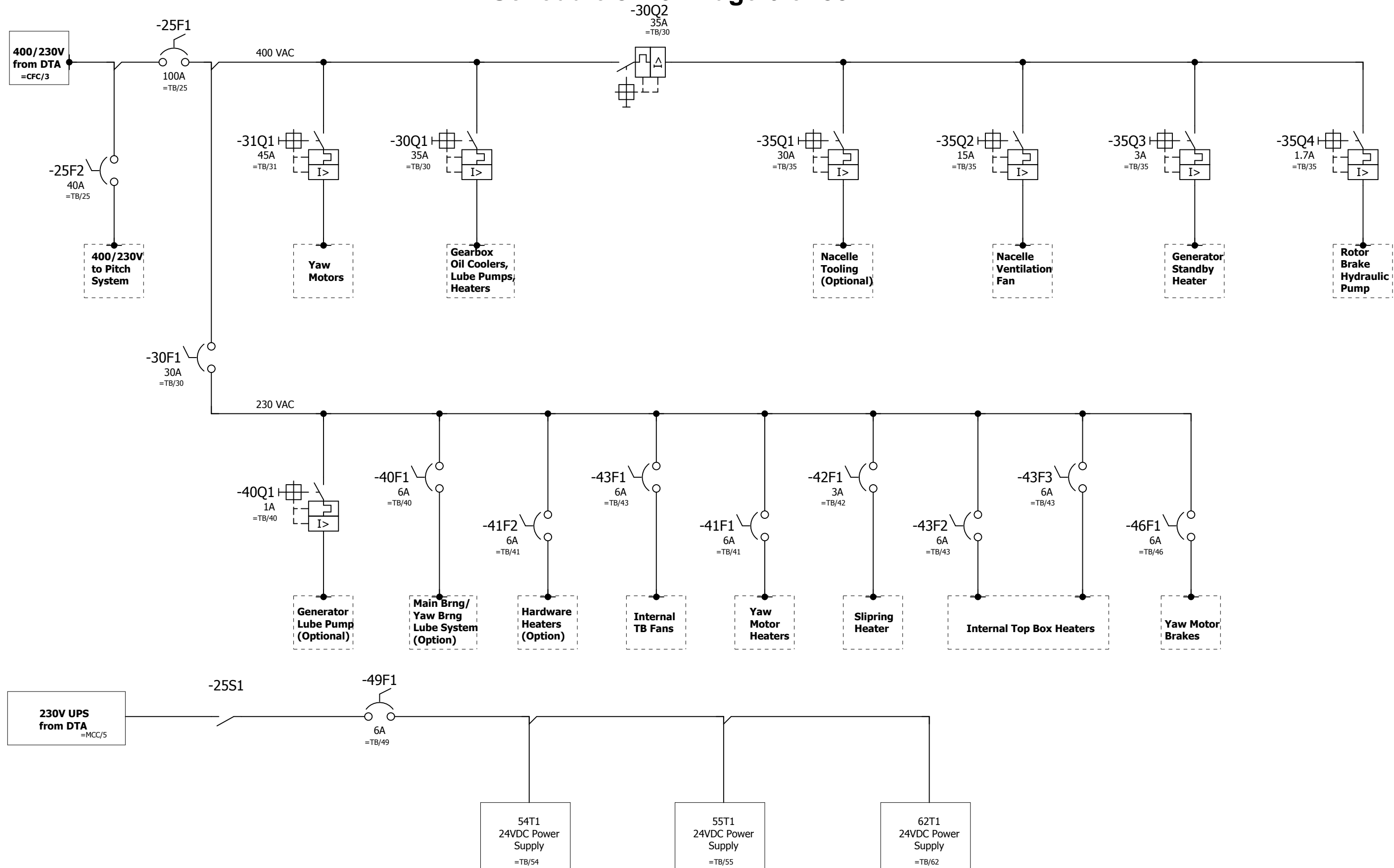
REV	DESCRIPTION	CHECKED BY	REVISED BY	 GE Renewable Energy GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	© COPYRIGHT 2016 - 2017 GENERAL ELECTRIC COMPANY PROPRIETARY INFORMATION-THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.	One Lines Cover Page (Indexed)	COMPONENT	One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE	2.3-116 60Hz	= Oneline
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				COMP NO.	COMP-DRW. NO. 109W8358	REV	B	Sh 1
				DRAWN 502228306 30-OCT-2014				COMP-PART NO. N / A			of 7
				ISSUED See PLM							



Lights & Sockets configured for 120V or 230V  
Hoist configured for 208V or 400V

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B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM					COMP NO.	COMP-DRW. NO. 109W8358	REV	B	Sh 3 of 7
				DRAWN	502228306	30-OCT-2014			COMP-PART NO. N/A			

# Schedule JH-6 - Page 6 of 35

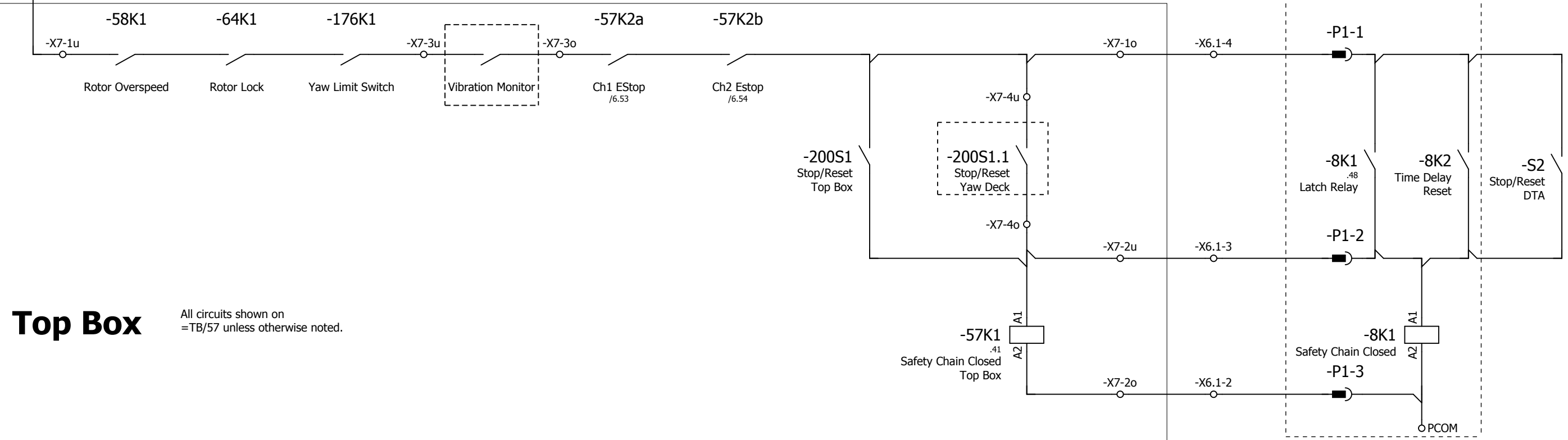
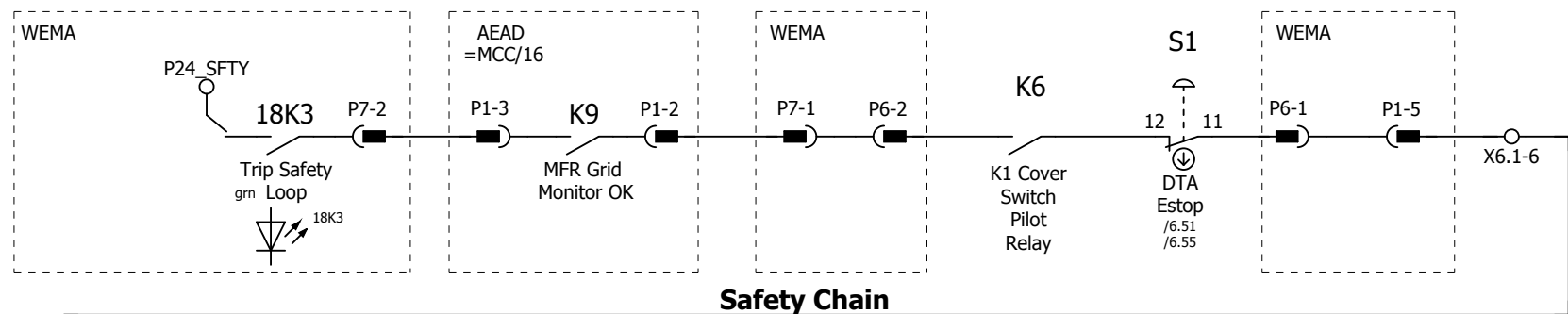


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B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM	DRAWN 502228306 ISSUED See PLM	30-OCT-2014		COMP NO.	COMP-DRW. NO. 109W8358 COMP-PART NO. N / A	REV B Sh of 4 7

# Schedule JH-6 - Page 7 of 35

## DTA

All circuits shown on =MCC/8 unless otherwise noted.



## Top Box

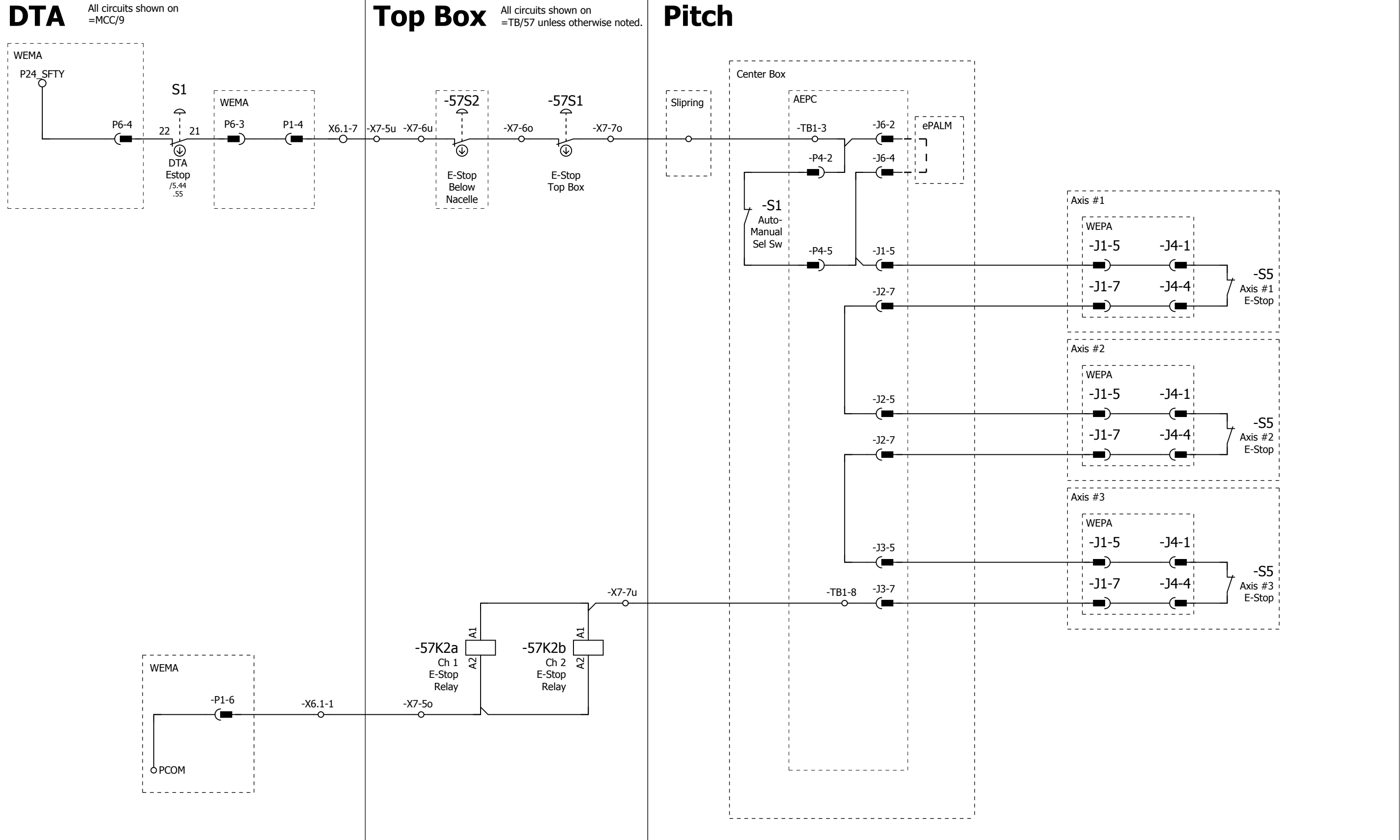
All circuits shown on =TB/57 unless otherwise noted.

