SaskPower

Date: April 2023

To: Turnkey Construction Standards Manual (CSM) Holders

From: Pritesh Patel
Engineering Technologist, Standards

Subject: **Turnkey CSM Revisions – 2023-04-24**

Attached are revisions to SaskPower's Distribution Turnkey Construction Standards Manual. The changes are as follows:

1. Turnkey Index – Rev USTS – Updated Index
2. B-14-50 Sheet 1 Rev D – Removed ties and normal open points
3. B-14-51 Sheet 1 Rev B – Removed ties and normal open points
4. B-14-52 Sheet 1 Rev C – Removed ties and normal open points
5. B-14-53 Sheet 1 Rev C – Removed ties and normal open points
6. B-14-54 Sheet 1 Rev B – Removed ties and normal open points
7. B-14-55 Sheet 1 Rev D – Removed ties and normal open points
8. B-14-59 Sheet 1 Rev G – Added marker post
9. B-20-25 Sheets 1, 2 Rev C, B – Added full range of standards. Added double davit and general cleanup
10. B-26-70 Sheet 2 Rev B – Updated note 2 to emphasize fault current at installation location.
11. B-26-79 Sheets 1, 3, 4, 5 Rev C, D, B, C – Updated note 2 to emphasize fault current at installation location. Added new switchgear stock codes. Added cable racking hooks.
12. B-36-56 Sheet 1 Rev - – (New) – Example of how to connect 5" conduit parts

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Please note that the complete Turnkey CSM and updates can be found on the SaskPower website under ***Services - Service Requests - New Connections - Saskatchewan Turnkey Program***.

Pritesh Patel
Engineering Technologist
Distribution Asset Standards & Testing

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TURNKEY STANDARDS

DRAWING NUMBER	SHT.	DRAWING TITLE	DWG REV.	BOM REV.
	1 – 3	**INTRODUCTION**	A	-
		TRANSFORMERS		
B-08-00	1 – 3	**GENERAL INFORMATION**	F/B/-	-
B-08-31	1 – 1	**1Ø TRANSFORMER SECONDARY CONNECTION**	D	-
B-08-34	1 – 4	**URBAN 1Ø 72, 73 & 74 SERIES PADMOUNT TRANSFORMERS**	F/F/B	G
B-08-39	1 – 2	**TRANSFORMER ACCESSORIES & INSTALLATION**	B/A	-
		URBAN DISTRIBUTION		
B-14-00	1 – 2	**GENERAL INFORMATION**	D	-
B-14-10	1 – 3	**1Ø TAKE-OFF STRUCTURE**	G	H/0
B-14-11	1 – 2	**SECONDARY TAKE-OFF STRUCTURE**	F	E
B-14-12	1 – 2	**SECONDARY TRANSFORMER TAKE-OFF STRUCTURE**	E	E
B-14-14	1 – 2	**REVERSE TAKE-OFF ON RADIAL**	B	D
B-14-15	1 – 3	**3Ø, SINGLE-CIRCUIT TAKE-OFF STRUCTURE**	I	I/0
B-14-16	1 – 3	**3Ø, SOLID BLADE DISCONNECT, SINGLE-CIRCUIT TAKE-OFF STRUCTURE**	L	K/0
B-14-17	1 – 3	**3Ø, GOPT, TAKE-OFF STRUCTURE**	G	F/E
B-14-50	1 – 3	**EASEMENT PLAN WITH NO REAR LANE FOR THREE PARTY JOINT USE**	D/0/0	-
B-14-51	1 – 3	**EASEMENT PLAN WITH NO REAR LANE FOR TWO PARTY JOINT USE**	B/0/0	-
B-14-52	1 – 3	**EASEMENT PLAN, FOUR PARTY TRENCHING, NO REAR LANE**	C/C/D	-
B-14-53	1 – 3	**EASEMENT PLAN, FOUR PARTY TRENCHING, WITH REAR LANE**	C/C/C	-
B-14-54	1 – 3	**EASEMENT PLAN WITH REAR LANE – TWO PARTY JOINT USE**	B/0/0	-
B-14-55	1 – 3	**EASEMENT PLAN WITH REAR LANE – THREE PARTY JOINT USE**	D/A/0	-
B-14-56	1 – 2	**OVERHEAD DISTRIBUTION WITH UNDERGROUND SERVICES**	0/0	-
B-14-57	1 – 3	**EASEMENT PLAN W/ REAR LANE, 3 PARTY DISTRIBUTION, 4 PARTY SERVICES**	0/0/0	-
B-14-59	1 – 2	**FOUR PARTY SERVICES**	G/C	-
B-14-65	1 – 1	**CONDUCTOR DEPTH OF COVER**	D	-
B-14-66	1 – 2	**TRENCH LAYOUT FOUR PARTY DISTRIBUTION AND CROSSING DETAILS**	A/A	-
B-14-70	1 – 1	**PRIMARY LOOP POWER INSTALLATION METHODS**	C	-
B-14-80	1 – 3	**EASEMENT PLAN, FOUR PARTY TRENCHING, FRONT STREET DISTRIBUTION**	0/0/0	-
		STREET LIGHTS		
B-20-00	1 – 1	**GENERAL INFORMATION**	0	-
B-20-05	1 – 1	**LAMP CHARACTERISTICS**	0	-
B-20-06	1 – 1	**LIGHT DISTRIBUTION PATTERN**	0	-
B-20-09	1 – 2	**COLONIAL POST TOP LUMINAIRE**	B	B
B-20-11	1 – 2	**HIGH PRESSURE SODIUM VAPOUR LUMINAIRE**	A	A
B-20-13	1 – 2	**LIGHT-EMITTING DIODE (LED) LUMINAIRE**	A	A
B-20-15	1 – 2	**STEEL STANDARD BASE INSTALLATION**	C	D
B-20-16	1 – 2	**STEEL STANDARD HANDHOLE CONNECTION**	E	B

TURNKEY STANDARDS

DRAWING NUMBER	SHT.	DRAWING TITLE	DWG REV.	BOM REV.
		STREET LIGHTS (CONT.)		
B-20-21	1 – 2	UNDERGROUND 120V TAKE-OFF FOR LIGHTING	C	B
B-20-25	1 – 2	LIGHTING STANDARDS	B	C
B-20-27	1 – 1	DECORATIONS ON STREET LIGHT POLES	0	-
B-20-35	1 – 1	FUSING OF STREET LIGHT SUPPLY AT PEDESTAL	A	-
B-20-40	1 – 3	DECORATIVE LUMINAIRES	A/0	A
B-20-41	1 – 3	DECORATIVE LIGHT STANDARDS	D/0	C
B-20-42	1 – 2	DECORATIVE CONCRETE LIGHT STANDARD	A	A
		UNDERGROUND COMPONENTS		
B-26-46	1 – 4	SERVICE PEDESTAL	E/0/0	D
B-26-65	1 – 2	VEHICLE BARRIER	C	0
B-26-70	1 – 4	FOUR WAY 3Ø SWITCHING CUBICLE	0/B/0	C
B-26-71	1 – 2	THREE WAY 1Ø SWITCHING CUBICLE	B	A
B-26-73	1 – 2	URBAN 3Ø VAULT ACCESSORIES	C	D
B-26-79	1 – 5	3Ø PADMOUNT VISTA SWITCH	C/0/B	D/C
B-26-81	1 – 3	GROUND LEVEL PULL BOX	0/0	0
		JOINT USE		
B-28-02	1 – 1	COMMUNICATION TAKE-OFF ON JOINT USE POLE (TYPICAL)	0	-
		SIGNS & MARKERS		
B-30-16	1 – 1	UNDERGROUND MARKER BALLS	A	-
B-30-20	1 – 3	PADMOUNT APPARATUS LABELING	0/0	A
B-30-21	1 – 2	RESIDENTIAL CABLE MARKERS	B	0
B-30-26	1 – 3	PRIMARY CABLE AND APPARATUS IDENTIFICATION	C/0	C
		STANDARD GROUNDING		
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 EXCLUDING NEW URBAN RESIDENTIAL AFTER 2018	C	E
B-33-34	3 – 4	SERVICE PEDESTAL URBAN RESIDENTIAL 4 WIRE SERVICE –3 WIRE PEDESTAL	0	0
B-33-34	5 – 6	SERVICE PEDESTAL URBAN RESIDENTIAL (2018 TO CURRENT)	0	0

TURNKEY STANDARDS

DRAWING NUMBER	SHT.	DRAWING TITLE	DWG REV.	BOM REV.
		STANDARD GROUNDING (CONT.)		
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' 4000A OR LESS	B	C
B-33-42	1 – 2	GROUND GRID TYPE 'R' 5500A OR LESS	A	A
B-33-43	1 – 2	GROUND GRID TYPE 'S' (W/ ASPHALT) 5500A OR LESS	A	A
B-33-44	1 – 2	GROUND GRID TYPE 'T' 7000A OR LESS	A	A
B-33-45	1 – 2	GROUND GRID TYPE 'U' (W/ ASPHALT) 7000A OR LESS	A	A
		CABLE ACCESSORIES		
B-36-26	1 – 2	SEALING JACKETED C/N CABLE AT THE SPLICE	A	A
B-36-27	1 – 2	STREET LIGHT TRANSITION SPLICE	A	0
B-36-30	1 – 2	ELBOW 25 kV LOAD BREAK	0/A	-
B-36-31	1 – 2	SEALING JACKETED C/N CABLE AT THE ELBOW	A	0
B-36-38	1 – 1	COMPRESSION CONNECTORS LINE TAP FOR Al-Cu & Cu-Cu	A	-
B-36-39	1 – 2	COMPRESSION CONNECTORS AND HYLUGS	D/D	-
B-36-40	1 – 1	PRIMARY CABLE, SPLICES & TERMINATIONS	F	-
B-36-42	1 – 1	LOAD-BREAK COMPONENTS	D	-
B-36-44	1 – 2	SECONDARY CABLE, SPLICES & TERMINATIONS	A/C	-
B-36-45	1 – 1	200A LOAD-BREAK ACCESSORIES	B	-
B-36-47	1 – 1	600A DEAD-BREAK ACCESSORIES	C	-
B-36-50	1 – 2	FAULT INDICATORS	C	0
B-36-51	1 – 1	FAULT INDICATOR APPLICATION GUIDE	A	-
B-36-52	1 – 2	UNDERGROUND CONDUIT ACCESSORIES	B/0	-
B-36-56	1 – 1	TYPICAL 5" CONDUIT SCHEMATIC	-	-

TURNKEY STANDARDS

DRAWING NUMBER	SHT.	DRAWING TITLE	DWG REV.	BOM REV.
		CLEARANCES		
C-26-02.00	1 – 1	GENERAL INFORMATION	0	-
C-26-02.01	1 – 2	SEPARATIONS IN RURAL AND URBAN AREAS	G/I	-
		CONDUCTOR DATA		
C-26-04.06	1 – 2	PRIMARY XLPE CABLE AMPACITIES	C/0	-
C-26-04.06	3	PRIMARY XLPE CABLE AMPACITIES OBSOLETE AND LEGACY CABLES	A	-
C-26-04.09	1 – 1	JACKETED PRIMARY CABLES-PHYSICAL AND ELECTRICAL PROPERTIES	E	-
C-26-04.10	1 – 3	PRIMARY CABLES-PHYSICAL AND ELECTRICAL PROPERTIES	C/D/C	-
C-26-04.12	1 – 3	USC75 (LEGACY) CABLES-PHYSICAL AND ELECTRICAL PROPERTIES	A/A/A	-
C-26-04.13	1 – 1	SECONDARY USC75 CABLE AMPACITIES	0	-
C-26-04.14	1 – 4	CABLE PULLING TENSIONS AND MAX PULL LENGTHS	0/0/0/0	-
		CROSSINGS – ROADWAY		
C-26-21.03	1 – 2	BORED/PUNCHED PROVINCIAL HIGHWAY CROSSING	C/E	-
C-26-21.04	1 – 2	BORED/PUNCHED PROVINCIAL HIGHWAY DOUBLE CROSSING	B/D	-
C-26-21.05	1 – 1	DEPARTMENT OF HIGHWAYS CROSSING PERMIT APPLICATION	0	-
C-26-21.06	1 – 1	BORED/PUNCHED URBAN ROADWAY CROSSING	0	-
		CROSSINGS - PIPELINE		
C-26-23.01	1 – 3	SASKENERGY DISTRIBUTION NATURAL GAS CROSSING	C/D	F
C-26-23.02	1 – 3	TRANSGAS TRANSMISSION NATURAL GAS CROSSING	D/D	G
C-26-23.03	1 – 4	CROSSING OF PIPELINES REGULATED BY THE NEB	D/F/-	H
C-26-23.05	1 – 3	CROSSING OF PIPELINES NOT REGULATED BY THE NEB	0/B	C
		CROSSINGS - RAILWAY		
C-26-24.01	1 – 3	RAILWAY CROSSING	H/F	I
C-26-24.03	1 – 3	RAILWAY DOUBLE CROSSING	F/E	G
C-26-24.04	1 – 3	RAILWAY TRIPLE CROSSING	-/-	-

NOTICE

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SCOPE AND INTENT OF STANDARDS

THE CONSTRUCTION STANDARDS MANUAL HAS BEEN PREPARED BASED ON THIS COMPANY'S ENGINEERING, CONSTRUCTION, OPERATING AND SAFETY REQUIREMENTS. STANDARDIZATION IS NECESSARY TO:

A) ENSURE UNIFORMITY IN ALL AREAS.
B) ENABLE ECONOMY OF SCALE.
C) ALLOW MATERIALS TO BE STOCKED EFFICIENTLY.
D) ALLOW FOR A UNIFORM COST STRUCTURE.
E) MAINTAIN A COMMON LEVEL OF SAFETY FOR THE PUBLIC AND OUR EMPLOYEES.

THE DRAWINGS AND INSTRUCTIONS IN THIS MANUAL APPLY TO THE CONSTRUCTION OF OVERHEAD AND UNDERGROUND DISTRIBUTION FACILITIES FOR ALL SYSTEMS UP TO AND INCLUDING 25 KV.

IT IS THE RESPONSIBILITY OF EACH MANUAL USER TO ENSURE THAT ALL ASPECTS OF A JOB CONFORM TO THE REQUIREMENTS IN THESE STANDARDS AND TO ANY RELATED DIRECTIVES THAT MAY BE ISSUED.

THESE STANDARDS ARE NOT INTENDED TO REPLACE FORMAL AND ON THE JOB TRAINING. NOR ARE THEY INTENDED TO ANSWER EVERY POSSIBLE PROBLEM; REGION AND STANDARDS STAFF SHOULD BE CONSULTED WHENEVER NECESSARY.

SOME SPECIFIC INSTALLATIONS MAY OCCUR INFREQUENTLY AND THEREFORE DO NOT WARRANT A "STANDARD" TO BE ISSUED. BUT EVEN SO, STANDARD CONSTRUCTION PRINCIPLES AND MATERIALS SHOULD BE APPLIED AS MUCH AS POSSIBLE.

PROCEDURE FOR REQUESTING NEW OR REVISED STANDARDS

THE STANDARDS GROUP HAS THE RESPONSIBILITY FOR IMPLEMENTING ANY NEW OR REVISED STANDARDS. A CONSTRUCTION STANDARDS REVIEW COMMITTEE IS IN PLACE TO ADVISE ON ALL CHANGES. THE COMMITTEE MEMBERSHIP IS COMPRISED OF TECHNICAL, OPERATING AND CONSTRUCTION STAFF FROM ACROSS THE PROVINCE.

REQUESTS FOR REVISIONS OR NEW STANDARDS CAN ORIGINATE FROM:
A) THE STANDARDS GROUP.
B) THE CONSTRUCTION STANDARDS REVIEW COMMITTEE.
C) ANY EMPLOYEE IN THE CORPORATION.

ANYONE WISHING TO SUBMIT A REQUEST SHOULD DO SO ON A COPY OF THE FORM ON SHEET 3 OF THE INTRODUCTION. ACKNOWLEDGEMENT OF THE RECEIPT OF THE REQUEST WILL BE SENT TO THE ORIGINATOR BY A COPY OF THE COMMITTEES' MINUTES OF ITS NEXT MEETING. THE COMMITTEES' FINAL DECISION WILL ALSO BE SENT TO THE ORIGINATOR.

THE COMMITTEE MAY CONTACT THE ORIGINATOR FOR MORE INFORMATION OR CLARIFICATION. THE COMMITTEE WILL ALSO GET COMMENTS AND HAVE DISCUSSION WITH ENGINEERING, CONSTRUCTION, OPERATING, MAINTENANCE, SAFETY, AND BUSINESS STAFF AS REQUIRED TO EVALUATE THE REQUEST.

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TO: **ENGINEERING SUPERVISOR, STANDARDS**
SASKPOWER
RSC #2, 2025 VICTORIA AVENUE
REGINA, SK S4P 0S1

FROM: _____
LOCATION: _____
_____
_____
DATE: _____

I AM REQUESTING YOUR REVIEW OF THE FOLLOWING: (CHECK ONE & COMPLETE)

☐ **NEW STANDARD**

TITLE: _____
SHEET NUMBER(S): _____
_____

☐ **REVISION TO EXISTING STANDARD**

TITLE: _____
SHEET NUMBER(S): _____
_____

GIVE DETAILS OF THE REQUEST INCLUDING:
1) WHY DO YOU FEEL IT IS REQUIRED?
2) WHERE WOULD IT BE USED?
3) HOW DO YOU PROPOSE IT BE DONE?

PLEASE PROVIDE SKETCHES, PICTURES, STOCK CODE NUMBERS, OR ANY DESCRIPTIVE INFORMATION.

RECEIVED BY CONSTRUCTION STANDARDS COMMITTEE **DATE:** _____

☐ **APPROVED** ☐ **NOT APPROVED**

DATE: _____ **CHAIRMAN:** _____

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A. GENERAL DESCRIPTION OF TRANSFORMERS

- SINGLE PHASE LOW PROFILE, ENERGIZED AT 14.4 kV LINE TO GROUND
- SIZES AVAILABLE 25, 50, 100, 167 kVA
- 125 kV BIL
- FEED THROUGH OPERATION – ONE PIECE AND TWO PIECE BUSHINGS
- BAYONET TYPE EXPULSION FUSE – SEE B-08-10 FOR FUSE SIZES
- OLD STYLE 167815/25 TRANSFORMERS WITHOUT CURRENT LIMITING FUSE (SERIAL NUMBERS N12393-XX, N12460-XX, N14096-XX & N14097-XX) ARE TO BE USED IN RURAL AREAS ONLY WHERE THE FAULT CURRENT IS LESS THAN 1800 RMS ASYMMETRICAL. NEW STYLE 167825 TRANSFORMERS WILL INCLUDE A CURRENT LIMITING FUSE HOWEVER THE PRESENCE OF THE CURRENT LIMITING FUSE CAN BE CONFIRMED PRIOR TO INSTALLATION IN SITUATIONS WHERE THE FAULT CURRENT IS MORE THAN 1800 RMS ASYMMETRICAL.

B. LOCATION RESTRICTIONS

1. **LOCATION RELATION TO BUILDINGS**
   SEE C-26-02.01 SHEET 2 FOR MINIMUM CLEARANCE BETWEEN PADMOUNTED TRANSFORMERS AND BUILDINGS. SEE B-26-76 SHEETS 1-3 FOR TYPICAL INSTALLATIONS.

2. **LOCATION RELATION TO POINT OF SERVICES**
   REFER TO THE VOLTAGE VS AMPACITY CHARTS IN B-22-XX SERVICE CABLES FOR THE MAXIMUM LENGTH OF SERVICE CONDUCTORS. THE MAXIMUM DISTANCE BETWEEN THE TRANSFORMER AND THE SERVICE ENTRANCE IS TO BE 6 m LESS THAN THE MAXIMUM VOLTAGE DROP LENGTH.

C. TYPICAL INSTALLATIONS

1. TYPICAL INSTALLATIONS ARE SHOWN IN DRAWINGS B-08-29 & B-08-30.

2. 1678XX TRANSFORMERS WITH EYEBOLT CLAMPS SHALL USE 1/0 SECONDARY CONDUCTOR ONLY TO SERVICE ONE CUSTOMER. LARGER SECONDARY CONDUCTOR SIZES (GREATER THAN 1/0) OR MULTIPLE SERVICE CONNECTIONS ARE DESIGNED FOR 1672XX TRANSFORMERS.

D. SINGLE PHASE PRIMARY CABLE CONNECTIONS

1. **RADIAL FEED**
   THE CABLE IS INSTALLED ON THE H1B (UPPER) BUSHING AND AN ELBOW-TYPE METAL OXIDE ARRESTOR IS PLACED ON THE H1A (LOWER) BUSHING. THE PRIMARY CABLE NEUTRAL AND THE ARRESTOR LEAD ARE THEN BOTH CRIMPED TO TRANSFORMER GROUND. THE CABLE BEING INSTALLED ON THE H1B (UPPER) BUSHING WILL ASSIST WITH INSTALLATION DUE TO THE CABLE BEING MORE MANUVERABLE IN THIS POSITION.

2. **LOOP FEED**
   THE NORMAL LINE SIDE (INCOMING) CABLE IS INSTALLED ON THE H1A (LOWER) BUSHING AND THE NORMAL LOAD SIDE (OUTGOING) CABLE IS INSTALLED ON THE H1B (UPPER) BUSHING. BOTH PRIMARY CABLE NEUTRALS ARE THEN CRIMPED TO THE TRANSFORMER GROUND.

3. LOOP FEED OPEN POINT

IF A TRANSFORMER IS TO BE USED AS A “NORMAL OPEN” POINT IN A LOOPED (ALTERNATE FEED) SYSTEM, BOTH CABLES MUST BE PROTECTED FROM OVERVOLTAGE WITH ELBOW-TYPE ARRESTERS.

A FEED-THROUGH BUSHING IS TO BE INSTALLED IN THE PARKING STAND OF THE TRANSFORMER. THE CABLE SUPPLYING THE TRANSFORMER IS PLACED ON THE H1A (LOWER) BUSHING, WITH ITS CORRESPONDING ELBOW-TYPE ARRESTER PLACED ON THE H1B (UPPER) BUSHING. THE OPEN ENDED CABLE IS PLACED ON THE RIGHT SIDE OF THE FEED-THROUGH BUSHING, WITH ITS CORRESPONDING ELBOW-TYPE ARRESTER PLACED ON THE LEFT SIDE OF THE FEED-THROUGH. THE PRIMARY CABLE NEUTRALS ARE THEN CRIMPED TO THE TRANSFORMER GROUND. THE ARRESTER GROUND LEADS ARE ALSO CONNECTED TO THE TRANSFORMER GROUND.

E. THREE PHASE PRIMARY CABLE CONNECTIONS

ALL URBAN THREE-PHASE PADMOUNT TRANSFORMERS SHALL ULTIMATELY HAVE LOOPED SUPPLY TO MINIMIZE THE LENGTH OF CUSTOMER OUTAGES DUE TO CABLE FAILURES. THIS LOOPED SUPPLY CONSISTS OF TWO SETS OF THREE-PHASE CABLES, TERMINATED AT THE TRANSFORMER. THESE SETS OF CABLES MAY BE FED FROM DIFFERENT OVERHEAD OR UNDERGROUND SOURCES.

UNDERGROUND PRIMARY MAY BE INSTALLED AT THE REQUEST OF THE CUSTOMER IN ACCORDANCE WITH BUSINESS POLICY. ADVANTAGES OF A LOOPED PRIMARY FEED SHOULD BE POINTED OUT TO THE CUSTOMER.

EACH THREE-PHASE CIRCUIT MUST BE PHYSICALLY SEPARATED.

THIS MAY BE DONE BY:

1. INSTALLING THE CABLE IN SEPARATE TRENCHES.
2. INSTALLING THE CABLE IN THE SAME TRENCH BUT HAVE ONE CABLE IN DUCT.
3. INSTALLING THE CABLE IN THE SAME TRENCH WITH AT LEAST 300 MILLIMETERS OF SOIL SEPARATING THE OTHER CABLE HORIZONTALLY OR VERTICALLY.

WHERE BOTH SIDES OF THE LOOP ARE PHYSICALLY PARALLEL, THEY MUST BE KEPT SEPARATED BY ONE OF THE METHODS DETAILED IN B-14-70.

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PADMOUNT TRANSFORMER MASS

3Ø UNITS	
XFMR SIZE (kVA)	MAX. WEIGHT (kg)
75	1700
150	1900
225	2400
300	2700
500	3300
750	4000
1000	4700
1500	5900
2000	6400
2500	8000
3000	8800

1Ø UNITS	
XFMR SIZE (kVA)	MAX. WEIGHT (kg)
15	340
25	550
50	700
75	750
100	850
150	1000
167	1050

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1. **VERIFY TRANSFORMER WEIGHT ON NAMEPLATE BEFORE LIFTING.**

2. **THIS TRANSFORMER WEIGHTS ARE MEANT TO BE FOR GUIDELINES ONLY. REFER TO ACTUAL NAMEPLATE WHEN CONDUCTING LIFTS AND POLE CLASS SELECTION.**

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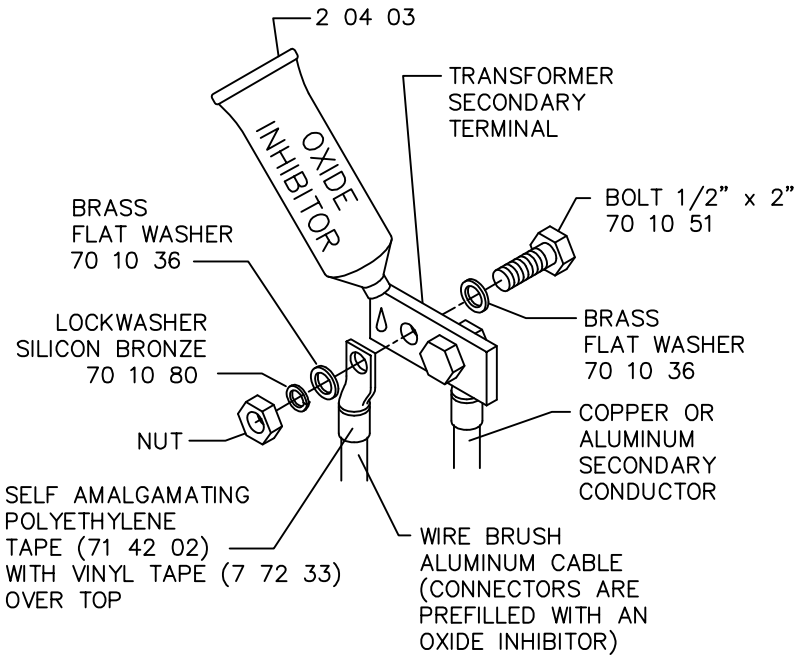
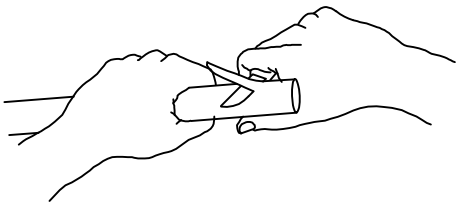
A. TRANSFORMER WITH SPADES

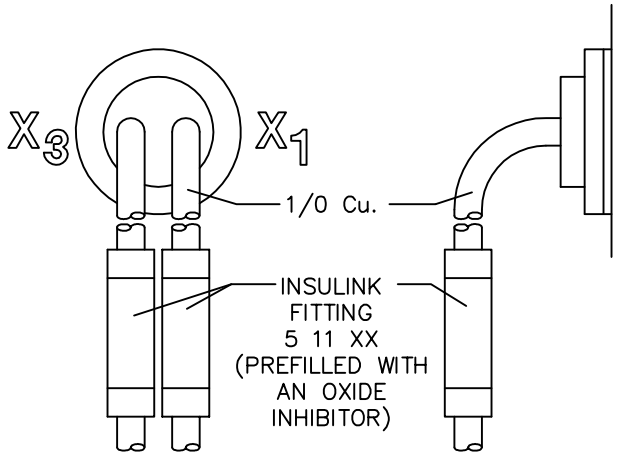




DO NOT RING CONDUCTOR WHEN STRIPPING INSULATION ON SECONDARY ALWAYS PARE OR PENCIL INSULATION AS SHOWN.

METHOD OF PREPARING CONDUCTOR ENDS FOR COMPRESSION LUG

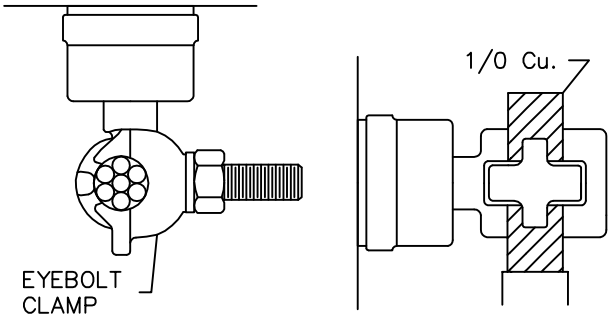
B. TRANSFORMER WITH INSULINKS



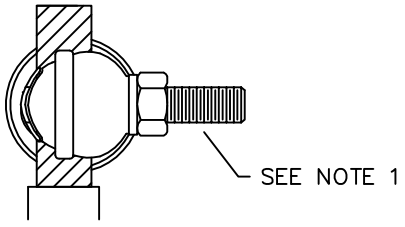
FRONT VIEW SIDE VIEW

C. TRANSFORMER WITH EYEBOLT CLAMPS

–USE OXIDE INHIBITOR BEFORE TIGHTENING CLAMP.



TOP VIEW SIDE VIEW



FRONT VIEW

NOTES:
1. 1678XX SERIES TRANSFORMERS WITH EYEBOLT CLAMPS ARE DESIGNED AND MANUFACTURED TO ACCEPT ONE RUN OF 1/0 SECONDARY AND INTENDED TO SERVICE ONE CUSTOMER. FOR LARGER SECONDARY CONDUCTOR SIZES (GREATER THAN 1/0), OR MULTIPLE SERVICE CONNECTIONS, A 1672XX SERIES TRANSFORMER SHALL BE INSTALLED

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. C.BAUTISTA CHKD.	1Ø TRANSFORMER SECONDARY CONNECTION
		2018–05–28	
DATE OF ISSUE 2018-06-07	DRAWING NO. B–08–31	SHEET 1 of 1	REV. D

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	2 04 03	1/10	1/10	COMPOUND - OXIDE INHIBITOR
2	2 65 XX	6	6	HYLUG
3	2 02 70	1	-	CLAMP-HOTLINE
4	5 05 97	-	-	BOX PAD FIBREGLASS- 32" 1Ø 100-167KVA (SEE NOTE 2)
4	5 06 04	1	1	FIBERGLASS BOX PAD - 32" HIGH (SEE NOTE 2)
5	5 06 94	-	1	FAULT INDICATOR-300 AMP-REMOTE INDICATOR
6	5 12 08	1	2	CRIMPIT - CU YC2C4
7	5 79 34	1	2	ELBOW CONNECTOR - LOADBREAK
8	6 04 15	1	0	ARRESTER - ELBOW
9	7 66 00	1	1	PADLOCK – FOR N/O
10	9 01 25	2	2	PLANKING (2" x 6" x 10')
11	70 10 36	6	6	WASHER – ROUND – BRASS – 1/2" HOLE
12	70 10 51	3	3	BOLT 1/2" x 2" – SILICON BRONZE
13	70 10 80	3	3	LOCKWASHER – SPRING – 1/2" SILICON
14	71 35 00	1	2	KIT - CABLE PREPARATION
15	71 42 02	1/4	1/4	TAPE SAPT INSULATING (ROLL)
16	05 384 008	1	2	TAG - CABLE MARKER YELLOW
17	05 638 32X	3	3	NUMBER – DECAL BLACK 1 1/2" – SEE NOTE 3
18	05 638 329	1	1	SYMBOL – DECAL "DASH" BLACK 1 1/2" – SEE NOTE 3
19	05 638 4XX	5	5	LETTER – DECAL BLACK 1 1/2" – SEE NOTE 3
20	05 640 008	0.01	0.01	BLANK REFLECTIVE STRIP (150' ROLL) – SEE NOTE 3

NOTE:

1. **COLUMN A IS FOR RADIAL FEED.**
   COLUMN B IS FOR LOOP FEED.
2. **USE SMALLER 50604 BOX PAD FOR TRANSFORMERS 75kVA OR LESS. FOR TRANSFORMERS 100kVA – 167 KVA USE 50597.**
3. **REFER TO B-30-20 FOR APPLICABLE STOCK CODES & MOUNTING DETAILS.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **JDA**	**URBAN, 1Ø 72, 73 & 74 SERIES PADMOUNT TRANSFORMER**
L.MOEN	**J. ARSENAULT**	CHKD.	
		2019-02-11	

DATE OF ISSUE: 2020/05/12 | DRAWING NO: **B-08-34** | **SHEET 1 of 4** | REV. **G**

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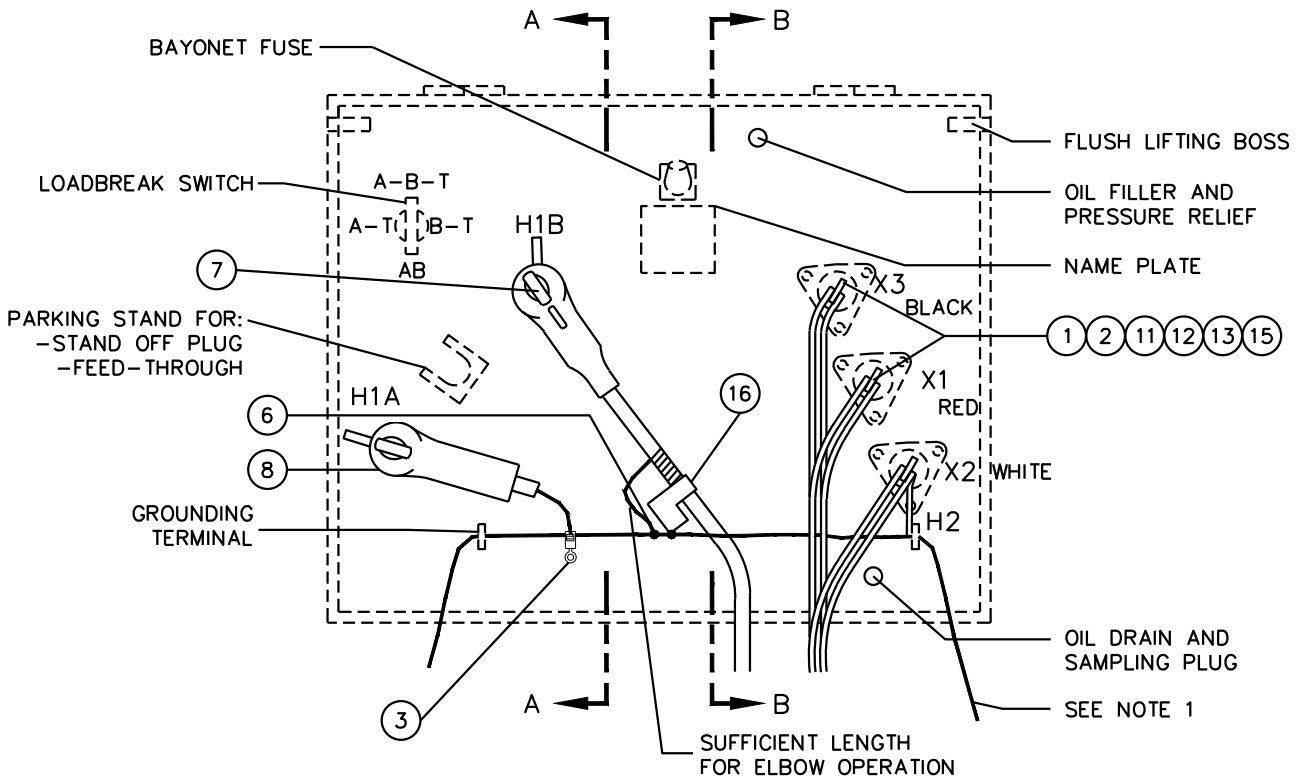
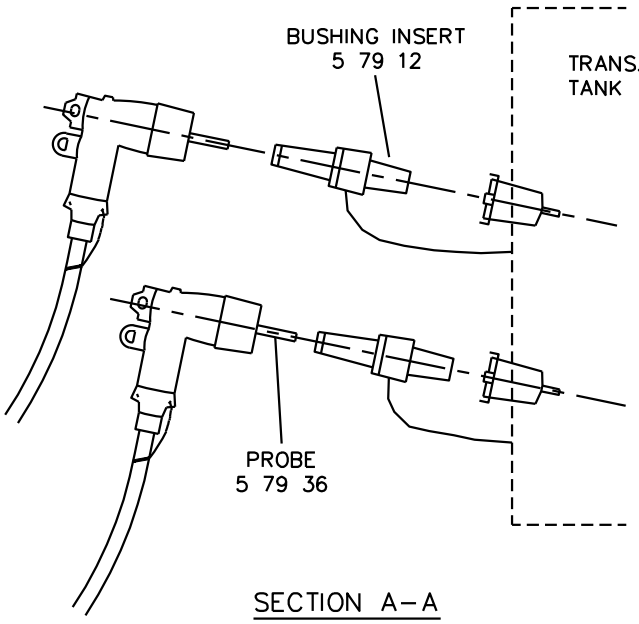
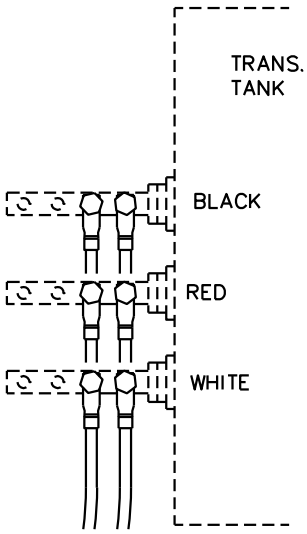
A. RADIAL FEED





SECTION A-A



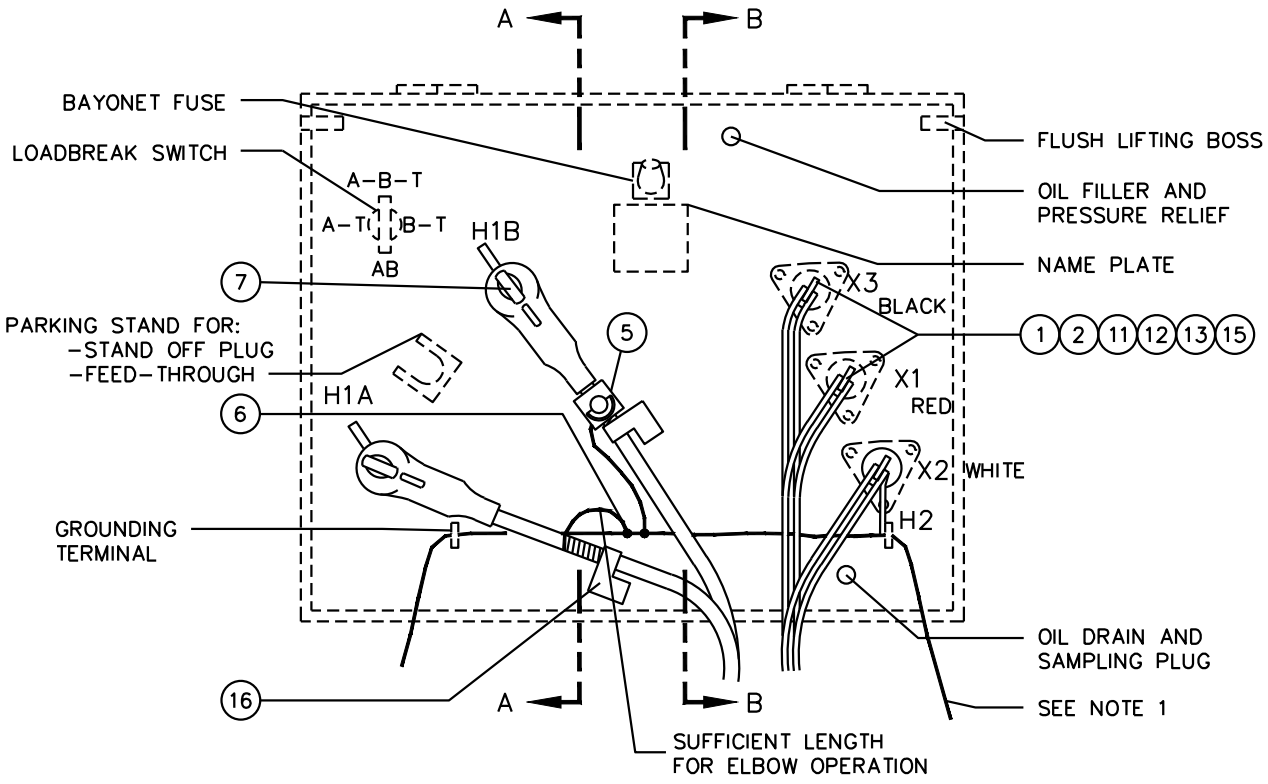
SECTION B-B

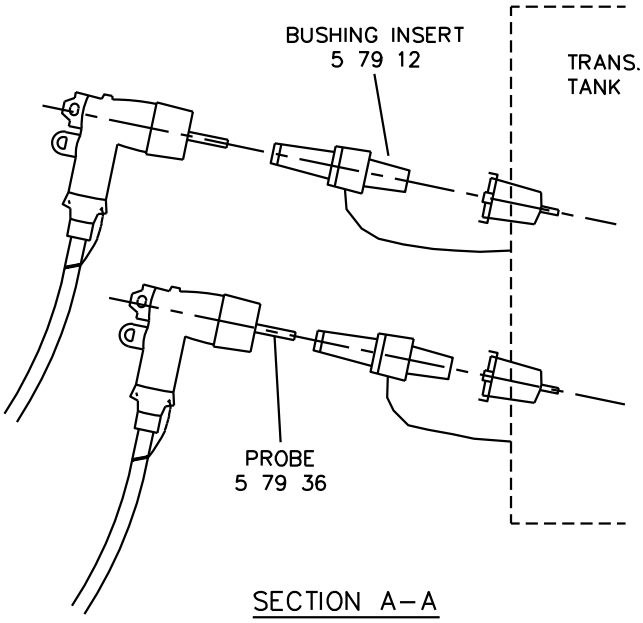
SEE SHEET 4 OF 4 FOR NOTES.

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

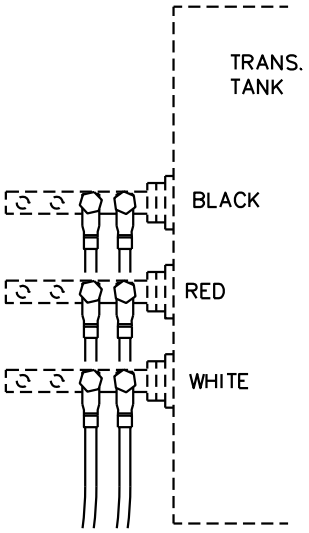
SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. Y.HAO CHKD. 2016-01-20	URBAN 1ø 72, 73 & 74 SERIES PADMOUNT TRANSFORMER
DATE OF ISSUE 2016/02/05	DRAWING NO. B-08-34	SHEET 2 of 4	REV. F

B. LOOP FEED





SECTION A–A



SECTION B–B

SEE SHEET 4 OF 4 FOR NOTES.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. Y.HAO CHKD. 2016-01-20	URBAN 1ø 72, 73 & 74 SERIES PADMOUNT TRANSFORMER
DATE OF ISSUE 2016/02/05	DRAWING NO. B-08-34	SHEET 3 of 4	REV. F

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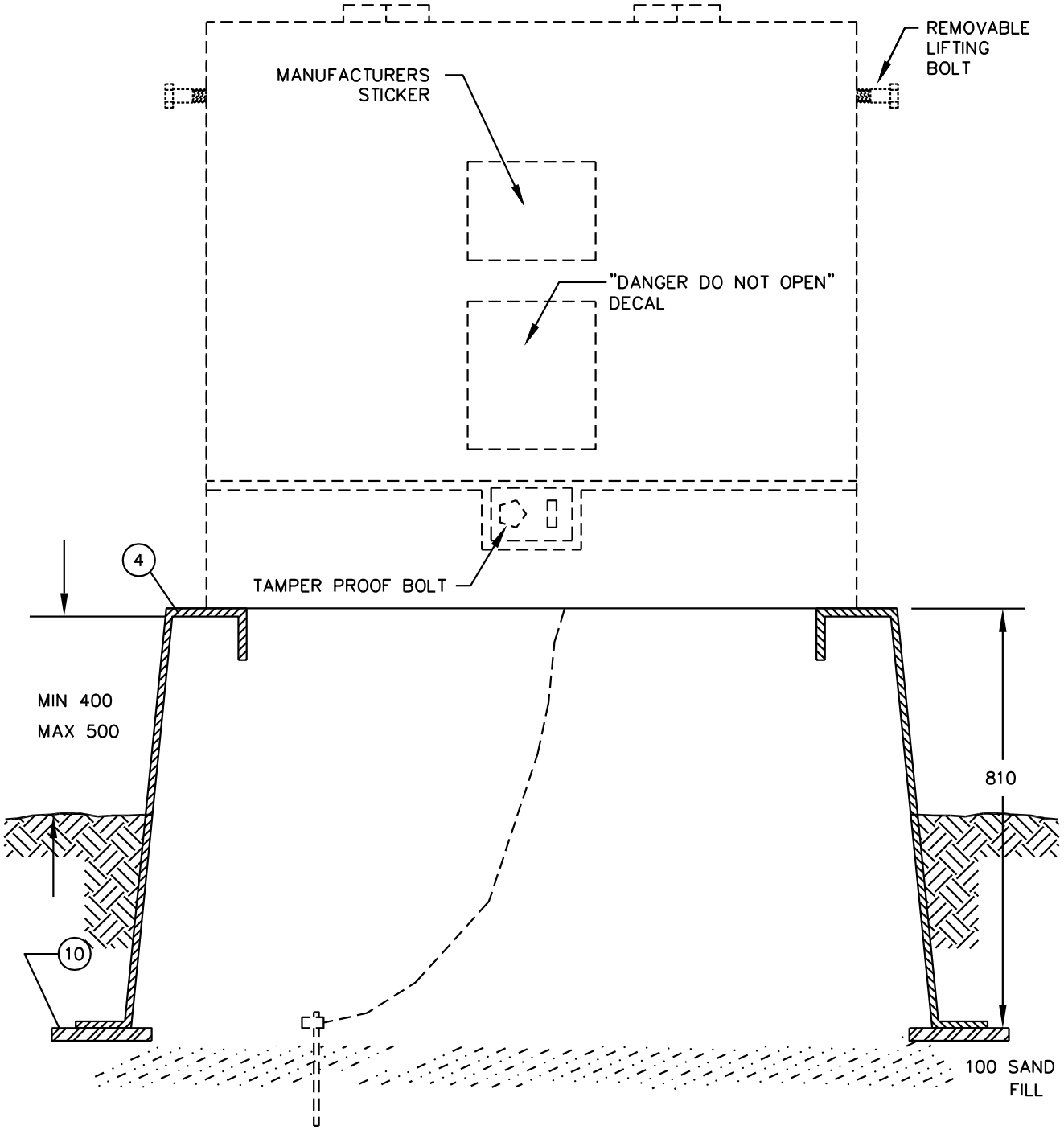

NOTE:
1. USE TYPE TYPE 'J' GROUND GRID (SEE B-33-08).
2. CABLE ACCESSORIES SEE SECTION B-36.
3. DRAWING IS FIBREGLASS BOX INSTALLATION.
4. PLANKS SHALL BE INSTALLED ON ALL SIDES FOR STABILIZATION.

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. 2018-08-28	URBAN 1ø 72, 73 & 74 SERIES PADMOUNT TRANSFORMER
DATE OF ISSUE 2018-09-13		DRAWING NO. B-08-34 SHEET 4 of 4	REV. B

ACCESSORIES PADMOUNT TRANSFORMERS

ACCESSORY DESCRIPTION		DEAD FRONT		LIVE FRONT
		25–167 kVA 1Ø LOAD BREAK	150–1000 kVA 3Ø DEAD BREAK	25–167 kVA 1Ø
ELBOW (COMPLETE)		5–79–34	5–83–35	——
INSERT SEE NOTE		5–79–12	5–83–12	——
BUSHING INSERT CAP	(OPERATING)	5–79–14	——	——
PLUG STAND OFF INSULATED	(OPERATING)	5–79–47	51–673–151	——
PLUG GROUNDING CLUSTER	(OPERATING)	——	51–803–000	——
PLUG DEAD END	(OPERATING)	——	5–83–42	——
DEAD END	(OPERATING)	——	5–83–50+35	
PLUG STRAIGHT		——	5–83–48	——
T–CONNECTOR		——	5–83–38	——
ONE PIECE BUSHING WELL & INSERT		5–79–10	——	——
FEED THRU BUSHING	(OPERATING)	5–79–40	——	——
FUSE – OIL IMMERSED FOR BAY–O–NET FUSE	(OPERATING)	7–55–XX	7–55–XX	——
CONDUCTOR CONTACT FOR ELBOW	(MAINTENANCE)	5–79–37	*	
PIN CONTACT FOR ELBOW	(MAINTENANCE)	5–79–36	*	
FEMALE CONTACT ASSY. FOR INSERT	(MAINTENANCE)	5–79–12	——	
ARC STRANGLER 200 AMP		——	——	5–06–15
INDICATOR CABLE FAULT		5–06–93	5–06–93	5–06–93
ROD TEST & GROUND		5–79–53	——	——
FUSE NX SAND FILLED	(OPERATING)	——	——	7–53–XX
SCREW IN FUSE PLUG FOR BAY–O–NET FUSE HOLDER	(MAINT.)	7–55–00	7–55–00	——
STRESS CONE		——	——	8–35–00
VAULT		5–06–04	5–06–09	5–06–08
SLEEVE #1 XLPE AL. TO #2 CU.		——	——	2–65–80
CONNECTOR COMPRESSION HYLUG		2–65–XX	2–65–XX	2–65–XX
KIOSK 25 – 167 kVA		——	——	5–06–10
KIOSK 25 – 167 kVA c/w WRAP DOOR				5–06–11
TRANSFORMER SEPARABLE 14,400 – 120/240		——	——	16–71–XX
TRANSFORMER LOW PROFILE 14,400 – 120/240		16–72–XX	——	——
TRANSFORMER PADMOUNT		——	19–XX–XX	——
PADLOCK		7–66–00	7–66–00	7–66–00
GROUNDING CLUSTER	(OPERATING)		51–803–000	

* NOT STOCK CODED
—— NOT REQUIRED

NOTES:
1. INSERT INCLUDED WITH TRANSFORMER FOR 1979 CONSTRUCTION. FOR MAINTENANCE ON EXISTING PAD MOUNTS USE ABOVE CODE No. 5–79–12 AND 5–83–12.
2. GROUNDING CLUSTER INCLUDES 3 INSULATED STAND OFF PLUGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

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SaskPower – DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK.	DRN.D.REDEKOPP	TRANSFORMER ACCESSORIES & INSTALLATION
L.MOEN	B.GEBHART	CHKD.	
		2020–05–19	
DATE OF ISSUE 2020/05/12		DRAWING NO. B–08–39 SHEET 1 of 2	REV. B

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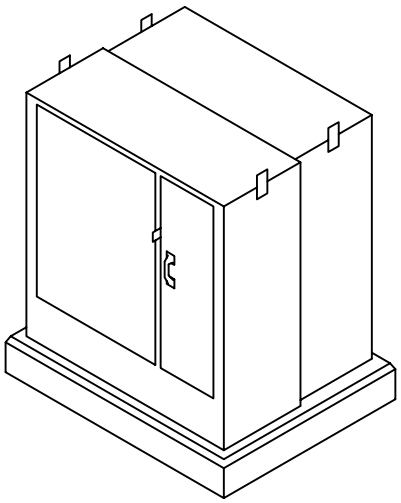
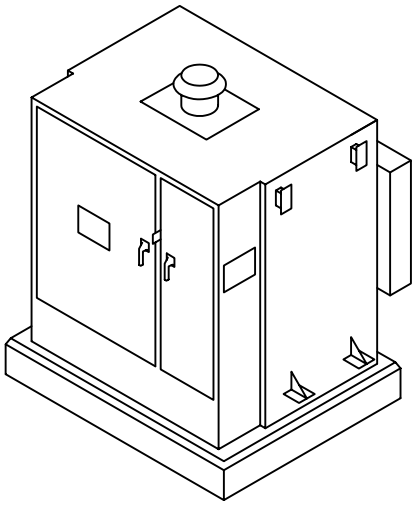
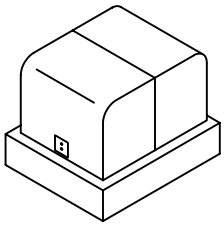


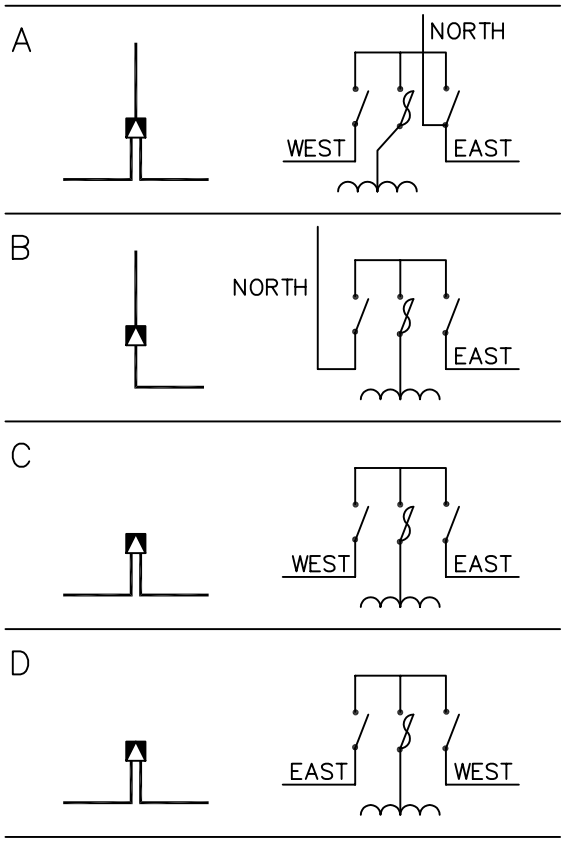
1Ø SEPARABLE
PADMOUNT



3Ø PADMOUNT



LOW PROFILE
PADMOUNT



STANDARD CONFIGURATION
OF PRIMARY CABLE ROUTING

NOTE:

1. SAFETY SCREWS SHALL BE INSTALLED ON ALL PADMOUNT UNITS.
2. PADLOCK DOORS TO PREVENT TAMPERING DURING CONSTRUCTION.
3. PLACE ARROW STICKERS TO IDENTIFY NORMAL DIRECTION OF FEED.
4. CABLES ENTERING KIOSK SHALL BE ORIENTED & TERMINATED AS SHOWN ON THE SCHEMATIC DIAGRAMS (A, B, C OR D).
5. THE FOUNDATION SHALL BE SET ON WELL PACKED SOIL TO PREVENT UNEVEN KIOSK SETTLING.
6. SCHEMATIC "A" SHOULD BE AVOIDED IF POSSIBLE & A SWITCH KIOSK USED (USE STANDARD KIOSK PLUS BACK PANEL).
7. GROUND ROD SHALL BE INSTALLED IN THE SECONDARY COMPARTMENT.
8. BOTTOM OF KIOSK & TRANSFORMER MUST BE SEALED TO FOUNDATION WITH CAULKING COMPOUND TO PREVENT THE ENTRY OF DUST & SNOW.

NOTES ON SCHEMATIC DIAGRAMS:

9. SCHEMATIC DIAGRAMS ARE ALWAYS UPRIGHT (AS IN A, B, C & D) ON THE DISTRIBUTION LAYOUT DRAWING REGARDLESS OF ACTUAL KIOSK ORIENTATION.
10. ALL SCHEMATIC KIOSK DIAGRAMS SHOW KIOSK AS VIEWED FROM DOOR TO OPENING.
11. CABLE DIRECTIONS ON SCHEMATIC DIAGRAMS INDICATE WHICH DIRECTION CABLES GO FROM KIOSK.

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

SaskPower – DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	TRANSFORMER ACCESSORIES & INSTALLATION
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE	DRAWING NO. B-08-39 SHEET 2 of 2	REV. A

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URBAN UNDERGROUND DISTRIBUTION

1. URBAN RESIDENTIAL

1.1 THE DESIGN COMPONENTS FOR A URD SYSTEM ARE AS FOLLOWS:

- **A. O/H TO U/G TAKE-OFF STRUCTURES – SECTION B-12-XX**
- **B. PRIMARY FEEDER CONDUCTORS – SECTION C-26-XX**
- **C. SECONDARY DISTRIBUTION CONDUCTORS – SECTION C-26-XX**
- **D. SERVICE CONDUCTORS – SECTION C-26-XX**
- **E. PADMOUNTED TRANSFORMER – SECTION B-08-XX**
- **F. SWITCHING CUBICLES – SECTION B-26-XX**
- **G. SERVICE PEDESTALS – SECTION B-12-XX**
- **H. STREET LIGHTING – SECTION B-20-XX**
- **I. METERING COMPONENTS – SECTION B-24-XX**

2. URBAN COMMERCIAL & INDUSTRIAL

2.1 CONSISTS OF THREE Ø PRIMARY (5kV, 15kV & 25kV) FEEDERS TO COMMERCIAL & INDUSTRIAL, SINGLE Ø AND THREE Ø SERVICES.

2.2 THE DESIGN COMPONENTS FOR A COMMERCIAL URBAN SYSTEM ARE AS FOLLOWS:

- **A. O/H TO U/G TAKE-OFF STRUCTURES – SECTION B-12-XX**
- **B. PRIMARY FEEDER CONDUCTORS – SECTION C-26-XX**
- **C. PADMOUNTED TRANSFORMER – SECTION B-08-XX**
- **D. SWITCHING CUBICLES – SECTION B-26-XX**
- **E. DUCT BANK SYSTEMS – SECTION B-14-XX**
- **F. METERING – SECTION B-24-XX**

3. JOINT USE TAKE-OFFS

3.1 IN ORDER TO ACCOMMODATE JOINT- USE TAKE-OFF FACILITIES THE CABLE GUARD SHALL BE SHIFTED 45°. JOINT-USE TAKE-OFFS ARE NOT PERMITTED ON GROUND GRID 'C' OR ANY OTHER MULTI-ROD GROUND GRID STRUCTURES DUE TO CONGESTION ON THE POLE AND POSSIBLE DAMAGE TO THE GROUND GRID.

4. TAKE–OFF TRENCHING

4.1 TRENCH FOR CABLE TAKE-OFF TO BE IN LINE WITH O/H CIRCUIT FOR AT LEAST 1.2m TO HELP AVOID LEAN DUE TO TRENCH BACKFILL.

NOTES CONTINUTED ON SHEET 2

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URBAN UNDERGROUND DISTRIBUTION

5. GENERAL NOTES

5.1 INSTALL DETECTABLE PULL TAPE (STOCK CODE 713504) IN SPARE CONDUIT IN SITUATIONS WHERE NO OTHER DETECTABLE CABLE IS EXPECTED TO BE ENERGIZED WHEN SPARE CONDUIT WILL NEED TO BE LOCATED.

5.2 AVOID INSTALLING SECONDARY CONDUCTORS UNDER ROADWAYS WHEN POSSIBLE.

6. URBAN BACKFILL REQUIREMENTS

6.1 IN GREENFIELD CONSTRUCTION, TYPICALLY, THE NATURAL SOIL THAT IS EXCAVATED SHALL BE USED AS BACKFILL MATERIAL. IF THE SOIL IS NOT SUITABLE, DUE TO ROCKS, SNOW, FROZEN GROUND, OR OTHER FOREIGN MATERIAL, THEN CLEAN BACKFILL MATERIAL SHALL BE USED. FOR BROWNFIELD CONSTRUCTION IN SOME URBAN CENTERS SUCH AS REGINA AND SASKATOON, MANY HAVE THEIR OWN STANDARDS AND SPECIFICATIONS FOR BACKFILLING. PLEASE REFER TO EACH CITY'S WEBSITE FOR A COPY OF THEIR BACKFILL REQUIREMENTS AS THEY ARE NOT ALL THE SAME.

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 12 02	2	BOLT MACHINE – 1/2" x 2"
2	1 13 12	2	BOLT MACHINE – 5/8" x 12"
3	1 34 09	3	GUARD CABLE PLASTIC – 2 1/2" x 8'
4	1 34 11	1	GUARD CABLE STEEL – 2 1/2" x 8'
5	1 35 31	2	BRACKET POLE–MOUNT
6	1 78 12	2	SCREW LAG – 1/2" x 4 1/2"
7	1 78 38	8	SCREW LAG – 3/8" x 4"
8	1 85 01	0.25 lb	STAPLE FENCE – 1 3/4"
9	1 93 22	2	WASHER LOCK – 1/2"
10	1 93 27	2	WASHER DOUBLE LOCK – 5/8”
11	1 93 30	2	WASHER ROUND – 9/16"
12	1 93 42	2	WASHER SQUARE – 2 1/4” x 2 1/4” x 13/16" HOLE
13	2 02 71	1	CLAMP LIVE LINE
14	2 02 82	1	CLAMP BAIL – #6 – 1/0 ACSR
15	2 12 62	1	CUTOUT LOADBREAK – 27 kV 100 AMP – SEE NOTE 1
16	2 83 02	3 m	WIRE CU – #2/7 STR
17	2 83 04	6 m	WIRE CU – #4/7 STR
18	5 12 06	2	CONNECTOR CU – 4C4
19	5 46 18	2	STRAP LEAD
20	7 38 XX	1	FUSE LINK – TYPE “T"
21	7 69 64	0.30	WOOD SCREW – #14 – 2" HEX HEAD (100/BOX)
22	8 02 18	1	ARRESTER – 18 kV (URBAN) RISER POLE CLASS
23	8 35 06	1	TERMINATOR – #1 AL
24	71 35 00	1	CABLE PREP KIT
25	05 385 151	-	ALUM TAG HOLDER – FOR 10 – 1" TAGS, U.V. – SEE NOTE 3
26	05 385 20X	-	TAG NUMBER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
26	05 385 209	-	TAG DASH I.D. YELLOW POLYETHYLENE – SEE NOTE 3
26	05 385 25X	-	TAG LETTER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
27	05 638 32X	3	NUMBER – DECAL BLACK 1 1/2" – SEE NOTE 2
27	05 638 329	1	SYMBOL – DECAL “DASH” BLACK 1 1/2" – SEE NOTE 2
27	05 638 4XX	5	LETTER – DECAL BLACK 1 1/2" – SEE NOTE 2
28	05 640 000	1	SIGN "DANGER H.V."
29	05 640 006	1	SIGN – BLANK – REFLECTIVE – 3"X18" – SEE NOTE 2
30	05 646 582	1	DECAL – WATCH FOR WIRES
			MATERIAL LIST CONTINUED ON SHEET 3

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **JDA**	**SINGLE PHASE TAKE-OFF STRUCTURE**
L. MOEN	J. ARSENAULT	CHKD.	
		2019-04-08	

DATE OF ISSUE: **2020/05/12** | DRAWING NO: **B-14-10** | **SHEET 1 OF 3** | REV. **H**

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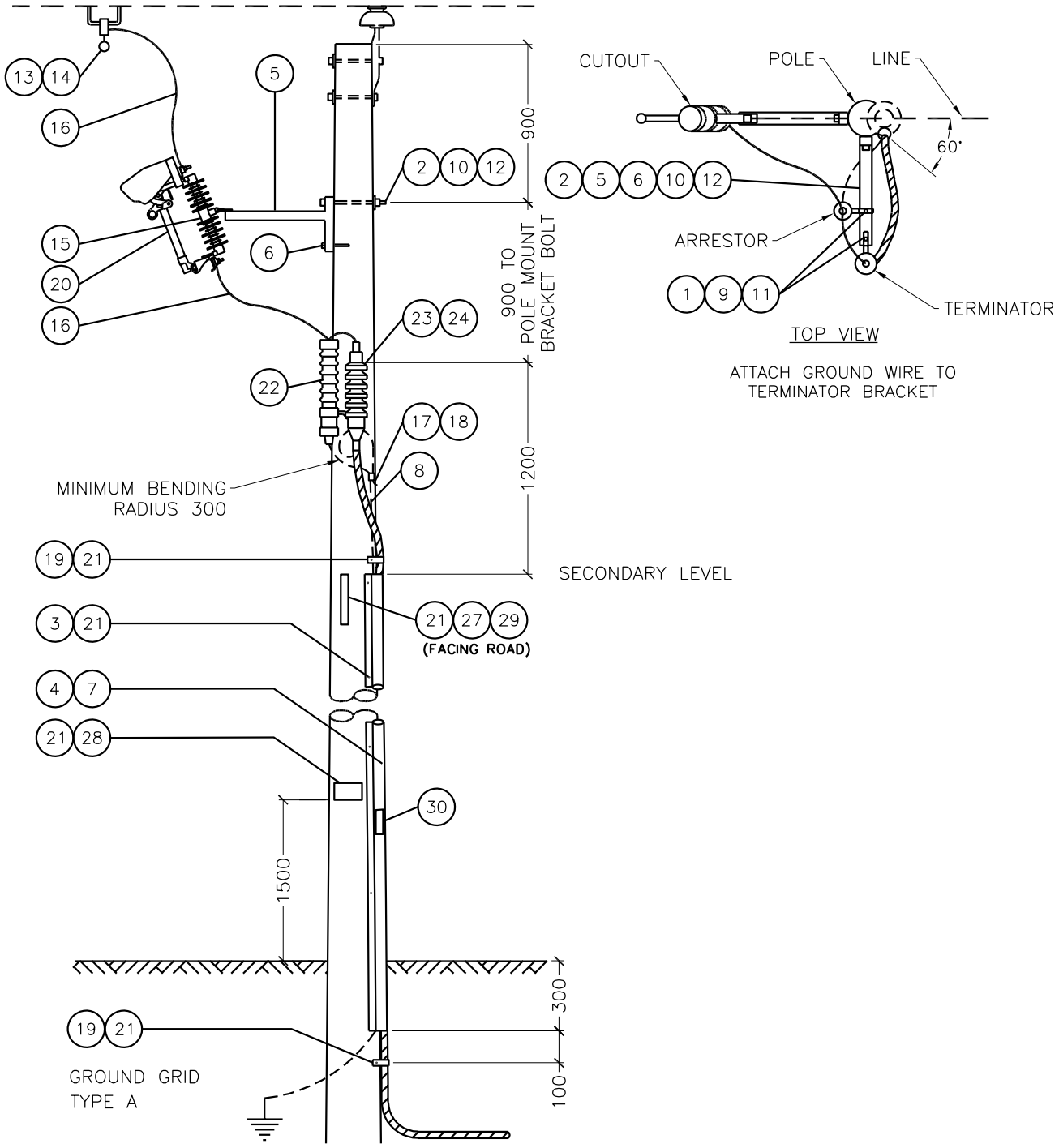

NOTES:

1. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
2. GUARD TO BE BUILT ON SIDE AWAY FROM TRAFFIC.
3. GROUND BOTTOM OF CABLE GUARD TO GROUND ROD.
4. ENSURE SUFFICIENT CABLE SLACK AT BASE OF POLE IN CASE OF TERMINATOR FAILURE.
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. O.FRANCIS	DRN. D.REDEKOPP CHKD. 2019-08-30	SINGLE-PHASE TAKE-OFF STRUCTURE
DATE OF ISSUE: 2020/05/12	DRAWING NO. B-14-10	SHEET 2 of 3	REV. G

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
			NOTES: **1. LOADBREAK CUTOUT IS CAPABLE OF ACCOMMODATING UP TO 2/0 CU (STOCK CODE 28320). HOWEVER, THE CONNECTORS, TERMINATOR SIZE & RISER AMPACITY MUST MATCH THE UNDERGROUND CABLE. THE RISER TO THE SURGE ARRESTOR MUST REMAIN #2 CU DUE TO SIZE RESTRICTIONS.** **2. REFER TO A-30-05 FOR APPLICABLE STOCK CODES & MOUNTING DETAILS. CONFIGURATOR DEFAULTS TO THIS OPTION.** **3. WHEN SPACE IS AN ISSUE THIS TAG HOLDER MAY BE USED INSTEAD OF THE REFLECTIVE SIGN. REFER TO A-30-05 FOR MOUNTING DETAILS & B-30-26 FOR APPLICABLE STOCK CODES.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **JDA**	**SINGLE PHASE TAKE-OFF STRUCTURE**
L. MOEN	J. ARSENAULT	CHKD.	
		2019-04-08	

DATE OF ISSUE: **2020/02/12** | DRAWING NO: **B-14-10** | **SHEET 3 OF 3** | REV. **0**

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	1 34 08	0	3	GUARD CABLE PLASTIC - 4" x 8'
1	1 34 09	3	0	GUARD CABLE PLASTIC - 2 1/2" x 8'
2	1 34 10	0	1	GUARD CABLE STEEL - 4" x 8'
2	1 34 11	1	0	GUARD CABLE STEEL - 2 1/2" x 8'
3	1 78 38	6	6	SCREW LAG - 3/8" x 4"
4	5 09 XX	3	3	CONNECTOR COMPRESSION
5	5 46 18	1	1	STRAP LEAD
6	7 69 64	0.28	0.28	SCREW WOOD - #14 x 2 1/2" (100/BOX)
7	05 640 000	1	1	SIGN - DANGER
8	05 646 582	1	1	DECAL – WATCH FOR WIRES

NOTE:

1. **USE COLUMN 'A' OR 'B' TO SUIT THE NUMBER OF CIRCUITS. COLUMN 'A' – 2-1/2" CABLE GUARD, COLUMN 'B' – 4" CABLE GUARD.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**SECONDARY TAKE-OFF STRUCTURE**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **2007/04/16** | DRAWING NO: **B-14-11** | **SHEET 1 OF 2** | REV. **E**

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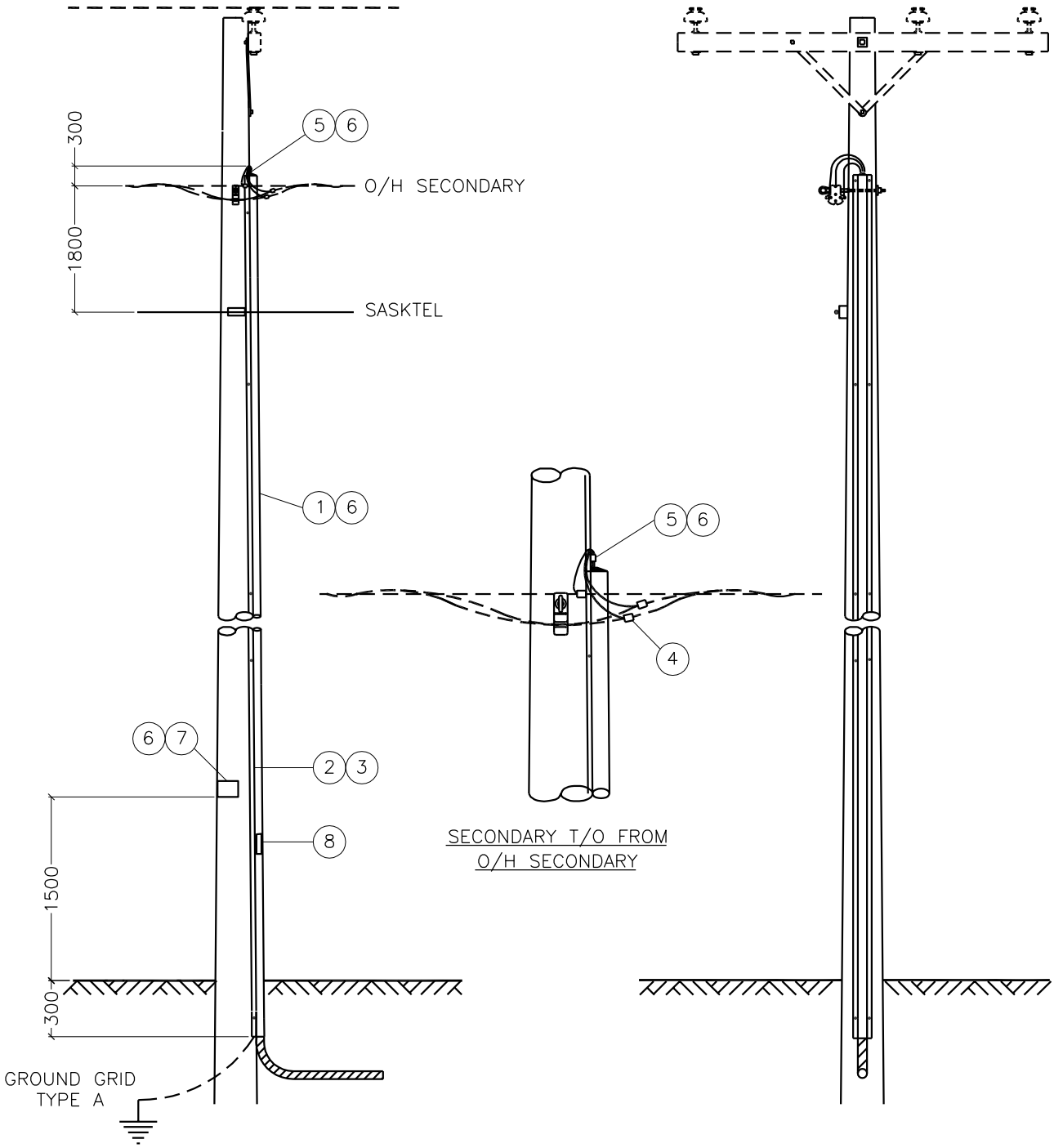

NOTES:

1. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
2. GUARD TO BE BUILT ON SIDE AWAY FROM TRAFFIC.
3. GROUND BOTTOM OF CABLE GUARD TO GROUND ROD.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. D.REDEKOPP CHKD. 2017-10-31	SECONDARY TAKE-OFF STRUCTURE
DATE OF ISSUE 2016/05/04	DRAWING NO. B-14-11	SHEET 2 of 2	REV. F

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	1 34 10	0	1	GUARD CABLE STEEL - 4" x 8'
1	1 34 11	1	0	GUARD CABLE STEEL - 2 1/2" x 8'
2	1 34 08	0	3	GUARD CABLE PLASTIC - 4" x 8'
2	1 34 09	3	0	GUARD CABLE PLASTIC - 2 1/2" x 8'
3	1 78 38	6	6	SCREW LAG - 3/8" x 4"
4	5 06 74	3	3	TERMINAL BLOCK - 6 OUTLET
5	5 46 18	1	1	STRAP LEAD
6	5 12 06	2	2	CONNECTOR CU – 4C4
7	7 69 64	0.28	0.28	SCREW WOOD - #14 x 2 1/2" (100/BOX)
8	05 640 000	1	1	SIGN - DANGER
9	05 646 582	1	1	DECAL – WATCH FOR WIRES

NOTE:

1. **USE COLUMN A OR B TO SUIT THE NUMBER OF CIRCUITS.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	SECONDARY TRANSFORMER TAKE-OFF STRUCTURE
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **2007/04/16** | DRAWING NO: **B-14-12** | **SHEET 1 OF 2** | REV. **E**

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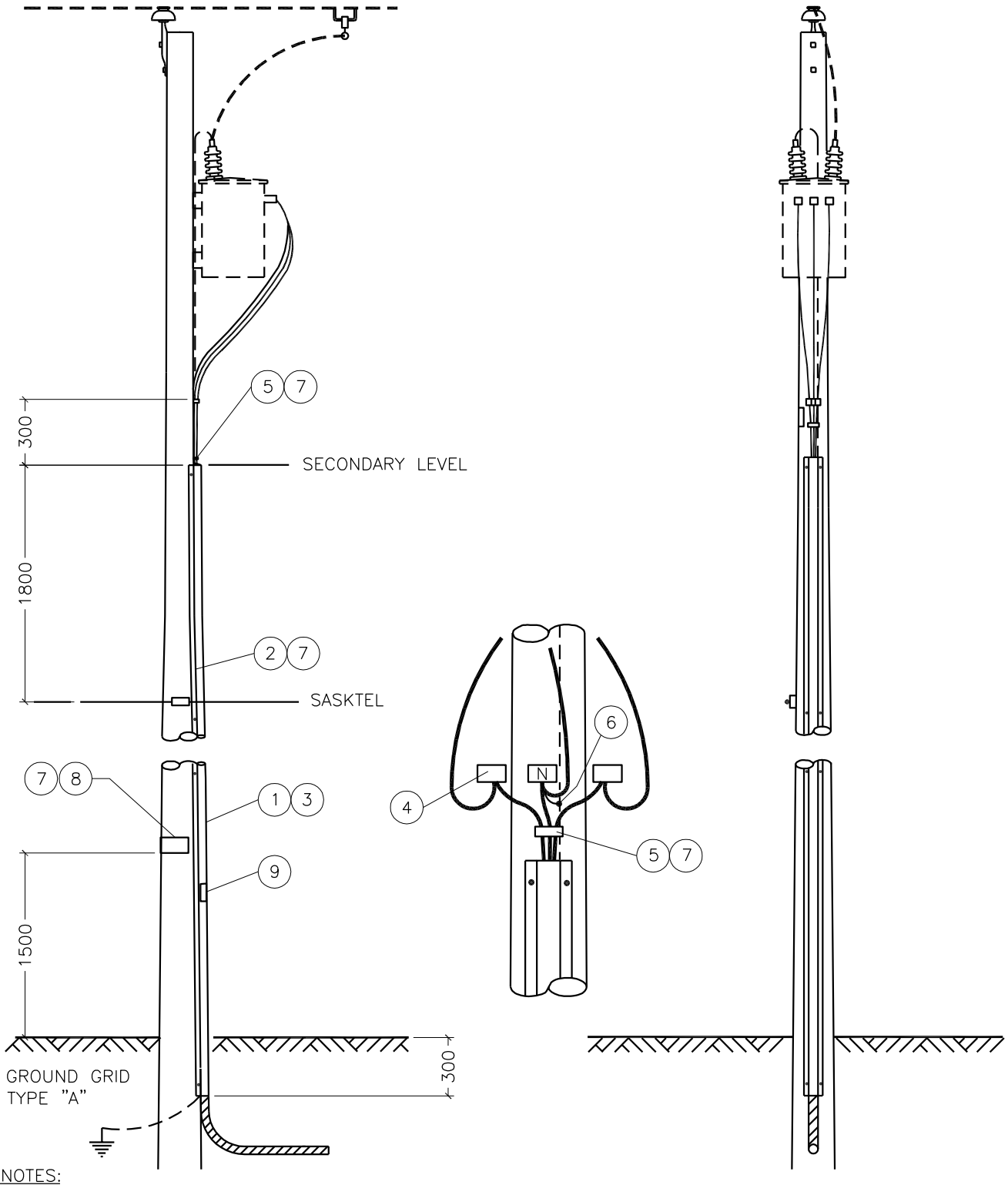

NOTES:

1. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
2. FOR TRANSFORMERS WITH SPADE TYPE CONNECTORS SEE DRAWING B-08-31 BOX A.
3. GROUND BOTTOM OF CABLE GUARD TO GROUND ROD.
4. IF REQUIRED TO SUPPORT CABLES NEAR TERMINALS, USE A SPREADER BRACKET (CODE 1-21-04) & SQUARE WASHER (CODE 1-93-42).
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. D.REDEKOPP CHKD. 2017-10-31	SECONDARY TRANSFORMER TAKE-OFF STRUCTURE
DATE OF ISSUE 2017-11-03	DRAWING NO. B-14-12	SHEET 2 of 2	REV. E

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 12 02	2	BOLT MACHINE – 1/2" x 2"
2	1 13 12	1	BOLT MACHINE – 5/8" x 12"
3	1 34 09	3	GUARD CABLE PLASTIC – 2 1/2" x 8'
4	1 34 11	1	GUARD CABLE STEEL – 2 1/2" x 8'
5	1 35 31	1	BRACKET – "T" FOR ARRESTORS & CUTOUTS
6	1 78 12	1	SCREW LAG – 1/2" x 4 1/2"
7	1 78 38	6	SCREW LAG – 3/8" x 4"
8	1 85 01	1/4 lb	STAPLE FENCE – 1 3/4"
9	1 93 22	2	WASHER LOCK – 1/2"
10	1 93 27	1	WASHER DOUBLE LOCK – 5/8"
11	1 93 30	2	WASHER ROUND – 9/16"
12	1 93 42	1	WASHER SQUARE – 2 ¼" x 2 ¼" x 13/16" HOLE
13	2 83 02	3 m	WIRE CU – #2/7 STR
14	2 83 04	6 m	WIRE CU – #4/7 STR
15	5 09 XX	2	CONNECTOR AL – CRIMPIT (SEE NOTE 1)
16	5 12 06	2	CONNECTOR CU – 4C4
17	5 12 08	1	CONNECTOR CU – 2C4
18	5 46 18	2	STRAP LEAD
19	7 69 64	0.28	SCREW WOOD – ROBERTSON #14 x 2 1/2" (100/BOX)
21	8 02 18	1	ARRESTER – 18 kV RISER POLE CLASS
22	8 35 05	1	TERMINATOR – #1 AL
23	71 35 00	1	KIT – CABLE PREPARATION
24	05 640 000	1	SIGN – DANGER
25	05 646 582	1	DECAL – WATCH FOR WIRES

NOTE:

1. **REFER TO SECTION A-36 FOR SPECIFIC MATERIAL REQUIREMENTS.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**REVERSE TAKE-OFF ON RADIAL**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **2007/04/16** | DRAWING NO: **B-14-14** | **SHEET 1 OF 2** | REV. **D**

SPC/AUTODRAFT

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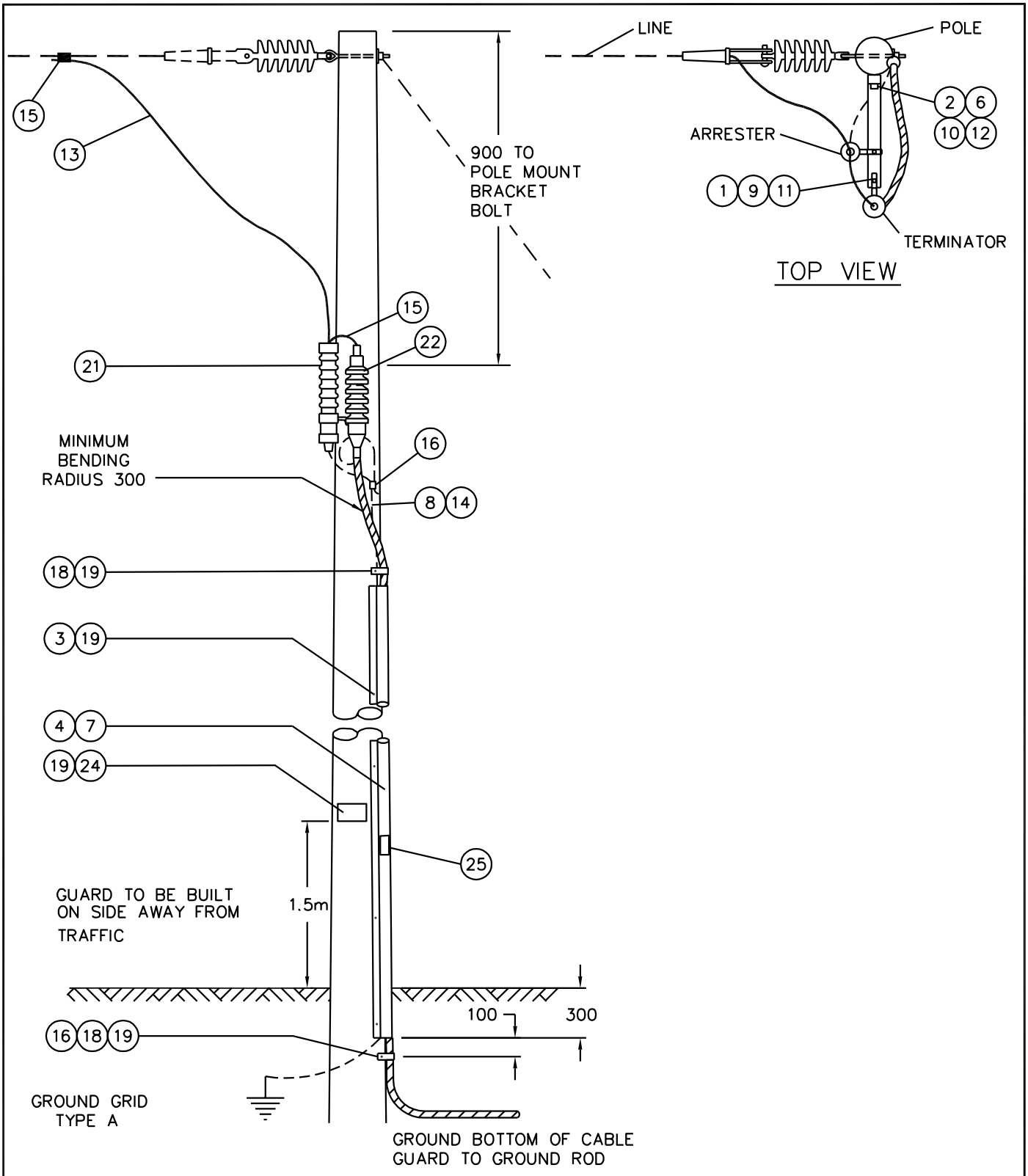

NOTE:

1. NORMAL DIRECTION OF FEED VIA UNDERGROUND CABLE.

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

SaskPower – DISTRIBUTION STANDARDS				
DRN. M.T.S.	DESIGN CHK.	SAFETY APP.	APPROVAL	REVERSE TAKE-OFF ON RADIAL
CHKD.				
DATE	DATE	DATE	DATE	
DATE OF ISSUE: 2007/04/16		DRAWING NO. B-14-14	SHEET 2 of 2	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 08 38	2	BOLT CARRIAGE – 3/8" x 4 1/2"
2	1 12 02	6	BOLT – MACHINE – 1/2" x 2"
3	1 13 16	2	BOLT – MACHINE – 5/8" x 16"
4	1 19 32	4	BRACE CROSSARM – 32"
5	1 29 10	2	CROSSARM – 4" x 5" x 10'
6	1 32 86	2	GAIN POLE – 12" x 6" x 6"
7	1 34 08	3	GUARD CABLE PLASTIC – 4" x 8'
8	1 34 10	1	GUARD CABLE STEEL – 4" x 8'
9	1 35 32	6	BRACKET – X ARM FOR CUTOUTS, ARRESTERS, OR TERMINATOR
10	1 78 12	4	SCREW LAG – 1/2" x 4 1/2"
11	1 78 38	6	SCREW – LAG 3/8" x 4"
12	1 85 01	½ lb	STAPLE FENCE – 1 3/4"
13	1 93 22	6	WASHER – LOCK – 1/2"
14	1 93 25	2	WASHER – LOCK – 3/8" DOUBLE COIL
15	1 93 27	2	WASHER – LOCK – 5/8" DOUBLE COIL
16	1 93 30	6	WASHER ROUND – 9/16" HOLE
17	1 93 42	4	WASHER SQUARE – 2 1/4" x 2 1/4" x 13/16" HOLE
18	2 02 71	3	CLAMP LIVE LINE
19	2 02 82	3	CLAMP BAIL #6 – 1/0 ACSR
20	2 12 62	3	CUTOUT LOADBREAK – 27 kV 100 AMP – SEE NOTE 1
21	2 83 02	9 m	WIRE CU – #2/7 STR
22	2 83 04	11 m	WIRE CU – #4/7 STR
23	5 09 XX	3	CONNECTOR AL – CRIMPIT
24	5 12 06	2	CONNECTOR CU – 4C4
25	5 46 18	3	STRAP LEAD
26	7 38 06	3	FUSE LINK – 6A TYPE "T"

