STANDARD GROUNDING

DRAWING NUMBER	SHT.	DRAWING TITLE	DWG REV.	BOM REV.
B-33-00	**1 - 2**	**GENERAL INFORMATION**	**D / 0**	**-**
B-33-01	**1 - 2**	**GROUND GRID TYPE 'A'**	**A**	**C**
B-33-04	**1 - 1**	**SUPPLEMENTARY GROUNDING**	**B**	**-**
B-33-05	**1 - 2**	**GROUND GRID TYPE 'H'**	**C**	**D**
B-33-06	**1 - 1**	**GROUND GRID WIRE SIZE AND OHMIC VALUE**	**E**	**-**
B-33-07	**1 - 1**	**UNDERGROUND GROUND WIRE INSTALLATION**	**0**	**-**
B-33-08	**1 - 2**	**GROUND GRID TYPE 'J'**	**D**	**B**
B-33-34	**1 - 2**	**SERVICE PEDESTAL**	**D**	**F**
B-33-35	**1 - 2**	**3Ø URBAN PADMOUNT TRANSFORMER**	**B**	**A**
B-33-36	**1 - 2**	**GROUND GRID TYPE 'K' 1500A OR LESS**	**C**	**D**
B-33-37	**1 - 2**	**GROUND GRID TYPE 'L' 2000A OR LESS**	**C**	**D**
B-33-38	**1 - 2**	**GROUND GRID TYPE 'M' 3000A OR LESS**	**D**	**E**
B-33-40	**1 - 2**	**GROUND GRID TYPE 'P' FOR MODULAR VAULT 4000A OR LESS**	**B**	**C**
B-33-42	**1 - 2**	**GROUND GRID TYPE 'R' FOR MODULAR VAULT 5500A OR LESS**	**A**	**A**
B-33-43	**1 - 2**	**GROUND GRID TYPE 'S' FOR MODULAR VAULT (W/ ASPHALT) 5500A OR LESS**	**A**	**A**
B-33-44	**1 - 2**	**GROUND GRID TYPE 'T' FOR MODULAR VAULT 7000A OR LESS**	**A**	**A**
B-33-45	**1 - 2**	**GROUND GRID TYPE 'U' FOR MODULAR VAULT (W/ ASPHALT) 7000A OR LESS**	**A**	**A**

*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **LM**	**INDEX**
L MOEN	**B GEBHART**	CHKD. **BG**	
		2020-10-16	

DATE OF ISSUE: **2021-01-20** | DRAWING NO: **B-33-INDEX** | **SHEET 1 of 1** | REV. **S**

GROUNDING

1. **GROUND WIRE MOULDING (WHEN REQUIRED)**

   1.1 **GROUND WIRE MOULDING SHALL EXTEND 150mm BELOW FINISHED GRADE.**

   1.2 **GROUND WIRE MOULDING IN BOTH RURAL AND URBAN AREAS SHALL BE INSTALLED AS TO FULLY COVER GROUND WIRE ATTACHED TO POLE.**

   1.3 **DO NOT INSTALL GROUND WIRE MOULDING WHERE A CABLE GUARD IS ALSO REQUIRED. INSTALL THE GROUND WIRE UNDER THE CABLE GUARD AND DELETE THE MOULDING AND MOULDING STAPLES.**

2. **GROUND WIRES SHALL BE INSTALLED ON THE POLE OPPOSITE SIDE TO THE CLIMBING SIDE. FRAMING DRAWINGS MAY NOT INDICATE THIS CLEARLY DUE TO THE DIFFICULTY OF SHOWING WIRE CONNECTIONS AND CORRECT LOCATION ON THE POLE IN THE SAME DRAWING.**

3. **ALL GROUND GRIDS, SINGLE AND MULTI-ROD, SHALL HAVE RESISTANCE MEASUREMENTS TAKEN AT THE TIME OF INSTALLATION OR ALTERATION. THE MAXIMUM ALLOWABLE VALUES FOR DIFFERENT INSTALLATIONS ARE INDICATED ON DRAWING B-33-06 SHEET 1 OF 1.**

4. **FOR COSTING PURPOSES, GROUND GRID WIRE IS SHOWN AS BEING SEPARATE FROM ABOVE GRADE GROUND WIRE. IT IS ACTUALLY A CONTINUOUS LOOP.**

5. **WHERE CURRENT FLOWS IN THE GROUND WIRE DURING NORMAL APPARATUS OPERATION, TWO PATHS TO GROUND SHALL BE INSTALLED.**

6. **IN ORDER TO OBTAIN THE REQUIRED GROUND GRID OHMIC VALUES, REGARDLESS OF GROUND GRID TYPE, ADDITIONAL REMOTE RODS MAY HAVE TO BE DRIVEN. REFER TO DRAWING B-33-04 SHEET 1 OF 1 FOR DETAILS.**

7. **WHERE IT IS SUSPECTED THAT THE SOIL MAY NOT PROVIDE GOOD GROUNDING, THE GROUND RODS SHOULD BE SECTIONAL TYPE TO ALLOW FOR ADDITIONAL RODS TO BE DRIVEN. A MINIMUM OF TWO SECTIONAL RODS SHALL BE USED IN ALL SITUATIONS.**
   SECTIONAL ROD CODE: 26022 COUPLING ROD CODE: 21002

8. **THERE ARE TWO TYPES OF GROUNDING CLAMPS AVAILABLE. HEX BOLT CLAMPS, CODE 20252, SHOULD BE USED ON ALL SINGLE ROD INSTALLATIONS. U-BOLT CLAMPS, CODE 20248, SHOULD BE USED ON ALL MULTI ROD GRIDS.**

9. **WHEREVER POSSIBLE, RETURN GROUND COVER (GRASS, CONCRETE, ETC.) TO ITS ORIGINAL STATE AFTER GRID INSTALLATION, WITH THE EXCEPTION OF GRIDS THAT REQUIRE A SPECIFIC COVER MATERIAL SUCH AS ASPHALT OR CRUSHED ROCK.**

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GROUNDING DESIGN ASSUMPTIONS

THE FOLLOWING DESIGN ASSUMPTIONS WERE MADE FOR CREATING THE GROUNDING GRIDS IN THIS B-33 SECTION:

- TYPE 'A' GRIDS ARE GENERALLY INTENDED FOR EQUIPMENT GROUNDING ONLY AND ARE NOT INTENDED TO PROTECT THE PUBLIC OR WORKERS IN A FAULT CURRENT SITUATION. THEY CAN PROVIDE SAFE TOUCH AND STEP POTENTIAL LEVELS FOR THE PUBLIC AT ONLY 75 AMPS OR LESS. FOR WORKERS ONLY, THIS IS SAFE FOR UP TO 1375 AMPS.
- TYPE 'H' GRIDS ARE ASSUMED TO BE CONNECTED INTO SYSTEM NEUTRAL. THESE GRIDS ARE SAFE FOR THE PUBLIC UP TO 150 AMPS. FOR WORKERS ONLY, THIS IS SAFE FOR UP TO 2750 AMPS.
- SERVICE PEDESTAL GRIDS ARE ASSUMED TO BE CONNECTED INTO SYSTEM NEUTRAL. AS SERVICE PEDESTALS ARE NOT MADE OF METAL, TOUCH POTENTIAL IS NOT AN ISSUE FOR THE PUBLIC. THESE GRIDS ARE SAFE FOR THE PUBLIC UP TO 1000 AMPS. FOR WORKERS ONLY, THIS IS SAFE FOR UP TO 2750 AMPS. IF USING AN OLD METAL PEDESTAL, GRID IS ONLY SAFE FOR THE PUBLIC UP TO 150 AMPS.
- TYPE 'J' GRID IS INTENDED TO INCREASE THE PROTECTION FOR THE WORKER WHEN STANDING IN FRONT OF THE TRANSFORMER DOORS. THIS GRID IS SAFE FOR THE PUBLIC UP TO 200 AMPS. FOR WORKERS ONLY, WHEN STANDING IN FRONT OF THE DOOR, THIS GRID IS SAFE FOR UP TO 4000 AMPS.
- ALL OTHER GRIDS MEET SAFE TOUCH AND STEP POTENTIAL LEVELS FOR THE PUBLIC FOR THE FAULT CURRENT LISTED ON THE DRAWING.
- SOIL RESISTIVITY IS ASSUMED TO BE 15 OHM-METER. IF ACTUAL SOIL RESISTIVITY IS GREATER THAN THIS, THE ALLOWABLE FAULT CURRENT LEVELS WILL BE LOWERED.
- FAULT DURATION IS ASSUMED TO BE 0.5 SECONDS OR LESS. IF ACTUAL FAULT DURATION IS GREATER THAN THIS, THE ALLOWABLE FAULT CURRENT LEVELS WILL BE LOWERED.
- WHERE SYSTEM NEUTRAL IS TAKEN INTO CONSIDERATION, IT ASSUMES THAT 50% OF THE FAULT CURRENT WILL BE DISSIPATED THROUGH THE SYSTEM NEUTRAL.
- GROUND RODS ARE MODELED AS ¾" DIAMETER, COPPER CLAD STEEL.
- GROUND CONDUCTORS ARE MODELED AS EITHER #4 OR #2 ANNEALED SOFT DRAWN COPPER.
- GROUND CONDUCTOR BURIAL DEPTH IS 0.3m DEEP, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- CALCULATION MODEL IS DONE AS PER IEEE 80, IEEE GUIDE FOR SAFETY IN AC SUBSTATION GROUNDING.
- WHEN CONSIDERING PUBLIC INTO CALCULATIONS, BODY WEIGHT USED IS 50kG.
- WHEN CONSIDERING WORKERS ONLY, BODY WEIGHT USED IN CALCULATIONS IS 70kG. WORKERS ARE ASSUMED TO BE WEARING RUBBER SOLED CSA APPROVED SAFETY BOOTS. RUBBER GLOVES ARE NOT INCLUDED IN THE CALCULATIONS BUT WEARING RUBBER GLOVES WILL FURTHER INCREASE THE ALLOWABLE FAULT CURRENTS, AS THIS DRASTICALLY REDUCES ANY TOUCH POTENTIAL ISSUES.
- MAXIMUM FAULT CURRENT LEVELS FOR COPPER GROUNDING CONDUCTORS WITH A BOLTED CONNECTION, IF CLEARED IN 0.5 SECONDS OR LESS:
  - #4 – 5100 AMPS
  - #2 – 8100 AMPS
- RESISTIVITY OF SURFACE LAYERS OTHER THAN SOIL:
  - ASPHALT (WET) – 10,000 OHM-METER
  - CRUSHED ROCK (WET) – 2,500 OHM-METER
  - ARMORED/REINFORCED CONCRETE (WET) – 100 OHM-METER
- TOUCH POTENTIAL LIMITS ARE CALCULATED FOR 1m AWAY FROM ANY METAL GROUNDED EQUIPMENT.
- STEP POTENTIAL LIMITS ARE CALCULATED FOR 1m STEP INTERVALS. WORST CASE IS GENERALLY STEPPING 1m DIAGONALLY AWAY FROM CORNER OF GRID (ONE FOOT OVER GROUND ROD, ONE FOOT 1m AWAY).