## Pitch System



previous	4					6	next		
REV	DESCRIPTION	CHECKED BY	REVISED BY	GE Renewable Energy	GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	Turbine Safety Chain	COMPONENT One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE 2.3-116 60Hz	= Online
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				COMP NO.	COMP-DRW. NO. 109W8358	REV B
				DRAWN 502228306	30-OCT-2014			COMP-PART NO. N/A	Sh of 5 7
				ISSUED See PLM					

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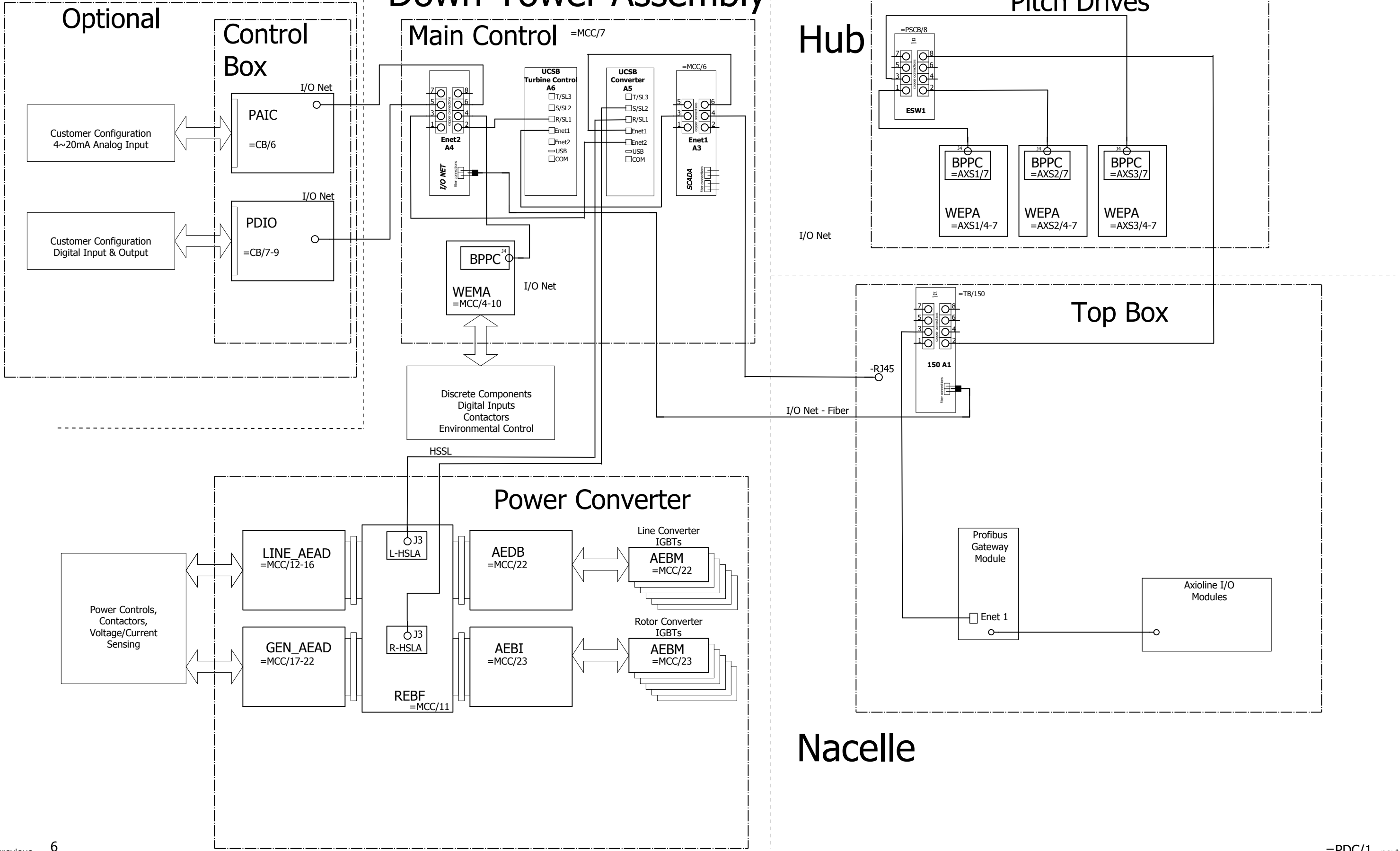
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7 next

REV	DESCRIPTION	CHECKED BY	REVISED BY	<b>GE Renewable Energy</b> GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	© COPYRIGHT 2016 - 2017 GENERAL ELECTRIC COMPANY PROPRIETARY INFORMATION-THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.	E-Stop Circuit	COMPONENT	One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE	2.3-116 60Hz	= Online	
<b>B</b>	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				DRAWN	502228306	30-OCT-2014	COMP NO.	COMP-DRW. NO. 109W8358	REV
				ISSUED	See PLM		COMP-PART NO.	N / A				



# Down-Tower Assembly



Hub

Pitch Drives

Top Box

Nacelle

previous 6

=PDC/1 next

REV	DESCRIPTION	CHECKED BY	REVISED BY
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM

	GE Renewable Energy	GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY
DRAWN	502228306	30-OCT-2014
ISSUED	See PLM	

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Control Hardware One Line

COMPONENT	One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE	2.3-116 60Hz	= Online
COMP NO.	COMP-DRAW. NO. 109W8358	REV	B	Sh 7
	COMP-PART NO. N / A			of 7

# Cover Page

## GE Renewable Energy 2.5MW

WTG Drw No. : TS\_828281\_Persimmon Creek Wind Farm

WTG No.: : 25173077 - 25173147, 25176224 - 25176225

Project/CMS No.: Persimmon Creek Wind Farm / 828281

Customer: Persimmon Creek Wind Farm 1, LLC

Component: One Line Drawings - 2.0/2.3 MW 50/60 Hz

Comp No.:

Comp-Drw. No.: 109W8358


Comp-Part No.: N / A

Frequency: 50 / 60 Hz


Rated Voltage: 690V / 400V

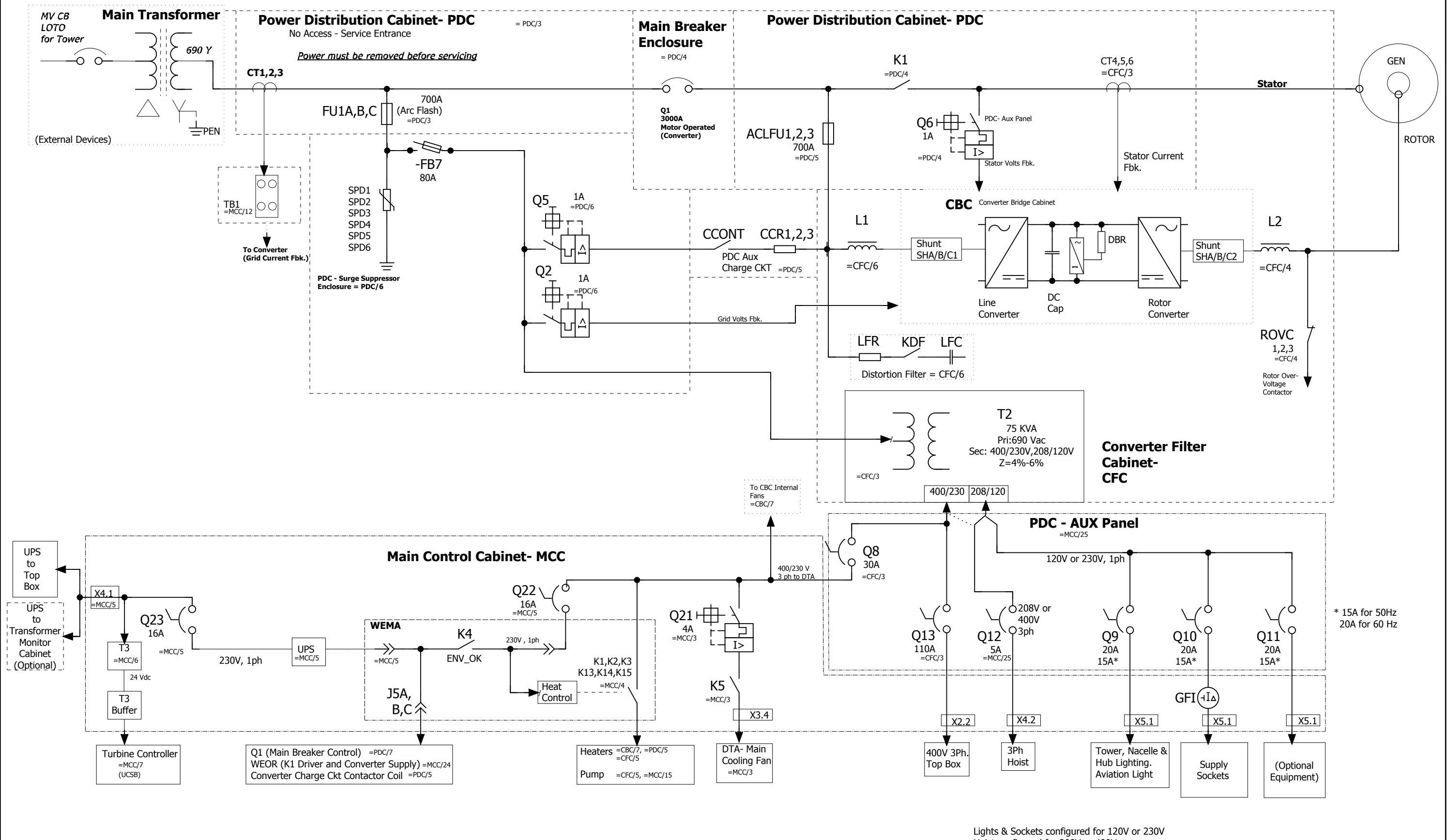
Control Voltage: 230V / 24VDC

2 next

SIGNATURE		DATE	 GE Renewable Energy GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY
DRAWN	502228306	30-OCT-2014	
CHECKED	See PLM		
ENGINEER	See PLM		
ISSUED	See PLM		One Line Drawing 2.5-116 60Hz

previous =GI/3

REV	DESCRIPTION	CHECKED BY	REVISED BY	 GE Renewable Energy GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	© COPYRIGHT 2016 - 2017 GENERAL ELECTRIC COMPANY PROPRIETARY INFORMATION-THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.	One Lines Cover Page (Indexed)	COMPONENT	One Line Drawings -	TYPE	= Oneline
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				2.0/2.3 MW 50/60 Hz	2.5-116 60Hz	+	
				DRAWN 502228306 30-OCT-2014			COMP NO.	COMP-DRW. NO. 109W8358	REV	Sh 1
				ISSUED See PLM			COMP-PART NO. N / A		B	of 7

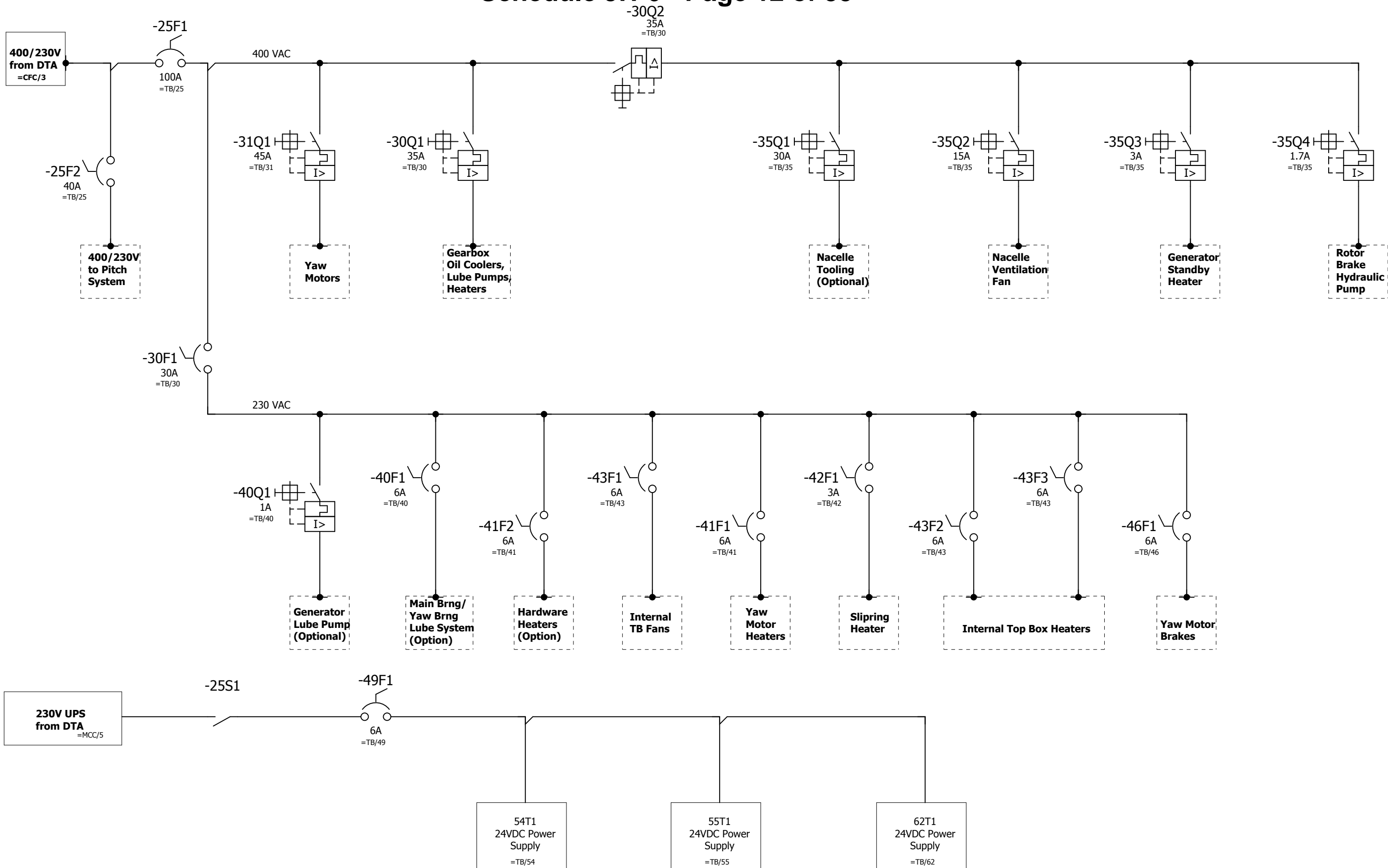


Lights & Sockets configured for 120V or 230V  
Hoist configured for 208V or 400V

previous 2

4 next

REV	DESCRIPTION	CHECKED BY	REVISED BY	GE Renewable Energy GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	© COPYRIGHT 2016 - 2017 GENERAL ELECTRIC COMPANY PROPRIETARY INFORMATION-THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.	Down Tower Line Up One Line Drawing	COMPONENT	One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE	2.5-116 60Hz	= Online
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				DRAWN	502228306	30-OCT-2014	COMP NO.	COMP-DRW. NO. 109W8358
				ISSUED	See PLM			COMP-PART NO. N / A			