MATERIAL LIST CONTINUED ON SHEET 3

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**3Ø SINGLE CIRCUIT TAKE-OFF STRUCTURE**
L. MOEN	**D. DONAIS**	CHKD.	
		2019-03-11	

DATE OF ISSUE: **2020/05/12** | DRAWING NO: **B-14-15** | **SHEET 1 OF 3** | REV. **I**

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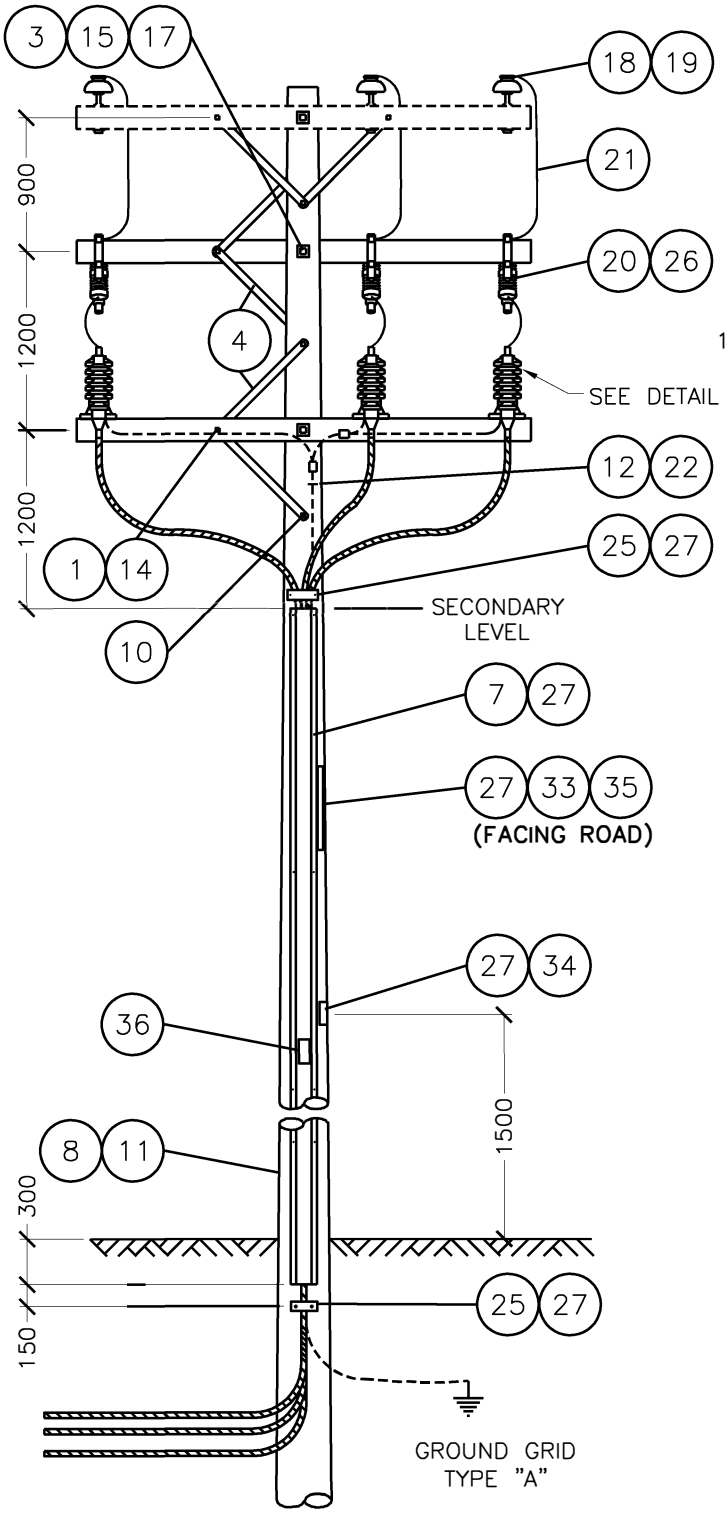
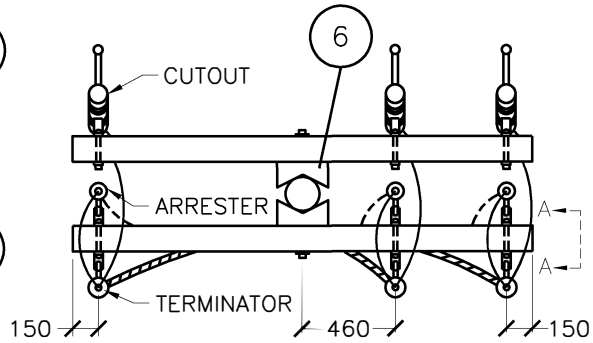
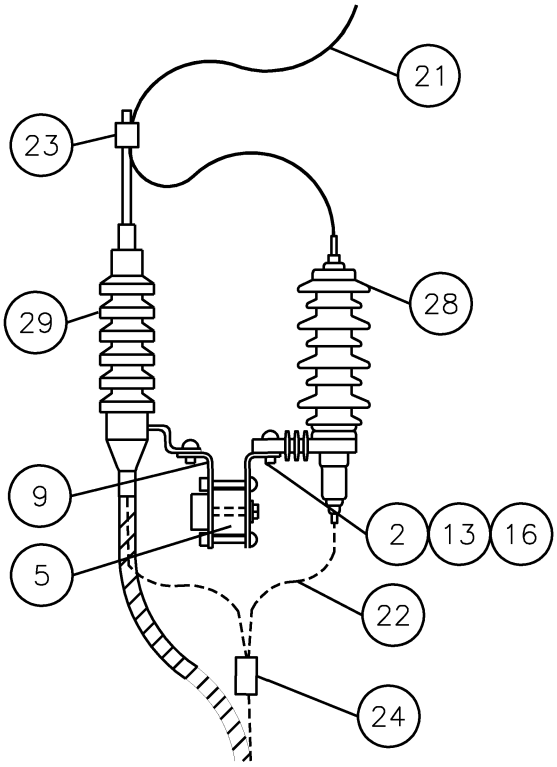




TOP VIEW

TOP CONDUCTOR ARM NOT SHOWN
RISERS WOULD BE STRAIGHT UP



DETAIL "A"

NOTES:

1. FOR DEADEND STRUCTURE THE TERMINATION CROSSARM IS UNDER THE GUY WIRE.
2. FRAMING ON A NEW STRUCTURE, THE PREFERRED LOCATION FOR THE ARRESTER ARM IS UNDER THE CONDUCTOR ARM.
3. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
4. GROUND BOTTOM OF CABLE GUARD TO GROUND ROD.
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. O.FRANCIS	DRN. D.REDEKOPP CHKD. 2019-09-03	3ø SINGLE-CIRCUIT TAKE-OFF STRUCTURE
DATE OF ISSUE: 2020/05/12	DRAWING NO. B-14-15	SHEET 2 of 3	REV. 1

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
27	7 69 64	0.30	WOOD SCREW – #14 – 2" HEX HEAD (100/BOX)
28	8 02 18	3	ARRESTER – 18 kV RISER POLE CLASS
29	8 35 XX	3	TERMINATOR – CABLE
30	71 35 00	3	CABLE PREPARATION KIT
31	05 385 151	-	ALUM TAG HOLDER – FOR 10 – 1" TAGS, U.V. – SEE NOTE 3
32	05 385 20X	-	TAG NUMBER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
32	05 385 209	-	TAG DASH I.D. YELLOW POLYETHYLENE – SEE NOTE 3
32	05 385 25X	-	TAG LETTER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
33	05 638 32X	3	NUMBER – DECAL BLACK 1 1/2" – SEE NOTE 2
33	05 638 329	1	SYMBOL – DECAL "DASH" BLACK 1 1/2" – SEE NOTE 2
33	05 638 4XX	5	LETTER – DECAL BLACK 1 1/2" – SEE NOTE 2
34	05 640 000	1	SIGN "DANGER H.V."
35	05 640 006	1	SIGN – BLANK – REFLECTIVE – 3"X18" – SEE NOTE 2
36	05 646 582	1	DECAL – WATCH FOR WIRES

NOTES:

1. **LOADBREAK CUTOUT IS CAPABLE OF ACCOMMODATING UP TO 2/0 CU (STOCK CODE 28320). HOWEVER, THE CONNECTORS, TERMINATOR SIZE & RISER AMPACITY MUST MATCH THE UNDERGROUND CABLE. THE RISER TO THE SURGE ARRESTOR MUST REMAIN #2 CU DUE TO SIZE RESTRICTIONS.**
2. **REFER TO A-30-05 FOR APPLICABLE STOCK CODES & MOUNTING DETAILS. CONFIGURATOR DEFAULTS TO THIS OPTION.**
3. **WHEN SPACE IS AN ISSUE THIS TAG HOLDER MAY BE USED INSTEAD OF THE REFLECTIVE SIGN. REFER TO A-30-05 FOR MOUNTING DETAILS & B-30-26 FOR APPLICABLE STOCK CODES.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **JDA**	**3Ø SINGLE CIRCUIT TAKE-OFF STRUCTURE**
L. MOEN	**O. FRANCIS**	CHKD.	
		2019-04-08	

DATE OF ISSUE: **2020/05/12** | DRAWING NO: **B-14-15** | **SHEET 3 OF 3** | REV. **0**

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 08 38	3	BOLT CARRIAGE – 3/8" x 4 1/2"
2	1 09 20	2	BOLT – DOUBLE ARMING – 5/8" x 20"
3	1 12 02	6	BOLT – MACHINE – 1/2" x 2"
4	1 12 08	6	BOLT – MACHINE – 1/2" x 8'
5	1 13 16	1	BOLT MACHINE – 5/8" x 16"
6	1 19 32	4	BRACE CROSSARM – 32"
7	1 21 31	3	PLATE – ADAPTER
8	1 29 10	3	CROSSARM – 4" x 5" x 10'
9	1 32 86	1	GAIN POLE – 12" x 6" x 6"
10	1 34 08	3	GUARD CABLE PLASTIC – 4" x 8'
11	1 34 10	1	GUARD CABLE STEEL – 4" x 8'
12	1 35 32	6	BRACKET – X ARM FOR CUTOUTS, ARRESTERS, OR TERMINATOR
13	1 78 12	4	SCREW LAG – 1/2" x 4 1/2"
14	1 78 38	6	SCREW – LAG 3/8" x 4"
15	1 85 01	0.5 lb	STAPLE FENCE – 1 3/4"
16	1 93 22	12	WASHER – LOCK – 1/2"
17	1 93 25	3	WASHER – LOCK – 3/8" DOUBLE COIL
18	1 93 27	6	WASHER – LOCK – 5/8" DOUBLE COIL
19	1 93 30	12	WASHER ROUND – 9/16" HOLE
20	1 93 42	12	WASHER SQUARE – 2-1/4" x 2-1/4" x 13/16" HOLE
21	2 65 87	9	HYLUG – 4/0 STR. AL & CU
22	2 71 76	3	DISCONNECT SOLID BLADE – 25 kV 400 AMP
23	2 83 04	14 m	WIRE CU – #4/7 STR
24	2 98 01	9m	WIRE CU – #4/0 BARE, 19 STRANDS
25	5 06 97	3	O/H FAULT INDICATOR
26	5 09 XX	3	CONNECTOR AL – CRIMPIT
27	5 12 02	3	COPPER – CRIMPIT
28	5 12 06	2	CONNECTOR CU – 4C4
29	5 46 18	3	STRAP LEAD

MATERIAL LIST CONTINUED ON SHEET 3

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**3Ø, SOLID BLADE DISCONNECT SINGLE-CIRCUIT TAKE-OFF STRUCTURE**
L. MOEN	**D. DONAIS**	CHKD.	
		2019-03-11	

DATE OF ISSUE: **2020/05/12** | DRAWING NO: **B-14-16** | **SHEET 1 OF 3** | REV. **K**

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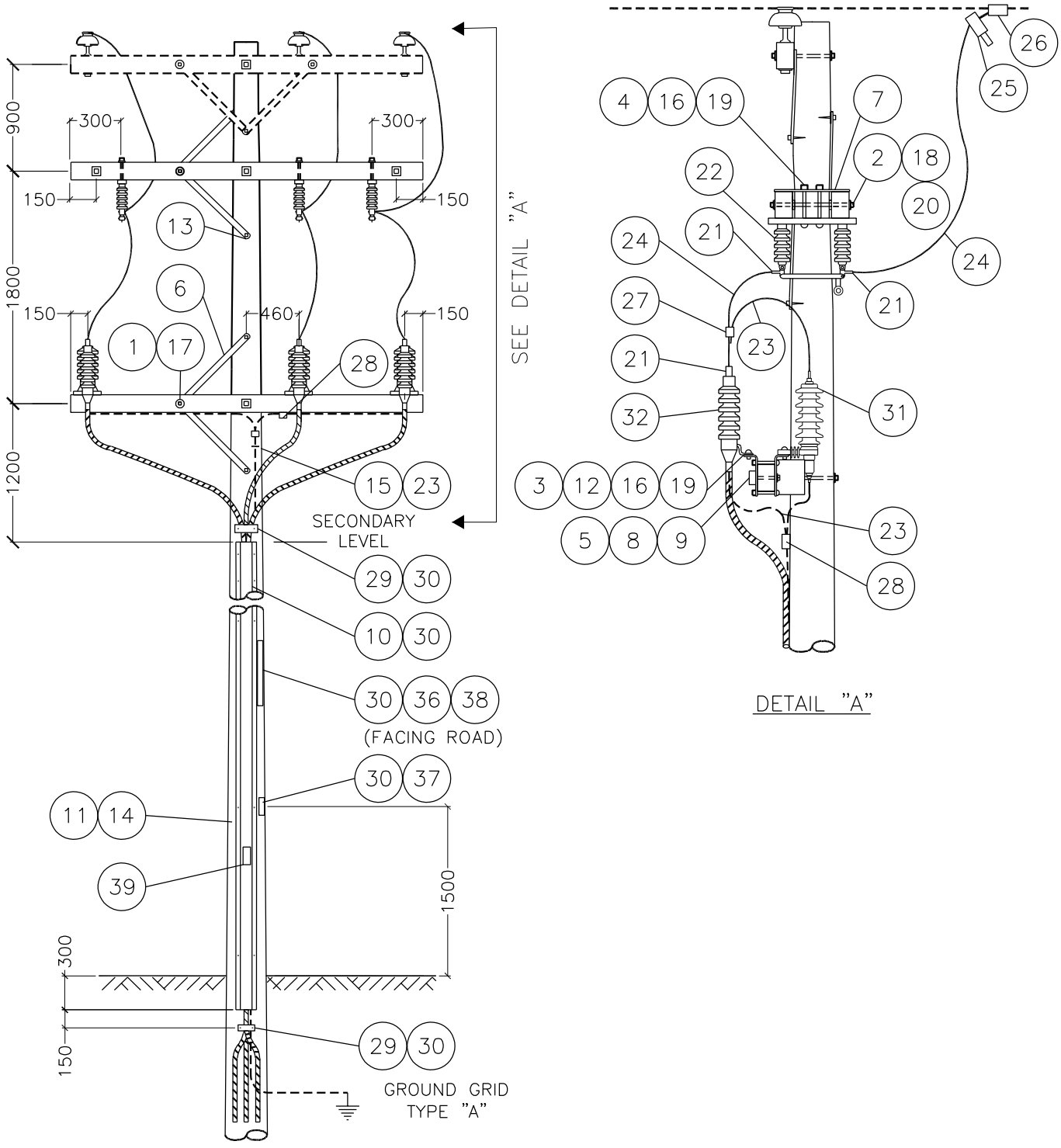

NOTES:

1. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
2. GUARD TO BE BUILT ON SIDE AWAY FROM TRAFFIC.
3. GROUND BOTTOM OF CABLE GUARD TO GROUND ROD.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. O.FRANCIS	DRN. D.REDEKOPP CHKD. 2019-09-03	3ø, SOLID BLADE DISCONNECT, SINGLE-CIRCUIT TAKE-OFF STRUCTURE
DATE OF ISSUE: 2020/05/12		DRAWING NO. B-14-16 SHEET 2 of 3	REV. L

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
30	7 69 64	0.30	WOOD SCREW – #14 – 2 1/2" ROUND ROBERTSON
31	8 02 18	3	ARRESTER – 18 kV RISER POLE CLASS
32	8 35 XX	3	TERMINATOR – CABLE
33	71 35 00	3	CABLE PREPARATION KIT
34	05 385 151	-	ALUM TAG HOLDER – FOR 10 – 1" TAGS, U.V. – SEE NOTE 2
35	05 385 209	-	TAG DASH I.D. YELLOW POLYETHYLENE – SEE NOTE 2
35	05 385 25X	-	TAG LETTER I.D. YELLOW POLYETHYLENE – SEE NOTE 2
36	05 638 32X	3	NUMBER – DECAL BLACK 1 1/2" – SEE NOTE 1
36	05 638 329	1	SYMBOL – DECAL "DASH" BLACK 1 1/2" – SEE NOTE 1
36	05 638 4XX	5	LETTER – DECAL BLACK 1 1/2" – SEE NOTE 1
37	05 640 000	1	SIGN "DANGER H.V."
38	05 640 006	1	SIGN – BLANK – REFLECTIVE – 3"X18" – SEE NOTE 2
39	05 646 582	1	DECAL – WATCH FOR WIRES

NOTES:

1. **REFER TO A-30-05 FOR APPLICABLE STOCK CODES & MOUNTING DETAILS. CONFIGURATOR DEFAULTS TO THIS OPTION.**
2. **WHEN SPACE IS AN ISSUE THIS TAG HOLDER MAY BE USED INSTEAD OF THE REFLECTIVE SIGN. REFER TO A-30-05 FOR MOUNTING DETAILS & B-30-26 FOR APPLICABLE STOCK CODES.**

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 08 38	1	BOLT CARRIAGE – 3/8" x 4 1/2"
2	1 12 02	6	BOLT MACHINE – 1/2" x 2"
3	1 13 14	2	BOLT MACHINE – 5/8" x 14"
4	1 13 16	2	BOLT MACHINE – 5/8" x 16"
5	1 13 18	1	BOLT MACHINE – 5/8" x 18"
6	1 14 12	2	BOLT MACHINE – 3/4" x 12"
7	1 19 32	2	BRACE CROSSARM – 32"
8	1 29 10	1	CROSSARM – 4" x 5" x 10'
9	1 32 86	1	GAIN POLE – WOOD
10	1 34 08	3	GUARD CABLE PLASTIC – 4" x 8'
11	1 34 10	1	GUARD CABLE STEEL – 4" x 8'
12	1 35 32	6	BRACKET CROSSARM
13	1 35 38	9 m	WILDLIFE GUARD – RISER COVER
14	1 78 12	2	SCREW LAG – 1/2" x 4 1/2"
15	1 78 38	6	SCREW LAG – 3/8" X 4"
16	1 85 01	0.25 lb	STAPLE FENCE – 1 3/4"
17	1 85 02	20	STAPLE MOULDING
18	1 93 22	6	WASHER LOCK – 1/2"
19	1 93 25	1	WASHER LOCK DOUBLE COIL – 3/8"
20	1 93 27	5	WASHER LOCK DOUBLE COIL – 5/8"
21	1 93 28	2	WASHER LOCK DOUBLE COIL – 3/4"
22	1 93 30	6	WASHER ROUND – 9/16" HOLE
23	1 93 42	8	WASHER SQUARE – 2 1/4" x 2 1/4" x 13/16" HOLE
24	2 27 00	3	MOULDING GROUND WIRE
25	2 65 XX	6	HYLUG – SEE NOTE 1
26	2 69 45	1	SWITCH GOPT – 25 kV 600 A LOAD BREAK
27	2 83 02	11 m	WIRE CU – #2/7 STR
28	2 98 01	9 m	WIRE CU – 4/0 – 19 STR
29	5 06 97	4	O/H FAULT INDICATOR
30	5 09 2X	3	CONNECTOR AL – CRIMPIT – SEE NOTE 1
31	5 12 01	1	CONNECTOR CU – 2C2
			MATERIAL LIST CONTINUED ON SHEET 3

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**3Ø GOPT TAKE-OFF STRUCTURE**
L. MOEN	**D. DONAIS**	CHKD.	
		2019-03-11	

DATE OF ISSUE: **2020/05/12** | DRAWING NO: **B-14-17** | **SHEET 1 OF 3** | REV. **F**

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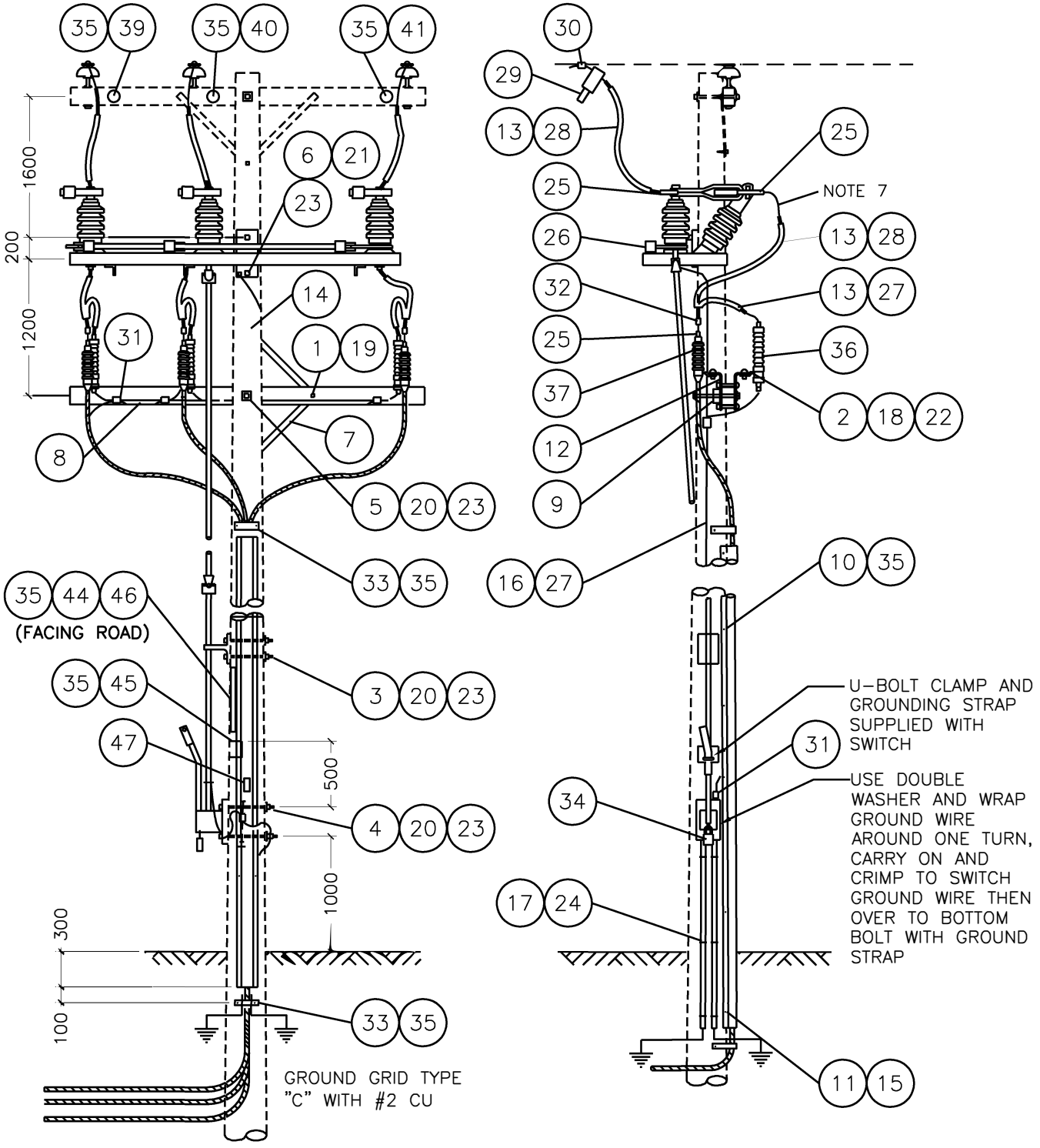

NOTES:

1. LOCATION OF GROUND GRID IS DEPENDANT ON LOCATION OF SWITCH HANDLE AND DRIVE BAR.
2. ALWAYS INSTALL WITH SWITCH HANDLE UP. FOR ROTATION TYPE HANDLE MOVEMENT, MOUNT AT HEIGHT SHOWN. FOR PULL DOWN TYPE, MOUNT SO HANDLE CLEARS THE GROUND AND IS NOT TOO HIGH WHEN UP.
3. REFER TO SECTION A-33 FOR GROUNDING DETAILS AND GROUND GRID TYPE "C".
4. MINIMUM 12.2m (40') POLE RURAL. MINIMUM 15.2m (50') POLE URBAN. STRUCTURE CAN BE BUILT ON EXISTING 13.7m (45') POLE IF USING ABSOLUTE MINIMUM CLEARANCE VALUES.
5. NO JOINT USE TAKEOFFS OR SECONDARY TAKEOFFS ARE ALLOWED ON THIS STRUCTURE DUE TO CONGESTION ON THE POLE.
6. REFER TO B-14-00 FOR ADDITIONAL INSTALLATION NOTES.
7. ALLOW FOR 150mm BETWEEN RISER COVER AND GOPT HYLUG FOR GROUNDING.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. O.FRANCIS	DRN. D.REDEKOPP CHKD. 2019-09-03	3ø GOPT TAKE-OFF STRUCTURE
DATE OF ISSUE: 2020/05/12	DRAWING NO. B-14-17	SHEET 2 of 3	REV. G

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
32	5 12 02	3	CONNECTOR – CRIMPIT – 4/0 TO #2
33	5 46 18	2	STRAP LEAD
34	7 66 00	1	PADLOCK
35	7 69 64	0.32	WOOD SCREW – #14 – 2" HEX HEAD (100/BOX)
36	8 02 18	3	ARRESTER SURGE – 18 kV
37	8 35 XX	3	TERMINATOR CABLE
38	71 35 00	3	KIT – CABLE PREPARATION
39	05 116 362	1	DISC PHASE MARKING BLUE
40	05 116 366	1	DISC PHASE MARKING RED
41	05 116 368	1	DISC PHASE MARKING YELLOW
42	05 385 151	-	ALUM TAG HOLDER – FOR 10 – 1" TAGS, U.V. – SEE NOTE 3
43	05 385 20X	-	TAG NUMBER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
43	05 385 209	-	TAG DASH I.D. YELLOW POLYETHYLENE – SEE NOTE 3
43	05 385 25X	-	TAG LETTER I.D. YELLOW POLYETHYLENE – SEE NOTE 3
44	05 638 32X	3	NUMBER – DECAL BLACK 1 1/2" – SEE NOTE 2
44	05 638 329	1	SYMBOL – DECAL "DASH" BLACK 1 1/2" – SEE NOTE 2
44	05 638 4XX	5	LETTER – DECAL BLACK 1 1/2" – SEE NOTE 2
45	05 640 000	1	SIGN "DANGER H.V."
46	05 640 006	1	SIGN – BLANK – REFLECTIVE – 3"X18" – SEE NOTE 2
47	05 646 582	1	DECAL – WATCH FOR WIRES

NOTES:

1. **REFER TO SECTION A-36 FOR SPECIFIC MATERIAL REQUIREMENTS.**
2. **REFER TO A-30-05 FOR APPLICABLE STOCK CODES & MOUNTING DETAILS. CONFIGURATOR DEFAULTS TO THIS OPTION.**
3. **WHEN SPACE IS AN ISSUE THIS TAG HOLDER MAY BE USED INSTEAD OF THE REFLECTIVE SIGN. REFER TO A-30-05 FOR MOUNTING DETAILS & B-30-26 FOR APPLICABLE STOCK CODES.**

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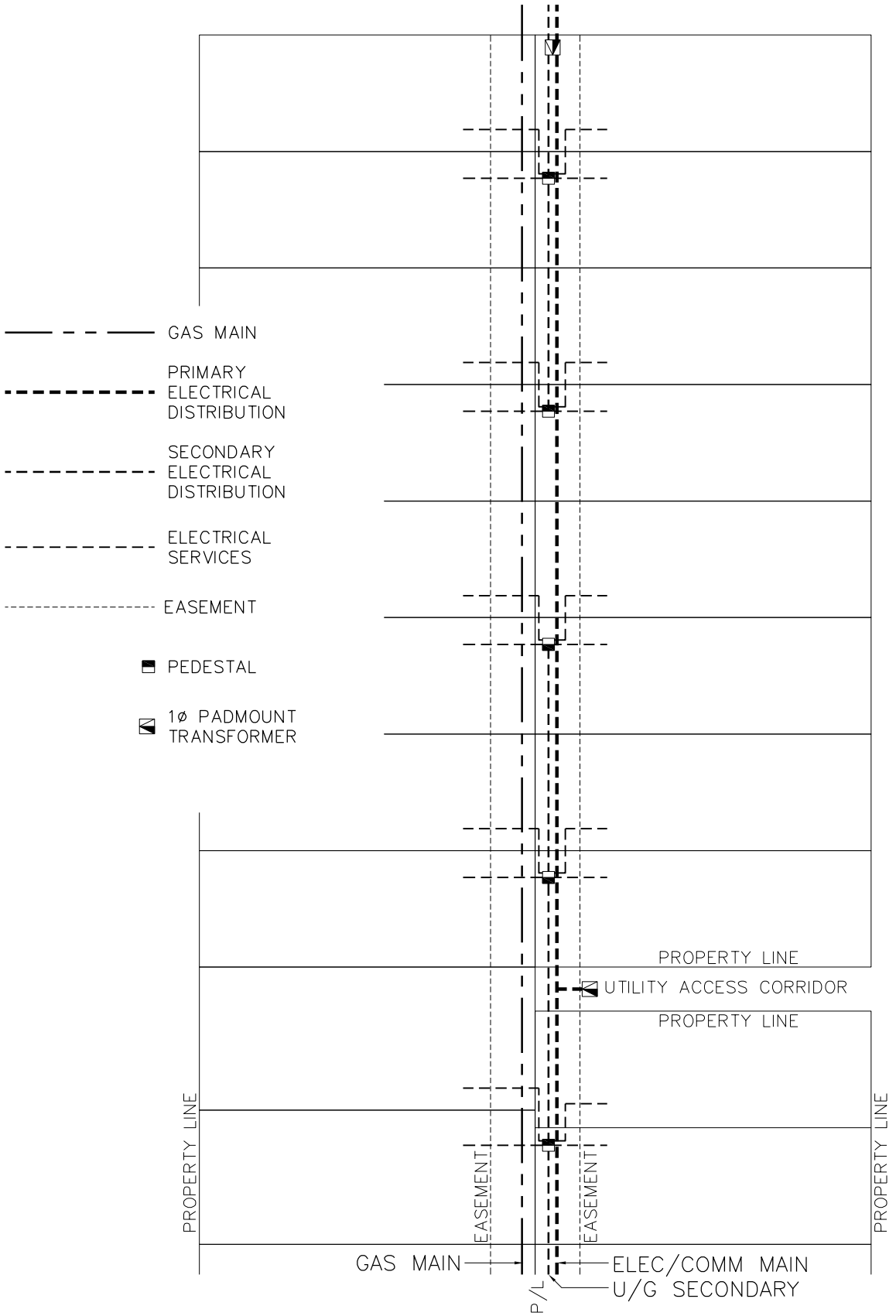
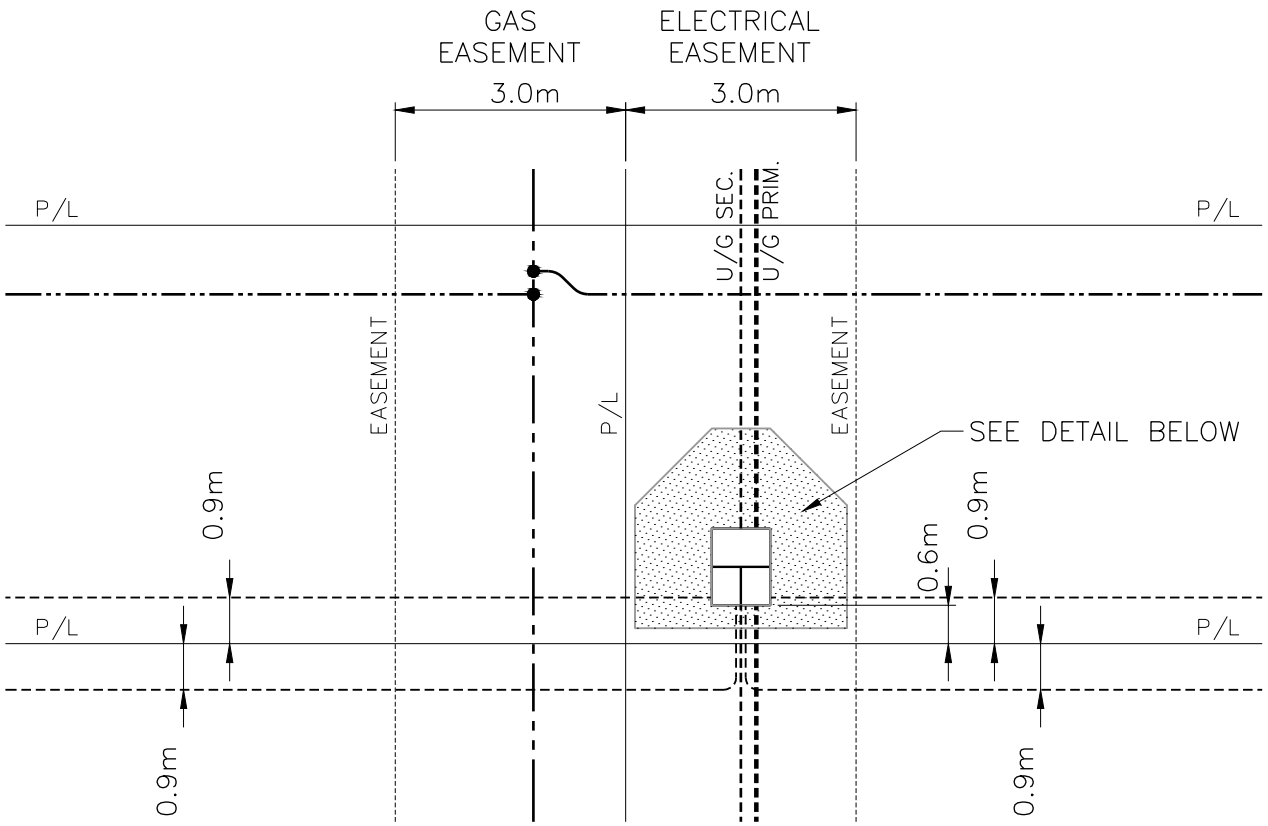


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD.	EASEMENT PLAN WITH NO REAR LANE FOR THREE PARTY JOINT USE OVERALL LAYOUT
		2022-10-28	
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-50	SHEET 1 of 3	REV. D



NOTE:

1. DIMENSIONS FOR PEDESTAL LOCATION ARE TO BE AT GROUND LINE.
2. GAS AND ELECTRICAL SERVICE CROSSING SHOULD BE AVOIDED IN TRENCH.
3. FOR CONDUCTOR/TRENCH LAYOUT, SEE DWG B-14-65.

GAS MAIN

GAS SERVICES

PRIMARY ELECTRICAL DISTRIBUTION

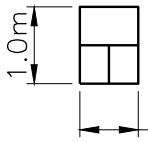
SECONDARY ELECTRICAL DISTRIBUTION

ELECTRICAL SERVICES

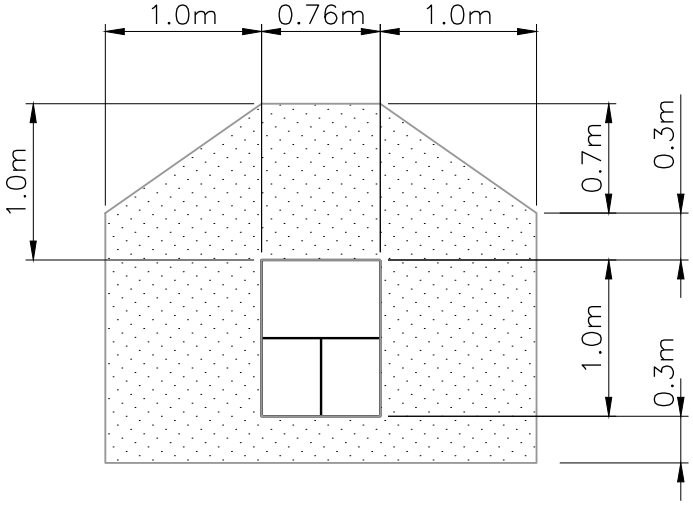
PROPERTY LINES

EASEMENT

CLEAR ZONE AROUND PEDESTAL



3 COMPARTMENT PEDESTAL



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH NO REAR LANE FOR THREE PARTY JOINT USE PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE : 2013/08/19	DRAWING NO. B-14-50	SHEET 2 of 3	REV. 0

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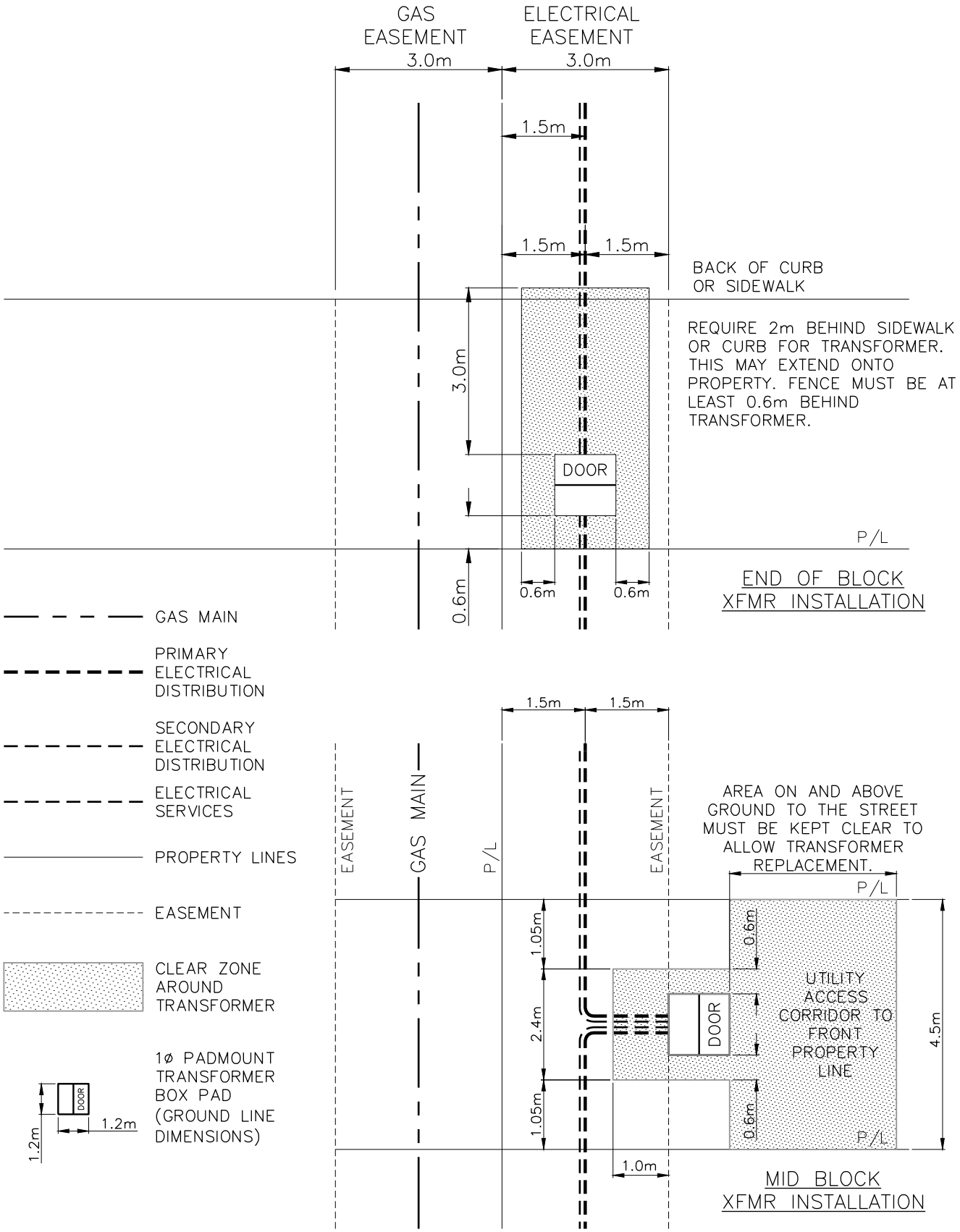
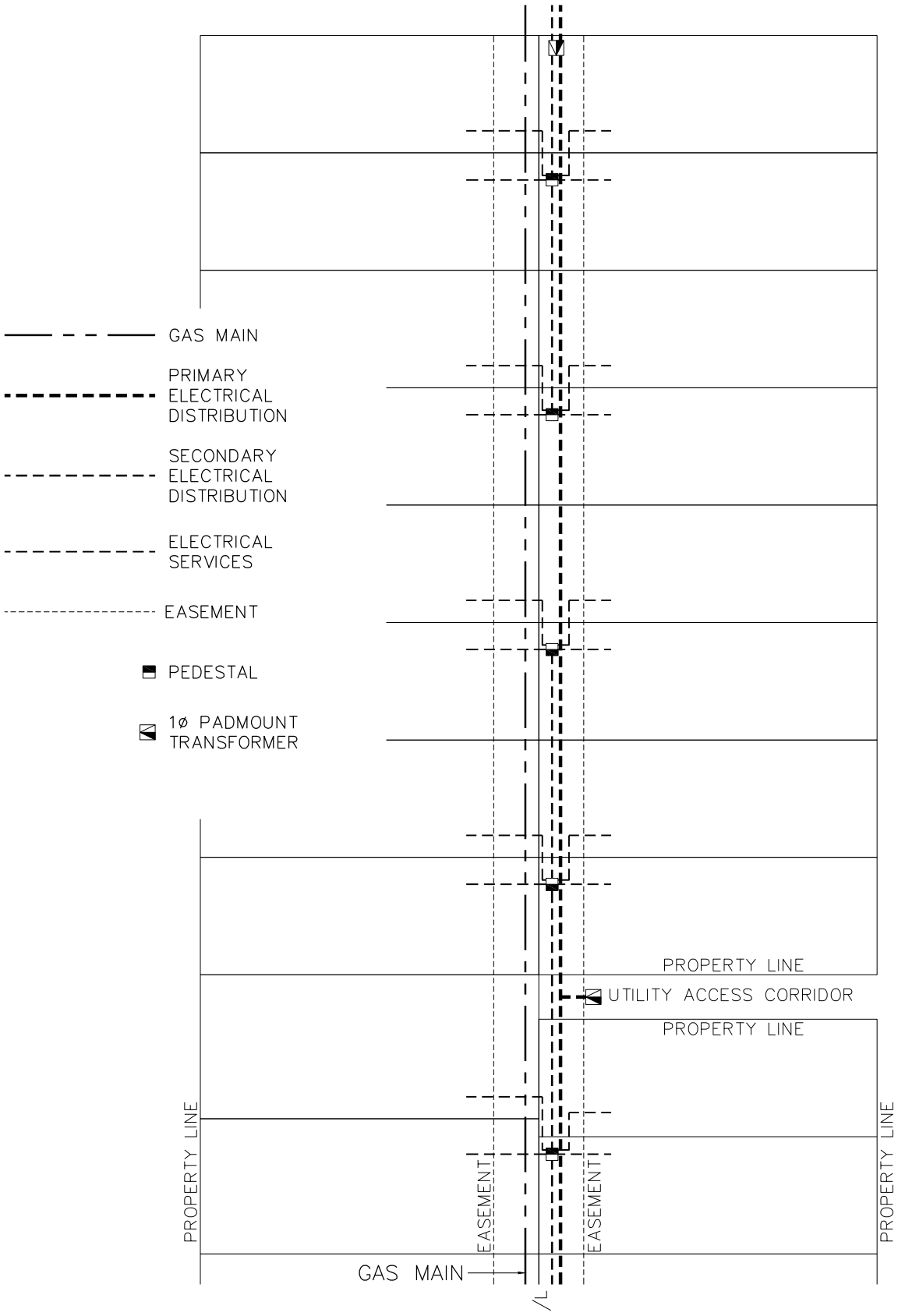


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH NO REAR LANE FOR THREE PARTY JOINT USE PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE: **2013/08/19**	DRAWING NO. B-14-50	SHEET 3 of 3	REV. 0



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD. 2022-10-28	EASEMENT PLAN WITH NO REAR LANE FOR TWO PARY JOINT USE OVERALL LAYOUT
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-51	SHEET 1 of 3	REV. B

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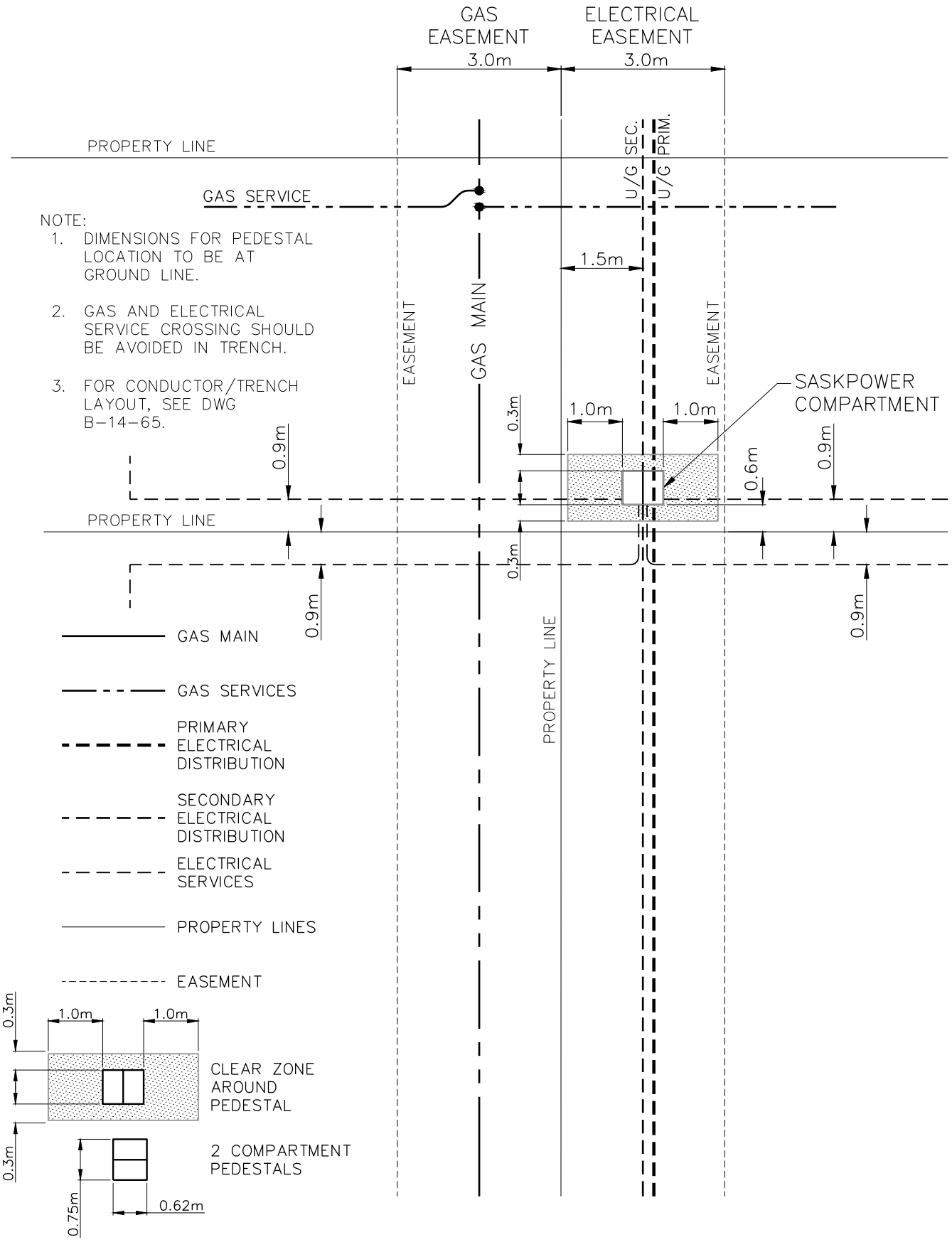
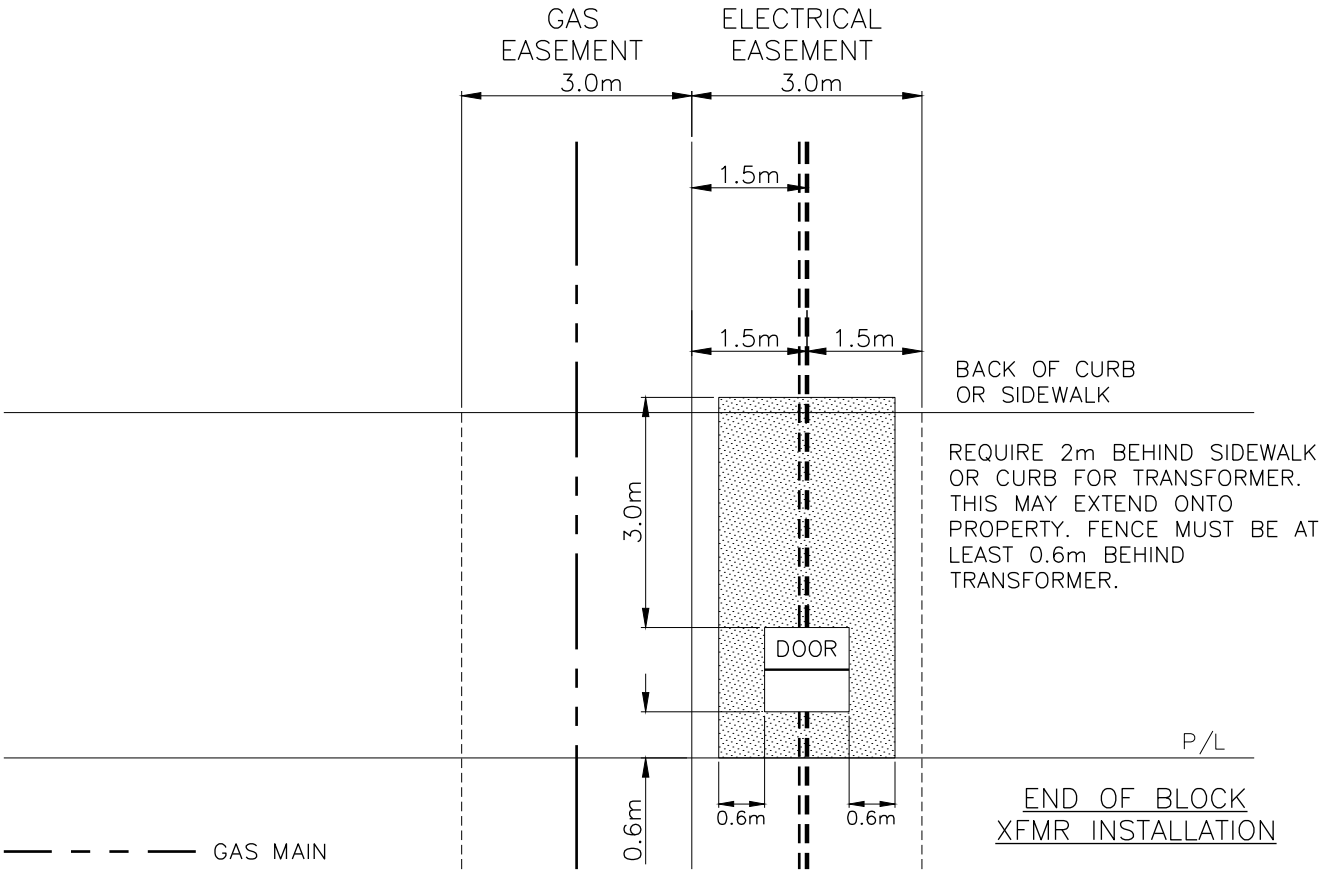
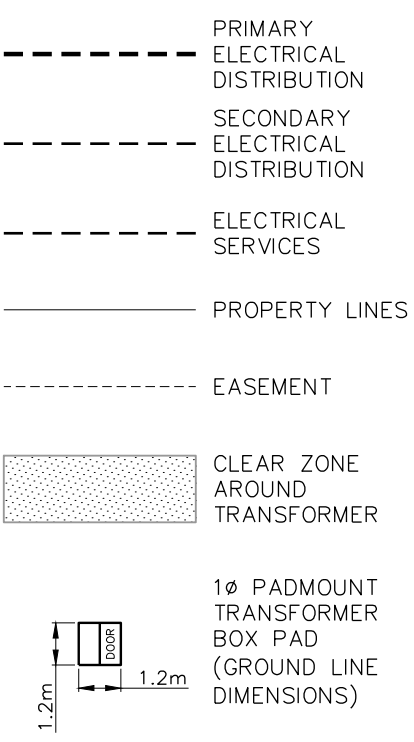
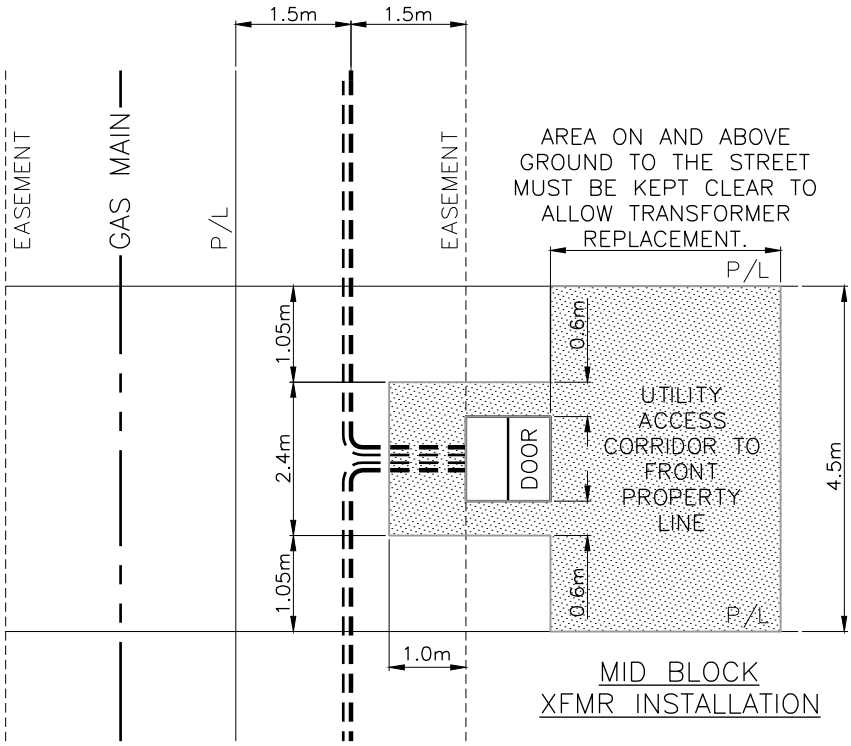


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH NO REAR LANE FOR TWO PARTY JOINT USE PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE : **2013/08/19**	DRAWING NO. B-14-51	SHEET 2 of 3	REV. 0







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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-02-11	EASEMENT PLAN WITH NO REAR LANE FOR TWO PARTY JOINT USE PADMOUNT TRANSFORMER DETAIL
DATE OF ISSUE: 2013/08/19	DRAWING NO. B-14-51	SHEET 3 of 3	REV. 0

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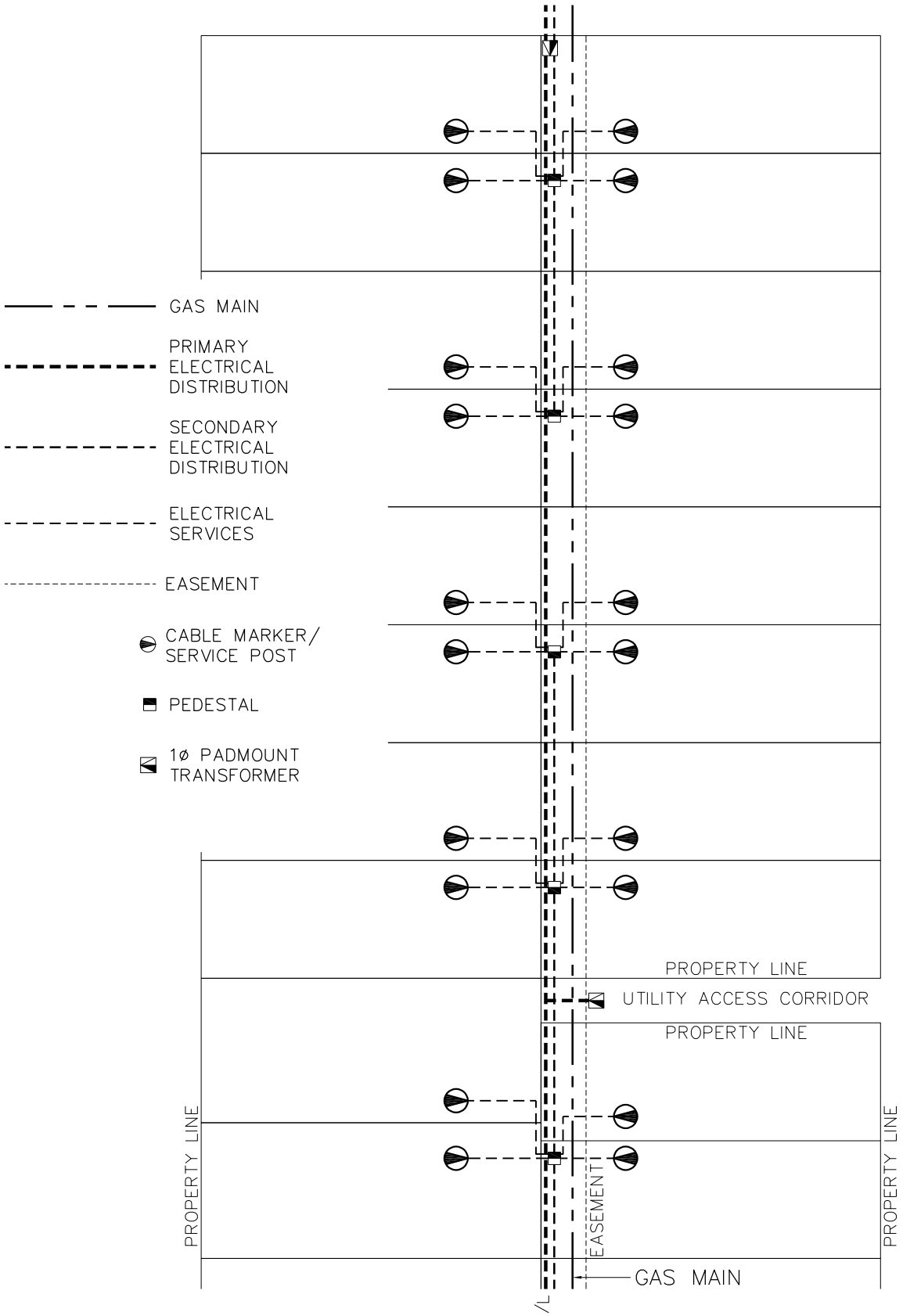
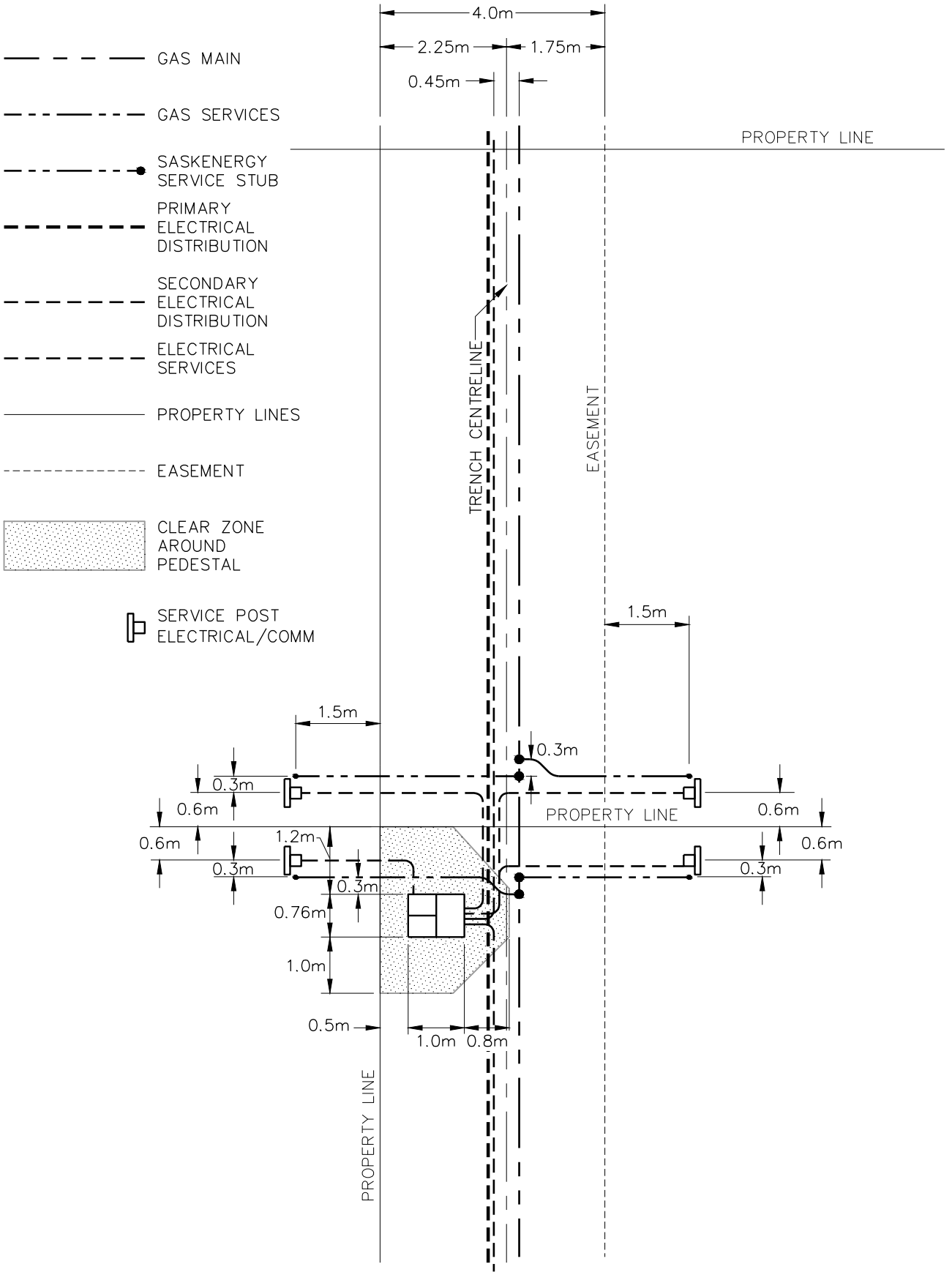


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD.	EASEMENT PLAN, FOUR PARTY TRENCHING, NO REAR LANE OVERALL LAYOUT
		2022-10-28	
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-52	SHEET 1 of 3	REV. C



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2014-09-23	EASEMENT PLAN, FOUR PARTY TRENCHING, NO REAR LANE PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-52	SHEET 2 of 3	REV. C

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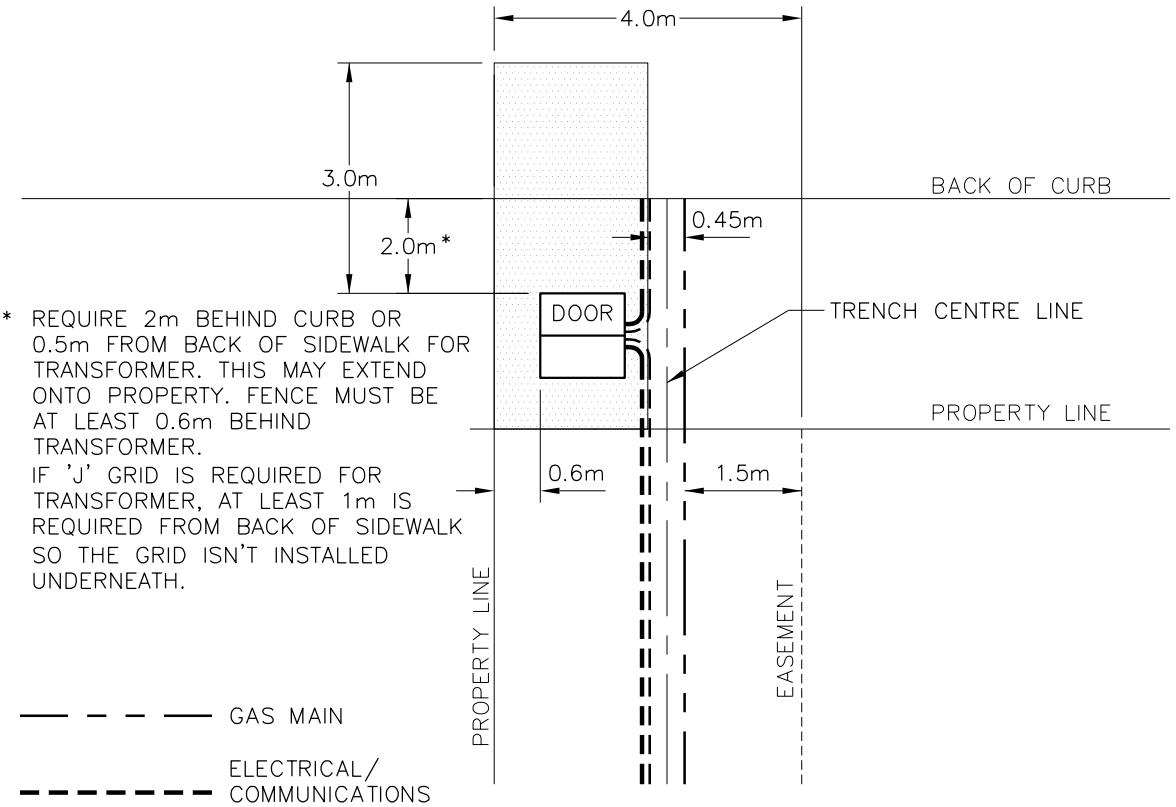
END OF BLOCK TRANSFORMER INSTALLATION



* REQUIRE 2m BEHIND CURB OR 0.5m FROM BACK OF SIDEWALK FOR TRANSFORMER. THIS MAY EXTEND ONTO PROPERTY. FENCE MUST BE AT LEAST 0.6m BEHIND TRANSFORMER.
IF 'J' GRID IS REQUIRED FOR TRANSFORMER, AT LEAST 1m IS REQUIRED FROM BACK OF SIDEWALK SO THE GRID ISN'T INSTALLED UNDERNEATH.

GAS MAIN

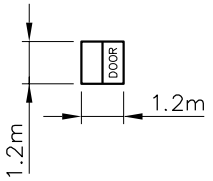
ELECTRICAL/ COMMUNICATIONS DISTRIBUTION

PROPERTY LINES

EASEMENT

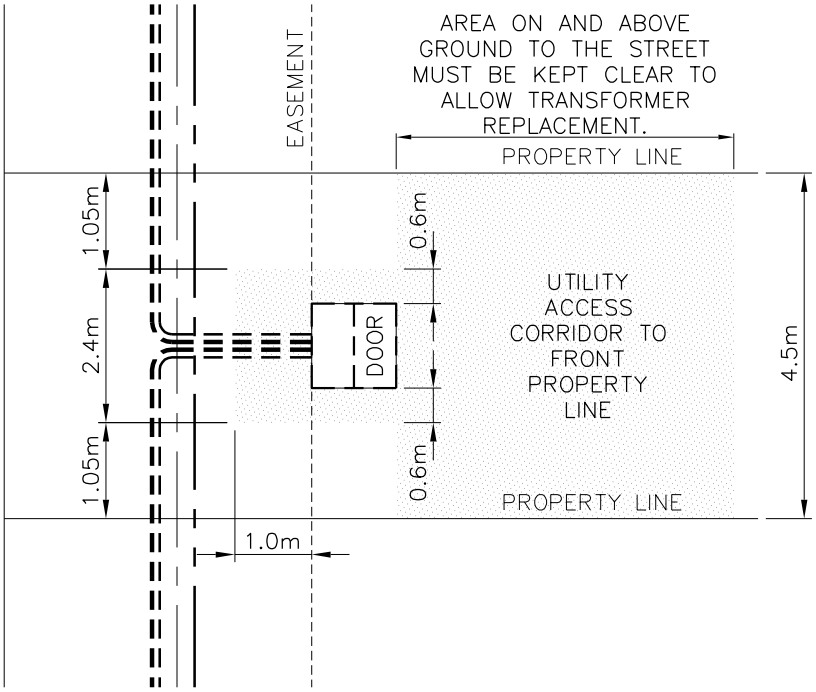
U/G SECONDARY

CLEAR ZONE AROUND TRANSFORMER

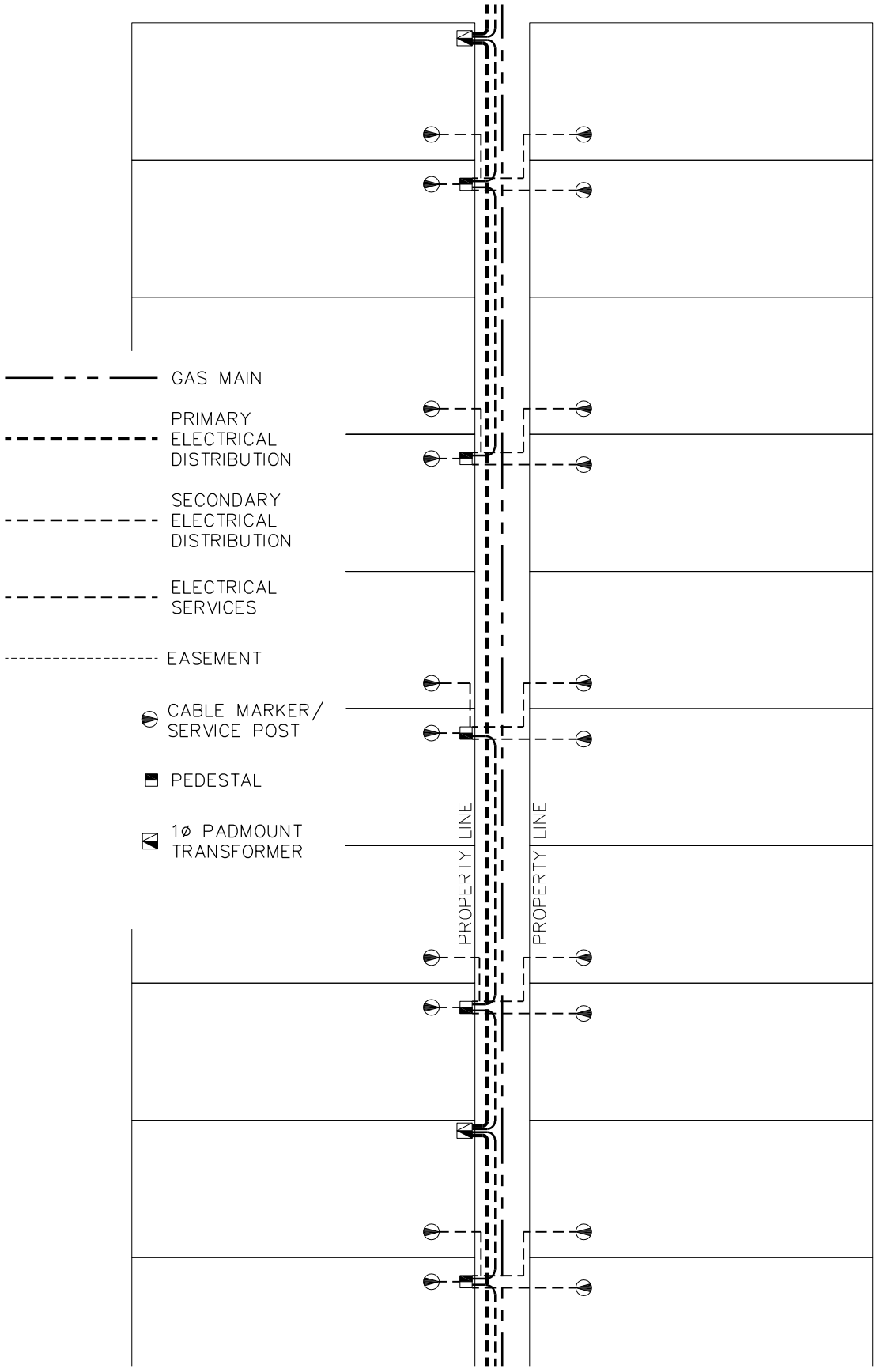


1ø PADMOUNT TRANSFORMER BOX PAD (GROUND LINE DIMENSIONS)

MID BLOCK TRANSFORMER INSTALLATION



SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. Y.HAO CHKD. A.UHREN 2016-12-22	EASEMENT PLAN, FOUR PARTY TRENCHING, NO REAR LANE PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE 2017/05/03		DRAWING NO. B-14-52	SHEET 3 of 3 REV. D



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD. 2022-10-28	EASEMENT PLAN, FOUR PARTY TRENCHING, WITH REAR LANE OVERALL PLAN
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-53	SHEET 1 of 3	REV. C

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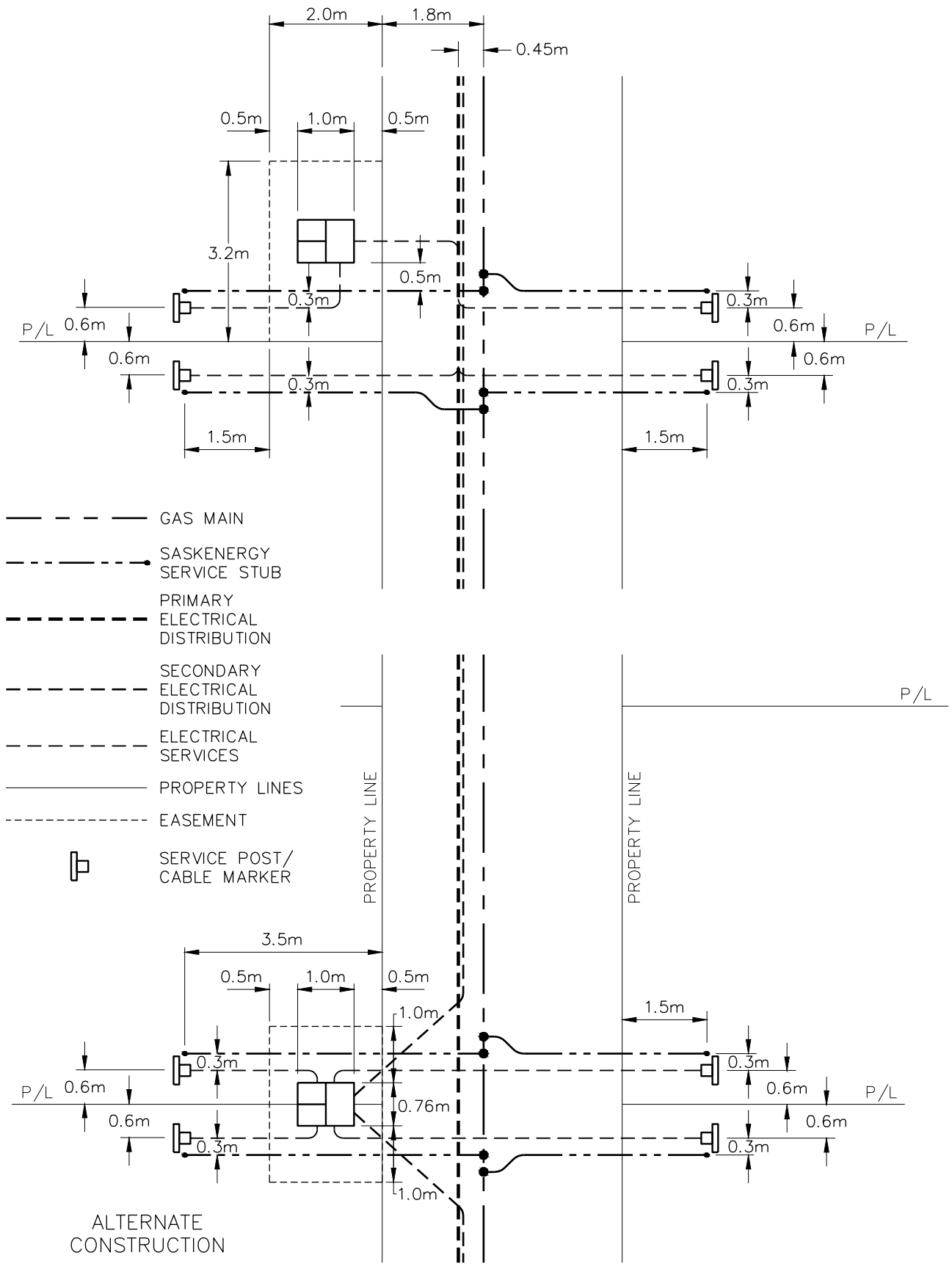


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2015-03-18	EASEMENT PLAN, FOUR PARTY TRENCHING, WITH REAR LANE PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-53	SHEET 2 of 3	REV. C

GAS MAIN

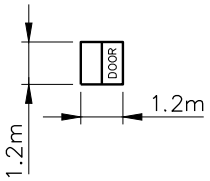
PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

PROPERTY LINES

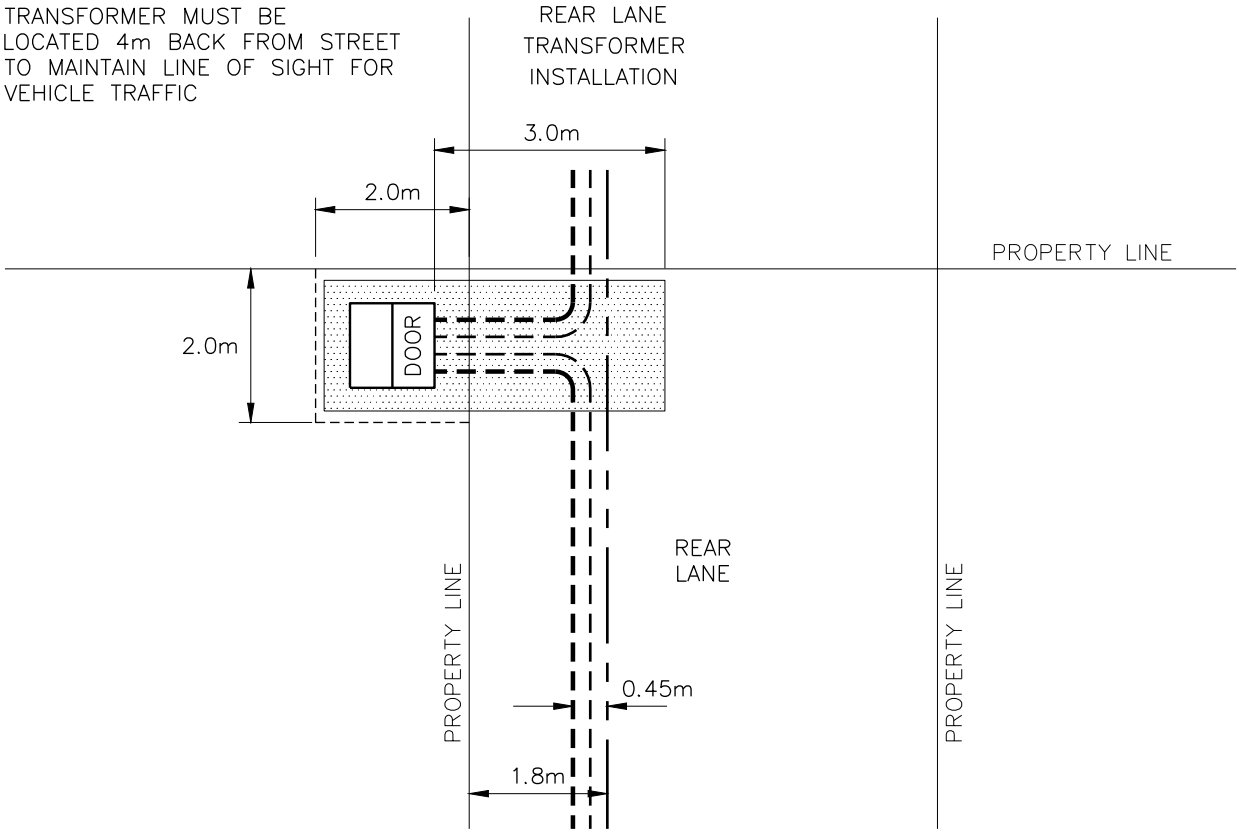
EASEMENT

CLEAR ZONE AROUND TRANSFORMER



1ø PADMOUNT TRANSFORMER BOX PAD (GROUND LINE DIMENSIONS)

TRANSFORMER MUST BE LOCATED 4m BACK FROM STREET TO MAINTAIN LINE OF SIGHT FOR VEHICLE TRAFFIC



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2014-09-23	EASEMENT PLAN, FOUR PARTY TRENCHING, WITH REAR LANE PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-53	SHEET 3 of 3	REV. C

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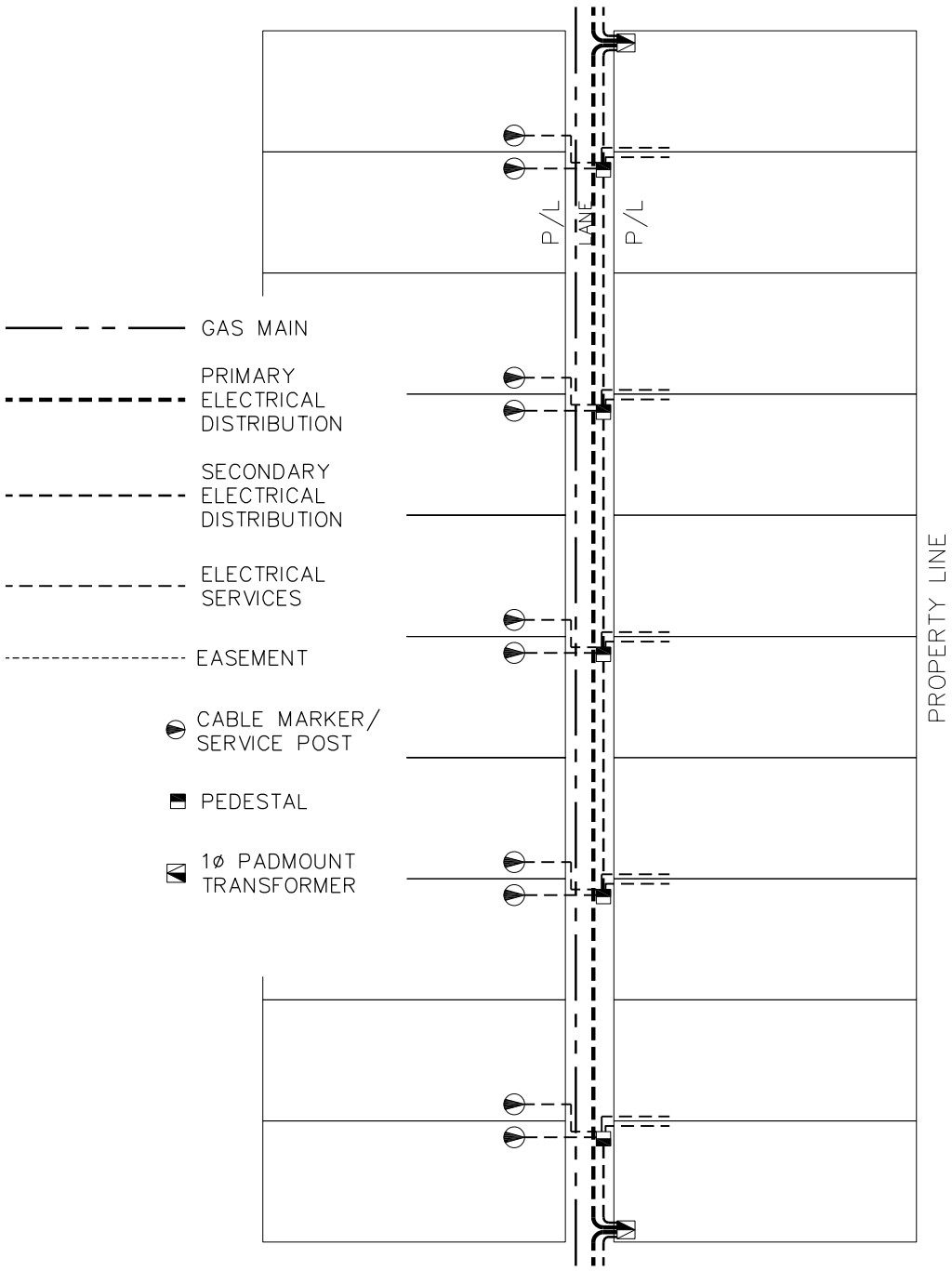
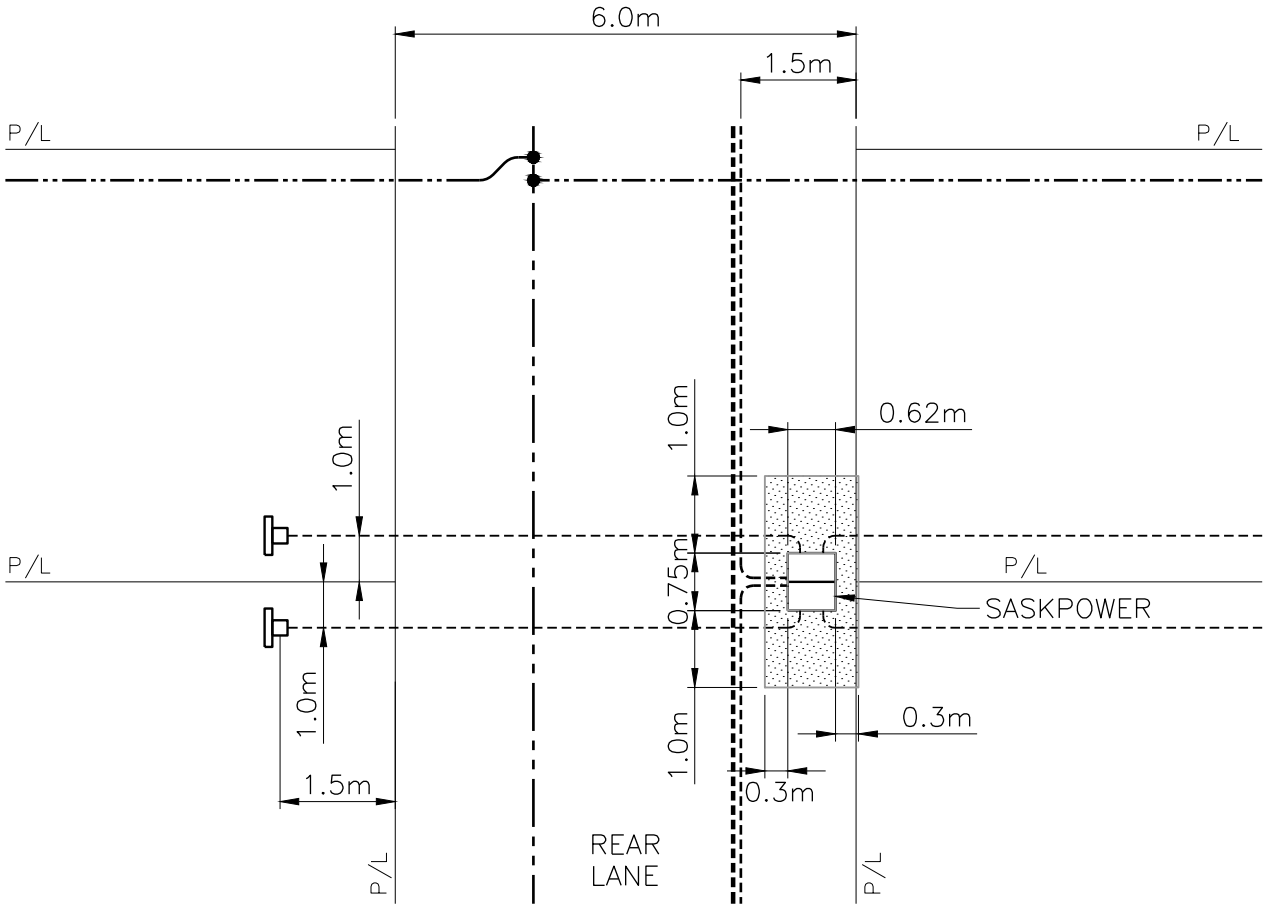


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD. 2022-10-28	EASEMENT PLAN WITH REAR LANE FOR 2 PARTY JOINT USE OVERALL LAYOUT
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-54	SHEET 1 of 3	REV. B



NOTE:

1. DIMENSIONS FOR PEDESTAL LOCATION TO BE AT GROUND LINE.
2. GAS AND ELECTRICAL SERVICE CROSSING SHOULD BE AVOIDED IN TRENCH.
3. FOR CONDUCTOR/TRENCH LAYOUT, SEE DWG B-14-65.