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 02 52**	**1**	**CLAMP - GROUND ROD - 3/4"- CU - HEX BOLT**
2	**2 10 02**	**1**	**COUPLING-SEC. GRD ROD-COPPER BONDED**
3	**2 60 22**	**2**	**GRD ROD SEC. COPPER BONDED 3/4"X10'**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE A**
L. MOEN	**A. UHREN**	CHKD.	
		2015-10-29	
DATE OF ISSUE: 2016/02/05		DRAWING NO: **B-33-01**	**SHEET 1 OF 2** REV. **C**

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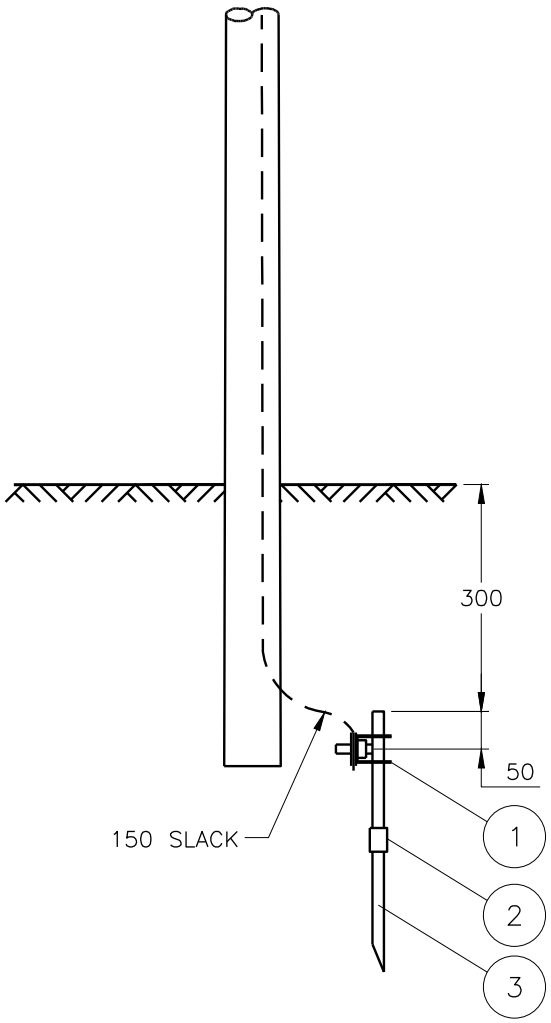

TYPE 'A' GROUND GRID

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMTRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. A.UHREN	DRN. A.GATZKE CHKD.	GROUND GRID TYPE 'A'
		2014–10–03	
DATE OF ISSUE 2015/04/28		DRAWING NO. B–33–01 SHEET 2 of 2	REV. A

SPC/AUTODRAFT

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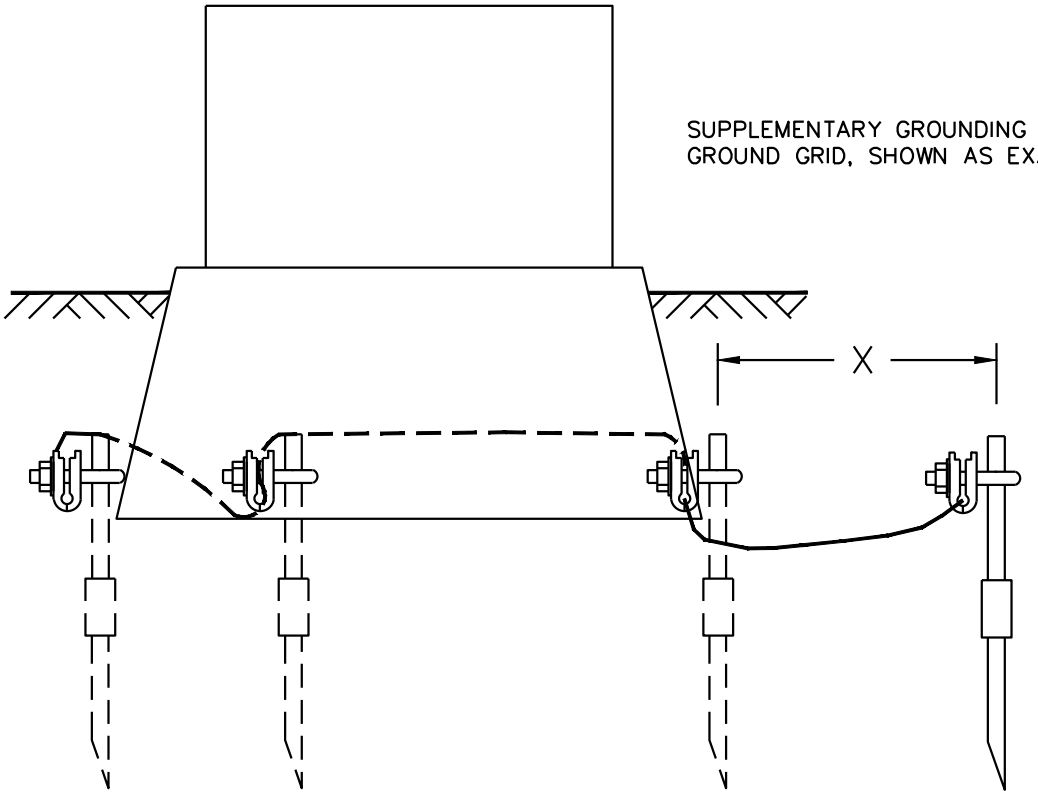
SUPPLEMENTARY GROUNDING – TYPE "J"
GROUND GRID, SHOWN AS EXAMPLE



NOTE:

1. DISTANCE "X" SHOULD BE 1.5 TIMES THE LENGTH OF THE LONGEST ROD DRIVEN IN THE GROUND GRID. EXAMPLE: IF A 6m LENGTH OF ROD IS THE LONGEST ROD DRIVEN AS PART OF A GRID, THE SUPPLEMENTARY GROUND ROD SHOULD BE DRIVEN 9m (1.5 x 6m) OUT FROM THE EXISTING GROUND GRID. THE SUPPLEMENTARY ROD MAY BE CONNECTED TO ANY OF THE EXISTING GRID RODS WITH THE PHYSICAL SURROUNDINGS BEING THE DETERMINING FACTOR.

2. THE SUPPLEMENTARY ROD(S) SHOULD BE CONNECTED USING THE SAME SIZE BARE COPPER AS IN THE EXISTING GRID. IT IS RECOMMENDED THAT SECTIONAL RODS (CODE 26022) BE USED FOR SUPPLEMENTARY GROUNDING.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. D.REID	SUPPLEMENTARY GROUNDING
		2015-11-17	
DATE OF ISSUE 2016/02/05		DRAWING NO. B-33-04	SHEET 1 of 1 REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 02 52**	**1**	**CLAMP - GROUND ROD - 3/4"- CU - HEX BOLT**
2	**2 10 02**	**1**	**COUPLING-SEC. GRD ROD-COPPER BONDED**
3	**2 60 22**	**2**	**GRD ROD SEC. COPPER BONDED 3/4"X10'**
4	**2 83 02**	**4 m**	**WIRE-CU #2/7 STR**
5	**5 12 XX**	**2**	**CONNECTOR-COMPRESSION**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**GROUND GRID TYPE 'H'**
L. MOEN	**D. DONAIS**	CHKD.	
		2018-08-29	

DATE OF ISSUE: 2018-09-13 | DRAWING NO: **B-33-05** | **SHEET 1 OF 2** | REV. **D**

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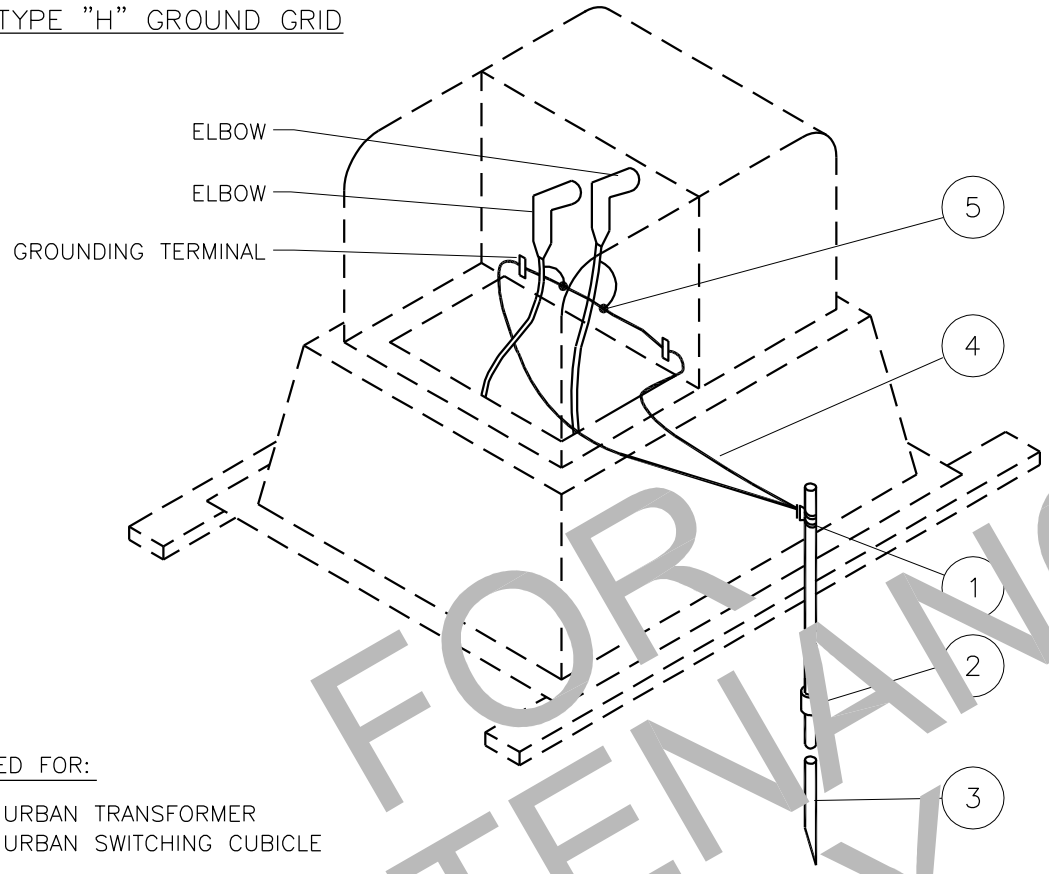
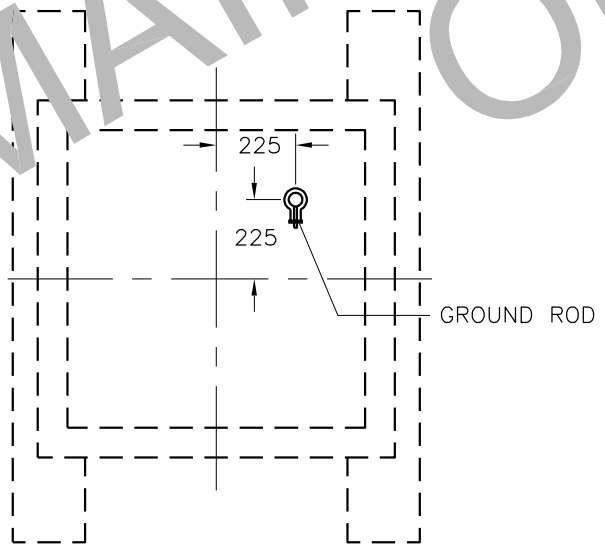
TYPE "H" GROUND GRID



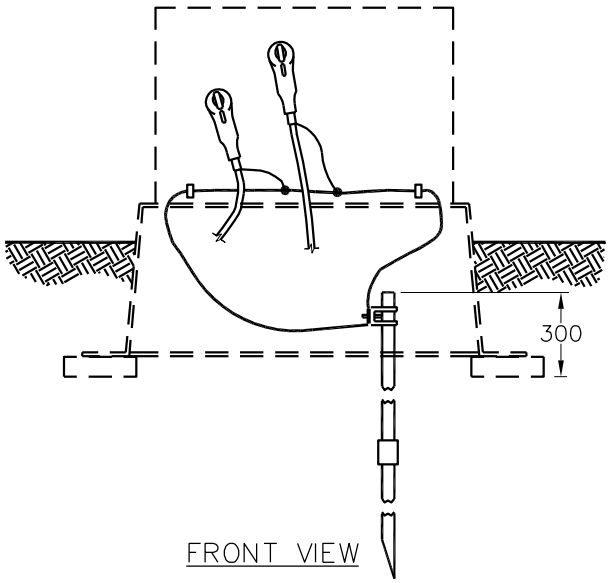
ISOMETRIC VIEW

USED FOR:

1ø URBAN TRANSFORMER
1ø URBAN SWITCHING CUBICLE



TOP VIEW



FRONT VIEW

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.C.BAUTISTA CHKD.	GROUND GRID TYPE 'H'
		2018-08-30	
DATE OF ISSUE 2018-09-13		DRAWING NO. B-33-05 SHEET 2 of 2	REV. C

APPARATUS	GROUND WIRE SIZE (AWG)	MAXIMUM RESISTANCE (OHMS)
TRANSFORMER INSTALLATION		
3Ø PADMOUNTED	#2	1.0
1Ø URBAN PADMOUNTED – UNDER 25 kVA	#2	10.0
1Ø URBAN PADMOUNTED – 25 kVA AND OVER	#2	2.0
1Ø RURAL PADMOUNTED – UNDER 25 kVA	#4	6.0
1Ø RURAL PADMOUNTED – 25 kVA AND OVER	#4	2.0
REACTOR 1Ø PADMOUNTED	#4	2.0
SWITCHING CUBICLE		
1Ø URBAN PADMOUNTED	#2	10.0
1Ø RURAL PADMOUNTED	#4	6.0
3Ø PADMOUNTED – URBAN & RURAL	#2	1.0
CABLE TAKE-OFF STRUCTURE		
SECONDARY	#4	25.0
PRIMARY	#2	10.0
SERVICE PEDESTAL	#4	25.0
STREET LIGHTING STANDARD	#4	25.0
CABLE ONLY VAULT	#2	10.0

NOTE:

1. MAXIMUM RESISTANCE VALUES ARE FOR GROUND GRID ALONE, NOT CONNECTED TO ANY OTHER NEUTRAL OR GROUNDING SYSTEM.
2. IF THERE IS A DISCREPANCY IN ANY STATED VALUES FOUND ON THIS TABLE, ON A-33-06, ON THE SPECIFIC APPARATUS PAGE, OR MANUFACTURER'S RECOMMENDATIONS; THE LOWEST MAXIMUM RESISTANCE VALUES SHALL BE USED.

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SPC/AUTODRAFT

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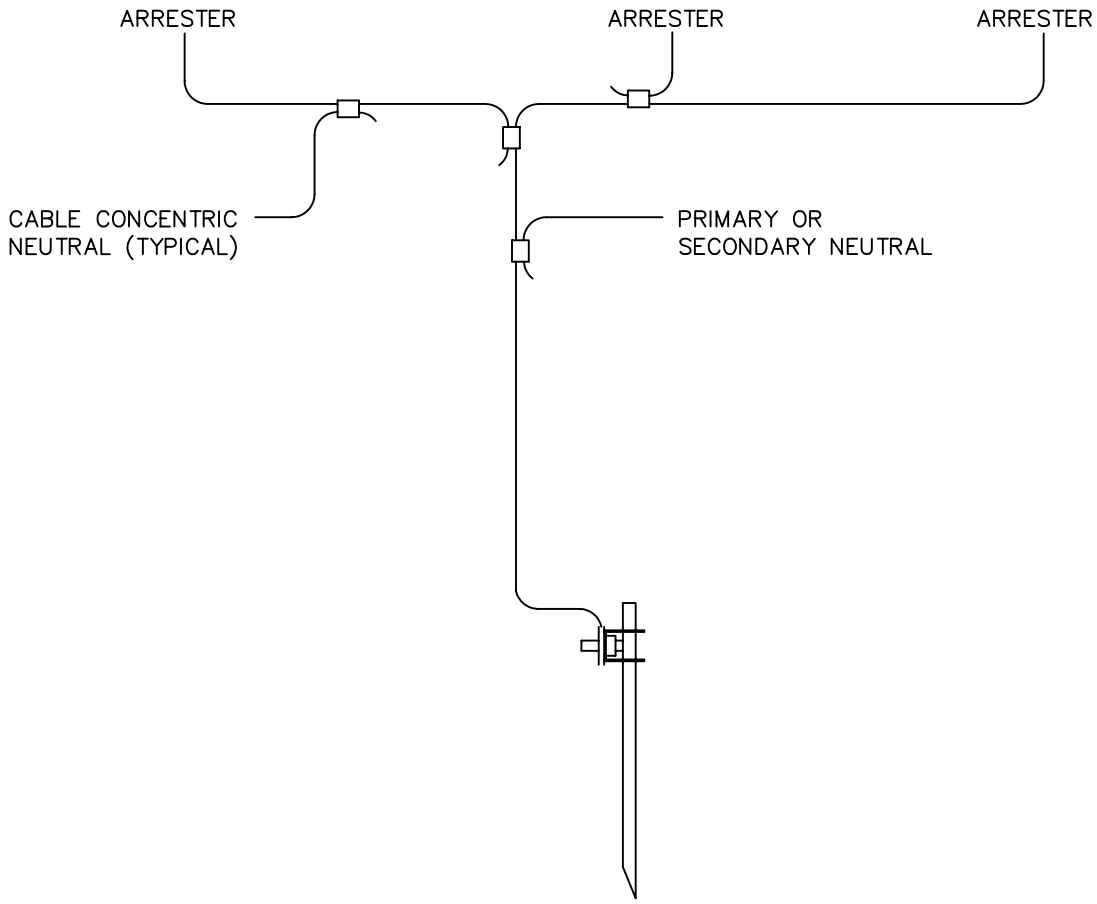
SINGLE GROUND WIRE (UNDERGROUND TAKE–OFF STRUCTURES)

- A SINGLE GROUND WIRE WILL BE RUN DOWN THE POLE WHERE ONLY A SINGLE ROD GRID IS INSTALLED.
- TYPICAL FOR GROUND GRID TYPE "A", REFER TO DWG. B–33–01.



- THE ARRESTER TO GROUND GRID ROD WIRE WILL BE CONTINUOUS IN A SINGLE ARRESTER INSTALLATION, WITH ALL OTHER GROUND WIRES CONNECTED TO IT.
- FOR MULTIPLE ARRESTERS, ONE OF THE ARRESTERS WILL HAVE CONTINUOUS WIRE TO THE GROUND ROD, WITH THE OTHER ARRESTER GROUND WIRES TO THE CONTINUOUS WIRE BY ONE CRIMPIT.
- FOR NO ARRESTER GROUND WIRES, THE PRIMARY OR SECONDARY NEUTRAL WILL BE CONTINUOUS TO THE GROUND ROD.

SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS				
DRN. DK	DESIGN CHK.	SAFETY APP.	APPROVAL	GROUND WIRE INSTALLATION
CHKD. FTK				
DATE 87–05–29	DATE	DATE	DATE	
DATE OF ISSUE 87–06–01		DRAWING NO. B–33–07	SHEET 1 of 1	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY URBAN	QUANTITY RURAL	DESCRIPTION
1	2 02 48	3	3	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	3	3	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	6	6	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	6m	-	WIRE CU -#2/7 STR
4	2 83 04	-	6 m	WIRE CU -#4/7 STR
5	5 12 06	3	3	CONNECTOR COMPRESSION

NOTE:

1. **ADDITIONAL SECTIONAL GROUND RODS AND COUPLINGS MAY BE REQUIRED TO OBTAIN DESIRED OHMIC VALUES.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **JDA**	**GROUND GRID TYPE J**
L. MOEN	**J. ARSENAULT**	CHKD.	
		2018-11-15	

DATE OF ISSUE 2019-01-02 | DRAWING NO. **B-33-08** | **SHEET 1 OF 2** | REV. **B**

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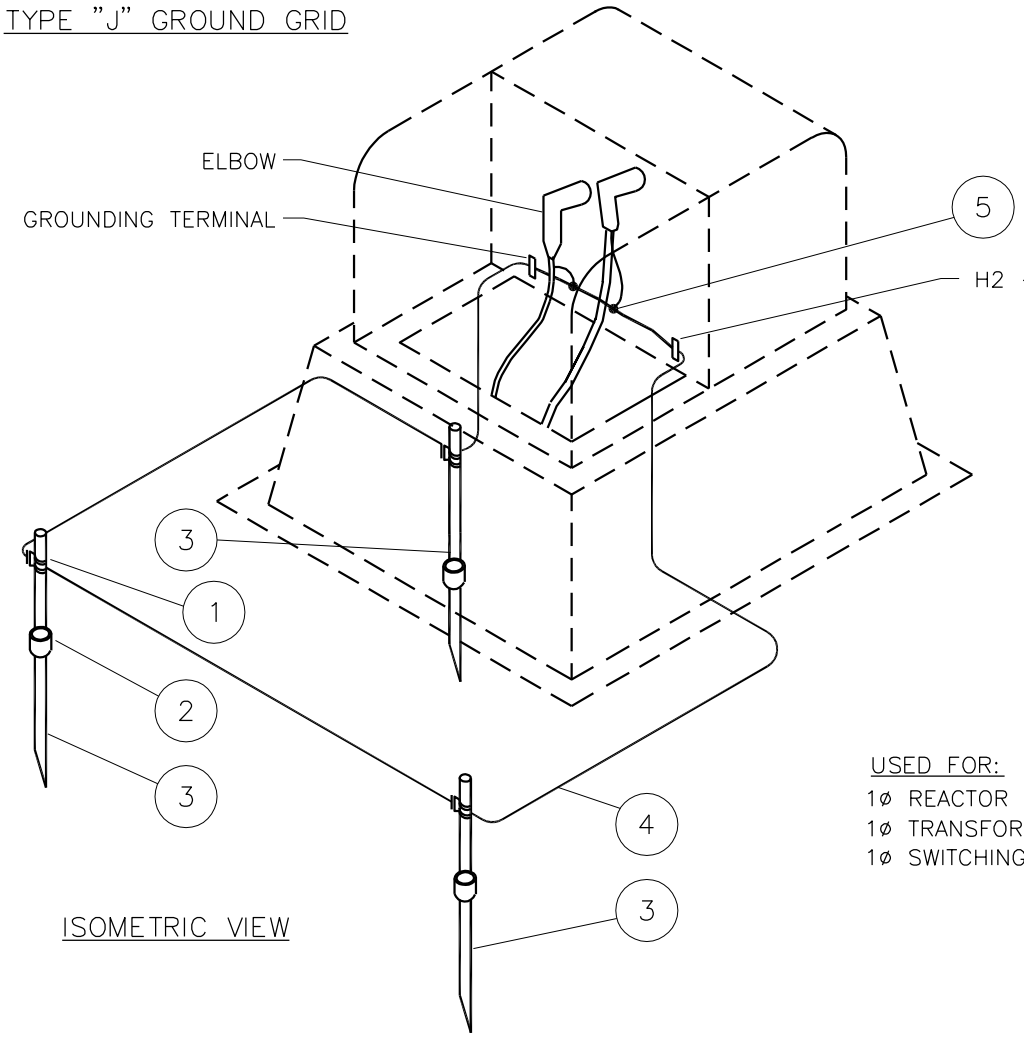
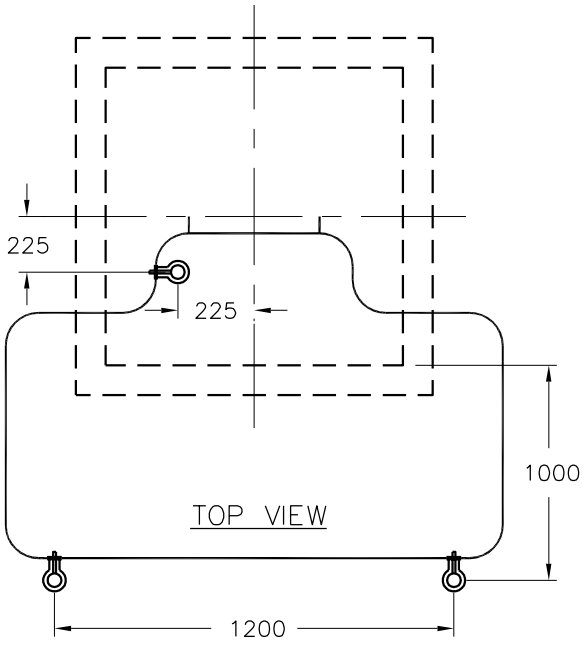
TYPE "J" GROUND GRID