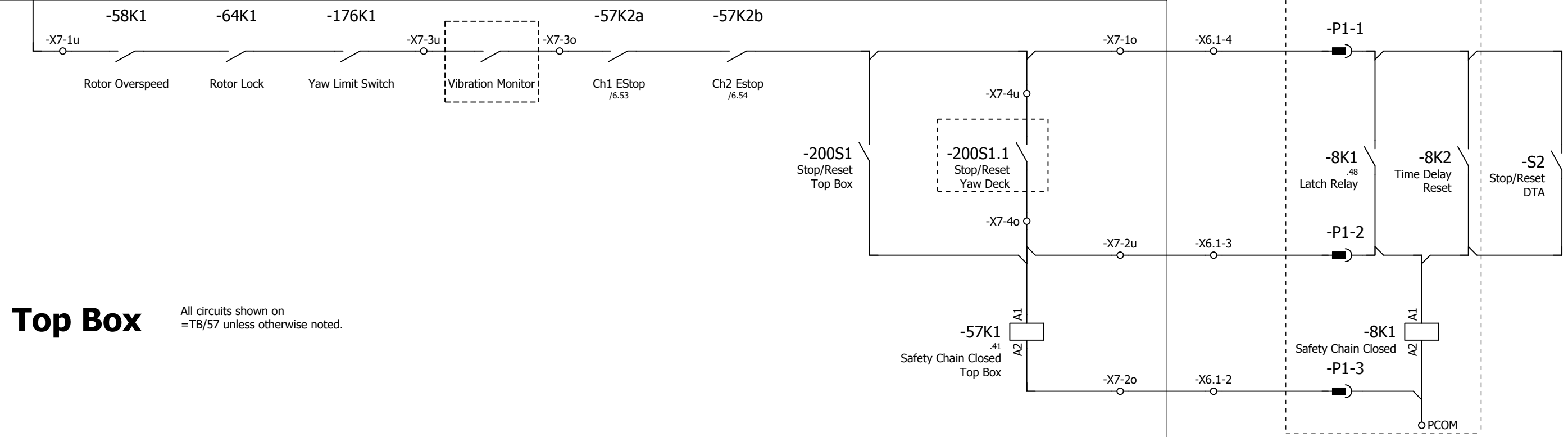
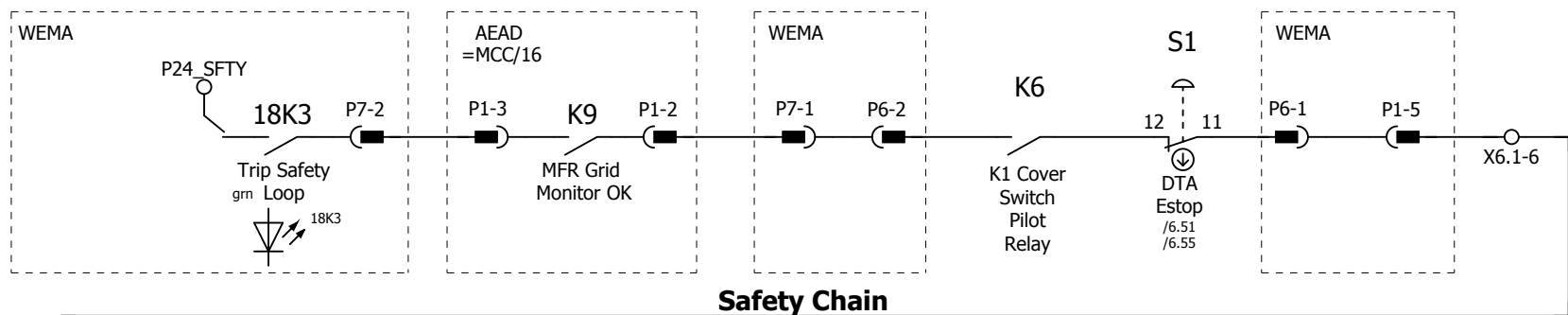


previous 3

5 next

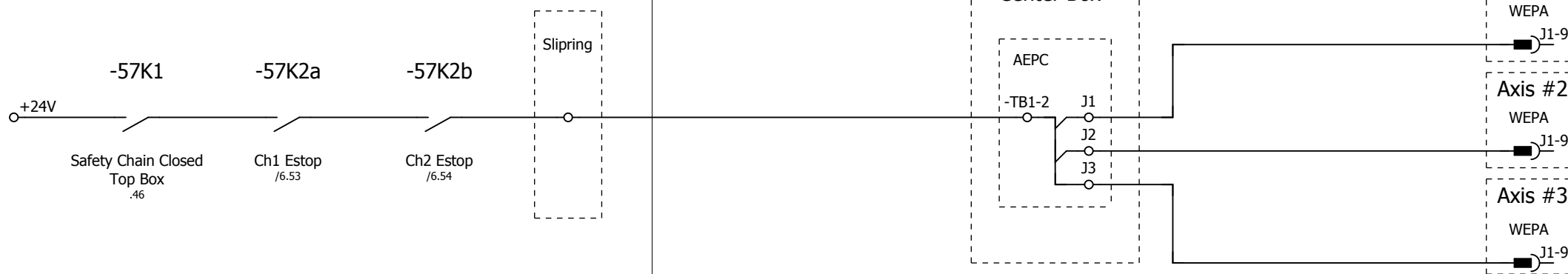
REV	DESCRIPTION	CHECKED BY	REVISED BY	GE Renewable Energy	GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	© COPYRIGHT 2016 - 2017 GENERAL ELECTRIC COMPANY PROPRIETARY INFORMATION-THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.	Top Box 400/230 V Power One Line Drawing	COMPONENT One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE 2.5-116 60Hz	= Online
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM					COMP NO.	COMP-DRAW. NO. 109W8358	REV B
				DRAWN 502228306	30-OCT-2014			COMP-PART NO. N / A		Sh of 4 7

**DTA** All circuits shown on =MCC/8 unless otherwise noted.



**Top Box** All circuits shown on =TB/57 unless otherwise noted.

**Pitch System**

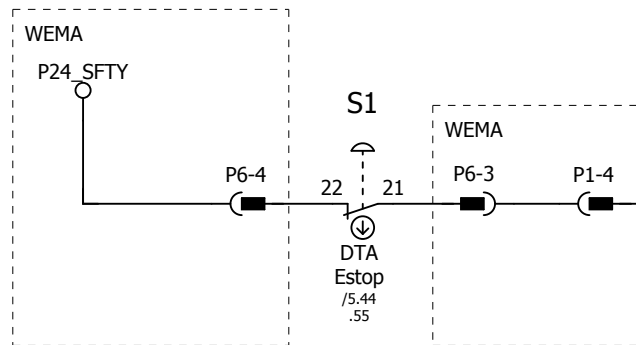


previous	4					6	next		
REV	DESCRIPTION	CHECKED BY	REVISED BY	GE Renewable Energy	GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY	Turbine Safety Chain	COMPONENT One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE 2.5-116 60Hz	= Online
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM				COMP NO.	COMP-DRW. NO. 109W8358	REV B
				DRAWN 502228306	30-OCT-2014			COMP-PART NO. N/A	Sh of 5 7
				ISSUED See PLM					

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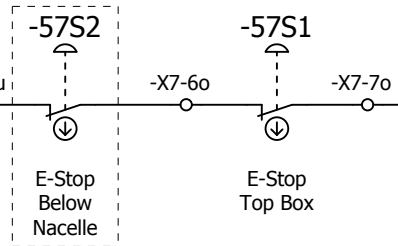
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All circuits shown on =MCC/9

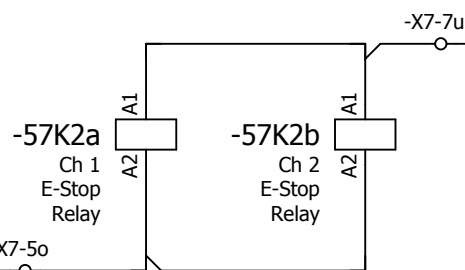
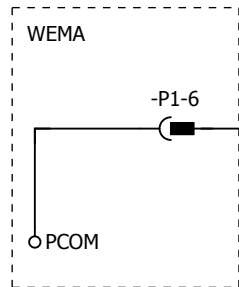
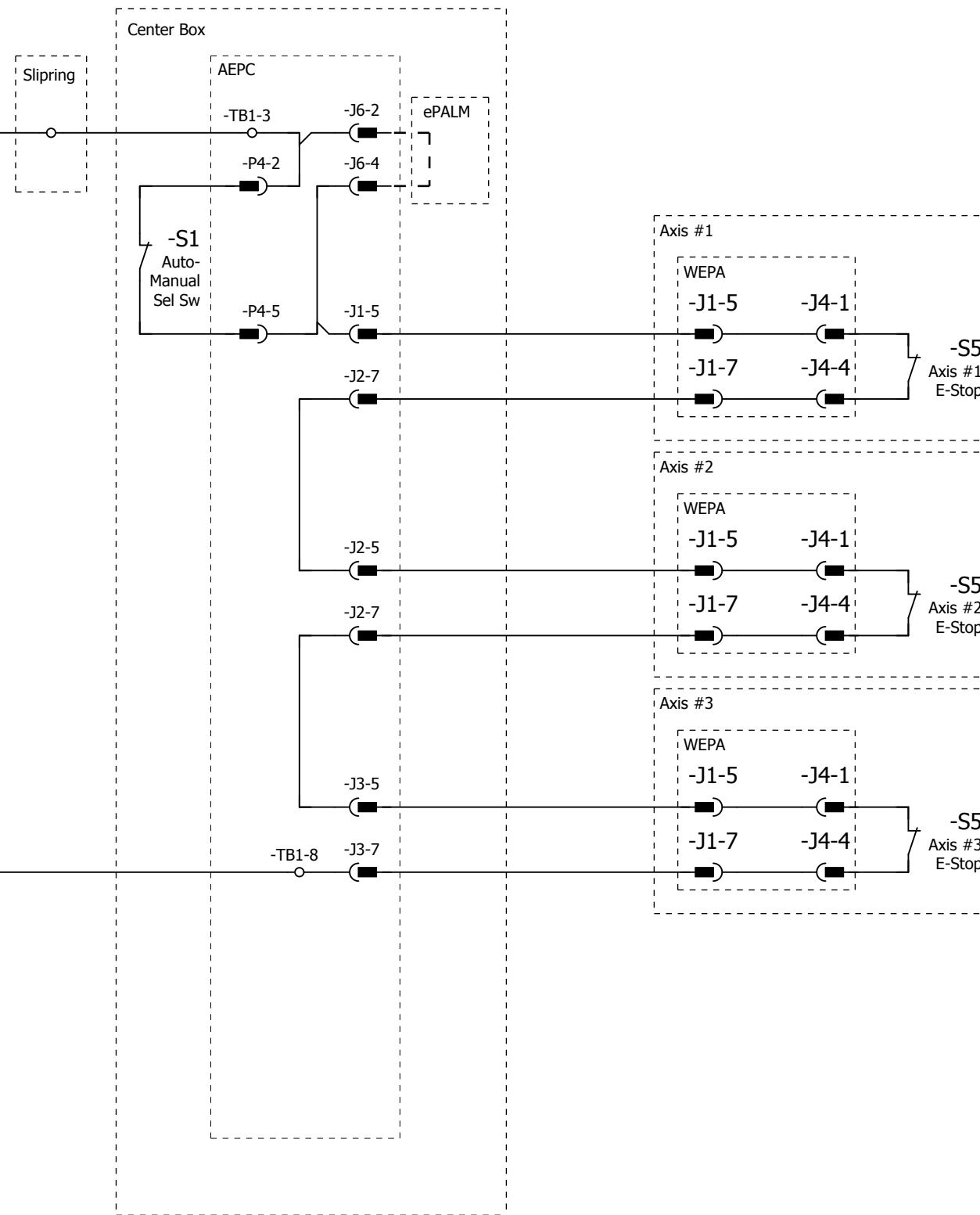


### Top Box

All circuits shown on =TB/57 unless otherwise noted.