GAS MAIN

GAS SERVICES

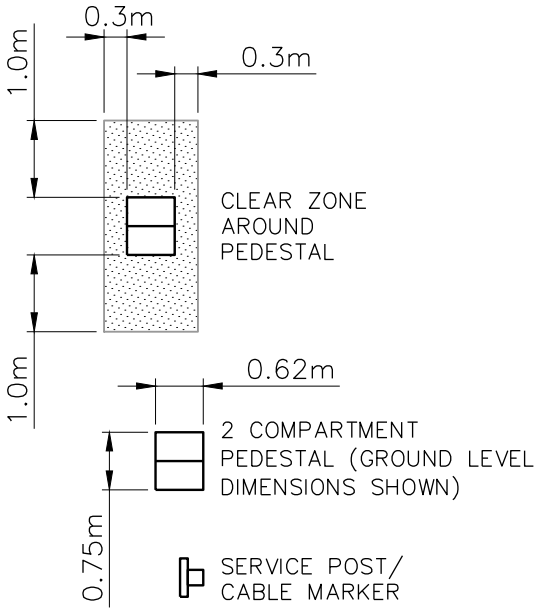
PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

ELECTRICAL SERVICES

PROPERTY LINES

EASEMENT



SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH REAR LANE FOR 2 COMPARTMENT PEDESTALS PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE : 2013/08/19	DRAWING NO. B-14-54	SHEET 2 of 3	REV. 0

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GAS MAIN

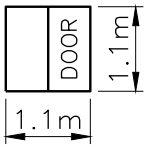
PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

PROPERTY LINES

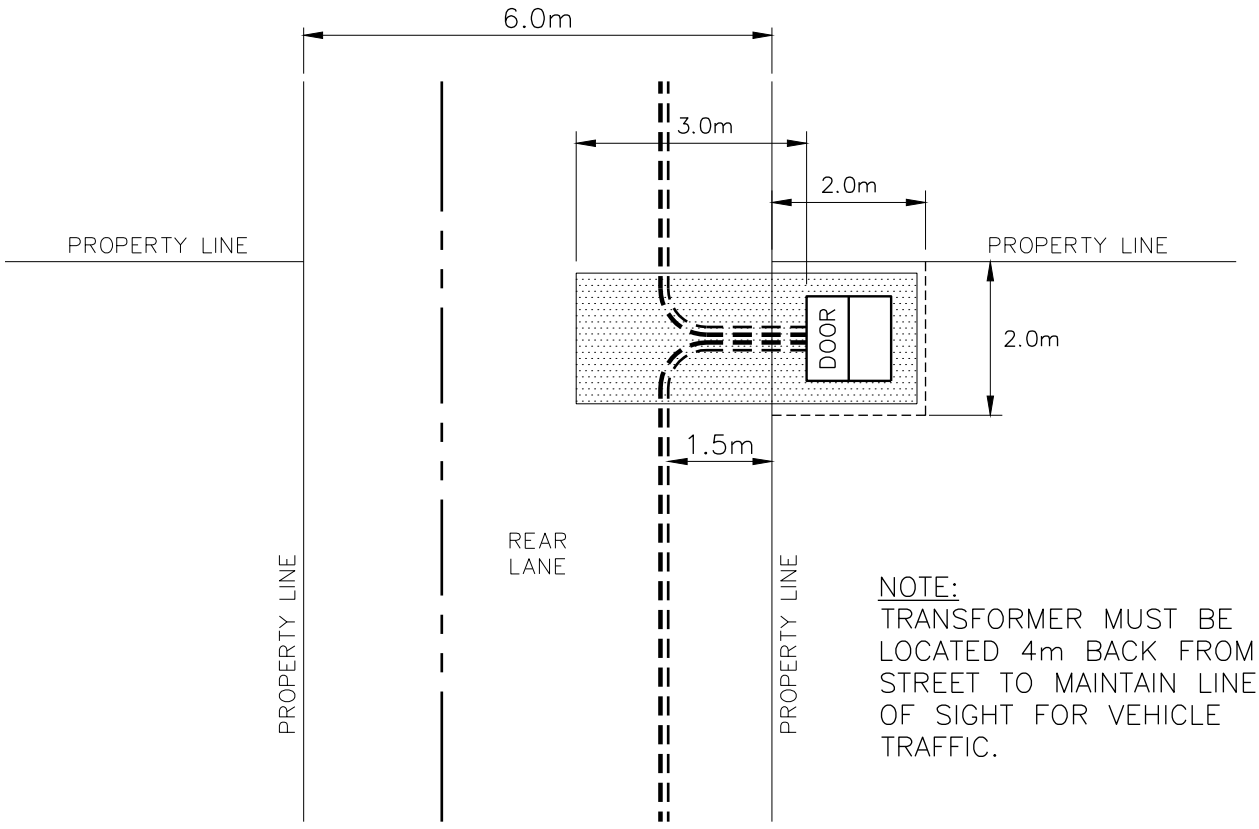
EASEMENT

CLEAR ZONE AROUND TRANSFORMER



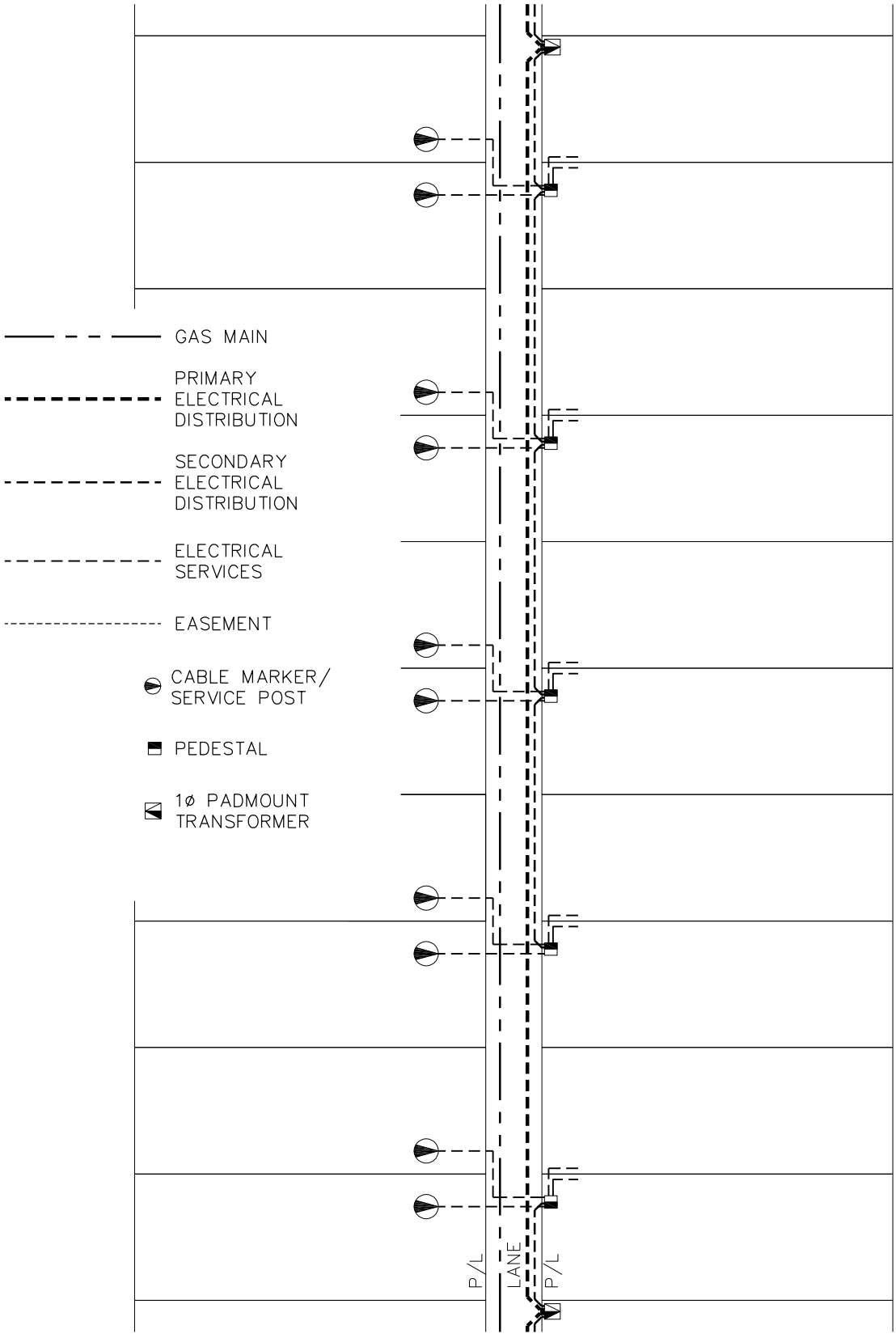
PADMOUNT TRANSFORMER

REAR LANE TRANSFORMER INSTALLATION



NOTE:
TRANSFORMER MUST BE LOCATED 4m BACK FROM STREET TO MAINTAIN LINE OF SIGHT FOR VEHICLE TRAFFIC.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH REAR LANE 2 PARTY DISTRIBUTION PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE: 2013/08/19	DRAWING NO. B-14-54	SHEET 3 of 3	REV. 0



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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.E.GOTANA CHKD. 2022-10-28	EASEMENT PLAN WITH REAR LANE 3 PARTY JOINT USE 3 PARTY SERVICES, OVERALL LAYOUT
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-55	SHEET 1 of 3	REV. D

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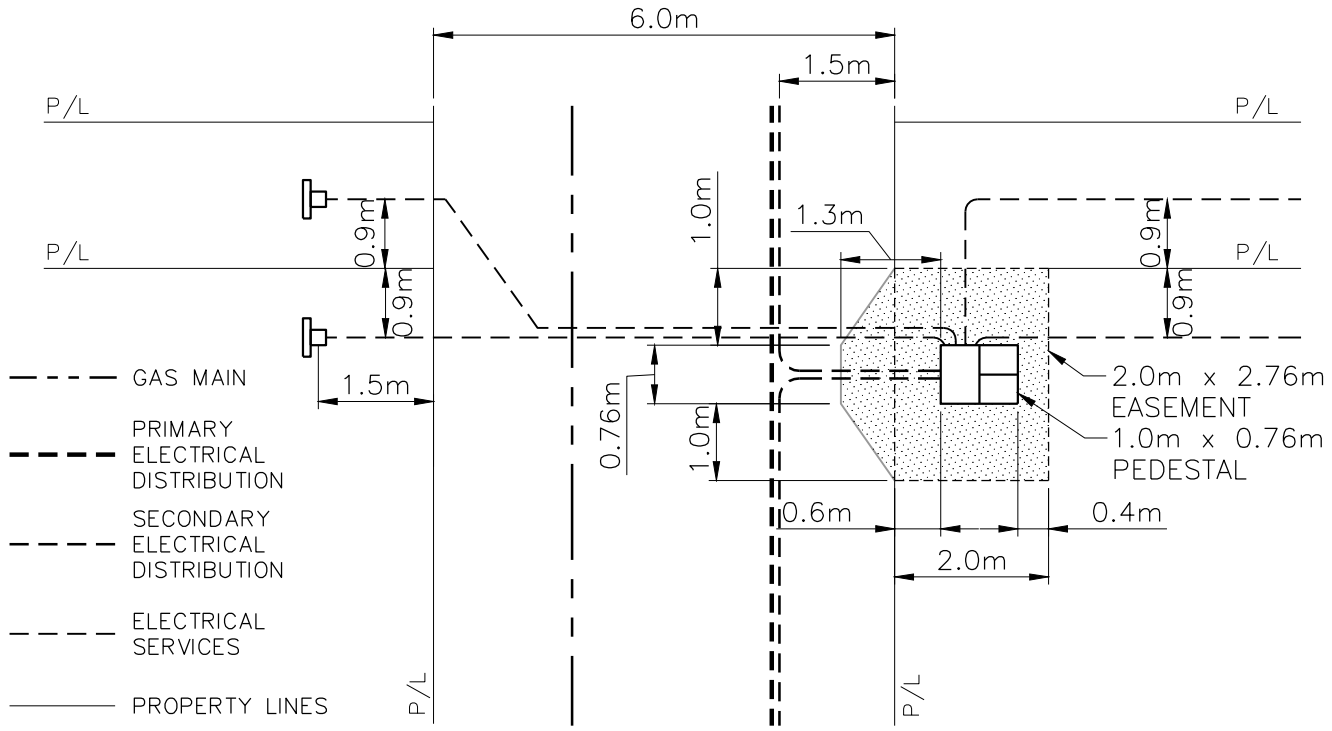
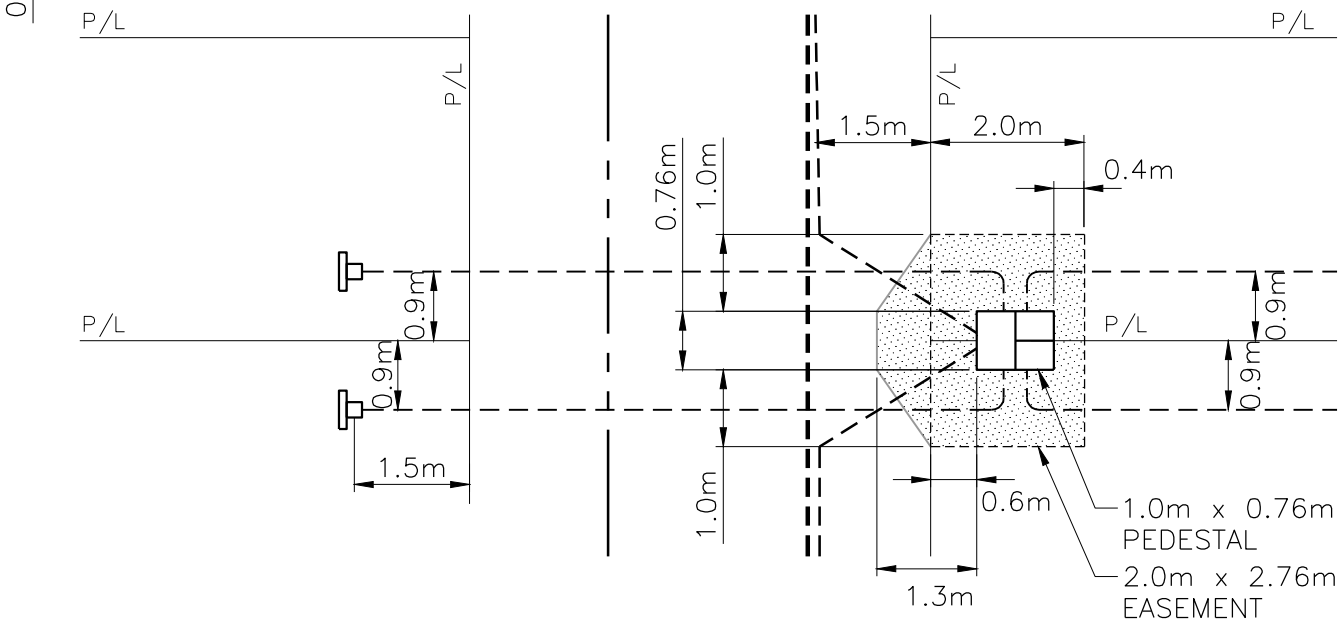


NOTE:

1. DIMENSIONS FOR PEDESTAL LOCATION ARE TO BE AT GROUND LINE.
2. GAS AND ELECTRICAL SERVICE CROSSING SHOULD BE AVOIDED IN TRENCH.
3. FOR CONDUCTOR/TRENCH LAYOUT, SEE DWG B-14-65.
4. ENSURE THE PROPERTY PIN IS NOT DISTURBED DURING THE INSTALLATION OF THE PEDESTAL.

ALTERNATE CONSTRUCTION



SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2015-06-04	EASEMENT PLAN WITH REAR LANE 3 PARTY DISTRIBUTION, 3 PARTY SERVICES PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE 2016/02/05	DRAWING NO. B-14-55	SHEET 2 of 3	REV. A

GAS MAIN

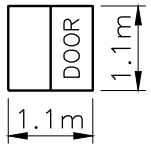
PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

PROPERTY LINES

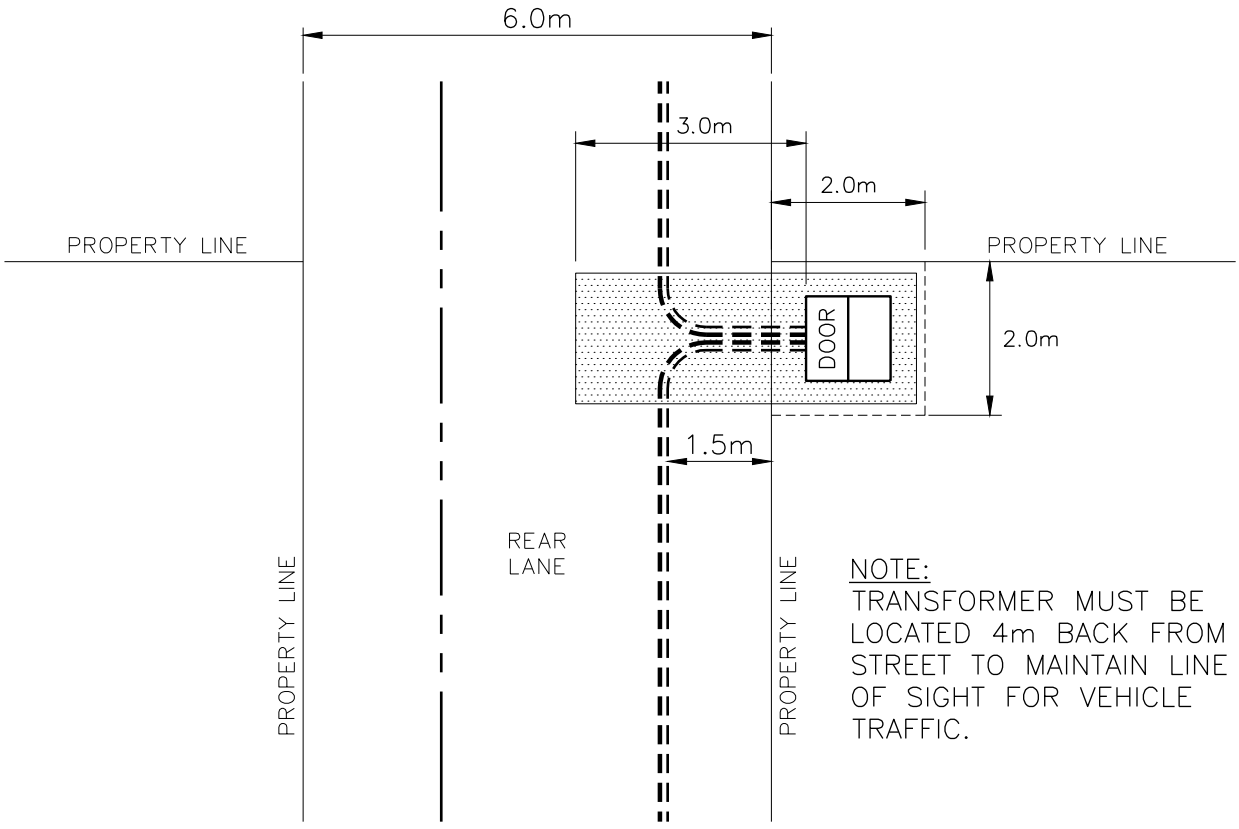
EASEMENT

CLEAR ZONE AROUND TRANSFORMER



PADMOUNT TRANSFORMER

REAR LANE TRANSFORMER INSTALLATION



NOTE:
TRANSFORMER MUST BE LOCATED 4m BACK FROM STREET TO MAINTAIN LINE OF SIGHT FOR VEHICLE TRAFFIC.

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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH REAR LANE 3 PARTY DISTRIBUTION PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE : 2013/08/19		DRAWING NO. B-14-55 SHEET 3 of 3	REV. 0

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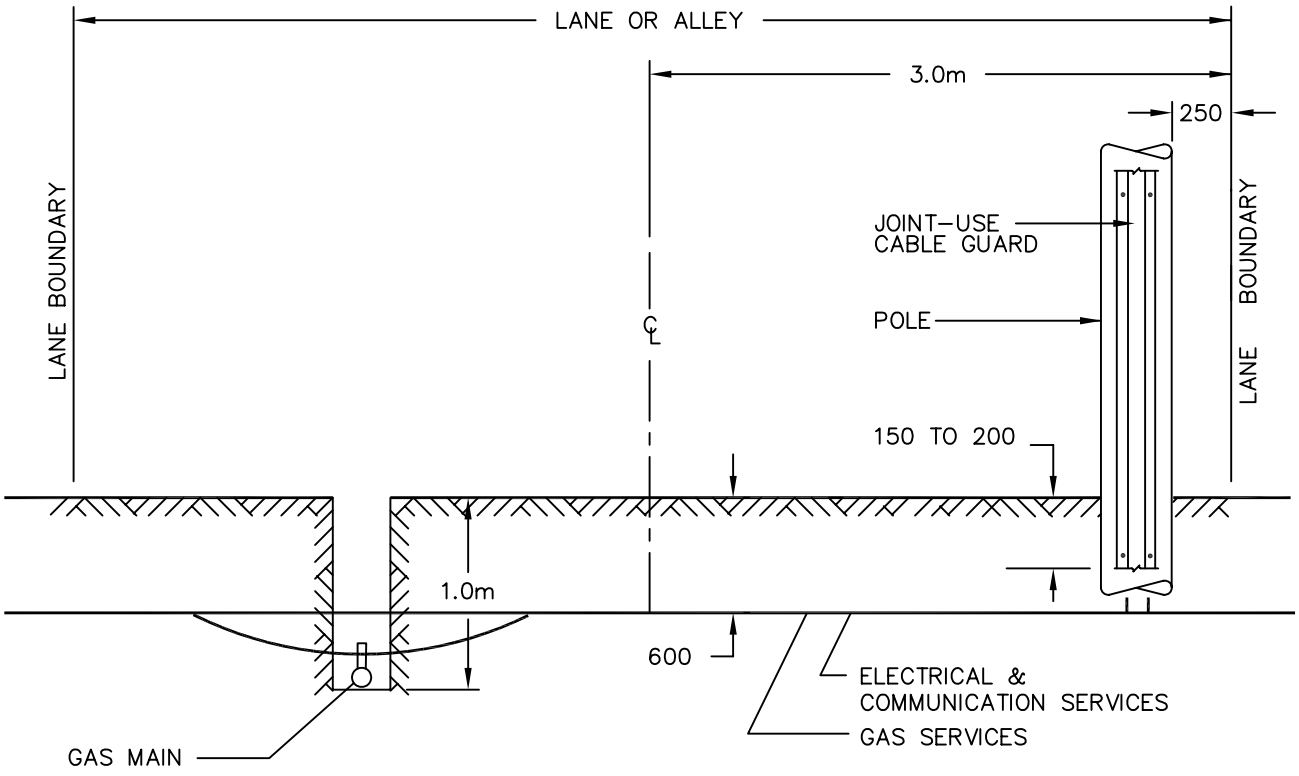

EASEMENT CROSS SECTION WITH REAR LANE

NOTE:

1. FOR METERING SEE DWG. B-24-10.
2. FOR SECONDARY TAKE-OFF STRUCTURE SEE DRAWING B-28-01

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

SaskPower – DISTRIBUTION STANDARDS				
DRN.	DESIGN CHK.	SAFETY APP.	APPROVAL	OVERHEAD DISTRIBUTION WITH UNDERGROUND SERVICES
CHKD.				
DATE 92-02-20	DATE	DATE	DATE	
DATE OF ISSUE		DRAWING NO. B-14-56	SHEET 1 of 2	REV. 0

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SPC/AUTODRAFT

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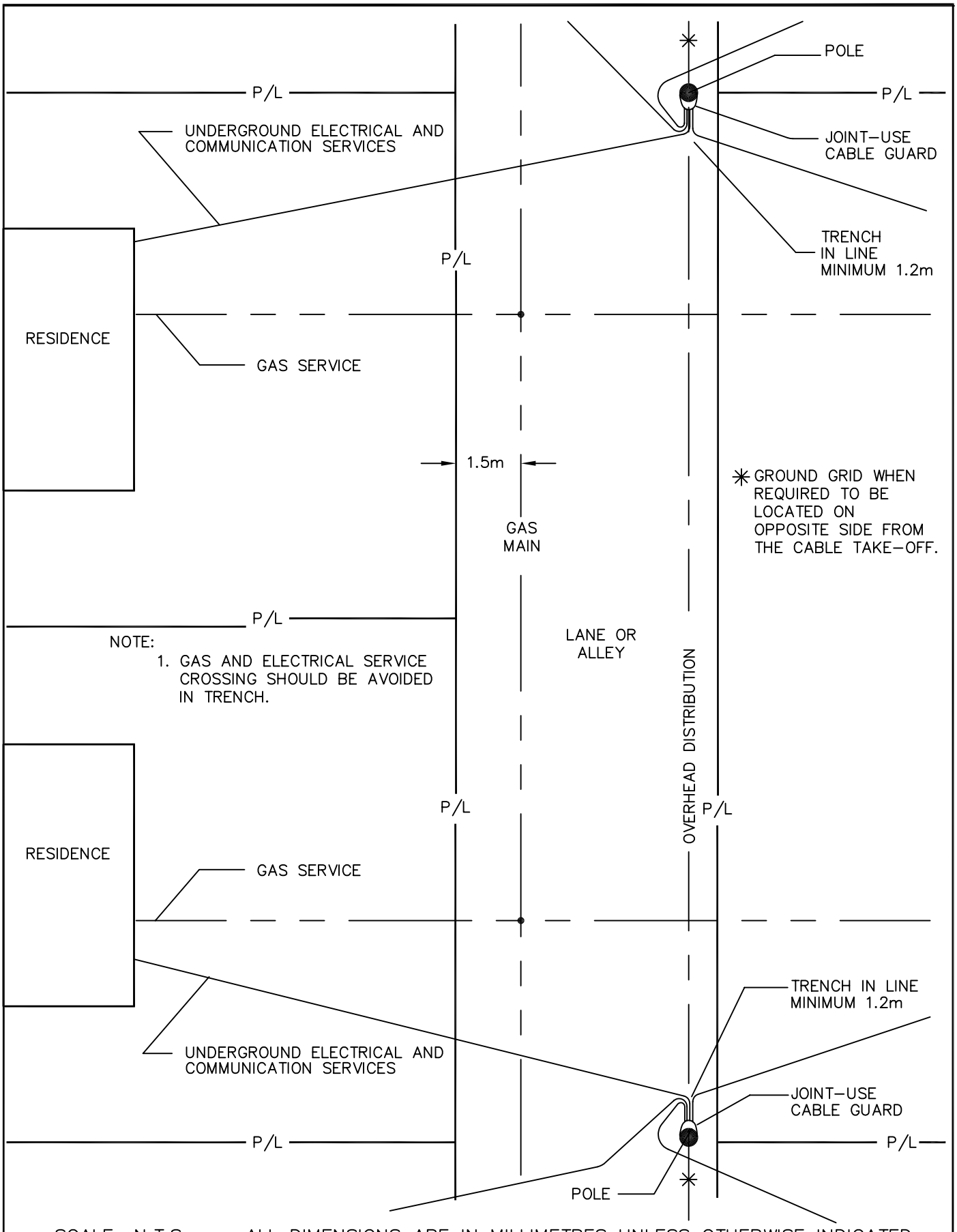

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	SAFETY APP.	APPROVAL	OVERHEAD DISTRIBUTION WITH UNDERGROUND SERVICES
CHKD.				
DATE 92–02–20	DATE	DATE	DATE	
DATE OF ISSUE		DRAWING NO. B–14–56	SHEET 2 of 2	REV. 0

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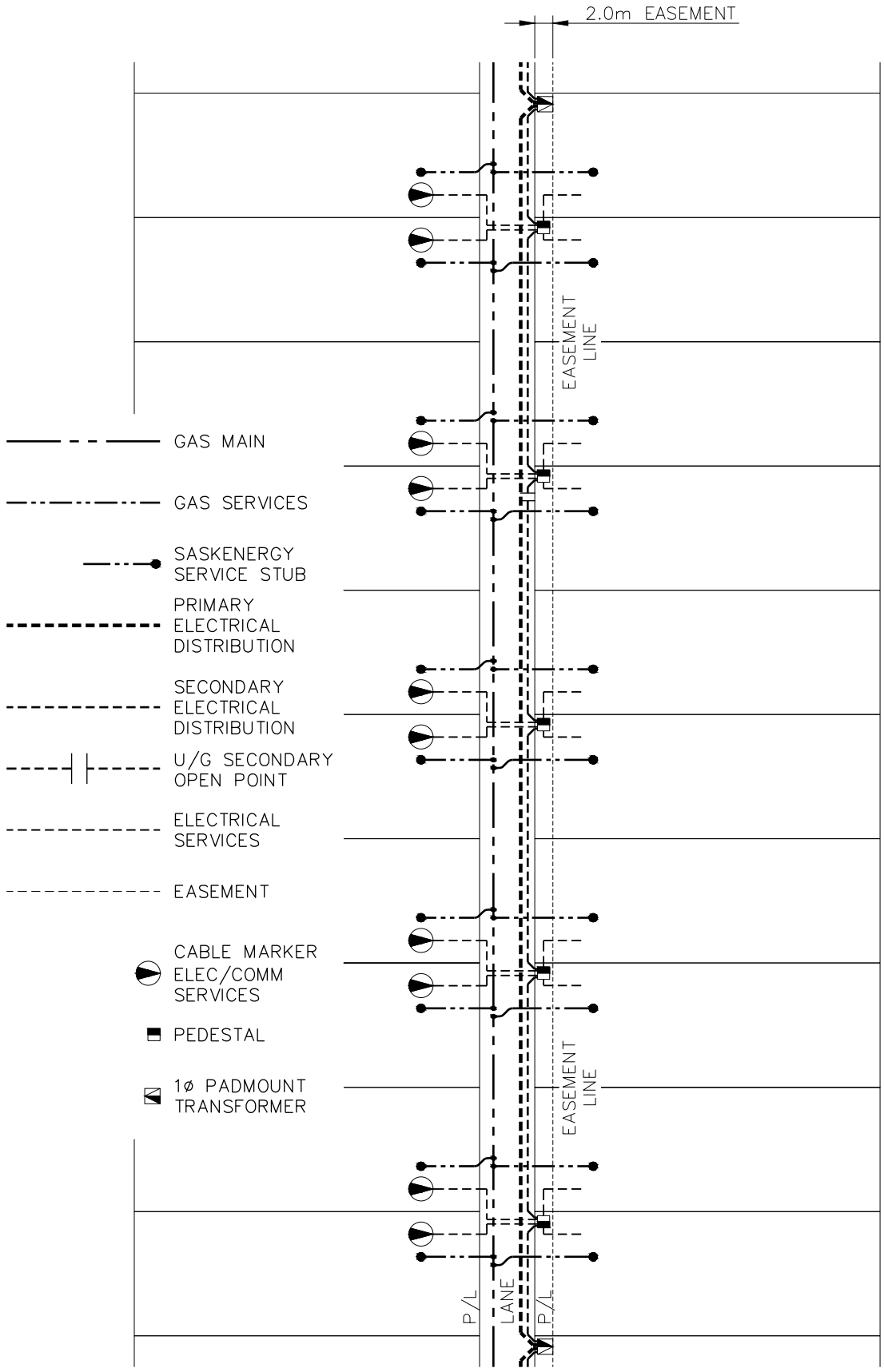
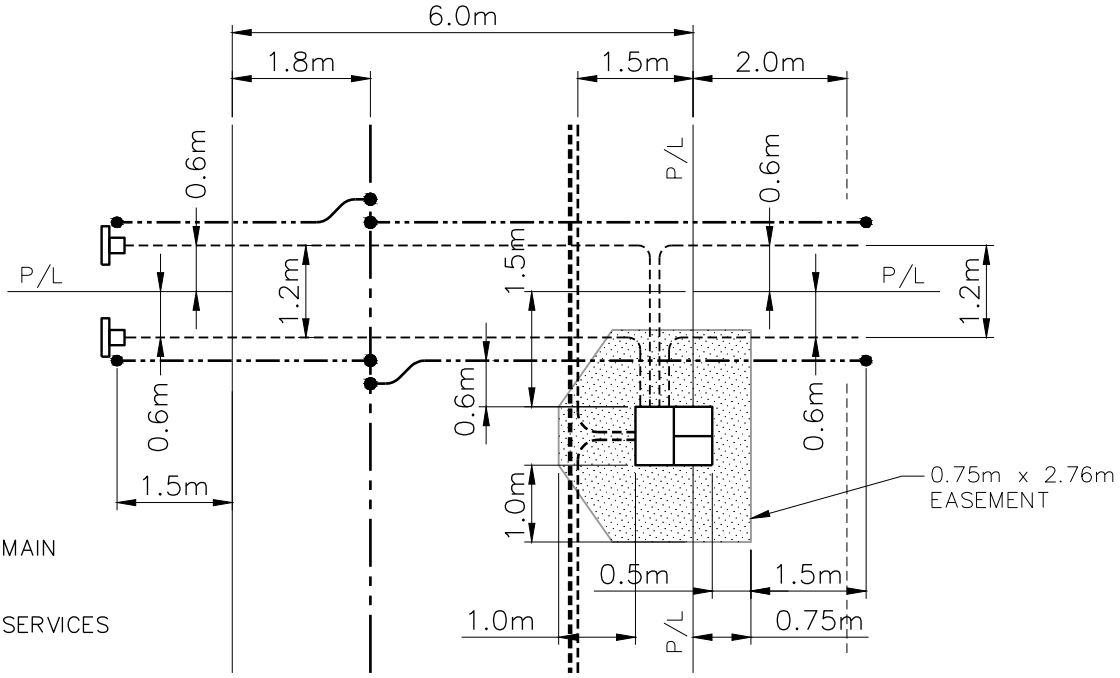


SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2014-07-23	EASEMENT PLAN WITH REAR LANE 3 PARTY DISTRIBUTION 4 PARTY SERVICES, OVERALL LAYOUT
DATE OF ISSUE 2015/04/28		DRAWING NO. B-14-57 SHEET 1 of 3	REV. 0



GAS MAIN

GAS SERVICES

SASKENERGY SERVICE STUB

PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

ELECTRICAL SERVICES

PROPERTY LINES

EASEMENT

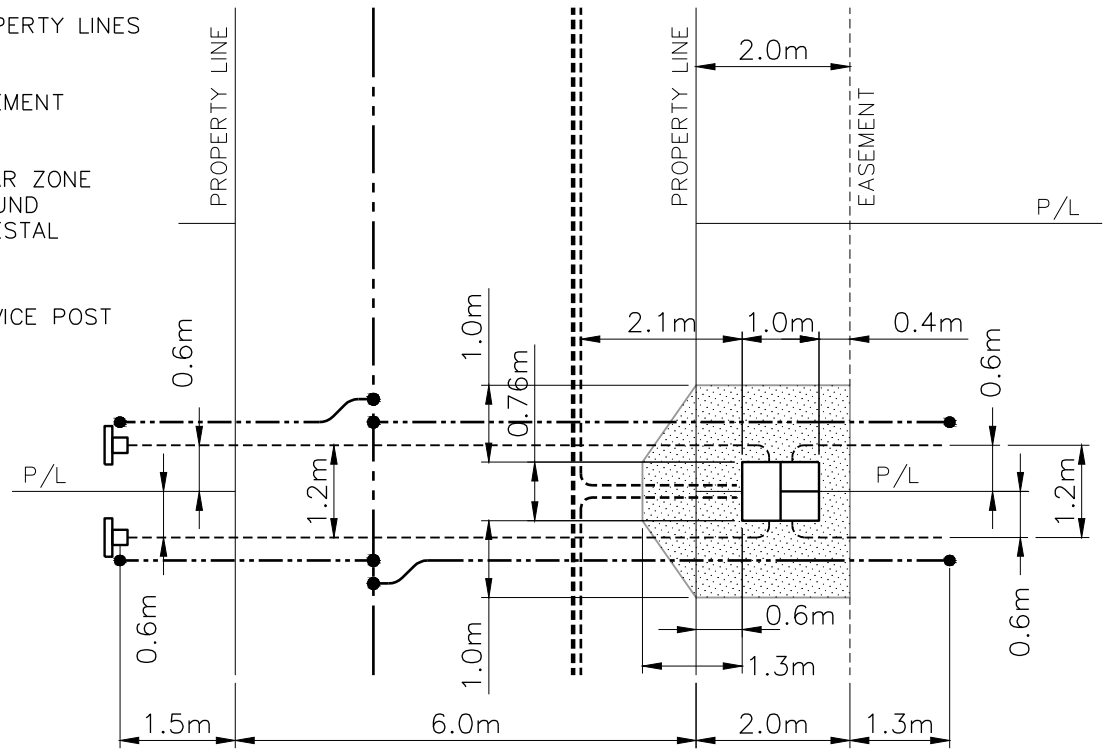
CLEAR ZONE AROUND PEDESTAL

SERVICE POST

NOTE:

1. DIMENSIONS FOR PEDESTAL LOCATION ARE TO BE ABOVE GROUND PORTION.
2. GAS AND ELECTRICAL SERVICE CROSSING SHOULD BE AVOIDED IN TRENCH.
3. FOR CONDUCTOR/TRENCH LAYOUT, SEE DWG B-14-65.

ALTERNATE CONSTRUCTION



SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. L.BAILEY	DRN. A.GATZKE CHKD. 2014-12-15	EASEMENT PLAN WITH REAR LANE 3 PARTY DISTRIBUTION, 4 PARTY SERVICES PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-57	SHEET 2 of 3	REV. –

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GAS MAIN

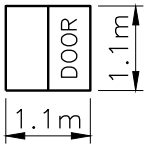
PRIMARY ELECTRICAL DISTRIBUTION

SECONDARY ELECTRICAL DISTRIBUTION

PROPERTY LINES

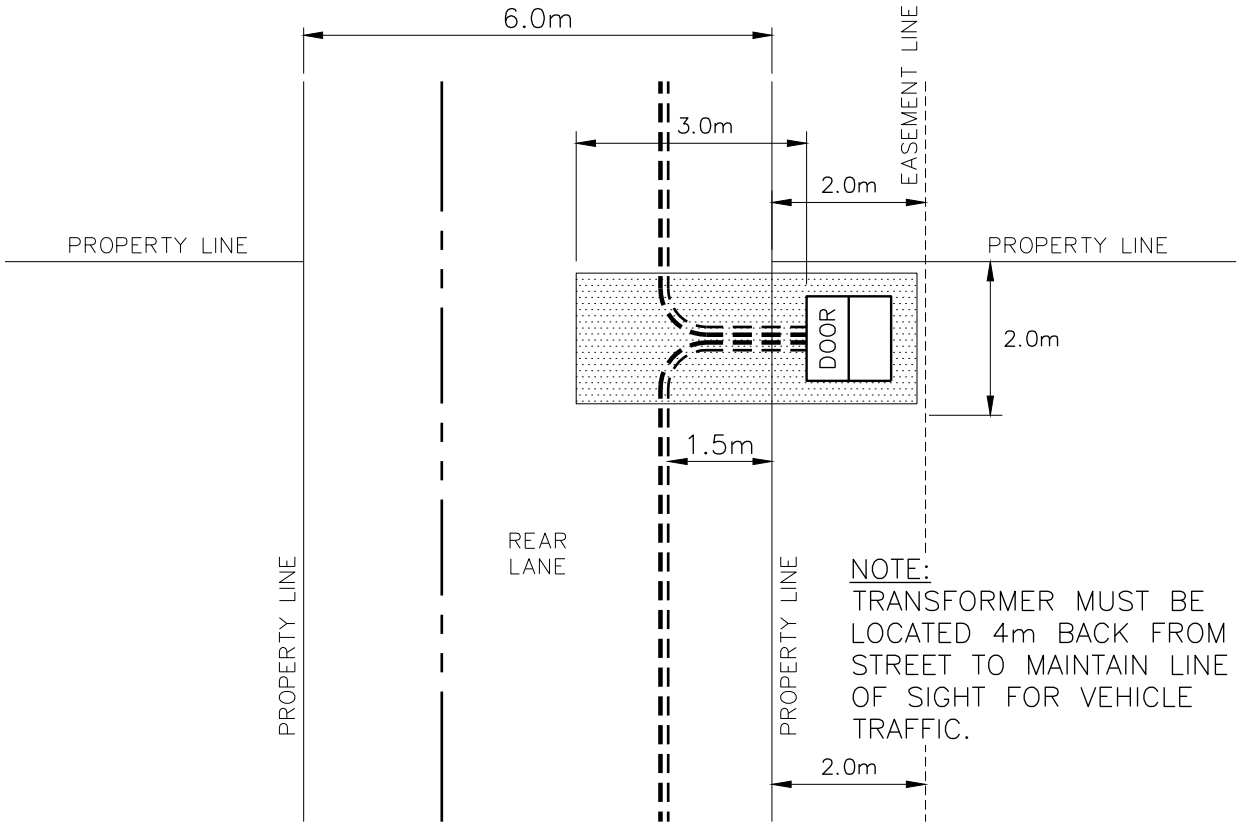
EASEMENT

CLEAR ZONE AROUND TRANSFORMER



PADMOUNT TRANSFORMER

REAR LANE TRANSFORMER INSTALLATION



NOTE:
TRANSFORMER MUST BE LOCATED 4m BACK FROM STREET TO MAINTAIN LINE OF SIGHT FOR VEHICLE TRAFFIC.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-11	EASEMENT PLAN WITH REAR LANE 3 PARTY DISTRIBUTION PADMOUNT TRANSFORMER DETAILS
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-57	SHEET 3 of 3	REV. 0

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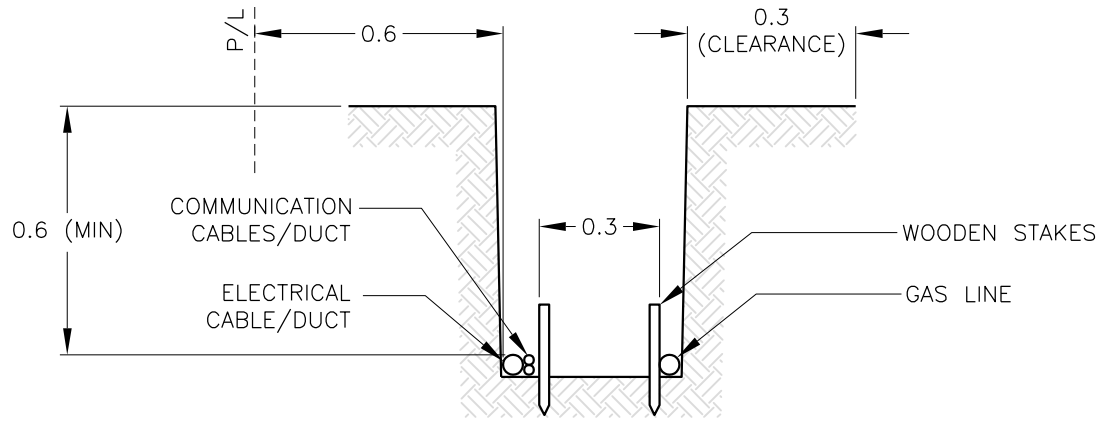
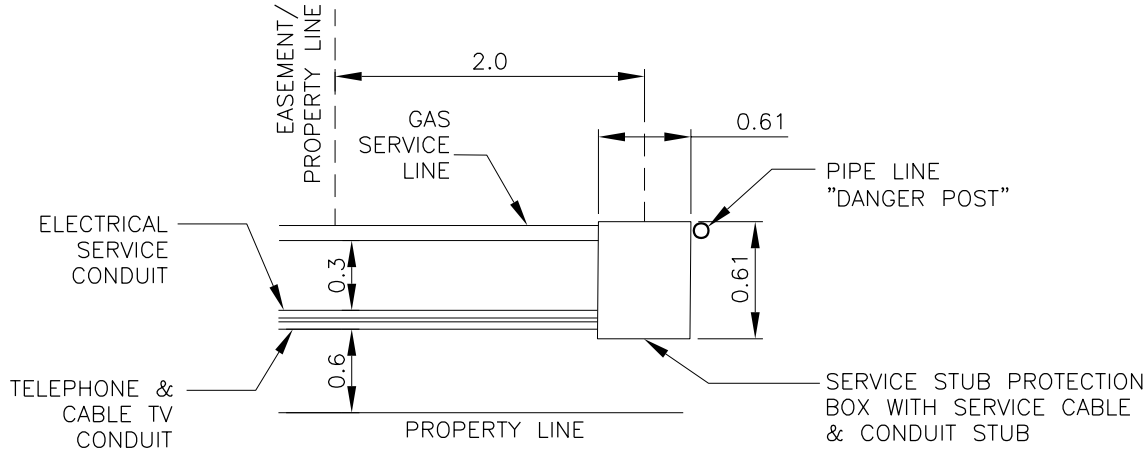
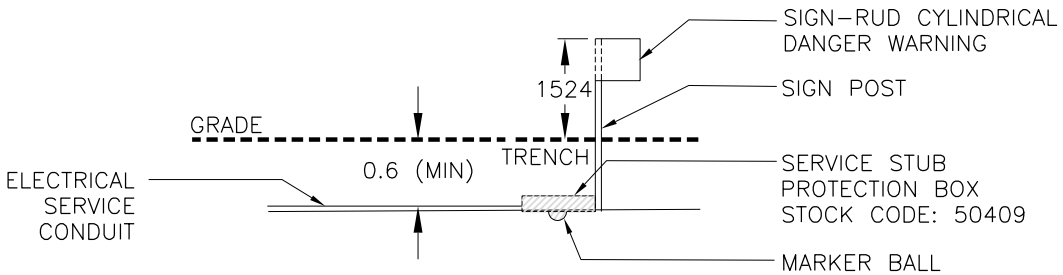


TRENCH DETAILS



TOP VIEW



SECTIONAL VIEW OF TRENCH
SHOWING SERVICE STUB PROTECTION BOX INSTALLATION

NOTES:

1. ELECTRICAL CABLES AND CONDUITS TO BE KEPT AGAINST WALL OF TRENCH.
2. 38mm SQUARE WOODEN STAKES ARE SPACED 3m APART ALONG TRENCH TO KEEP CONDUIT IN PLACE.
3. SERVICE SHALL BE TAKEN TO A SERVICE STUB PROTECTION BOX AT THE TIME OF INSTALLATION OF DISTRIBUTION FOR FOUR PARTY SERVICES.
4. ENDS OF CONDUIT SHALL BE CAPPED.
5. SASKENERGY TRACER WIRE TO BE WRAPPED AROUND "DANGER POST" & BROUGHT ABOVE GRADE.
6. INSTALL MARKER BALL UNDER SERVICE STUB PROTECTION BOX. SEE DRAWING B-30-16 FOR UNDERGROUND MARKER BALL INSTALLATION DETAILS.
7. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

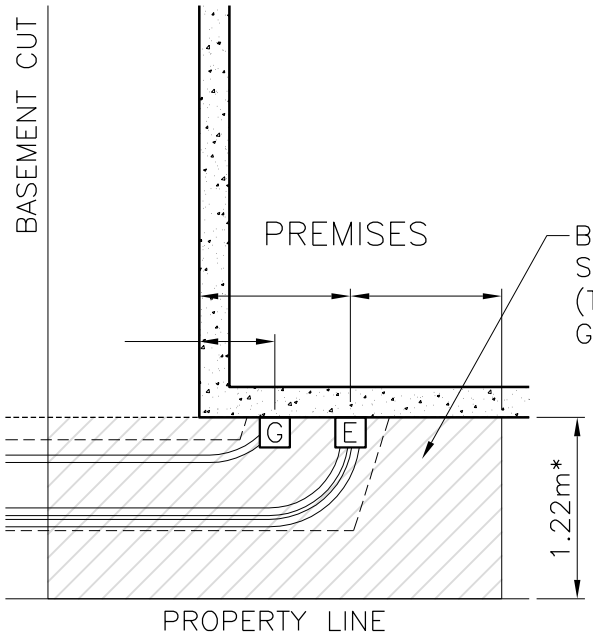
SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.D.REDEKOPP CHKD. 2022-10-20	FOUR PARTY TRENCHING SERVICE STUB PROTECTION BOX LAYOUT & DETAIL
DATE OF ISSUE 2023-04-24	DRAWING NO. B-14-59	SHEET 1 of 2	REV. G

REFER TO ELECTRIC SERVICE REQUIREMENTS
FOR ALL DETAILS AND DIMENSIONS

LEGEND

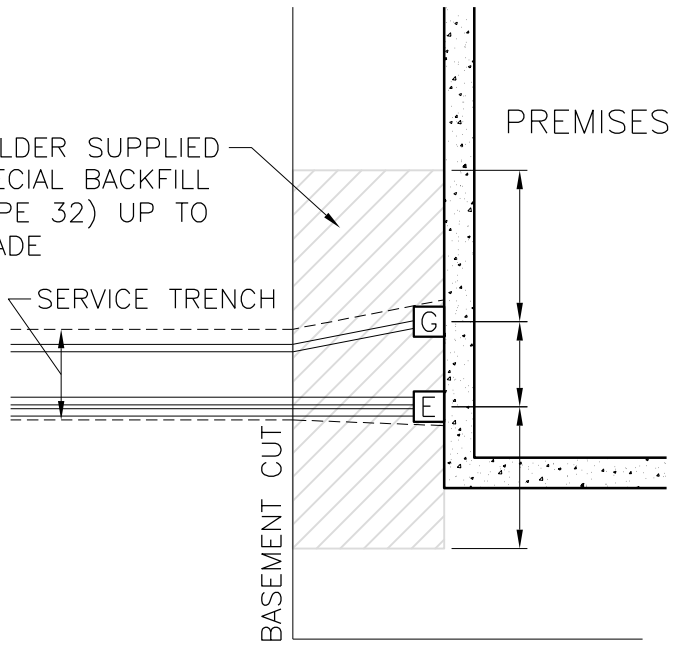
G GAS METER

E ELECTRIC METER

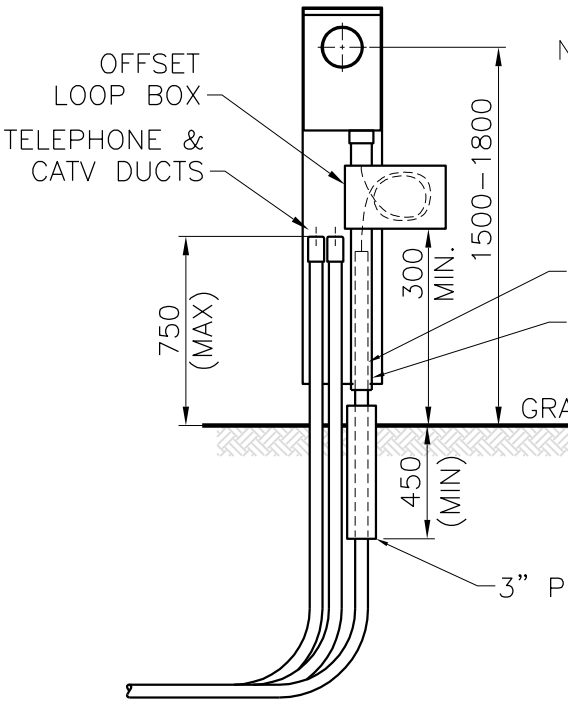


* IF LESS THAN 1.22m, METERS TO BE LOCATED ON BACK WALL

METERS LOCATED ON SIDE WALL



METERS LOCATED ON BACK WALL



NOTES:
1. USE 2"x12" BOARD TO FIT 12" METER BOXES.
2. USE 4/0 Cu. CONDUCTOR IF SERVICE CABLE > 200ft.
3. MATERIAL IS CUSTOMER SUPPLIED.

ELECTRIC/TELEPHONE/ CABLE ENTRANCE

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SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN. E.GOTANA CHKD. 2017–11–23	FOUR PARTY TRENCHING SERVICE TRENCH LAYOUT METERING DETAIL
DATE OF ISSUE 2016/05/04	DRAWING NO. B–14–59	SHEET 2 of 2	REV. C

UNDERGROUND CABLE - DEPTH OF COVER

	UNDER YARDS OR PARKS
WITH PRIMARY IN TRENCH	900 (MIN) 1200 (MAX)
WITHOUT PRIMARY IN TRENCH	600 (MIN) 1000 (MAX)
SERVICE TO RESIDENCE	600 (MIN) 750 (MAX)
PRIMARY CABLE IN DUCT (SEE NOTE 3)	900 (MIN) 1200 (MAX)

NOTE:

1. **PER CSA C22.3 NO.7 'UNDERGROUND SYSTEMS', COMMUNICATION CABLES ARE ALLOWED TO BE IN DIRECT CONTACT (RANDOM SEPARATION) WITH PRIMARY CABLES WITH A PHASE TO GROUND VOLTAGE OF LESS THAN 22kV PROVIDED THAT:**
   - **A. THE DISTANCE BETWEEN ANY TWO CONNECTIONS BETWEEN THE COMMUNICATION SHIELD AND SASKPOWER'S MULTIGROUNDED NEUTRAL IS NOT GREATER THAN 300m.**
   - **B. FOR PRIMARY CABLE THERE SHALL BE NO FEWER THAN FIVE CONNECTIONS BETWEEN THE NEUTRAL AND GROUND PER KILOMETER. WHERE THESE REQUIREMENTS CANNOT BE MET, FIXED SEPARATION AS PER C26-02.01 MUST BE USED.**

CABLES WITH VOLTAGES IN EXCESS OF 22kV LINE-GROUND REQUIRE FIXED SEPARATION.

2. **FOR DEPTH OF COVER UNDER ROADWAYS AND DITCHES, REFER TO SECTION C-26-21.**

3. **TYPICAL CONSTRUCTION IS TO FOLLOW THE DEPTH OF COVER VALUES NOTED ABOVE. DEPTH MAY BE REDUCED TO 450mm FOR CABLE IN DUCT IN EXTENUATING CIRCUMSTANCES IF MECHANICAL PROTECTION IS INSTALLED AS PER CSA C22.3 NO. 7-15 SECTION 7.3.**

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED

BACK TO INDEX PAGE

SaskPower - DISTRIBUTION STANDARDS			
APPROVAL **L. MOEN**	DESIGN CHK **J. ARSENAULT**	DRN. **JDA** CHKD. **2018-09-25**	**CONDUCTOR DEPTH OF COVER**
DATE OF ISSUE: 2019-01-02		DRAWING NO: **B-14-65**	**SHEET 1 of 1** REV. **D**

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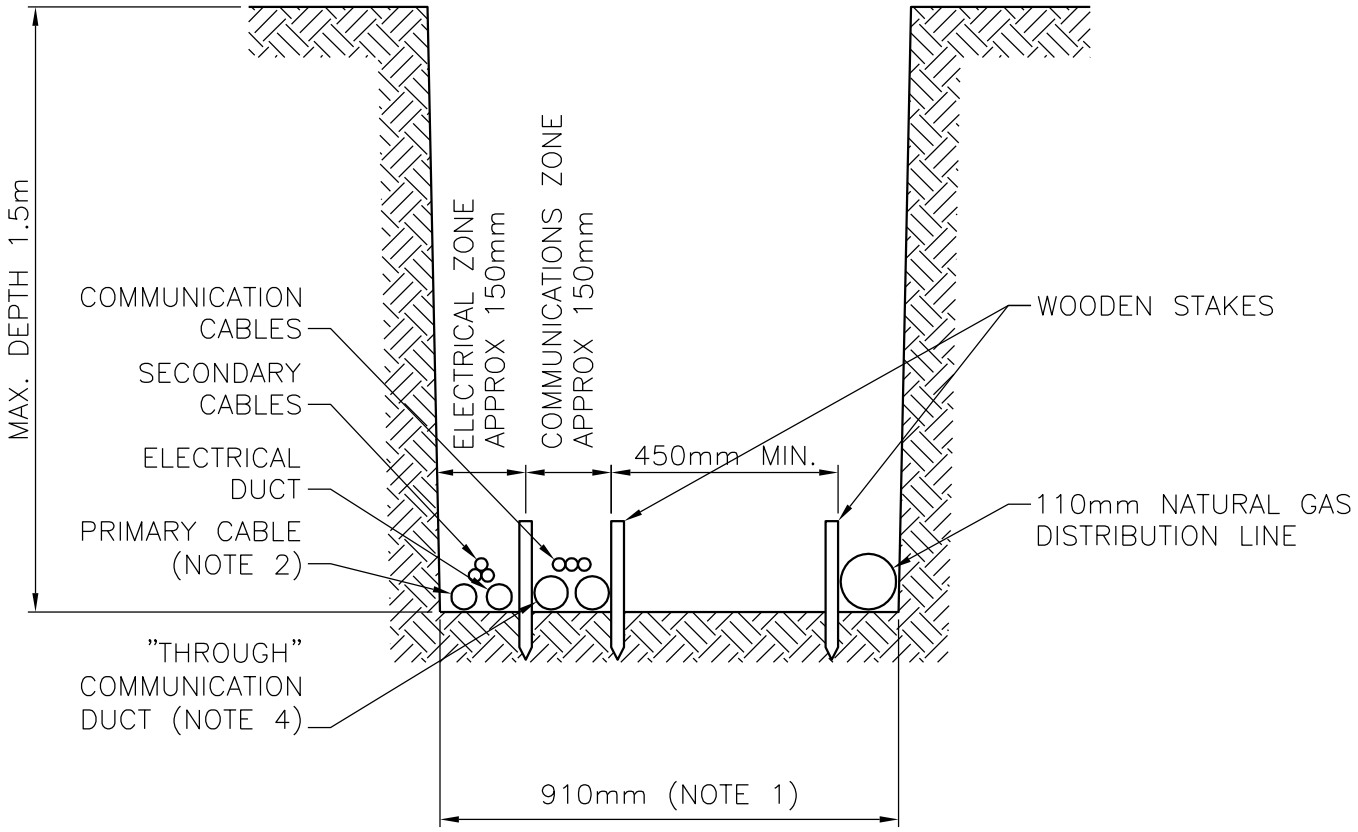
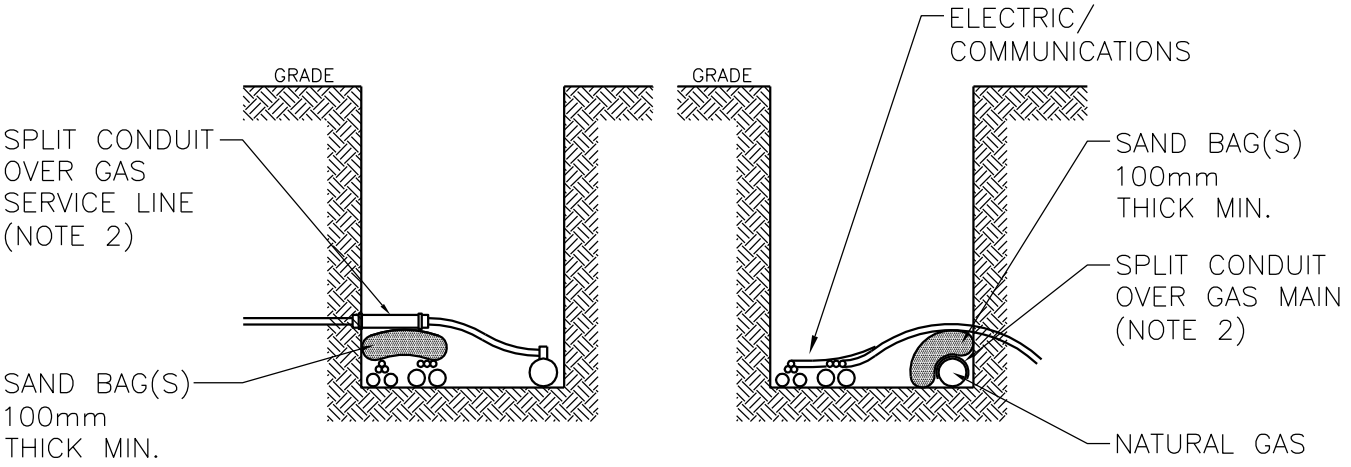


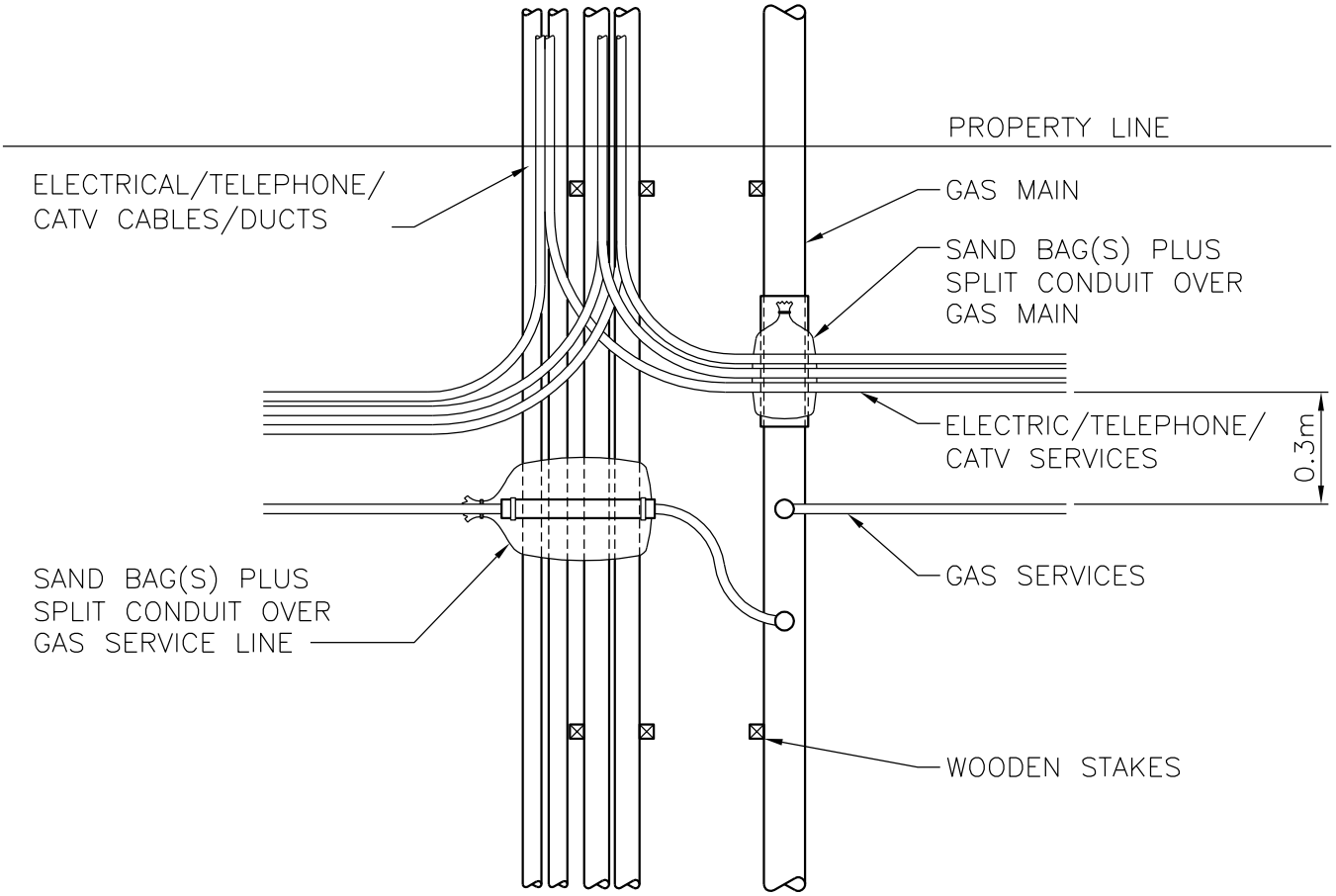
NOTES:

1. 910mm WILL ACCOMMODATE UP TO 4" NATURAL GAS LINE. LARGER GAS LINES WILL REQUIRE A WIDER TRENCH.
2. ELECTRICAL CABLES AND CONDUITS TO BE KEPT AGAINST WALL OF TRENCH.
3. MINIMUM 0.9m COVER OVER ELECTRICAL CABLES/CONDUITS AND GAS MAINS. THIS MAY BE REDUCED TO 0.8m FOR COMMUNICATION CABLES/CONDUITS.
4. "THROUGH" COMMUNICATION DUCTS (THOSE WHICH CONTINUE THROUGH THE SUBDIVISION AND DON'T TERMINATE IN LOCAL PEDESTAL) SHOULD BE PLACED AT THE BOTTOM OF THE TRENCH.
5. 38mm SQUARE WOODEN STAKES ARE SPACED 3m APART ALONG TRENCH.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. M. ERETH	DRN. DC CHKD.	TRENCH LAYOUT FOUR PARY DISTRIBUTION
DATE OF ISSUE 2012-12-05	DRAWING NO. B-14-66	SHEET 1 of 2	REV. A



CROSSING OF ELECTRIC/
COMMUNICATIONS AND GAS



NOTES:

1. PLACE 1 OR MORE SAND BAGS OVER MAIN TRENCH UTILITIES TO ENSURE THERE WILL BE NO CONTACT.
2. SPLIT CONDUIT OVER GAS LINE SHALL BE 25mm GREATER IN DIAMETER THAN THE PIPE LINE COVERED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. M. ERETH	DRN. DC CHKD.	TRENCH LAYOUT FOUR PARTY DISTRIBUTION CROSSING DETAILS
DATE OF ISSUE 2012-12-05	DRAWING NO. B-14-66	SHEET 2 of 2	REV. A

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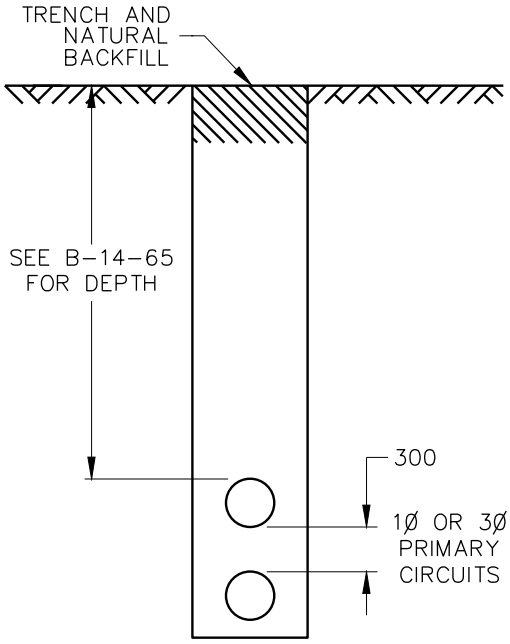
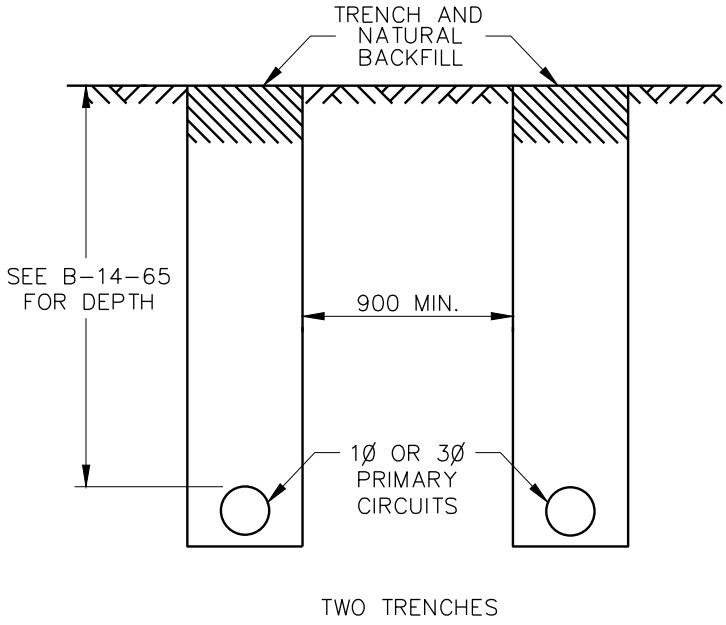
PRIMARY LOOP: INSTALLATION METHODS

METHOD #1
FOR RURAL USE ONLY

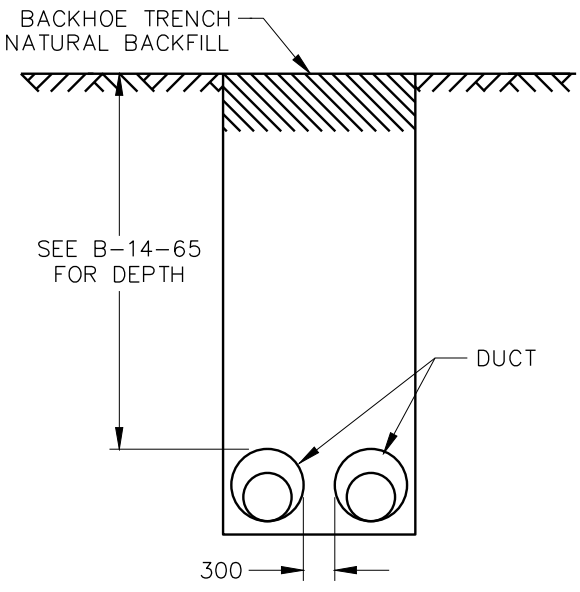


METHOD #2



TWO TRENCHES

METHOD #3



300 BETWEEN NEAREST CONDUCTORS OF DIFFERENT CIRCUITS

NOTE:
1) ENGINEERING TO APPROVE USE OF SAND IN TRENCH FOR ANY OF THE METHODS.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. A.UHREN	DRN. A.GATZKE CHKD.	PRIMARY LOOP POWER INSTALLATION METHODS
		2015-03-10	
DATE OF ISSUE 2015/04/28	DRAWING NO. B-14-70	SHEET 1 of 1	REV. C

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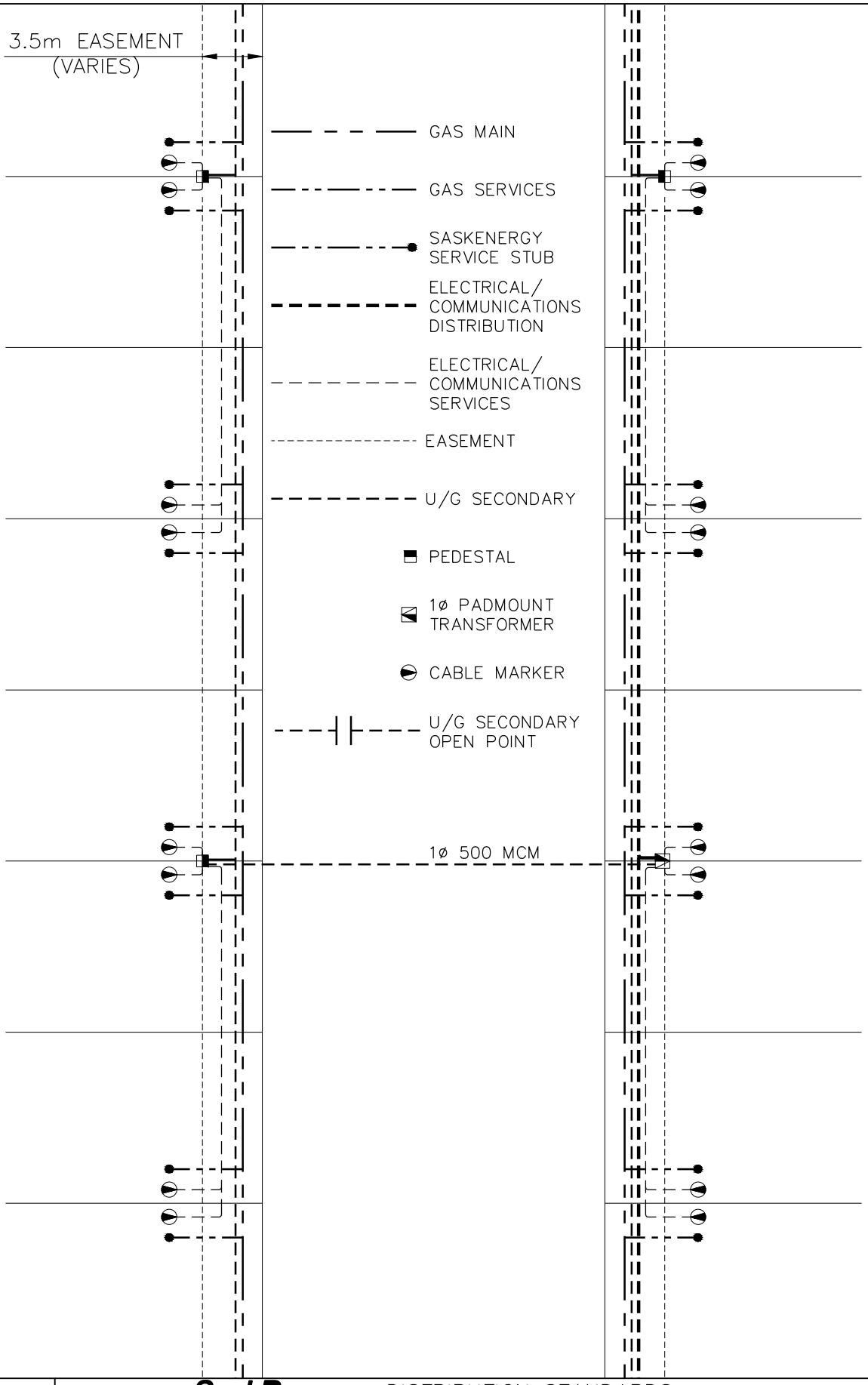
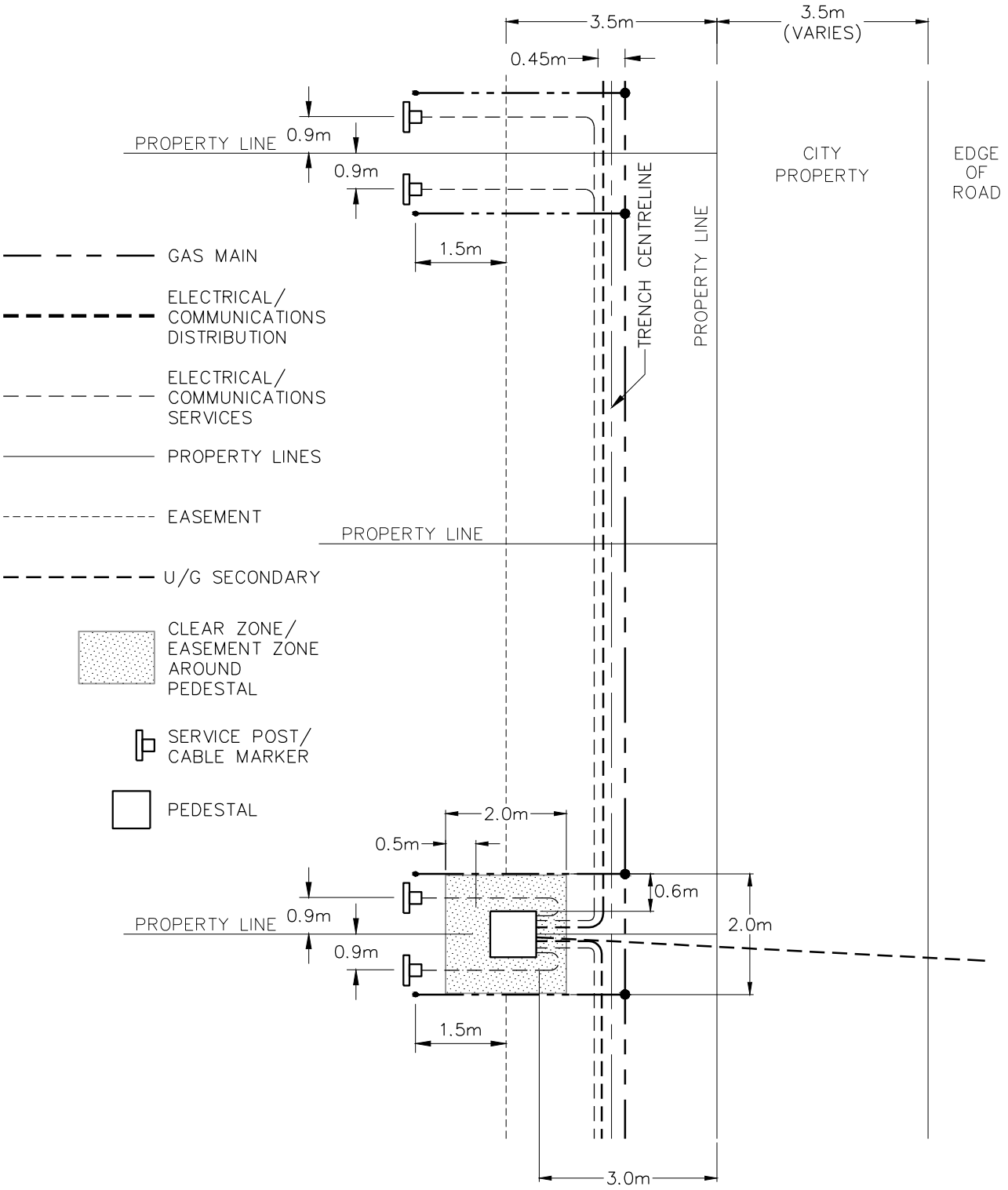


SaskPower – DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK.	DRN. SL	EASEMENT PLAN, FOUR PARTY TRENCHING, FRONT STREET DISTRIBUTION OVERALL PLAN
L.MOEN	S.PRIER	CHKD.	

DATE OF ISSUE 2016/02/05	DRAWING NO. B-14-80	SHEET 1 of 3	REV. 0



NOTES:

1. USE 5" DUCT (CONDUIT) FOR ROAD CROSSING WITH 500MCM CABLE.
2. SPARE DUCT SHALL BE INSTALLED.
3. ROAD CROSSING WITH 500MCM CABLE SHALL BE OFF-SET TO AVOID PROPERTY PIN.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. S.PRIER	DRN. DC/SL CHKD.	EASEMENT PLAN, FOUR PARTY TRENCHING, FRONT STREET DISTRIBUTION PEDESTAL INSTALLATION DETAILS
DATE OF ISSUE 2016/02/05	DRAWING NO. B-14-80	SHEET 2 of 3	REV. 0

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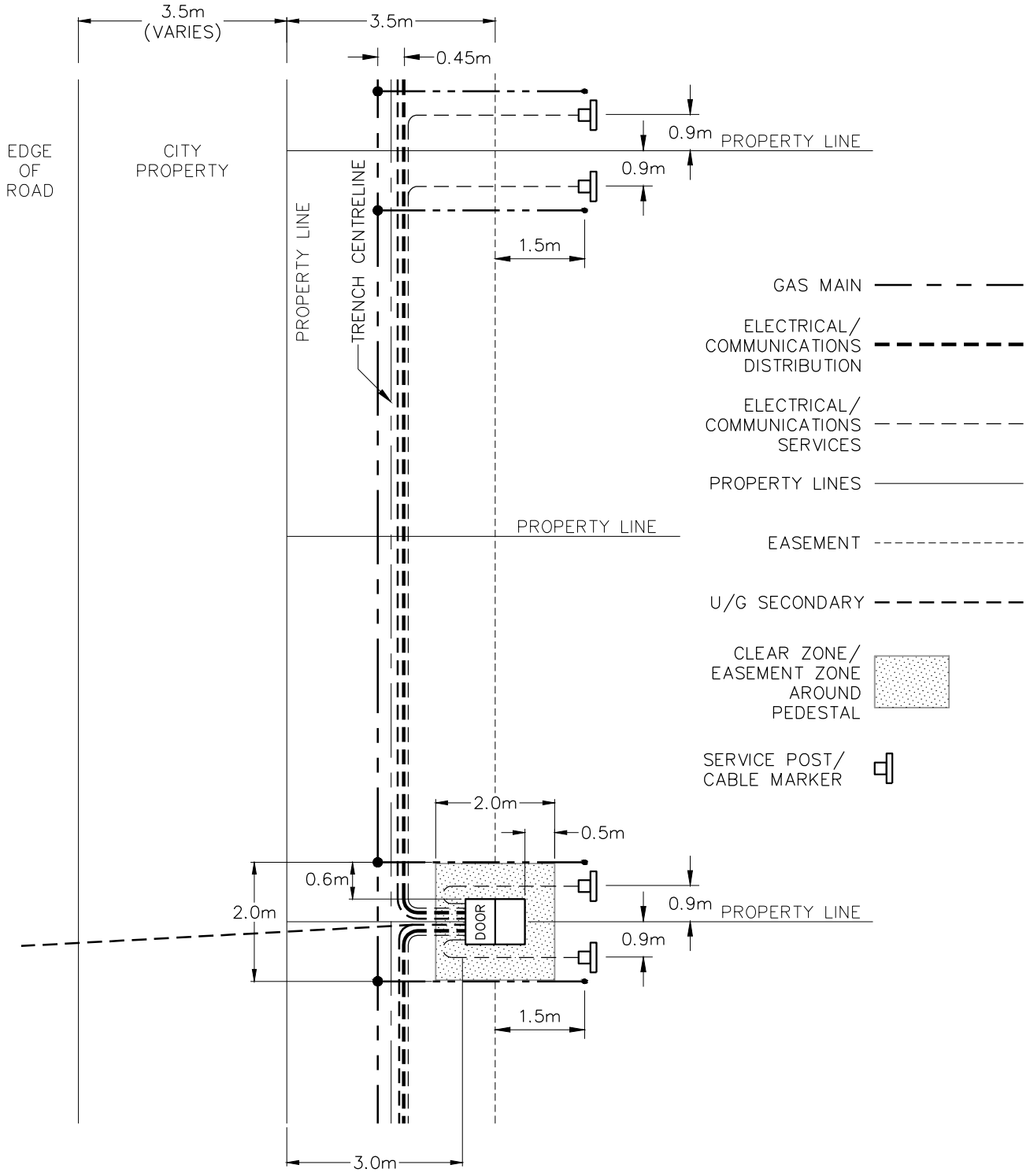

NOTES:
1. ROAD CROSSING WITH 500MCM CABLE SHALL BE OFF-SET TO AVOID PROPERTY PIN.

	SaskPower – DISTRIBUTION STANDARDS			
	APPROVAL L.MOEN	DESIGN CHK. S.PRIER	DRN. DC/SL CHKD.	EASEMENT PLAN, FOUR PARTY TRENCHING, FRONT STREET DISTRIBUTION PADMOUNT TRANSFORMER DETAILS
	DATE OF ISSUE 2016/02/05	DRAWING NO. B-14-80	SHEET 3 of 3	REV. 0

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SPC/AUTODRAFT

STREET LIGHTS

1. FOR BALLAST CONNECTIONS REFER TO BALLAST NAMEPLATE OR INSTRUCTION SHEET.

2. FOR OVERHEAD STREET LIGHTING, REFER TO SECTION A–20.

3. AFTER INSTALLATION, THE LUMINAIRE IS TO BE ADJUSTED SO THAT IT IS LEVEL, UNLESS OTHERWISE SPECIFIED.

4. "MOUNTING HEIGHT" IS THE HEIGHT OF THE CENTER OF THE LUMINAIRE ABOVE THE SURFACE TO BE LIGHTED. THE MOUNTING HEIGHTS SHOWN ARE FOR INSTALLATIONS OTHER THAN DESIGNED LIGHTING SYSTEMS. SEE 5 BELOW.

5. CUSTOMER REQUESTS FOR DETAILED LIGHTING DESIGNS SHOULD BE REFERRED TO THE REGION ENGINEERING OFFICE.

6. FUSING OF OVERHEAD STREET LIGHT FEEDS, IF REQUIRED, SHOULD BE AT THE SOURCE POINT. USE A 15 AMP FUSE (7–52–25) AND WEATHERPROOF FUSE HOLDER (71–95–05) WITH CONNECTORS (5–09–XX) AS REQUIRED.