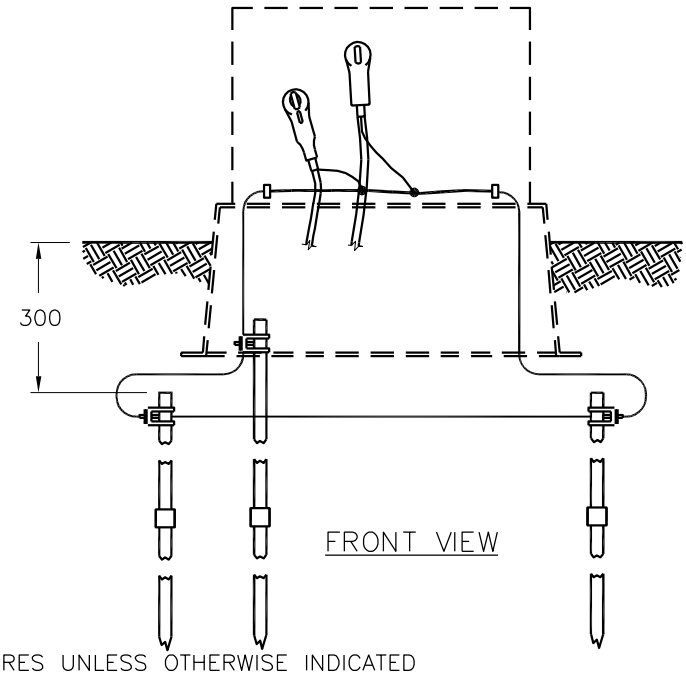


ISOMETRIC VIEW

USED FOR:
1ø REACTOR
1ø TRANSFORMER (URBAN/RURAL/RUD)
1ø SWITCHING CUBICLE



TOP VIEW



FRONT VIEW

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.C.BAUTISTA CHKD.	GROUND GRID TYPE 'J'
		2018-08-30	
DATE OF ISSUE 2018-09-13		DRAWING NO. B-33-08 SHEET 2 of 2	REV. D

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 02 52**	**1**	**CLAMP – GROUND ROD – 3/4" – CU – HEX BOLT**
2	**2 10 02**	**1**	**COUPLING – GROUND ROD – COPPER BONDED**
3	**2 60 22**	**2**	**GROUND ROD – COPPER BONDED – 3/4" X 10'**
4	**2 83 04**	**3 m**	**WIRE – CU – #4/7 STR**
5	**5 09 40**	**1**	**CONNECTOR – COMPRESSION – 336 TO 477 / #6 TO #4**
5	**5 09 44**	**1**	**CONNECTOR – COMPRESSION – 477 TO 566 / #6 TO #4**
6	**71 42 02**	**1/10**	**TAPE – SELF BONDING – 3/4" X 30'**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **LM**	**SERVICE PEDESTAL**
L MOEN	**B GEBHART**	CHKD. **BG**	
		2020-10-16	

DATE OF ISSUE: **2021-01-20** | DRAWING NO: **B-33-34** | **SHEET 1 OF 2** | REV. **F**

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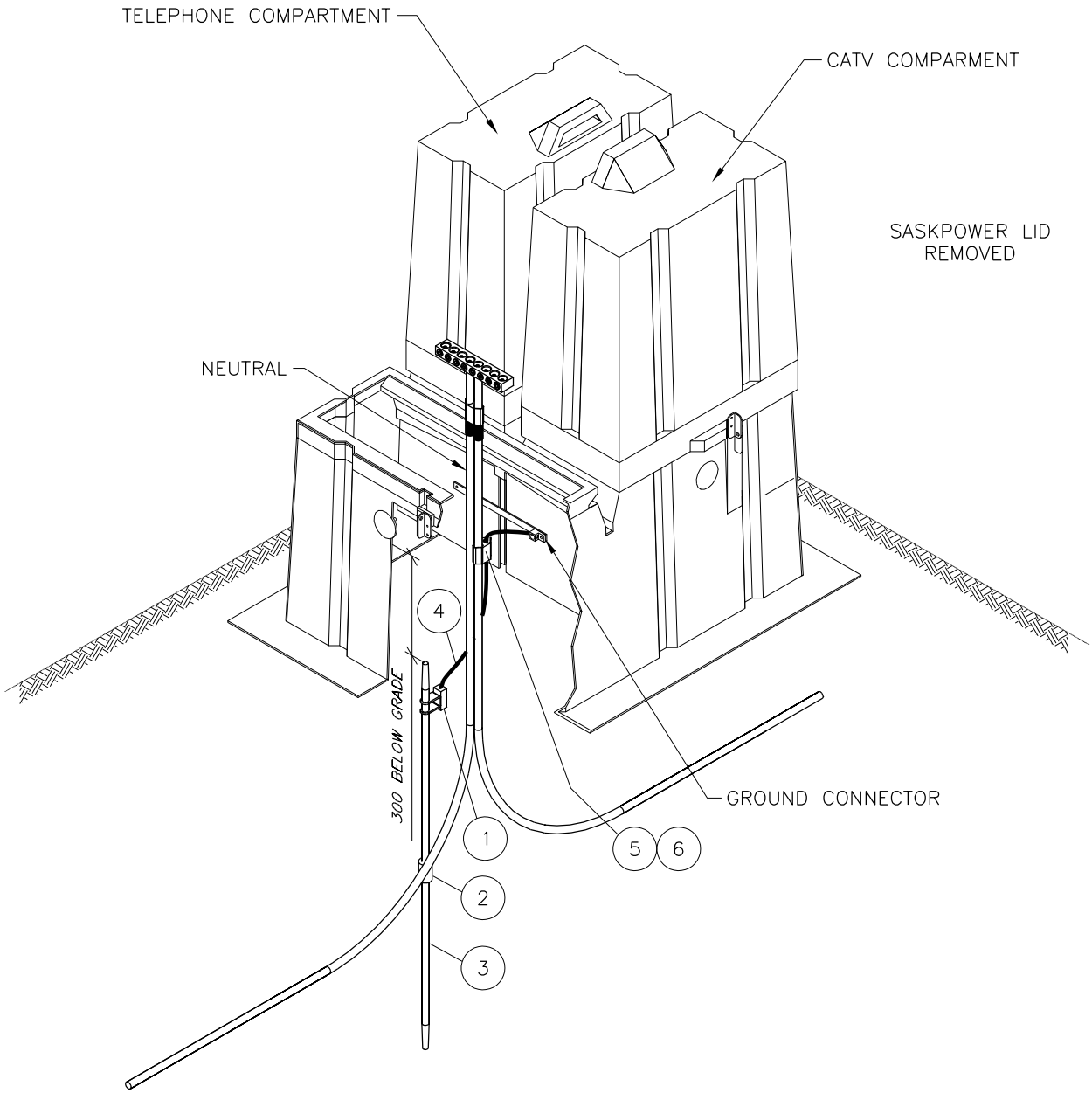

NOTE:

1. REFER TO B-33-06 FOR MAXIMUM GROUND RESISTANCE.
2. GROUND BAR GROUNDS CATV/TELEPHONE BRACKETING.
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

B33_34_02

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.M.REITER CHKD.	SERVICE PEDESTAL
		2019-10-15	
DATE OF ISSUE 2021-01-20	DRAWING NO. B-33-34	SHEET 2 of 2	REV. D

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2-02-50**	**1**	**CLAMP GROUND ROD**
2	**2-60-20**	**1**	**ROD GROUND SECTIONAL-3/4" x 10'**
3	**2-83-02**	**4 m**	**WIRE CU-#2/7 STR**

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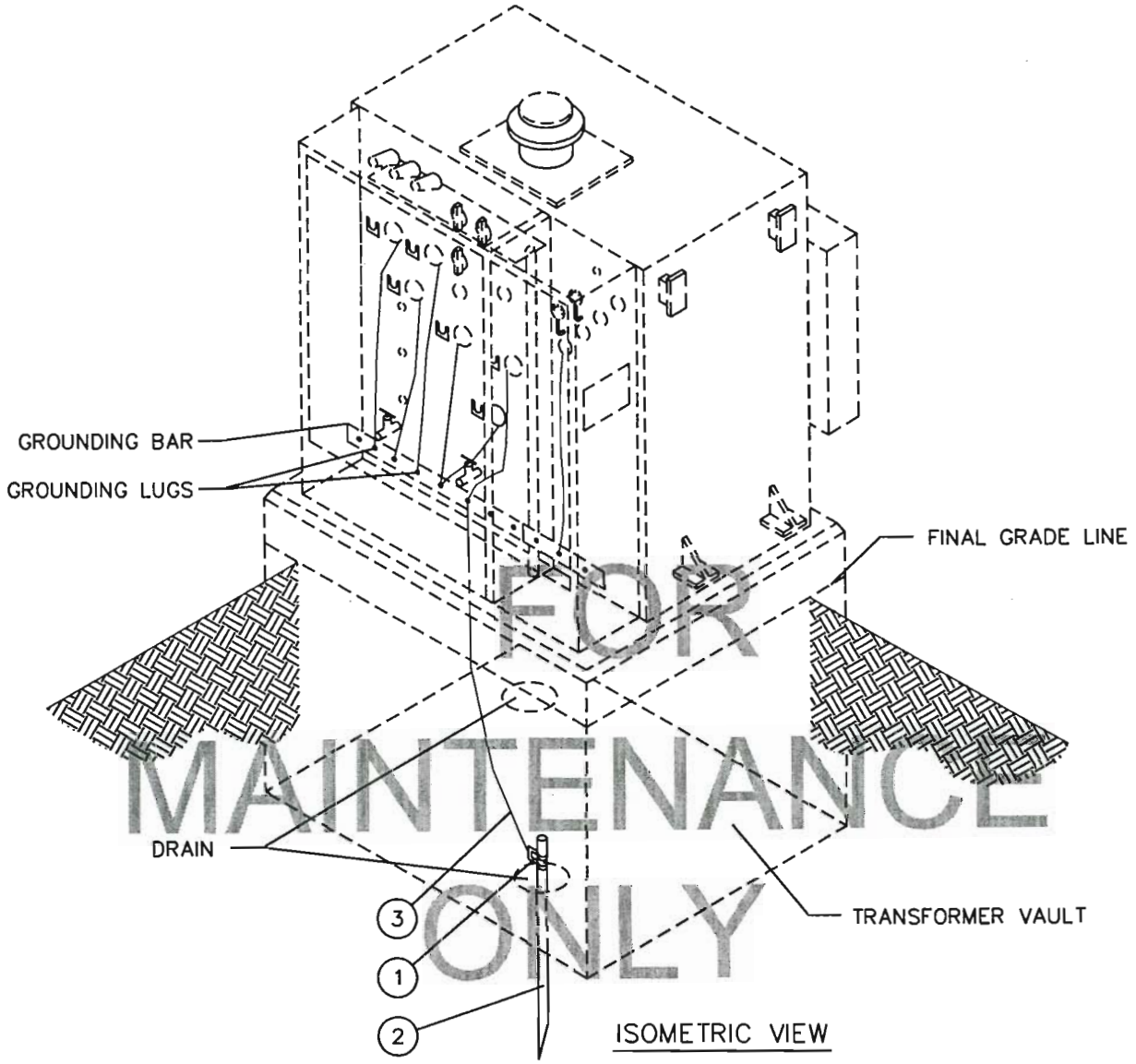
*Sask**Power*** - DISTRIBUTION STANDARDS