### Pitch



previous 5

7 next

REV	DESCRIPTION	CHECKED BY	REVISED BY
B	Update to Q1 Current Rating ECR3039017	See PLM	See PLM

GE Logo	GE Renewable Energy	GENERAL ELECTRIC COMPANY WIND ENERGY TECHNOLOGY
DRAWN	502228306	30-OCT-2014
ISSUED	See PLM	

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E-Stop Circuit	
----------------	--

COMPONENT	One Line Drawings - 2.0/2.3 MW 50/60 Hz	TYPE	2.5-116 60Hz
COMP NO.	COMP-DRAW. NO. 109W8358	REV	B
	COMP-PART NO. N / A		

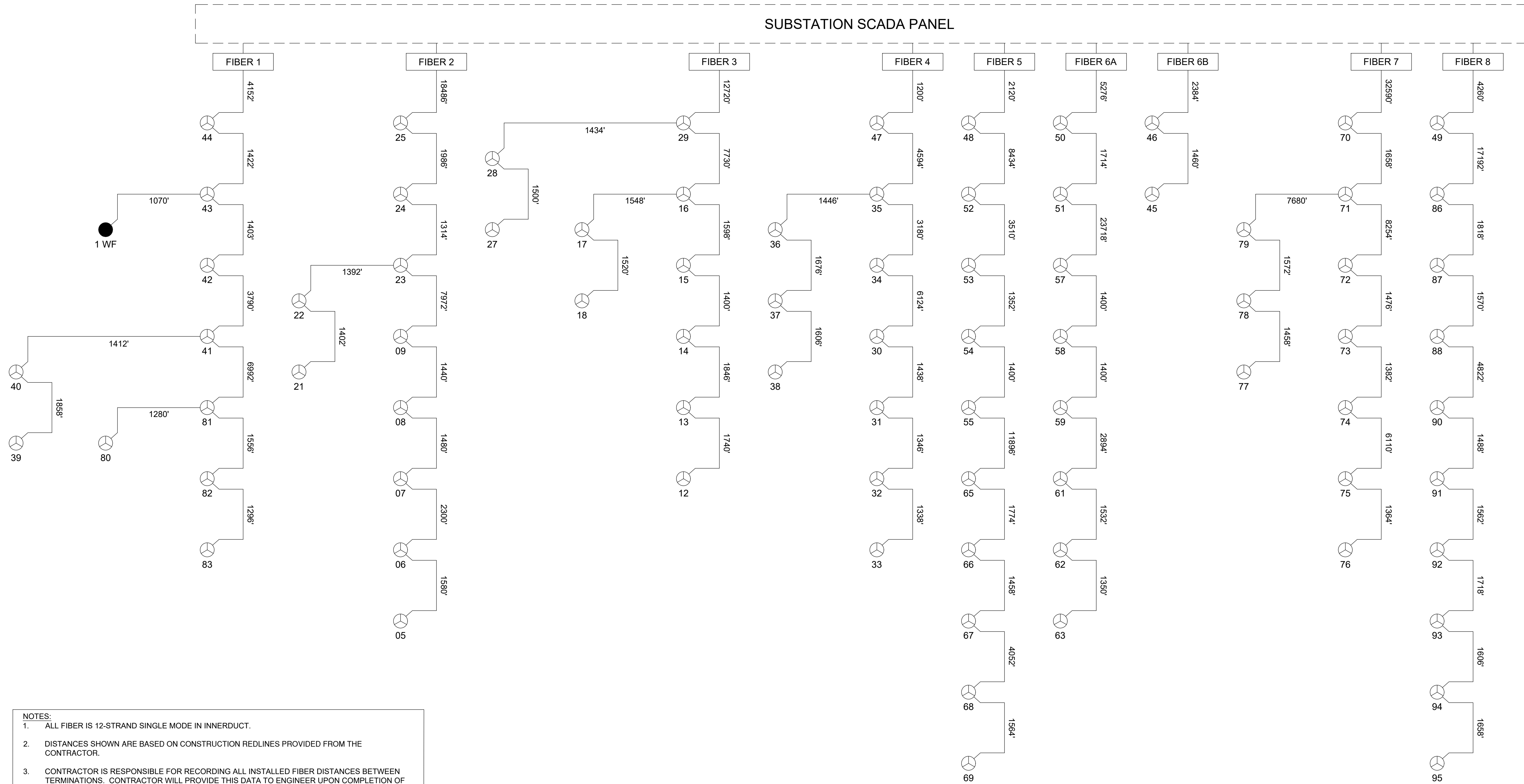
= Online	
+	
Sh	6
of	7

E-Stop Circuit	
----------------	--

Rev.	Date	Description	By
A	09/22/2017	90% SUBMITTAL	BG
0	11/15/2017	ISSUED FOR CONSTRUCTION	BG
1	12/08/2017	IFC UPDATES	BG
2	12/15/2017	WTG LOCATION UPDATES	BG
3	07/11/2018	ISSUED FOR RECORD	BG



SUBSTATION SCADA PANEL



- NOTES:**
- ALL FIBER IS 12-STRAND SINGLE MODE IN INNERDUCT.
  - DISTANCES SHOWN ARE BASED ON CONSTRUCTION REDLINES PROVIDED FROM THE CONTRACTOR.
  - CONTRACTOR IS RESPONSIBLE FOR RECORDING ALL INSTALLED FIBER DISTANCES BETWEEN TERMINATIONS. CONTRACTOR WILL PROVIDE THIS DATA TO ENGINEER UPON COMPLETION OF FIBER CABLE INSTALLATION.
  - FIBER COLOR COORDINATION.  

1-BLUE	4-BROWN	7-RED	10-VIOLET
2-ORANGE	5-SLATE	8-BLACK	11-ROSE
3-GREEN	6-WHITE	9-YELLOW	12-AQUA
  - UNLESS SPLICING FOR INDIVIDUAL STRANDS ARE SHOWN, ALL STRANDS WITHIN CABLES/TUBES SHALL BE SPLICED TO THE SAME COLOR STRAND ON THE DESTINATION CABLE/TUBE.
  - TERMINATE ALL FIBERS USING A FUSION SPLICER WITH PRE-TERMINATED PIGTAILS OR MECHANICAL CONNECTORS WITH FANOUT KITS.
  - DO NOT EXCEED MINIMUM BENDING RADIUS AND AVOID CABLE TWISTS AT ALL TIMES INCLUDING WHEN THE CABLE IS REMOVED FROM THE SPOOL.
  - WHEN PULLING, PULL ONLY BY THE STRONG CENTRAL MEMBER. DO NOT EXCEED THE MAXIMUM TENSION WHEN PULLING.
  - UPON ERECTION OF THE LOWER TOWER SECTION, THE FIBER CABLE SHALL BE REMOVED FROM THE TOWER FLOOR. IF POSSIBLE, THE CABLE SHOULD BE ROUTED AROUND THE POWER PANEL TO AVOID DAMAGE DURING THE ELECTRICAL INSTALLATION.

**RECORD DRAWING**  
DRAWINGS ARE BASED UPON  
CONSTRUCTION CONTRACTOR REDLINES  
WHICH HAVE NOT BEEN FIELD VERIFIED BY  
ENGINEER OF RECORD.



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Design By: JH  
Drawn By: GP  
Approved By: BG  
Project Number: 16.01958

COLLECTION SYSTEM  
FIBER ONE LINE  
DIAGRAM

PERSIMMON CREEK  
WIND PROJECT  
OKLAHOMA

Rev.	Date	Description	By
A	04/07/2017	60% SUBMITTAL	UEI
B	09/22/2017	90% SUBMITTAL	BG
C	11/06/2017	95% SUBMITTAL	BG
0	11/15/2017	ISSUED FOR CONSTRUCTION	BG
1	12/15/2017	WTG LOCATION UPDATES	BG
2	07/11/2018	ISSUED FOR RECORD	BG



NOTES:  
1. CABLE LENGTHS LISTED ARE BASED ON CONSTRUCTION REDLINES PROVIDED FROM THE CONTRACTOR.

UNDERGROUND CABLE (35kV):  
1/0 AWG AL, 8-#14 ROUND CONCENTRIC  
4/0 AWG AL, 10-#14 ROUND CONCENTRIC  
500 MCM AL, 13-#14 ROUND CONCENTRIC  
750 MCM AL, 17-#12 ROUND CONCENTRIC  
1000 MCM AL, 18-#14 ROUND CONCENTRIC  
1250 MCM AL, 23-#14 ROUND CONCENTRIC

TRENCH GROUND:  
7-#8 COPPERCLAD STEEL (40%)

**RECORD DRAWING**  
DRAWINGS ARE BASED UPON CONSTRUCTION CONTRACTOR REDLINES WHICH HAVE NOT BEEN FIELD VERIFIED BY ENGINEER OF RECORD.

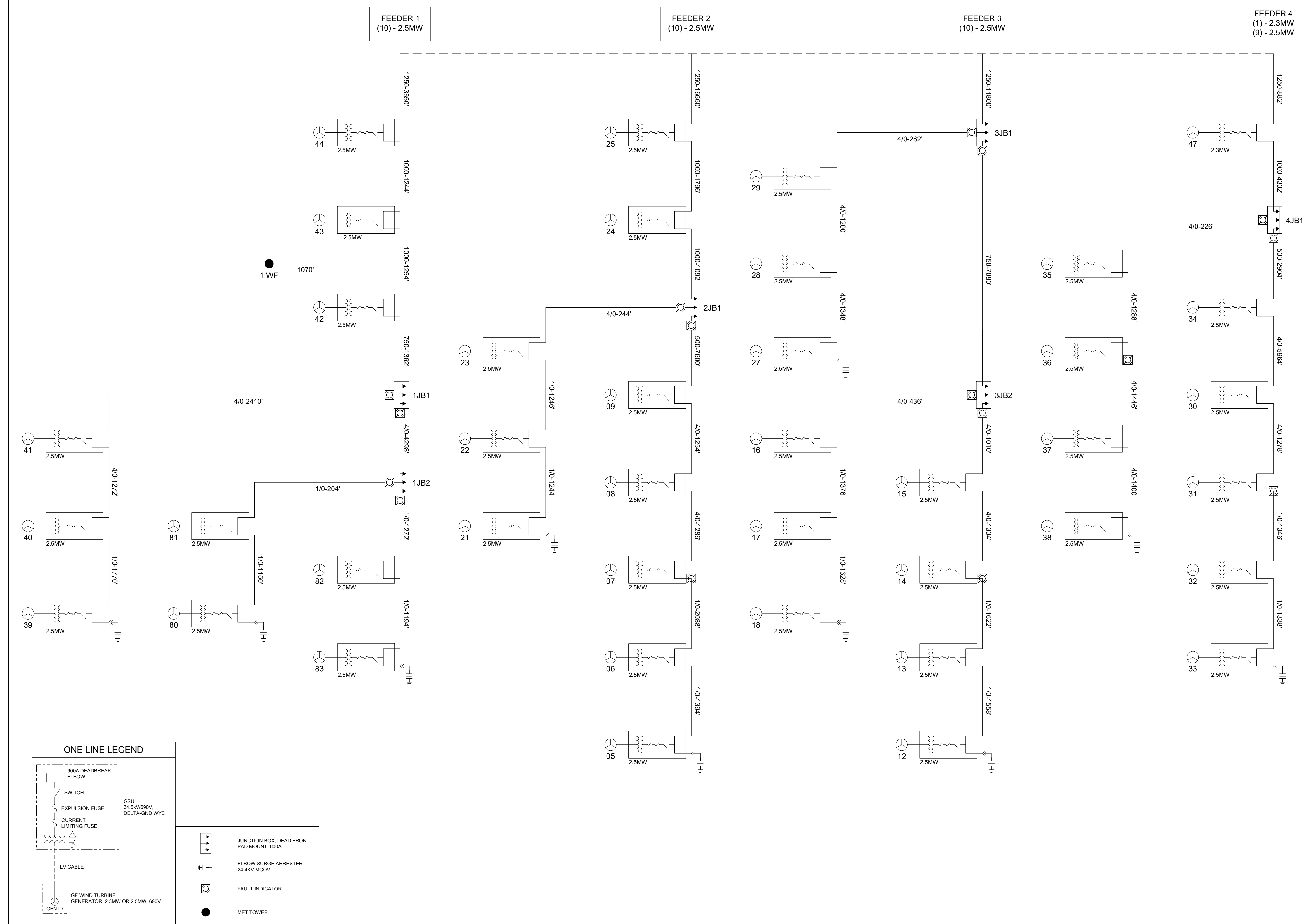


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COLLECTION SYSTEM  
ONE LINE DIAGRAM  
FEEDERS 1-4

DWG #: PCW-COL-OL1 REVISION: 2





Rev.	Date	Description	By
B	09/22/2017	90% SUBMITTAL	BG
C	11/06/2017	95% SUBMITTAL	BG
0	11/15/2017	ISSUED FOR CONSTRUCTION	BG
1	12/08/2017	IFC UPDATES	BG
2	12/15/2017	WTG LOCATION UPDATES	BG
3	07/11/2018	ISSUED FOR RECORD	BG
4	10/16/2018	ADDED 7JB1	BG



NOTES:

- CABLE LENGTHS LISTED ARE BASED ON CONSTRUCTION REDLINES PROVIDED FROM THE CONTRACTOR.