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SPC/AUTODRAFT

STREET LIGHT DESIGN CRITERIA

MAXIMUM (OPERATING OR STARTING) CURRENT

LUMINAIRE TYPE	MERCURY VAPOUR				LOW PRESSURE SODIUM VAPOUR			HIGH PRESSURE SODIUM VAPOUR				
	125 W	175 W	250 W	400 W	90 W	135 W	180 W	70 W	100 W	150 W	250 W	400 W
120 VOLT	1.60	1.80	2.40	4.00	1.40	2.00	2.90	0.85	1.16	1.70	2.80	4.20
240 VOLT	0.80	0.90	1.20	2.00	0.70	1.00	1.45	0.43	0.58	0.85	1.40	2.10

LIGHT SOURCE & RATED LAMP LIFE COMPARISIONS

TYPE OF LAMP	TRUE WATTS *	RATED INITIAL LUMENS	RATED LAMP LIFE
100 WATT INCANDESCENT	100	1,640	1,000 HOURS
200 WATT INCANDESCENT	200	3,800	1,000 HOURS
300 WATT INCANDESCENT	300	5,750	1,000 HOURS
125 WATT MERCURY VAPOUR	160	6,350	24,000 HOURS
175 WATT MERCURY VAPOUR	205	7,900	24,000 HOURS
250 WATT MERCURY VAPOUR	285	12,100	24,000 HOURS
400 WATT MERCURY VAPOUR	460	21,000	24,000 HOURS
90 WATT LOW PRESSURE SODIUM VAPOUR	125	13,500	18,000 HOURS
135 WATT LOW PRESSURE SODIUM VAPOUR	160	22,500	18,000 HOURS
180 WATT LOW PRESSURE SODIUM VAPOUR	210	33,000	18,000 HOURS
70 WATT HIGH PRESSURE SODIUM VAPOUR	100	5,800	24,000 HOURS
100 WATT HIGH PRESSURE SODIUM VAPOUR	130	9,500	24,000 HOURS
150 WATT HIGH PRESSURE SODIUM VAPOUR	190	16,000	24,000 HOURS
250 WATT HIGH PRESSURE SODIUM VAPOUR	318	27,500	24,000 HOURS
400 WATT HIGH PRESSURE SODIUM VAPOUR	480	50,000	24,000 HOURS

* INCLUDES BALLAST

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SPC/AUTODRAFT

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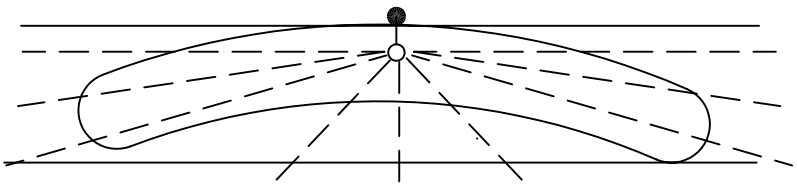
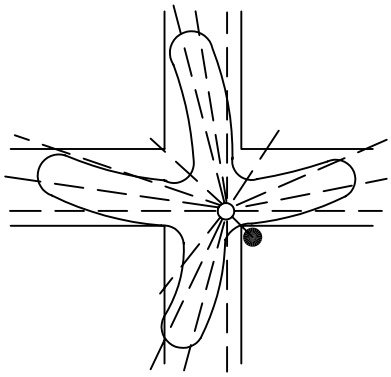
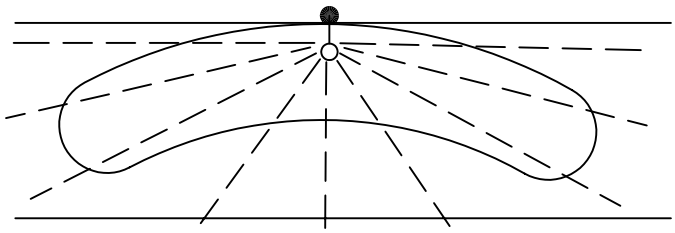


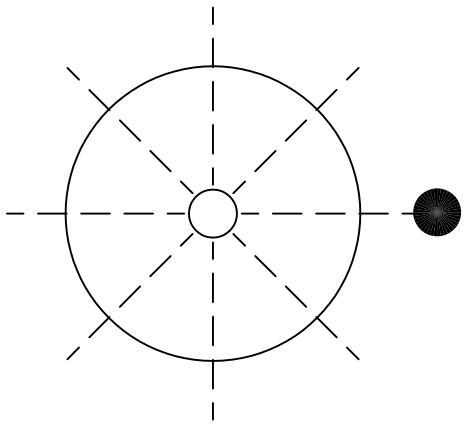
TYPE II



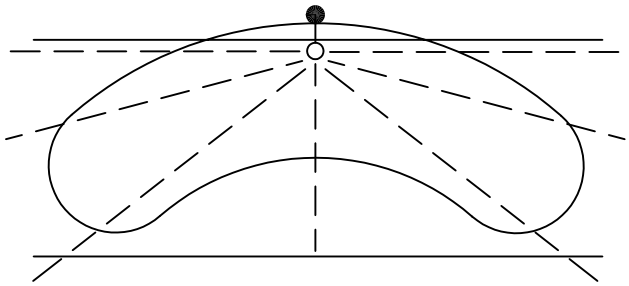
TYPE II 4–WAY



TYPE III



IES TYPE V
DISTRIBUTION



TYPE IV

SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS				
DRN.	DESIGN CHK.	SAFETY APP.	APPROVAL	LIGHT DISTRIBUTION PATTERN
CHKD. FTK				
DATE 87–05–20	DATE	DATE	DATE	
DATE OF ISSUE 87–06–01		DRAWING NO. B–20–06	SHEET 1 of 1	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**3 16 40**	**1**	**PHOTO CONTROL - 120 VOLT**
1	**3 45 30**	**1**	**SHORTING CAP**
2	**3 43 10**	**1**	**LUMINAIRE - COLONIAL POST TOP - 100 WATT HPSV TYPE V**
3	**7 62 50**	**1**	**LAMP - 100 WATT HPSV**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**COLONIAL POST TOP LUMINAIRE**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE: **2003/05/30** | DRAWING NO: **B-20-09** | **SHEET 1 OF 2** | REV. **B**

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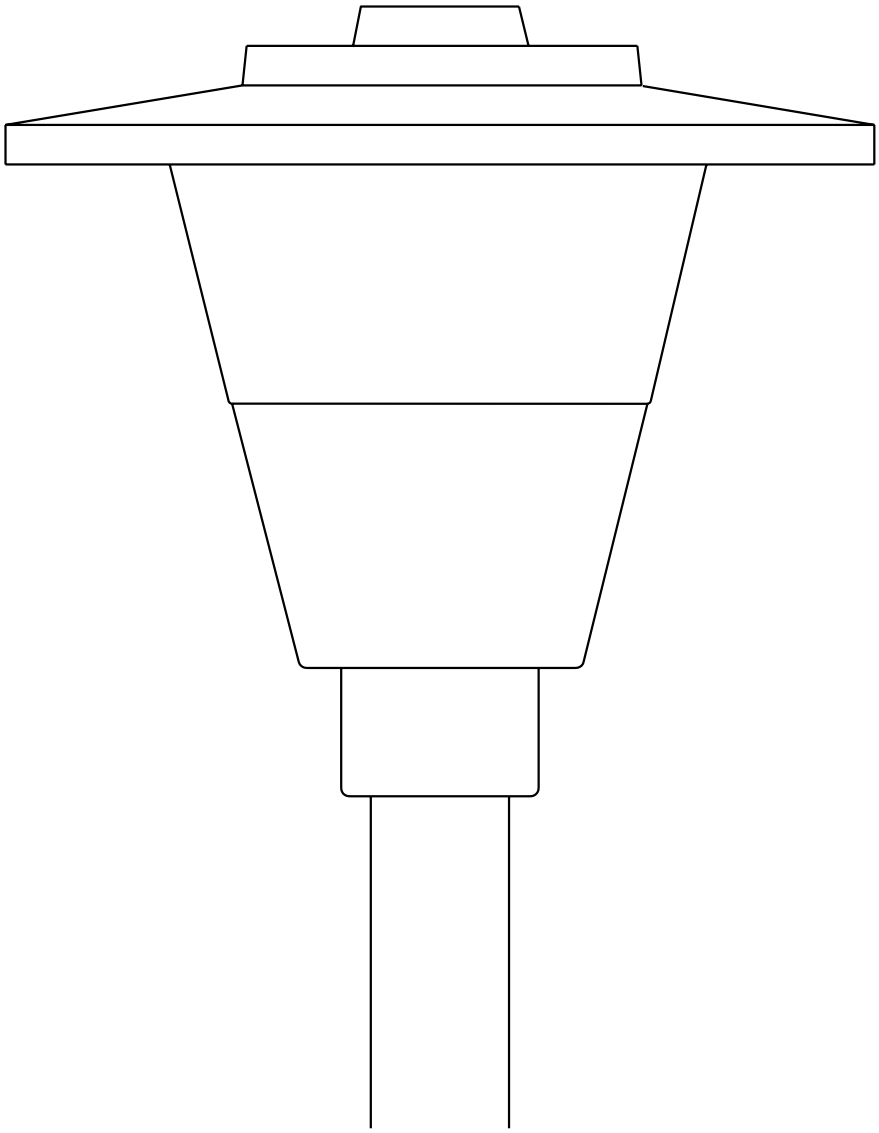

NOTE:

SUGGESTED MOUNTING HEIGHT: 4.28 (14')

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

SaskPower – DISTRIBUTION STANDARDS			
DRN. JUTTLA	DESIGN CHK.	APPROVAL	COLONIAL POST TOP LUMINAIRE
CHKD.			
DATE	DATE	DATE	
DATE OF ISSUE: 2003/05/30	DRAWING NO. B-20-09	SHEET 2 OF 2	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**3 16 40**	**1**	**PHOTO CONTROL -120 VOLT**
1	**3 45 30**	**1**	**SHORTING CAP**
2	**3 42 06**	**1**	**LUMINAIRE -70 WATT HPSV TYPE V**
2	**3 42 07**	**1**	**LUMINAIRE -70 WATT HPSV TYPE II**
2	**3 42 08**	**1**	**LUMINAIRE -70 WATT HPSV TYPE II FOUR-WAY**
2	**3 42 10**	**1**	**LUMINAIRE -100 WATT HPSV TYPE II**
2	**3 42 11**	**1**	**LUMINAIRE -100 WATT HPSV TYPE II – FULL CUTOFF**
2	**3 42 15**	**1**	**LUMINAIRE -150 WATT HPSV TYPE III**
2	**3 42 16**	**1**	**LUMINAIRE -150 WATT HPSV TYPE III – FULL CUTOFF**
2	**3 42 25**	**1**	**LUMINAIRE -250 WATT HPSV TYPE III**
2	**3 42 26**	**1**	**LUMINAIRE -250 WATT HPSV TYPE III – FULL CUTOFF**
2	**3 42 40**	**1**	**LUMINAIRE -400 WATT HPSV TYPE III**
3	**7 62 47**	**1**	**LAMP -70 WATT HPSV**
3	**7 62 50**	**1**	**LAMP -100 WATT HPSV**
3	**7 62 52**	**1**	**LAMP -150 WATT HPSV**
3	**7 62 55**	**1**	**LAMP -250 WATT HPSV**
3	**7 62 60**	**1**	**LAMP -400 WATT HPSV**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**HIGH PRESSURE SODIUM VAPOUR LUMINAIRE**
M. ERETH	**A. UHREN**	CHKD.	
		2015-03-09	

DATE OF ISSUE: 2015/08/18	DRAWING NO: **B-20-11**	**SHEET 1 OF 2**	REV. **A**

SPC/AUTODRAFT

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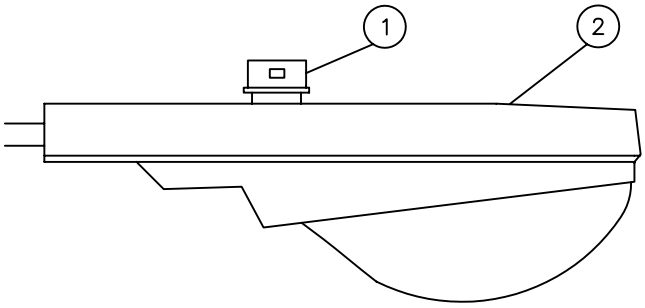

3 LAMP

MOUNTING HEIGHT

LUMINAIRE	RECOMMENDED
70 WATT	7.6m
100 WATT	9.1m
150 WATT	10.7m
250 WATT	10.7m
400 WATT	12.2m

SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS				
DRN. A.B.W. CHKD. FTK DATE 87-05-29	DESIGN CHK. DATE	SAFETY APP. DATE	APPROVAL DATE	HIGH PRESSURE SODIUM VAPOUR LUMINAIRE
DATE OF ISSUE		DRAWING NO. B-20-11	SHEET 2 OF 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**3 16 43**	**1**	**PHOTO CONTROL-120/240V LONG LIFE**
2	**3 42 12**	**1**	**LUMINAIRE - LED 5500LM TYPE II**
2	**3 42 17**	**1**	**LUMINAIRE - LED 8000LM TYPE III**
2	**3 42 28**	**1**	**LUMINAIRE - LED 15000LM TYPE III**
2	**3 42 42**	**1**	**LUMINAIRE - LED 30000LM TYPE III**
3	**3 45 30**	**1**	**PHOTO CONTROL SHORTING CAP**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**LIGHT-EMITTING DIODE (LED) LUMINAIRE**
L. MOEN	**A. UHREN**	CHKD.	
		2017-05-16	

DATE OF ISSUE: 2017/08/31	DRAWING NO: **B-20-13**	**SHEET 1 OF 2**	REV. **A**

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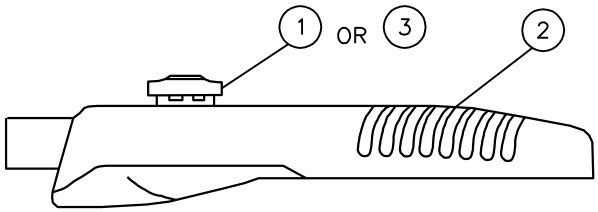

LUMINAIRE COMPARISON

CODE	LUMINAIRE	REPLACES
34212	5500 LM	70/100W HPSV (CODE 34207/34210/34211)
34217	8000 LM	150W HPSV (CODE 34215/34216)
34228	15000 LM	250W HPSV (CODE 34225/34226)
34242	30000 LM	400W HPSV (CODE 34240/34241)

NOTE:
1. REFER TO SEP 4 FOR DETAILS REGARDING SPACING AND MOUNTING HEIGHTS

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. E.GOTANA CHKD.	LIGHT–EMITTING DIODE (LED) LUMINAIRE
		2017–05–30	
DATE OF ISSUE 2017/08/31	DRAWING NO. B–20–13	SHEET 2 of 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	3 90 00	1	1	PRECAST CONC. BASE (4.28 m (14') - 10.7 m (35') STD)
1	3 90 02	1	1	PRECAST CONC. BASE (12.2 m (40') AND ABOVE STD)
2	3 90 10	--	1	BASE BREAKAWAY (4.28 m (14') - 10.7 m (35') STD)
2	3 90 12	--	1	BASE BREAKAWAY (12.2 m (40') AND ABOVE STD)

NOTE:

1. **COLUMN A IS FOR A PRECAST BASE. COLUMN B IS FOR A PRECASE BASE WITH BREAKAWAY BASE.**
2. **COLUMN B SHALL BE USED IN HIGH VEHICLE TRAFFIC AREAS WITH LOW PEDESTRIAN ACCESS.**
3. **BREAKAWAY BASE SHALL HAVE B-20-16 C WIRING.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**STEEL STANDARD BASE INSTALLATION**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE: **2003/05/30** | DRAWING NO: **B-20-15** | **SHEET 1 OF 2** | REV. **D**

SPC/AUTODRAFT

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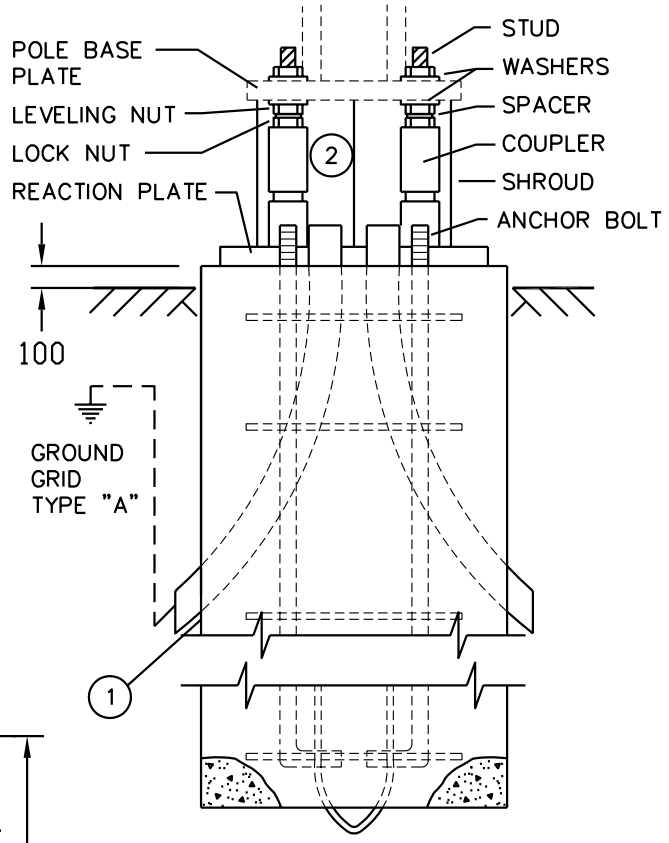
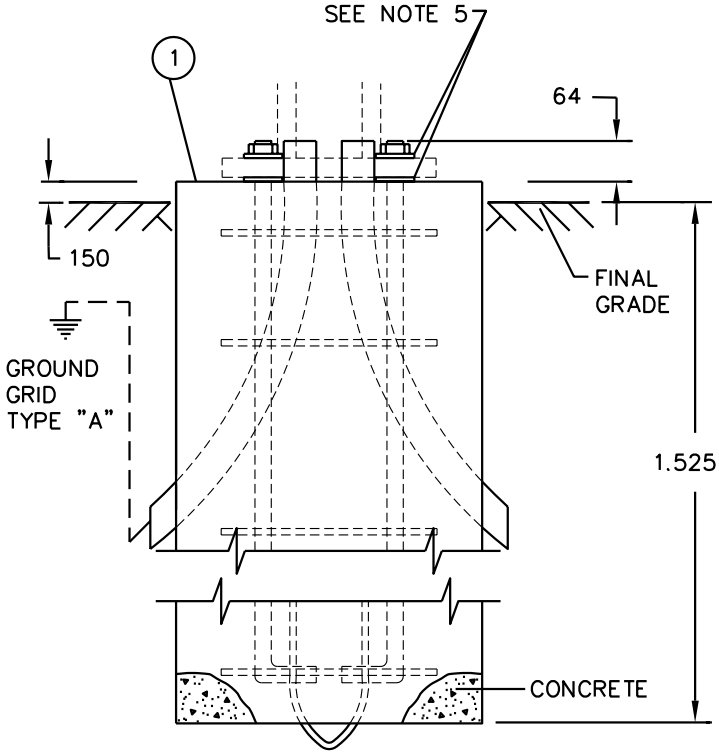
CAUTION

REACTION PLATE MUST BE INSTALLED AS SHOWN FOR PROPER BREAK AWAY OPERATION



BREAKAWAY BASE



STANDARD BASE

NOTE:

1. FOR GROUNDING DETAIL SEE SECTION B-33-XX.
2. GROUND GRID TYPE A NOT REQUIRED WHEN SEPARATE SAFETY GROUND IS PROVIDED.
3. HOLE BOTTOM FOR PRECAST BASE TO BE LEVELLED USING GRAVEL, AND TAMPED TO CORRECT DEPTH.
4. FOR OVERSIZED HOLES FILL IN SPACE USING GRAVEL AND TAMP.
5. INSTALL WASHERS ABOVE AND BELOW STREETLIGHT BASEPLATE.

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

Sask Power – DISTRIBUTION STANDARDS			
DRN. J.C.K.	DESIGN CHK.	APPROVAL	STEEL STANDARD BASE INSTALLATION
CHKD.			
DATE 03/02/10	DATE	DATE	
DATE OF ISSUE: 2003/05/30	DRAWING NO. B-20-15	SHEET 2 of 2	REV. C

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 83 04	2m	2m	2m	WIRE – CU #4/7 STR
2	3 12 14	11m	11m	11m	CABLE – #12 PVC MID-RIP (SEE NOTE 1)
3	3 45 50	1	1	1	FUSE CARTRIDGE 6 AMP TIME DELAY CL
4	3 45 51	1	1	1	IN LINE FUSE HOLDER FOR CL FUSE
5	5 09 00	2	0	0	CONNECTOR AL – CRIMPIT (WR9)
6	5 09 27	1	3	3	CONNECTOR AL – CRIMPIT (508)
7	7 72 33	1/10	1/10	1/10	TAPE (ROLL)
8	70 40 11	1	1	2	SPLICE – BUCHANAN
9	70 40 17	1	1	2	INSULATOR – BUCHANAN
10	71 96 51	0	0	1	CONNECTOR 3 – WIRE CORD – FEMALE
11	71 96 62	0	0	1	CONNECTOR 3 - WIRE CORD – MALE

NOTE:

1. 11 m IS FOR 9.1 m (30') POLE.
   12 m IS FOR 10.7 m (35') POLE.
   13 m IS FOR 12.2 m (40') POLE.
   15 m IS FOR 13.7 m (45') POLE.

2. ITEMS 3 AND 4 ARE BASED ON USE OF #4 AL STREET LIGHT CABLE. SEE SECTION B-36 FOR OTHER CONNECTORS.
3. COLUMNS A, B, AND C REFER TO WIRING CONFIGURATIONS ON SHEET 2.

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SaskPower - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	STEEL STANDARD HANDHOLE CONNECTION
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **2009/06/29** | DRAWING NO. **B-20-16** | **SHEET 1 of 2** | REV. **B**

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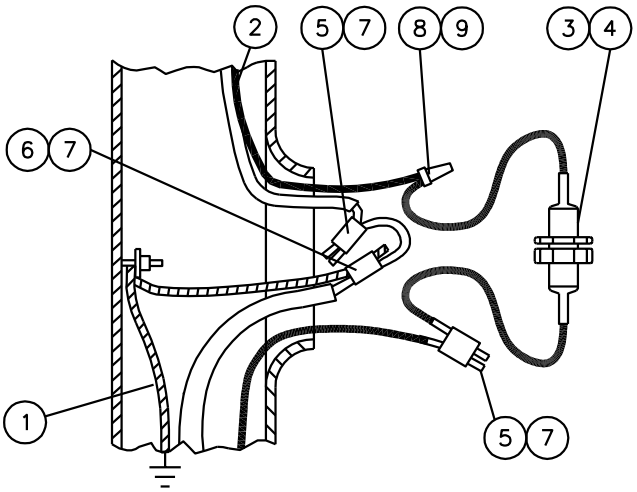
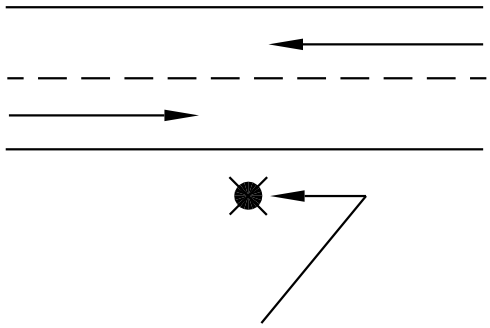
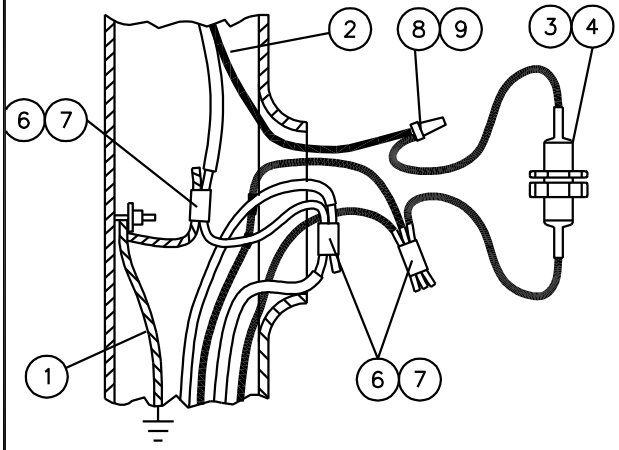


A SINGLE ENDED CONTROL

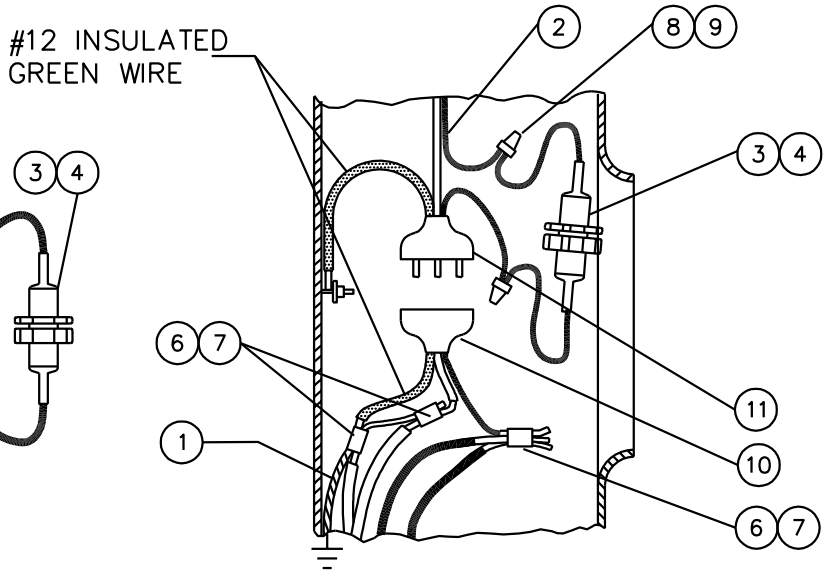
APPARATUS USED HERE



HAND HOLE TO BE LOCATED
AWAY FROM ONCOMING TRAFFIC



B LOOPED CONTROL



C WIRING FOR BREAKAWAY POLE

NOTES

1. ALL LUMINAIRES WILL BE FUSED AS SHOWN, UNLESS OTHERWISE SPECIFIED.
2. ALSO FUSE AT SUPPLY AS SHOWN IN B-20-35.
3. UNDERGROUND DIPS FOR LIGHTING FROM OVERHEAD CONTROL, FUSE AT TAKE-OFF POINT WITH WEATHERPROOF FUSE AND FUSE HOLDER.
4. CONTROL MAY BE SWITCHED AND METERED AT SUPPLY POINT 120 VOLT OR 120/240 VOLTS.
5. FOR GROUNDING DETAILS SEE SECTION B-33 AND DWG. B-20-15 SHT. 2.
6. DECORATIVE WIRING - PROVIDE WIRE WHERE NECESSARY AS REQUESTED BY CUSTOMER.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL	DESIGN CHK.	DRN. C.D.F. CHKD.	STEEL STANDARD HANDHOLE CONNECTION
		DATE	
DATE OF ISSUE: 2011-04-01		DRAWING NO. B-20-16 SHEET 2 of 2	REV. E

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 34 09	3	GUARD CABLE PLASTIC - 2 1/2" x 8'
2	1 34 11	1	GUARD CABLE STEEL - 2 1/2" x 8'
3	1 78 38	10	SCREWS LAG - 3/8" x 4"
4	1 85 02	4	STAPLE MOULDING - 1" x 3"
5	2 09 XX	2	COMPRESSION CONNECTOR (SEE NOTE 1)
5	2 65 94	2	HYLUGS - #4
6	2 94 51	2 m	CABLE - #4 - DUPLEX
7	7 53 30	1	FUSE CARTRIDGE - 30A 600 V HRC TYPE C
8	7 69 64	0.34	SCREW WOOD - #14 x 2 1/2" (BOX)
9	71 01 10	1	FUSE HOLDER
10	05 640 000	1	SIGN DANGER - HIGH VOLTAGE ZONE

NOTES:

1. **REQUIRED WHEN TAKE-OFF IS FROM OVERHEAD SECONDARY.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**UNDERGROUND 120V TAKE-OFF FOR LIGHTING**
L. MOEN	**D. DONAIS**	CHKD.	
		2018-02-15	

DATE OF ISSUE: 2018-02-20 | DRAWING NO: **B-20-21** | **SHEET 1 OF 2** | REV. **B**

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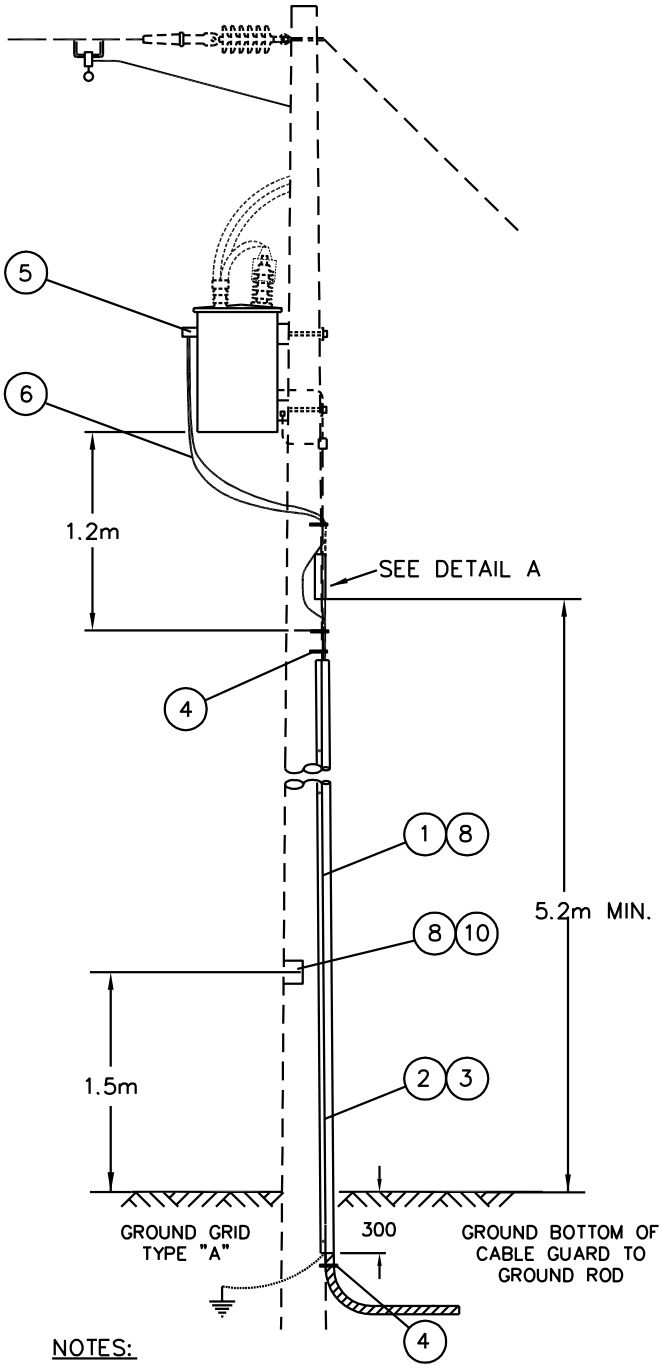
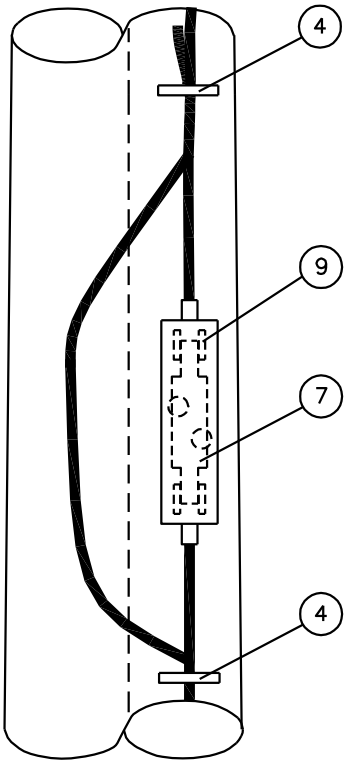
FOR TRANSFORMERS WITH SPADE TYPE CONNECTORS SEE DRAWING B-08-31, BOX A





DETAIL A

NOTES:

1. THE FUSE HOLDER IS THE POINT OF SERVICE FOR ANY DEPARTMENT OF HIGHWAYS:
   (i) FLASHING LIGHTS (EXCEPT THOSE ON SASKPOWER INSTALLED DELINEATION LIGHTS)
   (ii) HIGHWAY DIRECTIONAL SIGNS.
2. DEPT OF HIGHWAY'S CONTRACTOR TO LEAVE SUFFICIENT LENGTH OF CABLE AT THE BASE OF THE POLE. SASKPOWER WILL INSTALL THE WIRE ON THE POLE. J FORM IS REQUIRED.
3. THE CONDUCTOR IS NOT TO BE LARGER THAN #4.
4. GROUND THE CABLE GUARD TO GROUND GRID.
5. TRENCH FOR CABLE TAKE-OFF TO BE INLINE WITH OVERHEAD CIRCUIT FOR AT LEAST 1.2m TO HELP AVOID LEAN DUE TO TRENCH BACKFILL.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. E.GOTANA CHKD.	UNDERGROUND 120V TAKE-OFF FOR LIGHTING
		2017-11-30	
DATE OF ISSUE 2018-02-20	DRAWING NO. B-20-21	SHEET 2 of 2	REV. C

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	B	C	DESCRIPTION
1	3 60 14	0	1	0	POST TOP STANDARD – BLACK – 4.28 m (14')
1	3 60 15	0	1	0	POST TOP STANDARD – SELF WEATHERING – 4.28 m (14')
2	3 60 26	1	0	0	STEEL STANDARD – GALVANIZED – 7.6 m (25')
2	3 60 31	1	0	0	STEEL STANDARD – GALVANIZED – 9.1 m (30')
2	3 60 32	0	0	1	STEEL STANDARD – GALVANIZED – DOUBLE DAVIT – 9.1 m (30')
2	3 60 36	1	0	0	STEEL STANDARD – SELF WEATHERING – 10.7 m (35')
2	3 60 37	1	0	0	STEEL STANDARD – GALVANIZED – 10.7 m (35')
2	3 60 38	0	0	1	STEEL STANDARD – GALVANIZED – DOUBLE DAVIT – 10.7 m (35')
2	3 61 41	1	0	0	STEEL STANDARD – GALVANIZED – 12.2 m (40')
2	3 61 42	0	0	1	STEEL STANDARD – GALVANIZED – DOUBLE DAVIT – 12.2 m (40')
2	3 61 46	1	0	0	STEEL STANDARD – GALVANIZED – 13.7 m (45')
2	3 61 47	0	0	1	STEEL STANDARD – GALVANIZED – DOUBLE DAVIT – 13.7 m (45')

NOTE:

COLUMN A: STEEL STANDARD SINGLE DAVIT ARM

COLUMN B: POST TOP LUMINAIRE

COLUMN C: STEEL STANDARD DOUBLE DAVIT ARM

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **PP**	**LIGHTING STANDARDS**
L MOEN	**P PATEL**	CHKD. **LM**	
		2022-07-05	

DATE OF ISSUE: **2023-04-24** | DRAWING NO. **B-20-25** | **SHEET 1 OF 2** | REV. **C**

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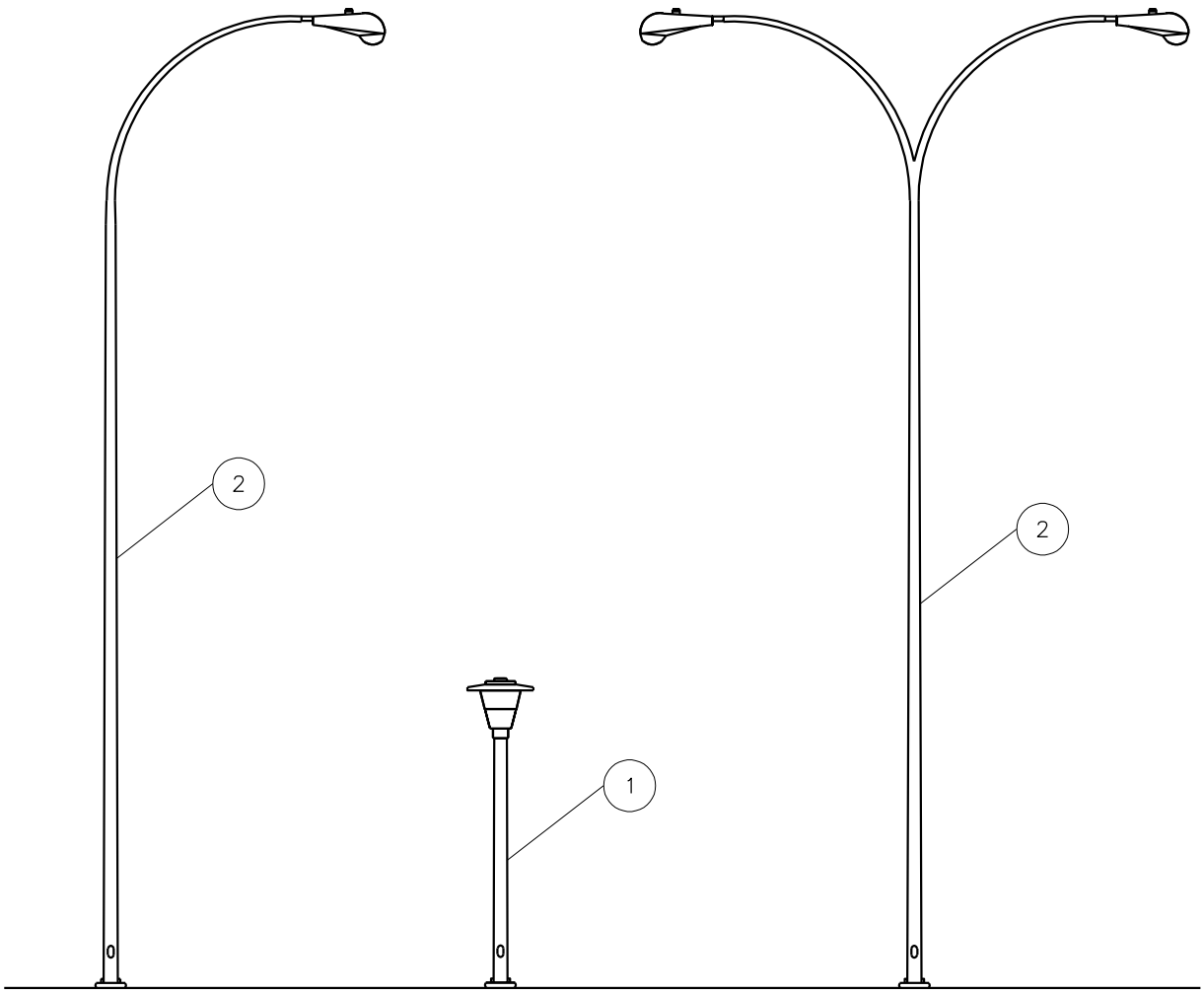
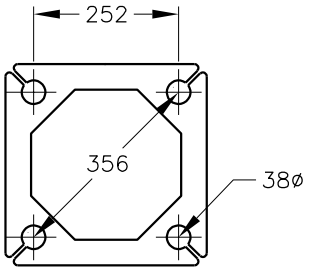


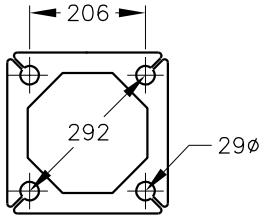
A– STEEL STANDARD SINGLE DAVIT ARM

B– POST TOP LUMINAIRE

C– STEEL STANDARD DOUBLE DAVIT ARM



FOR POLES FROM 40ft TO 45ft



FOR POLES FROM 25ft TO 35ft

NOTES:

1. DOUBLE DAVIT ARM BASE PLATE WILL BE STAMPED "DD" AFTER 2021/09.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.D.REDEKOPP CHKD. 2023-03-08	LIGHTING STANDARDS
DATE OF ISSUE 2023-04-24	DRAWING NO. B-20-25	SHEET 2 of 2	REV. B

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DECORATIONS ATTACHED TO STREETLIGHT POLES

STEEL STREETLIGHT STANDARDS

STREETLIGHT HEIGHT		MAXIMUM AREA		MINIMUM HEIGHT TO BOTTOM		MAXIMUM HEIGHT TO TOP		MAXIMUM BANNER HEIGHT		MAXIMUM WEIGHT	
m	ft	m^2	ft^2	m	ft	m	ft	m	ft	kg	lbs
7.6	25	1.4	15	3.7	12	5.2	17	1.5	5	45	100
9.1	30	1.3	14	3.7	12	6.7	22	3.0	10	45	100
10.7	35	0.8	8	3.7	12	7.6	25	3.9	13	45	100
12.2	40	1.0	11	3.7	12	7.6	25	3.9	13	45	100
13.7	45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A - NOT ALLOWED

WOOD POLES WITH STREETLIGHT BRACKETS

WOOD POLE (HEIGHT/CLASS)		MAXIMUM AREA		MINIMUM HEIGHT TO BOTTOM		MAXIMUM HEIGHT TO TOP		MAXIMUM BANNER HEIGHT		MAXIMUM WEIGHT	
m	ft	m^2	ft^2	m	ft	m	ft	m	ft	kg	lbs
9.1/6	30/6	1.6	16	3.7	12	5.7	19	2.0	7	45	100
9.1/5	30/5	2.4	25	3.7	12	5.7	19	2.0	7	45	100
10.7/6	35/6	1.7	18	3.7	12	7.1	23	3.4	11	45	100
10.7/5	35/5	2.4	25	3.7	12	7.1	23	3.4	11	45	100

EXAMPLE:

A 12.2m (40ft) SINGLE DAVIT STEEL STREETLIGHT CAN HAVE A DECORATION NO GREATER THAN $1.0m^2$ ($11ft^2$). THIS DECORATION CAN NOT BE LOCATED LOWER THAN 3.7m (12ft) TO THE GROUND AND NO HIGHER THAN 7.6m (25ft) FROM THE GROUND.

APPLICATION NOTES:

1. ANY **ONE** OF THE ABOVE CONSTRAINTS MAY BE THE LIMITING FACTOR.
2. NO DECORATIONS, REGARDLESS OF AREA, SHALL EXTEND MORE THAN 0.9m (3ft) FROM POLE. DECORATIONS ARE ALLOWED TO EXTEND MORE THAN 0.9m (3ft) PROVIDED THEY ARE A SUBSTANTIALLY OPEN STRUCTURE.
3. DECORATIONS CAN BE LOCATED EITHER INLINE WITH ROAD OR AT A RIGHT ANGLE TO THE ROAD.
4. DECORATIONS MAY BE LOCATED ON BOTH SIDES OF THE POLE BUT THE ABOVE CONSTRAINTS MUST BE APPLIED. MAXIMUM AREA IS TOTAL PER POLE, NOT PER DECORATION.
5. DECORATIONS SHALL NOT INTERFERE WITH TRAFFIC OR SNOW REMOVAL.
6. CHARTS VALID ONLY FOR SINGLE DAVIT APPLICATIONS.
7. POLES SHALL BE CHECKED FOR RUST OR ROT. POLES MUST BE FREE OF DAMAGE.
8. NO DECORATIONS ARE TO BE ALLOWED ON WOOD POLE THAT HAVE, OR MAY HAVE, APPARATUS, PRIMARY, OR DISTRIBUTION SECONDARY (OTHER THAN STREETLIGHT SERVICE). DECORATIONS ARE ALLOWED ON POLES WITH JOINT USE PROVIDED THEY ARE LOCATED BELOW THE JOINT USE SPACE.
9. BASED ON CSA (CANADIAN STANDARDS ASSOCIATION) AND NBC (NATIONAL BUILDING CODE OF CANADA).
10. AREAS MAY BE DOUBLED (PROVIDED OTHER CONSTRAINTS ARE NOT EXCEEDED) IF THE DECORATION IS A RECTANGULAR BANNER THAT IS ATTACHED AT ONLY THREE CORNERS, OR TRIPLED IF ATTACHED ONLY AT THE TOP.
11. ATTACHMENTS ARE TO BE MADE BY APPROPRIATELY SIZED GALVANIZED OR STAINLESS STEEL BANDING. NO DRILLING OR OTHER MODIFICATIONS ARE ALLOWED.

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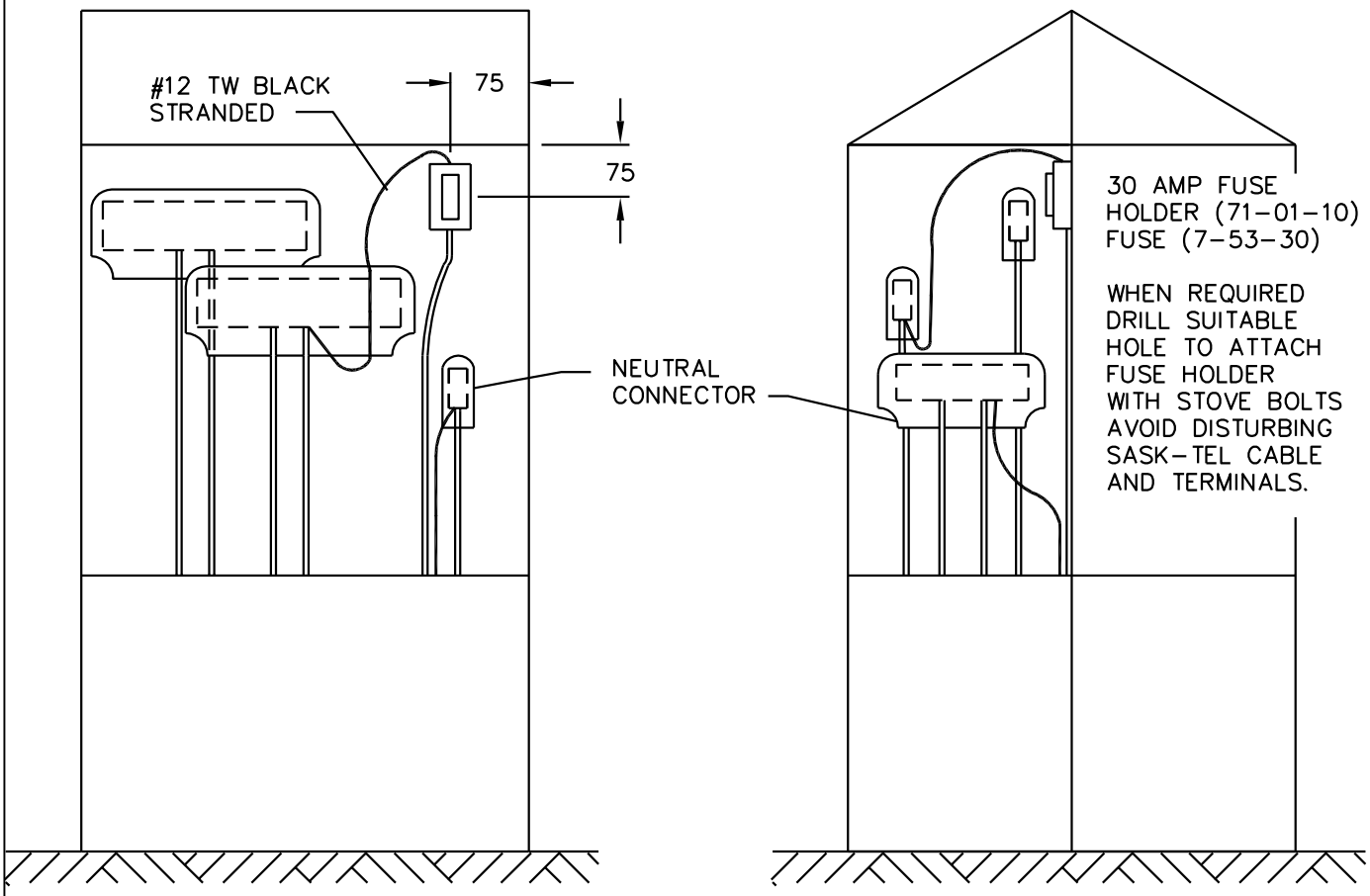

SIDE VIEW

FRONT VIEW
(DOOR SIDE)

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L. MOEN	DESIGN CHK. D. DONAIS	DRN. A.B.W. CHKD. 2018-02-20	FUSING OF STREET LIGHT SUPPLY AT PEDESTAL
DATE OF ISSUE 2018-02-20		DRAWING NO. B-20-35 SHEET 1 of 1	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	B	C	D	DESCRIPTION
1	**3 16 40**	**1**	**1**	**1**	**1**	**PHOTO CONTROL – 120 VOLT**
2	**3 43 16**	**1**	**-**	**-**	**-**	**LUMINAIRE-ACORN POST TOP – 150W HPSV**
3	**3 43 20**	**-**	**-**	**1**	**-**	**LUMINAIRE-ARLINGTON POST TOP – 150W HPSV**
4	**3 43 31**	**-**	**1**	**-**	**-**	**LUMINAIRE-ACORN POST TOP – 175W MH**
5	**3 43 35**	**-**	**-**	**-**	**1**	**LUMINAIRE-ARLINGTON POST TOP – 175W MH**
6	**3 45 30**	**1**	**1**	**1**	**1**	**PHOTO CONTROL SHORTING CAP**
7	**7 62 52**	**1**	**-**	**1**	**-**	**LAMP – 150W HPSV**
8	**7 62 75**	**-**	**1**	**-**	**1**	**LAMP – 175W MH**

NOTES:

COLUMN A: ACORN POST TOP 150W HPSV

COLUMN B: ACORN POST TOP 175W MH

COLUMN C: ARLINGTON POST TOP 150W HPSV

COLUMN D: ARLINGTON POST TOP 175W MH

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**DECORATIVE LUMINAIRES**
M. ERETH	**A. UHREN**	CHKD.	
		2013-08-19	

DATE OF ISSUE: 2014/03/21 | DRAWING NO: **B-20-40** | **SHEET 1 OF 3** | REV. **A**

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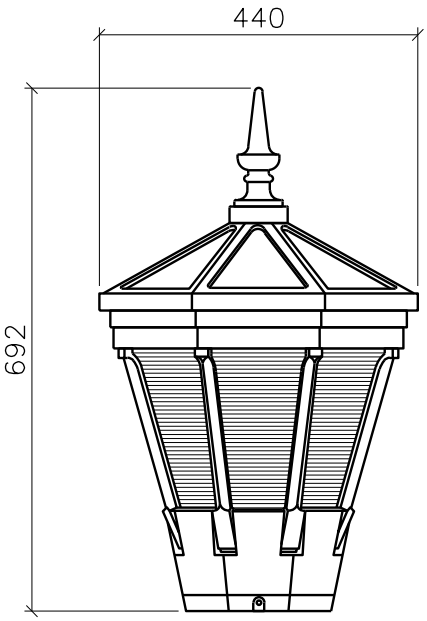
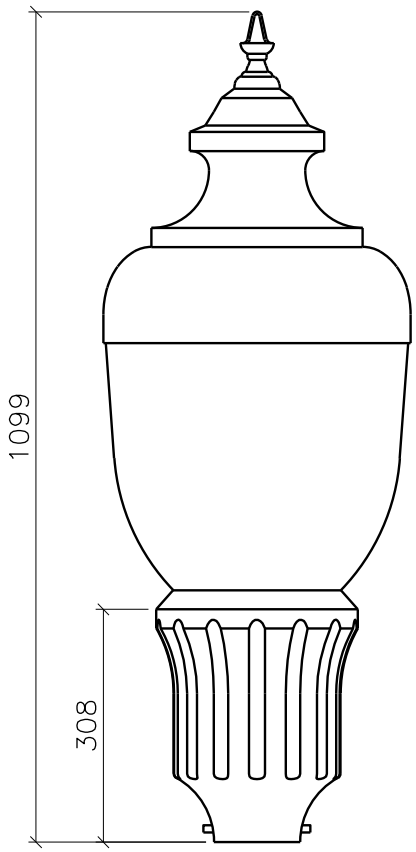


ARLINGTON POST TOP

C) 150W HPSV (3 43 20)
D) 175W MH(3 43 35)

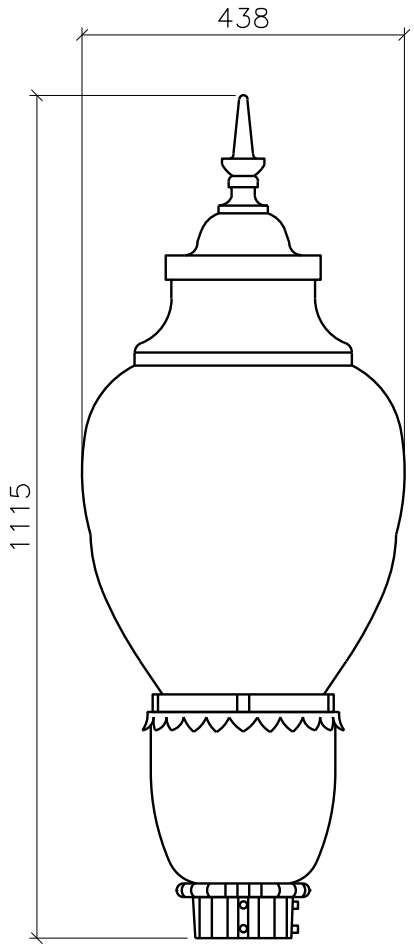


ACORN POST TOP

A) 150W HPSV (3 43 16)
B) 175W MH (3 43 31)

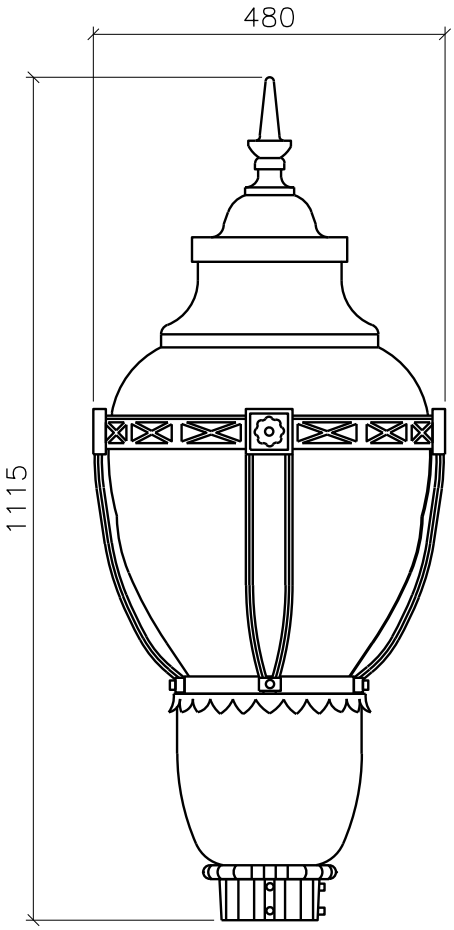
SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. A. UHREN	DRN. J.C.K. CHKD. 2013-08-19	DECORATIVE LUMINAIRES
DATE OF ISSUE **2014/03/21**	DRAWING NO. B-20-40	SHEET 2 of 3	REV. A



WASHINGTON POSTLITE
WITH FINIAL

150W HPSV (3 43 15)
175W MH (3 43 30)



WASHINGTON POSTLITE
WITH FINIAL, RIBS, BANDS AND
MEDALLIONS

150W HPSV (3 43 15 & 3 43 40)
175W MH (3 43 30 & 3 43 40)

NOTES:
1) THESE LUMINAIRES ARE NOT TO BE USED FOR NEW CONSTRUCTION.
FOR MAINTENANCE ONLY.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. A. UHREN	DRN. DC CHKD. 2013–08–19	DECORATIVE LUMINAIRES
DATE OF ISSUE 2014/03/21	DRAWING NO. B–20–40	SHEET 3 of 3	REV.

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	3 60 14	1	–	STANDARD – OCTAGONAL– BLACK – (4.28m, 14')
2	3 60 16	–	1	STEEL STANDARD – 4" ROUND – BLACK – (4.88m, 16')
3	3 60 20	–	X	SHROUD – 2 PIECE CAST ALUMINUM – TRILLIUM
4	3 60 21	–	X	SHROUD – 2 PIECE CAST ALUMINUM – FLORENTINE

NOTE:

1. **3 60 16 CAN BE USED WITH EITHER TYPE OF SHROUD. 3 60 14 IS NOT COMPATIBLE WITH SHROUDS.**

2. **COLUMN "A" IS FOR OCTAGONAL STANDARDS AND COLUMN "B" IS FOR ROUND STANDARDS.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**DECORATIVE LIGHT STANDARDS**
L. MOEN	**D. DONAIS**	CHKD.	
		2018-05-17	

DATE OF ISSUE	2018-06-07	DRAWING NO. **B-20-41**	**SHEET 1 OF 3**	REV. **C**

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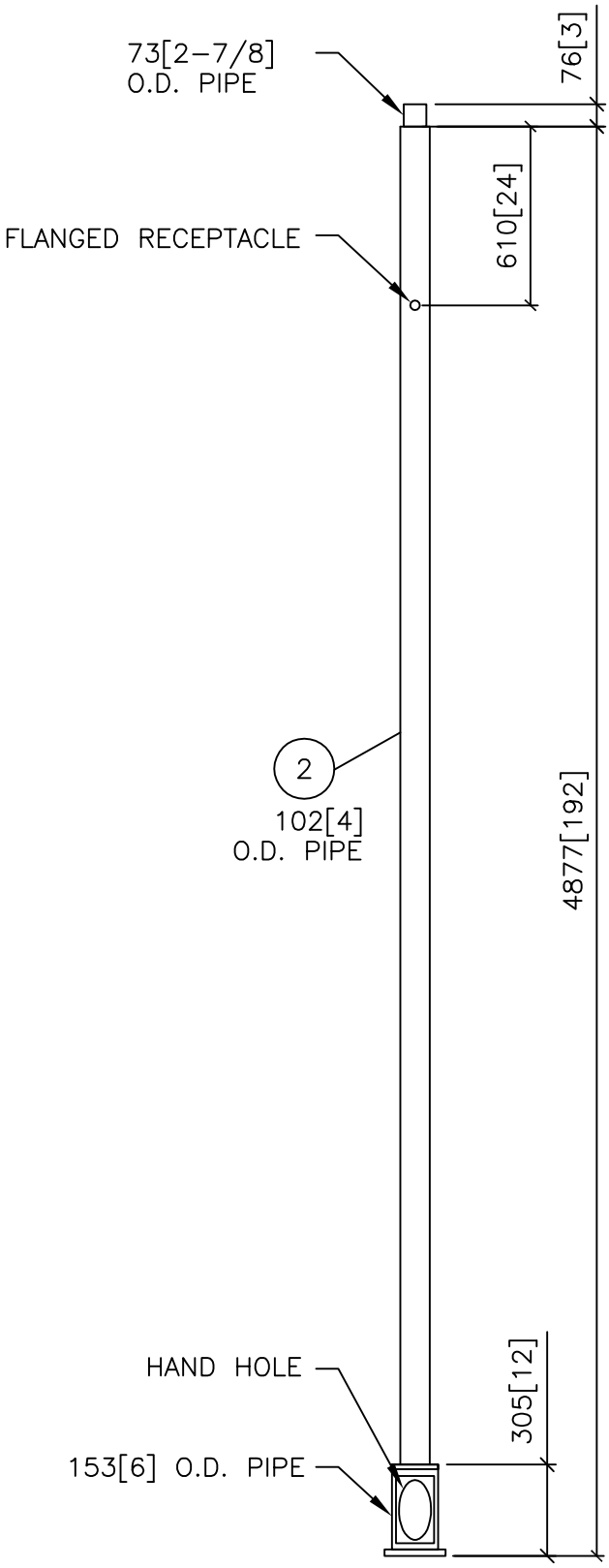
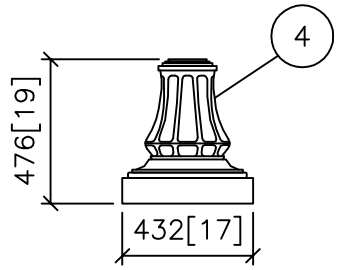
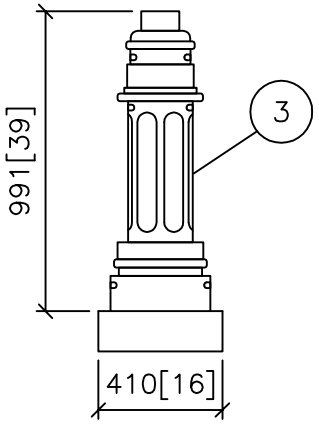


4" ROUND STEEL
STANDARD ELEVATION



FLORENTINE 2-PIECE
CAST ALUMINUM SHROUD



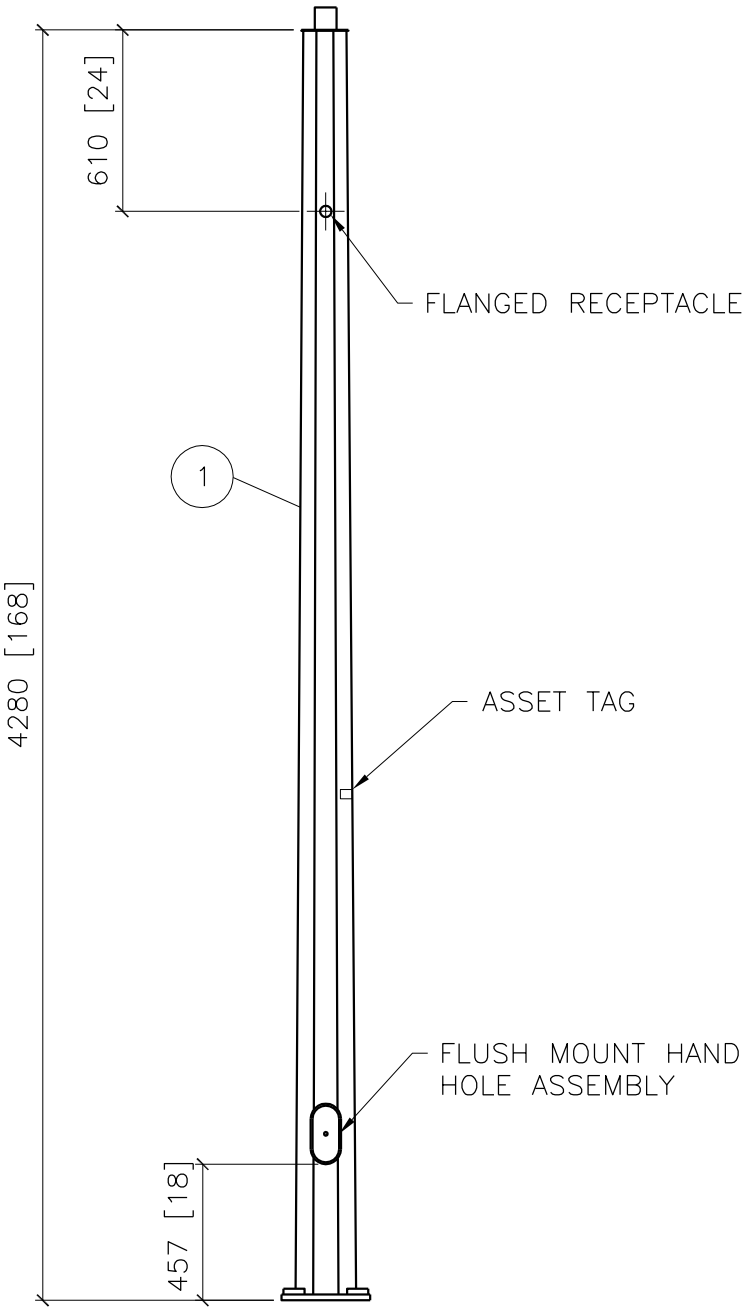
TRILLIUM 2-PIECE
CAST ALUMINUM SHROUD

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS. ALTERNATE DIMENSIONS IN BRACKETS ARE IN INCHES.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. C.BAUTISTA CHKD.	DECORATIVE LIGHT STANDARDS
		2018-05-22	
DATE OF ISSUE 2018-06-07	DRAWING NO. B-20-41	SHEET 2 of 3	REV. D



OCTAGONAL STEEL
STANDARD ELEVATION

NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS.
ALTERNATE DIMENSIONS IN BRACKETS
ARE IN INCHES.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN. C.BAUTISTA CHKD. 2018–05–22	DECORATIVE LIGHT STANDARDS
DATE OF ISSUE 2018-06-07	DRAWING NO. B–20–41	SHEET 3 of 3	REV. –

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**3 61 56**	**1**	**STANDARD-ST LIGHT 22' CONCRETE MEMPHIS BLACK**

NOTE:

1. REFER TO B-20-16 FOR HANDHOLE CONNECTION.

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**DECORATIVE CONCRETE LIGHT STANDARD**
M. ERETH	**A. UHREN**	CHKD.	
		2014-04-28	

DATE OF ISSUE: 2014/11/17	DRAWING NO: **B-20-42**	**SHEET 1 OF 2**	REV. **A**

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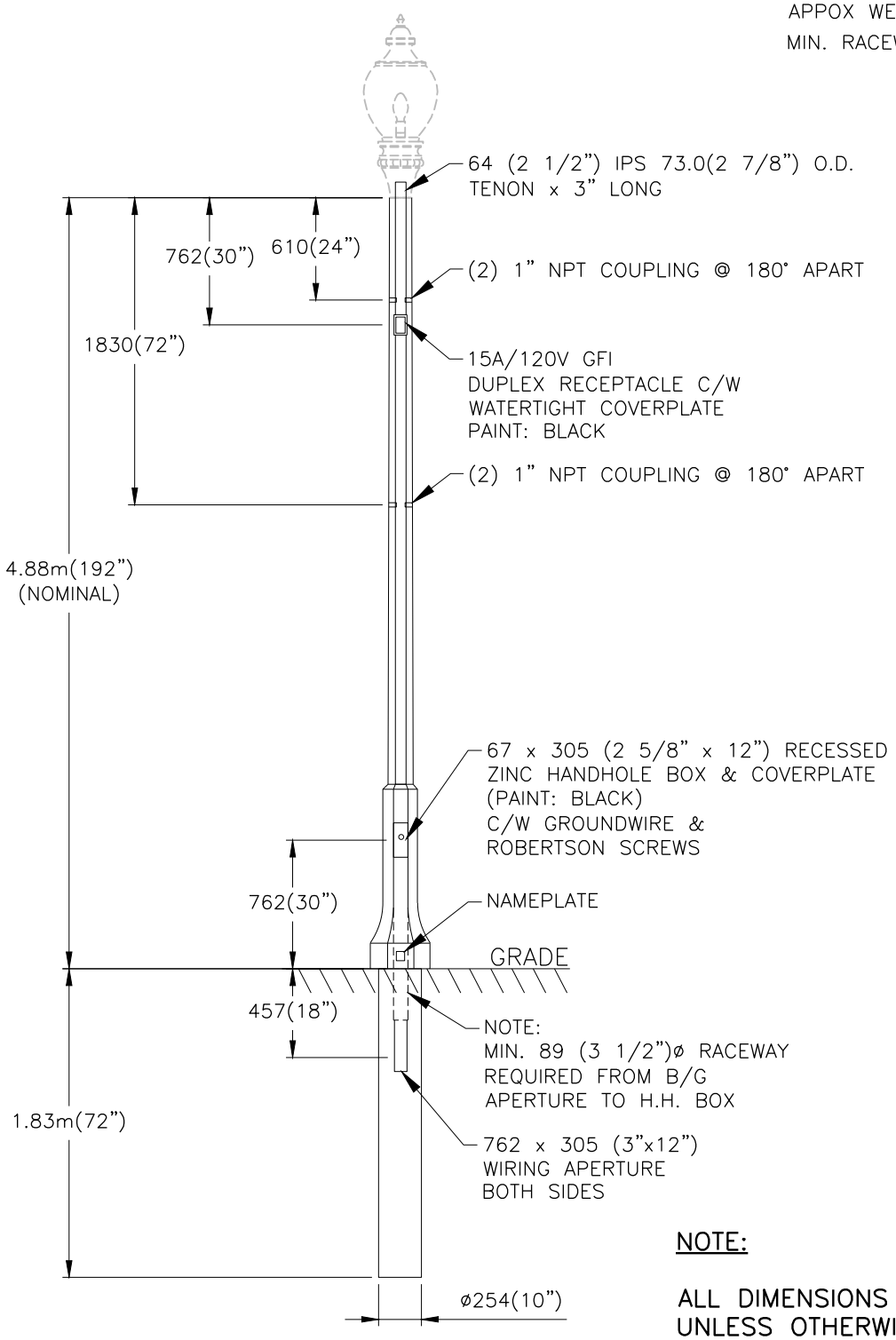
POLE SPECIFICATIONS

FINISH:	POLISHED
POLE TOP:	127(5") FL/FL
POLE BUTT:	254(10") ø
POLE LENGTH:	6710(264")
APPOX WEIGHT:	1,110 lbs.
MIN. RACEWAY:	32(1–1/4") ø



NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED. ALTERNATE DIMENSIONS IN BRACKETS ARE IN INCHES.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. A.UHREN	DRN. A.GATZKE CHKD.	DECORATIVE CONCRETE LIGHT STANDARD
		2014–07–23	
DATE OF ISSUE **2014/11/17**	DRAWING NO. B–20–42	SHEET 2 of 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	5 06 52	1	PEDESTAL-PLASTIC JOINT USE – 2 COMPARTMENT
1	5 06 63	1	PEDESTAL-PLASTIC JOINT USE – 3 COMPARTMENT
2	5 09 XX	1	CRIMPIT
3	7 66 07	1	MASTER LOCK #500
4	5 06 48	3	TERMINAL BLOCK -8 OUTLET (SEE NOTE 1)
5	70 29 11	36	TYRAP-11" BLACK WEATHERABLE (SEE NOTE 2)
6	71 42 02	1/10	TAPE (ROLL)
7	05 382 3XX	180	MARKER-CABLE – SLEEVE TYPE (SEE NOTE 2)
8	05 382 38X	18	MARKER-CABLE – SLEEVE TYPE STRIPS (SEE NOTE 2)
9	05 641 535	2	SIGN-BURIED CABLE
10	05 641 380	1	SIGN-DANGER ELECTRICAL CIRCUITS
11	PURCHASE LOCALLY	1/2	SAND (m^3) – IF REQUIRED

NOTE:

1. TO REPLACE TERMINAL BLOCK COVER USE CODE 5 06 50.
2. NUMBER OF CABLE MARKERS, STRIPS AND TYRAPS IS DEPENDANT ON NUMBER OF CONDUCTORS IN PEDESTAL. QUANTITY SHOWN IS FOR 2 MAIN RUNS AND 4 SERVICES WITH 10 LETTERS/NUMBERS FOR EACH.

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**SERVICE PEDESTAL**
M. ERETH	**A. UHREN**	CHKD.	
		2014-12-10	

DATE OF ISSUE: 2015/04/28 | DRAWING NO: **B-26-46** | **SHEET 1 OF 4** | REV. **D**

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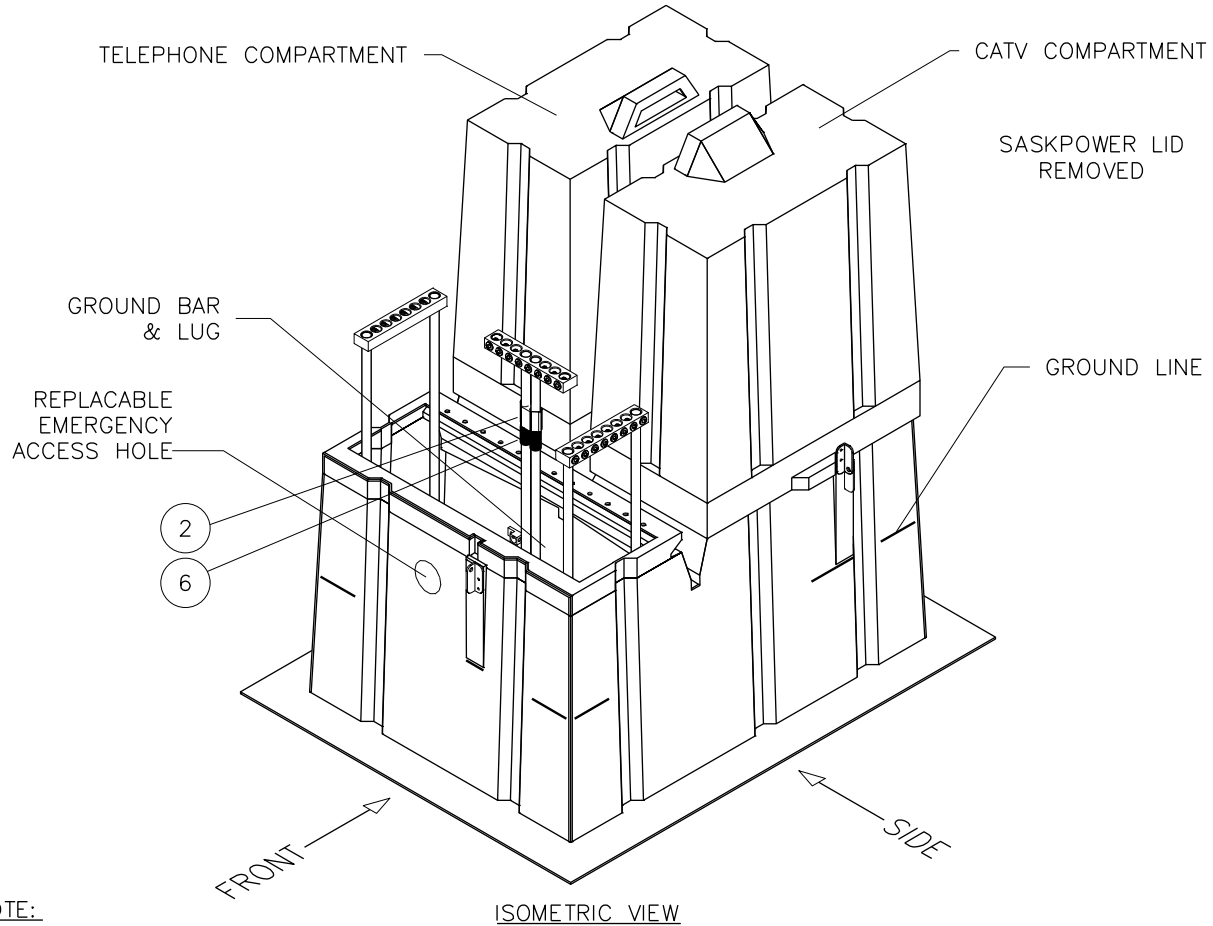
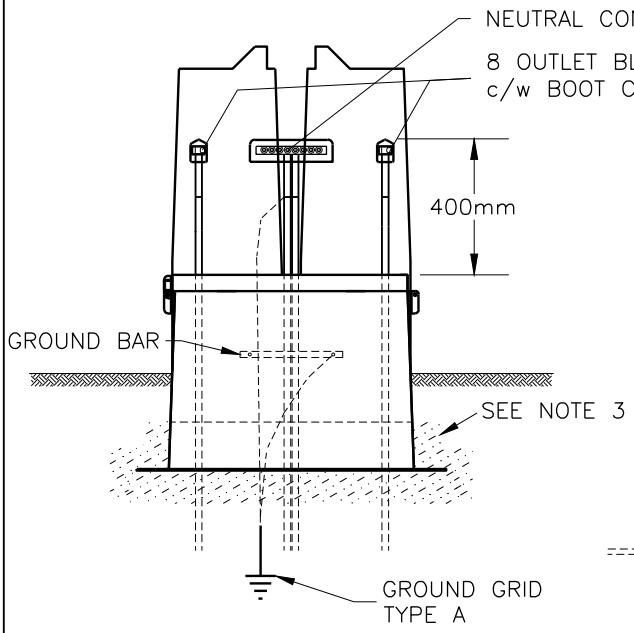
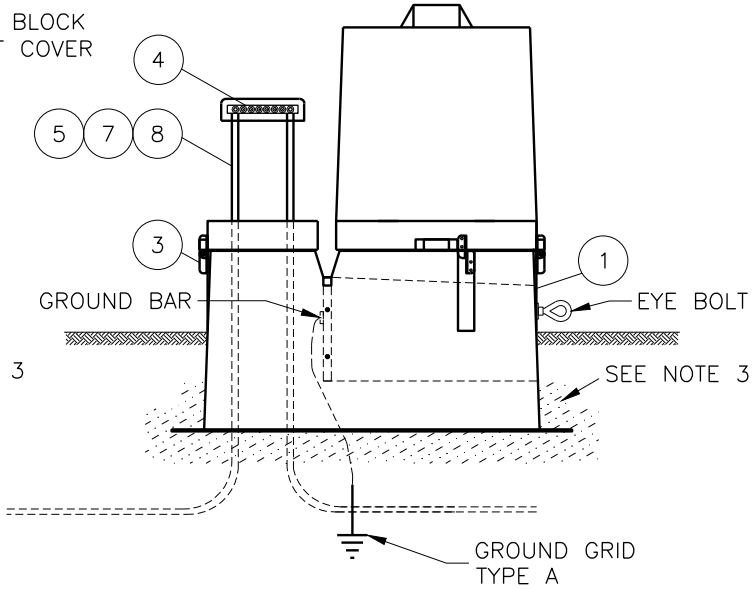


ISOMETRIC VIEW

NOTE:
1. FOR GROUNDING SEE DWG B-33-34.
2. WHERE A DOUBLE RUN IS REQUIRED ALL NON-SERVICE NEUTRALS MUST BE CRIMPED.
3. INCLUDE 100mm SAND BASE BELOW BOX PAD. SAND BASE TO ALSO BE PLACED 25mm AROUND SIDES OF BOX PAD UP TO 50mm BELOW GRADE.



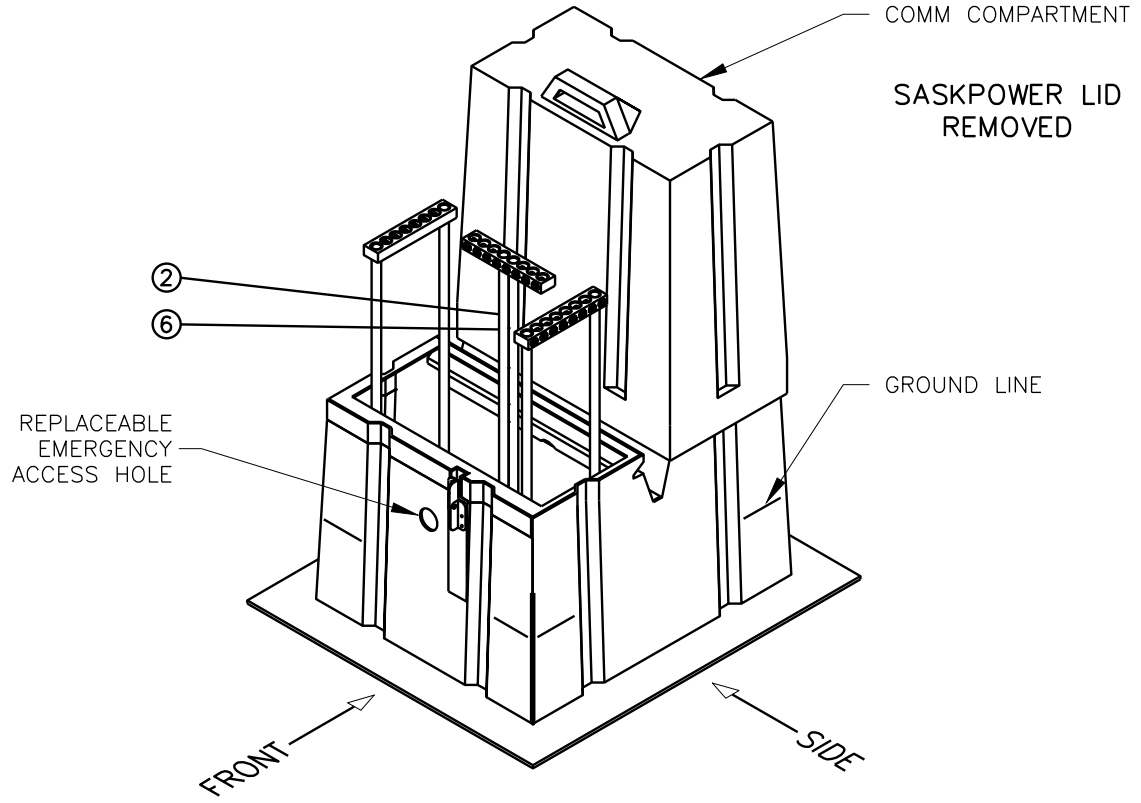
FRONT VIEW



SIDE VIEW

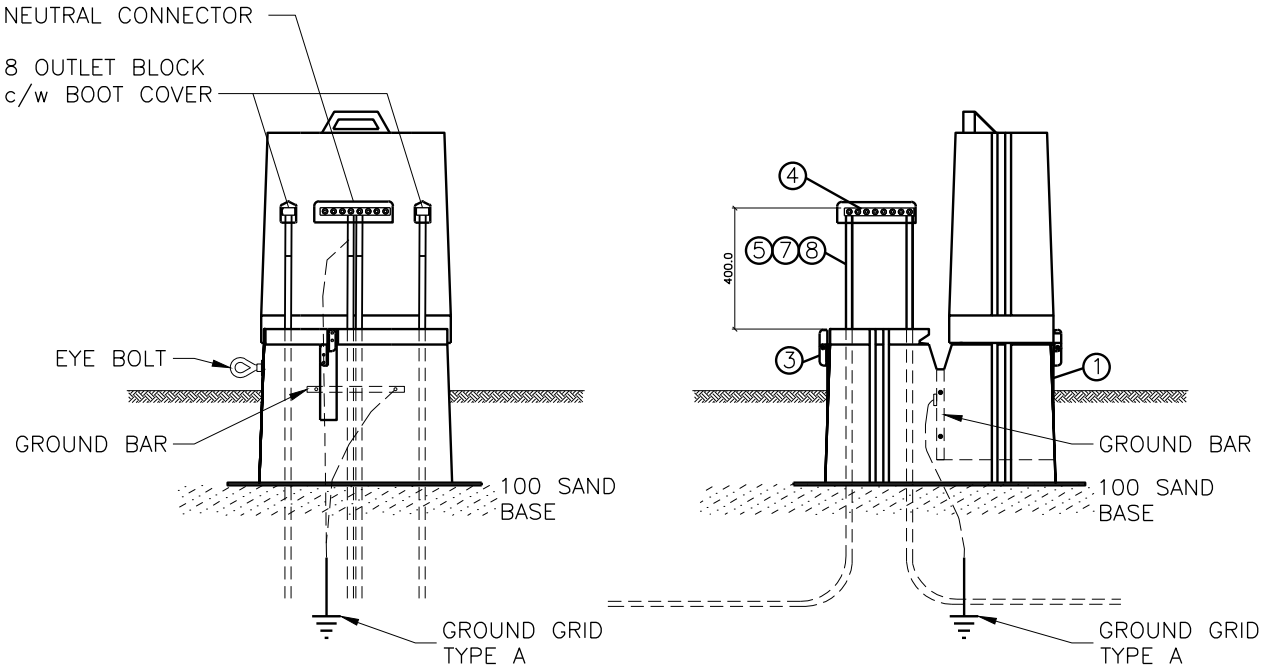
SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M.ERETH	DESIGN CHK. A.UHREN	DRN. A.GATZKE CHKD.	3 COMPARTMENT SERVICE PEDESTAL
		2014-10-03	
DATE OF ISSUE 2015/04/28	DRAWING NO. B-26-46	SHEET 2 of 4	REV. E



ISOMETRIC VIEW

NOTE:
1. FOR GROUNDING SEE DWG B-33-34.
2. WHERE A DOUBLE RUN IS REQUIRED ALL NON-SERVICE NEUTRALS MUST BE CRIMPED.



FRONT VIEW (SECTIONAL)

SIDE VIEW (SECTIONAL)

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. SANCHEZ CHKD. TmB	2 COMPARTMENT SERVICE PEDESTAL
		2013-03-01	
DATE OF ISSUE : 2013/08/19	DRAWING NO. B-26-46	SHEET 3 of 4	REV. 0

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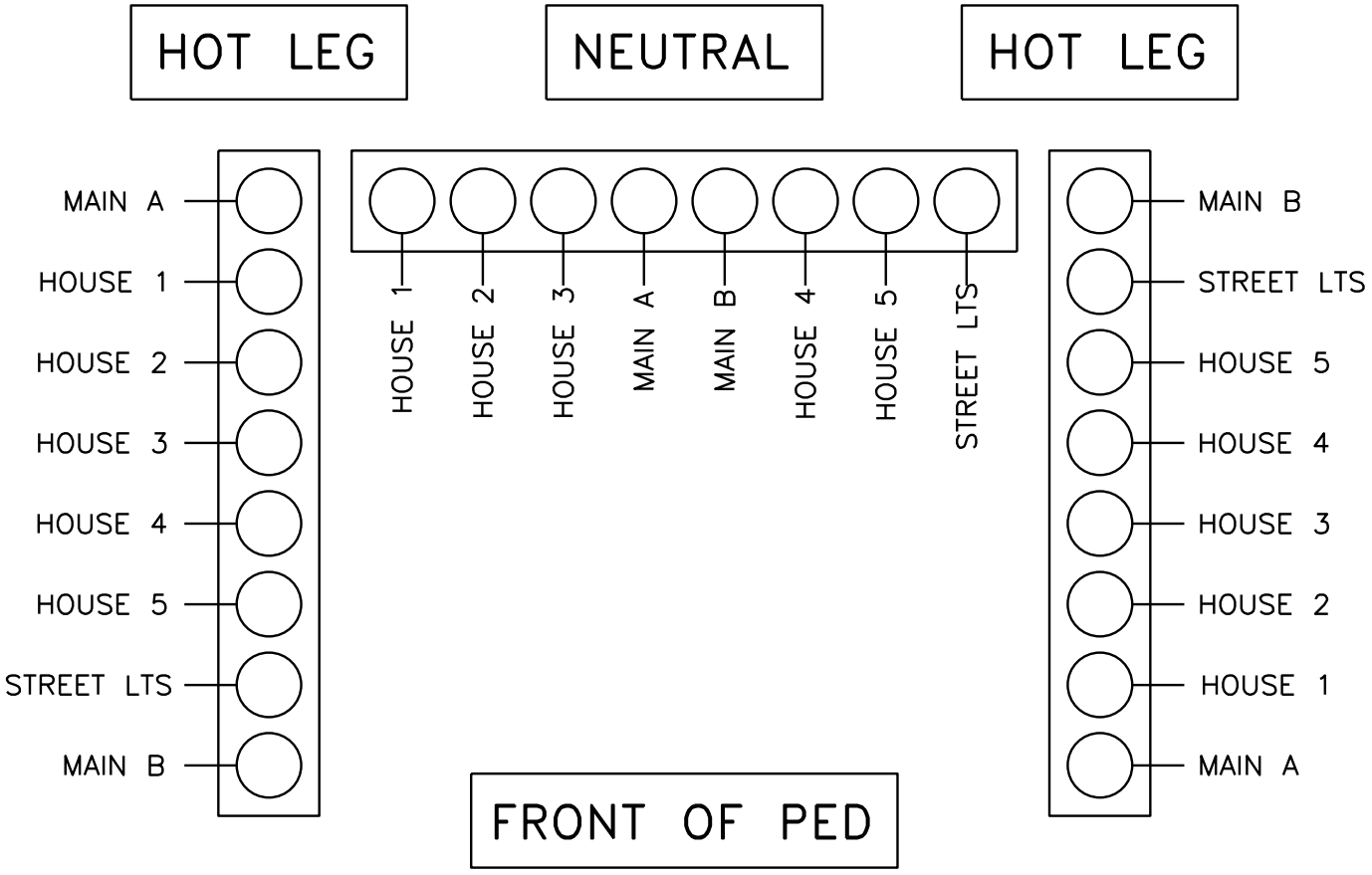


NOTES:
1. USE CABLE MARKERS ON EACH CONDUCTOR IN PEDESTAL AND FOLLOW NAMING CONVENTION.