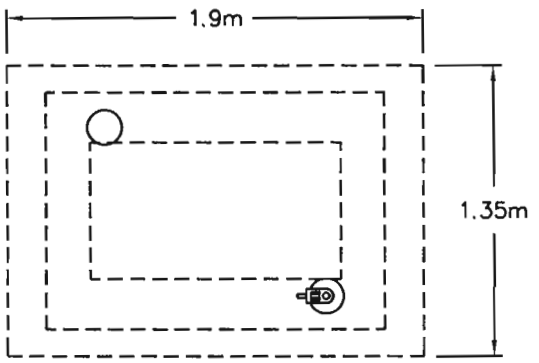
DRN.	DESIGN CHK.	APPROVAL	**3Ø URBAN PAD-MOUNT TRANSFORMER**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **95-02-22**	DRAWING NO: **B-33-35**	**SHEET 1 of 2**	REV. **A**

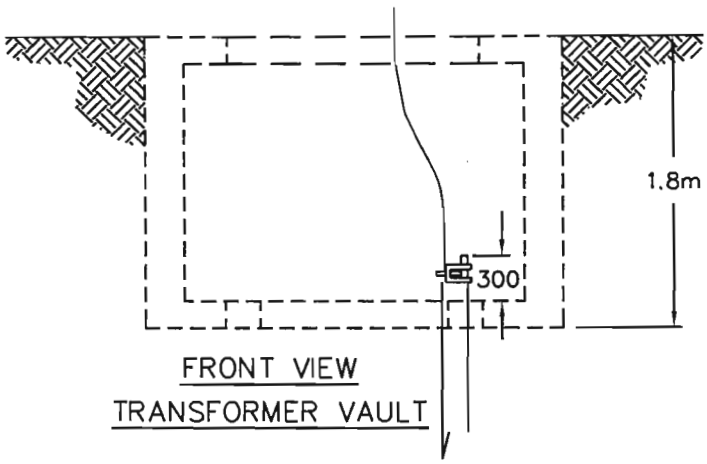
SPC/AUTODRAFT
AUTO*DRAFT



ISOMETRIC VIEW



TOP VIEW
TRANSFORMER VAULT



FRONT VIEW
TRANSFORMER VAULT

NOTE:
1. REFER TO B-33-06 FOR MAXIMUM GROUND RESISTANCE.
2. REFER TO B-33-36, B-33-37, B-33-38, FOR GROUND GRID TYPE.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION ENGINEERING				
DRN. DK	DESIGN CHK.	SAFETY APP.	APPROVAL M. Bretta	3ø URBAN PADMOUNT TRANSFORMER
CHKD.				
DATE	DATE	DATE	DATE 2005/07/12	
DATE OF ISSUE 2005/03/21			DRAWING NO. B-33-35 SHEET 2 of 2	REV. B

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	8	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	5	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	10	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	30 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT (SEE NOTE 3)

NOTE:

1. **QUANTITIES SHOWN ARE FOR BASIC GRID.**
2. **ADDITIONAL QUANTITIES MAY BE REQUIRED TO OBTAIN REQUIRED OHMIC VALUE.**
3. **ITEM ONLY REQUIRED ON CONCRETE VAULT INSTALLATIONS.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'K' 1500A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	

DATE OF ISSUE: 2017/05/03 | DRAWING NO: **B-33-36** | **SHEET 1 OF 2** | REV. **D**

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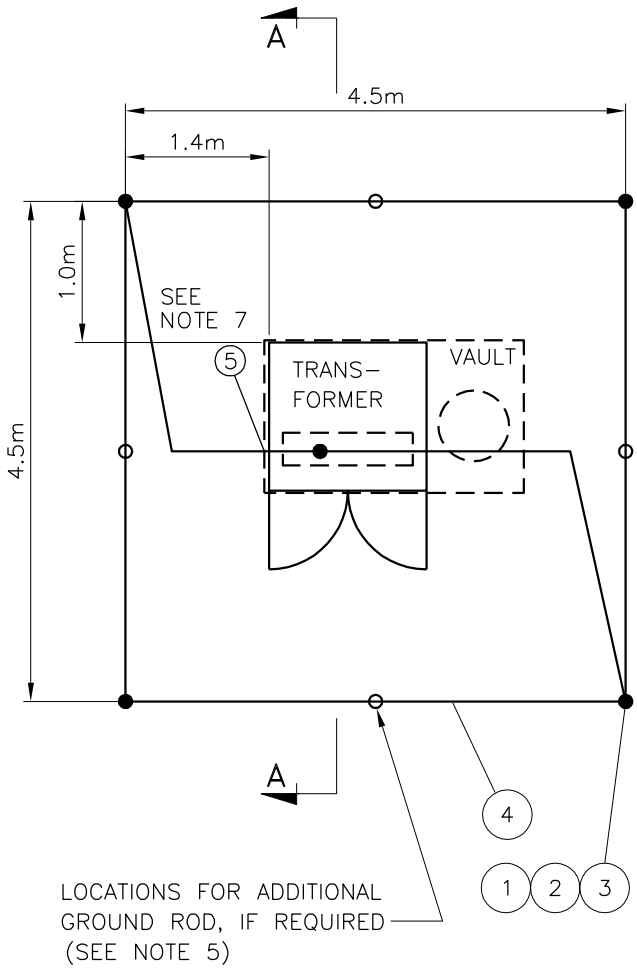

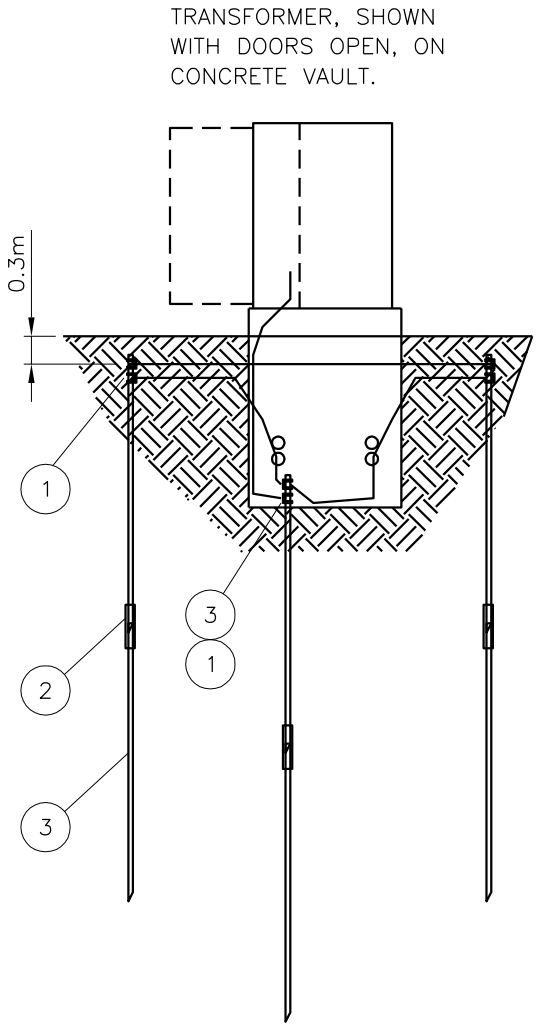

SECTION A–A

NOTE:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND 3ø SWITCHING CUBICLES WHERE FAULT CURRENTS ARE 1500A OR LESS.
2. GRID TO BE BURIED A MINIMUM OF 0.3m BELOW FINISHED GRADE.
3. THIS DESIGN MAY BE USED WITH A CONCRETE VAULT OR A FIBREGLASS BOXPAD.
4. 6m RODS TO BE USED FOR ALL.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, PLACE ADDITIONAL 6m RODS IN THE LOCATIONS SHOWN. IF RESISTANCE IS STILL TOO HIGH, USE GRID GIVEN IN B–33–37.
6. FOR SITUATIONS NOT COVERED BY CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT. AFFECTS CONCRETE VAULT INSTALL ONLY.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'K' 1500A OR LESS
		2016–12–22	
DATE OF ISSUE 2017/05/03		DRAWING NO. B–33–36	SHEET 2 of 2 REV. C

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	16	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	9	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	18	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	60 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT (SEE NOTE 3)

NOTE:

1. **QUANTITIES SHOWN ARE FOR BASIC GRID.**
2. **ADDITIONAL QUANTITIES MAY BE REQUIRED TO OBTAIN REQUIRED OHMIC VALUE.**
3. **ITEM ONLY REQUIRED ON CONCRETE VAULT INSTALLATIONS.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'L' 2000A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	

DATE OF ISSUE: 2017/05/03 | DRAWING NO: **B-33-37** | **SHEET 1 OF 2** | REV. **D**

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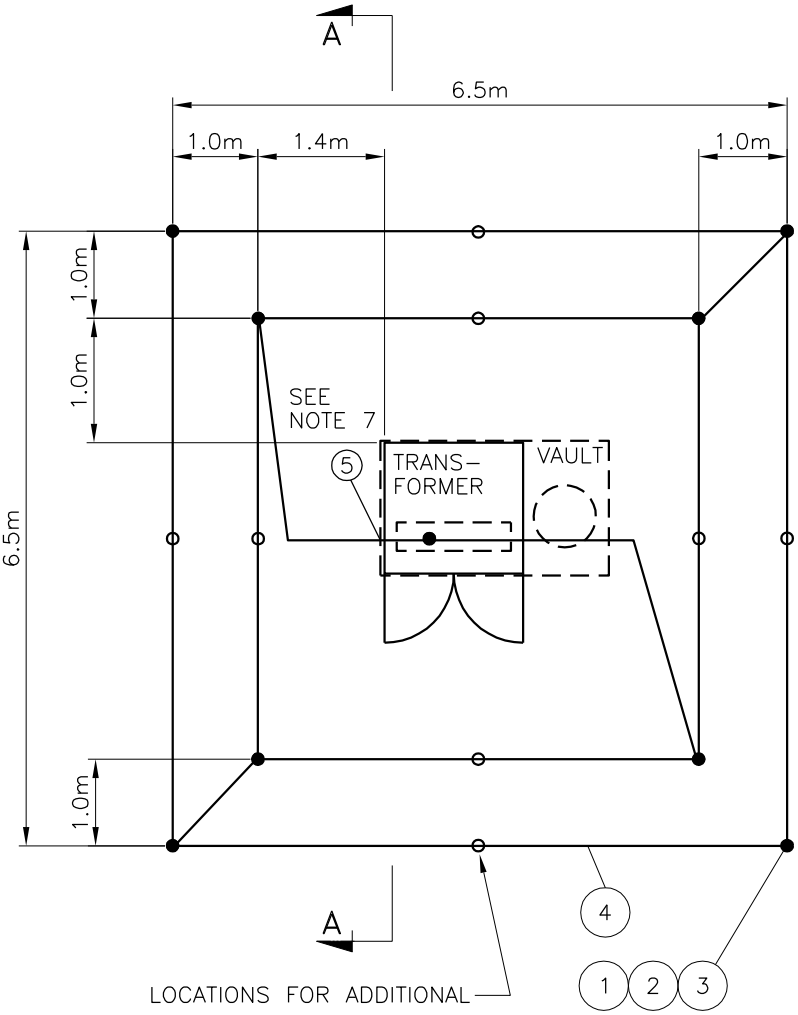