UNDERGROUND CABLE (35kV):  
 1/0 AWG AL, 8-#14 ROUND CONCENTRIC  
 4/0 AWG AL, 10-#14 ROUND CONCENTRIC  
 500 MCM AL, 13-#14 ROUND CONCENTRIC  
 750 MCM AL, 17-#12 ROUND CONCENTRIC  
 1000 MCM AL, 18-#14 ROUND CONCENTRIC  
 1250 MCM AL, 23-#14 ROUND CONCENTRIC

TRENCH GROUND:  
 7-#8 COPPERCLAD STEEL (40%)

RECORD DRAWING

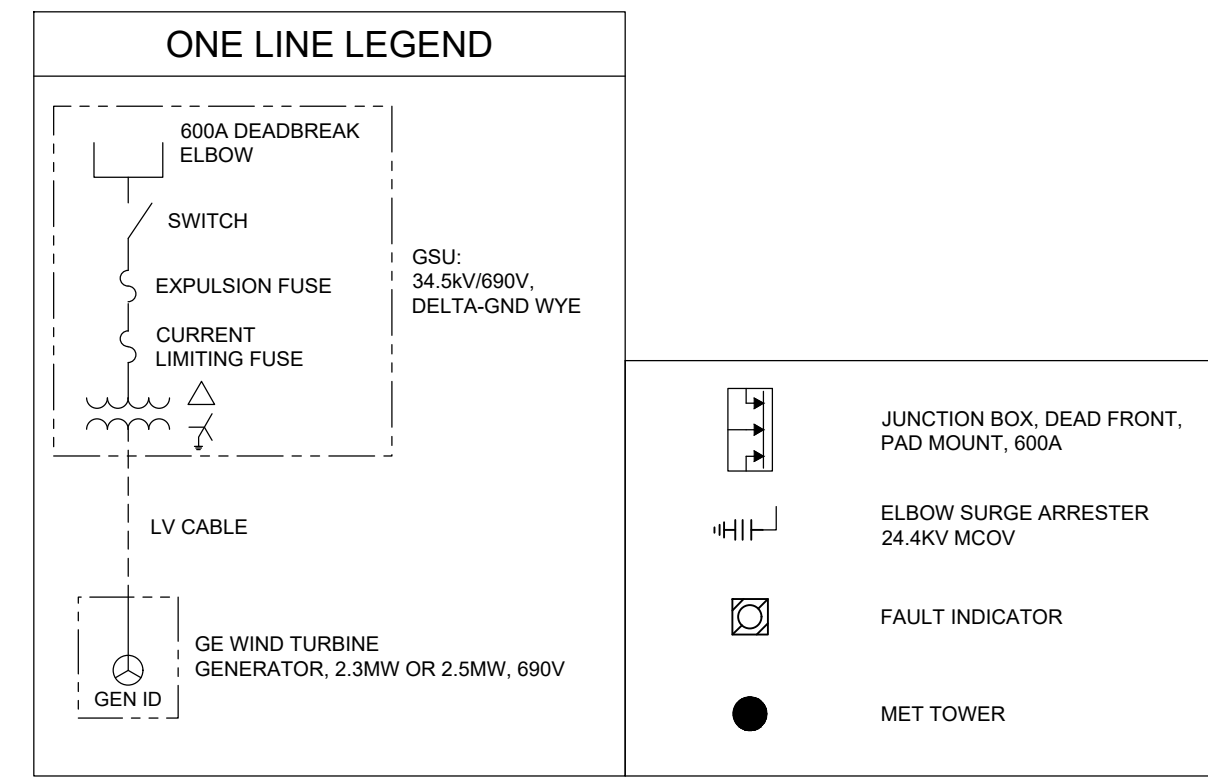
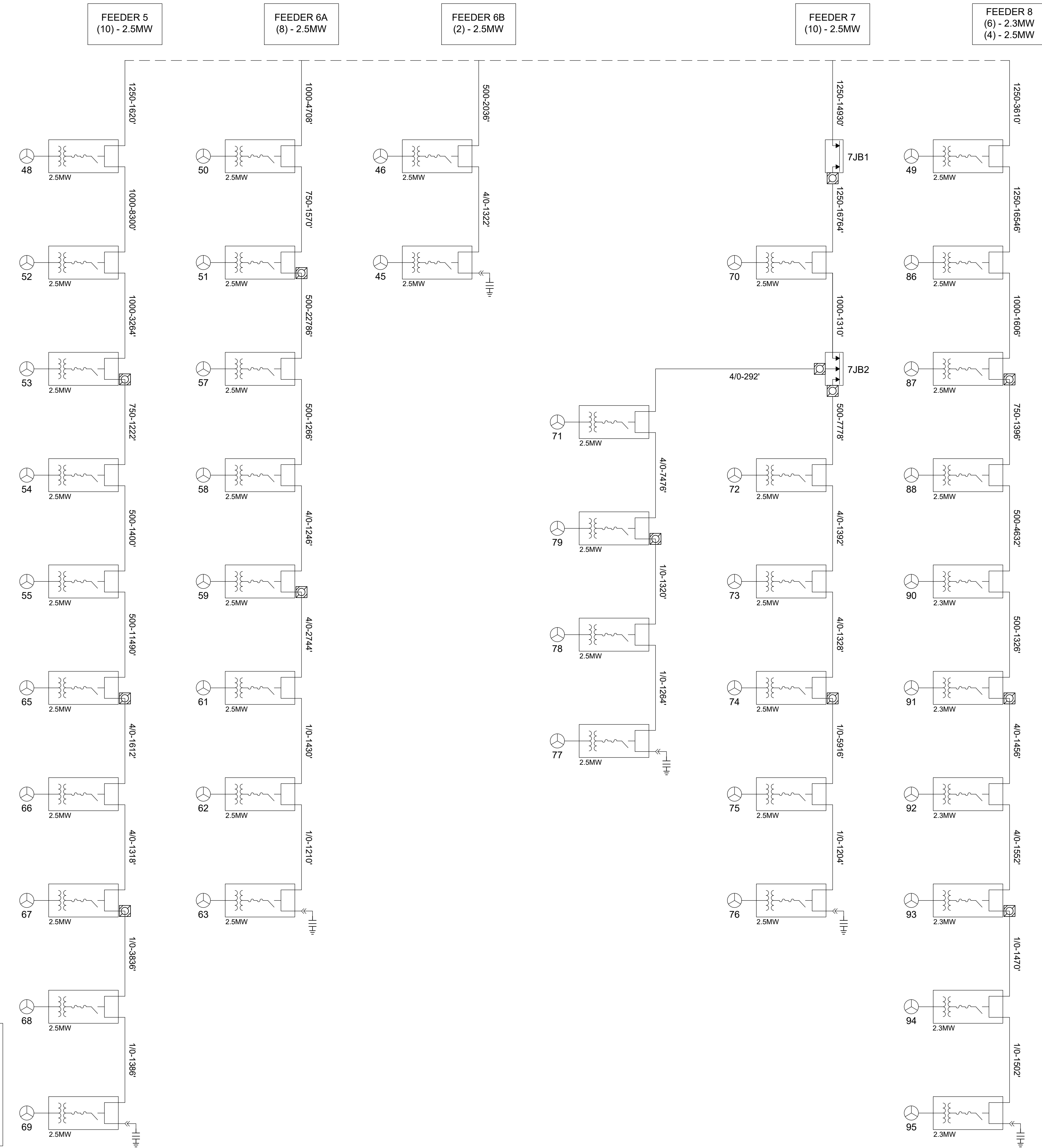
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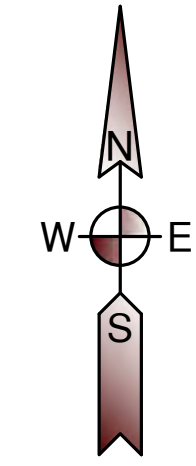
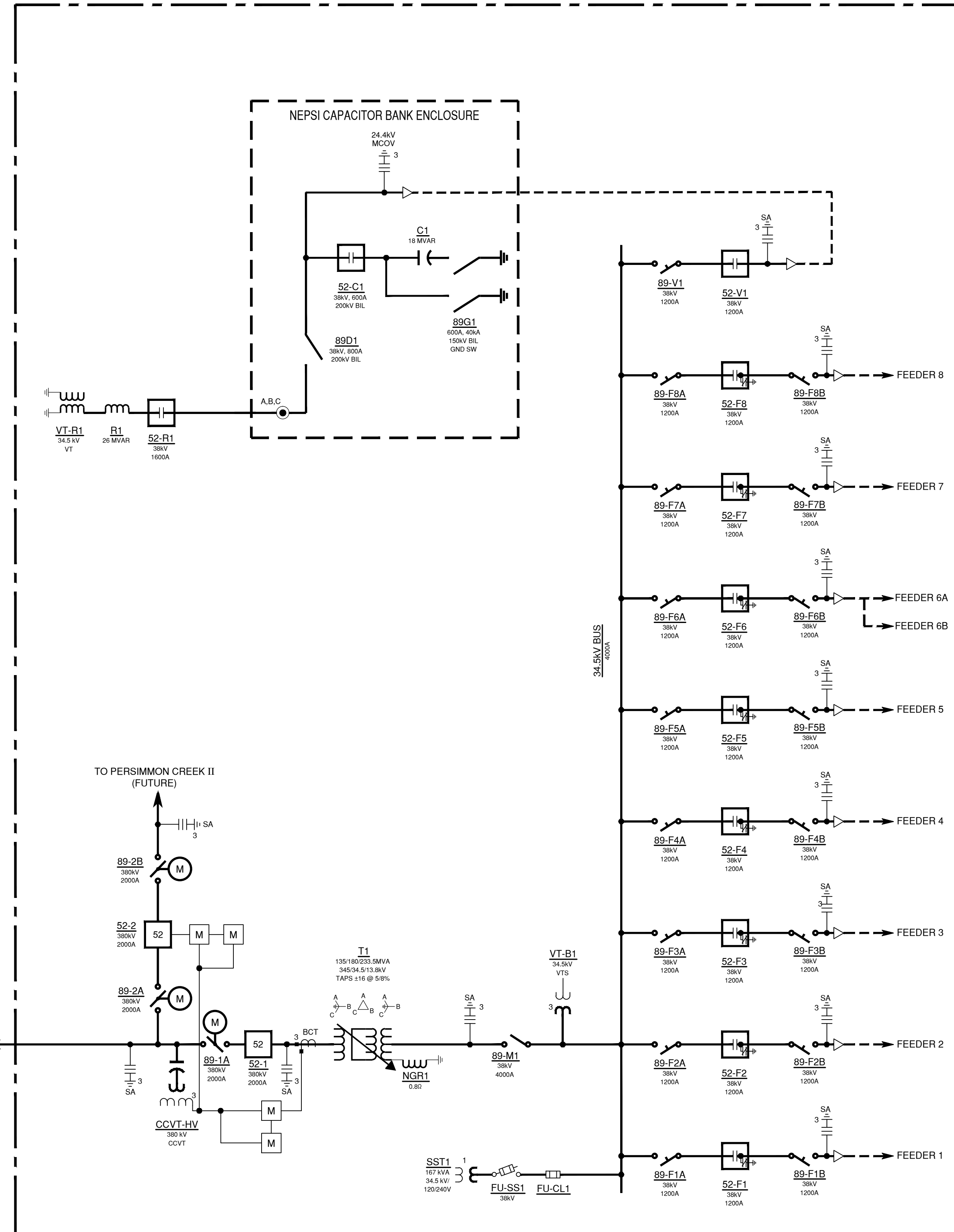
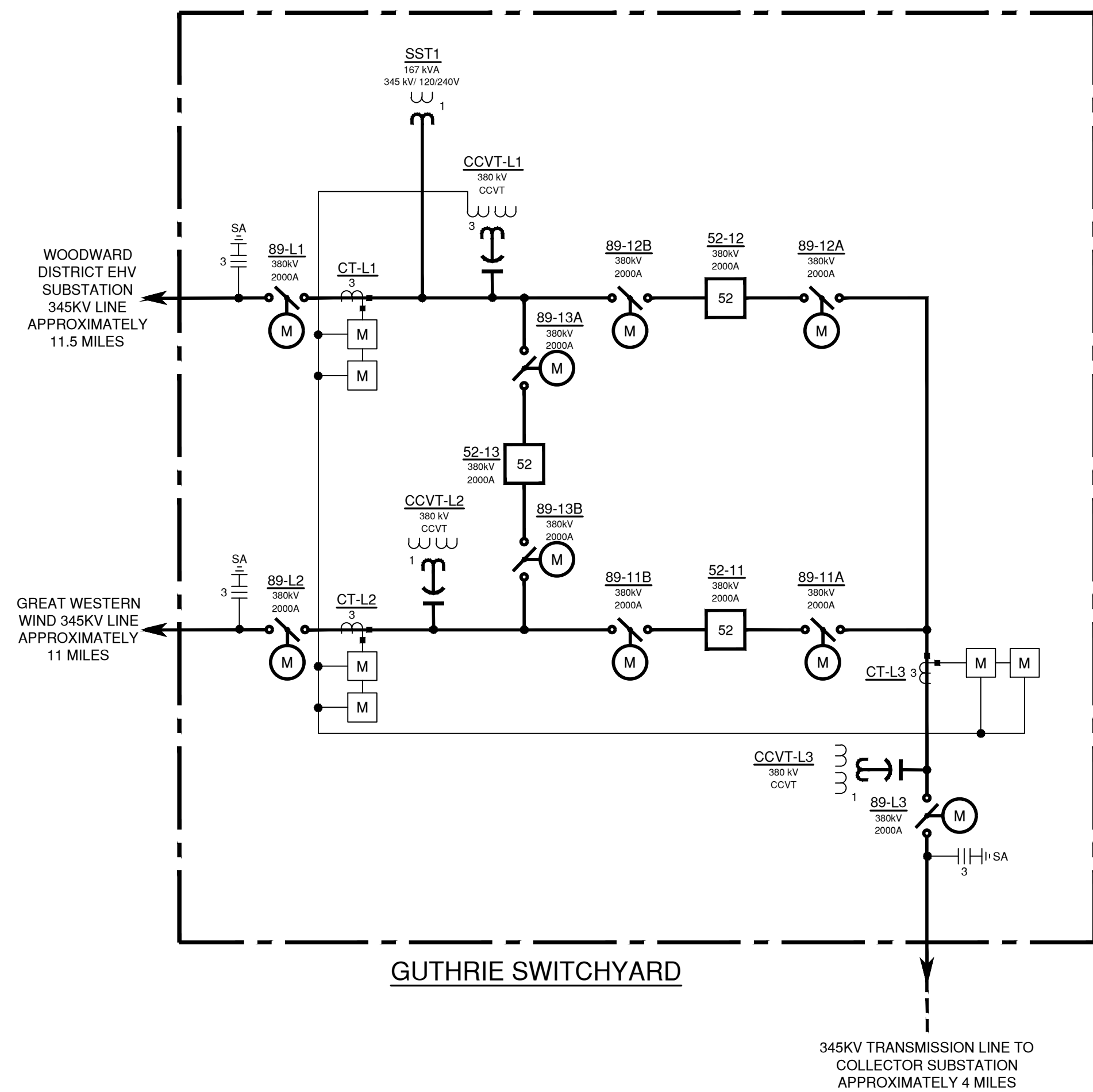
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 Approved By: BG  
 Project Number: 16.01958