2. NAMING CONVENTION:

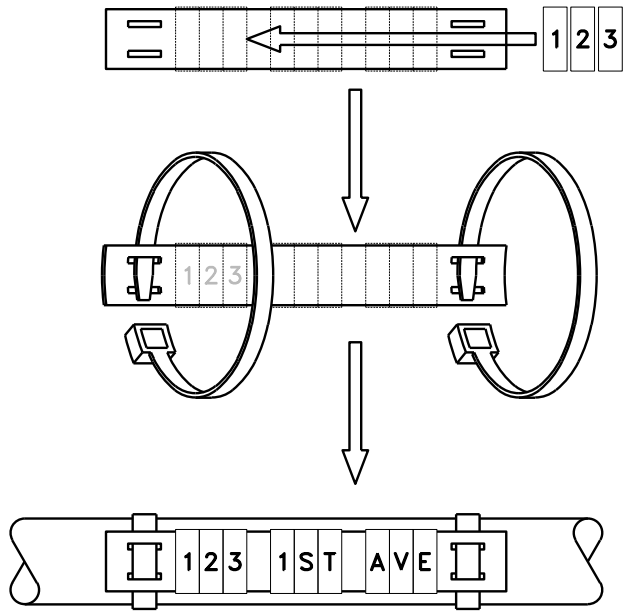
HOUSES – USE CIVIC ADDRESS, SHORTEN IF NECESSARY,
ie: (123 1ST AVE)

STREET LIGHTS – USE 'ST LTS' THEN DIRECTION OF RUN,
ie: (ST LTS WEST)

MAINS – USE DIRECTION OF RUN,
ie: (NORTH)

CABLE MARKERS DETAIL

FERRULES SLIDE ON TO HOLDER



HOLDER IS HELD TO CABLE WITH CABLE TIES

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. L. BAILEY	DRN. DC CHKD. 2013-03-01	SERVICE PEDESTAL CONNECTION ARRANGEMENT AND CABLE MARKING DETAILS
DATE OF ISSUE : 2013/08/19	DRAWING NO. B-26-46	SHEET 4 of 4	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**9-06-28**	**4**	**POST - STEEL 3.5" x 8'**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**VEHICLE BARRIER**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **96-07-26** | DRAWING NO: **B-26-65** | **SHEET 1 OF 2** | REV. **0**

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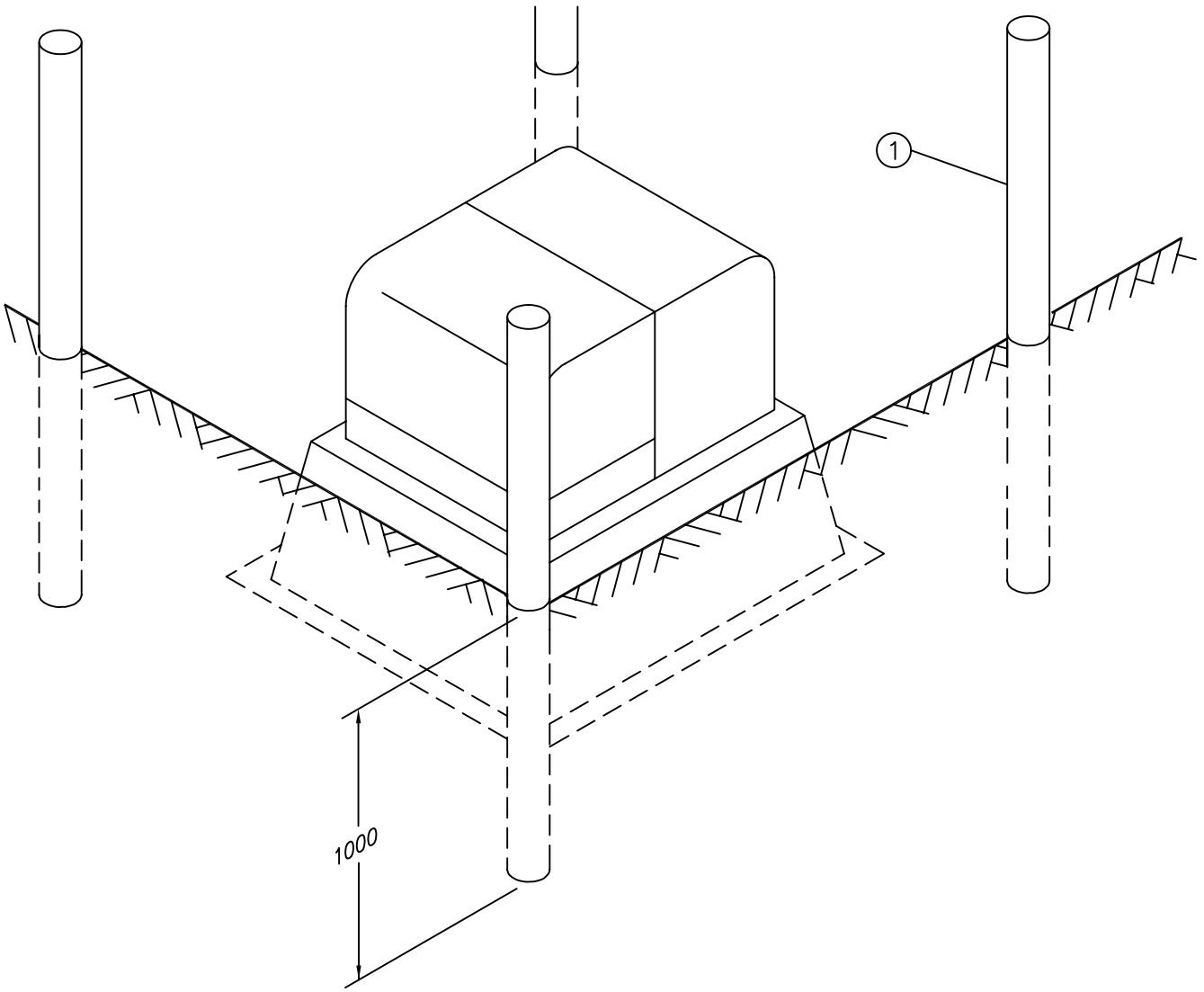

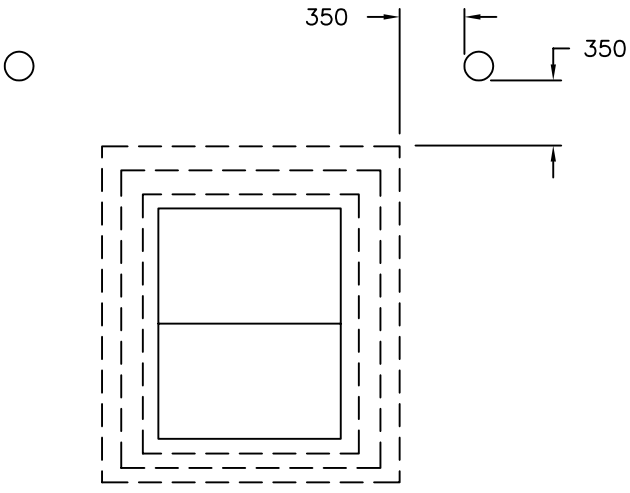

TOP VIEW

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

SaskPower – DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	VEHICLE BARRIER
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE	DRAWING NO. B-26-65	SHEET 2 of 2	REV. C

SPC/AUTODRAFT

PMH 9 25kV 4 WAY SWITCHING CUBICLE

TWO METHODS OF CABLE TERMINATION:

(i) STRESS CONE & TAPE APPLICATION

(ii) PRE–MOULDED POLYMER TERMINATOR

TWO SIDES:

(i) 25kV – 200A FUSE COMPARTMENTS

(ii) 25kV – 600A SWITCHING COMPARTMENTS

FUSING:

– SML–4Z POWER FUSE

– "BLOWN" INDICATOR WINDOW

– LOAD BREAKING CAPABILITY

– 200E AMPERES MAX., 20,000A ASYMMETRICAL, 12,500 AMPERES SYMMETRICAL

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SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS					
DRN. RP	DESIGN CHK.	SAFETY APP.	APPROVAL	FOUR WAY 3Ø SWITCHING CUBICLE	
CHKD. FTK					
DATE 87–05–22	DATE	DATE	DATE		
DATE OF ISSUE 87–06–01		DRAWING NO. B–26–70	SHEET 1 of 4		REV. 0

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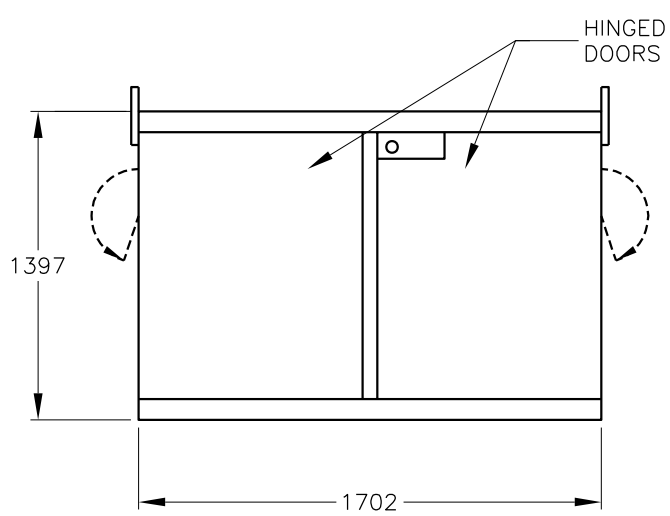
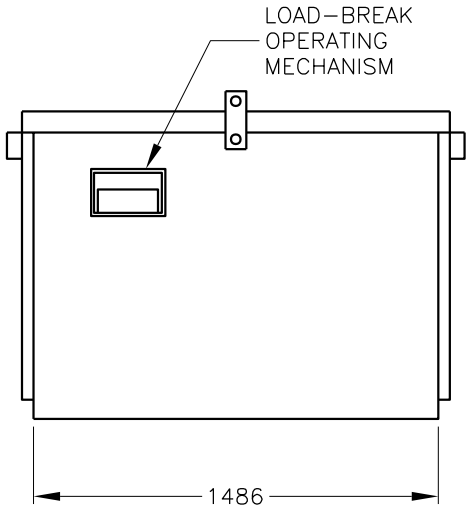
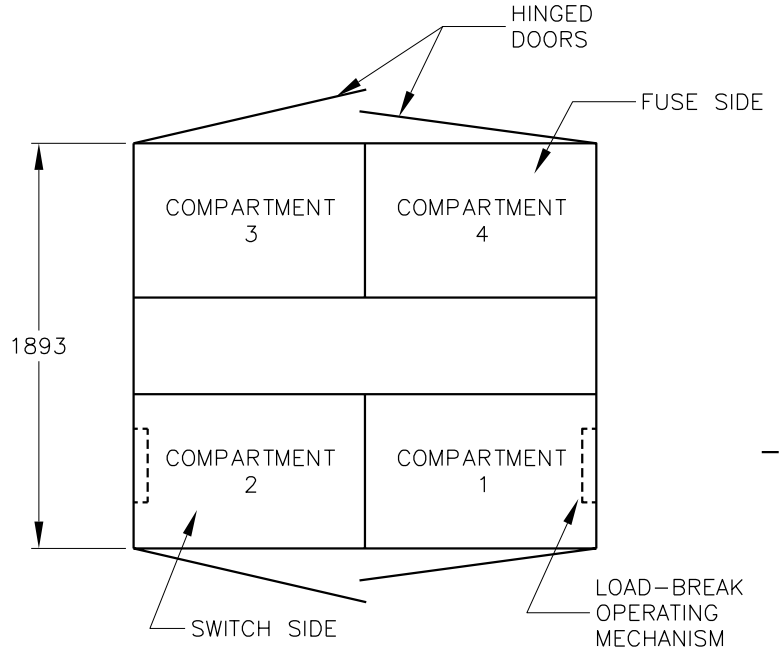


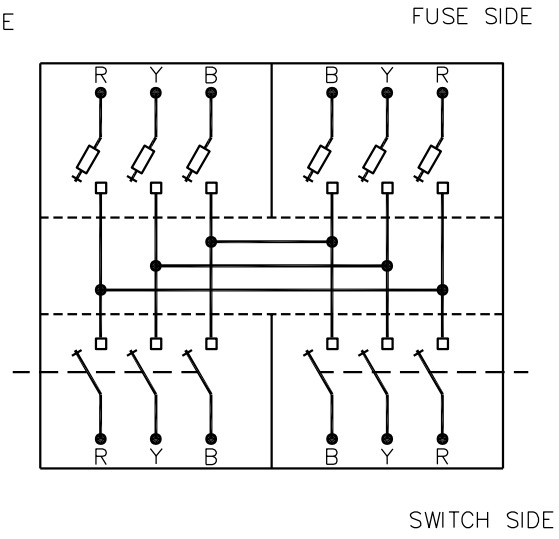
FRONT VIEW



SIDE VIEW



PLAN VIEW



SCHEMATIC

NOTES:

1. INSTALLED ON CONCRETE MODULAR VAULT.
2. FOR GROUNDING SEE B–33–36, B–33–37, B–33–38, AND B–33–40 OR B–33–41. SELECT APPROPRIATE GRID FOR MAXIMUM FAULT CURRENT AT LOCATION.
3. MINIMUM CLEARANCES REQUIRED AROUND PMH: 3m ON SWITCH AND FUSE SIDES WITH DOORS, 1m ON OTHER TWO SIDES.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.D.REDEKOPP CHKD. 2022–11–18	FOUR WAY 3ø SWITCHING CUBICLE
DATE OF ISSUE 2023-04-24	DRAWING NO. B–26–70	SHEET 2 of 4	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	2 83 XX	X	X	WIRE – CU (SEE NOTE 3)
2	5 06 67	1	--	VAULT CONCRETE MODULAR BASE SECTIONS (SEE NOTE 1)
2	5 06 71	1	--	VAULT CONCRETE MODULAR TOP FOR PMH 4 WAY
2	5 06 21	--	1	FIBERGLASS BOX PAD (83" x 75") (SEE NOTE 1)
3	5 06 20	1	1	SWITCHGEAR - PMH-9
3	5 06 22	1	1	SWITCHGEAR - PMH-13
4	5 06 94	X	X	FAULT INDICATOR-300 AMP-REMOTE INDICATOR
5	5 12 XX	X	X	CONNECTOR COMPRESSION
6	8 35 06	X	X	TERMINATOR - #1 AL SOLID
7	8 35 31	X	X	TERMINATOR - 4/0 AL COMPACT
7	8 35 29	X	X	TERMINATOR - 500 kcmil CU/AL COMPACT
8	9 01 25	--	2	PLANK - TREATED
9	05 638 2XX	X	X	NUMBERS - IDENTIFICATION
10	05 641 385	2	2	DECAL - DANGER DO NOT OPEN
11	05 646 582	2	2	DECAL - WATCH FOR WIRES

NOTE:

1. **EITHER VAULT WORKS WITH EITHER SWITCHGEAR.**
2. **COLUMN A IS FOR A CONCRETE VAULT WITH MANHOLE.**
   COLUMN B IS FOR A FIBERGLASS BOX PAD.
3. **MINIMUM 1/0 CU OR 2 x #2 CU CONNECTION FROM PMH TO GROUND GRID.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**FOUR WAY 3Ø SWITCHING CUBICLE**
M. ERETH	**A. UHREN**	CHKD.	
		2015-03-20	
DATE OF ISSUE 2015/04/28		DRAWING NO. **B-26-70**	**SHEET 3 OF 4** REV. **C**

SPC/AUTODRAFT

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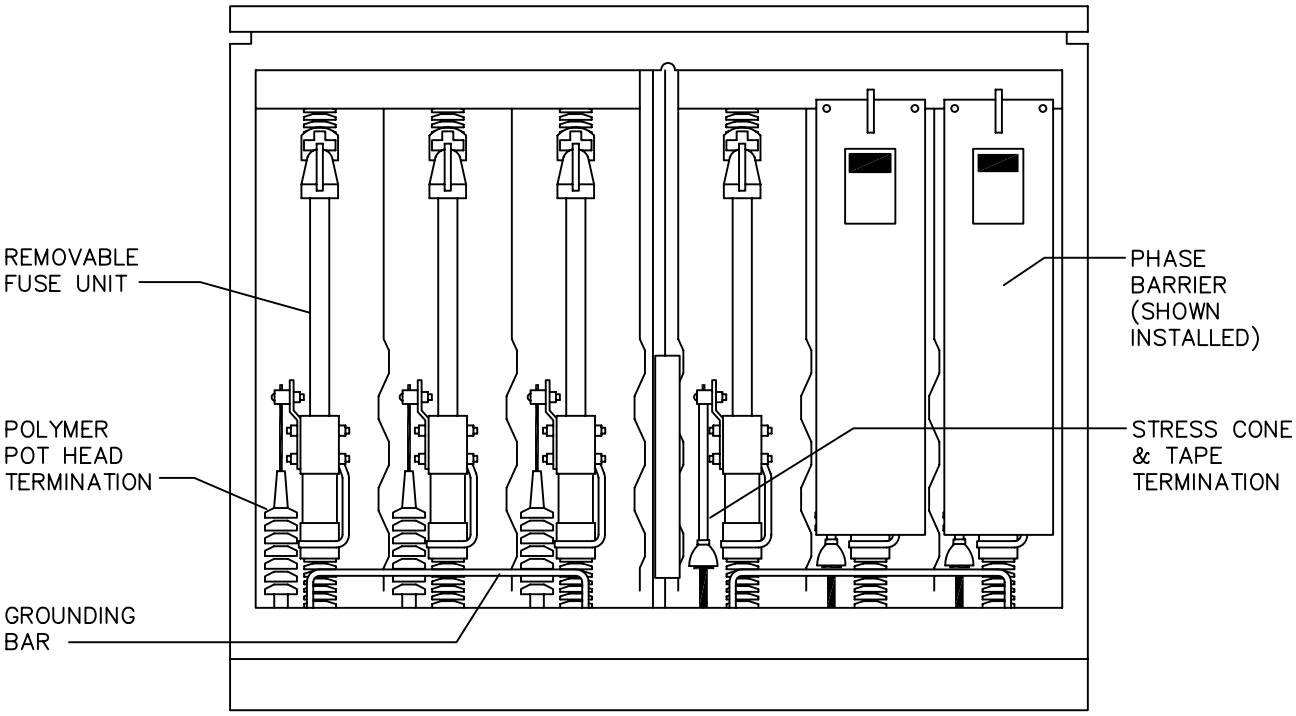
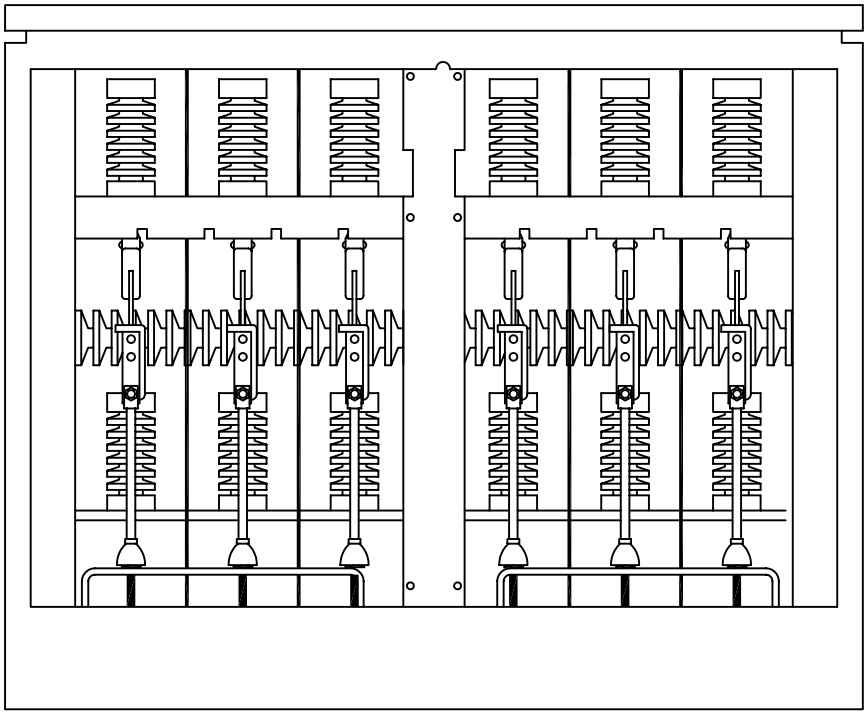
25kV FUSE COMPARTMENTS



25kV SWITCHING COMPARTMENTS



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

SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS

DRN. DC	DESIGN CHK.	SAFETY APP.	APPROVAL	FOUR WAY 3Ø SWITCHING CUBICLE
CHKD. FTK				
DATE 87-05-11	DATE	DATE	DATE	
DATE OF ISSUE 87-06-01		DRAWING NO. B-26-70	SHEET 4 of 4	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 83 XX**	**3 m**	**WIRE CU (SEE NOTE 1)**
2	**5 06 14**	**1**	**SWITCHGEAR – PMH-4**
3	**5 06 17**	**1**	**FIBERGLASS BOX PAD (66.5” X 55.75”)**
4	**5 06 94**	**1**	**FAULT INDICATOR-300 AMP-REMOTE INDICATOR (SEE NOTE 2)**
4	**5 06 96**	**1**	**FAULT INDICATOR-80 AMP-REMOTE INDICATION (SEE NOTE 2)**
5	**5 12 XX**	**5**	**CONNECTOR – COMPRESSION**
6	**7 54 XX**	**1**	**25kV TYPE E FUSE UNIT (REFILL)**
7	**8 35 XX**	**3**	**TERMINATOR**
8	**71 35 00**	**3**	**KIT – CABLE PREPARATION**
9	**05 638 2XX**	**X**	**NUMBERS – IDENTIFICATION**
10	**05 641 385**	**2**	**DECAL – "DANGER HIGH VOLTAGE DO NOT OPEN”**
11	**05 646 582**	**2**	**DECAL – "WATCH FOR WIRE"**

NOTE:

1. **MINIMUM 1/0 CU OR 2 x #2 CU CONNECTION FROM PMH TO GROUND GRID.**
2. **USE 80A FAULT INDICATOR (5 06 96) IN RURAL.**
   USE 300A FAULT INDICATOR (5 06 94) IN URBAN.

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**THREE WAY 1∅ SWITCHING CUBICLE**
M. ERETH	**A. UHREN**	CHKD.	
		2014-11-24	
DATE OF ISSUE:		DRAWING NO: **B-26-71**	**SHEET 1 OF 2** REV. **A**

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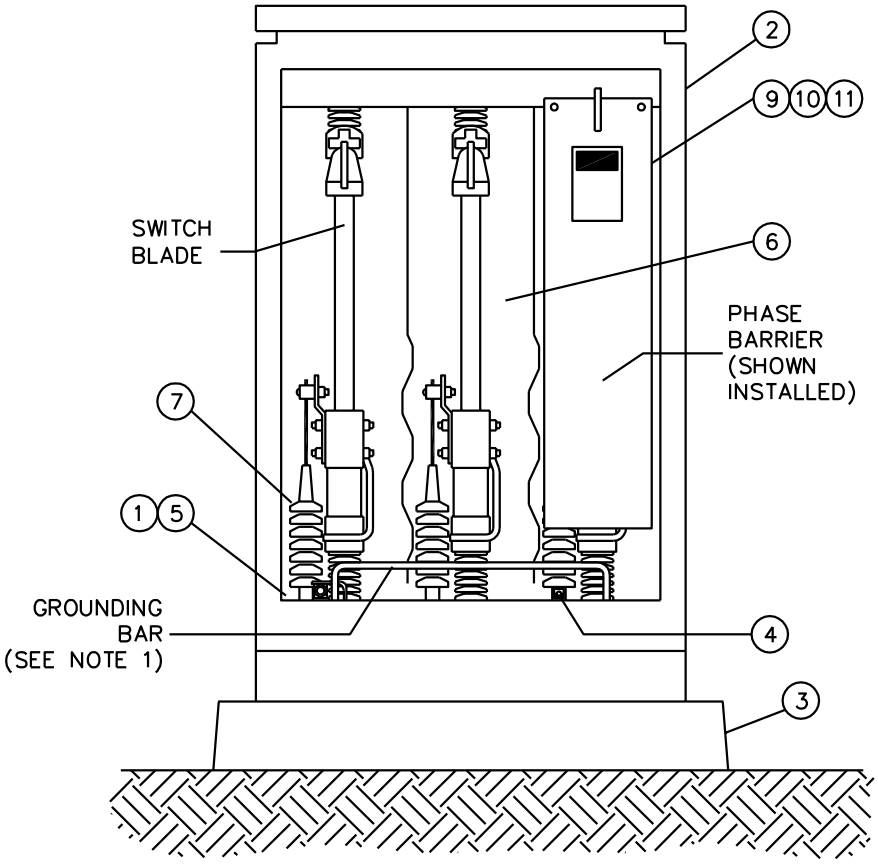
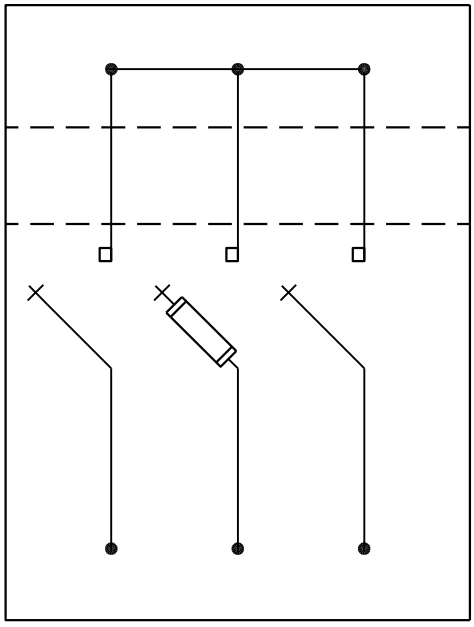
25kV FUSE COMPARTMENT



CONNECTION DIAGRAM



NOTE:
1. USE TYPE 'J' GROUND GRID (SEE B-33-08)
2. MINIMUM CLEARANCE REQUIRED AROUND PMH, 3m IN FRONT OF BOTH DOOR SIDES, 1m ON OTHER TWO SIDES.

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. 2018-08-30	THREE WAY 1ø SWITCHING CUBICLE
DATE OF ISSUE 2018-09-13	DRAWING NO. B-26-71	SHEET 2 of 2	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 93 20	12	LOCK WASHER – 5/8" – GALVANIZED
2	1 93 33	12	FLAT WASHER – 5/8" – GALVANIZED
3	70 08 16	12	BOLT – 5/8" X 1-1/4" – CADMIUM PLATED
4	70 31 50	--	DUCT PLUG – 5" – 3 X 500 MCM CABLES
5	70 31 53	--	DUCT PLUG – 5" – QUAD
6	70 31 51	--	BUSHING SLEEVE INSERT – 4/0 – FOR 5" DUCT PLUG
6	70 31 52	--	BUSHING SLEEVE INSERT – #1 – FOR 5" DUCT PLUG
6	70 31 54	--	BUSHING SLEEVE INSERT – 1/0 SECONDARY
6	70 31 55	--	BUSHING SLEEVE INSERT – 4/0 SECONDARY
6	70 31 56	--	BUSHING SLEEVE INSERT – 350 kcmil SECONDARY
6	70 31 58	--	BUSHING SLEEVE INSERT – 500 kcmil SECONDARY
7	70 31 59	--	DUCT PLUG – 5" – BLANK
8	70 85 12	--	DUCT PLUG – 2" – BLANK
9	70 85 22	--	DUCT PLUG – 2" – FOR #1 CABLE
10	71 42 06	0.1	TAPE – PHASE I.D. – RED
10	71 42 07	0.1	TAPE – PHASE I.D. – BLUE
10	71 42 08	0.1	TAPE – PHASE I.D. – YELLOW
11	71 74 25	6	CABLE RACK – 27-1/2" – GALVANIZED
12	71 75 21	--	CABLE RACK HOOK – 6" – GALVANIZED
13	71 75 22	12	CABLE RACK HOOK – 10" – GALVANIZED W/ PLASTIC COATING
14	71 75 23	--	CABLE RACK HOOK – 15" – GALVANIZED W/ PLASTIC COATING

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **PP**	**URBAN 3Ø VAULT ACCESSORIES**
L MOEN	**P PATEL**	CHKD. **LM**	
		2020-12-07	

DATE OF ISSUE: **2021-08-16** | DRAWING NO: **B-26-73** | **SHEET 1 OF 2** | REV. **D**

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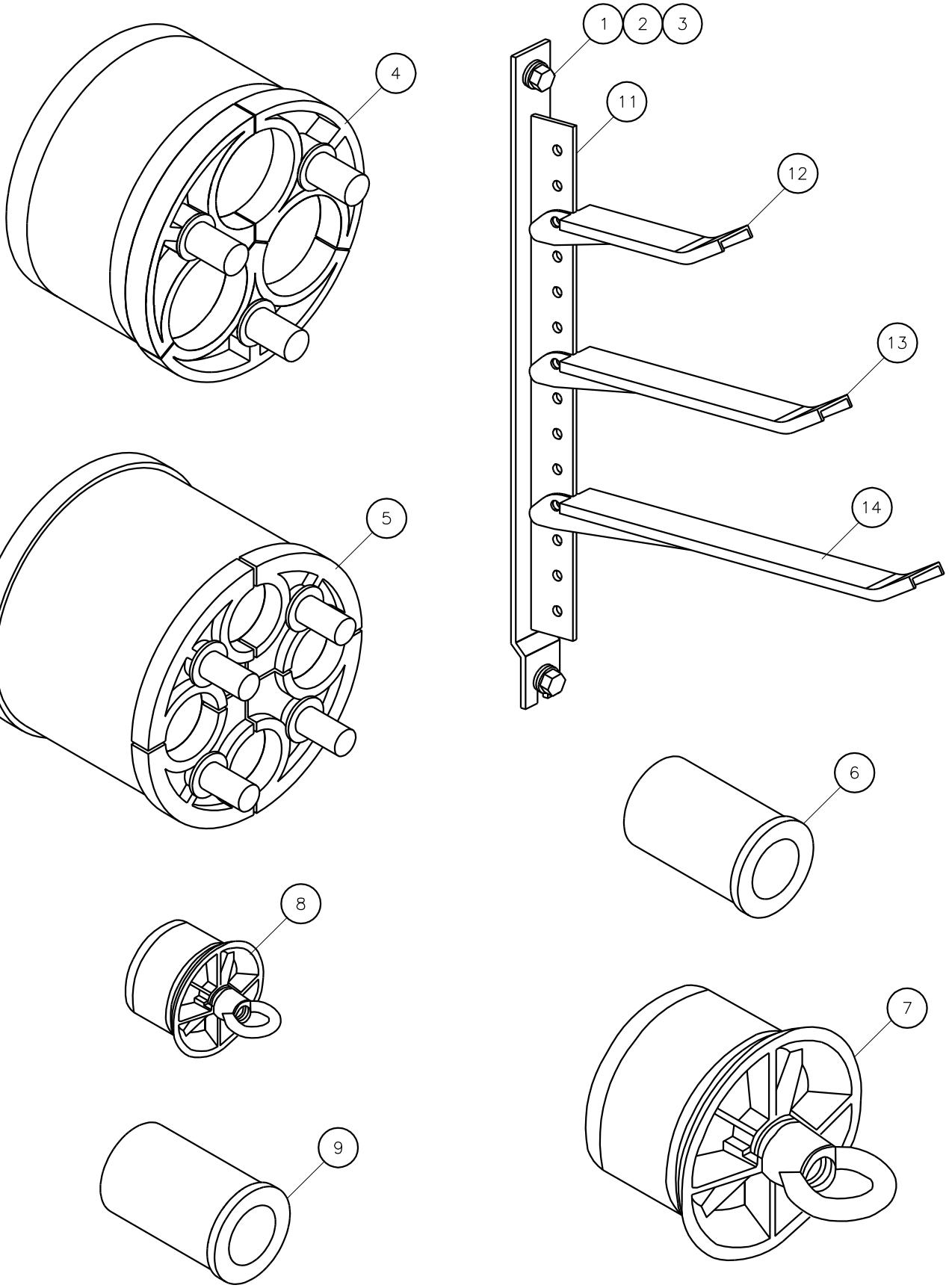

SCALE: N.T.S.

	SaskPower – DISTRIBUTION STANDARDS			
	APPROVAL L.MOEN	DESIGN CHK. B.GEBHART	DRN.D.REDEKOPP CHKD. 2020-12-30	URBAN 3PH VAULT ACCESSORIES
	DATE OF ISSUE 2021-08-16	DRAWING NO. B-26-73	SHEET 2 of 2	REV. C

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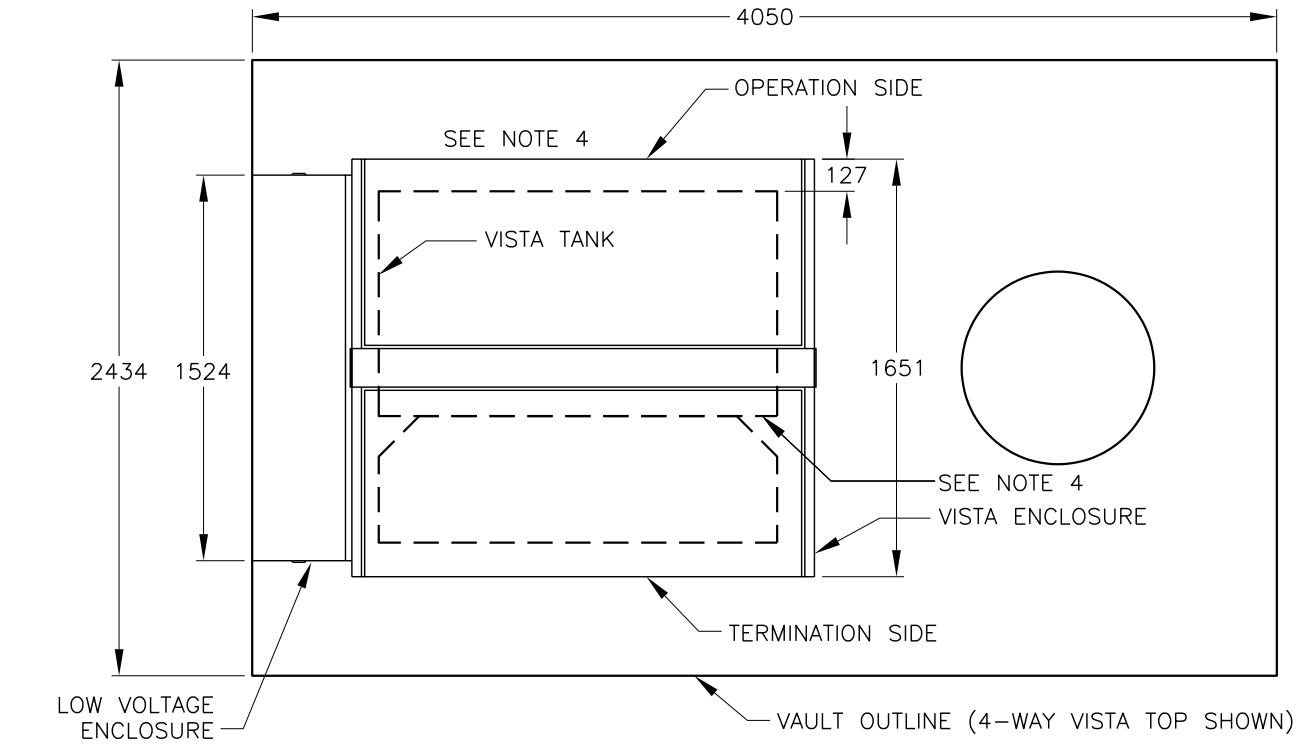
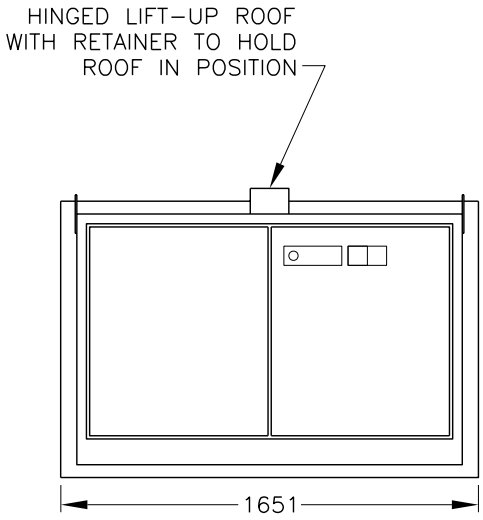
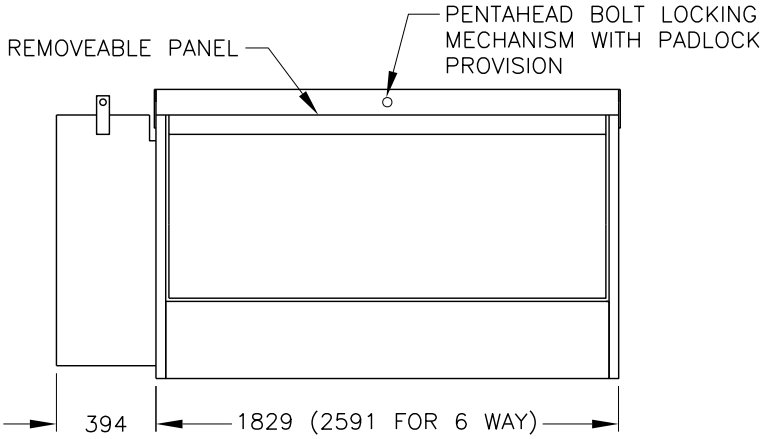


PLAN VIEW



SIDE VIEW



FRONT VIEW
TERMINATION SIDE

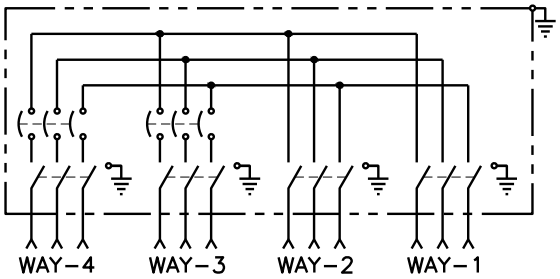
NOTES:

1. INSTALLED ON MODULAR CONCRETE VAULT (5 06 67) WITH 4-WAY VISTA SWITCH TOP (5 06 70) OR 6 WAY VISTA SWITCH TOP (5 06 72). SEE B-26-77 FOR DETAILS.
2. FOR GROUNDING SEE B-33-40 OR B-33-41. SELECT APPROPRIATE GRID FOR MAXIMUM FAULT CURRENT AT LOCATION.
3. MINIMUM CLEARANCES REQUIRED AROUND VISTA SWITCH: 1m ON OPERATIONS SIDE, 3m ON TERMINATION SIDE, 1m ON LOW VOLTAGE ENCLOSURE SIDE.
4. RECOMMENDED DIMENSIONS OF VISTA TANK AND ENCLOSURE IN RELATION TO EACH OTHER ARE SHOWN. EDGE OF VISTA TANK MOUNTING PADS SHOULD BE IN LINE WITH UPPER EDGE OF HOLE. AND VISTA TANK SHOULD BE CENTERED IN RELATION TO THE HOLE OPENING.
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.D.REDEKOPP CHKD. 2022-11-18	3ø PADMOUNT VISTA SWITCH ENCLOSURE LAYOUT
DATE OF ISSUE 2023-04-24	DRAWING NO. B-26-79	SHEET 1 of 5	REV. C

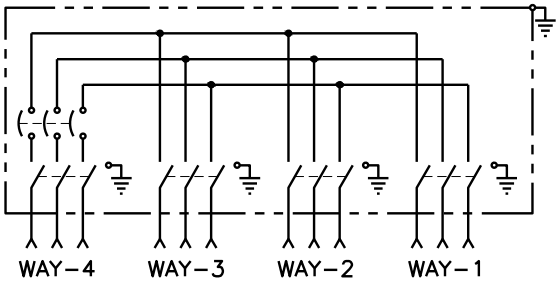
OPERATION SIDE



TERMINATION SIDE

MODEL 422

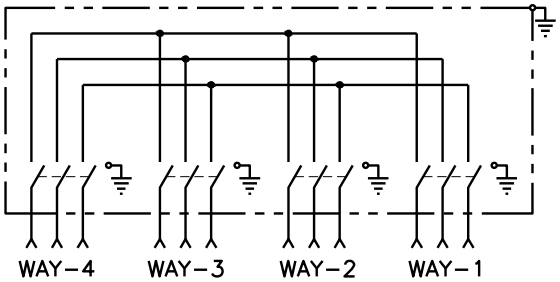
OPERATION SIDE



TERMINATION SIDE

MODEL 431

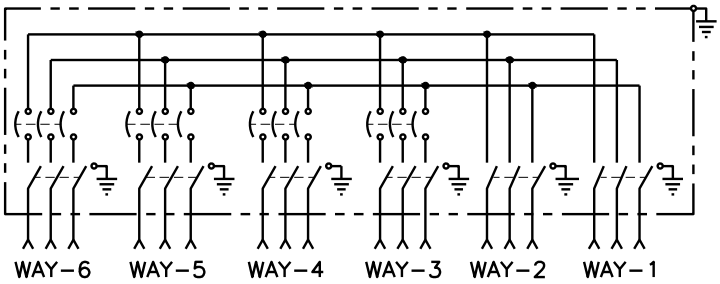
OPERATION SIDE



TERMINATION SIDE

MODEL 440

OPERATION SIDE



TERMINATION SIDE

MODEL 624

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL M. ERETH	DESIGN CHK. A. UHREN	DRN. DC CHKD. 2013–07–09	3ø PADMOUNT VISTA SWITCH CONNECTION DIAGRAMS
DATE OF ISSUE 2014/03/21	DRAWING NO. B–26–79	SHEET 2 of 5	REV. 0

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	2 65 XX	14	HYLUG
2	2 68 1X	6	CABLE ADAPTER – ELBOW – 25 kV – 600A (SEE NOTE 2)
3	2 68 2X	6	LUG – ELBOW – 25 kV – 600A (SEE NOTE 2)
4	2 68 52	6	HOUSING – ELBOW – INTEGRAL REDUCING TAP – 25 kV – 600A
5	2 83 20	5 m	WIRE – CU – BARE – 2/0 (SEE NOTE 6)
6	5 05 75	--	SWITCHGEAR – PADMOUNT – DEADFRONT – 6 WAY – 624 – 1 OR 3 POLE TRIPPING
6	5 05 76	1	SWITCHGEAR – PADMOUNT – DEADFRONT – 4 WAY – 422 – 1 OR 3 POLE TRIPPING
6	5 05 77	--	SWITCHGEAR – PADMOUNT – DEADFRONT – 4 WAY – 422 – 3 POLE TRIPPING ONLY
6	5 05 78	--	SWITCHGEAR – PADMOUNT – DEADFRONT – 4 WAY – 431 – 1 OR 3 POLE TRIPPING
6	5 05 79	--	SWITCHGEAR – PADMOUNT – DEADFRONT – 4 WAY – 440
7	5 06 67	1	VAULT – CONCRETE – MODULAR – BASE SECTIONS (SEE NOTE 1)
8	5 06 70	1	VAULT – CONCRETE – MODULAR – TOP (SEE NOTE 1)
8	5 06 72	--	VAULT – CONCRETE – MODULAR – TOP FOR 6 WAY (SEE NOTE 1)
9	5 06 94	6	FAULT INDICATOR – 300 AMP – REMOTE INDICATOR
10	5 06 98	2	FAULT INDICATOR – 800 AMP – 3 PHASE
11	5 79 12	6	INSERT – LOADBREAK BUSHING – 25 kV
12	5 79 14	6	INSERT – INSULATED CAP – 25 kV
13	5 XX XX	6	ELBOW – LOADBREAK – 25 kV (SEE NOTE 3)
14	7 66 00	3	PADLOCK – HERCULES 980 SERIES
15	70 29 09	24	TYRAP – BLACK – WEATHERABLE – 7” (SEE NOTE 5)
16	71 42 06	0.1	TAPE – PHASE I.D. – RED
17	71 42 07	0.1	TAPE – PHASE I.D. – BLUE
18	71 42 08	0.1	TAPE – PHASE I.D. – YELLOW
19	71 74 25	6	CABLE RACK – 27-1/2"
20	71 75 22	12	CABLE RACK – HOOK – 10"
21	05 382 3XX	60	MARKER – CABLE – SLEEVE TYPE (SEE NOTE 5)
22	05 382 38X	12	MARKER SLEEVE – CABLE (SEE NOTE 5)
23	05 638 2XX	X	NUMBERS – IDENTIFICATION

NOTES LOCATED ON SHEET 5 OF 5.

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **BG**	3∅ PADMOUNT VISTA SWITCH
L MOEN	**B GEBHART**	CHKD. **LM**	
		2022-02-15	

DATE OF ISSUE: **2023-04-24** | DRAWING NO: **B-26-79** | **SHEET 3 OF 5** | REV. **D**

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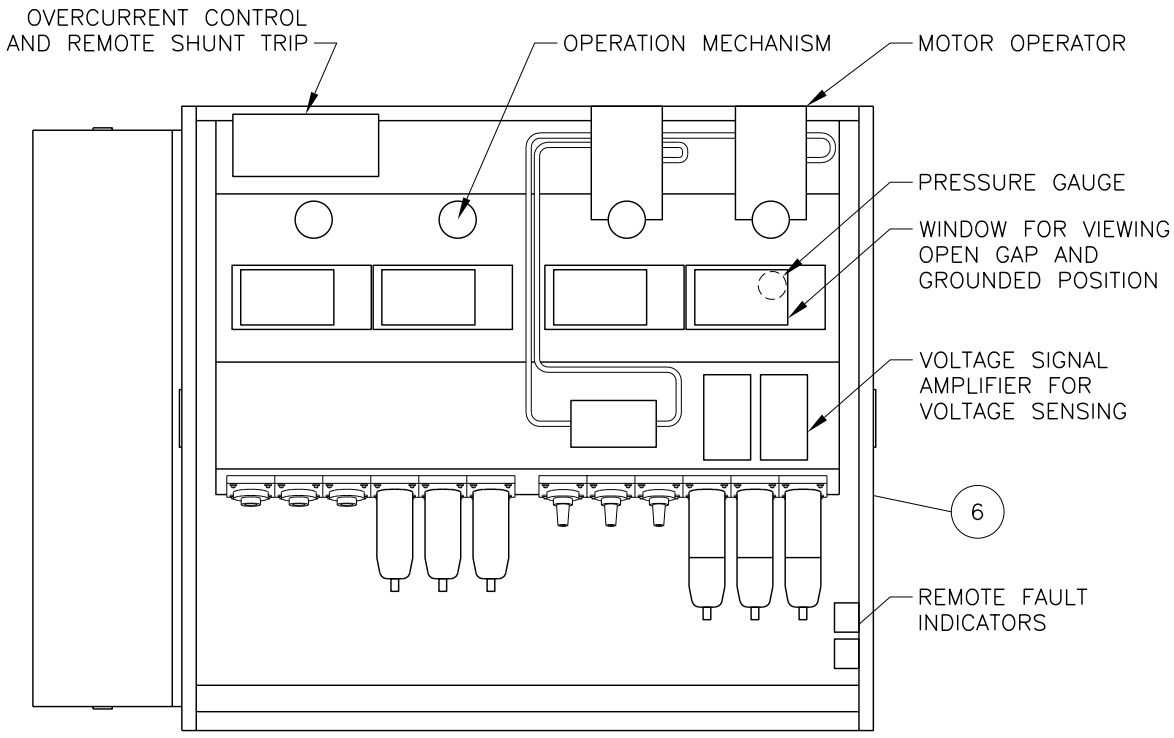
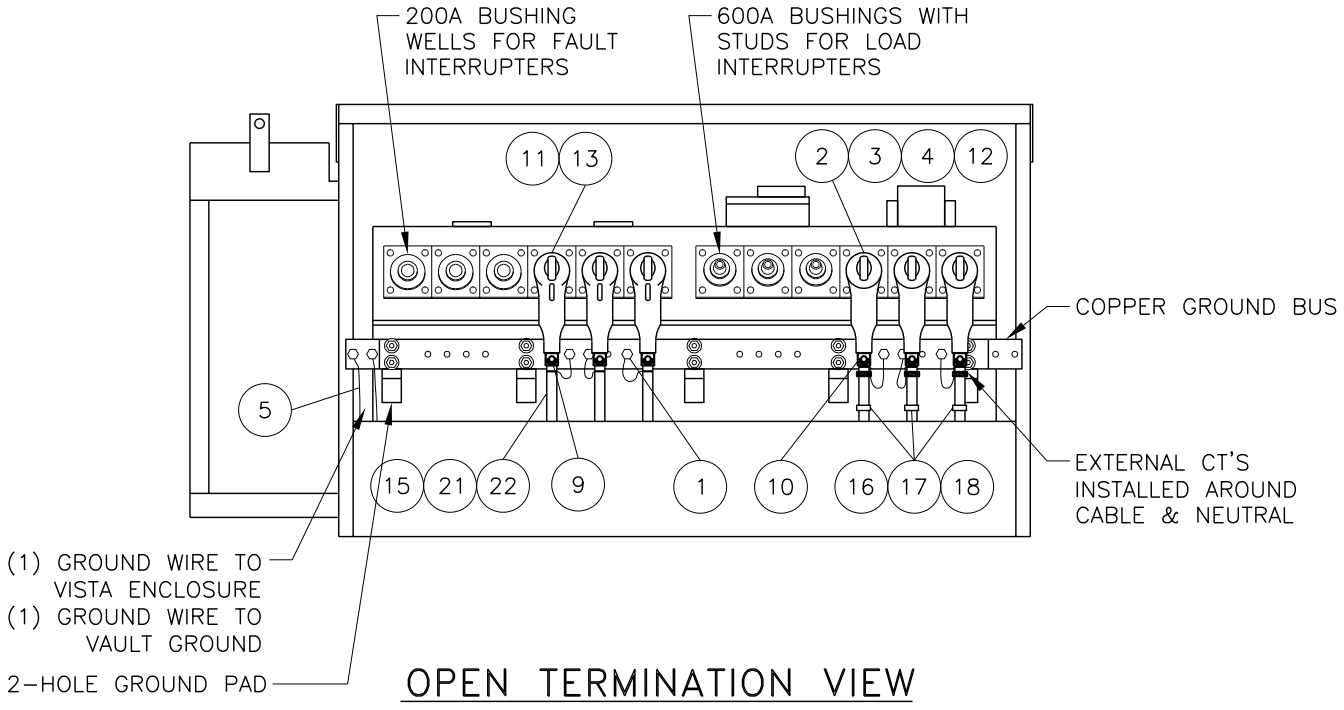


OPEN TOP VIEW

(422 MODEL SHOWN)



OPEN TERMINATION VIEW

(422 MODEL SHOWN)

NOTES:
1. NOT ALL CABLES ARE SHOWN.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.D.REDEKOPP CHKD. 2023-02-23	3ø PADMOUNT VISTA SWITCH INSTALLATION
DATE OF ISSUE 2023-04-24	DRAWING NO. B-26-79	SHEET 4 of 5	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
			NOTE: **1. SEE MODULAR VAULT DRAWING B-26-77 FOR DETAILS.** **2. SEE DRAWING B-36-47 FOR SPECIFIC MATERIAL ITEM REQUIRED.** **3. SEE DRAWING B-36-42 FOR SPECIFIC MATERIAL ITEM REQUIRED.** **4. MATERIALS SHOWN ARE FOR 4 WAY VISTA – 422 (5 05 76 OR 5 05 77).** **FOR 5 05 78, ADD (3) OF ITEMS 2, 3, 4, 12 & (1) OF ITEM 10, DELETE (3) OF ITEMS 9, 11 & 13.** **FOR 5 05 79, ADD (6) OF ITEMS 2, 3, 4, 12 & (2) OF ITEM 10, DELETE (6) OF ITEMS 9, 11 & 13.** **FOR 5 05 75, ADD (6) OF ITEMS 1, 9, 11 & 13, AND USE 6 WAY VISTA VAULT TOP (5 06 72).** **5. MATERIALS FOR CABLE MARKERS ARE ASSUMED TO HAVE (12) CABLES AND (5) LETTERS/NUMBERS FOR EACH.** **6. TWO RUNS OF #2 CU IS ALSO AN ACCEPTABLE CONNECTION TO GROUND.** **7. REFER TO B-30-20 FOR APPLICABLE STOCK CODES AND MOUNTING DETAILS.** **8. TRAYER EQUIVALENT PART NUMBERS** **5 05 62: 422 (5 05 76) – SINGLE POLE RESET** **5 05 63: 422 (5 05 77) – GANGED RESET** **5 05 69: 624 (5 05 82) – GANGED RESET**

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SaskPower - DISTRIBUTION STANDARDS			
APPROVAL **L MOEN**	DESIGN CHK **B GEBHART**	DRN. **BG** CHKD. **LM** **2022-02-15**	**3Ø PADMOUNT VISTA SWITCH**
DATE OF ISSUE: **2023-04-24**	DRAWING NO: **B-26-79**	**SHEET 5 OF 5**	REV. **C**

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	5 04 90	1	-	GROUND LEVEL PULL BOX – 30” x 48” x 36”
2	5 04 91	-	1	GROUND LEVEL PULL BOX – 36” x 75” x 42”
3	70 85 02	X	X	CONDUIT, HDPE - RED - 2", SMOOTH WALL
4	70 85 42	6	12	COUPLER MECHANICAL, 2"
5	70 85 52	6	12	DUCT 90 DEGREE SWEEP, FOR 2", 12" RADIUS
6	70 85 XX	X	X	DUCT PLUG – 2” – SEE NOTE 1

NOTES:

1. **REFER TO B-36-52 FOR DUCT ACCESSORIES.**

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SaskPower - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**GROUND LEVEL PULL BOX**
L. MOEN	**D. DONAIS**	CHKD.	
		2018-08-30	

DATE OF ISSUE 2018-09-13	DRAWING NO. **B-26-81**	**SHEET 1 OF 3**	REV. **0**

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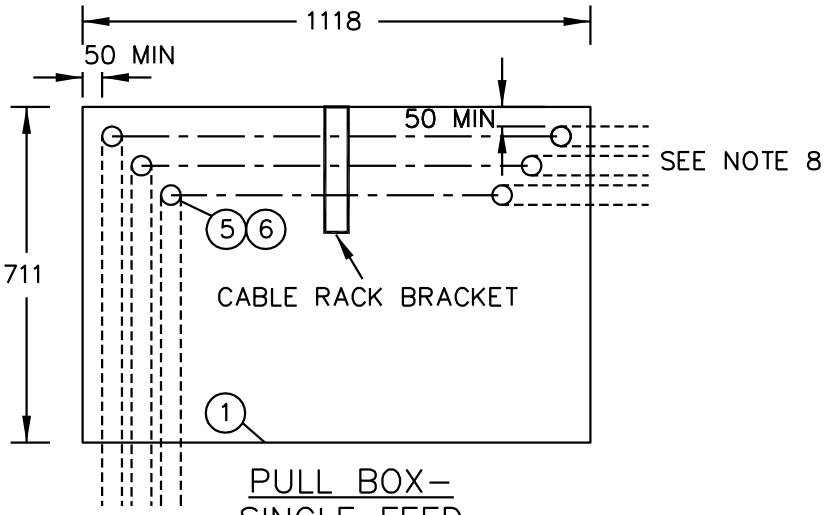
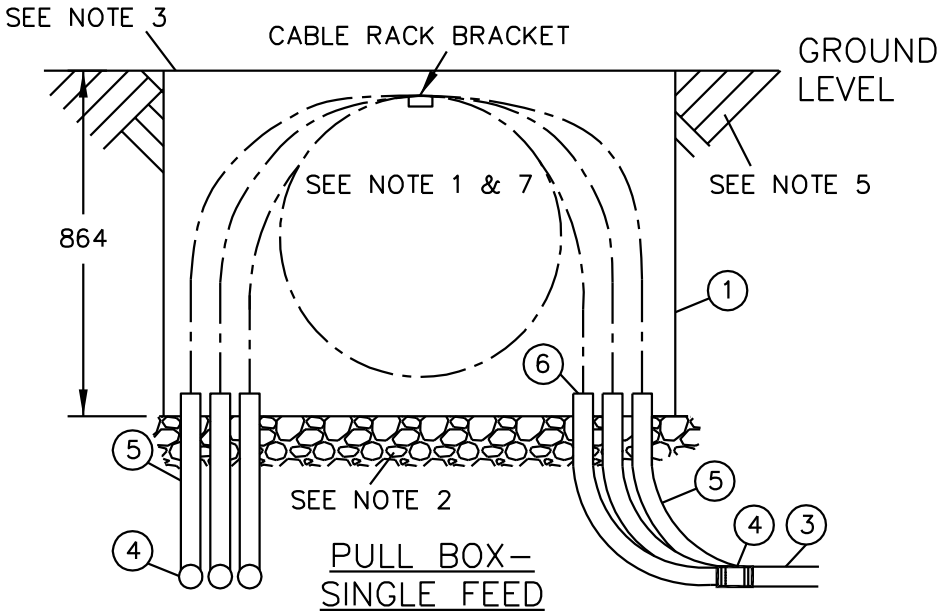


PULL BOX–
SINGLE FEED
TOP VIEW



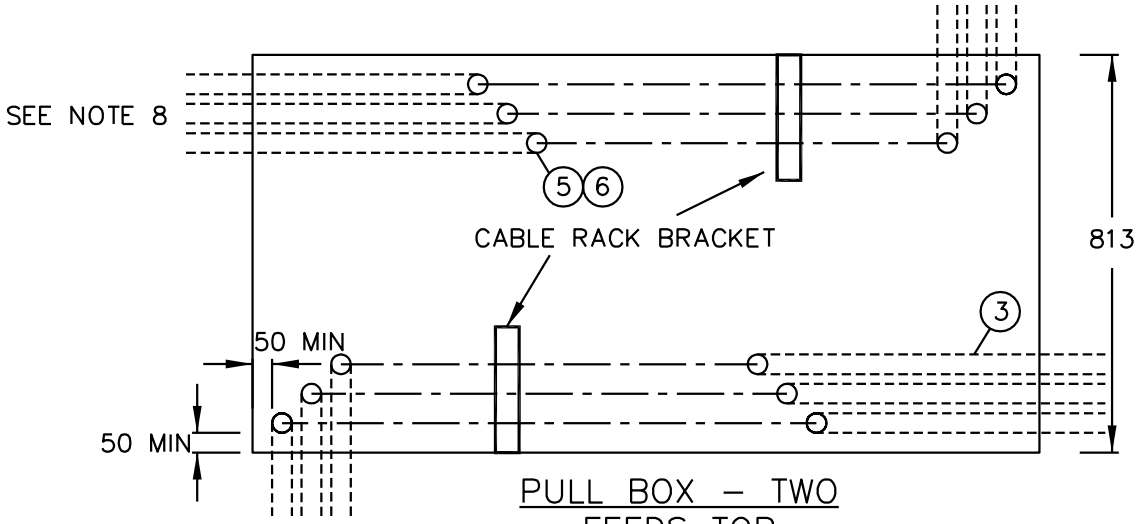
PULL BOX–
SINGLE FEED
SIDE VIEW

NOTE:
1. CABLE BENDING RADIUS SHALL NOT BE EXCEEDED. REFER TO CABLE MANUFACTURERS SPECIFICATIONS.
2. FOR DRAINAGE PURPOSES A MINIMUM OF 152mm OF CRUSHED ROCK SHALL BE USED.
3. BOX SHALL BE FLUSH WITH FINAL GRADE. MODIFICATIONS MAY BE MADE TO THE BOX TO ENSURE NO TRIPPING HAZARD SHALL BE PRESENT. REFER TO MANUFACTURERS SPECIFICATIONS.
4. CONDUITS SHALL COME UP A MINIMUM 100mm ABOVE THE CRUSHED ROCK LEVEL. EMPTY CONDUITS SHALL BE CAPPED OR PLUGGED PRIOR TO BACKFILLING.
5. BACKFILLING SHALL BE HAND TAMPED ENSURING THAT THE SOIL FILLS THE RIBBING OF THE PULL BOX. LID SHALL BE INSTALLED PRIOR TO BACKFILLING. BACKFILL MATERIAL SHALL BE NATIVE SOIL.
6. REFER TO B–30–26 FOR CABLE LABELING REQUIREMENTS.
7. CABLE SHALL BE RACKED VERTICALLY WITH A MINIMUM OF ONE FULL LOOP.
8. CONDUITS MAY RUN UNDER THE BOX GOING IN ANY DIRECTION WITH CONDUIT CONGESTION BEING THE LIMITING FACTOR. ONLY ONE OF THE POSSIBLE DIRECTIONS SHOWN FOR CLARITY.

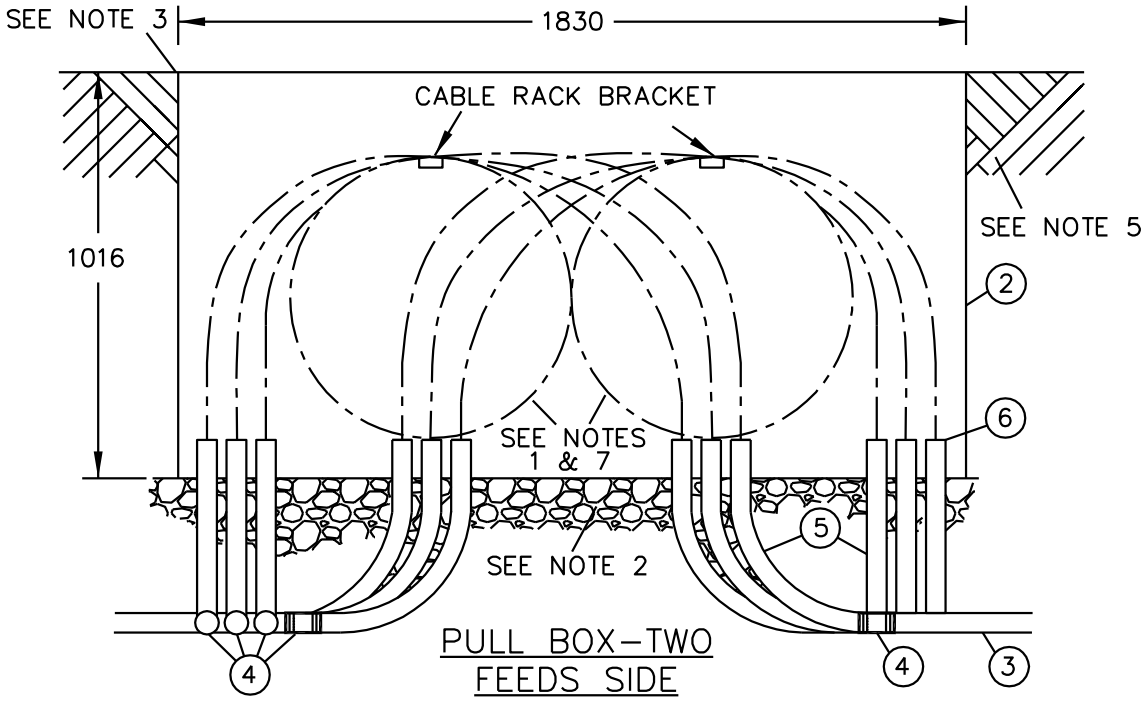
SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.C.BAUTISTA CHKD. 2018–08–28	GROUND LEVEL PULL BOX
DATE OF ISSUE 2018-09-13	DRAWING NO. B–26–81	SHEET 2 of 3	REV.



PULL BOX – TWO FEEDS TOP VIEW



PULL BOX–TWO FEEDS SIDE VIEW

NOTE:

1. CABLE BENDING RADIUS SHALL NOT BE EXCEEDED. REFER TO CABLE MANUFACTURERS SPECIFICATIONS.
2. FOR DRAINAGE PURPOSES A MINIMUM OF 152mm OF CRUSHED ROCK SHALL BE USED.
3. BOX SHALL BE FLUSH WITH FINAL GRADE. MODIFICATIONS MAY BE MADE TO THE BOX TO ENSURE NO TRIPPING HAZARD SHALL BE PRESENT. REFER TO MANUFACTURERS SPECIFICATIONS.
4. CONDUITS SHALL COME UP A MINIMUM 100mm ABOVE THE CRUSHED ROCK LEVEL. EMPTY CONDUITS SHALL BE CAPPED OR PLUGGED PRIOR TO BACKFILLING.
5. BACKFILLING SHALL BE HAND TAMPED ENSURING THAT THE SOIL FILLS THE RIBBING OF THE PULL BOX. LID SHALL BE INSTALLED PRIOR TO BACKFILLING. BACKFILL MATERIAL SHALL BE NATIVE SOIL.
6. REFER TO B–30–26 FOR CABLE LABELING REQUIREMENTS.
7. CABLE SHALL BE RACKED VERTICALLY WITH A MINIMUM OF ONE FULL LOOP.
8. CONDUITS MAY RUN UNDER THE BOX GOING IN ANY DIRECTION WITH CONDUIT CONGESTION BEING THE LIMITING FACTOR. ONLY ONE OF THE POSSIBLE DIRECTIONS SHOWN FOR CLARITY.

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. 2018–08–28	GROUND LEVEL PULL BOX
DATE OF ISSUE 2018-09-13	DRAWING NO. B–26–81	SHEET 3 of 3	REV.

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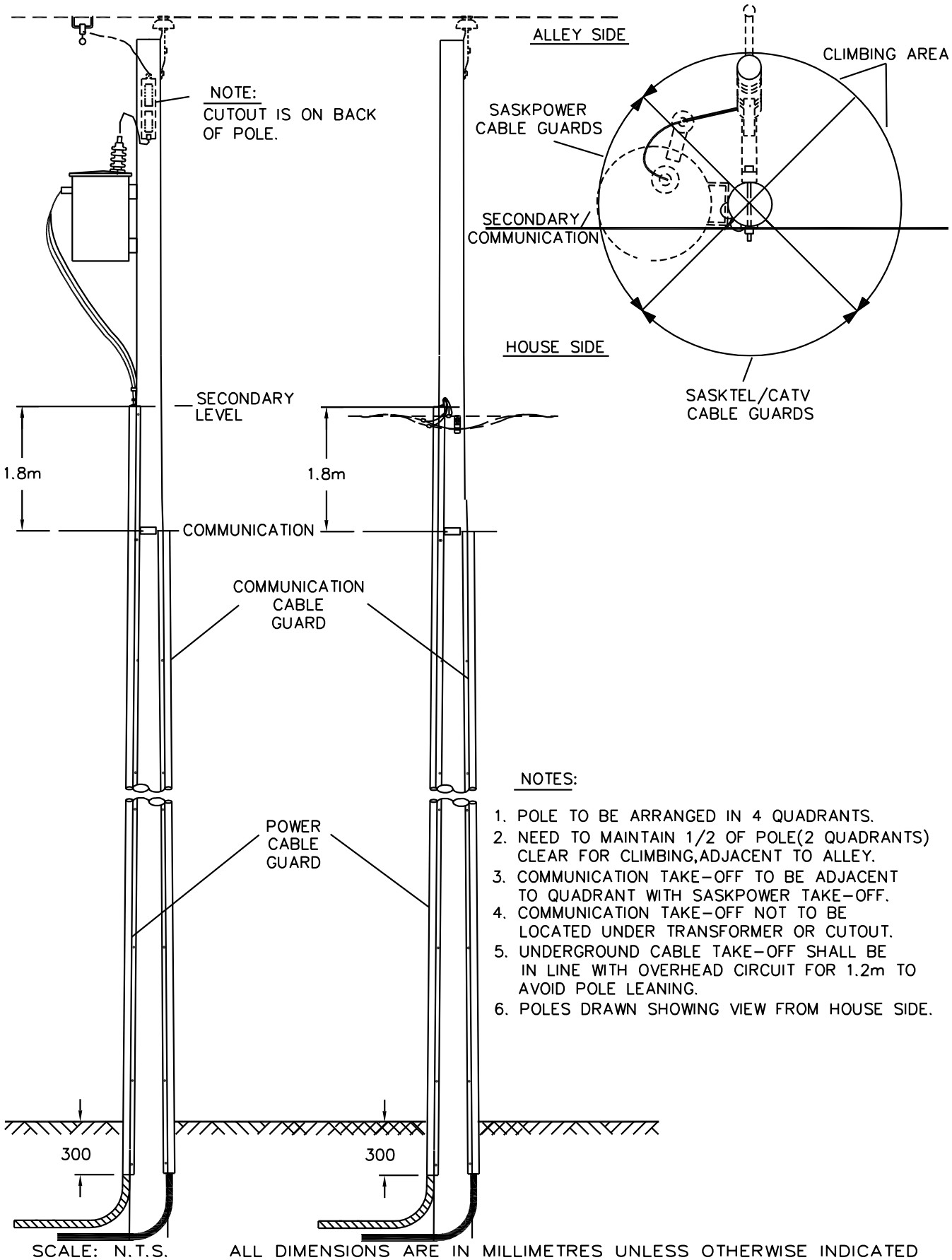

NOTES:

1. POLE TO BE ARRANGED IN 4 QUADRANTS.
2. NEED TO MAINTAIN 1/2 OF POLE(2 QUADRANTS) CLEAR FOR CLIMBING,ADJACENT TO ALLEY.
3. COMMUNICATION TAKE-OFF TO BE ADJACENT TO QUADRANT WITH SASKPOWER TAKE-OFF.
4. COMMUNICATION TAKE-OFF NOT TO BE LOCATED UNDER TRANSFORMER OR CUTOUT.
5. UNDERGROUND CABLE TAKE-OFF SHALL BE IN LINE WITH OVERHEAD CIRCUIT FOR 1.2m TO AVOID POLE LEANING.
6. POLES DRAWN SHOWING VIEW FROM HOUSE SIDE.

SCALE: N.T.S.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SaskPower – DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	SAFETY APP.	APPROVAL	COMMUNICATION TAKE-OFF ON JOINT USE POLE (TYPICAL)
CHKD.				
DATE	DATE	DATE	DATE	
DATE OF ISSUE: 2007/04/16		DRAWING NO. B-28-02	SHEET 1 of 1	REV. 0

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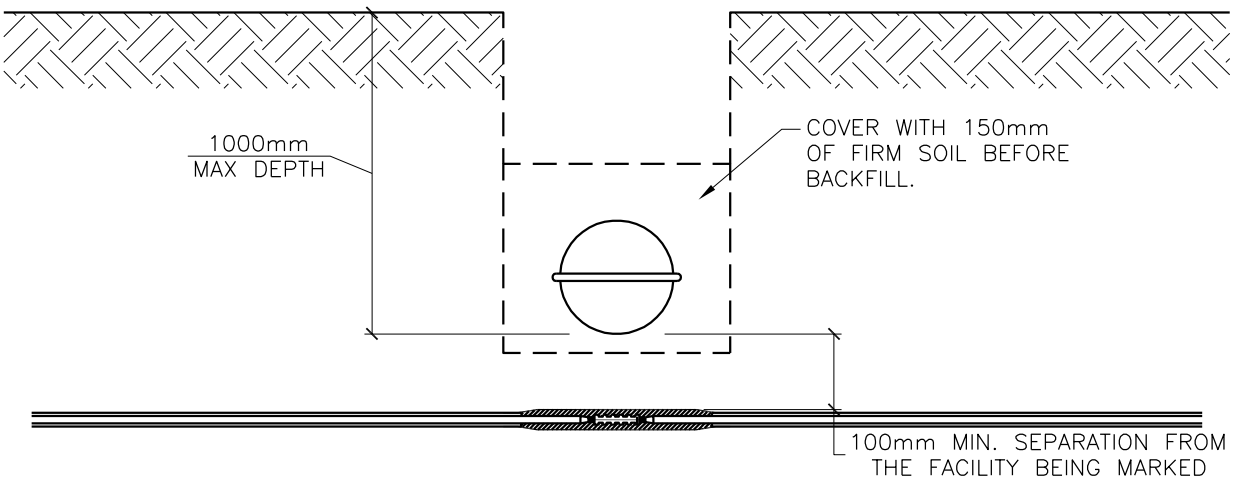

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NOTE:

1. FOR BETTER DETECTION AREA, PLACE MARKER BALL AT 750mm DEEP.
2. THE MINIMUM DISTANCE BETWEEN MARKERS SHOULD BE AT LEAST 1100mm FOR CLEAR IDENTIFICATION.
3. MARKER BALLS INTENDED FOR LOCATING SPLICES, SPARE DUCTS, AND OTHER VARIOUS U/G FACILITIES.
4. WHEN FACILITY BEING MARKED IS DEEPER THAN 1000mm BACKFILL TRENCH TO REQUIRED DEPTH BEFORE SETTING MARKER BALL.
5. MARKER BALL STOCK CODE: 5537020.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. 2016-07-27	UNDERGROUND MARKER BALLS
DATE OF ISSUE 2016/11/08	DRAWING NO. B-30-16	SHEET 1 of 1	REV. A

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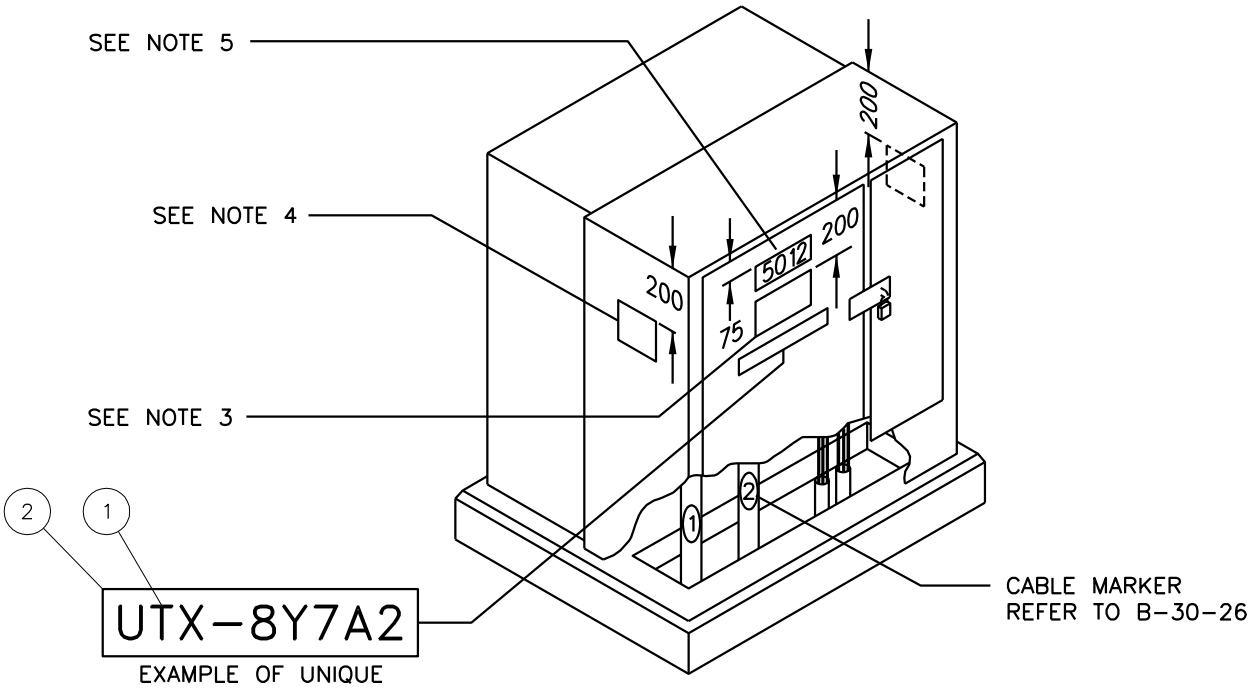
BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**05 638 32X**	**3**	**NUMBER – DECAL BLACK 1 1/2"**
1	**05 638 329**	**1**	**SYMBOL – DECAL "DASH" BLACK 1 1/2"**
1	**05 638 4XX**	**5**	**LETTER – DECAL BLACK 1 1/2"**
2	**05 640 008**	**0.01**	**BLANK REFLECTIVE STRIP (150' ROLL)**

*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **DCD**	**PADMOUNT APPARATUS LABELING**
L. MOEN	**D. DONAIS**	CHKD.	
		2018-12-11	

DATE OF ISSUE: 2019-01-02	DRAWING NO: **B-30-20**	**SHEET 1 OF 3**	REV. **A**



UTX-8Y7A2

EXAMPLE OF UNIQUE IDENTIFICATION NUMBER SEE NOTES 1 & 2

SPC CODE	DESCRIPTION
05 638 320	NUMBER "0"
05 638 321	NUMBER "1"
05 638 322	NUMBER "2"
05 638 323	NUMBER "3"
05 638 324	NUMBER "4"
05 638 325	NUMBER "5"
05 638 326	NUMBER "6"
05 638 327	NUMBER "7"
05 638 328	NUMBER "8"
05 638 329	SYMBOL "-"
05 638 450	LETTER "A"
05 638 451	LETTER "B"

SPC CODE	DESCRIPTION
05 638 452	LETTER "C"
05 638 453	LETTER "D"
05 638 454	LETTER "E"
05 638 455	LETTER "F"
05 638 456	LETTER "G"
05 638 457	LETTER "H"
05 638 458	LETTER "I"
05 638 459	LETTER "J"
05 638 460	LETTER "K"
05 638 461	LETTER "L"
05 638 462	LETTER "M"
05 638 463	LETTER "N"

SPC CODE	DESCRIPTION
05 638 465	LETTER "P"
05 638 466	LETTER "Q"
05 638 467	LETTER "R"
05 638 468	LETTER "S"
05 638 469	LETTER "T"
05 638 470	LETTER "U"
05 638 471	LETTER "V"
05 638 472	LETTER "W"
05 638 473	LETTER "X"
05 638 474	LETTER "Y"
05 638 475	LETTER "Z"

NOTES:

1. LOCATE LABEL ALONG CENTER LINE OF H.V. COMPARTMENT DOOR.
2. TRANSFORMER SHOWN. A HIGHLY VISIBLE, SIMILAR LOCATION SHALL BE USED FOR OTHER TYPES OF APPARATUS.
3. "DANGER – HIGH VOLTAGE" DECAL SHALL BE INSTALLED IF ABSENT. REFER TO SHEET 3 FOR MORE INFORMATION.
4. "DANGER – BURIED CABLE" DECAL SHALL BE INSTALLED IF ABSENT. REFER TO SHEET 3 FOR MORE INFORMATION.
5. EXISTING ASSET CODE SHALL REMAIN IF PRESENT.
6. NEW APPARATUS IS REQUIRED TO HAVE THESE DECALS INSTALLED IN THE FACTORY, HOWEVER, IF IT IS DISCOVERED THAT ANY OF THE DECALS ARE MISSING, THEY SHALL BE INSTALLED AS INDICATED. REFER TO SHEET 3 FOR DESCRIPTION, LOCATION AND STOCK CODES.

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.E.GOTANA CHKD. 2018-12-12	PADMOUNT APPARATUS LABELING
DATE OF ISSUE 2019-01-02	DRAWING NO. B-30-20	SHEET 2 of 3	REV. 0

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PADMOUNT APPARATUS DECALS – SEE NOTE 6		
SPC CODE	DESCRIPTION	APPARATUS TYPE / LOCATION
05 641 027	4160V SECONDARY BUSHINGS	TRANSFORMER WITH 4160V SECONDARY BUSHINGS / FRONT & INSIDE CUBICLE ABOVE SECONDARY BUSHINGS
05 641 380	KEEP OUT ELECTRICAL CIRCUITS	STEEL SERVICE PEDESTALS / SIDE
		SINGLE COMPARTMENT PEDESTALS / ABOVE LOCKING MECHANISM
05 641 382	CAUTION KEEP CLEAR	STEEL SERVICE PEDESTALS / SIDE
05 641 384	NOTICE – WE NEED ROOM TO WORK SAFELY	TRANSFORMERS / FRONT
		SWITCHING CUBICLES / FRONT (FUSE SIDE OF CUBICLE)
05 641 385	DANGER – HIGH VOLTAGE	TRANSFORMERS / FRONT
		REACTORS / FRONT
		METER CABINETS / FRONT
05 641 535	DANGER – U/G HV CABLE	STEEL SERVICE PEDESTALS / SIDE
		SINGLE COMPARTMENT PEDESTALS / ABOVE LOCKING MECHANISM
05 646 582	WATCH FOR WIRES – SMALL	TRANSFORMERS / FRONT & BOTH SIDES
		SWITCHING CUBICLES / FRONT & BOTH SIDES
		SINGLE COMPARTMENT PEDESTALS / ABOVE LOCKING MECHANISM
05 646 583	WATCH FOR WIRES – LARGE	STEEL SERVICE PEDESTALS / SIDE

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.E.GOTANA CHKD.	PADMOUNT APPARATUS LABELING
		2018-12-12	
DATE OF ISSUE 2019-01-02	DRAWING NO. B-30-20	SHEET 3 of 3	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**5 04 09**	**1**	**U/G SERVICE STUB PROTECTION BOX**
2	**05 537 022**	**1**	**SIGN, POST, GALVANIZED, RUD**
3	**05 537 024**	**1**	**SIGN-RUD CYLINDRICAL-DANGER WARNING (SEE NOTE 1)**

NOTE:

1. **ITEM #3 COMES WITH THREE 1/4" DIA. x 1" BOLTS, NUTS, AND SPRING WASHERS, WHICH ARE ALL USED IN THE ATTACHMENT.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **ARU**	**RESIDENTIAL CABLE MARKERS**
L. MOEN	**A. UHREN**	CHKD.	
		2016-09-20	

DATE OF ISSUE: 2016/11/08	DRAWING NO: **B-30-21**	**SHEET 1 OF 2**	REV. **0**

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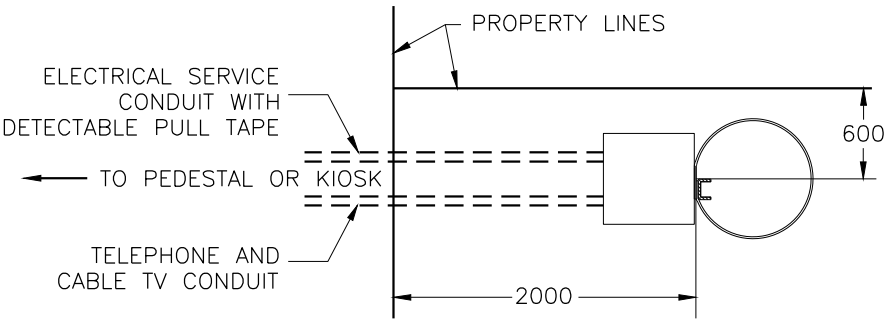
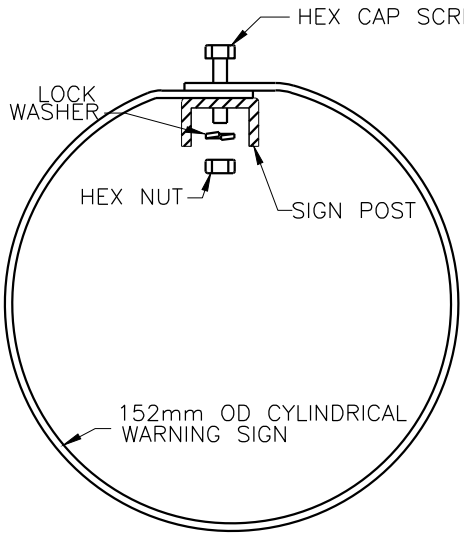
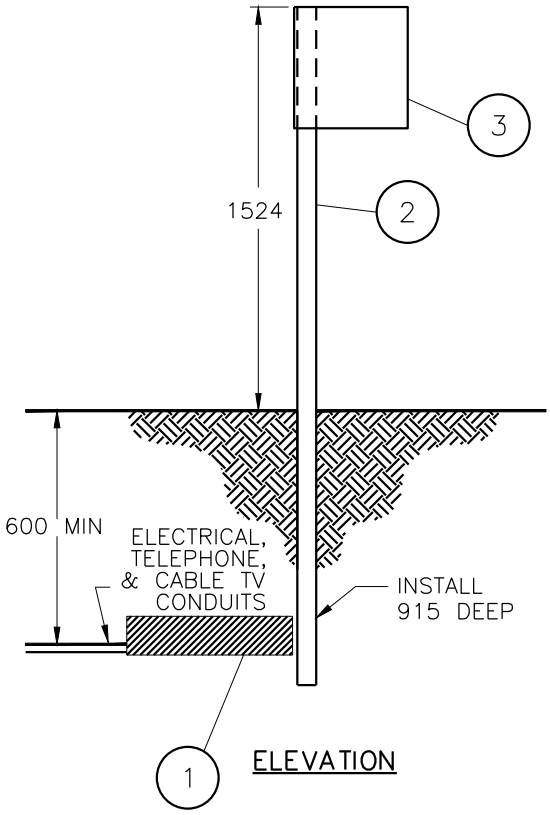


PLAN VIEW



TYPICAL ASSEMBLY



ELEVATION

NOTE:

1. ENDS OF CONDUIT SHALL BE CAPPED.
2. DETECTABLE PULL TAPE SHALL BE GROUNDED TO SIGN POST AND AT PEDESTAL SIDE. UNGROUND PULL TAPE WHEN PULLING CABLES AND REMOVE PULL TAPE FROM CONDUIT ONCE CABLES ARE PULLED.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD.	RESIDENTIAL CABLE MARKERS
		2016-10-04	
DATE OF ISSUE 2016/11/08	DRAWING NO. B-30-21	SHEET 2 of 2	REV. B

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	DESCRIPTION
1	05 385 149	1	–	TAG HOLDER FOR POLY TAGS
2	05 385 20X	3	–	TAG NUMBER I.D. YELLOW POLYETHYLENE
2	05 385 209	1	–	TAG DASH I.D. YELLOW POLYETHYLENE
2	05 385 25X	5	–	TAG LETTER I.D. YELLOW POLYETHYLENE
3	70 29 09	2	2	TYRAP 7" BLACK WEATHERABLE
3	70 29 11	2	2	TYRAP 11" BLACK WEATHERABLE
3	7 69 64	0.02	–	SCREW WOOD – #14 x 2 1/2"
4	05 382 30X	–	3	MARKER – CABLE – SLEEVE TYPE – NUMBER
4	05 382 310	–	1	MARKER – CABLE – SLEEVE TYPE – DASH
4	05 382 3XX	–	5	MARKER – CABLE – SLEEVE TYPE – LETTER
5	05 382 380	–	1	MARKER – CABLE – SLEEVE TYPE STRIP – 10 DIGIT
6	05 385 100	1	–	CASE – STORAGE – FOR 1" TAGS (SEE NOTE 4)
6	05 382 382	–	1	MARKER-CABLE – CARRYING CASE (SEE NOTE 4)

NOTES:

1. **COLUMN A IS FOR CABLE TAG HOLDERS FOR LARGE CONDUCTORS (SHEET 2).**
2. **COLUMN B IS FOR CABLE MARKER SLEEVES FOR SMALL CONDUCTORS (SHEET 3).**
3. **CONFIGURATOR DEFAULTS TO 11" TYRAP.**
4. **CARRYING CASE IS NOT INCLUDED IN CONFIGURATOR BOM.**

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SaskPower - DISTRIBUTION STANDARDS			
APPROVAL **L. MOEN**	DESIGN CHK **D. DONAIS**	DRN. **DCD** CHKD. **2018-12-14**	**CABLE IDENTIFICATION**
DATE OF ISSUE 2019-01-02	DRAWING NO. **B-30-26**	**SHEET 1 OF 3**	REV. **C**

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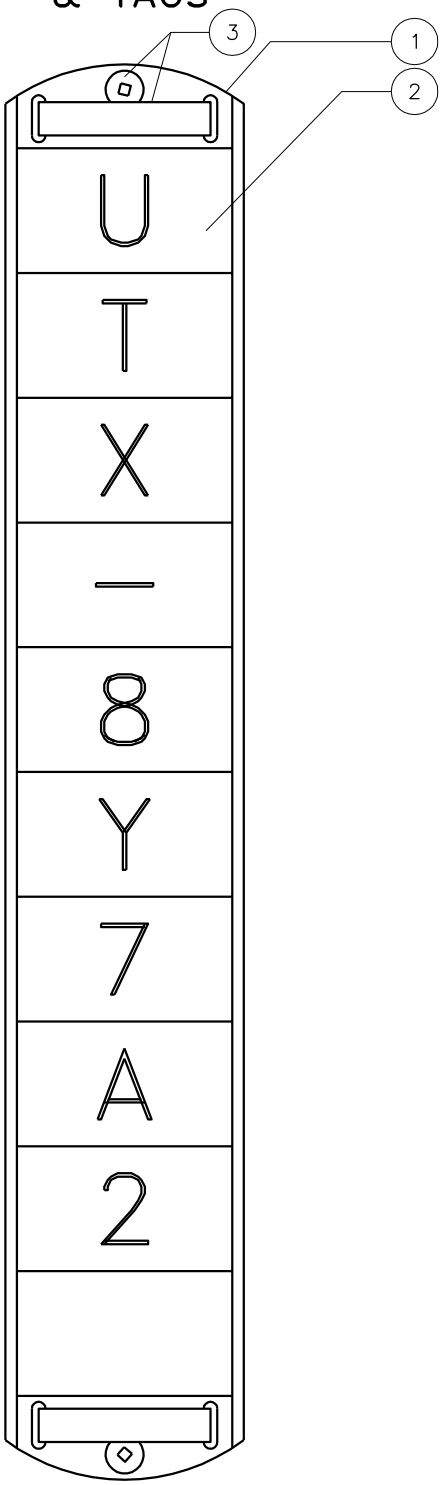
CABLE TAG HOLDER & TAGS

SPC CODE	DESCRIPTION
05 385 200	NUMBER "0"
05 385 201	NUMBER "1"
05 385 202	NUMBER "2"
05 385 203	NUMBER "3"
05 385 204	NUMBER "4"
05 385 205	NUMBER "5"
05 385 206	NUMBER "6"
05 385 207	NUMBER "7"
05 385 208	NUMBER "8"
05 385 209	SYMBOL "–"
05 385 251	LETTER "A"
05 385 252	LETTER "B"
05 385 253	LETTER "C"
05 385 254	LETTER "D"
05 385 255	LETTER "E"
05 385 256	LETTER "F"
05 385 257	LETTER "G"
05 385 258	LETTER "H"

SPC CODE	DESCRIPTION
05 385 259	LETTER "I"
05 385 260	LETTER "J"
05 385 261	LETTER "K"
05 385 262	LETTER "L"
05 385 263	LETTER "M"
05 385 264	LETTER "N"
05 385 265	LETTER "P"
05 385 266	LETTER "Q"
05 385 267	LETTER "R"
05 385 268	LETTER "S"
05 385 269	LETTER "T"
05 385 270	LETTER "U"
05 385 271	LETTER "V"
05 385 272	LETTER "W"
05 385 273	LETTER "X"
05 385 274	LETTER "Y"
05 385 275	LETTER "Z"



EXAMPLE OF POSSIBLE IDENTIFICATION NUMBER

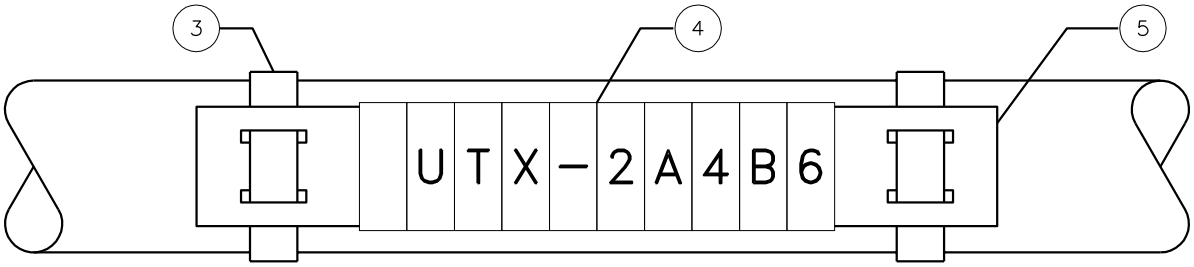
NOTE:

1. FOR PRIMARY CABLES, THE TAG HOLDER IS INSTALLED NEAR THE CABLE TERMINATION WITH TYRAPS.
2. FOR DIPS, THE TAG HOLDER SHALL BE INSTALLED NO LESS THAN 2.4m (8') ABOVE GRADE WITH WOOD SCREWS.
3. ALL CABLES INSIDE A CONCRETE MANHOLE VAULT SHALL BE LABELED SO THAT THE LABEL CAN BE SEEN WHEN LOOKING INTO THE MANHOLE FROM ABOVE GROUND.
4. CABLES SHALL BE LABELED USING CABLE TAG HOLDER AS SHOWN. IN SITUATIONS WHERE THE CABLE TAG HOLDER WILL NOT FIT IN CONFINED SPACES, THE CABLE MARKER SLEEVE MAY BE USED AS SHOWN ON SHEET 3.

APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.E.GOTANA CHKD. 2018-12-12	CABLE IDENTIFICATION
DATE OF ISSUE 2019-01-02	DRAWING NO. B-30-26	SHEET 2 of 3	REV. C

MARKER CABLE SLEEVE



EXAMPLE OF POSSIBLE
IDENTIFICATION NUMBER

SPC CODE	DESCRIPTION
05 382 300	NUMBER "0"
05 382 301	NUMBER "1"
05 382 302	NUMBER "2"
05 382 303	NUMBER "3"
05 382 304	NUMBER "4"
05 382 305	NUMBER "5"
05 382 306	NUMBER "6"
05 382 307	NUMBER "7"
05 382 308	NUMBER "8"
05 382 309	NUMBER "9"
05 382 310	SYMBOL "-"
05 382 350	LETTER "A"

SPC CODE	DESCRIPTION
05 382 351	LETTER "B"
05 382 352	LETTER "C"
05 382 353	LETTER "D"
05 382 354	LETTER "E"
05 382 355	LETTER "F"
05 382 356	LETTER "G"
05 382 357	LETTER "H"
05 382 358	LETTER "I"
05 382 359	LETTER "J"
05 382 360	LETTER "K"
05 382 361	LETTER "L"
05 382 362	LETTER "M"

SPC CODE	DESCRIPTION
05 382 363	LETTER "N"
05 382 365	LETTER "P"
05 382 366	LETTER "Q"
05 382 367	LETTER "R"
05 382 368	LETTER "S"
05 382 369	LETTER "T"
05 382 370	LETTER "U"
05 382 371	LETTER "V"
05 382 372	LETTER "W"
05 382 373	LETTER "X"
05 382 374	LETTER "Y"
05 382 375	LETTER "Z"

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APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. D.DONAIS	DRN.E.GOTANA CHKD. 2018-12-12	CABLE IDENTIFICATION
DATE OF ISSUE 2019-01-02	DRAWING NO. B-30-26	SHEET 3 of 3	REV. 0

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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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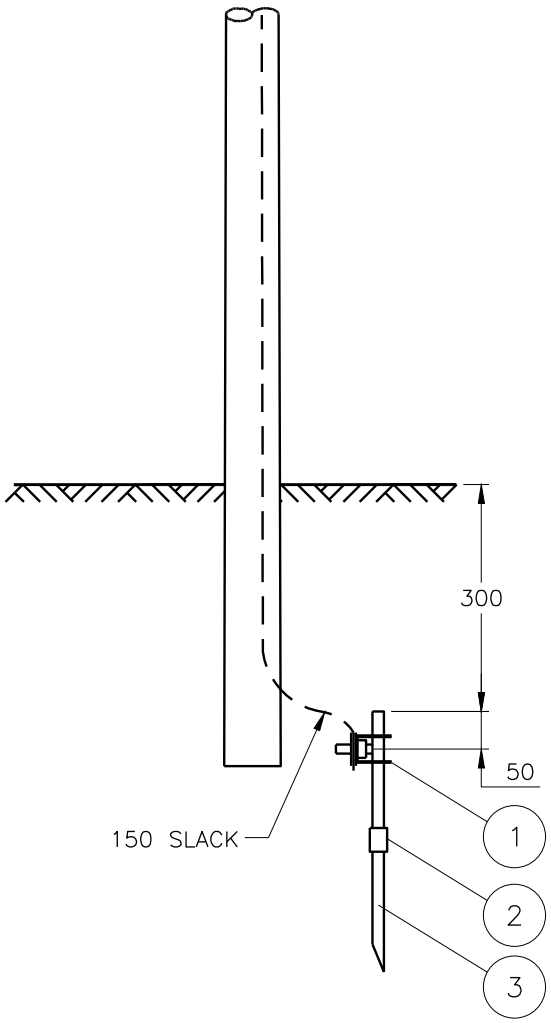

TYPE 'A' GROUND GRID

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

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SPC/AUTODRAFT

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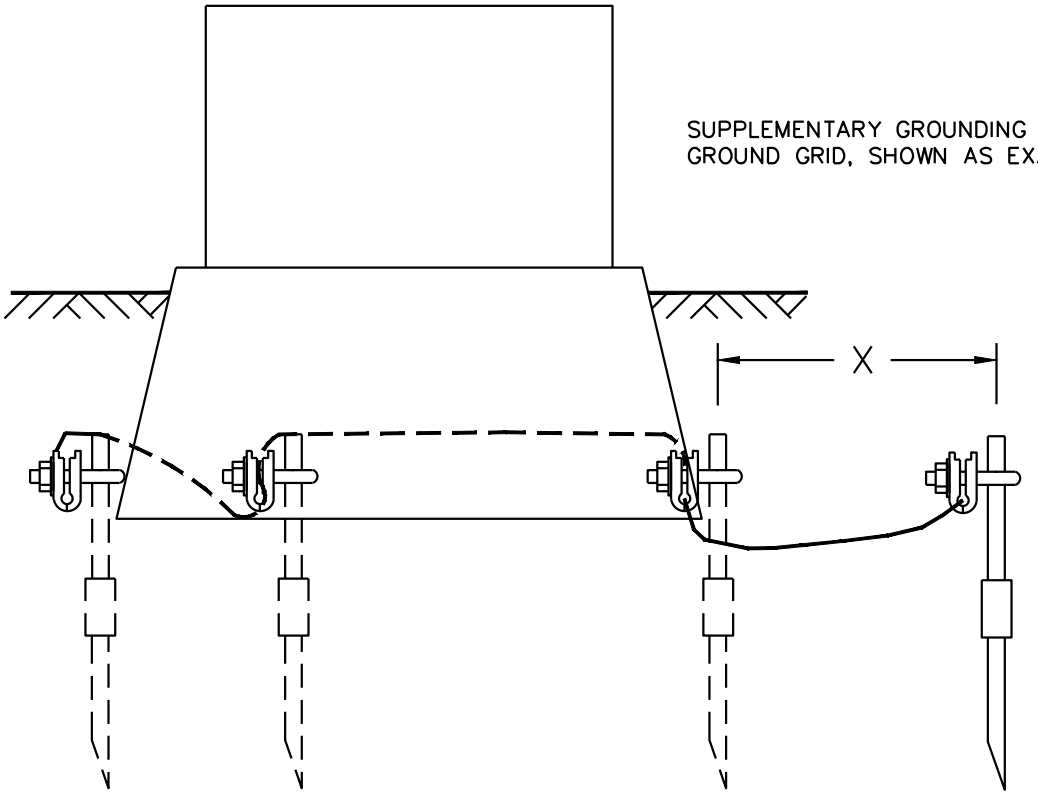
SUPPLEMENTARY GROUNDING – TYPE "J"
GROUND GRID, SHOWN AS EXAMPLE



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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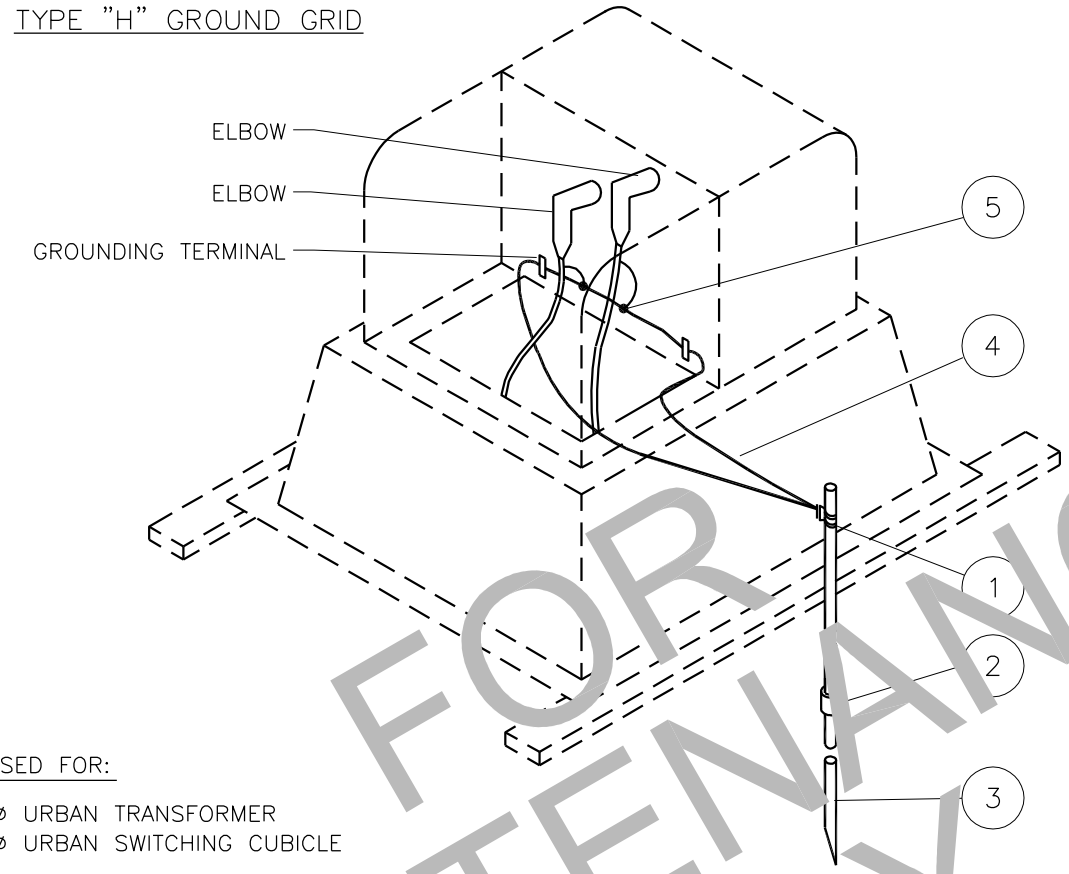
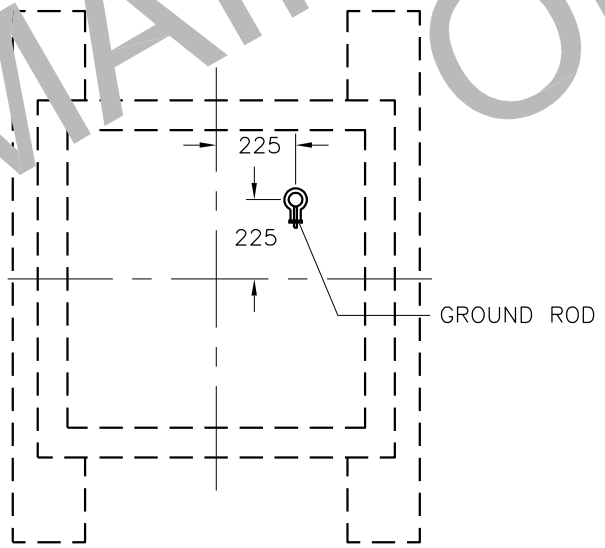
TYPE "H" GROUND GRID



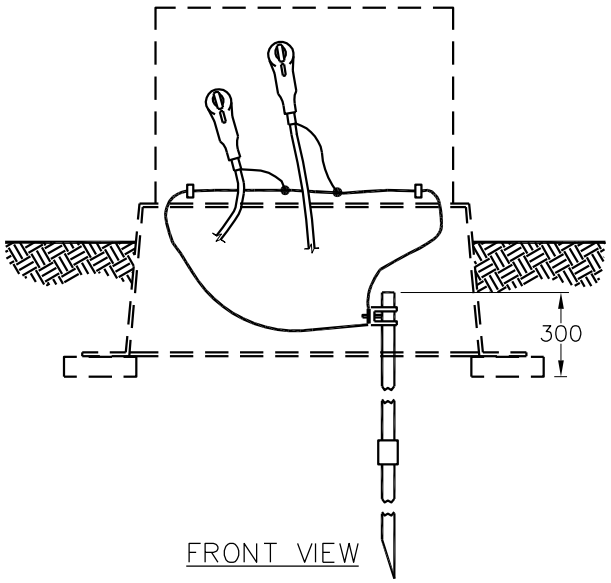
ISOMETRIC VIEW

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. 2018-08-30	GROUND GRID TYPE 'H'
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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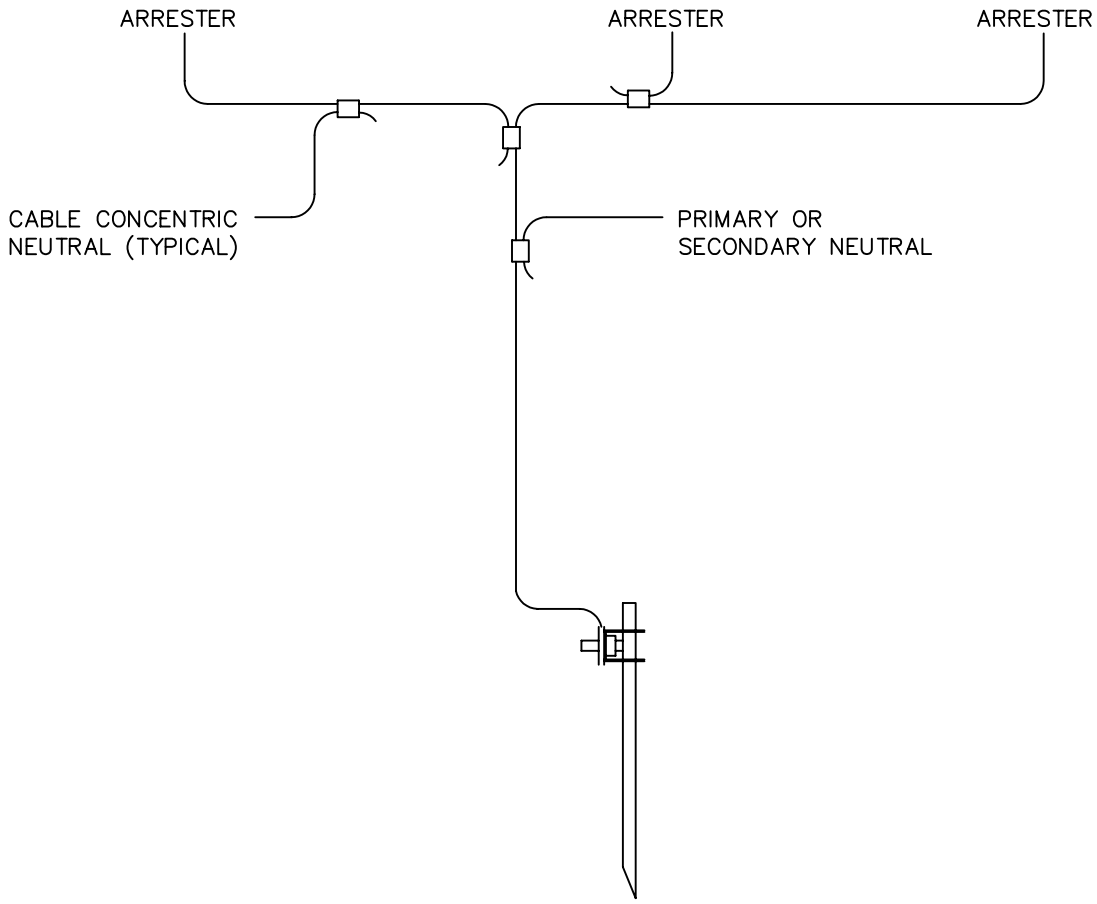
SINGLE GROUND WIRE (UNDERGROUND TAKE–OFF STRUCTURES)

- 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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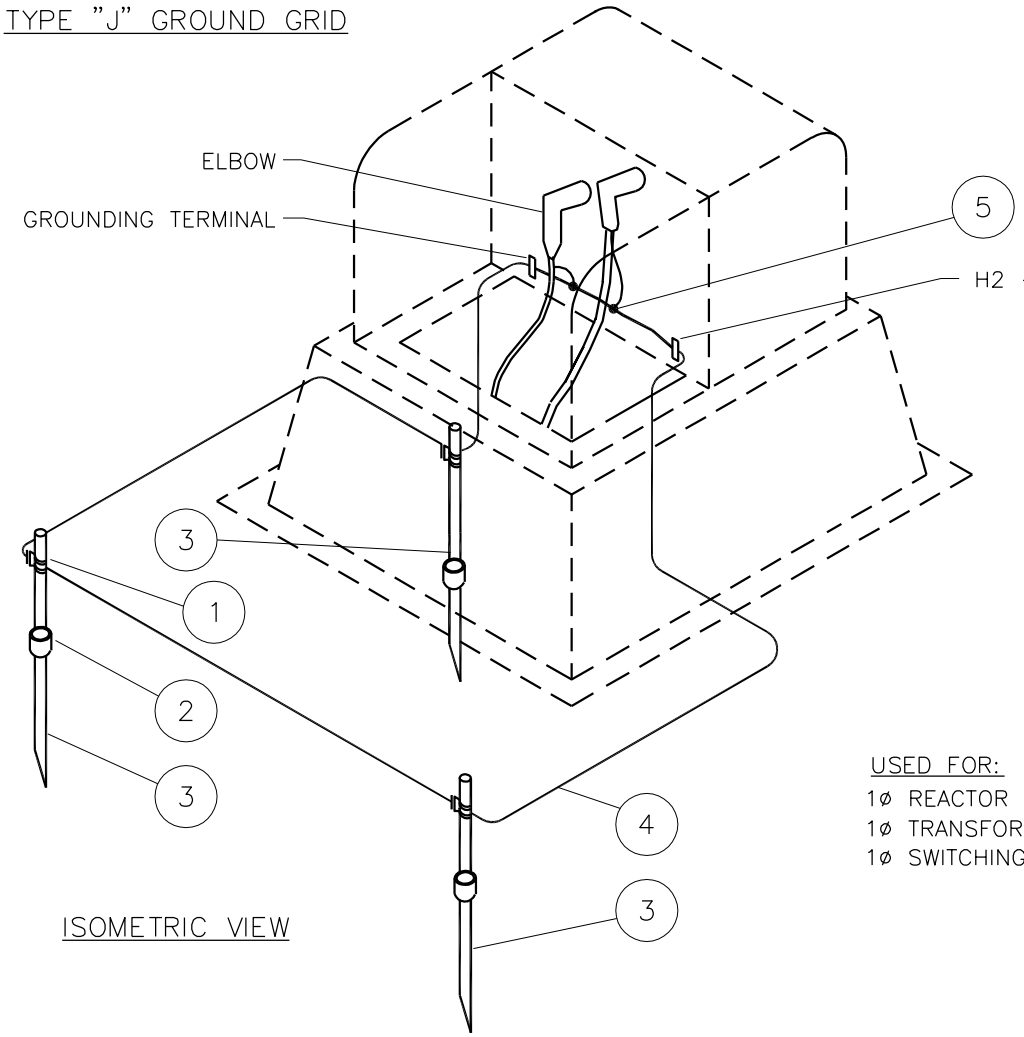
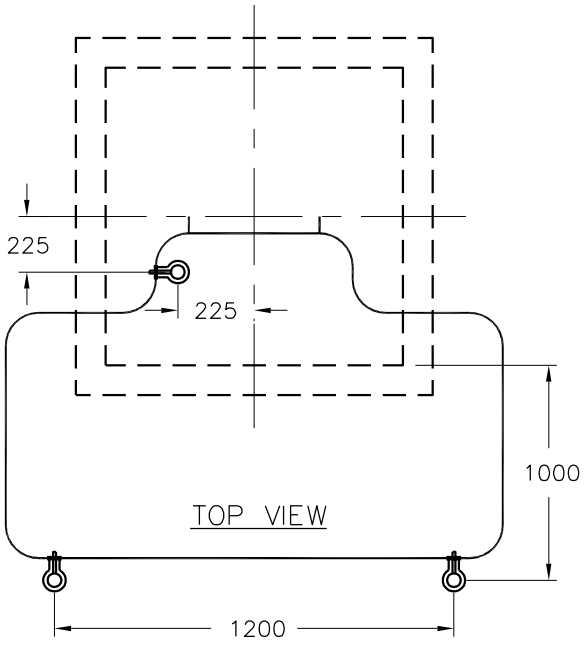
TYPE "J" GROUND GRID

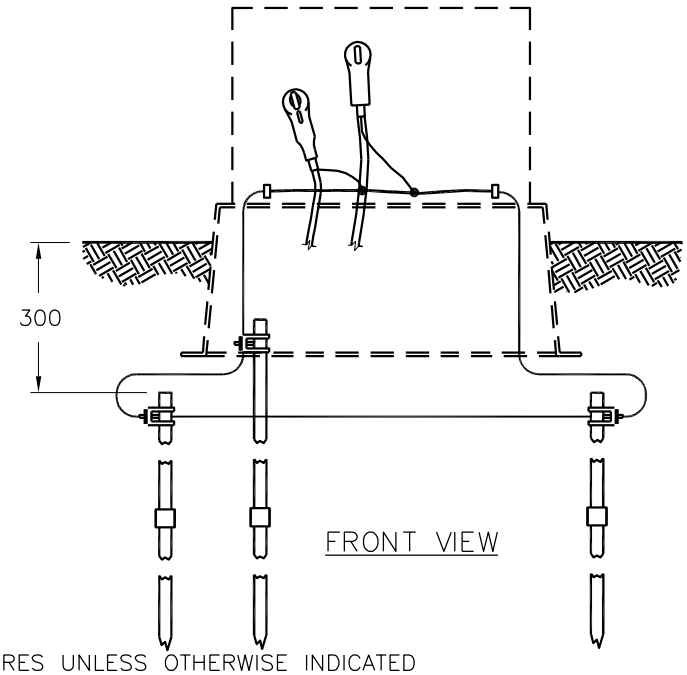


ISOMETRIC VIEW

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-SEC. GRD ROD-COPPER BONDED**
3	**2 60 22**	**2**	**GRD ROD SEC. COPPER BONDED 3/4"X10'**
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. **LPM**	**SERVICE PEDESTAL (EXCLUDING NEW URBAN RESIDENTIAL CONSTRUCTION AFTER 2018**
L MOEN	**L MOEN**	CHKD.	

DATE OF ISSUE: 2018-06-07	DRAWING NO: **B-33-34**	**SHEET 1 OF 6**	REV. **E**

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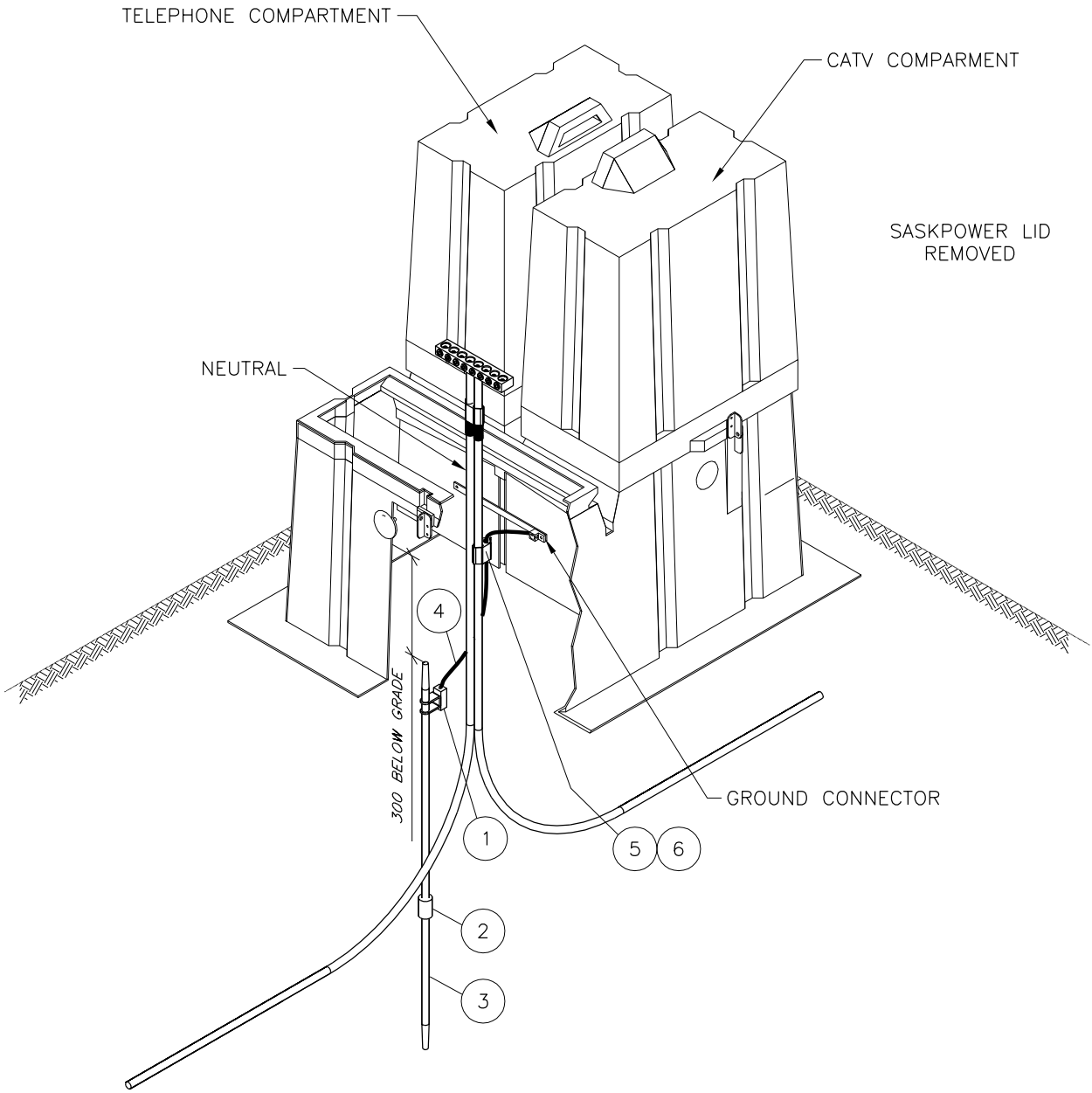

NOTE:

1. FOR URBAN RESIDENTIAL, REFER TO SHEETS 3 THROUGH 6. SHEETS 1 AND 2 ARE "FOR MAINTENANCE ONLY" FOR URBAN RESIDENTIAL.
2. REFER TO B-33-06 FOR MAXIMUM GROUND RESISTANCE.
3. GROUND BAR GROUNDS CATV/TELEPHONE BRACKETING.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN. E.GOTANA CHKD. 2017-11-27	SERVICE PEDESTAL (EXCLUDING NEW URBAN RESIDENTIAL CONSTRUCTION AFTER 2018)
DATE OF ISSUE 2018-06-07	DRAWING NO. B-33-34	SHEET 2 of 6	REV. C

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 83 04**	**1 m**	**WIRE-CU #4/7 STR**
2	**5 06 48**	**1**	**CONNECTOR – 8 WIRE TERMINAL BLOCK**
3	**5 06 50**	**1**	**COVER – 8 WIRE TERMINAL BLOCK**
4	**5 09 26**	**2**	**CONNECTOR-COMPRESSION – #6 TO #4 - #6 TO #4**
5	**71 42 02**	**2/10**	**TAPE – SELF BONDING – 3/4" x 30'**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **LPM**	**SERVICE PEDESTAL URBAN RESIDENTIAL (4 WIRE SERVICE AT 3 WIRE PEDESTAL)**
L MOEN	**L MOEN**	CHKD.	

DATE OF ISSUE: 2018-06-07	DRAWING NO: **B-33-34**	**SHEET 3 OF 6**	REV. **0**

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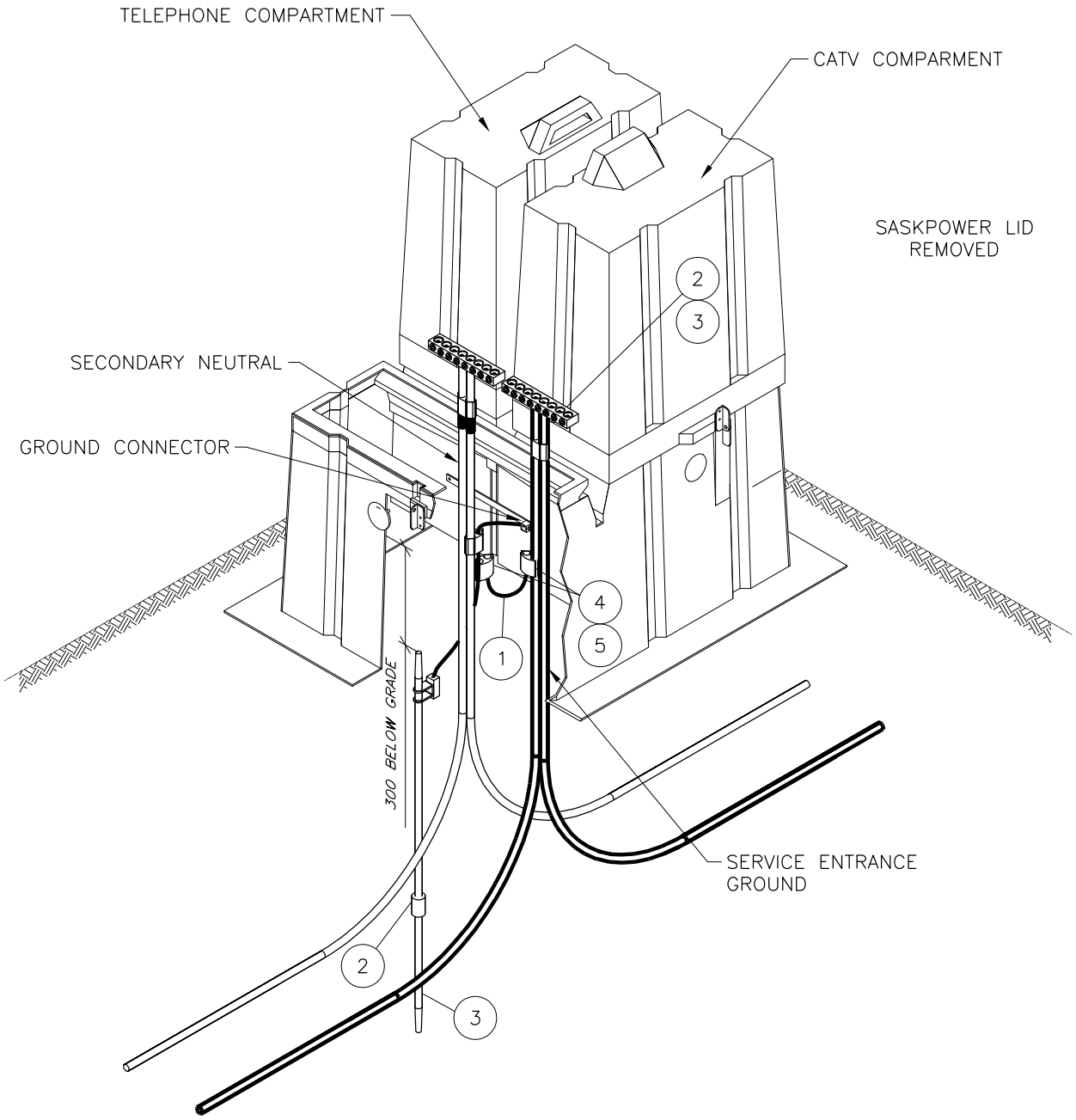

NOTE:

1. FOR WHEN REPLACING A 3 WIRE SERVICE CABLE TO 4 WIRE.
2. FOR USE WITH 2 93 6X SERVICE ENTRANCE CABLES.
3. REFER TO B-33-06 FOR MAXIMUM GROUND RESISTANCE.
4. GROUND BAR GROUNDS CATV/TELEPHONE BRACKETING.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN. E.GOTANA CHKD. 2017-11-27	SERVICE PEDESTAL URBAN RESIDENTIAL (4 WIRE SERVICE AT 3 WIRE PEDESTAL)
DATE OF ISSUE 2018-06-07	DRAWING NO. B-33-34	SHEET 4 of 6	REV. 0

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 04**	**3 m**	**WIRE-CU #4/7 STR**
5	**5 09 26**	**1**	**CONNECTOR-COMPRESSION – #6 TO #4 - #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. **LPM**	**SERVICE PEDESTAL URBAN RESIDENTIAL (2018 TO CURRENT)**
L MOEN	**L MOEN**	CHKD.	

DATE OF ISSUE: 2018-06-07 | DRAWING NO: **B-33-34** | **SHEET 5 OF 6** | REV. **0**

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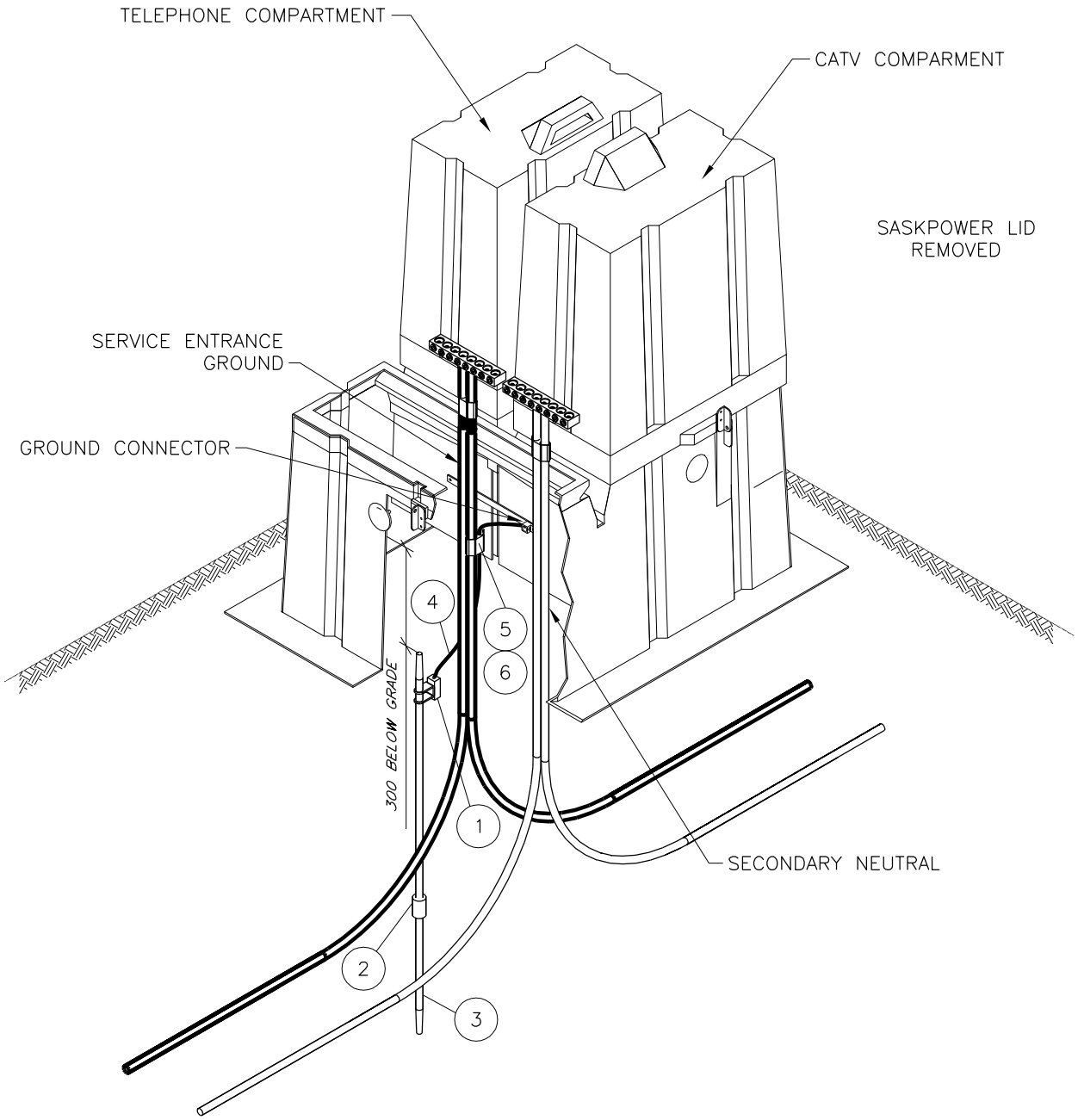

NOTE:

1. FOR USE IN NEW URBAN RESIDENTIAL ONLY.
2. FOR USE WITH 2 93 6X SERVICE ENTRANCE CABLES.
3. NEUTRAL IS NOT GROUNDED EXCEPT AT THE TRANSFORMER.
4. REFER TO B-33-06 FOR MAXIMUM GROUND RESISTANCE.
5. GROUND BAR GROUNDS CATV/TELEPHONE BRACKETING.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN. E.GOTANA CHKD. 2018-03-28	SERVICE PEDESTAL URBAN RESIDENTIAL (2018 TO CURRENT)
DATE OF ISSUE 2018-06-07	DRAWING NO. B-33-34	SHEET 6 of 6	REV. 0

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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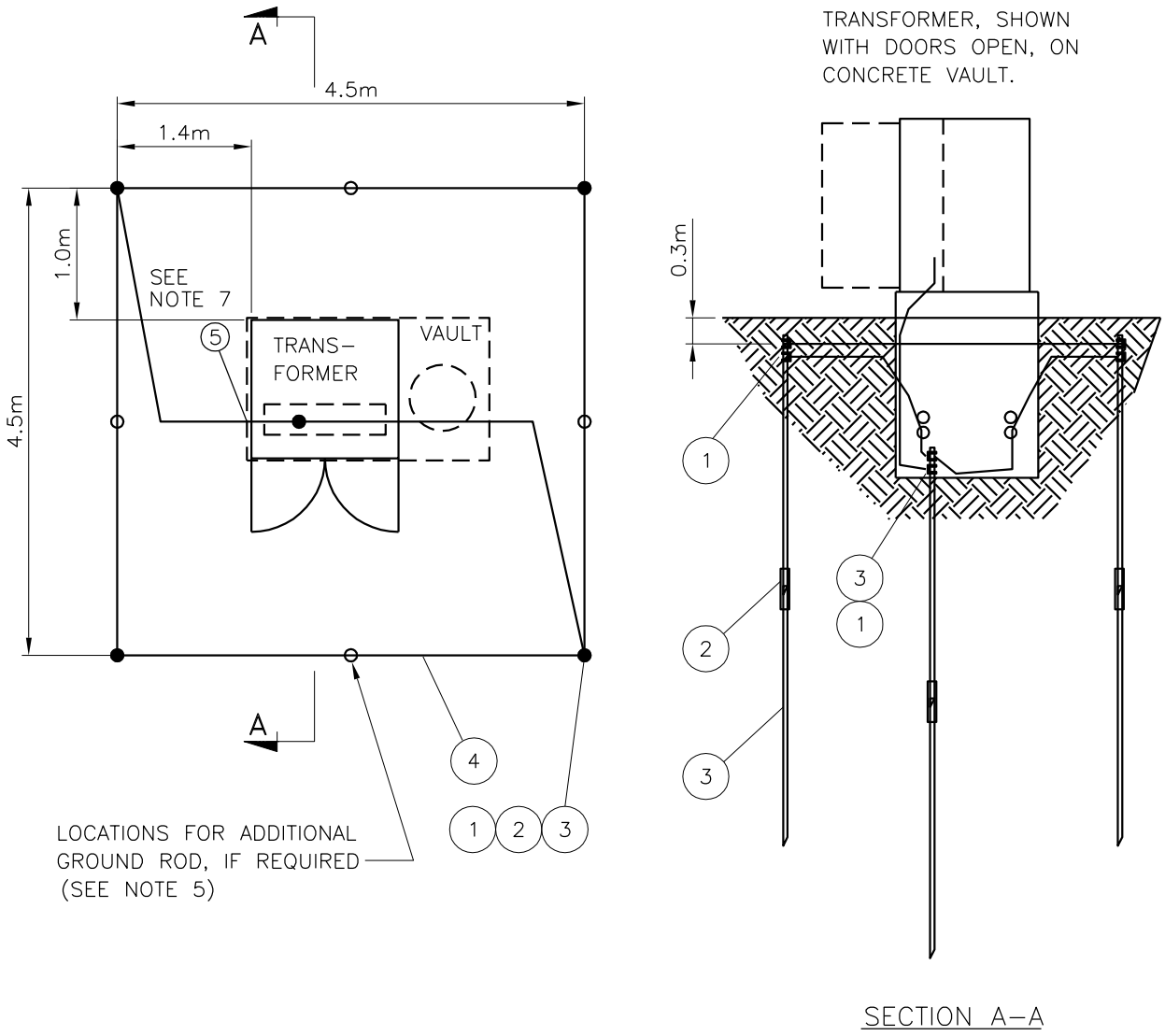

SECTION A–A

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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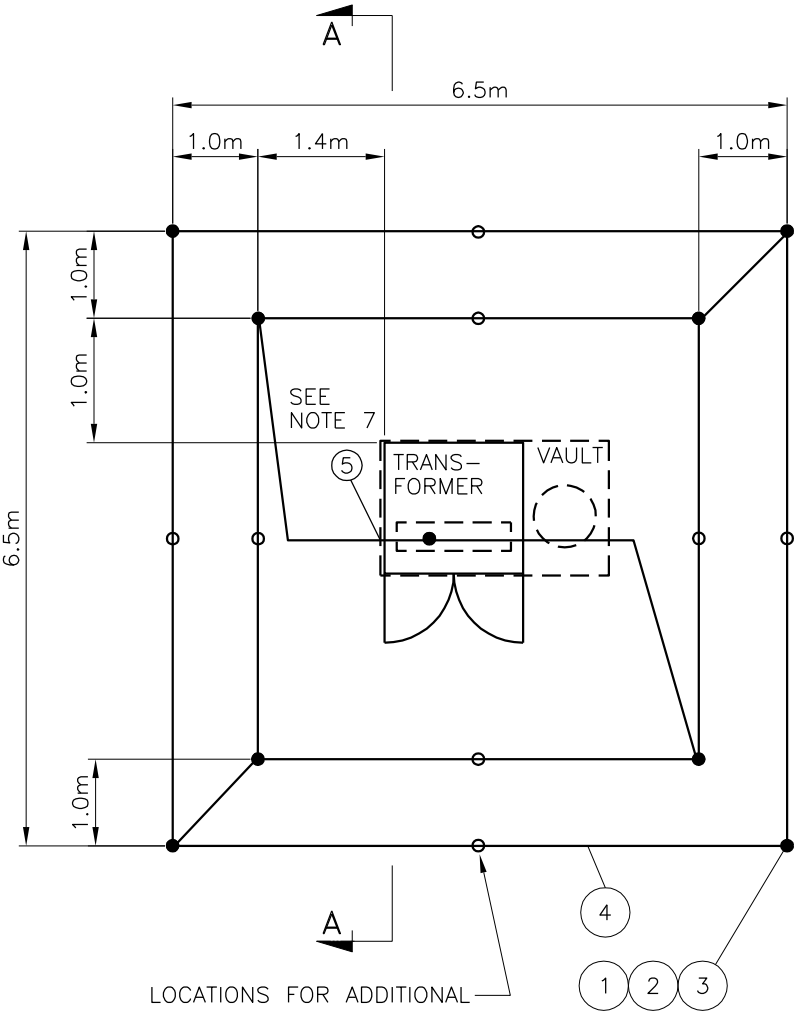

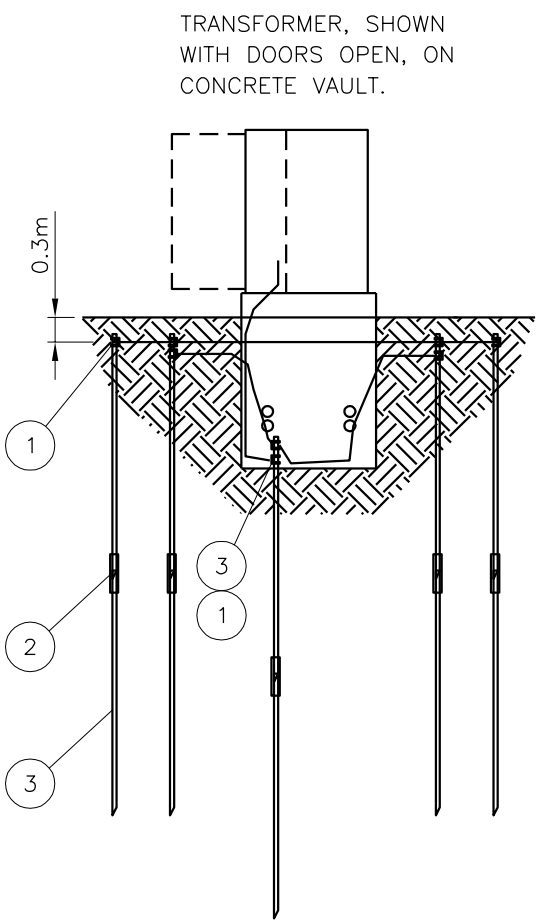

NOTE:

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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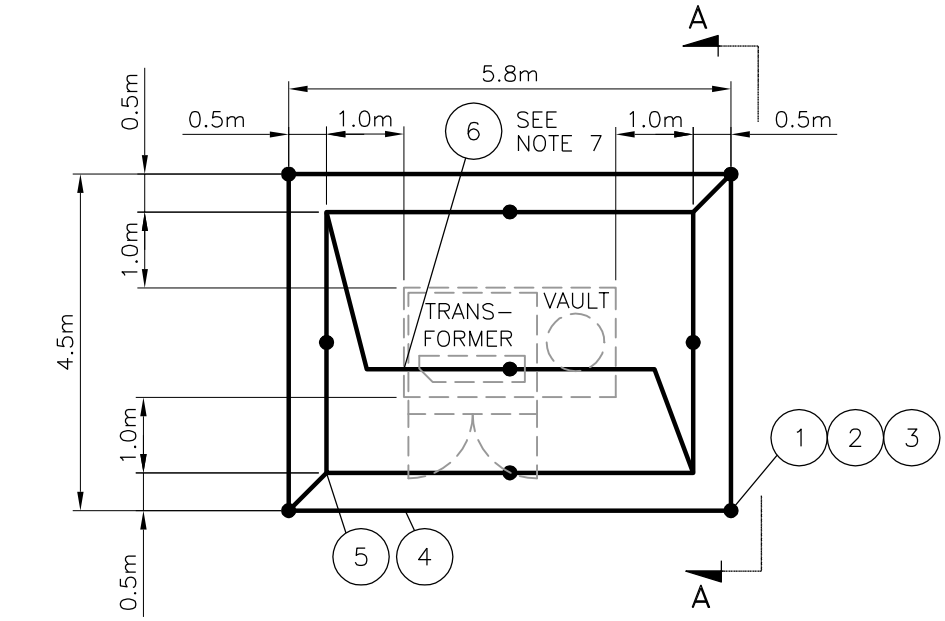

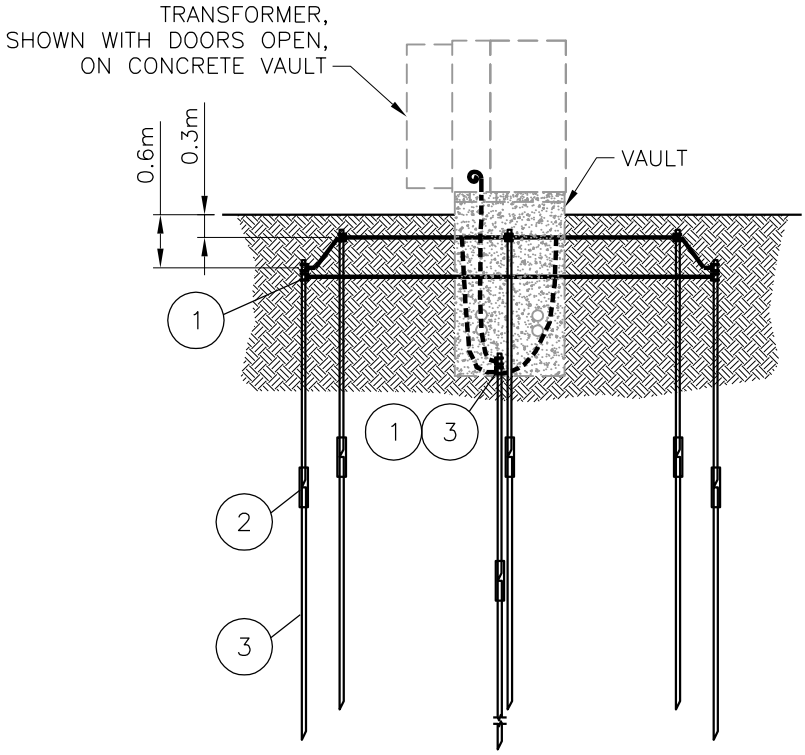

SECTION A–A

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

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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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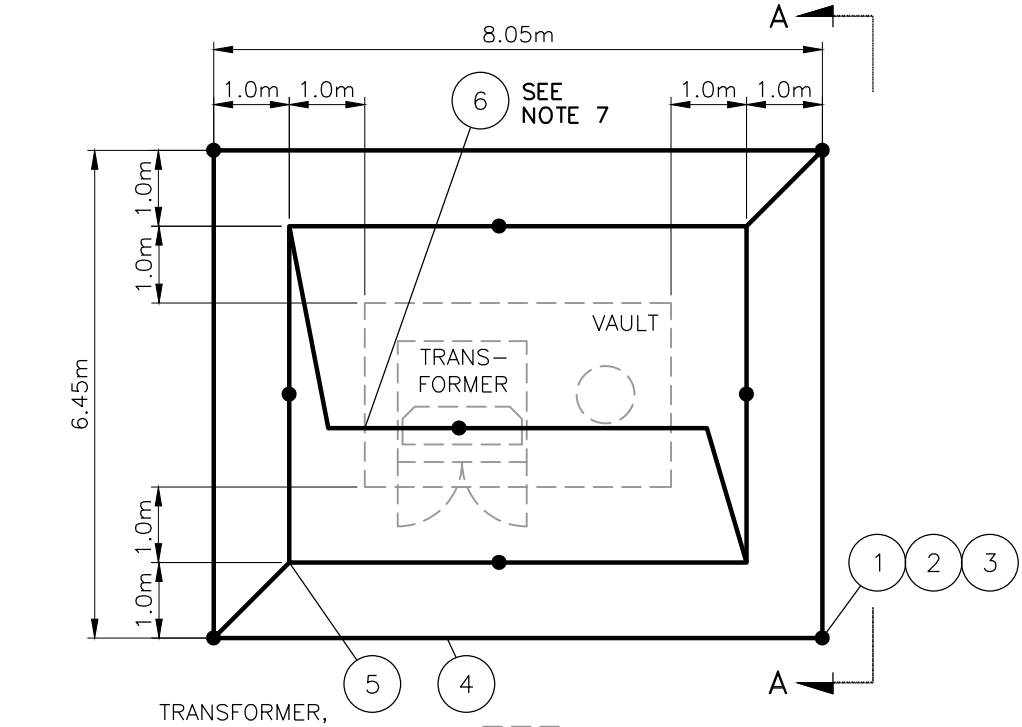

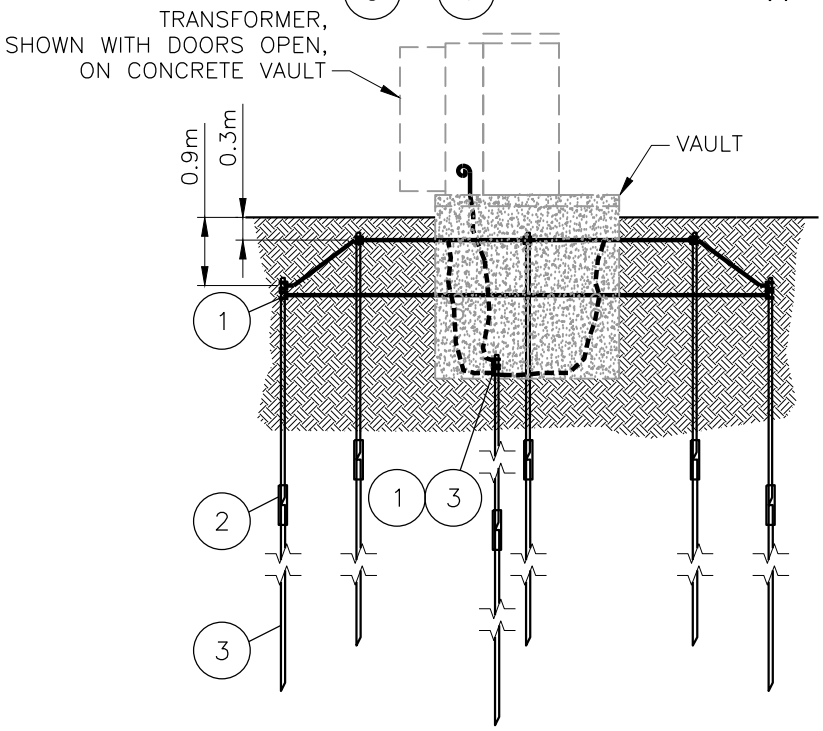

SECTION A–A

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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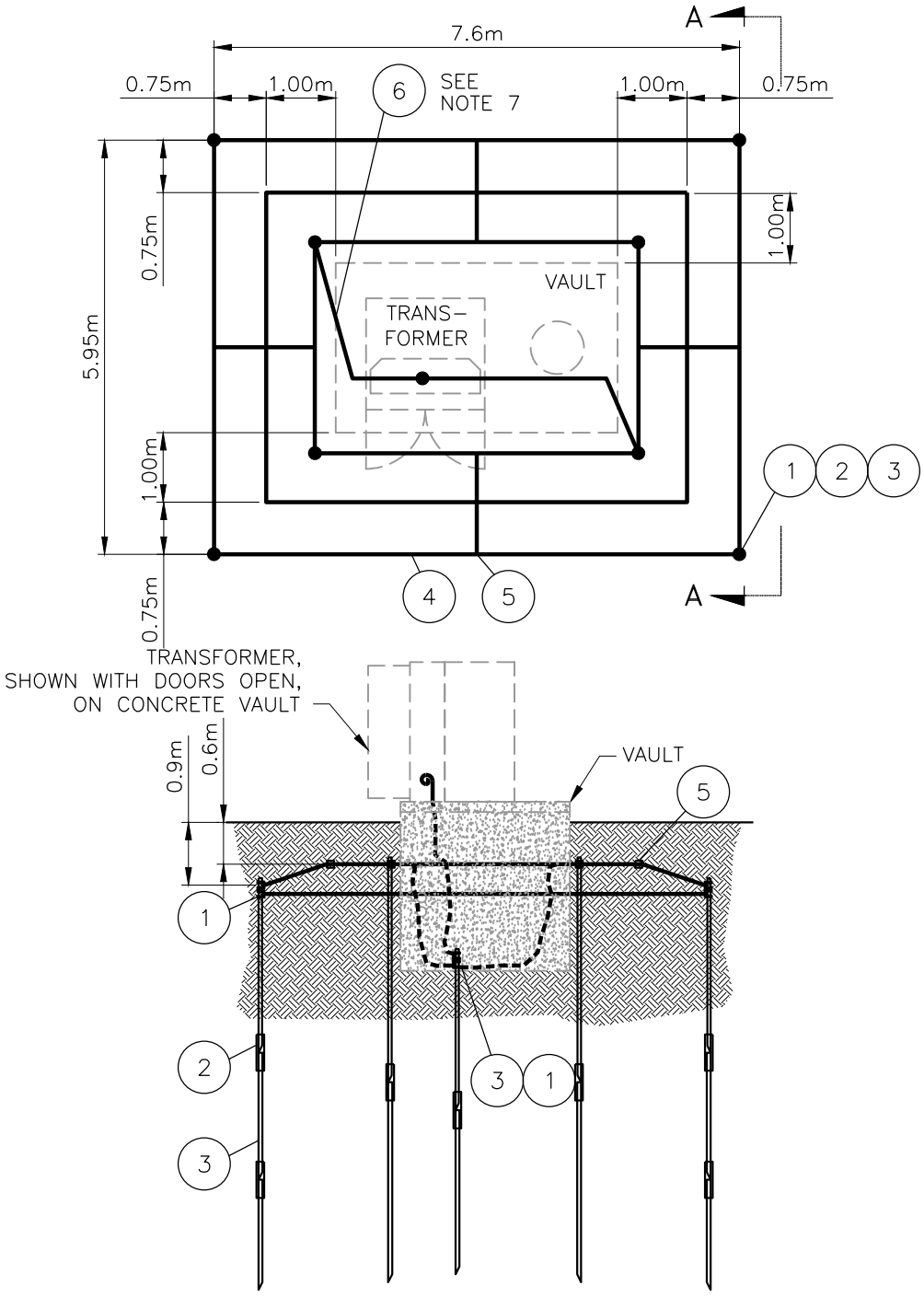

SECTION A–A

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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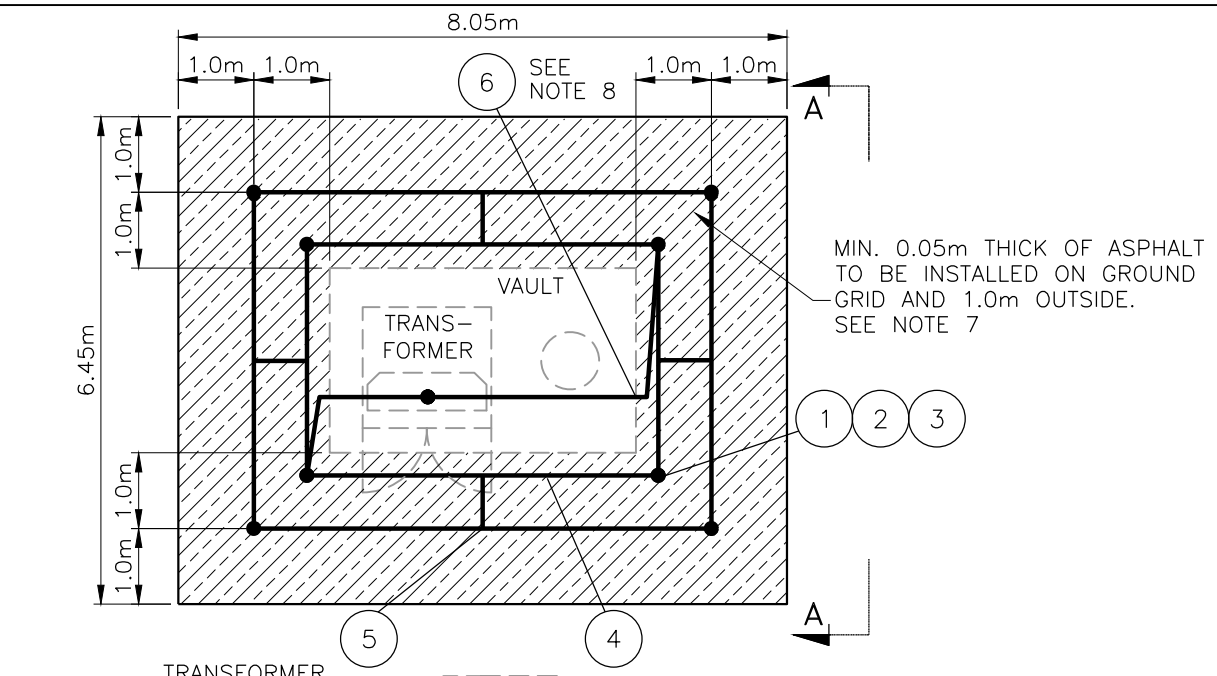

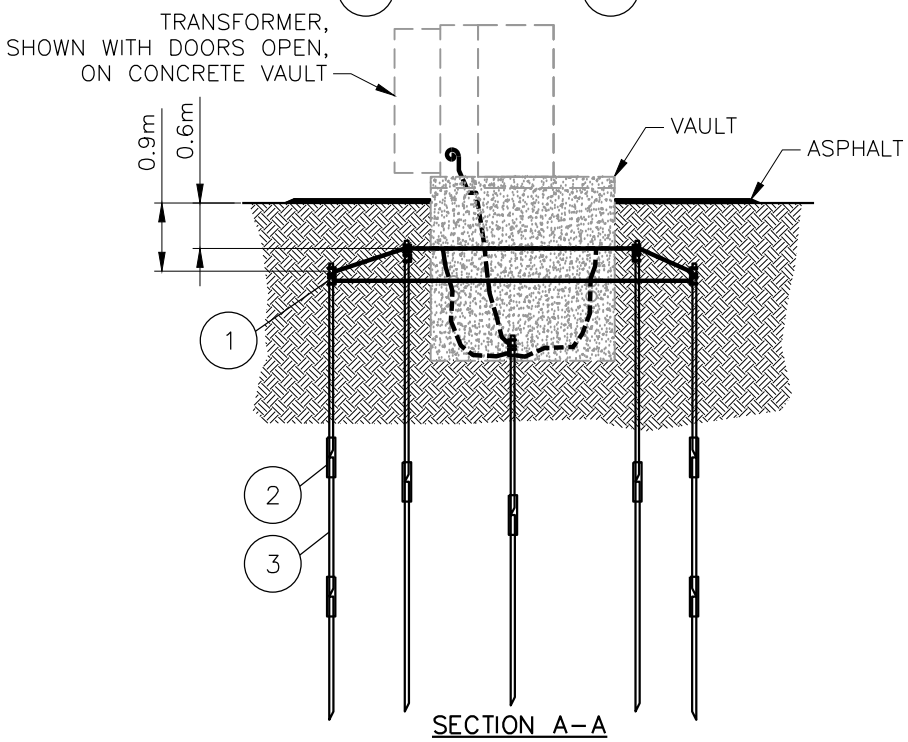

SECTION A–A

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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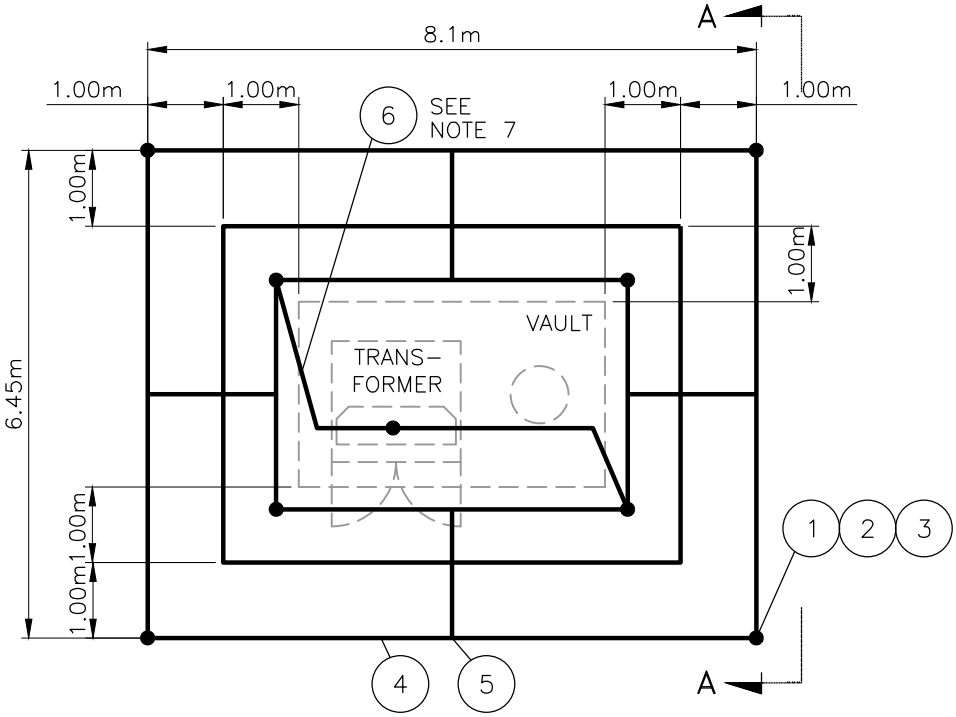

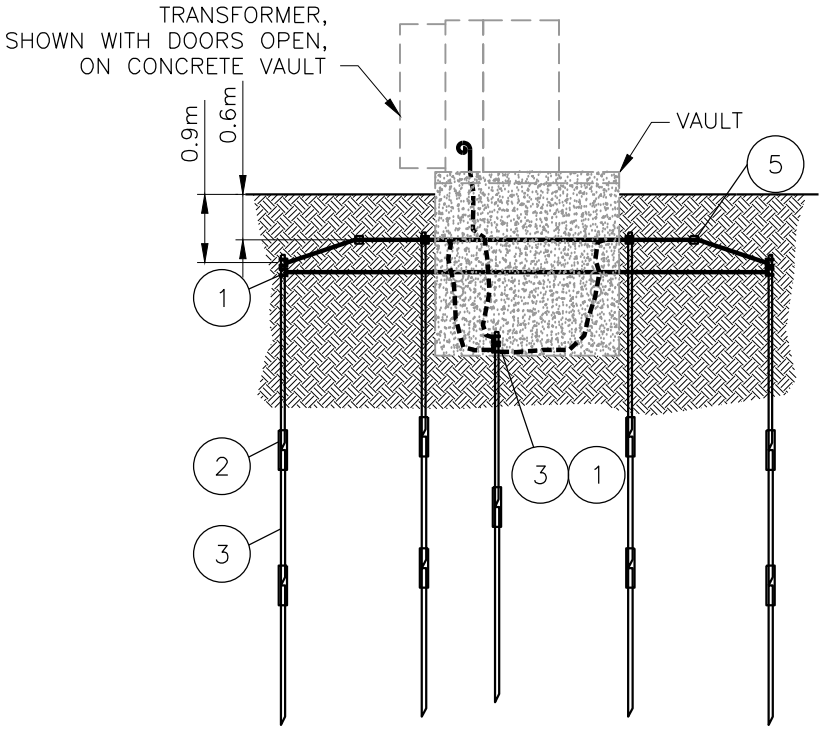

SECTION A–A

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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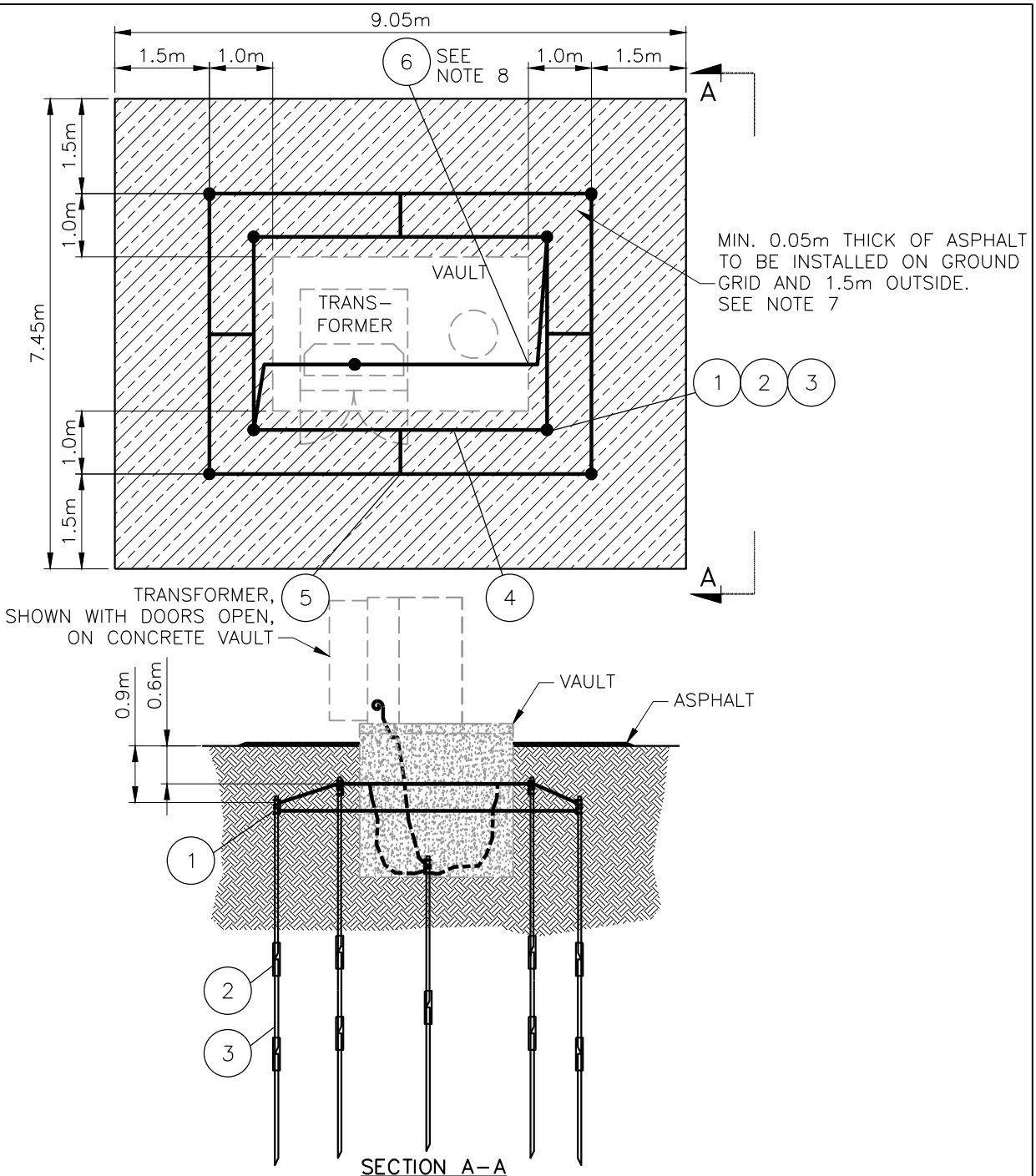

SECTION A–A

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

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
	2-68-23	**1**	**--**	**--**	**JACKET COVER KIT - REMOVEABLE CORE #1 & 4/0**
	2-68-13	**1**	**--**	**--**	**JACKET COVER KIT - REMOVEABLE CORE 500 kcmil**
	2-68-03	**--**	**1**	**--**	**JACKET COVER - HEAT SHRINK TUBING**
1	**7-72-43**	**--**	**0.1**	**0.1**	**TAPE - RUBBER MASTIC 2" x 10'**
2	**7-72-41**	**--**	**--**	**0.5**	**TAPE - SAPT 2" x 30'**
3	**7-72-33**	**--**	**--**	**0.5**	**TAPE - ELECTRICAL 3/4" x 66'**

NOTE:

1. **COLUMN A IS FOR A REMOVEABLE CORE KIT.**
2. **COLUMN B IS FOR A HEAT SHRINK TUBING.**
3. **COLUMN C IS FOR A TAPED JACKET COVERING.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**SEALING JACKETED C/N CABLE AT THE SPLICE**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **00-07-21**	DRAWING NO: **B-36-26**	**SHEET 1 OF 2**	REV. **A**

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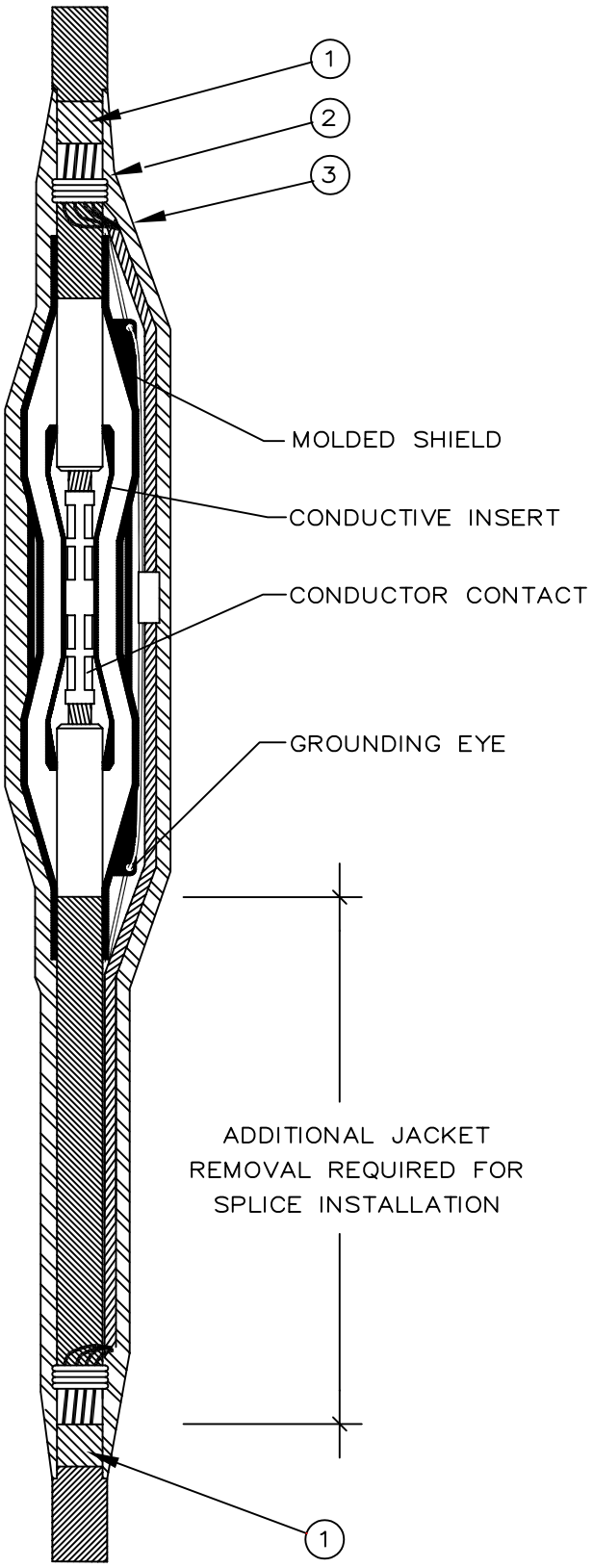

PROCEDURE

1. THREE WRAPS OF RUBBER MASTIC TAPE (BOTH ENDS), OVER OUTSIDE JACKET. (THIS FORMS A SEAL) FOR SPLICING TO UNJACKETED CABLE THE RUBBER MASTIC IS WRAPPED AROUND THE BARE CONCENTRIC NEUTRAL WIRES.
2. ONE, 1/2 OVERLAPED LAYER OF SAPT TYPE EPR STARTING OVER THE RUBBER MASTIC TAPE CONTINUING TO OTHER END. (THIS INSULATES THE SPLICE)
3. ONE, 1/2 OVERLAPPED LAYER OF ELECTRICAL VINYL OVER THE SAPT. (THIS MECHANICALLY PROTECTS)

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

SaskPower – DISTRIBUTION STANDARDS

DRN. M.T.S.	DESIGN CHK.	APPROVAL	SEALING JACKETED C/N CABLE AT THE SPLICE
CHKD.			
DATE 93-06-10	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B-36-26	SHEET 2 of 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2-65-24**	**2**	**SLEEVE - COMPRESSION #8 - #4 TRANSITION**
2	**7-72-33**	**0.5**	**TAPE - ELECTRICAL 3/4" x 66'**
3	**7-72-41**	**0.2**	**TAPE - SAPT 2" x 30'**
3	**71-42-02**	**0.5**	**TAPE - SAPT 3/4" x 30'**
4	**7-72-43**	**0.2**	**TAPE - RUBBER MASTIC 2" x 10'**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**STREET LIGHT TRANSITION SPLICE**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **96-07-26** | DRAWING NO: **B-36-27** | **SHEET 1 OF 2** | REV. **0**

SPC/AUTODRAFT

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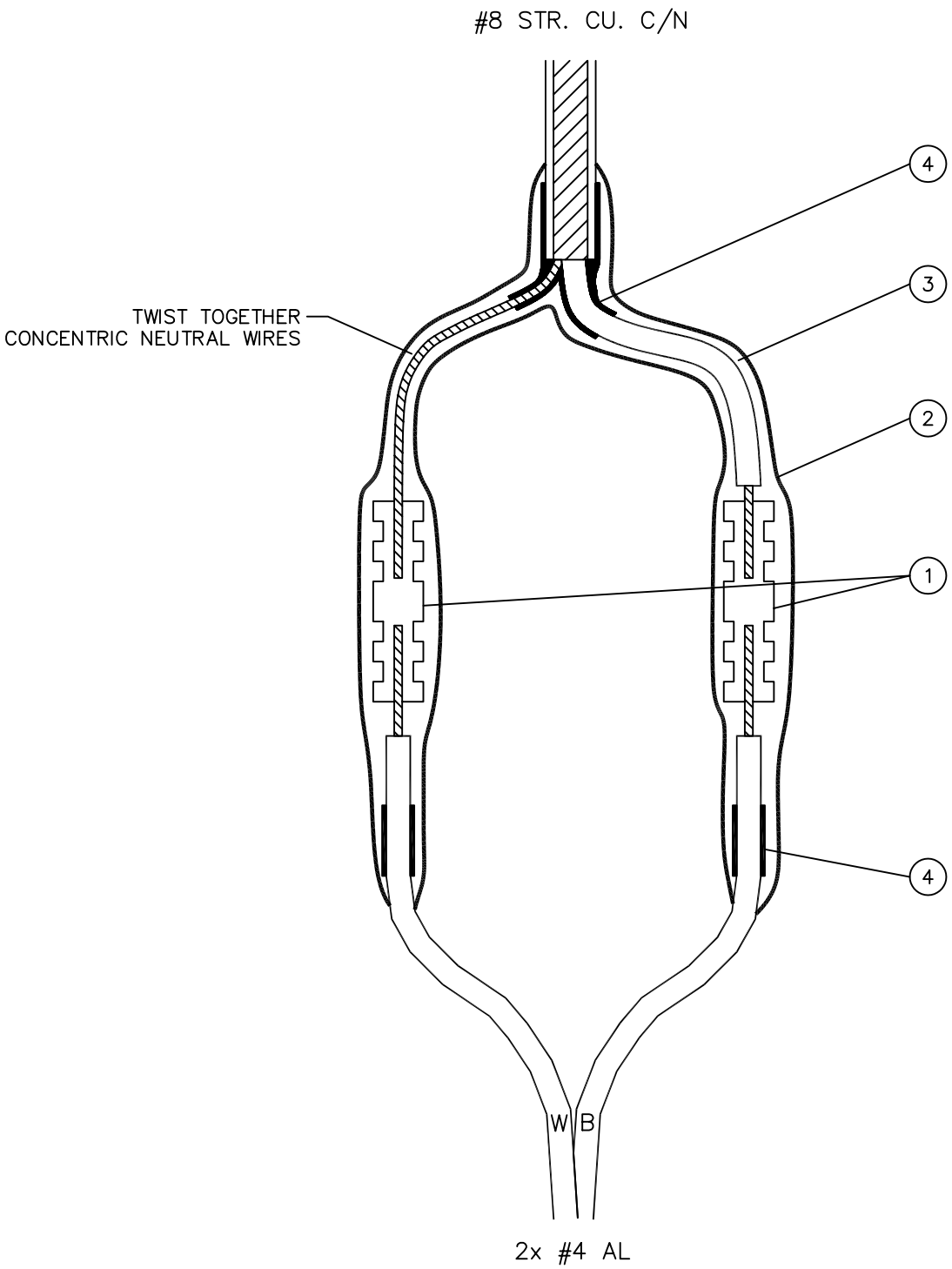

TAPE PROCEDURE

1. APPLY MASTIC (THIS FORMS A SEAL).
2. APPLY SAPT (THIS INSULATES THE SPLICE).
3. APPLY ELECTRICAL VINYL (THIS MECHANICALLY PROTECTS).

SaskPower – DISTRIBUTION STANDARDS			
DRN. R. LANG	DESIGN CHK.	APPROVAL	STREET LIGHT TRANSITION SPLICE
CHKD.			
DATE 95-02-01	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B-36-27	SHEET 2 of 2	REV. A

SPC/AUTODRAFT

ELBOW INSTALLATION

1. SUFFICIENT CABLE SLACK

   A. INSURE SUFFICIENT CABLE SLACK FOR, FINAL ASSEMBLED POSITION, ELBOW REMOVEL, AND ELBOW INSTALLATION.

2. CABLE PREPARATION

   A. FOLLOW "ENCLOSED INSTRUCTIONS" WITH ELBOW FOR "CORRECT" CONDUCTOR STRIPPING "MEASUREMENTS" AND INSTALLATION.

   B. UNWRAP CONCENTRIC NEUTRAL WIRES BACK, CRIMP AND TAPE.

   C. CONDUCTOR INSULATION REMOVAL IS "CUT SQUARELY, AND NOT PENCILED".

   D. REMOVE SEMI–CONDUCTING JACKET AND WIRE BRUSH ALUMINUM.

   E. INSERT CONDUCTOR CONTACT CONTAINING INHIBITOR INSURING THE "FLAT CONTACT AREA FACES THE BUSHING PLUG".

   F. WIPE EXCESS INHIBITOR AND CONTAMINANTS FROM CABLE INSULATION AND CONTACT.

   G. REMOVE EXTRUDED INSULATION SHIELD WITH A SMOOTH STRAIGHT SQUARE CUT, "DO NOT NICK EXISTING INSULATION".

   H. THOROUGHLY CLEAN THE INSULATION TO REMOVE ALL TRACES OF CONDUCTIVE RESIDUE.

   I APPLY A SMALL AMOUNT OF THE SUPPLIED SILICONE GREASE TO THE CABLE AND INSIDE OF THE ELBOW.

3. ELBOW CONNECTOR & PROBE

   A. SLIDE THE ELBOW CONNECTOR ONTO THE CABLE UNTIL IT CAN NOT ADVANCE ANY FARTHER.

   B. PUT THE BELLEVILLE WASHERS IN PLACE AND INSTALL PROBE. "ENSURE PROPER ALIGNMENT OF THREADS".

   C. TIGHTEN PROBE INTO CONNECTOR UNTIL "WRENCH BENDS"

4. CONCENTRIC NEUTRAL

   A. INSERT ONE STRAND OF THE CONCENTRIC NEUTRAL INTO THE GROUNDING EYE OF THE ELBOW, MAKE A LOOP AND TWIST TOGETHER.

   B. TWIST THE CONCENTRIC NEUTRAL WIRES TOGETHER AND CONNECT IT TO THE TRANSFORMER GROUNDING LOOP WITH A COMPRESSION CONNECTOR.