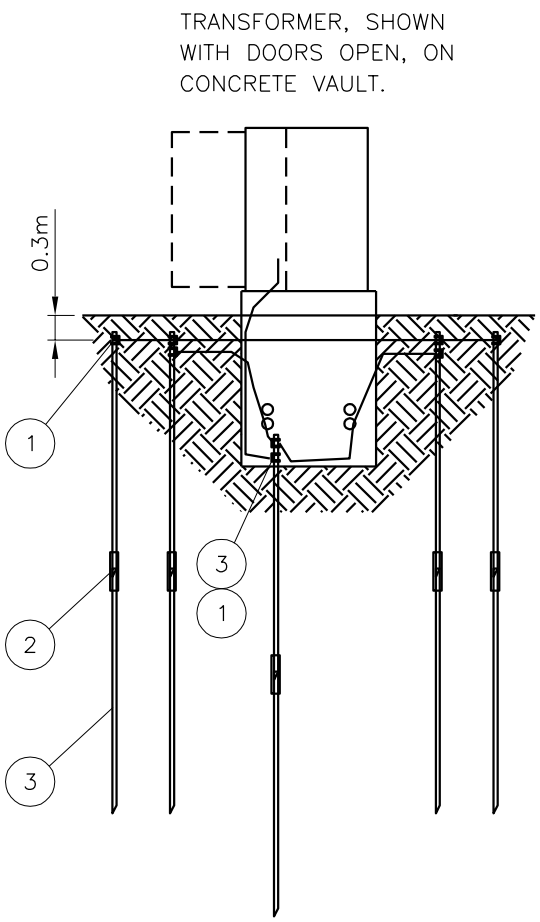

SECTION A–A

NOTE:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND 3ø SWITCHING CUBICLES WHERE FAULT CURRENTS ARE 2000A OR LESS.
2. GRID TO BE BURIED A MINIMUM OF 0.3m BELOW FINISHED GRADE.
3. THIS DESIGN MAY BE USED WITH A CONCRETE VAULT OR A FIBREGLASS BOXPAD.
4. 6m RODS TO BE USED FOR ALL.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, PLACE ADDITIONAL 6m RODS IN THE LOCATIONS SHOWN. IF RESISTANCE IS STILL TOO HIGH, CONTACT DISTRIBUTION ENGINEERING.
6. FOR SITUATIONS NOT COVERED BY CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT. AFFECTS CONCRETE VAULT INSTALL ONLY.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'L' 2000A OR LESS
		2016-12-22	
DATE OF ISSUE 2017/05/03		DRAWING NO. B-33-37	SHEET 2 of 2 REV. C

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	9	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	18	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	50 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	4	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT (SEE NOTE 1)

NOTE:

1. **ITEM ONLY REQUIRED ON CONCRETE VAULT INSTALLATIONS.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'M' 3000A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	

DATE OF ISSUE: 2017/05/03 | DRAWING NO: **B-33-38** | **SHEET 1 OF 2** | REV. **E**

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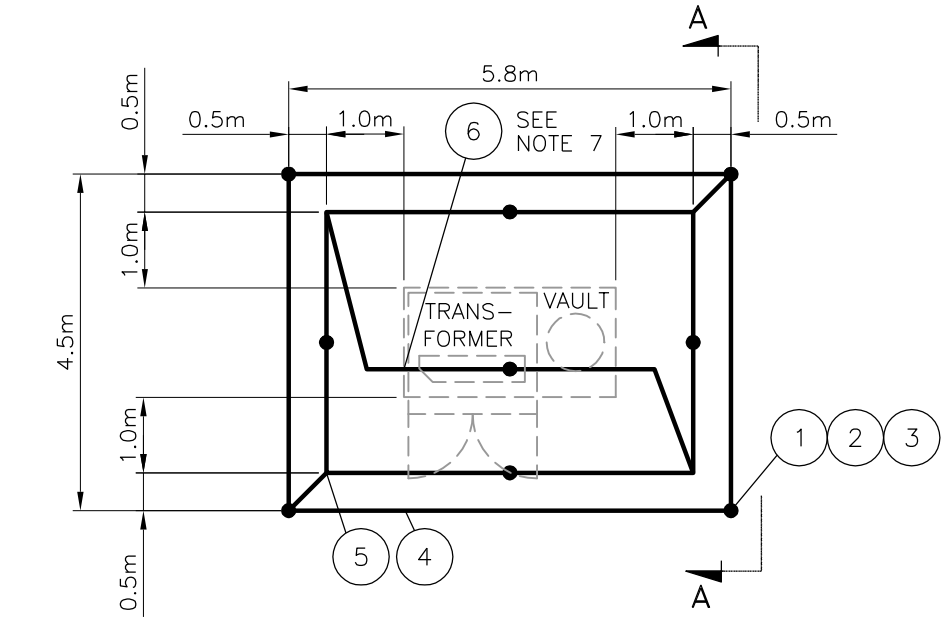

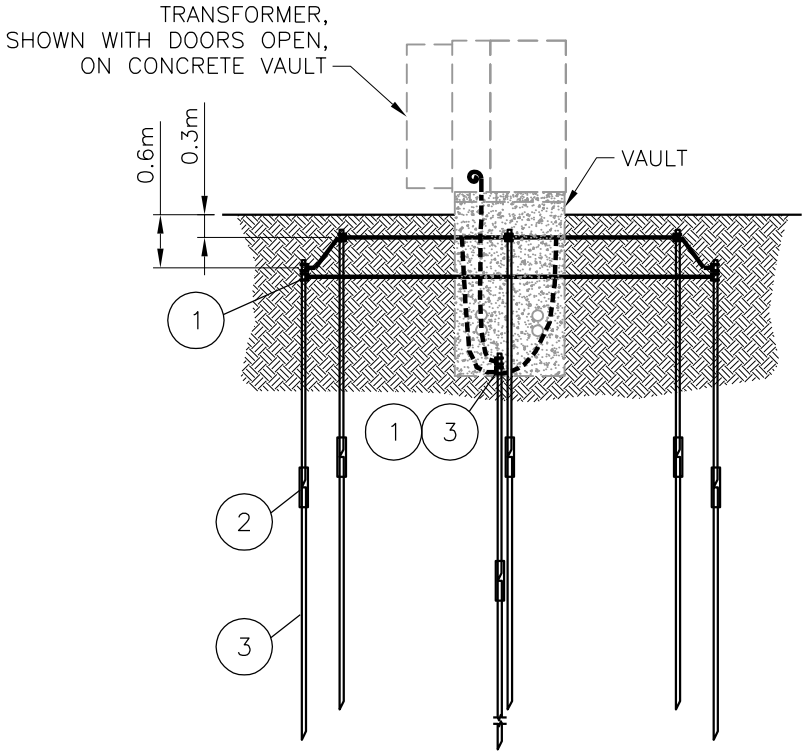

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 3000A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. OUTSIDE GRID TO BE BURIED 0.6m BELOW GRADE. INSIDE GRID TO BE BURIED 0.3m BELOW GRADE.
3. THIS DESIGN MAY BE USED WITH A CONCRETE VAULT OR A FIBERGLASS BOX PAD. DIMENSIONS SHOWN FOR CONCRETE VAULT (FROM B–26–75).
4. 6m GROUND RODS TO BE USED FOR ALL.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED, STARTING WITH CORNER RODS.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT. AFFECTS CONCRETE VAULT INSTALL ONLY

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'M' 3000A OR LESS
		2016–12–22	
DATE OF ISSUE 2017/05/03		DRAWING NO. B–33–38	SHEET 2 of 2 REV. D

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	9	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	18	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	65 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	4	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT

SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'P' FOR MODULAR VAULT 4000A OR LESS**	
L. MOEN	**A. UHREN**	CHKD.		
		2016-12-19		
DATE OF ISSUE: 2017/05/03		DRAWING NO: **B-33-40**	**SHEET 1 OF 2**	REV. **C**

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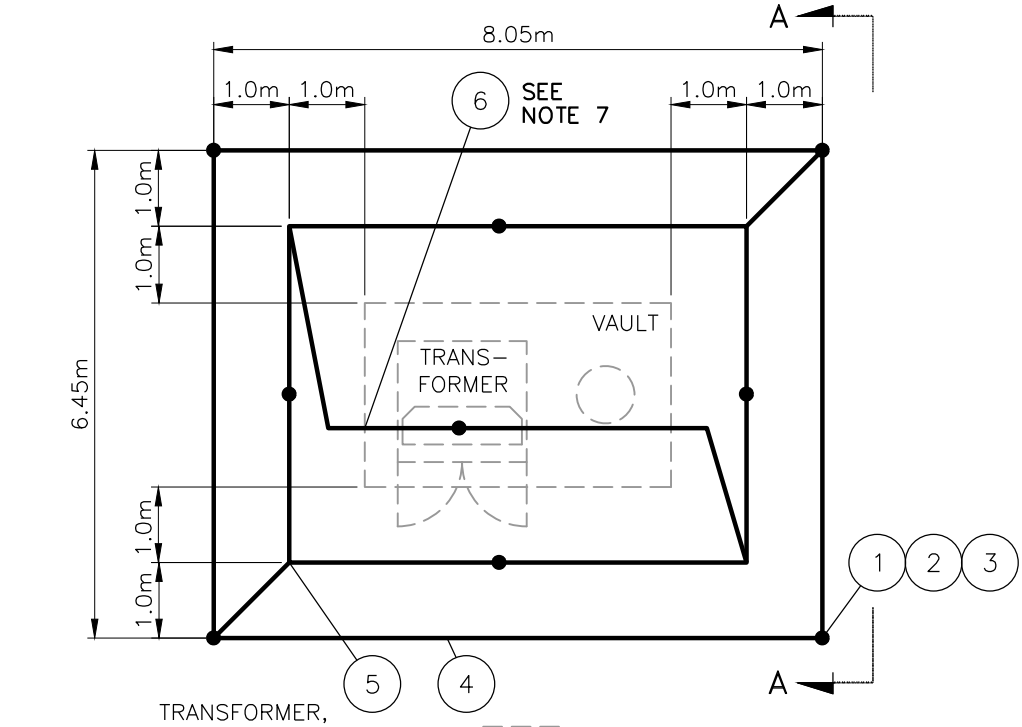

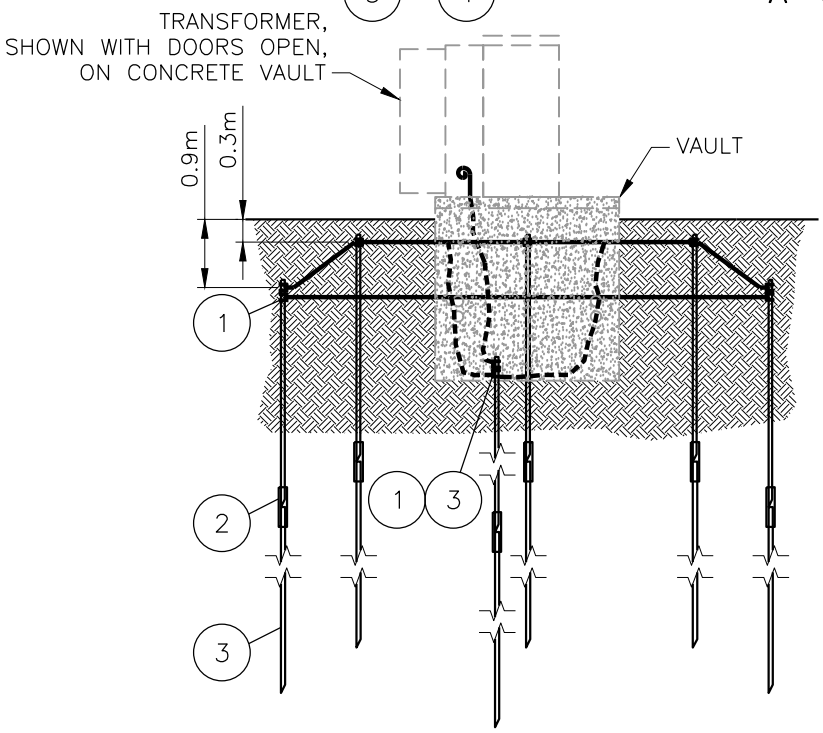

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 4000A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. OUTSIDE GRID TO BE BURIED 0.9m BELOW GRADE. INSIDE GRID TO BE BURIED 0.3m BELOW GRADE.
3. THIS GRID IS DESIGNED TO BE USED WITH A CONCRETE MODULAR VAULT (FROM B–26–77)
4. 6m GROUND RODS TO BE USED FOR ALL.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED, STARTING WITH CORNER RODS.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'P' FOR MODULAR VAULT 4000A OR LESS
		2016–12–22	
DATE OF ISSUE **2017/05/03**		DRAWING NO. B–33–40	SHEET 2 of 2 REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	13	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	22	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	75 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	12	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'R' FOR MODULAR VAULT 5500A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	