COLLECTION SYSTEM  
ONE LINE DIAGRAM  
FEEDERS 5-8



PERSIMMON CREEK WIND PROJECT  
DEWEY COUNTY, OKLAHOMA



**DEVICE LEGEND**

- ARRESTER (NUMBER INDICATES QUANTITY)
- CURRENT TRANSFORMER (BCT - DENOTES BUSHING CURRENT TRANSFORMER, NUMBER INDICATES QUANTITY)
- VERTICAL BREAK DISCONNECT SWITCH
- HOOK STICK OPERATED DISCONNECT SWITCH
- DOUBLE-ENDED BREAK SWITCH
- CIRCUIT BREAKER OR SWITCHER
- GROUNDING BREAKER
- MOTOR OPERATED DISCONNECT
- METER
- VOLTAGE TRANSFORMER (NUMBER INDICATES QUANTITY)
- COUPLING CAPACITOR VOLTAGE TRANSFORMER (NUMBER INDICATES QUANTITY)
- NEUTRAL GROUNDING REACTOR
- 3-WINDING POWER TRANSFORMER W/LTC
- UNDERGROUND CABLE TERMINATION
- TRANSITION TO TRANSMISSION

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION MAG	
1	07/11/18	ISSUED FOR RECORD	UEI



**NOTES:**

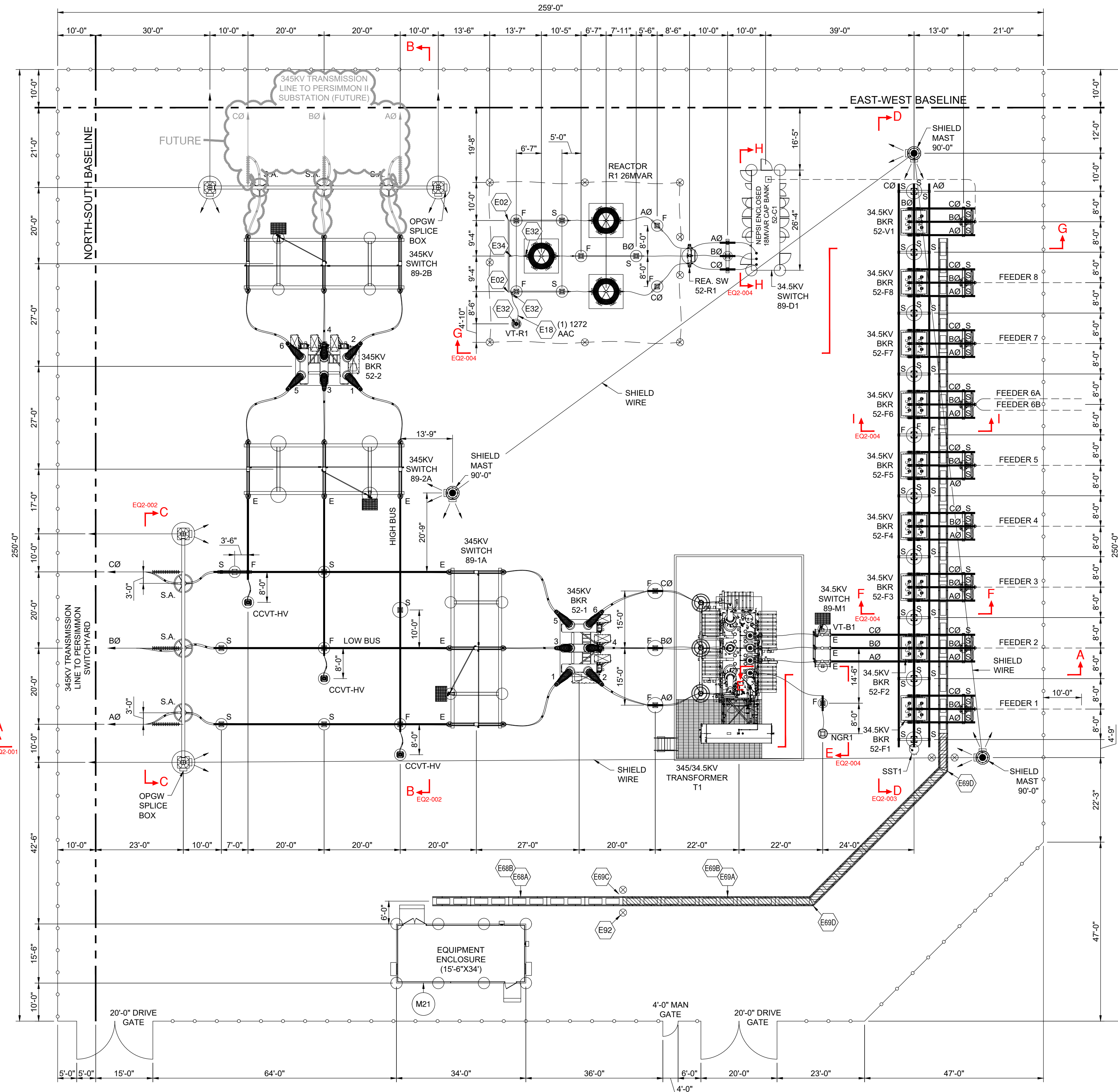
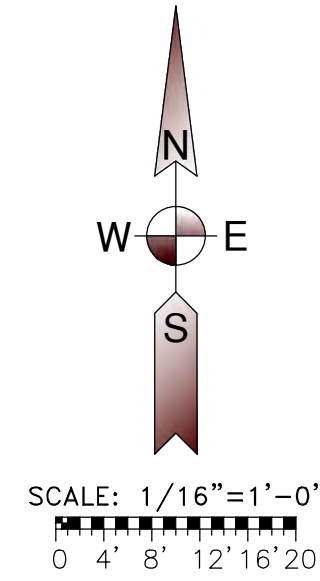
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Design By: MAG  
Drawn By: DAJ  
Approved By: SLM  
Project Number: 16.01958

**345/34.5KV PROJECT SUBSTATION OPERATIONAL ONE LINE DIAGRAM**



- NOTES:**
1. LOCATE CABLE CONDUIT PRIOR TO BOLLARD PLACEMENT.
  2. DAMPING CABLE 954 AAC TO BE INSTALLED INSIDE ALL TUBULAR BUS SPANS GREATER THAN 15'. SEE PCW-EQ3-001, DETAIL D1.
  3. BOLT SHIELDS TO BE USED ON ALL 345KV CONNECTORS.

**PERSIMMON CREEK WIND PROJECT**  
DEWEY COUNTY, OKLAHOMA

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION RPW	
1	07/11/18	ISSUED FOR RECORD UEI	



- LEGEND:**
- F FI ED FITTING
  - S SLIP FITTING
  - E E PANSION FITTING
  - OPERATOR PLATFORM
  - ⊗ BOLLARD
  - A INDICATES SECTION VIEW "A-A"
  - EQ2-0 DRAWING ON WHICH SECTION APPEARS
  - AREA LIGHT
  - FENCE
  - M# MAJOR MATERIAL LIST SEE PCW-EQ4-001
  - E# MINOR MATERIAL LIST SEE PCW-EQ4-001

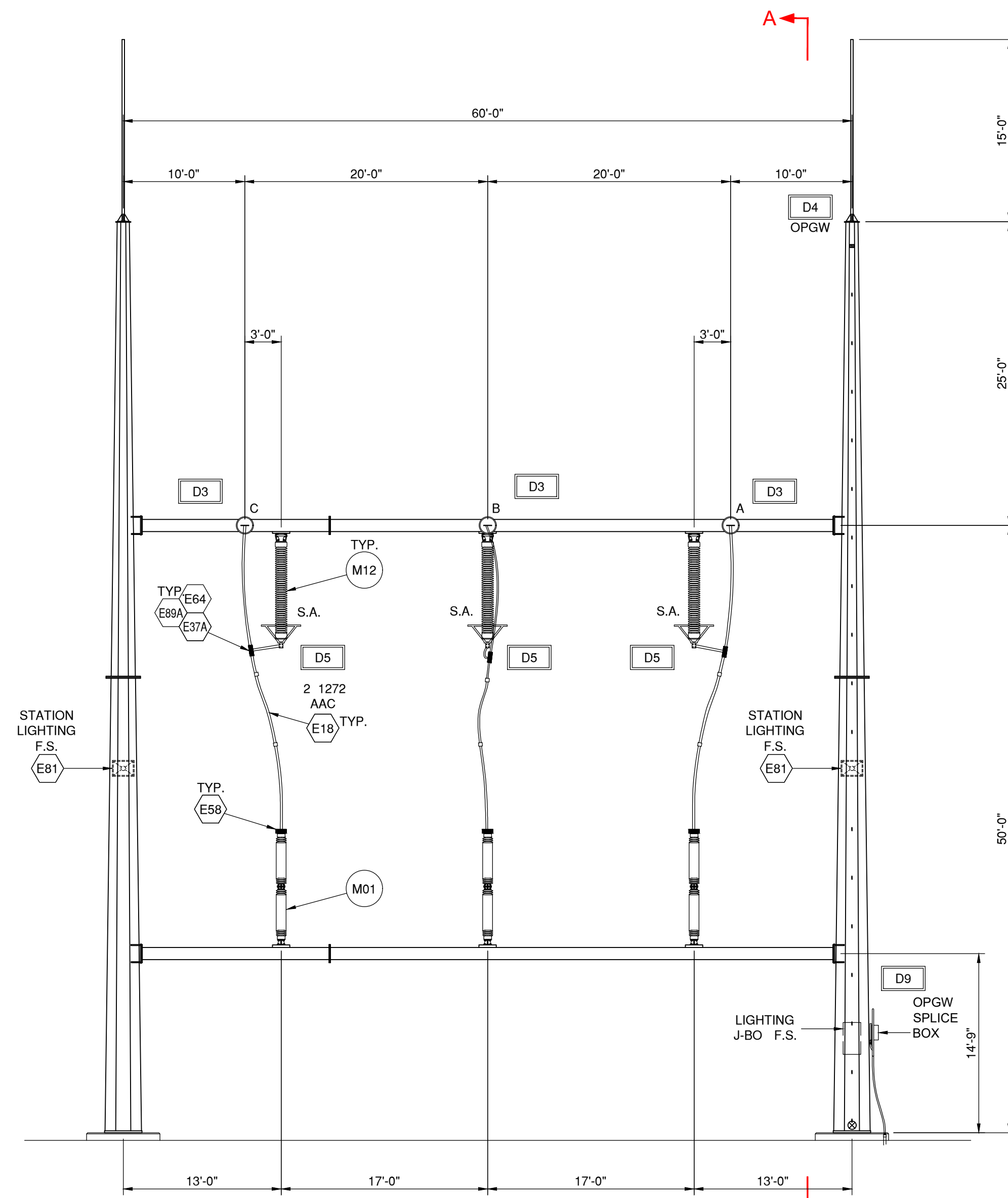
**RECORD DRAWING**  
DRAWINGS ARE BASED UPON CONSTRUCTION CONTRACTOR REDLINES WHICH HAVE NOT BEEN FIELD VERIFIED BY ENGINEER OF RECORD.