5. BUSHING

   A. TWO PIECE TRANSFORMER BUSHINGS SHALL BE PROPERLY GROUNDED.

   B. COMPLETELY CLEAN BUSHING AND LIGHTLY GREASE WITH SUPPLIED SILICONE GREASE BEFORE INSTALLING ELBOW.

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SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS					
DRN. C.D.F.	DESIGN CHK.	SAFETY APP.	APPROVAL	ELBOW 25 kV LOADBREAK	
CHKD. FTK					
DATE 87-05-29	DATE	DATE	DATE		
DATE OF ISSUE 87–06–01			DRAWING NO. B–36–30	SHEET 1 of 2	REV. 0

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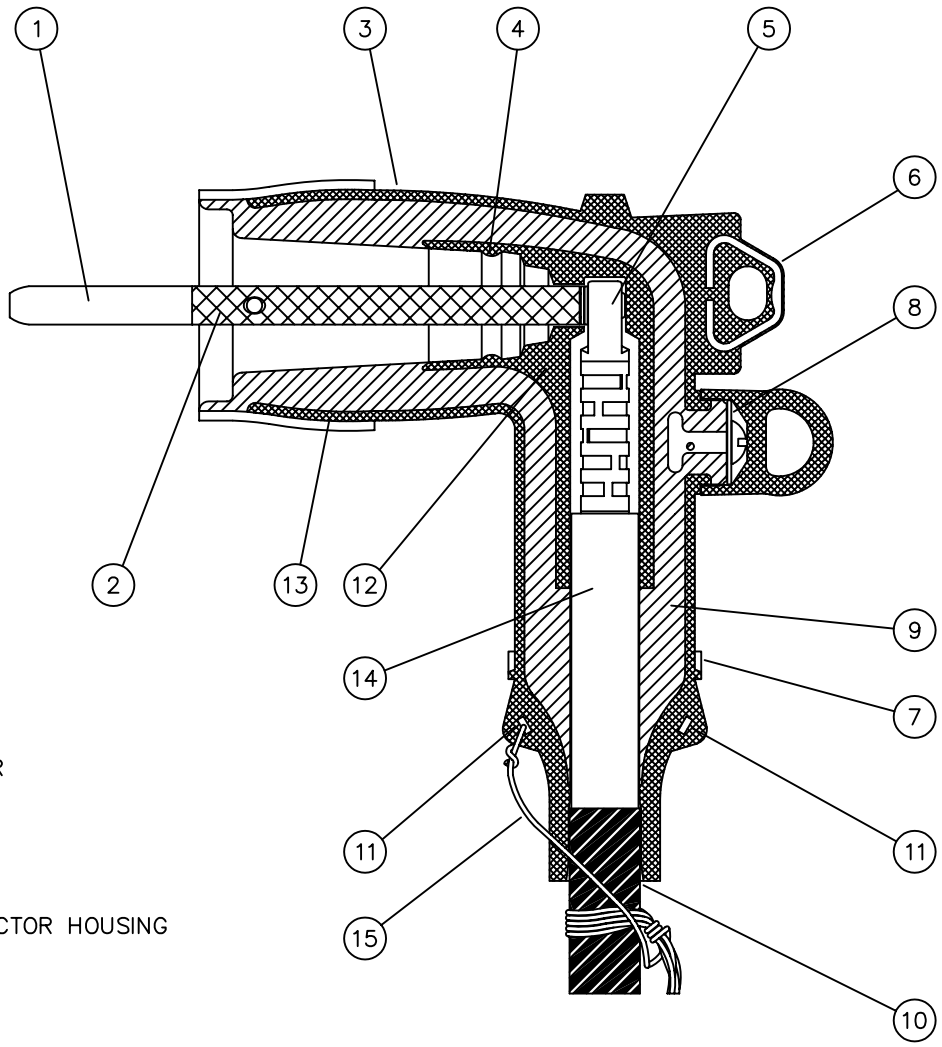

1. ARC FOLLOWER
2. PROBE
3. ELBOW CONNECTOR HOUSING
4. LOCKING RING
5. CONDUCTOR CONNECTOR
6. HOT–STICK EYE
7. IDENTIFICATION BAND
   Identifies elbow as a loadbreak device.
8. VOLTAGE TEST POINT
   Protective cap removable with a hotstick.
9. MOLDED STRESS RELIEF
10. CABLE ENTRANCE
11. GROUNDING EYES
12. MOLDED CONDUCTIVE INSERT
13. MOLDED CONDUCTIVE SHIELD
14. XLPE INSULATION
15. CONCENTRIC NEUTRAL

NOTE:
REFER TO B–36–42 FOR MATERIAL STOCK CODE

SaskPower – DISTRIBUTION STANDARDS

DRN. B	DESIGN CHK.	APPROVAL	ELBOW 25 KV LOADBREAK
CHKD. FTK			
DATE 87–02–02	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B–36–30	SHEET 2 of 2	REV. A

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**7-72-43**	**0.1**	**TAPE-RUBBER MASTIC 2" x 10'**
2	**7-72-41**	**0.1**	**TAPE-SAPT 2" x 30'**
3	**7-72-33**	**0.1**	**TAPE-ELECTRICAL 3/4" x 66'**

*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**SEALING JACKETED C/N CABLE AT THE ELBOW**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **93-07-12** | DRAWING NO: **B-36-31** | **Sheet 1 of 2** | REV. **0**

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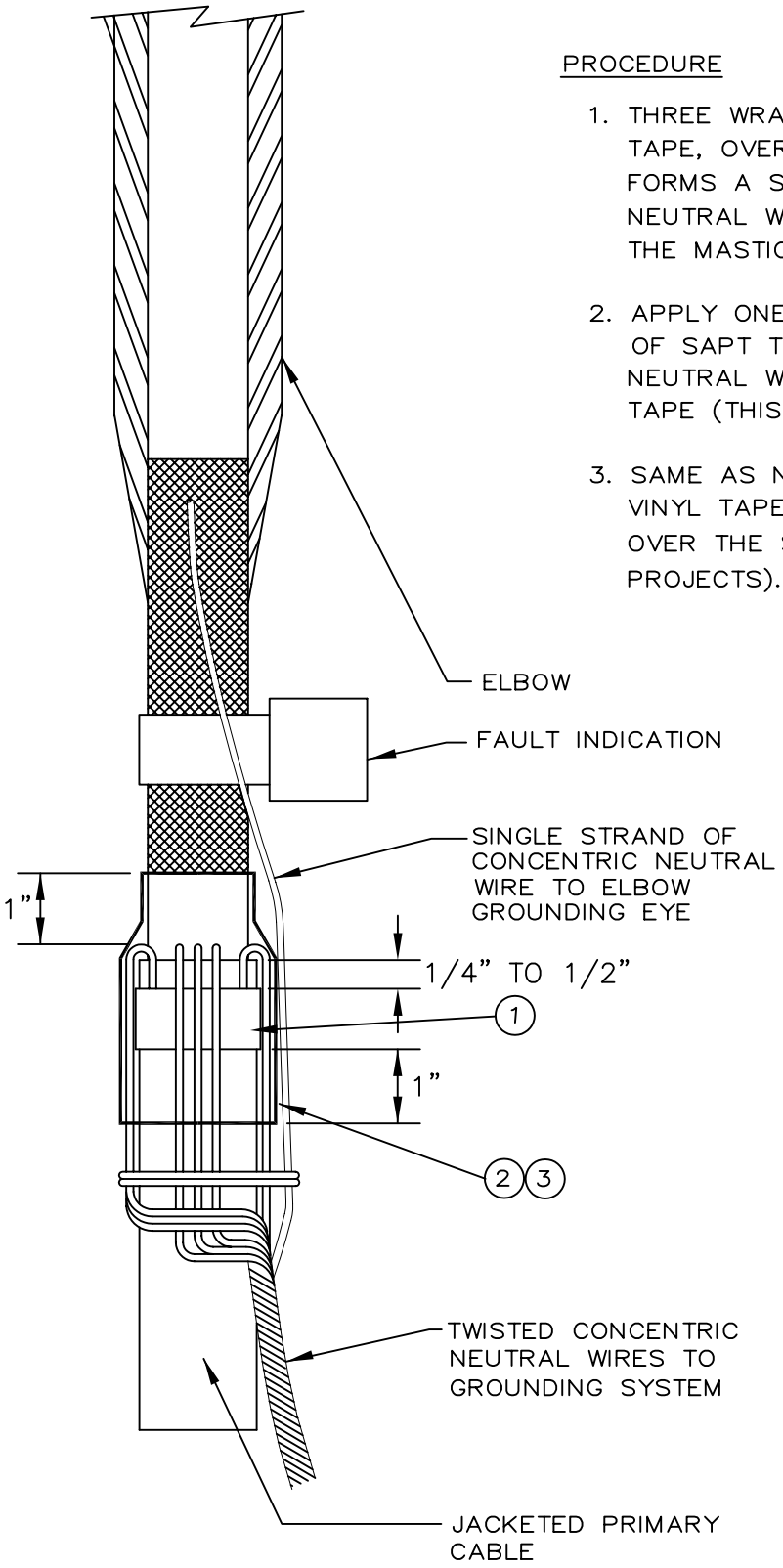

PROCEDURE

1. THREE WRAPS OF RUBBER MASTIC TAPE, OVER OUTSIDE JACKET (THIS FORMS A SEAL). THE CONCENTRIC NEUTRAL WIRES ARE BENT BACK OVER THE MASTIC AND TWISTED AS SHOWN

2. APPLY ONE, 1/2 OVERLAPPED LAYER OF SAPT TYPE EPR, FROM 1" ABOVE NEUTRAL WIRES TO 1" BELOW MASTIC TAPE (THIS INSULATES THE SPLICE).

3. SAME AS No. 2 WITH ELECTRICAL VINYL TAPE, CODE 7–72–33 OVER OVER THE SAPT. (THIS MECHANICALLY PROJECTS).

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

SaskPower – DISTRIBUTION STANDARDS

DRN. M.T.S.	DESIGN CHK.	APPROVAL	SEALING JACKETED C/N CABLE AT THE ELBOW
CHKD.			
DATE 93-06-10	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B-36-31	SHEET 2 of 2	REV. A

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SPC/AUTODRAFT

FOR COMBINATIONS OF ACSR, AL, & CU.

GROOVE "A"			GROOVE "B"			CONNECTOR	TOOL & DIE NO.
SOLID CU.	STR. AL & CU	ACSR	SOLID CU.	STR. AL & CU	ACSR		
#4,2	#6,4,2	#6,4,2	#14,12,10,8	#14,12,10,8	#14,12,10,8	5-09-00	MD-6/BG
#6,4,2	#6,4	#6,4	#6,4,2	#6,4	#6,4	5-09-26	MD-6/WO
#1,1/0,2/0	#4,2,1,1/0	#4,2,1,1/0	#2,1,1/0	#6,4,2,1	#6,4,2	5-09-27	MD-6/WO
2/0,3/0,4/0	#1,1/0,2/0,3/0	#1,1/0,2/0	2/0,3/0	#1,1/0,2/0	#1,1/0,2/0	5-09-10	MD-6/D3
3/0,4/0	2/0,3/0	1/0,2/0	#6,4,2,1,1/0	#6,4,2,1	#6,4,2	5-09-25	MD-6/D3
2/0,3/0	3/0,4/0	3/0,4/0	2/0,3/0	#1,1/0,2/0	#1,1/0,2/0	5-09-15	MD-6/D3
2/0,3/0	4/0	3/0,4/0	#6,4,2,1,1/0	#6,4,2,1	#6,4,2	5-09-23	MD-6/D3
———	3/0,4/0	3/0,4/0	———	3/0,4/0	3/0,4/0	5-09-29	MD-6/D3
350	350	366,477	#6,4,2	#6,4	#6,4	5-09-40	Y35/N
500	500	477,556	#6,4,2	#6,4	#6,4	5-09-44	Y35/N
350,500	4/0,350,500	4/0,266,336,477	350,500	4/0,350,500	4/0,266,336,477	5-09-48	Y35/N

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FOR COPPER-COPPER

COPPER CONDUCTOR	CONNECTOR	TOOL & DIE NO.	
		MD-6	Y-35
#8 STR. & SOL. - #10,8 STR. & SOL.	5-12-03	W 162	———
#6,4 STR. & SOL. - #8 STR. & SOL.	5-12-04	BG	BG
#6,4 STR. & SOL. - #6 STR. & SOL.	5-12-05	BG	BG
#4 STR. & SOL. - #6,4 STR. & SOL.	5-12-06	BG	BG
#2 STR. & SOL. - #8,6,4 STR. & SOL.	5-12-08	WC	C
#2 STR. & SOL. - #6 STR. & SOL.	5-12-07	WC	C
#2 STR. & SOL. - #2 STR. & SOL.	5-12-01	WC	C
1/0, 2/0 STR. - #4 STR. & SOL.	5-12-09	———	E/0
1/0, 2/0 STR. - #2 STR. & SOL.	5-12-25	———	0
1/0, 2/0 STR. - 1/0, 2/0 STR.	5-12-10	———	0
3/0, 4/0 STR. - #4,2 STR. & SOL.	5-12-02	———	D3
3/0, 4/0 STR. - 3/0, 4/0 STR.	5-12-28	———	D3

SaskPower - DISTRIBUTION ENGINEERING STANDARDS

DRN. DK	DESIGN CHK.	SAFETY APP.	APPROVAL	COMPRESSION CONNECTORS LINE TAP FOR AL - CU & CU - CU	
CHKD.					
DATE 92-06-26	DATE	DATE	DATE		
DATE OF ISSUE			DRAWING NO. B-36-38	SHEET 1 of 1	REV. A

COMPRESSION SLEEVES FOR COPPER

CONDUCTOR	SLEEVE	TOOL AND DIE NO.	
		MD – 6	Y – 35
#8 CU STR.	5 11 10	INSULINK.	
#6 CU STR.	2 65 26	W161	161
#4 CU STR.	2 66 35	W162	162
#2 CU STR.	2 66 70	W163	163
1/0 CU STR.	2 65 20	W165	165
2/0 CU STR.	2 66 72	W166	166
3/0 CU STR.	2 65 30	——	167
4/0 CU STR.	2 65 40	——	168
350 kcmil to 4/0 CU/AL	2 65 48	——	U31ART
350 kcmil CU STR.	2 65 49	——	U31ART
500 kcmil CU STR.	2 65 51	——	U34ART
500 kcmil to 4/0 CU/AL	2 65 52	——	U34ART

COMPRESSION SLEEVES FOR ALUMINUM

CONDUCTOR	SLEEVE	TOOL AND DIE NO.	
		MD – 6	Y – 35
#4 AL	2 65 41	BG/243	BG/243
#2 AL	2 65 42	BG/243	BG/243
1/0 AL	2 65 44		U25ART
2/0 AL	2 65 45		U26ART
3/0 AL	2 65 46		U27ART
4/0 AL	2 65 47		U28ART
350 kcmil to 4/0 AL/CU	2 65 48		U31ART
350 kcmil	2 65 49		U31ART
500 kcmil	2 65 51		U34ART
500 kcmil to 4/0 AL/CU	2 65 52		U34ART

METERING & TRANSFORMER SPADE TERMINALS FOR AL & CU (1 HOLE 1/2" STUD SIZE)

CONDUCTOR	SPADE TERMINAL	TOOL AND DIE NO.	
		MD – 6	Y – 35
#4 STR. OR SOLID	2 65 94	BG/W243	BG/243
#2 STR. OR SOLID	2 65 83	BG/W243	BG/243
1/0 STR. OR S.B.	2 65 84	BG/W243	BG/243
2/0 STR.	2 65 85	W249	249
3/0 STR.	2 65 86	W249	249
4/0 STR.	2 65 87	W249	249

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TRANSFORMER SPADE TERMINALS FOR AL AND CU
(2 HOLE 1/2" STUD SIZE)

CONDUCTOR	SPADE TERMINAL	TOOL AND DIE NO.	
		MD-6	Y-35
2/0	2 65 95	W249	249
4/0	2 65 97	W249	249
350 KCMIL	2 65 89	-	U31ART
500 KCMIL	2 65 91	-	U34ART

METERING SPADE TERMINALS FOR AL AND CU
(1 HOLE 1/2" STUD SIZE)

CONDUCTOR	SPADE TERMINAL	TOOL AND DIE NO.	
		MD-6	Y-35
350 KCMIL	2 65 88	-	U31ART
500 KCMIL	2 65 90	-	U34ART

TRANSITION COMPRESSION SLEEVES FOR AL AND CU

CONDUCTOR	TRANSITION SLEEVE	TOOL AND DIE NO.	
		MD-6	Y-35
#8 CU TO #4 AL	2 65 24	BG	BG
#8 CU TO #4 AL	5 11 13 (INSULINK)	BG	BG

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SPLICES AND TERMINATORS
FOR 25 kV XLPE CONCENTRIC NEUTRAL PRIMARY CABLES

CONDUCTOR CODE	DESCRIPTION	SPLICE	TERMINATOR	SPLICE COVER
2 92 26	#4 AL SOLID XLc	2 68 07	8 35 34	N/A
2 92 25 2 94 22	#2 AL SOLID XLc #2 AL SOLID XLcJ	2 68 06	8 35 36	2 68 23
2 92 22	#1 AL COMPACT XLcJ	2 68 02	8 35 06	2 68 23
2 92 24	4/0 AL COMPACT XLcJ	2 68 08	8 35 30	2 68 23
2 94 25	500 CU COMPRESSED XLc	2 68 15	8 35 28	2 68 13
2 94 33	#1 AL SOLID XLcJ	2 68 71	8 35 06	2 68 23
2 94 36	4/0 AL COMPACT XLcJ	2 68 74	8 35 31	2 68 23
2 94 37	500 AL COMPACT XLcJ	2 68 78	8 35 29	2 68 13
2 94 38	500 CU COMPACT XLcJ	2 68 75	8 35 29	2 68 13

TRANSITION SPLICES
FOR 25 kV XLPE CONCENTRIC NEUTRAL PRIMARY CABLES

CONDUCTOR CODE	DESCRIPTION	TRANSITION SPLICE	SPLICE COVER
2 92 22 TO 2 94 33	#1 AL COMPRESSED XLcJ TO #1 AL SOLID XLcJ	2 68 72	2 68 23
2 94 25 TO 2 94 38	500 CU COMPRESSED XLc TO 500 CU COMPACT XLcJ	2 68 76	2 68 13

REPAIR SPLICES
FOR 25Kv XLPE CONCENTRIC NEUTRAL PRIMARY CABLES

CONDUCTOR CODE	DESCRIPTION	REPAIR SPLICE	SPLICE COVER
2 92 22 2 94 33	#1 AL COMPACT XLcJ #1 AL SOLID XLcJ	2 68 81	2 68 23
2 94 22	#2 AL SOLID XLcJ	2 68 82	2 68 23

ABBREVIATION SYMBOLS

XL – CROSS LINKED POLYETHYLENE

c – CONCENTRIC NEUTRAL

J – JACKET

*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **LB**	**PRIMARY CABLE SPLICES AND TERMINATIONS**
M. ERETH	**L. BAILEY**	CHKD.	
		2013-10-17	

DATE OF ISSUE: 2014/03/21	DRAWING NO: **B-36-40**	**SHEET 1 of 1**	REV. **F**

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CABLE TYPE – 25 kV XLPE. CONCENTRIC NEUTRAL

DESCRIPTION	CONDUCTOR CODE	ELBOW	FT BUSHING	XFR BUSHING	XFR BUSHING W/INSERT	DEADEND PLUG
# 2 AL SOLID XLc	2 92 25	5 80 32	5 79 40	5 79 10	5 79 12	5 79 47 5 79 14
# 1 AL COMPRESSED XLc (OBSOLETE)	2 92 22	5 79 35	5 79 40	5 79 10	5 79 12	5 79 47 5 79 14
4/0 AL COMPACT XLc	2 92 24	5 80 35	5 79 40	5 79 10	5 79 12	5 79 47 5 79 14
# 1 AL SOLID XLcJ	2 94 33	5 79 34	5 79 40	5 79 10	5 79 12	5 79 47 5 79 14
4/0 AL COMPACT XLcJ	2 94 36	5 80 35	5 79 40	5 79 10	5 79 12	5 79 47 5 79 14

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NOTE:

1. TOP CODE # REFERS TO PHASE CONDUCTOR.
2. BOTTOM CODE # REFERS TO NEUTRAL CONDUCTOR.
3. FOR PILC CABLE, FIRST CONVERT TO XLPE THEN USE XLPE ACCESSORIES IN ABOVE TABLE.

ABBREVIATION SYMBOLS

XFR – TRANSFORMER
FT – FEED THROUGH
XL – CROSS LINKED POLYETHYLENE
C – CONCENTRIC NEUTRAL
J – JACKET

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

SaskPower - DISTRIBUTION STANDARDS			
APPROVAL **L. MOEN**	DESIGN CHK **B. GEBHART**	DRN. **BHG** CHKD. **2020-02-12**	**LOAD-BREAK COMPONENTS**
DATE OF ISSUE: 2020/05/12	DRAWING NO: **B-36-42**	**SHEET 1 of 1**	REV. **D**

CONDUCTOR CODE	DESCRIPTION	COMPRESSION SLEEVE	HYLUG
2–92–78	1 x # 8 Cu 600V c.n. J	2–66–06	———
2–92–86	2 x # 2 Cu 600V c.n. J USEB–90	2–66–70 2–66–35	2–65–83 2–65–94
2–92–93	2 x 1/0 Cu 600V c.n. J USEB–90	2–65–20 2–66–35	2–65–83 2–65–94
2–95–96	# 6 Cu 600V TWU	2–65–26	———
2–95–94	# 4 Cu 600V TWU	2–66–35	2–65–94
2–95–93	# 2 Cu 600V TWU	2–66–70	2–65–83
2–96–28	1/0 Cu 600V TWU	2–65–20	2–65–84
2–96–39	3/0 Cu 600V TWU	2–65–30	2–65–86
2–96–41	4/0 Cu 600V TWU	2–65–40	2–65–87
2–96–44	2 x 4/0 AL, 1 x 2/0 AL 600V J	2–65–47 2–65–45	2–65–87 2–65–85
2–96–46	2 x 350 AL, 1 x 3/0 AL 600V J	2–65–49 2–65–46	2–65–89 2–65–86
2–96–48	2 x 500 AL, 1 x 4/0 AL 600V J	2–65–51 2–65–47	2–65–91 2–65–87
2–93–35	350 AL 600V PE J	2–65–49	2–65–89
2–93–50	500 AL 600V PE J	2–65–51	2–65–91
2–92–82	2 X 500 AL 1000V CN J USEB–90	2–65–51	2–65–91
2–92–83	3 X 500 AL 1000V CN J USEB–90	2–65–51	2–65–91

NOTE:

1. TOP CODE # REFERS TO PHASE CONDUCTOR
2. BOTTOM CODE # REFERS TO NEUTRAL CONDUCTOR

— FOR MAINTENANCE ONLY —

SaskPower — DISTRIBUTION STANDARDS

DRN. M.T.S.	DESIGN CHK.	SAFETY APP.	APPROVAL	SECONDARY CABLE CONNECTORS & TERMINATIONS
CHKD.				
DATE	DATE	DATE	DATE	
DATE OF ISSUE		DRAWING NO. B–36–44	SHEET 1 OF 2	REV. A

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CABLE TYPE – USC75/USEI90 SECONDARY

CONDUCTOR CODE	DESCRIPTION	COMPRESSION SLEEVE	HYLUG
2 94 51	2 x #4 AL 600V XLPE J	2 65 41	————
2 94 62 2 94 82	3 x #2 AL 600V XLPE J 4 x #2 AL 600V XLPE J	2 65 42	2 65 83
2 94 64 2 94 84	3 x #1/0 AL 600V XLPE J 4 x #1/0 AL 600V XLPE J	2 65 44	2 65 84
2 94 66 2 94 86	3 x #4/0 AL 600V XLPE J 4 x #4/0 AL 600V XLPE J	2 65 47	2 65 87
2 94 67 2 94 87	3 x 350 AL 600V XLPE J 4 x 350 AL 600V XLPE J	2 65 49	2 65 88 (1 HOLE) 2 65 89 (2 HOLE)
2 94 68 2 94 88	3 x 500 AL 600V XLPE J 4 x 500 AL 600V XLPE J	2 65 51	2 65 90 (1 HOLE) 2 65 91 (2 HOLE)

For USC75/USEI90, THE NEUTRAL CONDUCTORS ARE THE SAME SIZE AS THE PHASE CONDUCTORS.

CABLE TYPE – USEB90 SECONDARY

CONDUCTOR CODE	DESCRIPTION	COMPRESSION SLEEVE	HYLUG
2 92 78	1 x #8 CU 600V CN J	2 66 09 OR 2 65 24 (TO #4 TRANSITION)	————
2 92 86	2 x #2 CU 600V CN J	2 66 32 2 66 32	2 65 83 2 65 83
2 92 87	2 x 1/0 AL 600V CN J	2 65 44 2 66 35	2 65 84 2 65 94
2 92 30	3 x 1/0 AL 600V CN J	2 65 44 2 66 35	2 65 84 2 65 94
2 92 93	2 x 1/0 CU 600V CN J	2 65 20 2 66 32	2 65 84 2 65 83
2 92 80	2 x 3/0 AL 600V CN J	2 65 46 2 66 32	2 65 86 2 65 83
2 92 81	3 x 3/0 AL 600V CN J	2 65 46 2 66 32	2 65 86 2 65 83
2 92 83	3 x 500 AL 600V CN J	2 65 51 2 65 40	2 65 90 (1 HOLE) 2 65 91 (2 HOLE) 2 65 87 (1 HOLE) 2 65 97 (2 HOLE)

FOR USEB90, THE TOP STOCK CODE IS FOR PHASE CONDUCTOR & THE BOTTOM FOR CN.

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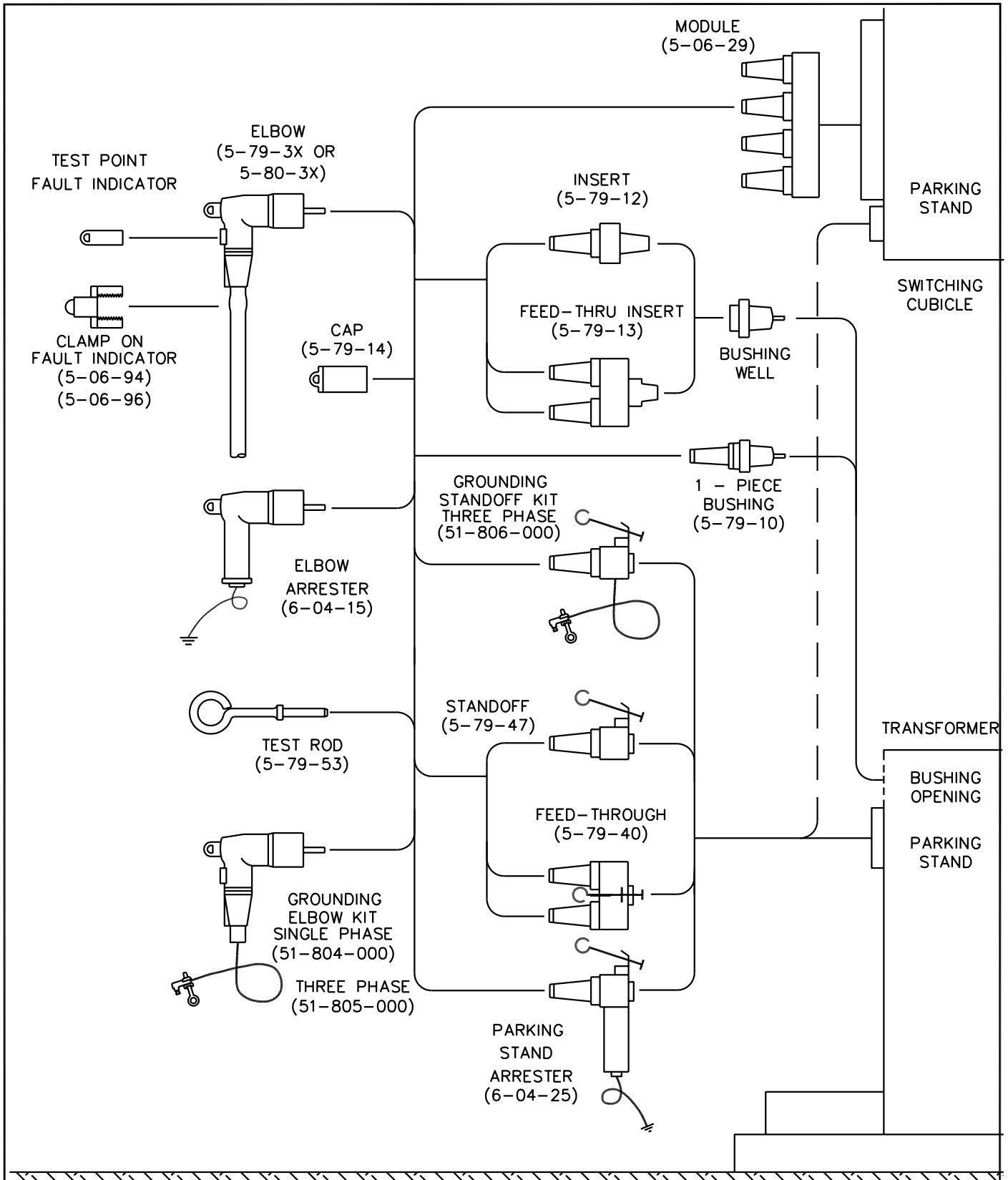

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NOTE:

1) ALL LOADBREAK ELBOWS HAVE A COLORED CUFF.(USUALLY WHITE)

SaskPower – DISTRIBUTION STANDARDS

DRN. D.F.K.	DESIGN CHK.	SAFETY APP.	APPROVAL	200A LOAD-BREAK ACCESSORIES
CHKD.				
DATE 02-09-16	DATE	DATE	DATE	
DATE OF ISSUE: 2003/05/30		DRAWING NO. B-36-45	SHEET 1 of 1	REV. B

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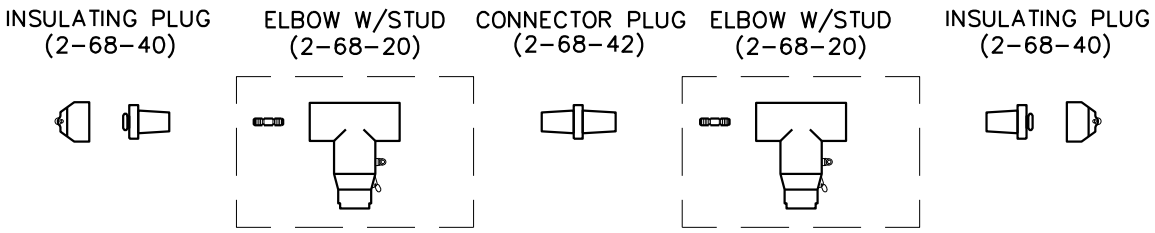
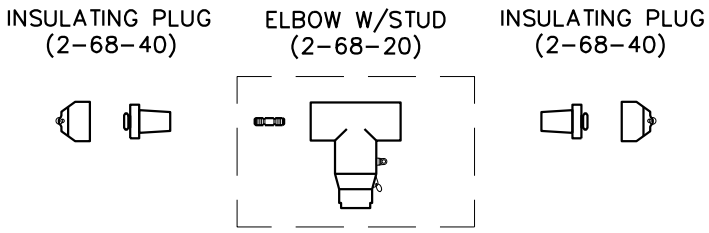
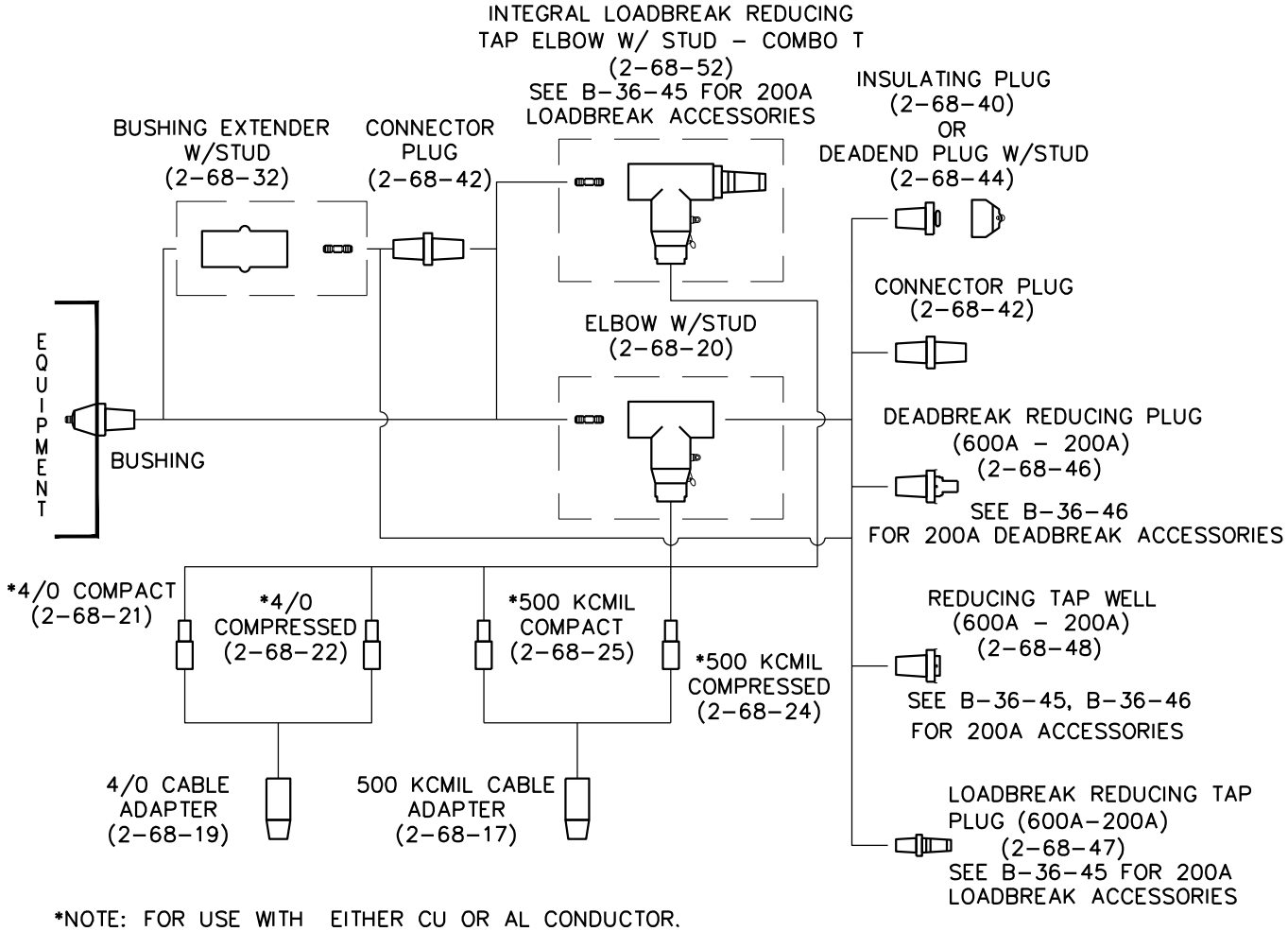


FEED-THROUGH METHOD
(DEAD-BREAK)



METHOD OF TERMINATING ELBOW
(DEAD-BREAK)



*NOTE: FOR USE WITH EITHER CU OR AL CONDUCTOR.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN. D.REDEKOPP CHKD. 2016-05-11	600A DEAD-BREAK ACCESSORIES
DATE OF ISSUE 2016/07/26	DRAWING NO. B-36-47	SHEET 1 of 1	REV. C

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BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**5-06-94**	**1**	**FAULT INDICATOR - 300 AMP**
1	**5-06-96**	**1**	**FAULT INDICATOR - 80 AMP**

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*Sask**Power*** - DISTRIBUTION STANDARDS

DRN.	DESIGN CHK.	APPROVAL	**FAULT INDICATORS**
CHKD.			
DATE	DATE	DATE	

DATE OF ISSUE **96-07-26** | DRAWING NO: **B-36-50** | **SHEET 1 OF 2** | REV. **0**

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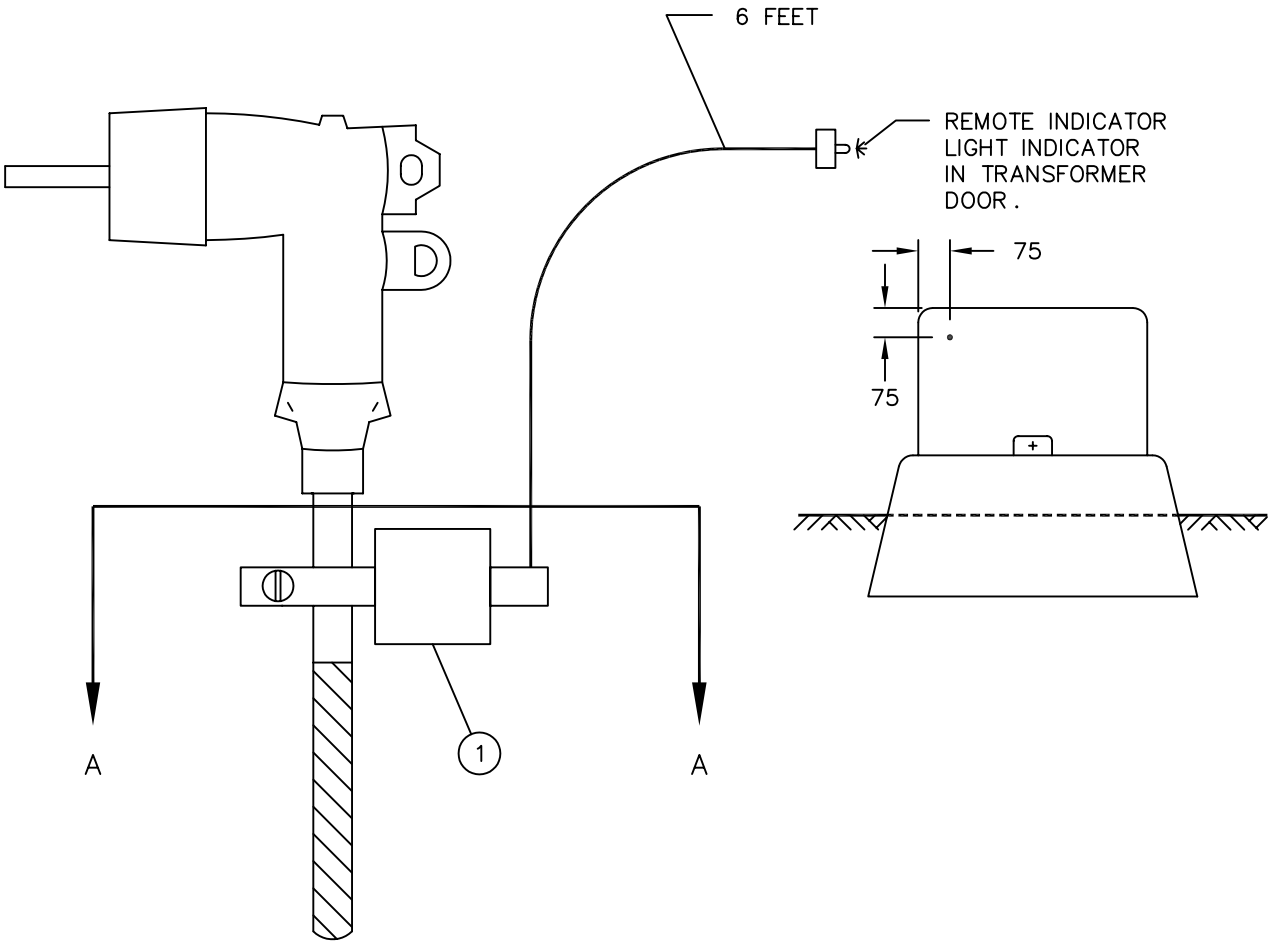
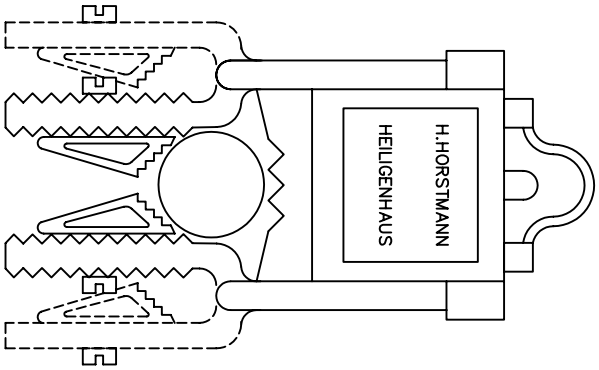
CLAMP ON FAULT INDICATOR



SIDE VIEW



SECTION A–A

NOTES:

1. FAULT INDICATOR WILL RESET IN 4 HOURS AFTER INITIAL FAULT.
2. INDICATOR CAN BE TESTED BY USE OF A PERMANEMT MAGNET.
3. FAULT INDICATOR NOT TO BE CLAMPED AROUND CONCENTRIC NEUTRAL WIRES.

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

SaskPower – DISTRIBUTION STANDARDS			
DRN.	DESIGN CHK.	APPROVAL	FAULT INDICATORS
CHKD.			
DATE	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B–36–50	SHEET 2 of 2	REV. C

SPC/AUTODRAFT

FAULT INDICATOR APPLICATION GUIDE

FAULT INDICATORS ARE UNTILIZED ON THE DISTRIBUTION SYSTEM TO DETECT AND ASSIST IN LOCATING THE SHORT CIRCUIT FAULT. WHEN A FAULT OCCURS, ALL THE INDICATORS BETWEEN THE SOURCE AND THE FAULT INDICATE A RED TARGET FLAG, OR A FLASHING RED LIGHT DEPENDING ON THE INDICATOR.

THE FAULT INDICATORS ARE FACTORY SET TO TRIP WHEN THE CURRENT IS EXCEEDED AND TO AUTOMATICALLY RESET AS SPECIFIED. THE APPLICATION OF FAULT INDICATORS IS DETAILED IN THE CHART BELOW.

CODE	TRIP SETTING (amps)	APPLICATION	MOUNTING DETAILS	RESETTIG CRITERIM	EXTERNALLY VISIBLE INDICATION
5–06–94	300	1Ø URBAN	BELOW ELBOW	4 hrs	YES
5–06–96	80	1Ø RUD/RURAL	BELOW ELBOW	4 hrs	YES
5–06–97	60	1Ø URBAN	OVERHEAD CONDUCTOR	4 hrs	——

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SaskPower – DISTRIBUTION STANDARDS

DRN. DK	DESIGN CHK.	APPROVAL	FAULT INDICATOR APPLICATION GUIDE
CHKD. FTK			
DATE 87–05–30	DATE	DATE	
DATE OF ISSUE	DRAWING NO. B–36–51	SHEET 1 of 1	REV. A

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2” HDPE CONDUIT & ACCESSORIES

SASKPOWER CODE	DESCRIPTION
708502	CONDUIT – 2” HDPE – RED SDR 13.5
708512	DUCT PLUG – 2” – BLANK
708522	DUCT PLUG – 2” – SIMPLEX (SINGLE CABLE WITH OD OF 30-35mm)
708532	COUPLING – 2” – FUSION
708542	COUPLING – 2” – MECHANICAL
708550	BEND – 2” HDPE – 90 DEGREE – 32” RADIUS
708552	BEND – 2” HDPE – 90 DEGREE – 12” RADIUS

4” PVC CONDUIT & ACCESSORIES

SASKPOWER CODE	DESCRIPTION
704444	BEND – 4” PVC – 90 DEGREE – 16” RADIUS
704504	CONDUIT – 4” PVC BELL AND SPIGOT – 20’ LENGTHS
704506	CAP – 4” PVC
704514	BEND – 4” PVC – 45 DEGREE – 16” RADIUS
704524	BEND – 4” PVC – 90 DEGREE – 36” RADIUS
704534	COUPLING – 4” PVC
708064	DUCT PLUG – 4” PVC

5” PVC & HDPE CONDUIT & ACCESSORIES

SASKPOWER CODE	DESCRIPTION
703150	DUCT PLUG 5" - 3 X 500 KCMIL
703151	BUSHING SLEEVE 4/0 PRIMARY
703152	BUSHING SLEEVE #1 PRIMARY
703153	DUCT PLUG 5" - QUAD
703154	BUSHING SLEEVE - 1/0 SECONDARY
703155	BUSHING SLEEVE - 4/0 SECONDARY
703156	BUSHING SLEEVE - 350 KCMIL SEC
703158	BUSHING SLEEVE - 500 KCMIL SEC
703159	DUCT PLUG 5" – BLANK
704505	CONDUIT – 5” PVC BELL AND SPIGOT – 20’ LENGTHS
704507	CAP – 5” PVC
704510	END BELL – 5” PVC
704515	BEND – 5” PVC – 45 DEGREE – 24” RADIUS
704525	BEND – 5” PVC – 90 DEGREE – 36” RADIUS
704535	COUPLING – 5” PVC
704536	COUPLING - 5" PVC - 12" LENGTH
704545	BEND – 5” PVC – 30 DEGREE – 16” RADIUS
708245	SPACER – BLACK PLASTIC – 5” – 2” SPACING – INTERMEDIATE
708246	SPACER – BLACK PLASTIC – 5” – 2” SPACING – BASE
708505	CONDUIT – 5” HDPE – RED SDR 13.5
708560	ADHESIVE – HDPE TO PVC
708561	DISPENSER – FOR HDPE TO PVC ADHESIVE

MISCELLANEOUS ACCESSORIES

SASKPOWER CODE	DESCRIPTION
703145	DUXSEAL – PLASTIC SEALANT
703146	CONCRETE SEALANT
703147	PRIMER – CLEAR – FOR PVC (APPLIED PRIOR TO CONCRETE SEALANT)
704350	CEMENT – FOR PVC PIPE
713502	LUBRICANT – CABLE PULLING – 5 GALLON PAILS
713503	PULL TAPE – LUBRICATED – 2500 LBS
713504	PULL TAPE – LUBRICATED – 1800 LBS – DETECTABLE
5537020	BALL-ELECTRONIC MARKER-RED

NOTE:

1. 5” HDPE USES THE SAME ACCESSORIES AS 5” PVC. WHEN CONNECTING PVC TO HDPE, 708560 ADHESIVE MUST BE APPLIED TO HDPE SURFACE IN ORDER TO BOND PROPERLY AND CREATE A WATERTIGHT SEAL.
2. REFER TO SEP 8 FOR DUCT SELECTION.
3. 4” PVC CONDUIT & ACCESSORIES CODES ARE FOR MAINTENANCE ONLY, 5” AND 2” SHOULD BE USED WHENEVER POSSIBLE.

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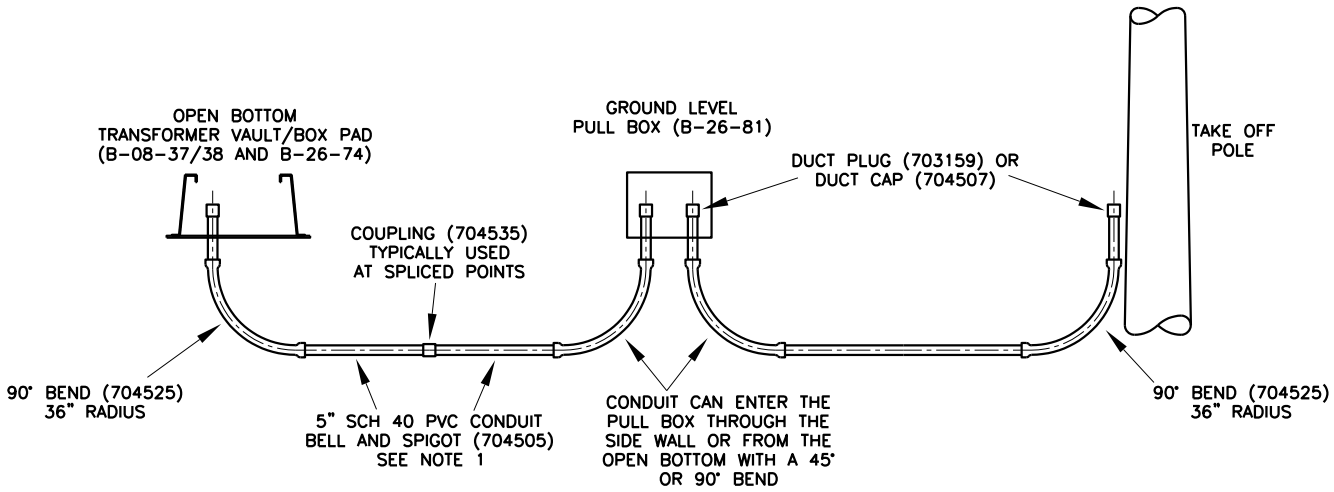
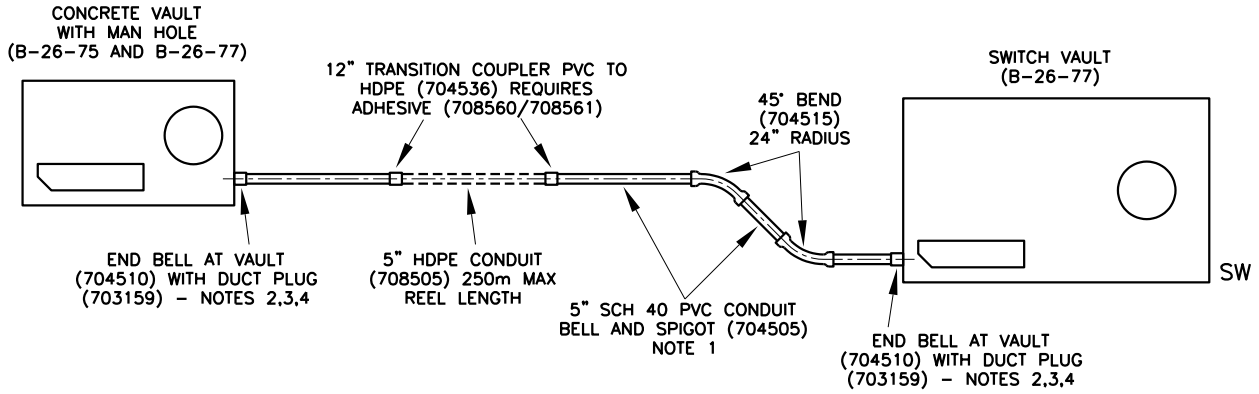


TYPICAL 5" CONDUIT PROFILE VIEW



TYPICAL 5" CONDUIT PLAN VIEW

NOTES:

1. CHARACTERISTICS OF 5" SCHEDULE 40 PVC, BELL-AND-SPIGOT (704505):
   A. THE CONDUIT COMES IN 20' LENGTHS.
   B. THE CONDUIT SECTIONS ARE JOINED TOGETHER, WHEN THE SPIGOT END IS INSERTED INTO THE BELL END OF THE ADJOINING CONDUIT. THE BELL END IS FITTED WITH A RUBBER GASKET AND LOCKING SPLINE.
   C. COUPLERS AND PRIMER/CEMENT ARE NOT REQUIRED TO JOIN FULL-LENGTH CONDUIT SECTIONS.
   D. 5" SCHEDULE 40 PVC, BELL-AND-SPIGOT (704505) CAN BE PULLED INTO A BORE HOLE.
   E. REFER TO THE MANUFACTURER'S SPECIFICATION FOR BEND RADIUS AND MAXIMUM PULLING TENSIONS.
2. PRIMER AND CEMENT (703147 AND 704350) ARE REQUIRED TO CONNECT ANY COUPLERS, END BELLS, CAPS, OR CONDUIT BENDS TO THE CONDUIT.
3. AT THE CONCRETE VAULTS USE CONCRETE SEALANT (703146), BETWEEN THE CONDUIT AND THE CONCRETE HOLE TO SEAL THE VOID.
4. USE DUXSEAL (703145) OR DUCT PLUG INSERTS (B-26-73) TO FILL IN THE VOID, BETWEEN THE CONDUIT AND ANY CABLES PULLED INSIDE THE CONDUITS.
5. USE CABLE PULLING LUBRICANT (713502) WHEN PULLING CABLES INSIDE THE CONDUIT. REFERENCE C-26-04.14.
6. INSTALL DETECTABLE PULL TAPE (713504) IN SPARE CONDUIT, IF THERE IS NO OTHER CABLE(S) BEING INSTALLED, SO THE CONDUIT CAN BE LOCATED.
7. INSTALL MARKER BALLS (5537020) WHERE REQUIRED, AS PER B-30-16.

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. B.GEBHART	DRN.E.GOTANA CHKD.	TYPICAL 5" CONDUIT SCHEMATIC
		2022-10-14	
DATE OF ISSUE 2023-04-24	DRAWING NO. B-36-56	SHEET 1 of 1	REV. –

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CLEARANCES

THE CLEARANCES AND SEPARATIONS GIVEN IN THIS SECTION ARE FOR NEW CONSTRUCTION. IN CASES WHERE S.P.C. UNDERGROUND FACILITIES ARE BEING INSTALLED WITH OTHER EXISTING FACILITIES SOME OF THESE DISTANCES MAY BE IMPRACTICAL. IN THESE CASES, CLOSE CO-ORDINATION BETWEEN THE FACILITIES IS NECESSARY DURING INSTALLATION.

ACCURATE RECORDS OF THE LOCATION OF BURIED FACILITIES ON AS-BUILT DRAWINGS, PLANS, WRITTEN RECORDS, ETC., MUST BE KEPT TO ENSURE SAFE, FAST AND ECONOMICAL MAINTENANCE ON THE SYSTEM.

REFER ALSO TO SECTION C-26-2X FOR INFORMATION ON CROSSINGS.

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SEPARATIONS OF DIRECT BURIED POWER CONDUCTORS TO VARIOUS FACILITIES

THIS APPLIES TO DIRECT BURIED CONDUCTORS OF ALL VOLTAGES UP TO AND INCLUDING 25KV UNLESS OTHERWISE STATED. THESE ARE THE MINIMUM SEPARATIONS: MAINTAIN AS MUCH SEPARATION AS POSSIBLE TO ALLOW FOR FUTURE WORK ON CABLES OR OTHER FACILITIES. VERTICAL CLEARANCES APPLY WHEN FACILITIES CROSS EACH OTHER (EXCEPT FOR CONSUMER'S PROPANE AND NATURAL GAS LINES).

		URBAN		RURAL	
FACILITY	**LOCATION**	**HORIZ.**	**VERTICAL**	**HORIZ.**	**VERTICAL**
OIL & GAS PIPELINE (NOT INCLUDING GAS SERVICE LINES) (SEE NOTE 7)	LANES & PROPERTY EASEMENTS	1.5m	0.3m (NOTE 3)	-	-
	FARM YARD	-	-	1.5m	0.3m
	FIELD	-	-	10.0m	0.3m (NOTE 3)
COMMUNICATION CIRCUITS		RANDOM SEPARATION IN SAME TRENCH (SEE B-14-65) FIXED SEPARATION 0.3m	0.3m (NOTE 2)	-	0.3m (NOTE 2)
	FIELD	-	-	15.0m (NOTE 1)	0.3m (NOTE 2)
	FARM YARD	-	-	1.5m	0.3m (NOTE 2)
UTILITY WATER AND SEWER LINES		2.0m	-	3.0m	-
UTILITY NATURAL GAS SERVICE LINE		0.6m (NOTE 4)	0.3m	0.6m	0.3m
CONSUMER'S PROPANE OR NATURAL GAS LINES * WITH ELECTRICAL SERVICE BELOW		(0-750V) 0.3m (751V-25kV) 0.6m	(0-750V) 0.3m* (751V-25kV) 0.6m	(0-750V) 0.3m (751V-25kV) 0.6m	(0-750V) 0.3m* (751V-25kV) 0.6m
SWIMMING POOLS		(0-750V) 1.0m (751V-25kV) 2.0m (SEE NOTE 6)	-	(0-750V) 1.0m (751V-25kV) 2.0m (SEE NOTE 6)	-
FUEL TANKS		1.5m	-	1.5m	-
LINE POLES		1.0m	-	3.0m	-
FENCE AND DECK POSTS		0.6m	-	0.6m	-
BUILDINGS AND TOWER STRUCTURES		(0-750V) 0.3m (751V-25kV) 0.6m	-	0.6m	-
WATERWELLS		-	-	1.5m	-
H.V. BURIED CABLES (CUSTOMER OWNED)		1.0m	0.6m	1.5m (NOTE 5)	0.6m
OIL AND GAS WELL HEADS		22.0m	-	22.0m	-

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SEPARATIONS OF APPARATUS (ABOVE GRADE) TO VARIOUS FACILITIES

OUTDOOR PADMOUNT TRANSFORMERS

TO BUILDINGS (REFER TO CANADIAN ELECTRICAL CODE 26-242):

- 3.0m FROM ANY COMBUSTIBLE SURFACE OR MATERIAL ON A BUILDING.
- 6.0m FROM ANY WINDOW, DOOR, OR VENTILATION OPENING ON A BUILDING. HOWEVER, TRANSFORMERS SHALL BE PERMITTED WITHIN 6.0m OF ANY DOOR, WINDOW, OR ANY VENTILATION OPENING PROVIDED A NON COMBUSTIBLE WALL OR BARRIER IS CONSTRUCTED BETWEEN THE TRANSFORMER AND THAT DOOR, WINDOW, OR VENTILATION OPENING.
- THESE CLEARANCES MAY BE REDUCED TO 1.0m FOR 3 PHASE TRANSFORMERS AND 0.6m FOR SINGLE PHASE TRANSFORMERS PROVIDED THE TRANSFORMERS HAVE BOTH A CURRENT LIMITING FUSE AND AN APPROVED PRESSURE RELIEF DEVICE. REFER TO B-08-10 AND B-08-11.

TO FUEL TANKS (REFER TO CSA STANDARD, CAN/CSA C22.3 NO. 7):

- 1.5m OF HORIZONTAL CLEARANCE FROM ANY TANK WITH AN AGGREGATE CAPACITY OF 7600L OR LARGER. FOR TANKS LESS THAN 7600L, A HORIZONTAL CLEARANCE OF 300mm IS REQUIRED.

ACCESSIBILITY TO TRANSFORMERS

- IN ALL CASES 3.0m CLEARANCE MUST BE MAINTAINED FROM THE ACCESS SIDE (FRONT) OF THE TRANSFORMER

DIELECTRIC LIQUID-FILLED OUTDOOR PADMOUNT EQUIPMENT (OTHER THAN TRANSFORMERS)
(REFER TO CANADIAN ELECTRICAL CODE 26-014)

- 6.0m FROM ANY COMBUSTIBLE SURFACE OR MATERIAL ON A BUILDING; OR ANY DOOR, WINDOW, OR ANY VENTILATION INLET OR OUTLET. HOWEVER, EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED WITHIN 6.0m OF ANY DOOR, WINDOW, OR VENTILATION OPENING PROVIDED A NON COMBUSTIBLE WALL OR BARRIER IS CONSTRUCTED BETWEEN THE EQUIPMENT AND THAT ITEM.

NON OIL FILLED APPARATUS AND EQUIPMENT

- SINCE ALL ENCLOSURES ARE GROUNDED AND LOCKED, THE ONLY SEPARATION REQUIRED IS FOR OPERATION AND MAINTENANCE.

NOTES:

1. THESE SEPARATIONS VARY WITH LENGTH OF PARALLEL. REFER TO 'SASKTEL CO-ORDINATION/S.P.C. RURAL UNDERGROUND DISTRIBUTION AGREEMENT.'
2. SEE DRAWING C-26-25.01 FOR SPECIFIC CLEARANCES OVER OR UNDER ALL SASKTEL CABLES EXCEPT FIBRE OPTIC CABLES. REFER TO DRAWING C-26-25.01 (NOTE 7) FOR FIBRE OPTIC CABLE CROSSING.
3. SEE DRAWINGS C-26-23.01, C-26-23.02, C-26-23.03, FOR SPECIFIC CLEARANCES OVER AND UNDER THESE TYPES OF LINES.
4. WHERE INSTALLATION IS IN A COMMON TRENCH, THE CLEARANCE MAY BE REDUCED TO 0.3m.
5. IN AREAS ASSOCIATED WITH FARM ANIMALS INCREASE TO 2.4m.
6. SWIMMING POOL CLEARANCES ASSUME NON-CONDUCTING JACKETED CABLES. FOR UNJACKETED OR SEMI-CONDUCTING JACKETED CABLES, CLEARANCES ARE INCREASED TO 2.0m (0-750V) AND 6.0m (751V-25KV).
7. TRANSGAS CORPORATE CONSENT IS REQUIRED WHEN WORKING WITHIN 10m OF A TRANSGAS EASEMENT. IF NO EASEMENT EXISTS, THEN CONSENT IS REQUIRED WITHIN 15m OF TRANSGAS PIPELINE. A PROXIMITY AGREEMENT IS REQUIRED FOR ANY WORK WITHIN 30m OF A TRANSGAS PIPELINE.

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PRIMARY XLPE CABLE AMPACITIES

CONDUCTOR CODE	DESCRIPTION	STANDARD USES	CONFIG	DIRECT BURIED	DUCT BURIED (5" FIBRE)	DUCT BURIED (5" PVC)
2 94 22	#2 Solid Al cnJ (See Note 3)	RUD / PIPELINE CROSS	1Ø	199 (181)	151 (146)	160 (154)
			3Ø	164 (147)	135 (128)	138 (130)
2 94 32	#1 Compact Al cnJ	URBAN 1Ø & 3Ø	1Ø	228 (207)	173 (167)	183 (176)
			3Ø	186 (166)	154 (145)	156 (147)
2 94 33	#1 Solid Al cnJ	URBAN 1Ø & 3Ø	1Ø	225 (206)	173 (167)	183 (175)
			3Ø	186 (166)	155 (146)	156 (147)
2 94 36	4/0 Compact Al cnJ	URBAN 3Ø	3Ø	306 (272)	256 (240)	257 (241)
2 94 37	500 Compact Al cnJ	URBAN 3Ø	3Ø	479 (424)	404 (376)	404 (376)
2 94 38	500 Compact Cu cnJ	URBAN 3Ø	3Ø	588 (520)	495 (460)	495 (459)

TABLE VALUES ARE CALCULATED IN CYMCAP 7.0 REV 1, BASED ON THE FOLLOWING INFORMATION:

- 90°C CONDUCTOR TEMPERATURE
- 10°C AMBIENT TEMPERATURE
- 100% LOAD FACTOR
- 1.2m BURIED DEPTH
- 0.9 °C-m/W SOIL RESITIVITY
- 4.8 °C-m/W FIBRE DUCT RESITIVITY
- 7.0 °C-m/W PVC DUCT RESITIVITY
- CABLES BONDED AT BOTH ENDS FOR 3-PHASE, NO BONDING FOR 1-PHASE
- NEUTRAL CURRENT IS 75% FOR 1-PHASE AND 0% FOR 3-PHASE
- 5" SCHEDULE 40 DUCTS
- DUCTS ARE BURIED WITH NO CONCRETE
- 3 PHASE IN TREFOIL FORMATION

NOTES:

1. cn = CONCENTRIC NEUTRAL, J = JACKET
2. ALL CABLES RATED 25KV UNLESS OTHERWISE SPECIFIED
3. CODE 2 94 22 HAS PREVIOUSLY BEEN SUPPLIED BOTH JACKETED AND UNJACKETED. FOR THESE SIMULATIONS THE AMPACITY IS THE SAME WITH OR WITHOUT JACKET. ALL NEW CABLES COME WITH A JACKET.
4. VALUES IN BRACKETS REPRESENT ALLOWABLE AMPACITY WHEN INSTALLED IN DRY SAND, 1.2 °C-m/W RESITIVITY. ALL OTHER CRITERIA REMAINS THE SAME AS LISTED ABOVE.

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PRIMARY XLPE CABLE AMPACITIES

CONDUCTOR CODE	DESCRIPTION	STANDARD USES	CONFIG	DUCT BURIED (5" HDPE)	DUCT BURIED (2" HDPE)
2 94 22	#2 Solid Al cnJ (See Note 3)	RUD / PIPELINE CROSS	1Ø	163 (156)	158 (150)
			3Ø	141 (132)	151 (140)
2 94 32	#1 Compact Al cnJ	URBAN 1Ø & 3Ø	1Ø	186 (178)	180 (171)
			3Ø	160 (150)	171 (157)
2 94 33	#1 Solid Al cnJ	URBAN 1Ø & 3Ø	1Ø	185 (178)	180 (171)
			3Ø	160 (150)	171 (157)
2 94 36	4/0 Compact Al cnJ	URBAN 3Ø	3Ø	264 (246)	279 (255)
2 94 37	500 Compact Al cnJ	URBAN 3Ø	3Ø	415 (385)	N/A
2 94 38	500 Compact Cu cnJ	URBAN 3Ø	3Ø	508 (471)	N/A

TABLE VALUES ARE CALCULATED IN CYMCAP 7.0 REV 1, BASED ON THE FOLLOWING INFORMATION:

- 90°C CONDUCTOR TEMPERATURE
- 10°C AMBIENT TEMPERATURE
- 100% LOAD FACTOR
- 1.2m BURIED DEPTH
- 0.9 °C-m/W SOIL RESITIVITY
- 2.0 °C-m/W HDPE DUCT RESITIVITY
- CABLES BONDED AT BOTH ENDS FOR 3-PHASE, NO BONDING FOR 1-PHASE
- NEUTRAL CURRENT IS 75% FOR 1-PHASE AND 0% FOR 3-PHASE
- DUCTS ARE BURIED WITH NO CONCRETE
- HDPE SDR13.5 DUCTS AS PER ASTM F2160
- 3 PHASE IN TREFOIL FORMATION
- 3 PHASE USING 3 x 2" DUCTS ASSUME DUCTS ARE TOUCHING IN TREFOIL FORMATION, WITH EVEN SPACING OF CONDUCTORS

NOTES:

1. cn = CONCENTRIC NEUTRAL, J = JACKET
2. ALL CABLES RATED 25KV UNLESS OTHERWISE SPECIFIED
3. CODE 2 94 22 HAS PREVIOUSLY BEEN SUPPLIED BOTH JACKETED AND UNJACKETED. FOR THESE SIMULATIONS THE AMPACITY IS THE SAME WITH OR WITHOUT JACKET. ALL NEW CABLES COME WITH A JACKET.
4. VALUES IN BRACKETS REPRESENT ALLOWABLE AMPACITY WHEN INSTALLED IN DRY SAND, 1.2 °C-m/W RESITIVITY. ALL OTHER CRITERIA REMAINS THE SAME AS LISTED ABOVE.
5. 2" HDPE DUCT COLUMN ASSUMES ONLY ONE CONDUCTOR INSIDE DUCT. FOR 3 PHASE CALCULATIONS, THREE SEPARATE 2" DUCTS ARE USED WITH ONE CONDUCTOR IN EACH.

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PRIMARY XLPE CABLE AMPACITIES
OBSOLETE AND LEGACY CABLES

CONDUCTOR CODE	DESCRIPTION	CONFIG	DIRECT BURIED	DUCT BURIED
2 92 21	#1 Compact Cu cn	1Ø	292	211
		3Ø	238	195
2 92 22	#1 Stranded Al cn	1Ø	229	166
		3Ø	185	152
2 92 24	4/0 Compact Al cn	3Ø	306	255
2 92 25	#2 Solid Al cn	1Ø	202	145
2 92 34 (See Note 4)	4/0 Al	3Ø	289	249
2 92 50 (See Note 5)	3 x 500 Compressed Cu cnJ	3Ø	566	443
2 94 10	15kV 4/0 Stranded Cu cn	3Ø	395	323
2 94 15	15kV 500 Stranded Cu cn	3Ø	608	506
2 94 25	500 Stranded Cu cn	3Ø	601	504

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TABLE VALUES ARE CALCULATED IN CYMCAP 6.0 REV 5, BASED ON THE FOLLOWING INFORMATION:

- 90°C CONDUCTOR TEMPERATURE
- 10°C AMBIENT TEMPERATURE
- 100% LOAD FACTOR
- 1.2m BURIED DEPTH
- 0.9 °C-m/W SOIL RESITIVITY
- 4.8 °C-m/W FIBRE DUCT RESITIVITY
- CABLES BONDED AT BOTH ENDS FOR 3-PHASE, NO BONDING FOR 1-PHASE
- NEUTRAL CURRENT IS 75% FOR 1-PHASE AND 0% FOR 3-PHASE
- 5” FIBRE DUCTS
- DUCTS ARE BURIED WITH NO CONCRETE
- 3 PHASE IN TREFOIL FORMATION

NOTE:

1. cn = CONCENTRIC NEUTRAL, J = JACKET
2. ALL CABLES RATED 25KV UNLESS OTHERWISE SPECIFIED.
3. THIS TABLE IS FOR REFERENCE PURPOSES ONLY. NEW INSTALLATIONS SHOULD NOT USE THESE CONDUCTORS.
4. CODE 2 92 34 IS CALCULATED ON A PREVIOUS VERSION OF CYMCAP USING 20°C AMBIENT TEMPERATURE AND 4” FIBRE DUCTS.
5. CODE 2 92 50 IS CALCULATED ON A PREVIOUS VERSION OF CYMCAP USING 20°C AMBIENT TEMPERATURE.

PRIMARY CABLES–PHYSICAL PROPERTIES

CODE	2–94–22	2–94–33	2–94–36	2–94–37	2–94–38
DESCRIPTION	#2 Al SOLID 28 kV XLPE, FULL c.n. PE JACKET	#1 Al SOLID, 25 kV XLPE, FULL c.n. PE JACKET	4/0 Al COMPACT, 25 kV XLPE, REDUCED (1/3) c.n. PE JACKET	500 Al COMPACT, 25 kV XLPE, REDUCED (1/3) c.n. PE JACKET	500 Cu COMPACT, 25 kV XLPE, REDUCED (1/3) c.n. PE JACKET
DIA. OF COND. mm	6.54 (0.257")	7.35 (0.289")	12.07 (0.475")	18.80 (0.740")	18.69 (0.736")
AREA OF COND. sq mm	33.6	42.4	107.0	253.4	253.4
DIA. OVER COND. SHIELD mm	7.37 (0.290")	8.11 (0.319")	12.83 (0.505")	19.90 (0.780")	19.86 (0.782")
DIA. OVER INSUL. mm	21.41 (0.843")	22.10 (0.870")	26.85 (1.057")	33.60 (1.320")	33.45 (1.317")
DIA. OVER INSUL. SHIELD mm	23.06 (0.908")	24.70 (0.972")	29.41 (1.158")	36.30 (1.430")	35.55 (1.400")
C/N MAKE UP DIA. 1 C/N mm	10x#14Cu 1.63(0.064")	13x#14Cu 1.63(0.064")	11x#14Cu 1.63(0.064")	25x#14Cu 1.63(0.064")	26x#12Cu 2.05(0.081")
DIA. OVER C/N ASSY mm	26.32 (1.036")	27.96 (1.101")	32.66 (1.286")	39.56 (1.560")	39.66 (1.561")
DIA. OVER JKT. mm	29.00 (1.142")	30.56 (1.203")	35.31 (1.392")	42.36 (1.668")	43.76 (1.723")
OUTSIDE CBL DIA. mm	29.00 (1.142")	30.56 (1.203")	35.31 (1.392")	42.36 (1.668")	43.76 (1.723")
CABLE WEIGHT kg/m	0.860	0.998	1.34	2.330	4.222
GMR mm	2.548 (0.100")	2.956 (0.116")	4.699 (0.185")	7.280 (0.287")	7.217 (0.284")
Rdc @ 20° C OHMS/km	0.8406	0.6798	0.2690	0.114	0.0693
Rac @ 90° C OHMS/km	1.078	0.8714	0.3452	0.149	
Rac–n @ 80° C OHMS/km	1.078	0.8170	0.979	0.431	0.261

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APPROVED FOR CONSTRUCTION

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.D.REDEKOPP CHKD. 2019–08–15	JACKETED PRIMARY CABLES–PHYSICAL AND ELECTRICAL PROPERTIES
DATE OF ISSUE: 2020/05/12	DRAWING NO. C–26–04.09	SHEET 1 of 1	REV. E

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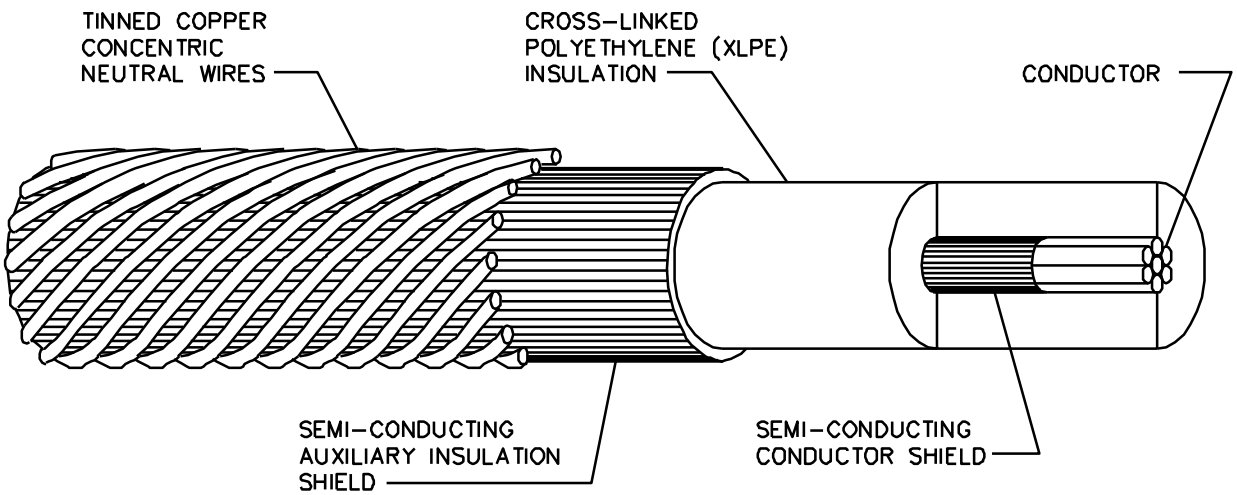
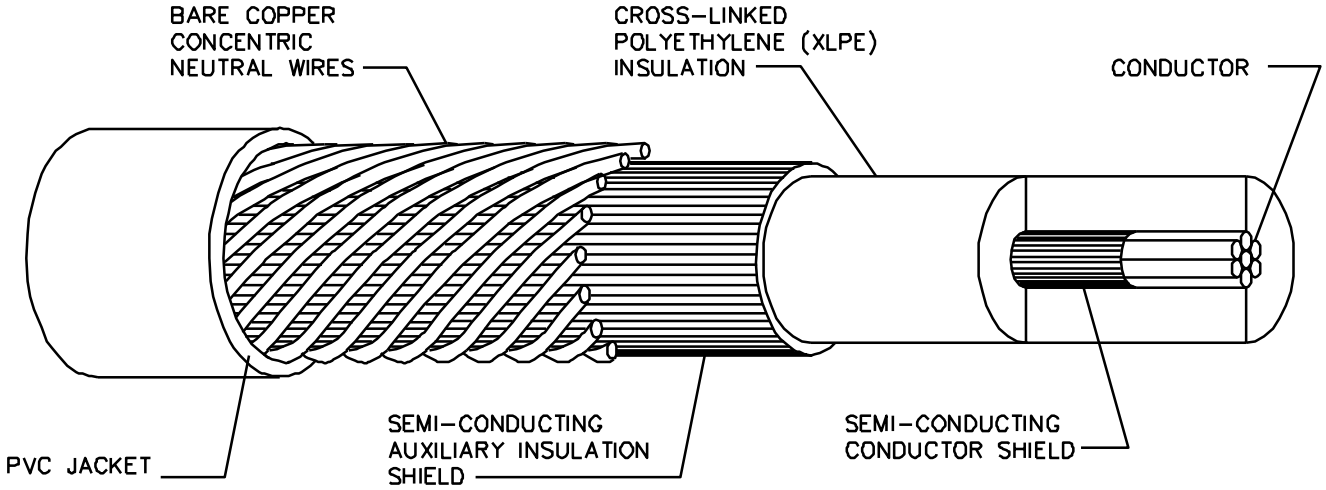
SINGLE PRIMARY CABLE (SINGLE & THREE PHASE APPLICATION)



UNJACKETED PRIMARY CABLE



JACKETED PRIMARY CABLE

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

Sask Power – DISTRIBUTION STANDARDS				
DRN.	DESIGN CHK.	SAFETY APP.	APPROVAL	PRIMARY CABLES, PHYSICAL & ELECTRICAL PROPERTIES
CHKD.				
DATE	DATE	DATE	DATE	
DATE OF ISSUE: 2009-06-29		DRAWING NO. C-26-04.10	SHEET 1 of 3	REV. C

	# 2 AL 2 92 25	# 2 AL Legacy - 25kV 2 94 22	#1 AL 2 92 22	#1 AL (19 WIRE) 2 94 32
DIA. OF COND. DC	6.553 (0.258")	6.54 (0.257")	7.595 (0.299")	8.179 (0.322")
DIA. OVER COND. SHIELD DCS	7.620 (0.300")	7.53 (0.296")	--	8.941 (0.352")
DIA. OVER INSULATION DI	20.828 (0.820")	21.14 (0.832")	22.403 (0.882")	21.996 (0.866")
DIA. OVER INSULATION SHIELD DIS	22.606 (0.890")	22.96 (0.904")	24.079 (0.948")	23.393 (0.921")
CONC. NEUT. MAKE UP DIA OF 1 C/N WIRE	10 x #14CU 1.626 (0.0641")	10 x #14CU 1.626 (0.0641")	13 x #14CU 1.626 (0.0641")	13 x #14CU 1.626 (0.0641")
DIA. OVER C/N ASSEMBLY DMS	25.908 (1.020")	28.91 (1.138")	27.381 (1.078")	25.197 (0.992")
MEAN SHIELD C/N DIA. DMS	24.232 (0.954")	24.59 (0.968")	25.705 (1.012")	25.197 (0.992")
OUTSIDE CABLE DIA. DO	25.908 (1.020")	28.91 (1.138")	27.381 (1.078")	29.185 (1.149")
GMR	2.540 (0.100")	2.548 (0.100")	2.9591 (0.1165")	1.0414 (0.0410")
RDC @ 20°C OHMS/KM	0.8573	0.839	0.6798	0.6798
RAC @ 90°C OHMS/KM	1.0990	1.076	0.8714	0.8714
RAC-N @ 80°C OHMS/KM	1.0623	1.047	0.829	--

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

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	#1 CU 2 92 21	# 4/0 AL 2 92 24	500 KCMIL CU 2 94 25	3 X 500 KCMIL CU 2 92 50
DIA. OF COND. DC	7.595 (0.299”)	12.065 (0.475”)	18.796 (0.740”)	18.796 (0.740”)
DIA. OVER COND. SHIELD DCS	--	--	20.066 (0.790”)	20.066 (0.790”)
DIA. OVER INSULATION DI	22.301 (0.878”)	26.797 (1.055”)	34.595 (1.362”)	33.782 (1.330”)
DIA. OVER INSULATION SHIELD DIS	24.079 (0.948”)	29.693 (1.169”)	37.490 (1.476”)	36.322 (1.430”)
CONC. NEUT. MAKE UP DIA OF 1 C/N WIRE	20 x #14CU 1.626 (0.064”)	20 x #12 CU 2.052 (0.0808”)	26 x #12 CU 2.052 (0.0808”)	3 x 3/0 CU
DIA. OVER C/N ASSEMBLY DMS	27.381 (1.078”)	33.807 (1.331”)	41.605 (1.638”)	35.560 (1.400”)
MEAN SHIELD C/N DIA. DMS	25.705 (1.012”)	31.725 (1.249”)	39.548 (1.557”)	35.560 (1.400”)
OUTSIDE CABLE DIA. DO	27.381 (1.078”)	33.807 (1.331”)	41.605 (1.638”)	86.868 (3.420”)
GMR	2.959 (0.1165”)	4.699 (0.185”)	7.2796 (0.2866”)	7.2796 (0.2866”)
RDC @ 20°C OHMS/KM	0.4147	0.2690	0.0696	0.0696
RAC @ 90°C OHMS/KM	0.5289	0.3452	0.0902	0.0902
RAC-N @ 80°C OHMS/KM	--	0.3340	--	--

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SECONDARY USC75 (LEGACY) CABLES – PHYSICAL PROPERTIES

CODE	2-94-51 2 x #4 Al	2-94-62 3 x #2 Al	2-94-64 3 x 1/0 Al	2-94-66 3 x 4/0 Al
DESCRIPTION	#4 Al COMPACT, 600 V, PE INSUL., PVC JACKET, (STREET LIGHT CABLE)	#2 Al COMPACT, 600 V, PE INSUL., PVC JACKET	1/0 Al COMPACT, 600 V, PE INSUL., PVC JACKET	4/0 Al COMPACT, 600 V, PE INSUL., PVC JACKET
DIA. OF COND. mm	5.40 (0.213")	7.30 (0.287")	9.20 (0.362")	12.10 (0.476")
AREA OF COND. sq mm	21.2	33.6	53.5	107.2
INSULATION THICKNESS MM	1.10 (0.043")	1.10 (0.043")	1.40 (0.055")	1.40 (0.055")
DIA. OVER INSUL. mm	7.60 (0.299")	9.50 (0.374")	12.00 (0.472")	14.90 (.587")
JACKET THICKNESS MM	0.76 (0.030")	1.10 (0.043")	1.10 (0.043")	1.14 (0.045")
DIA. OVER JKT. mm	9.12 (0.359")	11.70 (0.461")	14.20 (0.559")	17.18 (0.676")
DIA. OVER ASSY. mm	18.8 (0.740")	25.3 (0.996")	30.2 (1.189")	38.0 (1.496")
ASSEMBLY WT. mm	0.232	0.533	0.794	1.360

CODE	2-94-67 3 x 350 Al	2-94-68 3 x 500 Al	2-94-82 4 x #2 Al	2-94-84 4 x 1/0 Al
DESCRIPTION	350 Al COMPACT, 600 V, PE INSUL., PVC JACKET	500 Al COMPACT, 600 V PE INSUL., PVC JACKET	#2 Al COMPACT, 600 V PE INSUL., PVC JACKET	1/0 Al COMPACT, 600 V PE INSUL., PVC JACKET
DIA. OF COND. mm	16.32 (0.643")	18.69 (0.736")	7.30 (0.287")	9.20 (0.362")
AREA OF COND. sq mm	177.3	253.4	33.6	53.5
INSULATION THICKNESS MM	1.65 (0.065")	1.65 (0.065")	1.10 (0.043")	1.40 (0.055")
DIAMETER OVER INSULATION mm	19.62 (0.772")	21.99 (0.866")	9.50 (0.374")	12.00 (0.472")
JACKET THICKNESS mm	1.14 (0.045")	1.14 (0.045")	1.10 (0.043")	1.10 (0.043")
DIAMETER OVER JACKET mm	21.90 (0.862")	24.27 (0.956")	11.70 (0.461")	14.20 (0.559")
DIAMETER OVER ASSEMBLY mm	47.2 (1.858")	54.1 (2.130)	28.3 (1.114")	33.8 (1.331")
ASSEMBLY WT. kg/m	2.120	2.880	0.710	1.060

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SECONDARY USC75 (LEGACY) CABLES – PHYSICAL PROPERTIES

CODE	2-94-86 4 x 4/0 Al	2-94-87 4 x 350 Al	2-94-88 4 x 500 Al
DESCRIPTION	4/0 Al COMPACT, 600V, PE INSUL., PVC JACKET	350 Al COMPACT, 600V, PE INSUL., PVC JACKET	500 Al COMPACT, 600V, PE INSUL., PVC JACKET
DIA. OF COND. mm	12.10 (0.476")	16.32 (0.643")	18.69 (0.736")
AREA OF COND. sq mm	107.2	177.3	253.4
INSULATION THICKNESS mm	1.40 (0.055")	1.65 (0.065")	1.65 (0.065")
DIA. OVER INSUL. mm	14.90 (0.587")	19.62 (0.772")	21.99 (0.866")
JACKET THICKNESS mm	1.14 (0.045")	1.14 (0.045")	1.14 (0.045")
DIA. OVER JKT mm	17.18 (0.676")	21.90 (0.862")	24.27 (0.956")
DIA. OVER ASSY. mm	42.5 (1.673")	55.0 (2.165")	62.5 (2.461")
ASSEMBLY Wt. kg/m	1.810	2.900	3.900

NOTE: DIAMETER AND WEIGHT OF ASSEMBLY ARE APPROXIMATE

SECONDARY USC75 (LEGACY) CABLES – ELECTRICAL PROPERTIES

CABLE	MAX. CONDUCTOR TEMP. DEG. C	R ac @ MAX. TEMP. OHMS/KM	X ac OHMS/KM	GMR mm
2-94-51 2 x #4 Al	75	1.7473	0.1356	1.959 (0.077")
2-94-62 3 x #2 Al	75	1.0483	0.1120	2.648 (0.104")
2-94-64 3 x 1/0 Al	75	0.6590	0.1059	3.485 (0.137")
2-94-66 3 x 4/0 Al	75	0.3292	0.0996	4.584 (0.180")
2-94-67 3 x 350 Al	75	0.1996	0.0943	6.265 (0.247")
2-94-68 3 x 500 Al	75	0.1402	0.0919	7.175 (0.282")
2-94-82 4 x #2 Al	75	1.0483	0.1207	2.648 (0.104")
2-94-84 4 x 1/0 Al	75	0.6590	0.1146	3.485 (0.137")
2-94-86 4 x 4/0 Al	75	0.3292	0.1083	4.584 (0.180")
2-94-87 4 x 350 Al	75	0.1996	0.1041	6.265 (0.247")
2-94-88 4 x 500 Al	75	0.1402	0.1006	7.175 (0.282")

NOTE: Rac AND Xac ARE PER PHASE.
Xac IS CALCULATED WITH CONDUCTORS TOUCHING AND IN THE FOLLOWING CONFIGURATIONS:

2 CONDUCTORS

3 CONDUCTORS

4 CONDUCTORS

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AUTO DRAFT

SECONDARY USC–75 CABLE AMPACITIES

CONDUCTOR CODE	DESC	DIRECT BURIED ** 10 DEG. C AMBIENT RESIDENTIAL 75% LF AMPS	DIRECT BURIED ** 10 DEG. C AMBIENT COMMERCIAL 100% LF AMPS	DUCT BURIED ** 10 DEG. C AMBIENT RESIDENTIAL 75% LF AMPS	DUCT BURIED ** 10 DEG. C AMBIENT COMMERCIAL 100% LF AMPS
2–94–51	2 x #4	---	145	---	---
2–94–62	3 x #2	175	150	140	130
2–94–64	3 x 1/0	235	200	185	175
2–94–66	3 x 4/0	360	305	285	270
2–94–67	3 x 350	510	420	415	380
2–94–68	3 X 500	640	520	500	435
2–94–82	4 x #2	160	135	110	105
2–94–84	4 x 1/0	210	180	150	145
2–94–86	4 x 4/0	320	265	230	220
2–94–87	4 x 350	450	365	335	315
2–94–88	4 x 500	555	445	440	410

CONDUCTOR CODE	DESC	DUCT IN AIR 30 DEG. C AMBIENT	DUCT IN AIR 30 DEG. C AMBIENT COMMERCIAL 100% LF AMPS	DUCT IN AIR *** 40 DEG. C AMBIENT	DUCT IN AIR *** 40 DEG. C AMBIENT COMMERCIAL 100% LF AMPS
2–94–51	2 x #4		---		---
2–94–62	3 x #2		110		95
2–94–64	3 x 1/0		145		130
2–94–66	3 x 4/0		225		200
2–94–67	3 x 350		320		280
2–94–68	3 X 500		405		355
2–94–82	4 x #2		85		75
2–94–84	4 x 1/0		115		100
2–94–86	4 x 4/0		175		155
2–94–87	4 x 350		255		225
2–94–88	4 x 500		320		280

BASED ON: 75 DEG. C MAXIMUM CONDUCTOR TEMPERATURE, CABLES TOUCHING, BALANCED LOAD; ONE CONDUCTOR PER PHASE; DEPTH OF BURIAL 0.6m; SOIL THERMAL RESISTIVITY 90 C–cm/w; FRE DUCTS 5" DIA.; 75% LF(LOAD FACTOR) BASED ON TYPICAL RESIDENTIAL LOAD; 100% LF(LOAD FACTOR) BASED ON 8 TO 24 HOUR CONTINOUS LOAD.

NOTE: * THESE AMPACITIES ARE BASED ON 1 CONDUCTOR PER PHASE, FOR 2 CONDUCTORS PER PHASE REDUCE AMPACITY TO 80%, AND FOR 3 CONDUCTORS PER PHASE REDUCE AMPACITY TO 70%. MAXIMUM NUMBER OF CABLES FOR 5" DUCT IS 2 CONDUCTORS PER PHASE FOR 500 kcmil AND 3 CONDUCTORS PER PHASE FOR 350 kcmil.

NOTE: ** FOR RESIDENTIAL SERVICES, THE PORTION OF SERVICE LOCATED IN DUCT IN AIR ON THE RISER POLE AND AT THE SERVICE ENTRANCE CAN BE IGNORED BECAUSE;
a) THE ACTUAL AIR TEMPERATURE DURING WINTER PEAK WILL BE MUCH LESS THAN +10 DEG. C (ABOUT –20 DEG C), WHICH WILL COOL THE CABLES IN AIR MORE THAN CABLES UNDERGROUND.
b) THE SUMMER PEAK LOADS IS TYPICALLY ONLY 70% OF WINTER PEAK, AND THE RATINGS FOR CABLES IN DUCT IN AIR ARE NORMALLY 70–75% OF THE DIRECT BURIED RATING.

NOTE: *** THE 40 DEG. C AMBIENT SHOULD ONLY BE USED FOR INSTALLATIONS WHERE IT IS EXPECTED THAT THE AMBIENT TEMPERATURE WILL EXCEED 30 DEG. C FOR EXTENDED PERIODS OF TIME.