DATE OF ISSUE: 2017/05/03 | DRAWING NO: **B-33-42** | **SHEET 1 OF 2** | REV. **A**

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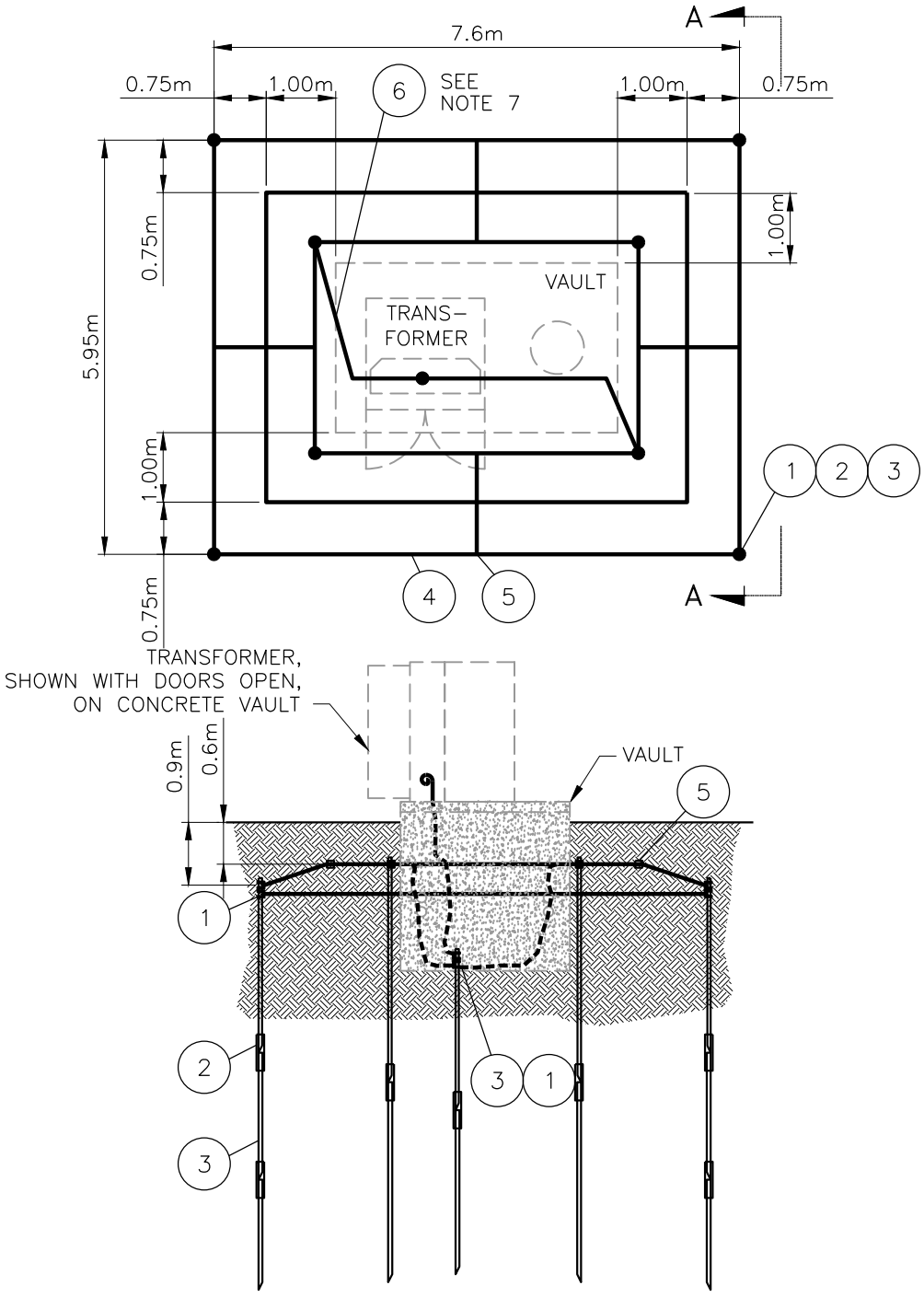

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 5500A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. OUTSIDE GRID TO BE BURIED 0.9m BELOW GRADE. INSIDE GRIDS TO BE BURIED 0.6m BELOW GRADE.
3. THIS GRID IS DESIGNED TO BE USED WITH A CONCRETE MODULAR VAULT (FROM B–26–77)
4. 6m GROUND RODS TO BE USED FOR INSIDE GRIDS. 9m GROUND RODS TO BE USED FOR OUTSIDE GRID.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'R' FOR MODULAR VAULT 5500A OR LESS
		2016–12–22	
DATE OF ISSUE **2017/05/03**		DRAWING NO. B–33–42	SHEET 2 of 2 REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	13	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	22	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	45 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	8	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT
7	PURCHASE LOCALLY	X	ASPHALT

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'S' FOR MODULAR VAULT (W/ ASPHALT) 5500A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	
DATE OF ISSUE: 2017/05/03		DRAWING NO: **B-33-43**	**SHEET 1 OF 2** REV. **A**

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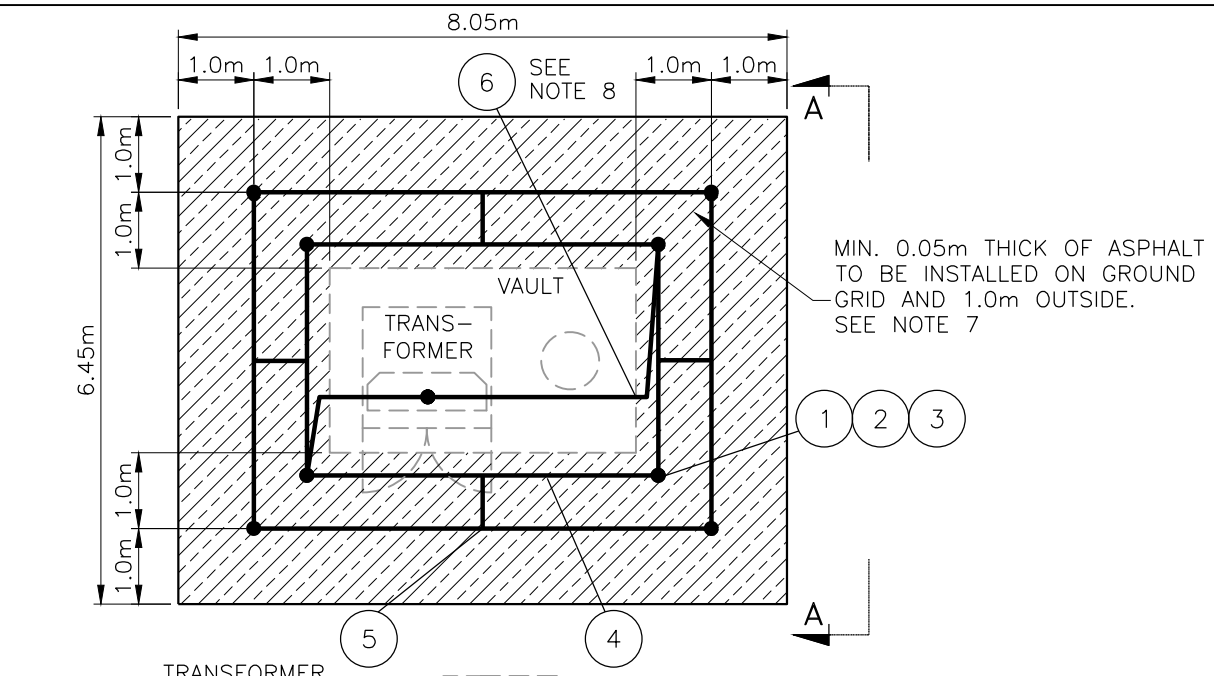

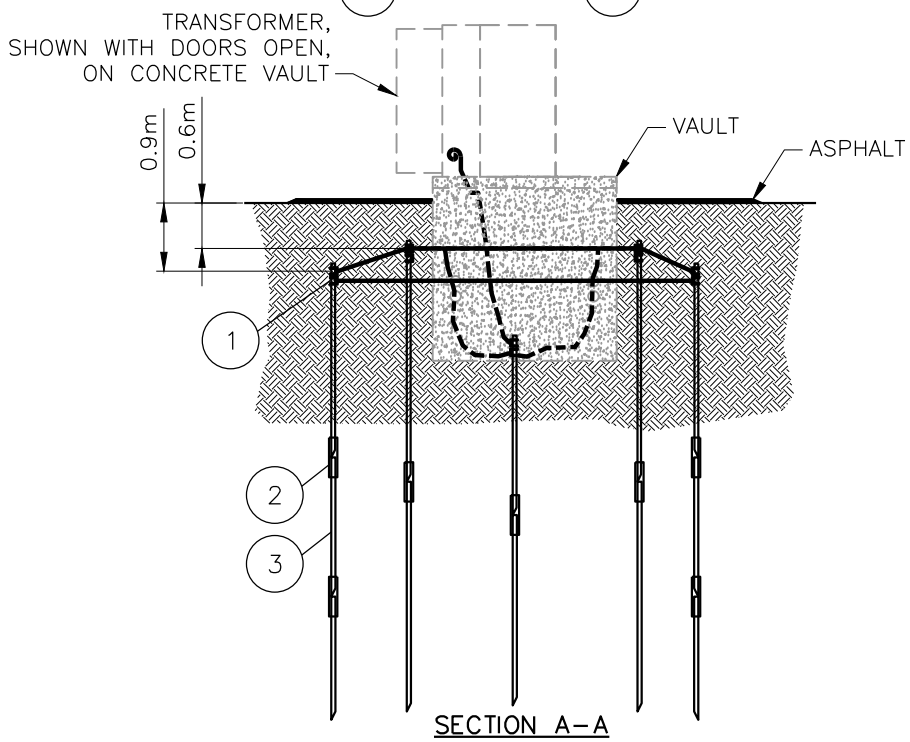

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 5500A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. INSIDE GRID TO BE BURIED AT 0.6m BELOW GRADE. OUTSIDE GRID TO BE BURIED AT 0.9m BELOW GRADE.
3. THIS GRID IS DESIGNED TO BE USED WITH A CONCRETE MODULAR VAULT (FROM B–26–77)
4. 6m GROUND RODS TO BE USED FOR INSIDE GRID. 9m GROUND RODS TO BE USED FOR OUTSIDE GRID.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. ASPHALT COVER IS MANDATORY TO ENSURE PROTECTION OF PERSONNEL & PUBLIC. CONCRETE OR SOIL WILL NOT PROVIDE ADEQUATE PROTECTION. CRUSHED ROCK (MIN. 300mm THICK) MAY BE USED AS AN ALTERNATIVE TO ASPHALT.
8. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN 2016–12–22	GROUND GRID TYPE 'S' FOR MODULAR VAULT (W/ASPHALT) 5500A OR LESS
DATE OF ISSUE 2017/05/03		DRAWING NO. B–33–43 SHEET 2 of 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	17	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	26	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	80 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	12	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT

SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'T' FOR MODULAR VAULT 7000A OR LESS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-12-19	
DATE OF ISSUE: 2017/05/03		DRAWING NO: **B-33-44**	**SHEET 1 OF 2** REV. **A**

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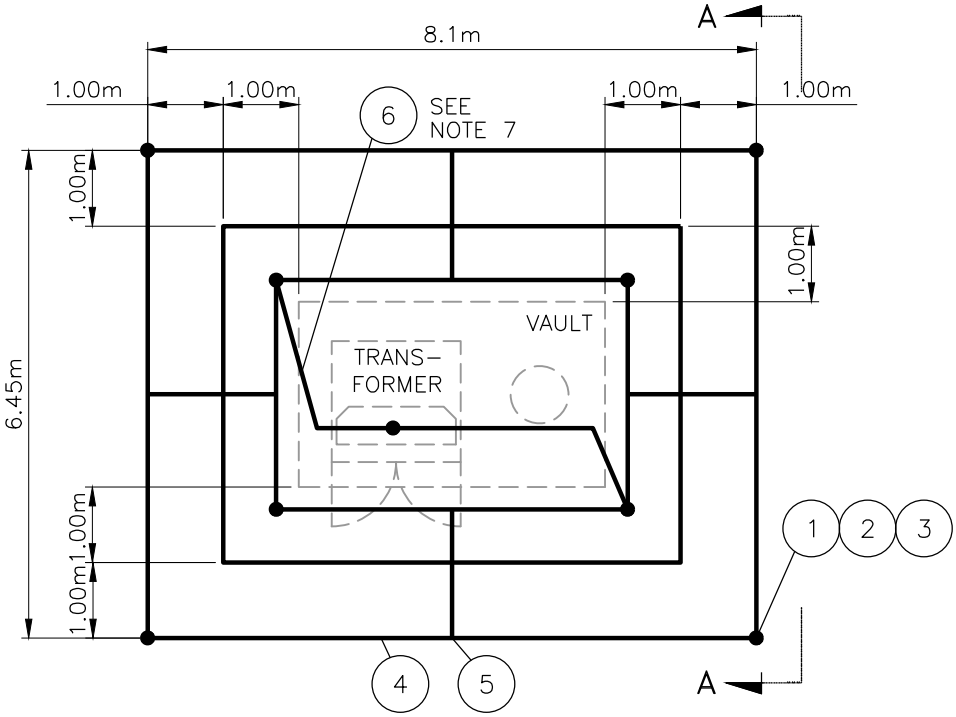

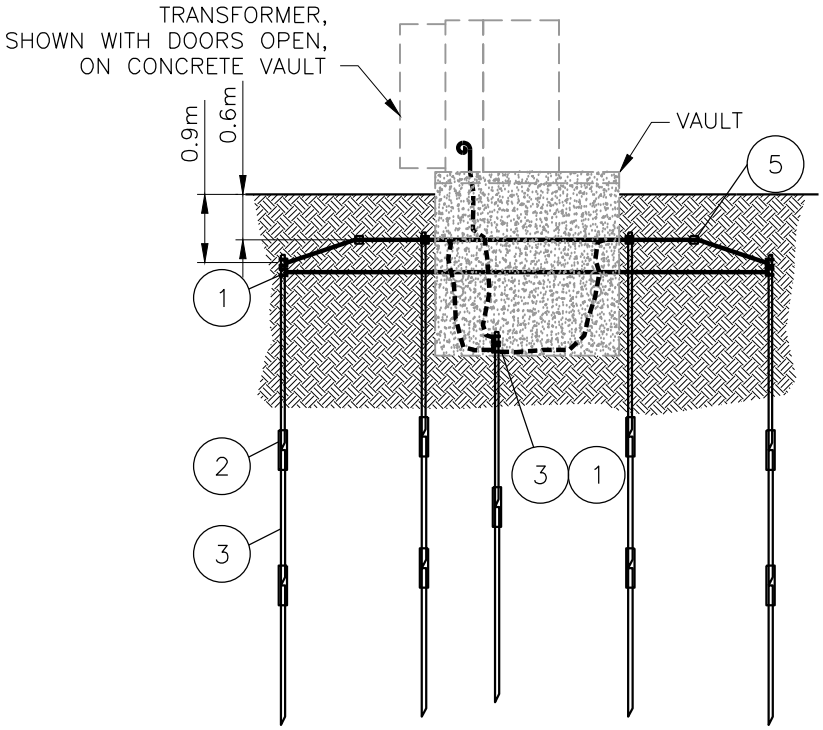

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 7000A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. OUTSIDE GRID TO BE BURIED 0.9m BELOW GRADE. INSIDE GRIDS TO BE BURIED 0.6m BELOW GRADE.
3. THIS GRID IS DESIGNED TO BE USED WITH A CONCRETE MODULAR VAULT (FROM B–26–77)
4. 9m GROUND RODS TO BE USED FOR ALL RODS EXCEPT ROD INSIDE VAULT TO BE 6m.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'T' FOR MODULAR VAULT 7000A OR LESS
		2016–12–22	
DATE OF ISSUE 2017/05/03		DRAWING NO. B–33–44	SHEET 2 of 2 REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 02 48	12	CLAMP - GROUND ROD - 3/4"- CU - U-BOLT
2	2 10 02	17	COUPLING-SEC. GRD ROD-COPPER BONDED
3	2 60 22	26	GRD ROD SEC. COPPER BONDED 3/4"X10'
4	2 83 02	45 m	WIRE-COPPER - #2/7 STR - BARE - SOFTDRAWN
5	5 12 51	8	CONNECTOR-COPPER-YGHC2C2 CRIMPIT
6	5 12 52	4	CONNECTOR-COPPER-YGHC29C26 CRIMPIT
7	PURCHASE LOCALLY	X	ASPHALT

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**GROUND GRID TYPE 'U'**
L. MOEN	**A. UHREN**	CHKD.	**FOR MODULAR VAULT**
		2016-12-19	**(W/ ASPHALT) 7000A OR LESS**

DATE OF ISSUE: 2017/05/03 | DRAWING NO: **B-33-45** | **SHEET 1 OF 2** | REV. **A**

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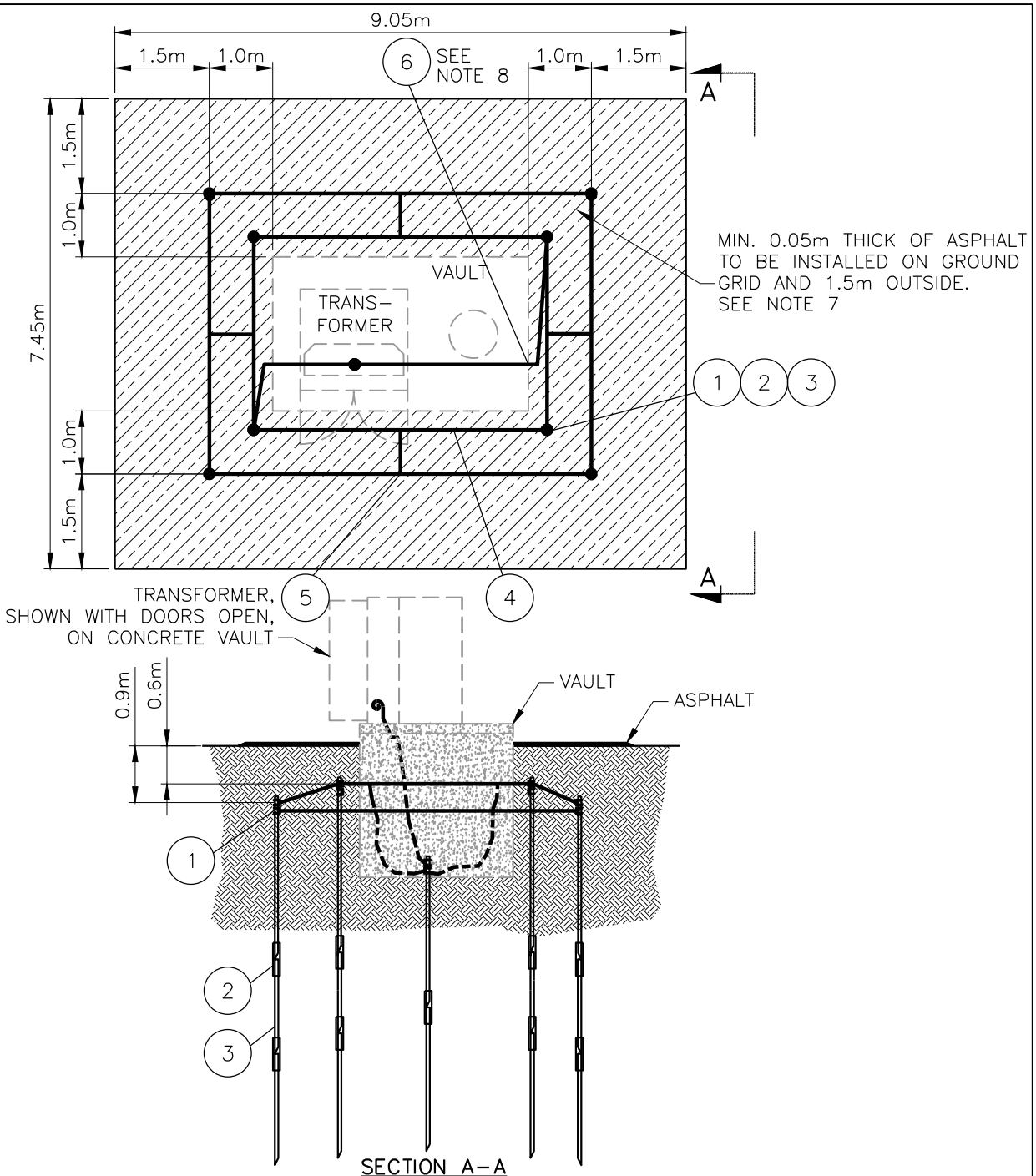

SECTION A–A

NOTES:

1. THIS GRID TO BE USED WITH 3 PHASE PADMOUNT TRANSFORMERS AND SWITCHING CUBICLES FOR FAULT CURRENTS 7000A OR LESS, AND THAT ARE CONNECTED INTO SYSTEM NEUTRAL.
2. INSIDE GRID TO BE BURIED AT 0.6m BELOW GRADE. OUTSIDE GRID TO BE BURIED AT 0.9m BELOW GRADE.
3. THIS GRID IS DESIGNED TO BE USED WITH A CONCRETE MODULAR VAULT (FROM B–26–77)
4. 9m GROUND RODS TO BE USED FOR ALL RODS EXCEPT ROD INSIDE VAULT TO BE 6m.
5. MAXIMUM GRID RESISTANCE (BEFORE CONNECTION OF NEUTRALS) TO BE 1.0 OHM. IF RESISTANCE IS GREATER THAN 1.0 OHM, INCREASE LENGTH OF RODS UNTIL 1.0 OHM IS OBTAINED.
6. FOR SITUATIONS NOT COVERED IN CONSTRUCTION STANDARDS, CONTACT DISTRIBUTION ENGINEERING FOR A CUSTOM GRID DESIGN.
7. ASPHALT COVER IS MANDATORY TO ENSURE PROTECTION OF PERSONNEL & PUBLIC. CONCRETE OR SOIL WILL NOT PROVIDE ADEQUATE PROTECTION. CRUSHED ROCK (MIN. 300mm THICK) MAY BE USED AS AN ALTERNATIVE TO ASPHALT.
8. CRIMP TO COPPER TAILS AT 2 OPPOSITE CORNERS OF THE VAULT.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN	GROUND GRID TYPE 'U' FOR MODULAR VAULT (W/ASPHALT) 7000A OR LESS
		2016–12–22	
DATE OF ISSUE 2017/05/03		DRAWING NO. B–33–45	SHEET 2 of 2 REV. A