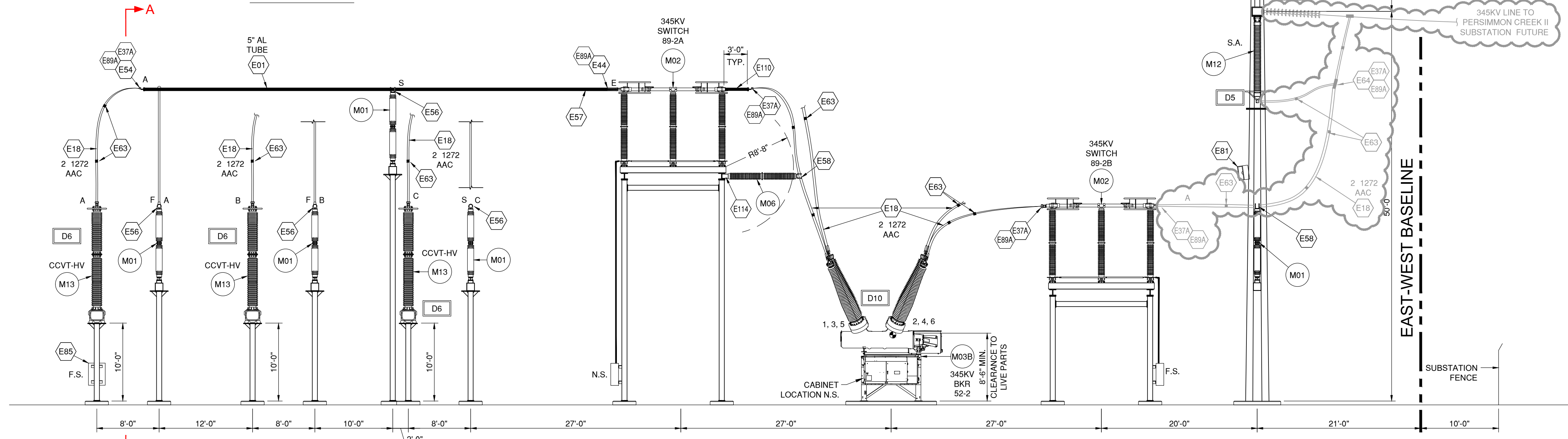
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Approved By: MWS  
Project Number: 16.01958

**345/34.5KV PROJECT SUBSTATION EQUIPMENT PLAN**

SCALE: 1/8"=1'-0"  
 0 2' 4' 6' 8' 10'



SECTION C-C



SECTION B-B

PERSIMMON CREEK  
 WIND PROJECT  
 DEWEY COUNTY, OKLAHOMA

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION RPW	
1	07/11/18	ISSUED FOR RECORD	UEI



- LEGEND:
- F FI ED FITTING
  - S SLIP FITTING
  - E E PANSION FITTING
  - N.S. NEAR SIDE
  - F.S. FAR SIDE
  - M# MAJOR MATERIAL SEE PCW-EQ4-001
  - E# MINOR MATERIAL SEE PCW-EQ4-001
  - D# ELECTRICAL DETAILS SEE PCW-EQ3-001 AND PCW-EQ3-002
- INDICATES SECTION VIEW "A-A"
- DRAWING ON WHICH SECTION APPEARS

**RECORD DRAWING**  
 DRAWINGS ARE BASED UPON CONSTRUCTION CONTRACTOR REDLINES WHICH HAVE NOT BEEN FIELD VERIFIED BY ENGINEER OF RECORD.

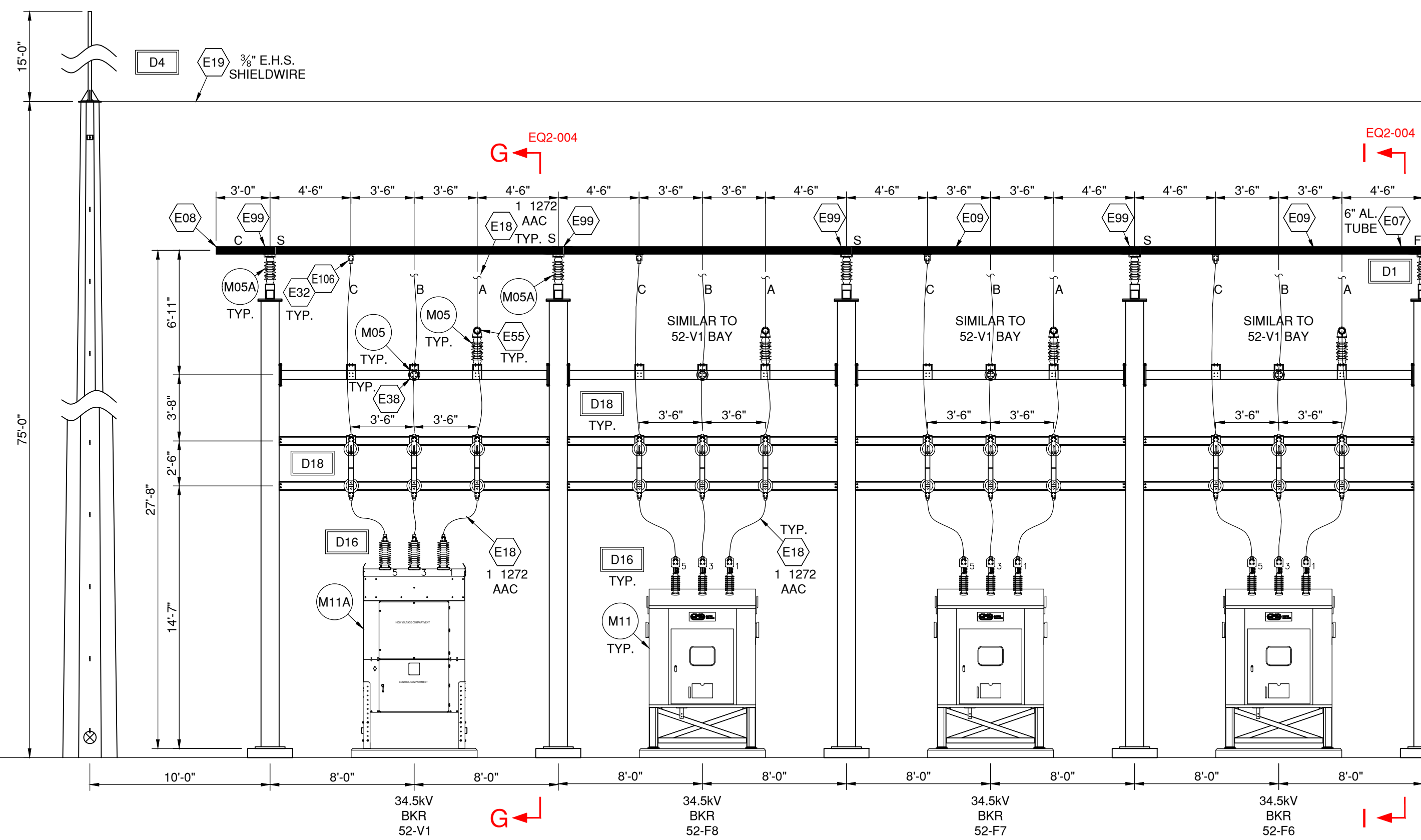


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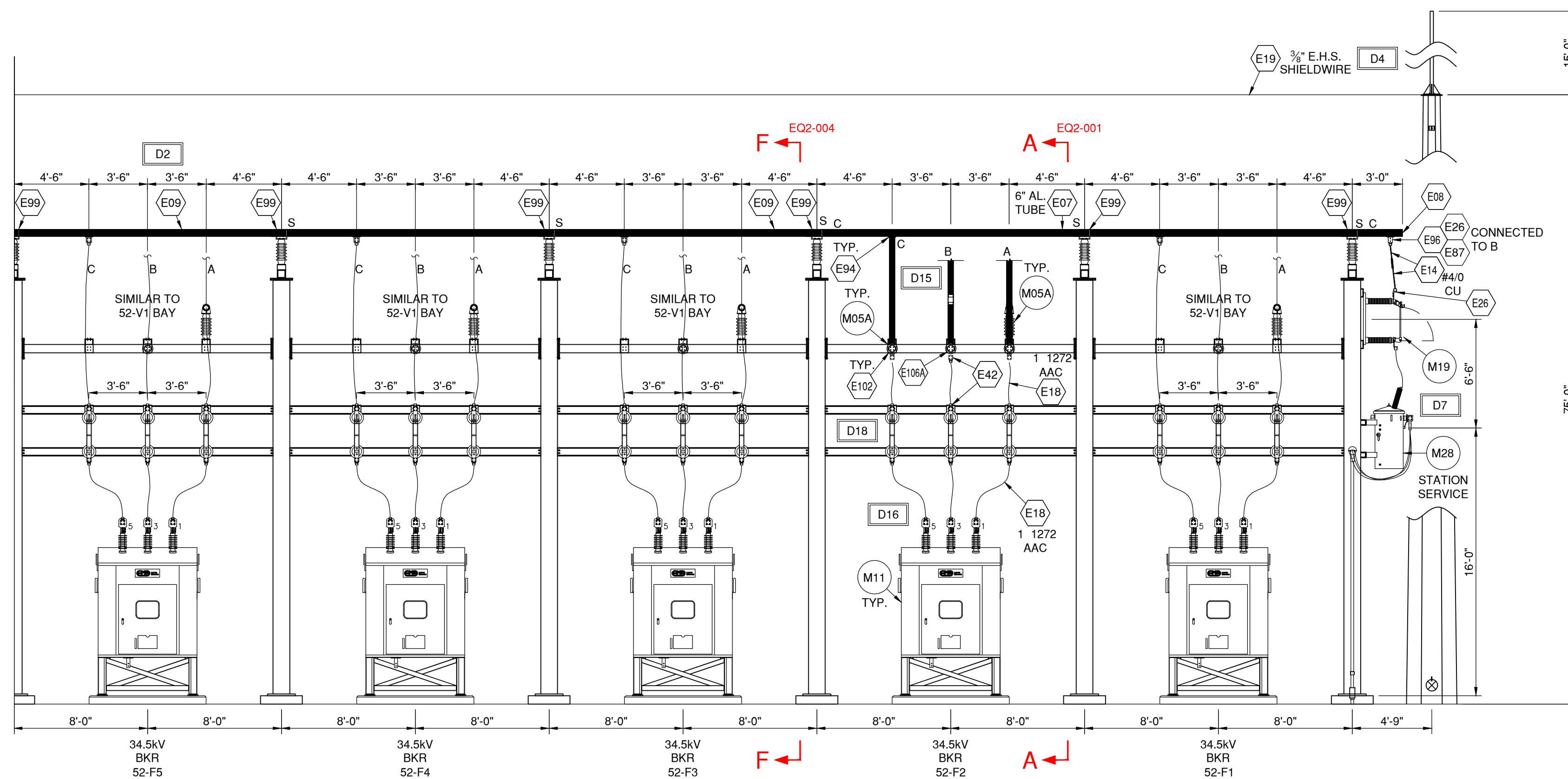
345/34.5KV PROJECT  
 SUBSTATION  
 SECTIONS B-B C-C

DWG #: PCW-EQ2-002 REVISION: 1

SCALE: 3/16"=1'-0"  
0 2' 4' 6'



CONTINUED BELOW



CONTINUED ABOVE

PERSIMMON CREEK  
WIND PROJECT  
DEWEY COUNTY, OKLAHOMA

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION RPW	
1	07/11/18	ISSUED FOR RECORD	UEI



LEGEND:

- F F1 ED FITTING
- S SLIP FITTING
- E EXPANSION FITTING
- N.S. NEAR SIDE
- F.S. FAR SIDE
- M# MAJOR MATERIAL  
SEE PCW-EQ-001
- E# MINOR MATERIAL  
SEE PCW-EQ-001
- D## ELECTRICAL DETAILS  
SEE PCW-EQ-001 AND  
PCW-EQ-002

INDICATES SECTION VIEW  
"A-A"  
DRAWING ON WHICH  
SECTION APPEARS

**RECORD DRAWING**  
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CONTRACTOR FIELD LINES WHICH HAVE NOT  
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Approved By: MWS  
Project Number: 16.01958

345/34.5KV PROJECT  
SUBSTATION  
SECTION D-D

DWG #: PCW-EQ2-003 REVISION: 1

SCALE: 3/16"=1'-0"  
0 2' 4' 6'

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION RPW	
1	07/11/18	ISSUED FOR RECORD	UEI

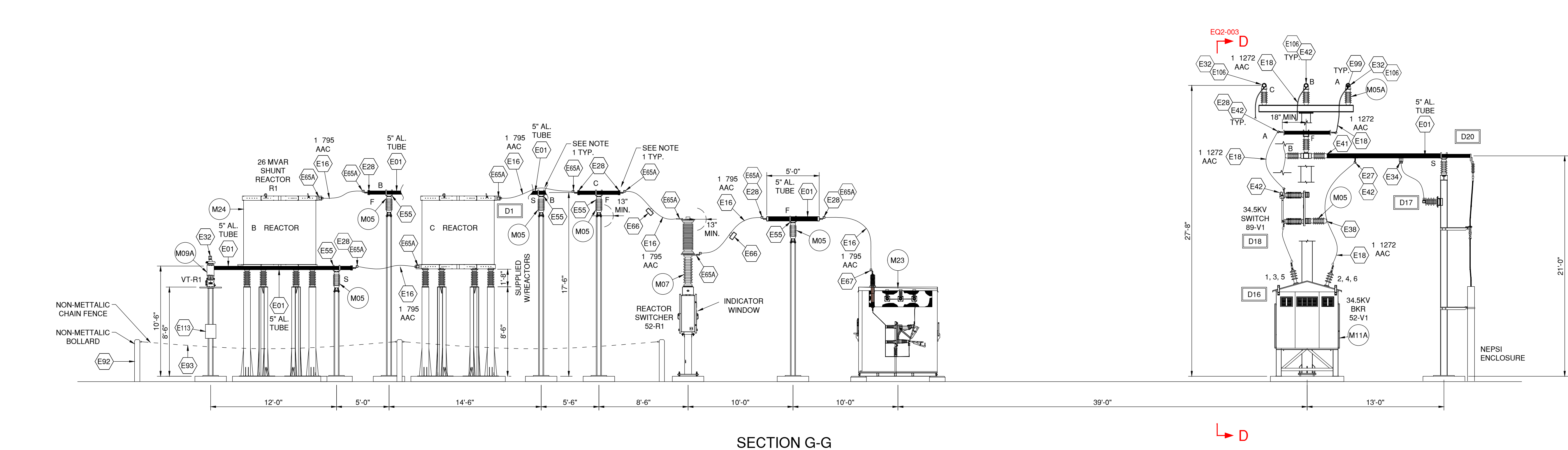
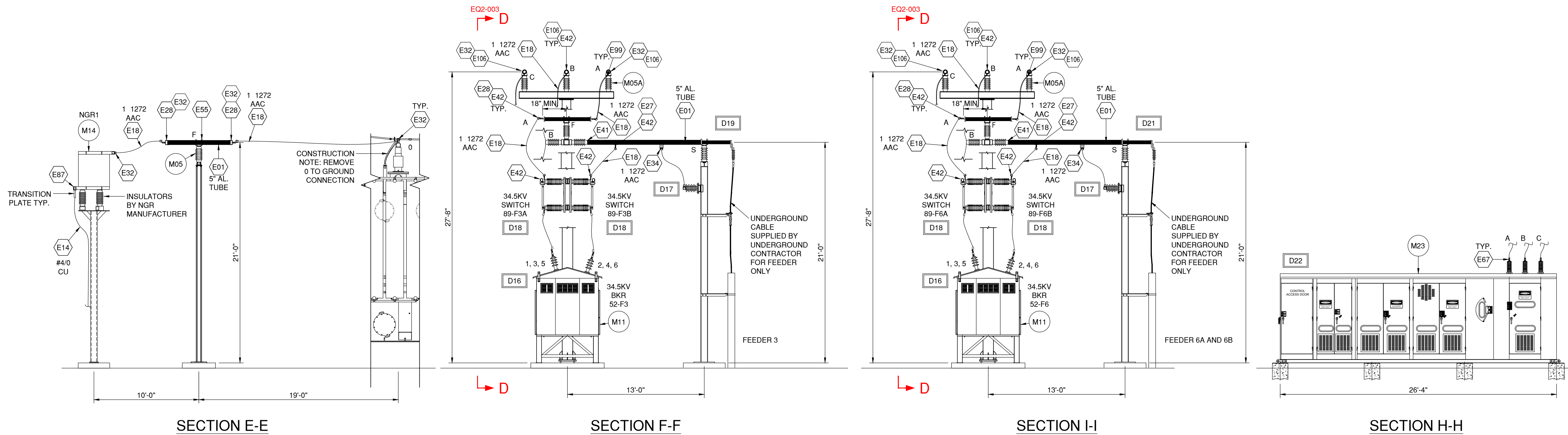


LEGEND:

- F FI ED FITTING
- S SLIP FITTING
- E E PANSION FITTING
- N.S. NEAR SIDE
- F.S. FAR SIDE
- M# MAJOR MATERIAL  
SEE PCW-EQ4-001
- E# MINOR MATERIAL  
SEE PCW-EQ4-001
- D# ELECTRICAL DETAILS  
SEE PCW-EQ3-001 AND  
PCW-EQ3-002
- A INDICATES SECTION VIEW  
"A-A"
- EQ2-0 DRAWING ON WHICH  
SECTION APPEARS

NOTES:

1. LEAVE 24" BUS OVERHANG FROM CENTER OF BUS SUPPORT.



**RECORD DRAWING**  
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345/34.5KV PROJECT  
SUBSTATION  
SECTIONS E-E, F-F, G-G,  
H-H I-I

Rev.	Date	Description	By
0	01/18/18	ISSUED FOR CONSTRUCTION RPW	
1	07/11/18	ISSUED FOR RECORD UEI	



LEGEND:

- F FI ED FITTING
- S SLIP FITTING
- E E PANSION FITTING
- N.S. NEAR SIDE
- F.S. FAR SIDE
- M# MAJOR MATERIAL  
SEE EQ4-001
- E# MINOR MATERIAL  
SEE EQ4-001
- D# ELECTRICAL DETAILS  
SEE EQ3-001

NOTE:

1. REFERENCE CONDUIT PLAN FOR CABLE AND CONDUIT ORIENTATION.

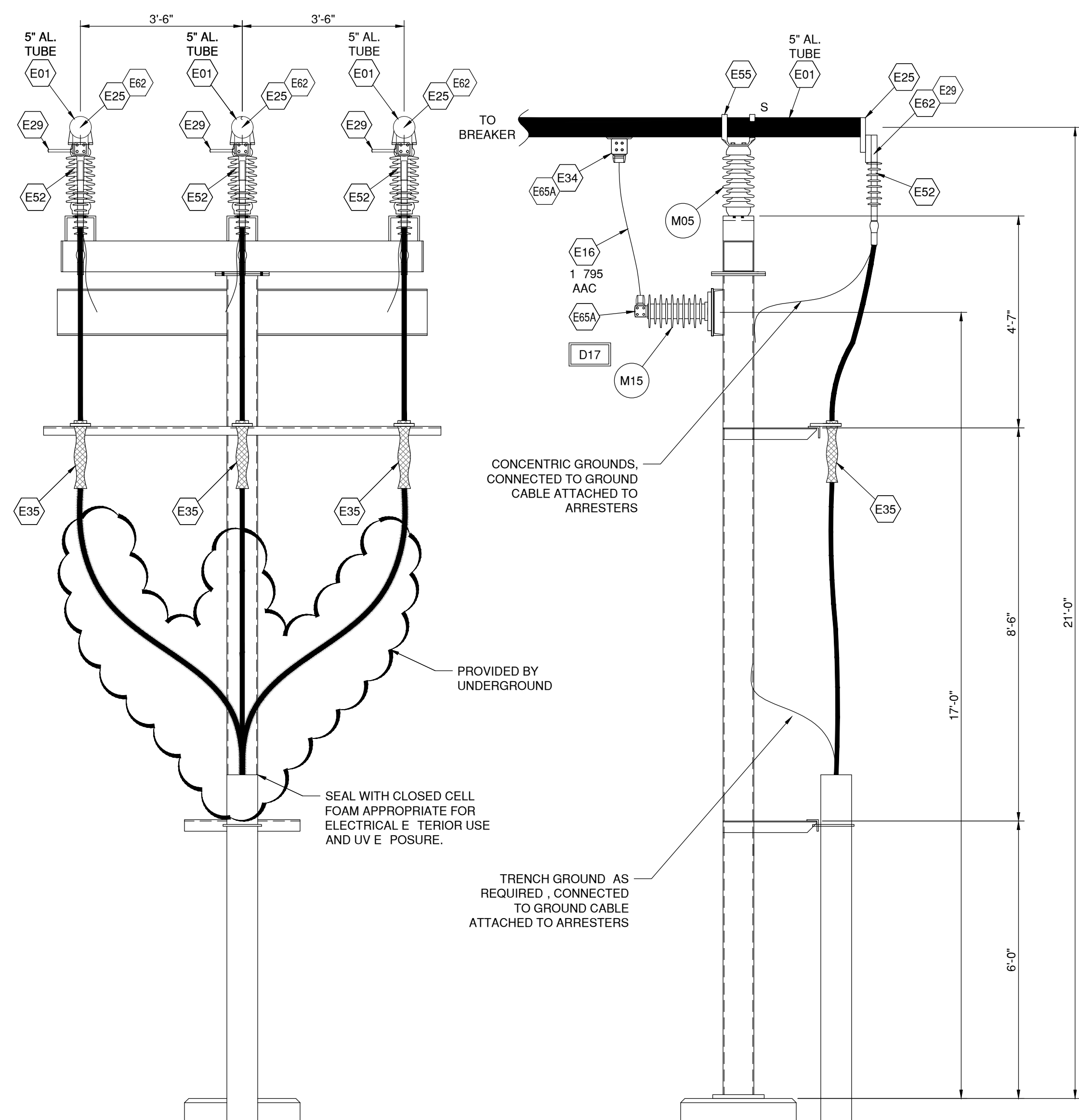
RECORD DRAWING

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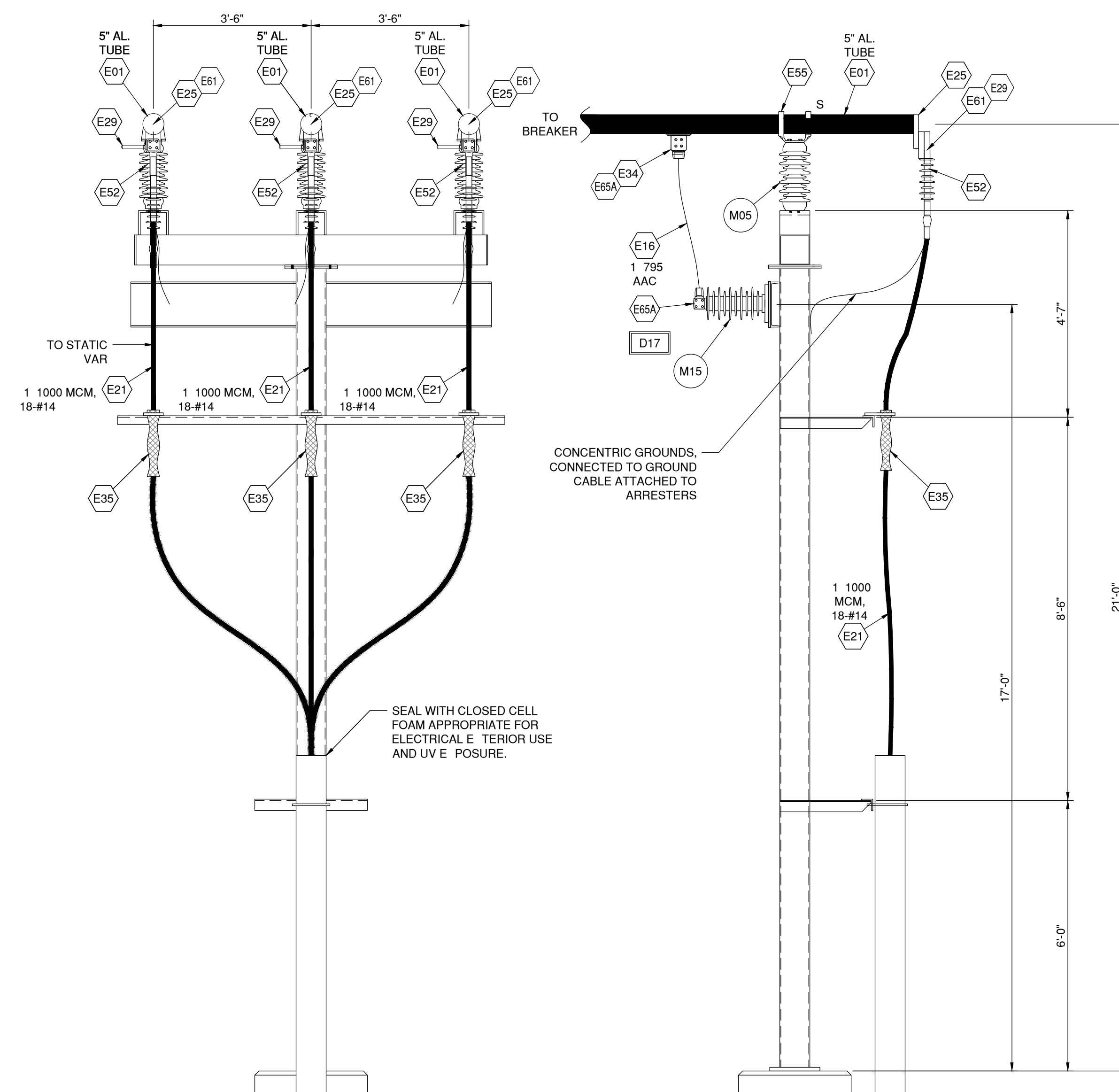


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345/34.5kV PROJECT  
SUBSTATION  
EQUIPMENT DETAILS



DETAIL D19  
RISER STRUCTURE



DETAIL D20  
STATIC VAR RISER STRUCTURE