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

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SaskPower – DISTRIBUTION ENGINEERING

DRN. M.T.S.	DESIGN CHK.	SAFETY APP.	APPROVAL	SECONDARY USC–75 CABLE AMPACITIES
CHKD.				
DATE	DATE	DATE	DATE	
DATE OF ISSUE		DRAWING NO. C–26–04.13	SHEET 1 OF 1	REV. 0

Cable Type	Stock Code	Max Tension (N [lbf])	1Ø or 3Ø	Duct Type	Number of 90° Bends	Max Pull Length (m)	Min Lube Required* (L/m)
#2 Solid Al cnJ Typical reel length 1700m	29422	1,849 [416]	1Ø	2” HDPE	0	1800	0.05
					1	1610	0.05
					2	1420	0.06
					3	1230	0.06
		3,661 [824]	3Ø	4” PVC	0	1060	0.09
					1	930	0.09
					2	810	0.10
					3	690	0.10
				5” PVC	0	1130	0.11
					1	1010	0.11
					2	880	0.13
					3	770	0.13
				5” HDPE	0	1220	0.11
					1	1100	0.11
					2	980	0.13
					3	860	0.13
#1 Compact Al cnJ Typical reel length 900m	29432	2,975 [669]	1Ø	2” HDPE	0	1270	0.05
					1	1150	0.05
					2	1040	0.06
					3	920	0.06
		5,891 [1,325]	3Ø	4” PVC	0	710	0.09
					1	630	0.09
					2	560	0.10
					3	480	0.10
				5” PVC	0	760	0.11
					1	680	0.11
					2	610	0.13
					3	530	0.13
				5” HDPE	0	820	0.11
					1	740	0.11
					2	670	0.13
					3	590	0.13
#1 Solid Al cnJ Typical reel length 1000m	29433	2,332 [524]	1Ø	2” HDPE	0	950	0.05
					1	860	0.05
					2	760	0.06
					3	670	0.06
		4,617 [1,038]	3Ø	4” PVC	0	530	0.09
					1	470	0.09
					2	410	0.10
					3	350	0.10
				5” PVC	0	570	0.11
					1	510	0.11
					2	450	0.13
					3	400	0.13
				5” HDPE	0	620	0.11
					1	560	0.11
					2	500	0.13
					3	440	0.13

* LUBRICANT IS REQUIRED DURING CABLE PULLS. SEE NOTE 5 ON SHEET 3 FOR MORE DETAILS.

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Cable Type	Stock Code	Max Tension (N [lbf])	1Ø or 3Ø	Duct Type	Number of 90° Bends	Max Pull Length (m)	Min Lube Required* (L/m)
4/0 Compact Al cnJ Typical reel length 650m	29436	11,676 [2,625]	3Ø	3-7/8" Fiber	0	790	0.08
					1	680	0.08
					2	560	0.09
					3	460	0.09
				4" PVC	0	960	0.09
					1	840	0.09
					2	730	0.10
					3	620	0.10
				5" PVC	0	1070	0.11
					1	960	0.11
					2	850	0.13
					3	740	0.13
				5" HDPE	0	1160	0.11
					1	1040	0.11
					2	940	0.13
					3	830	0.13
500 kcmil Compact Al cnJ Typical reel length 450m	29437	27,589 [6,201]	3Ø	5" PVC	0	1360	0.11
					1	1200	0.11
					2	1050	0.13
					3	900	0.13
				5" HDPE	0	1470	0.11
					1	1310	0.11
					2	1160	0.13
					3	1020	0.13
500 kcmil Compact Cu cnJ Typical reel length 450m	29438	34,589 [7,775]	3Ø	5" PVC	0	910	0.11
					1	800	0.11
					2	700	0.13
					3	600	0.13
				5" HDPE	0	990	0.11
					1	880	0.11
					2	780	0.13
					3	680	0.13
500 kcmil Compact Cu cnJ Reduced Wall Typical reel length 450m	29440	35,230 [7,920]	3Ø	3-7/8" Fiber	0	780	0.08
					1	660	0.08
					2	550	0.09
					3	440	0.09
				5" PVC	0	1280	0.11
					1	1170	0.11
					2	1060	0.13
					3	950	0.13
3 x 500 kcmil Compact Cu cnJ Reduced Wall Typical reel length 450m	29442	48,441 [10,890]	3Ø	3-7/8" Fiber	0	1360	0.08
					1	1190	0.08
					2	1020	0.09
					3	870	0.09
				5" PVC	0	1840	0.11
					1	1680	0.11
					2	1520	0.13
					3	1370	0.13

* LUBRICANT IS REQUIRED DURING CABLE PULLS. SEE NOTE 5 ON SHEET 3 FOR MORE DETAILS.

NOTE:

1. cn = CONCENTRIC NEUTRAL, J = JACKET
2. ALL CABLES RATED 25kV UNLESS OTHERWISE INDICATED.
3. MAX PULL LENGTH VALUES ARE ROUNDED TO NEAREST 10m THAT IS AT OR BELOW THE MAX TENSION ALLOWED.
4. CABLES SHOULD BE FED FROM THE SIDE WITH THE MAJORITY OF THE BENDS, IF POSSIBLE, TO LOWER TENSION.
5. LUBRICATING OF CABLES DURING PULL IS REQUIRED TO ACHIEVE THESE LENGTHS OF PULLS. MINIMUM AMOUNT OF LUBRICANT REQUIRED AS PER PULL PLANNER 3000 SOFTWARE IS GIVEN IN THE TABLE. MULTIPLY THE TABLE VALUES BY THE LENGTH OF PULL IN METRES TO GET THE REQUIRED AMOUNT OF LUBE IN LITRES. MULTIPLY THE TOTAL LITRES BY THE FOLLOWING FACTORS WHEN CERTAIN LENGTHS ARE EXCEEDED:
    a. >150m X 1.2
    b. >300m X 1.3
    c. >450m X 1.4
    d. >600m X 1.5

    ADDITIONAL LUBRICANT IS ALSO REQUIRED FOR OLD OR WORN DUCTS, AS THE TABLE VALUES ASSUME GOOD CONDITION DUCTS.
6. THESE TABLE VALUES ARE GIVEN FOR REFERENCE PURPOSE ONLY AND ARE NOT MEANT TO COVER ALL SITUATIONS. **UNDER NO CIRCUMSTANCE DURING A CABLE PULL SHALL THE MAX TENSION OF THE CABLE BE EXCEEDED.** IF MAX TENSION FROM CABLE MANUFACTURER DOESN'T MATCH WITH THE VALUE IN THE TABLES, USE THE TENSION FROM THE MANUFACTURER.
7. ALL CABLE PULLS ASSUME THE USE OF A PULLING EYE.
8. 3 PHASE CABLE TENSIONS ARE CALCULATED BY MULTIPLYING THE INDIVIDUAL CABLE TENSION BY 3 AND DERATING IT BY 66%. THIS ASSUMES NO SINGLE CABLE WILL TAKE MORE THAN 66% OF TOTAL TENSION DURING THE PULL, AND IS RECOMMENDED BY PULL PLANNER 3000 SOFTWARE.
9. 3-7/8" FIBER DUCT PULL LENGTHS CAN ALSO BE USED FOR ANY 4" FIBER DUCT. IF USING 4" FIBER DUCT THEN USE THE SAME LUBRICANT QUANTITIES AS FOR 4" PVC DUCT.
10. ALL TABLE VALUES FOR PULL LENGTHS ARE THEORECTICAL AND IN MANY CASES, WILL BE LIMITED BY THE LENGTH OF CABLE REEL. TYPICAL REEL LENGTHS ARE SHOWN IN THE TABLE FOR REFERENCE.

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TABLE VALUES ARE CALCULATED IN PULL PLANNER 3000 USING THE FOLLOWING CRITERIA:

- 90 DEGREE BENDS WITH 36” RADIUS ASSUMED AT THE BEGINNING AND END OF EVERY PULL TO SIMULATE COMING IN AND OUT OF A VAULT, MANHOLE, ETC. THE NUMBER OF BENDS LISTED IN THE TABLE IN ARE ADDITION TO THESE 2 BENDS.
- INCOMING OR BACK TENSION SET AT 225 N (50 LBF).
- BENDS ARE PLACED IN THE MIDDLE OF THE PULL AND ARE CONSIDERED HORIZONTAL BENDS.
- BEND RADIUS USED FOR VARIOUS DUCTS:
    - 2” HDPE: 0.31m (12”)
    - 3-7/8” FIBER: 0.92m (36”)
    - 4” PVC AND FIBER: 0.92m (36”)
    - 5” PVC: 0.92m (36”)
    - 5” HDPE: 0.81 (32”)
- COEFFICIENT OF FRICTION VALUES ARE TAKEN FROM PULL PLANNER 3000 DATABASE AND ALL ASSUME GOOD CONDITION DUCT WITH POLYWATER J LUBRICANT AND LLDPE CABLE JACKET, WITH THE EXCEPTION OF REDUCED WALL CABLES. COEFFICIENT OF FRICTION USED FOR CERTAIN DUCT TYPES:
    - PVC DUCT: 0.11
    - HDPE DUCT: 0.10
- REDUCED WALL CABLES ARE AN EXCEPTION TO COEFFICIENT OF FRICTION VALUES ABOVE. CODE 29440 USES POLYPROPYLENE JACKET AND CODE 29442 USES PVC JACKET. COEFFICIENT OF FRICTION VALUES USED FOR CERTAIN DUCT TYPES:
    - CODE 29440
        - FIBER: 0.13
        - PVC: 0.09
    - CODE 29442
        - FIBER: 0.16
        - PVC: 0.11
- 3 PHASE CABLES ARE ASSUMED TO NOT BE TRIPLEXED (BRAIDED TOGETHER).
- ALL PULL SIMULATIONS ASSUME A 5° INCLINE.

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CROSSING SPECIFICATIONS

1. SEE C-26-21.05 FOR DEPARTMENT OF HIGHWAYS CROSSING PERMIT APPLICATION.
2. THE DESIGNATED HIGHWAYS DISTRICT MAINTENANCE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
3. F.R.E. DUCT IS NOT A REQUIREMENT WITH PROVINCIAL HIGHWAY CROSSING.
4. CABLE SHALL CROSS ROADWAY AT AN ANGLE OF 90º WHEREVER POSSIBLE.
5. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN DURING THE INSTALLATION OF CABLE TO PROTECT AND NOT UNDULY INTERFERE WITH, OBSTRUCT, OR ENDANGER TRAFFIC.
6. FOR A FOUR LANE HIGHWAY, TREAT AS TWO SEPARATE PROVINCIAL HIGHWAY CROSSINGS.

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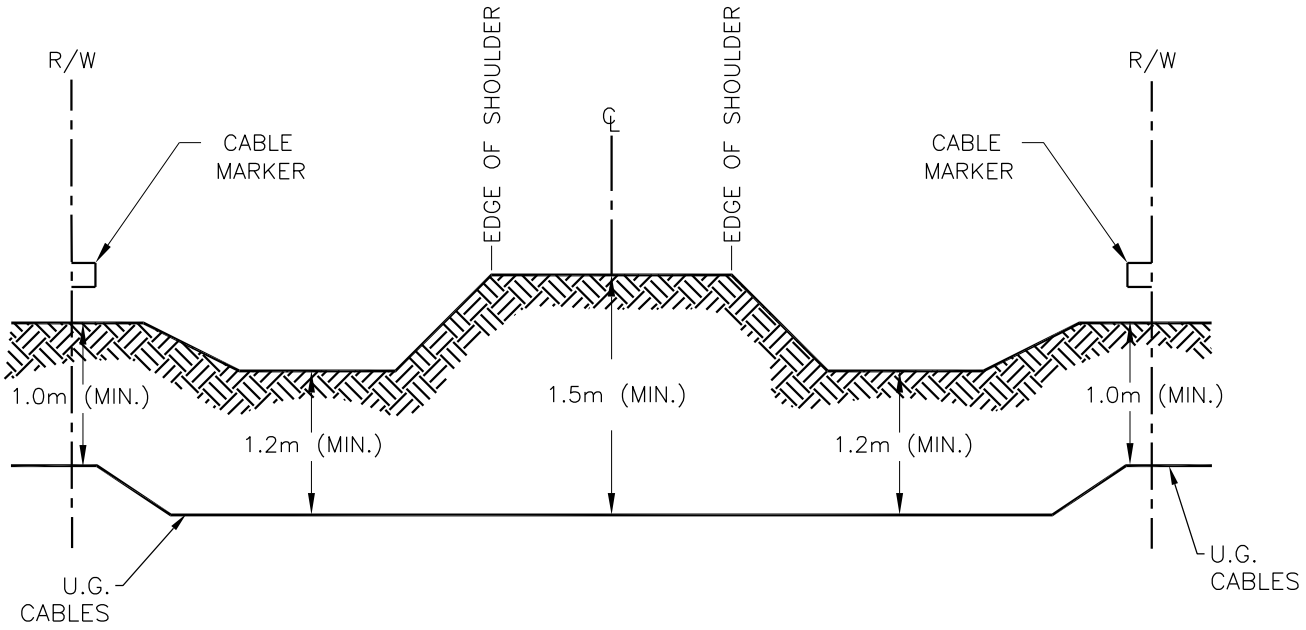
SaskPower - DISTRIBUTION STANDARDS				
APPROVAL **M. ERETH**	DESIGN CHK **A. UHREN**	DRN. **ARU** CHKD. **2014-10-02**	**BORED/PUNCHED PROVINCIAL HIGHWAY CROSSING**	
DATE OF ISSUE: 2015/04/28		DRAWING NO: **C-26-21.03**	**SHEET 1 of 2**	REV. **C**



CROSSING PROFILE

NOTE:

1. FOR CABLE MARKER SEE B-30-15.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. 2017-04-27	BORED/PUNCHED PROVINCIAL HIGHWAY CROSSING
DATE OF ISSUE 2017/05/03	DRAWING NO. C-26-21.03	SHEET 2 of 2	REV. E

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CROSSING SPECIFICATIONS

1. SEE C-26-21.05 FOR DEPARTMENT OF HIGHWAYS CROSSING PERMIT APPLICATION.
2. THE DESIGNATED HIGHWAYS DISTRICT MAINTENANCE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
3. F.R.E. DUCT IS NOT A REQUIREMENT WITH PROVINCIAL HIGHWAY CROSSING.
4. CABLE SHALL CROSS ROADWAY AT AN ANGLE OF 90º WHEREVER POSSIBLE.
5. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN DURING THE INSTALLATION OF CABLE TO PROTECT AND NOT UNDULY INTERFERE WITH, OBSTRUCT, OR ENDANGER TRAFFIC.
6. FOR A FOUR LANE HIGHWAY, TREAT AS TWO SEPARATE PROVINCIAL HIGHWAY CROSSINGS.

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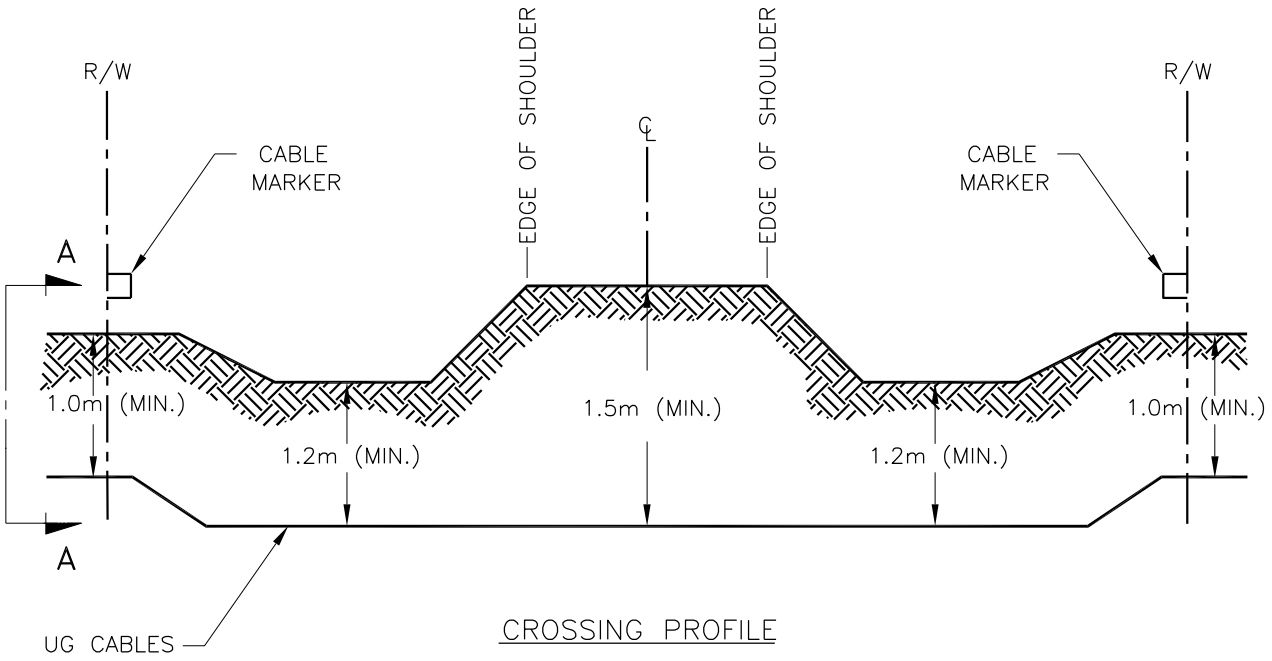
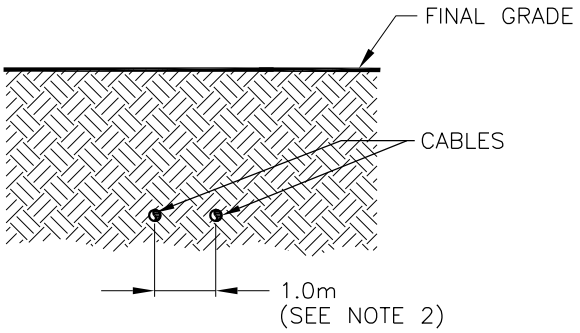
SaskPower - DISTRIBUTION STANDARDS			
APPROVAL	DESIGN CHK	DRN. **ARU**	**BORED/PUNCHED PROVINCIAL HIGHWAY DOUBLE CROSSING**
M. ERETH	**A. UHREN**	CHKD.	
		2014-10-02	
DATE OF ISSUE: 2015/04/28		DRAWING NO: **C-26-21.04**	**SHEET 1 of 2** REV. **B**



CROSSING PROFILE



SECTION A–A

NOTE:

1. FOR CABLE MARKER SEE B–30–15.
2. DOUBLE RUNS OF THREE–PHASE PRIMARY CABLE TO BE SEPARATED A MINIMUM OF 1.0m HORIZONTALLY.

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

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. 2017–04–27	BORED/PUNCH PROVINCIAL HIGHWAY DOUBLE CROSSING
DATE OF ISSUE **2017/05/03**	DRAWING NO. C–26–21.04	SHEET 2 of 2	REV. D

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SPC/AUTODRAFT

DEPARTMENT OF HIGHWAYS CROSSING PERMIT APPLICATIONS

1. A PERMIT IS REQUIRED FOR ANY NEW UNDERGROUND OR OVERHEAD CONSTRUCTION WITHIN 90m OF A PROVINCIAL HIGHWAY RIGHT-OF-WAY.

2. THE APPLICATION REQUIRES THE FOLLOWING
   A. FOUR COPIES OF THE ROUTE PLAN
      ON THE ROUTE PLAN SHOW THE LEGAL LAND DESCRIPTION WITH DISTANCES FROM SECTION LINES, ROAD ALLOWANCES OR PROPERTY LINES. FOR RESIDENTIAL LOTS THE CIVIC ADDRESS MAY BE PROVIDED INSTEAD OF THE LEGAL LAND DESCRIPTION. ALSO SHOW THE TYPE, OF CONSTRUCTION (OVERHEAD OR UNDERGROUND), CONDUCTOR TYPE, VOLTAGES, AND APPARATUS INSTALLED. THIS ROUTE PLAN MAY BE SHOWN ON A FORM CODE 62-291-216.
   B. LETTER OF APPLICATION
      THE LETTER OF APPLICATION SHALL STATE THE PLANNED DATE FOR CONSTRUCTION, AND THE LEGAL DESCRIPTION OF WHERE THE CONSTRUCTION IS TO TAKE PLACE, REQUESTING CONFIRMATION AT THEIR CONVENIENCE. THE LETTER SHALL BE ADDRESSED TO THEIR HEAD OFFICE, PROPERTY SERVICES BRANCH.

3. APPLICATION PROCESSING
   A. PREFERED METHOD
      ONE COPY OF THE ROUTE PLAN ALONG WITH A COPY OF THE LETTER OF APPLICATION SHALL BE SENT TO THEIR DISTRICT OFFICE. THE REMAINING THREE COPIES OF THE ROUTE PLAN ALONG WITH THE ORIGINAL LETTER OF APPLICATION SHALL BE SENT TO THEIR HEAD OFFICE, PROPERTY SERVICES BRANCH.
   B. ALTERNATIVE METHOD
      IF ACCEPTABLE TO THEIR DISTRICT OFFICE, THE ORIGINAL LETTER OF APPLICATION ADDRESSED TO THEIR HEAD OFFICE, PROPERTY SERVICES BRANCH, ALONG WITH THE FOUR COPIES OF THE ROUTE PLAN WOULD BE SENT TO THEIR DISTRICT OFFICE FOR COMMENTS AND REDIRECTION TO THEIR HEAD OFFICE, PROPERTY SERVICES BRANCH.

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SaskPower – DISTRIBUTION STANDARDS

DRN. TmR	DESIGN CHK.	SAFETY APP.	APPROVAL	DEPARTMENT OF HIGHWAYS CROSSING PERMIT APPLICATION
CHKD.				
DATE 89-01-05	DATE	DATE	DATE	
DATE OF ISSUE 89-04-03		DRAWING NO. C-26-21-05	SHEET 1 of 1	REV. 0

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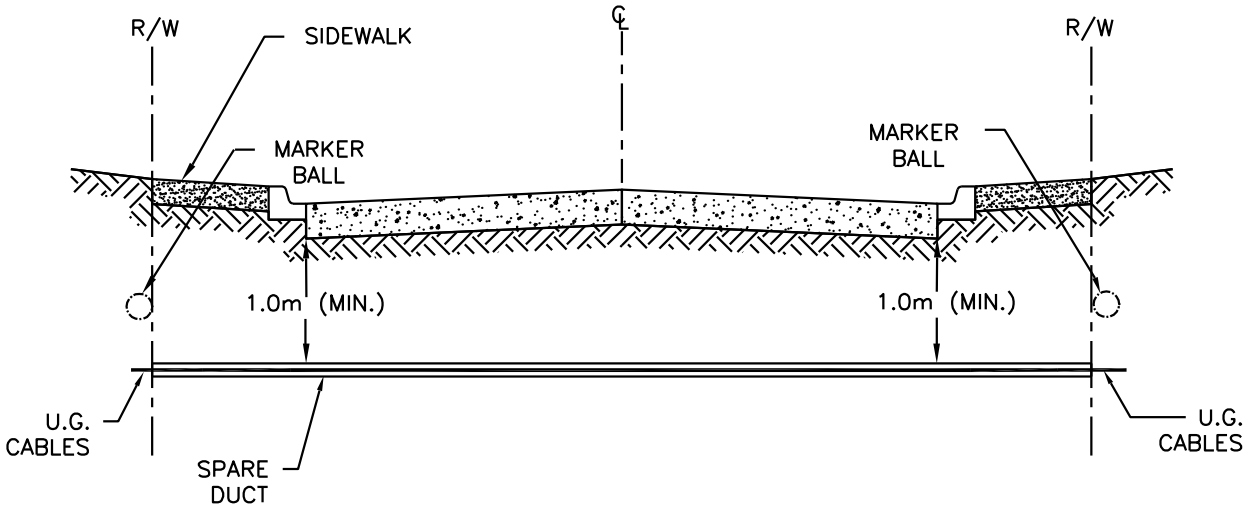

CROSSING PROFILE

NOTE:

1. FOR MARKER BALL INSTALLATION SEE B-30-16.
2. A SPARE DUCT SHALL BE RUN BESIDE CABLES. ONLY ONE SPARE DUCT IS REQUIRED REGARDLESS OF A SINGLE OR DOUBLE RUN. BOTH ENDS OF THE DUCT SHALL BE CAPPED AND PULL TAPE SHALL BE INCLUDED INSIDE DUCT.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. 2016-06-08	BORED/PUNCHED URBAN ROADWAY CROSSINGS
DATE OF ISSUE 2016/07/26	DRAWING NO. C-26-21.06	SHEET 1 of 1	REV. –

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CROSSING SPECIFICATIONS

1. THE APPROPRIATE DIVISION ENGINEER SHALL BE NOTIFIED OF PROPOSED UNDERGROUND CABLE CROSSINGS OF PLASTIC DISTRIBUTION LINES AS SOON AS PRACTICAL AFTER THE CROSSINGS HAVE BEEN IDENTIFIED. NOTIFICATION SHALL BE BY MEANS OF A ROUTE PLAN OF THE PROPOSED CABLE INSTALLATION ON WHICH ARE NOTED THE PIPELINE CROSSINGS.

2. APPROVED CONSTRUCTION ROUTE MAPS OF CABLE INSTALLATIONS SHALL BE FORWARDED TO APPROPRIATE CUSTOMER OPERATIONS, SUPERINTENDENT, AND TWO (2) WEEKS PRIOR TO CONSTRUCTION.

3. THE CUSTOMER OPERATIONS, SUPERINTENDENT SHALL BE GIVEN TWO (2) WORKING DAYS NOTICE PRIOT TO INSTALLATION OF THE CROSSING TO ALLOW FOR PIPELINE LOCATING AND STAKING.

4. WHERE THE CABLE CROSSES BELOW AND ABOVE THE PIPELINE, THERE SHALL BE A MIMIMUM VERTICAL SEPARATION OF 0.3m (1 ft) BETWEEN THE CABLE AND THE PIPELINE. WHERE THE CABLE CROSSES ABOVE THE PIPELINE, A MINIMUM DEPTH OF COVER OF 1m SHALL BE MAINTAINED OVER THE CABLE.

5. THE SAME CROSSING DEPTH OF THE UNDERGROUND CABLE SHALL BE MAINTAINED FOR THE FULL WIDTH OF THE EXISTING EASEMENT BEING CROSSED.

6. BEFORE EXCAVATING EQUIPMENT IS BROUGHT ONTO THE EXISTING PIPELINE EASEMENT, THE PIPELINE(S) TO BE CROSSED SHALL BE:

   a) STAKED BY A QUALIFIED SASKENERGY PERSONNEL OR DESIGNATED SASKENERGY REPRESENTATIVE WITH A PIPELINE LOCATOR, AND;

   b) DAYLIGHTED AS REQUIRED BY SASKENERGY.

7. MACHINE EXCAVATION SHALL NOT TAKE PLACE DIRECTLY OVER THE PIPELINE AND SHALL NOT TAKE PLACE WITHIN 0.6m (2 ft) FROM THE SURFACE OF THE PIPELINE. THE PIPELINE SHALL BE VISIBLE AT ALL TIMES DURING MACHINE EXCAVATION.

8. EXCAVATION AND SUBSEQUENT WORK SHALL BE CONDUCTED IN A MANNER THAT WILL NOT CAUSE DAMAGE TO THE PIPELINE. WORK SHALL BE EXPEDITED TO MINIMIZE THE LENGTH OF TIME THE PIPELINE IS EXPOSED.

9. WHERE THE UNDERGROUND CABLE CROSSED BELOW THE SASKENERGY DISTRIBUTION PIPELINE, CABLE SPLICES SHALL BE MADE AT THE EDGE OF THE PIPELINE EASEMENT.

10. THE CABLE SHALL CROSS THE EXISTING PIPELINE AT AN ANGLE OF 90° WHEREVER POSSIBLE, BUT IN NO CASE AT AN ANGLE LESS THAN 45°.

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	--	4	--	SLEEVE – COMPRESSION AL
2	2 68 XX	1	--	3	SPLICE – PRIMARY CABLE
3	2 68 XX	1	--	3	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	--	4	--	SPLICE – COVER SECONDARY INSULATION
5	5 12 XX	1	--	3	CRIMPIT CU
6	71 35 00	1	--	3	KIT – CABLE PREPARATION

NOTE:

1. **COLUMN A IS FOR A SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLE.**
2. **COLUMN B IS FOR A 4-WIRE SECONDARY CABLE.**
3. **COLUMN C IS FOR THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

ITEM NO.	CODE NO.	QUANTITY D	QUANTITY E	QUANTITY F	DESCRIPTION
1	2 65 4X	8	--	--	SLEEVE – COMPRESSION AL
2	2 68 XX	--	2	6	SPLICE – PRIMARY CABLE
3	2 68 XX	--	2	6	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	8	--	--	SPLICE – COVER SECONDARY INSULATION
5	5 12 XX	--	2	6	CRIMPIT CU
6	71 35 00	--	2	6	KIT – CABLE PREPARATION

NOTE:

4. **COLUMN D IS FOR TWO RUNS OF 4-WIRE SECONDARY CABLES.**
5. **COLUMN E IS FOR TWO RUNS OF SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
6. **COLUMN F IS FOR TWO RUNS OF THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES. (2 - 3Ø PRIMARY CIRCUITS)**

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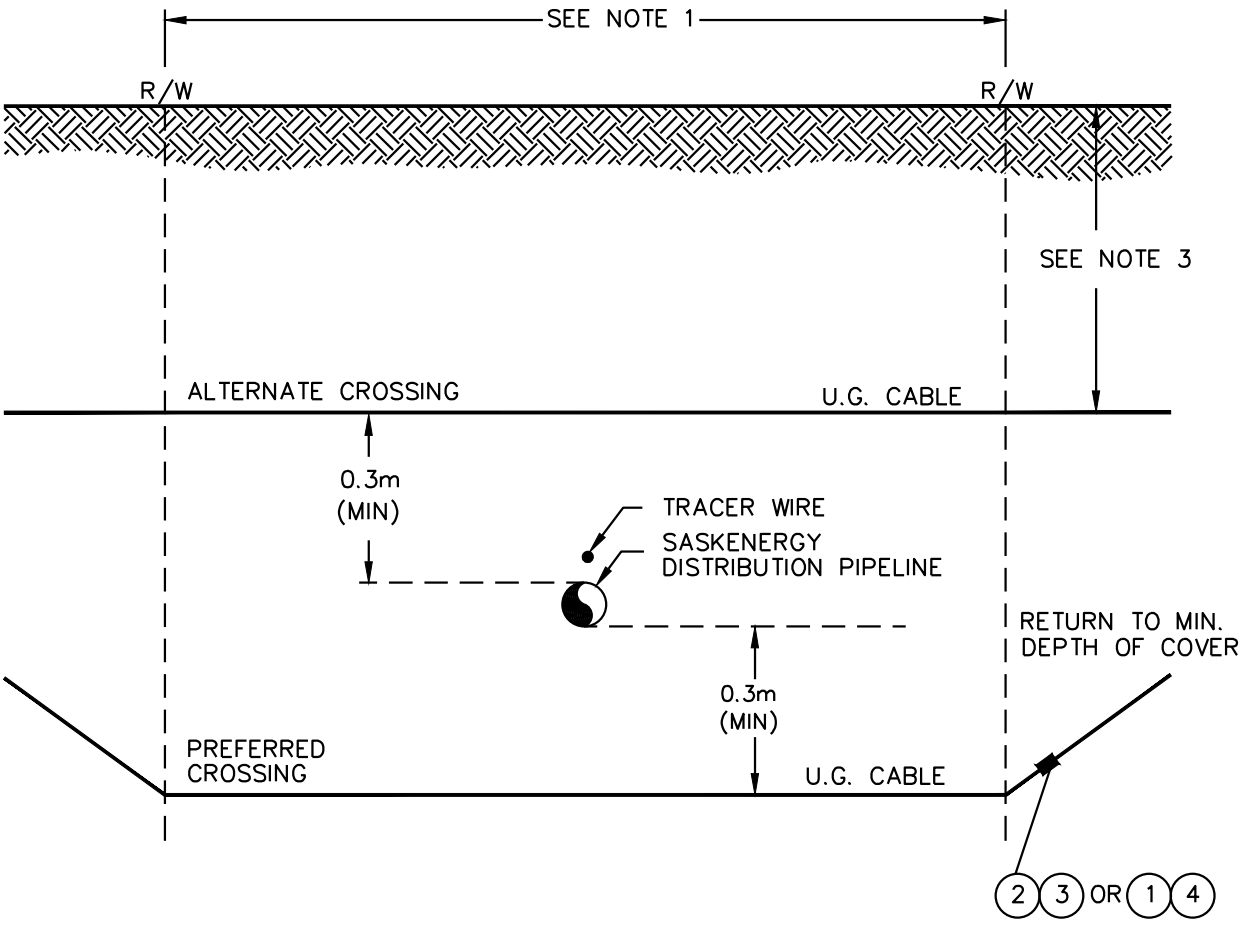

1. R/W WIDTH MAY VARY.
2. DOUBLE RUNS OF THREE-PHASE PRIMARY CABLE TO BE HORIZONTALLY SEPARATED A MINIMUM OF 1.0m.
3. SEE B-14-65 FOR MINIMUM DEPTH OF COVER.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD.	SASKENERGY DISTRIBUTION NATURAL GAS CROSSING
		2016-10-05	
DATE OF ISSUE 2016/11/08	DRAWING NO. C-26-23.01	SHEET 3 of 3	REV. D

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CROSSING SPECIFICATIONS

1. AN APPROVAL REQUEST ACCOMPANIED BY TWO (2) COPIES OF THIS DRAWING SHALL BE SUBMITTED TO THE PIPELINE ENGINEERING MANAGER, GAS ENGINEERING DIVISION, AT LEAST THREE WEEKS PRIOR TO CONSTRUCTION. A COPY OF THE APPROVED CROSSINGS APPLICATION WILL BE RETURNED WITHIN TWO WEEKS. THE DESIGNATED GAS PRODUCTION AND TRANSMISSION SUPERINTENDENT, SHOULD BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

2. PIPELINES TO BE CROSSED SHALL BE DAYLIGHTED AS PER THE PIPELINE COMPANY REQUIREMENTS.

3. WHERE THE CABLE CROSSES BELOW THE PIPELINE, THERE SHALL BE A MIMIMUM VERTICAL SEPARATION OF 0.6m (2 ft) BETWEEN THE CABLE AND THE PIPELINE. WHERE THE CABLE CROSSES ABOVE THE PIPELINE, A MIMIMUM VERTICAL SEPERATION OF 0.3m (1 ft) SHALL BE ACCEPTABLE, PROVIDED THAT MIMIMUM DEPTH OF COVER IS MAINTAINED OVER THE CABLE.

4. THE SAME CROSSING DEPTH OF THE UNDERGROUND CABLE SHALL BE MAINTAINED FOR THE FULL WIDTH OF THE EXISTING EASEMENT BEING CROSSED.

5. IF REQUIRED, PRIMARY CABLE SHALL BE SPLICED JUST OUTSIDE THE EDGE OF THE RIGHT-OF-WAY (5m FROM POINT OF CROSSING).

6. FOR BARE CONCENTRIC NEUTRAL CABLE, AS PER DRAWING C-26-23.04, ANODES SHALL BE INSTALLED ON BOTH SIDES OF THE CROSSING AT THE EDGE OF THE RIGHT-OF-WAY.

7. FOR BARE CONCENTRIC NEUTRAL CABLE, 1 1/2, INCH DIAMETER POLYETHYLENE PIPE SHALL BE INSTALLED ACROSS THE FULL WIDTH OF THE RIGHT-OF-WAY BEING CROSSED. PIPE SHALL BE SEALED AT BOTH ENDS WITH AN APPROVED SEALING AGENT AND SELF-AMALGAMATING POLYETHYLENE TAPE.

8. THE CABLE SHALL CROSS THE EXISTING PIPELINE AT AN ANGLE OF 90° WHEREVER POSSIBLE, BUT IN NO CASE AT AN ANGLE LESS THAN 45°.

9. INDICATE PERTINENT DIMENSIONS RELATING TO CABLE DEPTH AND PIPELINE DEPTH (IF KNOWN) ON CROSSING PROFILE.

10. WHEN A PIPELINE CROSSES EXISTING SASKPOWER CABLE, THE SAME STANDARDS APPLY AS WHEN A CABLE CROSSES A PIPELINE.

11. A CROSSING PERMIT IS REQUIRED FOR ALL NEW CONSTRUCTION AND SALVAGE WORK, EVEN IF JUST DRIVING OVER THE PIPELINE RIGHT-OF-WAY. A CROSSING PERMIT IS NOT REQUIRED IF USING AN EXISTING PUBLIC ROADWAY TO DRIVE OVER THE RIGHT-OF-WAY.

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	--	4	--	SLEEVE – COMPRESSION AL
2	2 68 XX	1	--	3	SPLICE – PRIMARY CABLE
3	2 68 XX	1	--	3	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	--	4	--	SPLICE- COVER SECONDARY INSULATION
5	5 12 XX	3	--	3	CRIMPIT CU
6	71 35 00	1	--	3	KIT – CABLE PREPARATION

NOTE:

1. **COLUMN A IS FOR A SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLE.**
2. **COLUMN B IS FOR A 4-WIRE SECONDARY CABLE.**
3. **COLUMN C IS FOR THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

ITEM NO.	CODE NO.	QUANTITY D	QUANTITY E	QUANTITY F	DESCRIPTION
1	2 65 4X	8	--	--	SLEEVE – COMPRESSION AL
2	2 68 XX	--	2	6	SPLICE – PRIMARY CABLE
3	2 68 XX	--	2	6	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	8	--	--	SPLICE- COVER SECONDARY INSULATION
5	5 12 XX	--	6	6	CRIMPIT CU
6	71 35 00	--	2	6	KIT – CABLE PREPARATION

NOTE:

4. **COLUMN D IS FOR TWO RUNS OF 4-WIRE SECONDARY CABLES.**
5. **COLUMN E IS FOR TWO RUNS OF SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
6. **COLUMN F IS FOR TWO RUNS OF THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES. (2 - 3Ø PRIMARY CIRCUITS)**

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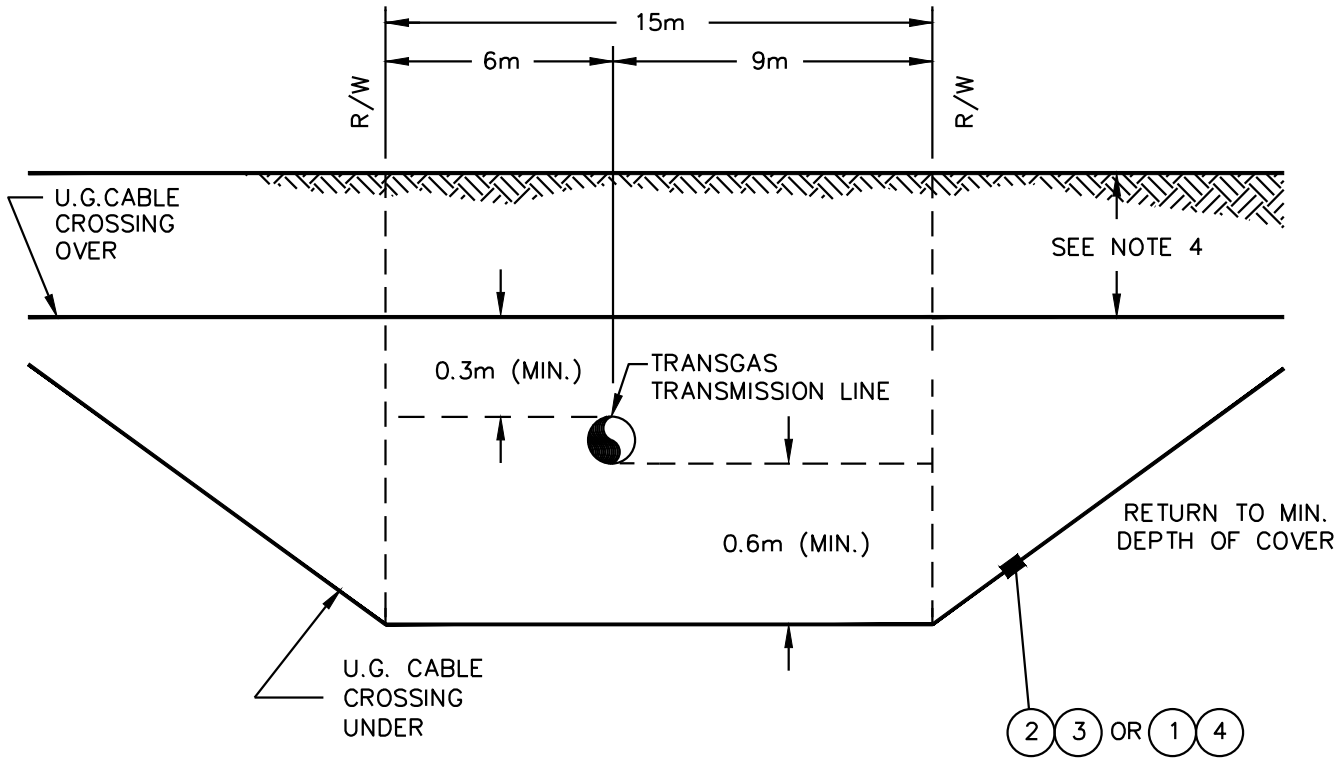
CROSSING PROFILE



NOTE:

1. R/W WIDTH SHOWN IS TYPICAL. ACTUAL WIDTH MAY VARY.

2. THE SASKENERGY TRANSMISSION LINE IS NORMALLY LOCATED 6m FROM THE WEST OR SOUTH EDGE OF RIGHT-OF-WAY.

3. DOUBLE RUNS OF THREE-PHASE PRIMARY CABLE TO BE HORIZONTALLY SEPARATED A MINIMUM OF 1.0m.

4. SEE B-14-65 FOR MINIMUM DEPTH OF COVER

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD. 2016-10-05	TRANSGAS TRANSMISSION NATURAL GAS CROSSING
DATE OF ISSUE 2016/11/08	DRAWING NO. C-26-23.02	SHEET 3 of 3	REV. D

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UNDERGROUND PIPELINE CROSSING SPECIFICATIONS
REGULATED BY NEB

(FORMERLY KNOWN AS FOREIGN OR CROSSING SASKATCHEWAN BORDERS)

1. THIS DRAWING IS TO BE USED FOR INFORMATION PURPOSES ONLY, AND APPLIES TO PIPELINES REGULATED BY THE NATIONAL ENERGY BOARD (NEB).

   A DETAILED PIPELINE CROSSING DRAWING MUST BE SUBMITTED TO AND APPROVAL OBTAINED FROM THE AUTHORITY OF THE PIPELINE WHICH ARE REGULATED BY THE NEB PRIOR TO ANY DIGGING OR CONSTRUCTION OCCURRING. REQUESTS FOR APPROVAL ARE TO BE ROUTED THROUGH THE SUPERVISOR, ENGINEERING RECORDS, AT LEAST EIGHT WEEKS PRIOR TO CONSTRUCTION.

   PIPELINES REGULATED BY NEB ARE SHOWN ON GDS DWG. EFC84 (OBTAINABLE FROM DRAFT. SERVICES).

   THE PIPELINE AUTHORITY SHALL BE NOTIFIED AT LEAST 72 HRS. PRIOR TO CONSTRUCTION.

   THE PIPELINE COMPANY WILL DO THE LOCATING AND WILL SUPERVISE HAND EXCAVATION AND THE ACTUAL CROSSING CONSTRUCTION.

2. PIPELINES TO BE CROSSED SHALL BE DAYLIGHTED BY HAND BEFORE ANY DIGGING MACHINES ARE BROUGHT ON TO THE EXISTING PIPELINE RIGHT–OF–WAY.

3. VERTICAL SEPARATIONS BETWEEN THE CABLE AND THE PIPELINE WILL BE GOVERNED BY THE PIPELINE COMPANY'S REQUIREMENTS, BUT THE MINIMUM VERTICAL SEPARATION SHALL BE 0.6m (2 FT.)

4. THE SAME CROSSING DEPTH SHALL BE MAINTAINED FOR THE FULL WIDTH OF THE RIGHT–OF–WAY BEING CROSSED.

5. IF REQUIRED, CABLE SHALL BE SPLICED JUST OUTSIDE THE EDGE OF THE RIGHT–OF–WAY.

6. FOR BARE CONCENTRIC NEUTRAL PRIMARY CABLES, ANODES SHALL BE INSTALLED ON BOTH SIDES OF THE CROSSING OUTSIDE THE EDGE OF RIGHT–OF–WAY, AS PER DRAWING C–26–23–04.

7. FOR UNJACKETED CONCENTRIC NEUTRAL PRIMARY CABLES, 1 1/2 INCH DIAMETER POLYETHYLENE SHALL BE INSTALLED ACROSS THE FULL WIDTH OF THE RIGHT–OF–WAY BEING CROSSED. PIPE SHALL BE SEALED AT BOTH ENDS WITH PUTTY TAPE AND ELECTRICAL VINYL TAPE.

8. FOR CROSSING GREATER THAN 30m, USE JACKETED PRIMARY CABLE.

9. THE CABLE SHALL CROSS THE EXISTING PIPELINE AT AN ANGLE OF 90° WHEREVER POSSIBLE, BUT IN NO CASE AT AN ANGLE LESS THAN 45°.

10. INDICATE NAME OF PIPELINE COMPANY AND PERTINENT DIMENSIONS RELATING TO CABLE AND PIPELINE DEPTHS (IF KNOWN) ON SKETCH.

11. FOR CROSSINGS OF TC ENERGY CORPORATION PIPELINES ONLY, PLASTIC CABLE MARKER TAPE WILL BE SUPPLIED AND INSTALLED AT 0.5m DEPTH BELOW SURFACE BY TC ENERGY CORPORATION.

12. FOR CROSSINGS OF SOUTH SASKATCHEWAN PIPELINE CO. PIPELINES, MARKING TAPE (SUPPLIED BY SASKPOWER) WILL BE INSTALLED 0.3m ABOVE THE PIPELINE OR CABLE, WHICH EVER IS HIGHER ACROSS THE FULL WIDTH OF THE PIPELINE RIGHT OF WAY.

13. WHEN A PIPELINE CROSSES EXISTING SASKPOWER CABLE, THE SAME STANDARDS APPLY AS WHEN A CABLE CROSSES A PIPELINE.

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SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.D.REDEKOPP CHKD.	CROSSING OF PIPELINES REGULATED BY THE NEB
		2021–07–06	
DATE OF ISSUE 2021-08-16		DRAWING NO. C–26–23.03 SHEET 1 of 4	REV. D

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	--	4	--	SLEEVE – COMPRESSION – AL
2	2 68 XX	1	--	3	SPLICE – PRIMARY CABLE
3	2 68 XX	1	--	3	SPLICE – COVER – PRIMARY JACKET
4	2 68 XX	--	4	--	SPLICE – COVER – SECONDARY INSULATION
5	5 12 XX	1	--	3	CRIMPIT – CU
6	71 35 00	1	--	3	CABLE PREPARATION KIT

NOTE:

1. **COLUMN 'A' IS FOR A SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLE.**
2. **COLUMN 'B' IS FOR A 4-WIRE SECONDARY CABLE.**
3. **COLUMN 'C' IS FOR THREE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

ITEM NO.	CODE NO.	QUANTITY D	QUANTITY E	QUANTITY F	DESCRIPTION
1	2 65 4X	8	--	--	SLEEVE – COMPRESSION – AL
2	2 68 XX	--	2	6	SPLICE – PRIMARY CABLE
3	2 68 XX	--	2	6	SPLICE – COVER – PRIMARY JACKET
4	2 68 XX	8	--	--	SPLICE – COVER – SECONDARY INSULATION
5	5 12 XX	--	2	6	CRIMPIT – CU
6	71 35 00	--	2	6	CABLE PREPARATION KIT

NOTE:

4. **COLUMN 'D' IS FOR TWO RUNS OF 4-WIRE SECONDARY CABLES.**
5. **COLUMN 'E' IS FOR TWO RUNS OF SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
6. **COLUMN 'F' IS FOR TWO RUNS OF THREE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

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*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. **LM**	**CROSSING OF PIPELINES REGULATED BY THE NEB**
L MOEN	**P PATEL**	CHKD. **PP**	
		2021-04-06	

DATE OF ISSUE: **2021-08-16** | DRAWING NO: **C-26-23.03** | **SHEET 2 OF 4** | REV. **H**

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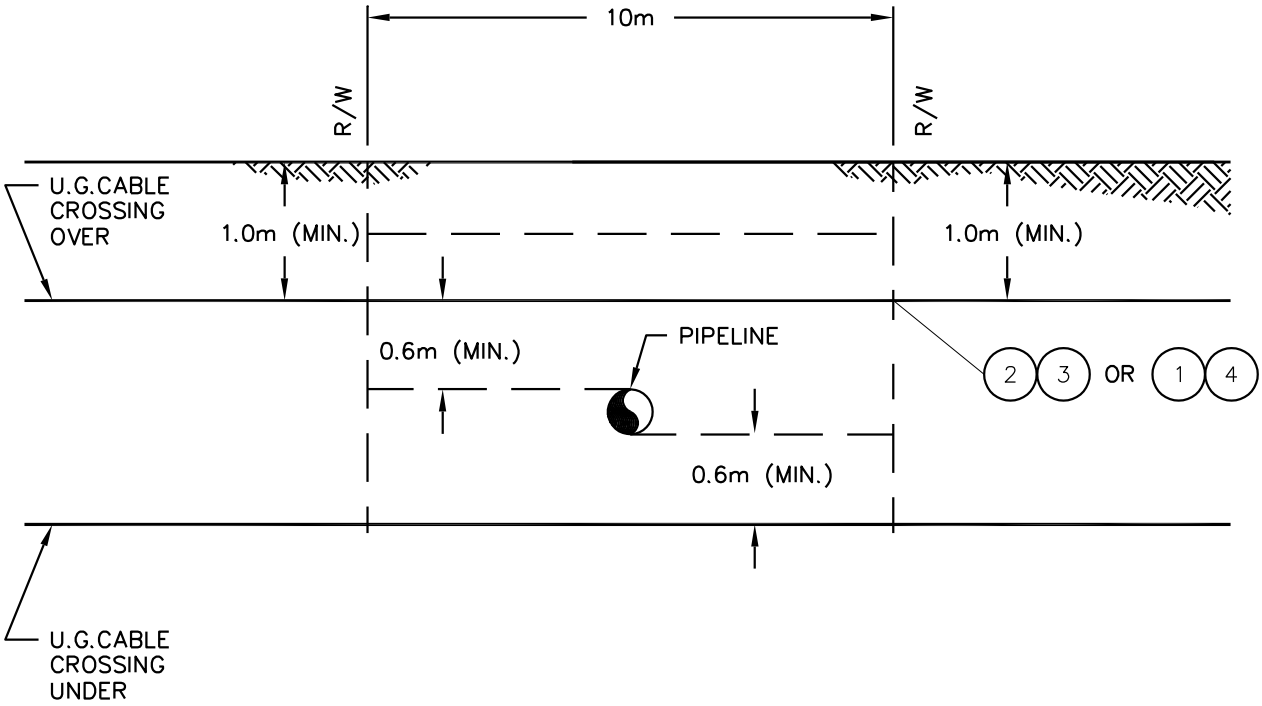
CROSSING PROFILE

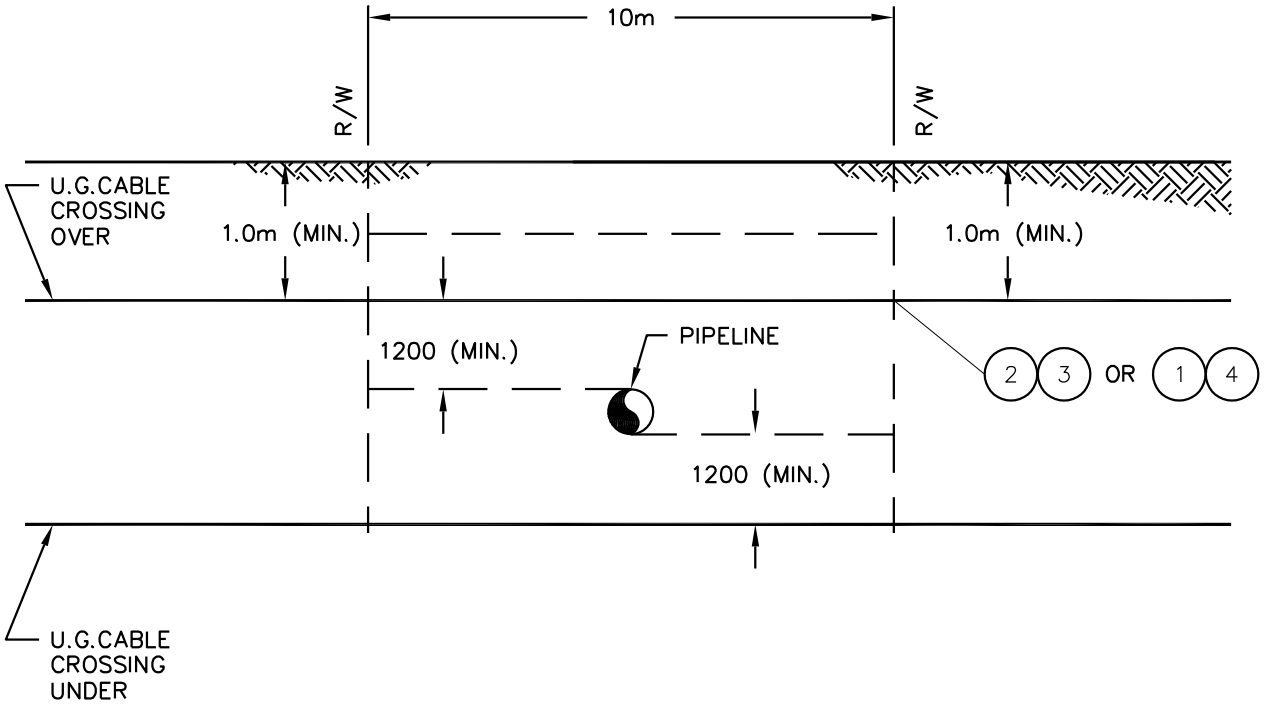


NOTES:

1. DOUBLE RUNS OF THREE-PHASE PRIMARY CABLE TO BE HORIZONTALLY SEPARATED A MINIMUM OF 1.0m.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

	SaskPower – DISTRIBUTION STANDARDS			
	APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.D.REDEKOPP CHKD. 2021-07-06	CROSSING OF PIPELINES REGULATED BY THE NEB
	DATE OF ISSUE 2021-08-16	DRAWING NO. C-26-23.03	SHEET 3 of 4	REV. F

CROSSING PROFILE



NOTES:

1. DOUBLE RUNS OF THREE-PHASE PRIMARY CABLE TO BE HORIZONTALLY SEPARATED A MINIMUM OF 1.0m.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.D.REDEKOPP CHKD.	CROSSING OF PIPELINES REGULATED BY TC ENERGY CORPORATION
		2021-07-06	
DATE OF ISSUE 2021-08-16	DRAWING NO. C-26-23.03	SHEET 4 of 4	REV. –

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AUTO ✱ DRAFT

UNDERGROUND PIPELINE CROSSING SPECIFICATIONS

NOT REGULATED BY NEB

(EXCEPT SASKENERGY)

1. APPROVAL MUST BE OBTAINED FROM THE PIPELINE AUTHORITY PRIOR TO ANY DIGGING OR CONSTRUCTION OCCURRING. IF THE PIPELINE AUTHORITY REQUIRES SASKPOWER TO SIGN A LEGAL AGREEMENT, THEN SUCH AN AGREEMENT IS TO BE SENT TO SASKPOWER'S LEGAL DEPT. (H.O. REGINA).

   THE PIPELINE AUTHORITY SHALL BE NOTIFIED AT LEAST 72 HRS. PRIOR TO CONSTRUCTION.

   THE PIPELINE COMPANY WILL DO THE LOCATING AND WILL SUPERVISE HAND EXCAVATION AND THE ACTUAL CROSSING CONSTRUCTION.

2. PIPELINES TO BE CROSSED SHALL BE DAYLIGHTED BY HAND BEFORE ANY DIGGING MACHINES ARE BROUGHT ON TO THE EXISTING PIPELINE RIGHT–OF–WAY.

3. VERTICAL SEPARATIONS BETWEEN THE CABLE AND THE PIPELINE WILL BE GOVERNED BY THE PIPELINE COMPANY'S REQUIREMENTS, BUT THE MINIMUM VERTICAL SEPARATION SHALL BE 0.6m (2 FT.)

4. THE SAME CROSSING DEPTH SHALL BE MAINTAINED FOR THE FULL WIDTH OF THE RIGHT–OF–WAY BEING CROSSED.

5. IF REQUIRED, CABLE SHALL BE SPLICED JUST OUTSIDE THE EDGE OF THE RIGHT–OF–WAY.

6. FOR BARE CONCENTRIC NEUTRAL PRIMARY CABLES, ANODES SHALL BE INSTALLED ON BOTH SIDES OF THE CROSSING OUTSIDE THE EDGE OF RIGHT–OF–WAY, AS PER DRAWING C–26–23–04.

7. FOR UNJACKETED CONCENTRIC NEUTRAL PRIMARY CABLES, 1 1/2 INCH DIAMETER POLYETHYLENE PIPE SHALL BE INSTALLED ACROSS THE FULL WIDTH OF THE RIGHT–OF–WAY BEING CROSSED. PIPE SHALL BE SEALED AT BOTH ENDS WITH PUTTY TAPE AND ELECTRICAL VINYL TAPE.

8. FOR CROSSING GREATER THAN 30m, USE JACKETED PRIMARY CABLE.

9. THE CABLE SHALL CROSS THE EXISTING PIPELINE AT AN ANGLE OF 90° WHEREVER POSSIBLE, BUT IN NO CASE AT AN ANGLE LESS THAN 45°.

10. INDICATE NAME OF PIPELINE COMPANY AND PERTINENT DIMENSIONS RELATING TO CABLE AND PIPELINE DEPTHS (IF KNOWN) ON SKETCH.

11. WHEN A PIPELINE CROSSES EXISTING SASKPOWER CABLE, THE SAME STANDARDS APPLY AS WHEN A CABLE CROSSES A PIPELINE.

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SaskPower – DISTRIBUTION STANDARDS			
DRN. R. LANG	DESIGN CHK.	APPROVAL	CROSSING OF PIPELINES NOT REGULATED BY THE NEB
CHKD.			
DATE 97–10–07	DATE	DATE	
DATE OF ISSUE	DRAWING NO. C–26–23.05	SHEET 1 OF 3	REV. 0

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	--	4	--	SLEEVE – COMPRESSION AL
2	2 68 XX	1	--	3	SPLICE – PRIMARY CABLE
3	2 68 XX	1	--	3	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	--	4	--	SPLICE- COVER SECONDARY INSULATION
5	5 12 XX	1	--	3	CRIMPIT CU
6	71 35 00	1	--	3	KIT – CABLE PREPARATION

NOTE:

1. **COLUMN A IS FOR A SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLE.**
2. **COLUMN B IS FOR A 4-WIRE SECONDARY CABLE.**
3. **COLUMN C IS FOR THREE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

ITEM NO.	CODE NO.	QUANTITY D	QUANTITY E	QUANTITY F	DESCRIPTION
1	2 65 4X	8	--	--	SLEEVE – COMPRESSION AL
2	2 68 XX	--	2	6	SPLICE – PRIMARY CABLE
3	2 68 XX	--	2	6	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	8	--	--	SPLICE- COVER SECONDARY INSULATION
5	5 12 XX	--	2	6	CRIMPIT CU
6	71 35 00	--	2	6	KIT – CABLE PREPARATION

NOTE:

4. **COLUMN D IS FOR TWO RUNS OF 4-WIRE SECONDARY CABLES.**
5. **COLUMN E IS FOR TWO RUNS OF SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
6. **COLUMN F IS FOR TWO RUNS OF THREE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**

*Sask**Power*** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. / CHKD.	CROSSING OF PIPELINES NOT REGULATED BY THE NEB

DATE OF ISSUE: **2010/04/21** | DRAWING NO: **C-26-23.05** | **SHEET. 2 OF 3** | REV. **C**

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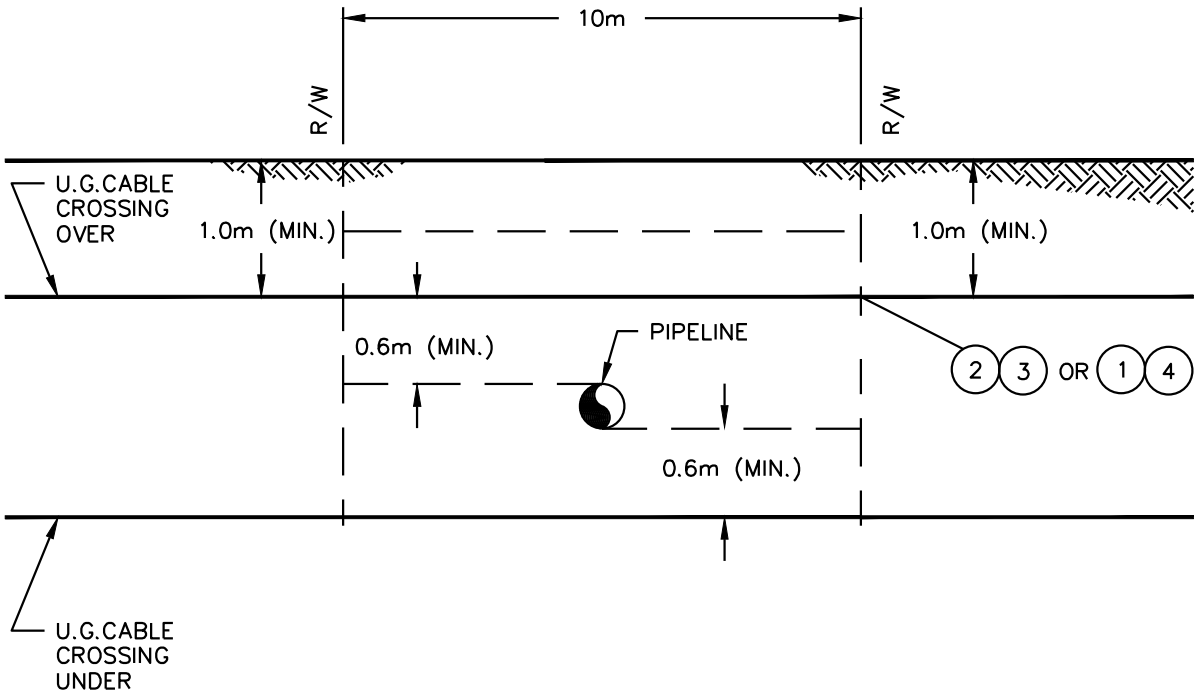
CROSSING PROFILE



NOTE:

1. DOUBLE RUNS OF THREE-PHASE PRIMARY CABLE TO BE HORIZONTALLY SEPARATED A MINIMUM OF 1.0m.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. A.UHREN	DRN. D.REDEKOPP CHKD.	CROSSING OF PIPELINES NOT REGULATED BY THE NEB
		2016-10-05	
DATE OF ISSUE 2016/11/08	DRAWING NO. C-26-23.05	SHEET 3 of 3	REV. B

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CROSSING SPECIFICATIONS

1. A DETAILED RAILWAY CROSSING DRAWING MUST BE SUBMITTED TO AND APPROVAL OBTAINED FROM THE APPROPRIATE RAILWAY AUTHORITY PRIOR TO ANY DIGGING OR CONSTRUCTION OCCURRING. REQUESTS FOR APPROVAL ARE TO BE ROUTED THROUGH THE APPROPRIATE SASKPOWER REGIONAL OFFICE AT LEAST SIX WEEKS PRIOR TO CONSTRUCTION. THE APPROPRIATE SASKPOWER REGION'S CONSTRUCTION/OPERATING SUPERVISOR SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO CONSTRUCTION.

2. STEEL PIPE WITH A MINIMUM WALL THICKNESS OF 4.80mm (0.189") ARE TO BE INSTALLED BELOW EACH OTHER, 0.3 m APART, UNDER THE RAIL BED WITH THE TOP PIPE AT A DEPTH OF AT LEAST 1.68 m BELOW THE RAIL BED AND 1.0 m BELOW THE LOWEST POINT OF EITHER SIDE OF THE RIGHTS-OF-WAY. THE PIPES SHALL EXTEND ACROSS THE ENTIRE RIGHTS-OF-WAY.

3. IN ORDER TO PREVENT DAMAGE TO CABLE DURING PULLING OR GROUND SETTLING, HDPE OR PVC DUCT IS REQUIRED. THE DUCT IS PLACED INSIDE OF AND PROJECTS 150mm (6") BEYOND THE ENDS OF THE STEEL PIPE. THE DUCT SHALL BE SEALED, TO THE CABLE, AT BOTH ENDS WITH PUTTY AND ELECTRICAL VINYL TAPE.

4. ON THE CROSSING DRAWING, FROM THE CROSSING POINT, GIVE A TIE DIMENSION ALONG THE TRACK TO ONE OF THE FOLLOWING: CENTER OF ROAD ALLOWANCE, 1/4 SECTION LINE, TOWN STREET OR BLOCK, OR RAILWAY SWITCH.

5. THE CABLE SHALL CROSS THE RAILWAY AT AN ANGLE OF 90° WHEREVER POSSIBLE. THE CROSSING IS TO BE THROUGH THE SHORTEST PART OF THE RIGHTS-OF-WAY. PARALLELING IN THE RIGHTS-OF-WAY SHALL BE AVOIDED.

6. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

7. INDICATE PERTINENT DIMENSIONS ON CROSSING PROFILE.

8. IN NO CASES DORECT-BURIED SHALL BE DONE WITHIN 7.5 m OF CENTRELINE OF TRACK.

9. THE INSTALLATION OF DUCT LAID IN PARALLEL WITH RAILWAY RIGHTS-OF-WAY SHALL BE LOCATED AS FAR AS POSSIBLE FROM TRACKS OR OTHER ESSENTIAL STRUCTURES. IN CASES WHERE DUCT IS INSTALLED WITHIN 7.5 m MEASURED FROM THE CENTRELINE OF THE TRACK IT SHALL BE ENCLOSED IN CASING PIPE AS SPECIFIED IN CSA C22.3 NO.7 SECTION 11.

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	--	4	--	SLEEVE – COMPRESSION AL
2	2 68 XX	1	--	3	SPLICE – PRIMARY CABLE
3	2 68 XX	1	--	3	SPLICE – COVER PRIMARY JACKET
4	2 68 XX	--	4	--	SPLICE – COVER SECONDARY INSULATION
5	5 12 XX	1	--	3	CRIMPIT – CU
6	70 31 45	1	1	1	DUXSEAL
7	70 45 05	--	5	5	PIPE, PVC 5” (20 FT LENGTHS) – SEE NOTE 4
8	70 85 02	100’	--	--	CONDUIT, HDPE 2”
9	71 35 00	1	--	3	KIT – CABLE PREPARATION
10	01 433 722	30 m	--	--	STEEL PIPE – 3 ½” (MIN. W.T. 0.189”)
11	01 433 728	--	30 m	30 m	STEEL PIPE – 8” (MIN. W.T. 0.189”) – SEE NOTE 4

NOTE:

1. **COLUMN A IS FOR A SINGLE-PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLE.**
2. **COLUMN B IS FOR A 4-WIRE SECONDARY CABLE. MATERIAL DEFAULTS TO 5” PVC PIPE WITH 8” STEEL PIPE. IF CABLE SIZE PERMITS, 30m OF 2” HDPE CONDUIT WITH 30m OF 3 ½” STEEL PIPE CAN BE USED INSTEAD.**
3. **COLUMN C IS FOR THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
4. **IF CABLE SIZE PERMITS, 4” PVC DUCT (704504) INSIDE 6” STEEL PIPE (1433726) MAY BE USED AS AN ALTERNATIVE.**

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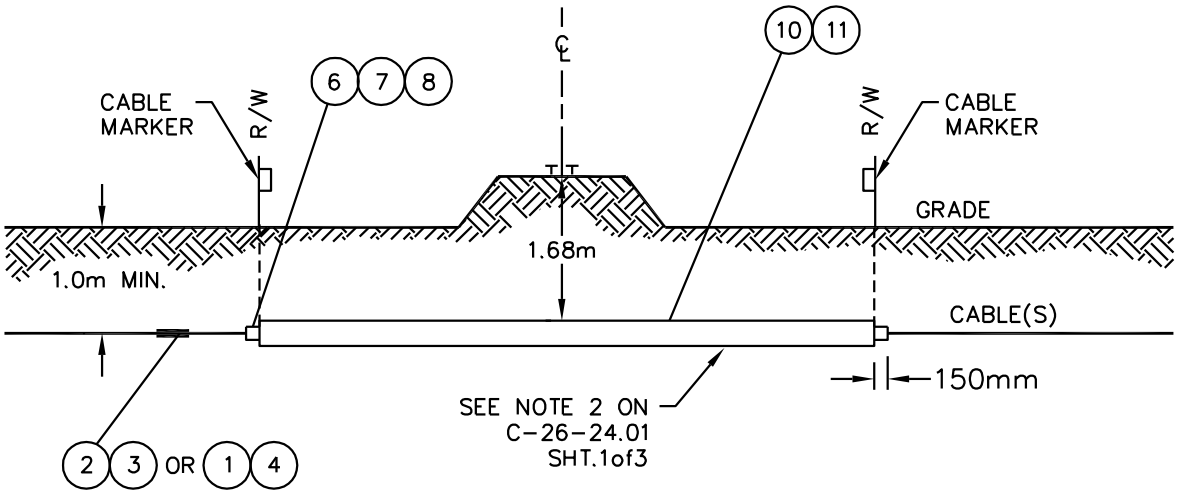
CROSSING PROFILE



NOTE:
1. FOR CABLE MARKER SEE B-30-15

SCALE: N.T.S.

	SaskPower – DISTRIBUTION STANDARDS			
	APPROVAL L.MOEN	DESIGN CHK. Q.SUN	DRN. E.GOTANA CHKD. 2018-04-05	RAILWAY CROSSING
	DATE OF ISSUE 2018-06-07		DRAWING NO. C-26-24.01 SHEET 3 of 3	REV. F

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CROSSING SPECIFICATIONS

1. A DETAILED RAILWAY CROSSING DRAWING MUST BE SUBMITTED TO AND APPROVAL OBTAINED FROM THE APPROPRIATE RAILWAY AUTHORITY PRIOR TO ANY DIGGING OR CONSTRUCTION OCCURRING. REQUESTS FOR APPROVAL ARE TO BE ROUTED THROUGH THE APPROPRIATE SASKPOWER REGIONAL OFFICE AT LEAST SIX WEEKS PRIOR TO CONSTRUCTION. THE APPROPRIATE SASKPOWER REGION'S CONSTRUCTION/OPERATING SUPERVISOR SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO CONSTRUCTION.

2. TWO STEEL PIPES WITH A MINIMUM WALL THICKNESS OF 4.80mm (0.189") ARE TO BE INSTALLED BESIDE EACH OTHER, 0.3 METERS APART, UNDER THE RAIL BED WITH THE TOP PIPE AT A DEPTH OF AT LEAST 1.37 METERS BELOW THE RAIL BED AND 1.0 METER BELOW THE LOWEST POINT OF EITHER SIDE OF THE RIGHT-OF-WAY. THE PIPES SHALL EXTEND ACROSS THE ENTIRE RIGHT-OF-WAY.

3. IN ORDER TO PREVENT DAMAGE TO CABLE DURING PULLING OR GROUND SETTLING, HDPE OR PVC DUCT IS REQUIRED. THE DUCT IS PLACED INSIDE OF AND PROJECTS 150mm (6") BEYOND THE ENDS OF THE STEEL PIPE. THE DUCT SHALL BE SEALED, TO THE CABLE, AT BOTH ENDS WITH PUTTY AND ELECTRICAL VINYL TAPE.

4. ON THE CROSSING DRAWING, FROM THE CROSSING POINT, GIVE A TIE DIMENSION ALONG THE TRACK TO ONE OF THE FOLLOWING: CENTER OF ROAD ALLOWANCE, 1/4 SECTION LINE, TOWN STREET OR BLOCK, OR RAILWAY SWITCH.

5. THE CABLE SHALL CROSS THE RAILWAY AT AN ANGLE OF 90° WHEREVER POSSIBLE. THE CROSSING IS TO BE THROUGH THE SHORTEST PART OF THE RIGHT-OF-WAY. PARALLELING IN THE RIGHT-OF-WAY SHALL BE AVOIDED.

6. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED.

7. INDICATE PERTINENT DIMENSIONS ON CROSSING PROFILE.

8. IN NO CASES DORECT-BURIED SHALL BE DONE WITHIN 7.5 m OF CENTRELINE OF TRACK.

9. THE INSTALLATION OF DUCT LAID IN PARALLEL WITH RAILWAY RIGHTS-OF-WAY SHALL BE LOCATED AS FAR AS POSSIBLE FROM TRACKS OR OTHER ESSENTIAL STRUCTURES. IN CASES WHERE DUCT IS INSTALLED WITHIN 7.5 m MEASURED FROM THE CENTRELINE OF THE TRACK IT SHALL BE ENCLOSED IN CASING PIPE AS SPECIFIED IN CSA C22.3 NO.7 SECTION 11.

SaskPower - DISTRIBUTION STANDARDS			
APPROVAL	DESIGN CHK	DRN. **QS**	**RAILWAY DOUBLE CROSSING**
L. MOEN	**Q. SUN**	CHKD.	
		2018-03-27	
DATE OF ISSUE: 2018-06-07		DRAWING NO: **C-26-24.03**	**SHEET 1 of 3** REV. **F**

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY A	QUANTITY B	QUANTITY C	DESCRIPTION
1	2 65 4X	8	--	--	SLEEVE – COMPRESSION AL
2	2 68 XX	--	2	6	SPLICE – PRIMARY CABLE
3	2 68 XX	8	--	--	SPLICE – COVER SECONDARY INSULATION
4	2 68 XX	--	2	6	SPLICE – COVER PRIMARY JACKET
5	5 12 XX	--	2	6	CRIMPIT – CU
6	70 31 45	2	2	2	DUXSEAL
7	70 45 05	10	--	10	PIPE, PVC 5” (20 FT LENGTHS) – SEE NOTE 4
8	70 85 02	--	200’	--	CONDUIT, HDPE 2”
9	71 35 00	--	2	6	KIT – CABLE PREPARATION
10	01 433 722	--	60m	--	STEEL PIPE – 3 ½” (MIN. W.T. 0.189”)
11	01 433 728	60m	--	60m	STEEL PIPE – 8” (MIN. W.T. 0.189”) – SEE NOTE 4

NOTE:

1. **COLUMN A IS FOR TWO RUNS OF 4-WIRE SECONDARY CABLES. MATERIAL DEFAULTS TO 5” PVC PIPE WITH 8” STEEL PIPE. IF CABLE SIZE PERMITS, 2 x 30m RUNS OF 2” HDPE CONDUIT WITH 30m OF 6” STEEL PIPE (1433726) CAN BE USED INSTEAD, BY RUNNING BOTH CONDUITS IN ONE CASING PIPE. REFER TO SHEET 3 FOR INSTALLATION DETAILS.**
2. **COLUMN B IS FOR TWO RUNS OF SINGLE PHASE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES.**
3. **COLUMN C IS FOR TWO RUNS OF THREE PRIMARY JACKETED CONCENTRIC NEUTRAL CABLES. (2 - 3Ø PRIMARY CIRCUITS)**
4. **IF CABLE SIZE PERMITS, 4” PVC DUCT (704504) INSIDE 6” STEEL PIPE (1433726) MAY BE USED AS AN ALTERNATIVE.**

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SaskPower - DISTRIBUTION STANDARDS			
APPROVAL	DESIGN CHK	DRN. **ARU**	**RAILWAY DOUBLE CROSSING**
L. MOEN	**A. UHREN**	CHKD.	
		2017-03-16	
DATE OF ISSUE: 2017/05/03	DRAWING NO. **C-26-24.03**	**SHEET 2 OF 3**	REV. **G**

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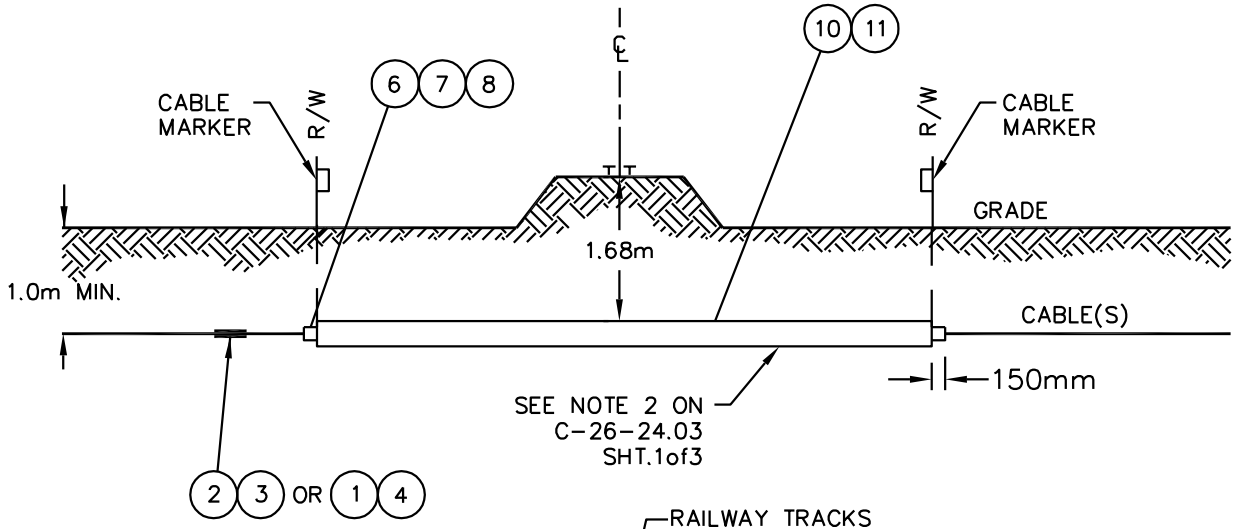
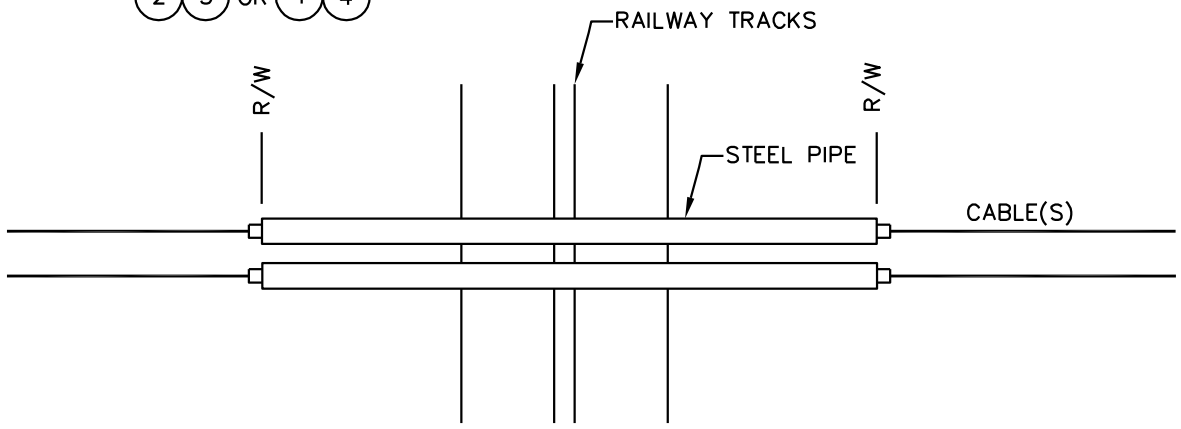
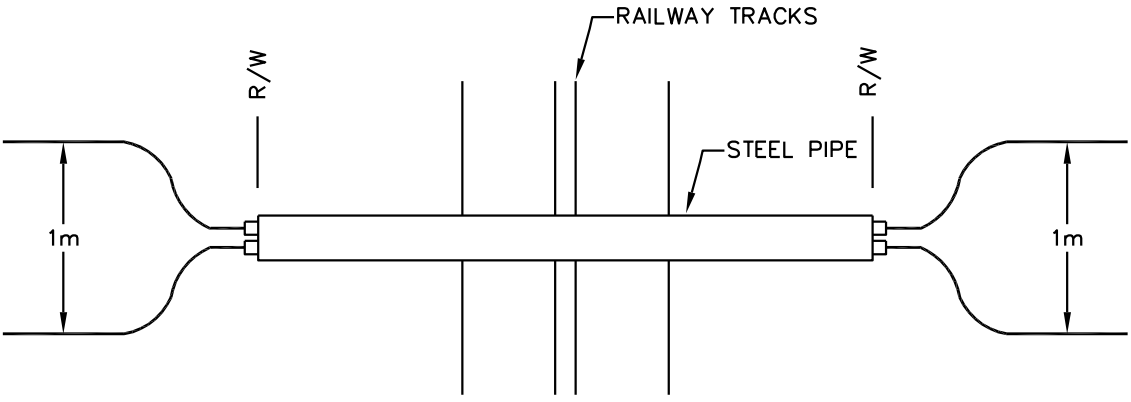
CROSSING PROFILE





OVERHEAD VIEW



TWO CONDUITS IN ONE CASING PIPE

NOTE:
1. FOR CABLE MARKER SEE B-30-15

SCALE: N.T.S.

SaskPower – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. Q.SUN	DRN. E.GOTANA CHKD.	RAILWAY DOUBLE CROSSING
		2018-04-05	
DATE OF ISSUE 2018-06-07		DRAWING NO. C-26-24.03 SHEET 3 of 3	REV. E

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CROSSING SPECIFICATIONS

1. A DETAILED RAILWAY CROSSING DRAWING MUST BE SUBMITTED TO AND APPROVAL OBTAINED FROM THE APPROPRIATE RAILWAY AUTHORITY PRIOR TO ANY DIGGING OR CONSTRUCTION OCCURRING. REQUESTS FOR APPROVAL ARE TO BE ROUTED THROUGH THE APPROPRIATE SASKPOWER REGIONAL OFFICE AT LEAST SIX WEEKS PRIOR TO CONSTRUCTION. THE APPROPRIATE SASKPOWER REGION'S CONSTRUCTION/OPERATING SUPERVISOR SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO CONSTRUCTION.

2. THREE STEEL PIPE WITH A MINIMUM WALL THICKNESS OF 4.80mm (0.189") ARE TO BE INSTALLED BESIDE EACH OTHER, 1 m APART, UNDER THE RAIL BED WITH THE TOP OF THE PIPE AT A DEPTH OF AT LEAST 1.68 m BELOW THE RAIL BED AND 1.0 m BELOW THE LOWEST POINT OF EITHER SIDE OF THE RIGHT-OF-WAY. THE PIPES SHALL EXTEND ACROSS THE ENTIRE RIGHT-OF-WAY.

3. IN ORDER TO PREVENT DAMAGE TO THE CABLE DURING PULLING OR GROUND SETTLING, HDPE OR PVC DUCT IS REQUIRED. THE DUCT IS PLACED INSIDE OF AND PROJECTS 150mm (6") BEYOND THE ENDS OF THE STEEL PIPE. THE DUCT SHALL BE SEALED TO THE CABLE AT BOTH ENDS WITH PUTTY AND ELECTRICAL VINYL TAPE.

4. ON THE CROSSING DRAWING, FROM THE CROSSING POINT, GIVE A TIE DIMENSION ALONG THE TRACK TO ONE OF THE FOLLOWING: CENTER OF ROAD ALLOWANCE, 1/4 SECTION LINE, TOWN STREET OR BLOCK, OR RAILWAY SWITCH.

5. THE CABLE SHALL CROSS THE RAILWAY AT AN ANGLE OF 90° WHEREVER POSSIBLE. THE CROSSING IS TO BE THROUGH THE SHORTEST PART OF THE RIGHT-OF-WAY. PARALLELING IN THE RIGHT-OF-WAY SHALL BE AVOIDED.

6. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

7. INDICATE PERTINENT DIMENSIONS ON CROSSING PROFILE.

8. UNDER NO CIRCUMSTANCES SHALL CABLE BE DIRECT BURIED WITHIN 7.5 m OF THE CENTRELINE OF RAIL TRACKS.

9. THE INSTALLATION OF DUCT PARALLEL TO RAILWAY RIGHT-OF-WAY SHALL BE LOCATED AS FAR AS POSSIBLE FROM TRACKS OR OTHER ESSENTIAL STRUCTURES. IN CASES WHERE DUCT IS INSTALLED WITHIN 7.5 m FROM THE CENTRELINE OF THE TRACKS, IT SHALL BE ENCLOSED IN CASING PIPE ACCORDING TO CSA C22.3 NO.7 SECTION 11.

SaskPower - DISTRIBUTION STANDARDS			
APPROVAL **L MOEN**	DESIGN CHK **Y PATEL**	DRN. **YP** CHKD. **LM** **2022/04/25**	**RAILWAY TRIPLE CROSSING**
DATE OF ISSUE: **2022-08-15**		DRAWING NO: **C-26-24.04**	**SHEET 1 of 3** REV. **-**

BILL OF MATERIAL

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	**2 68 XX**	**3**	**SPLICE – PRIMARY CABLE**
2	**2 68 XX**	**3**	**SPLICE COVER – PRIMARY – JACKET**
3	**5 12 XX**	**3**	**CRIMPIT – CU**
4	**70 31 45**	**1**	**DUXSEAL**
5	**70 43 13**	**15**	**CONDUIT – 3” – 20’ LENGTHS**
6	**71 35 00**	**3**	**KIT – CABLE PREPARATION**
7	**01 433 722**	**90 m**	**STEEL PIPE – 3.5" (MIN. W.T. 0.216")**

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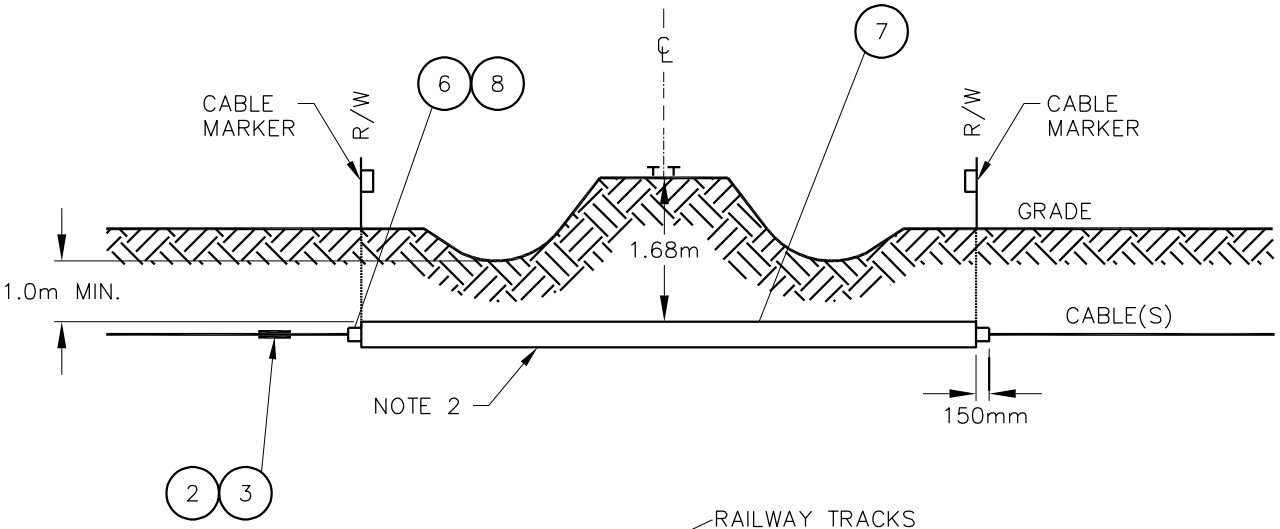
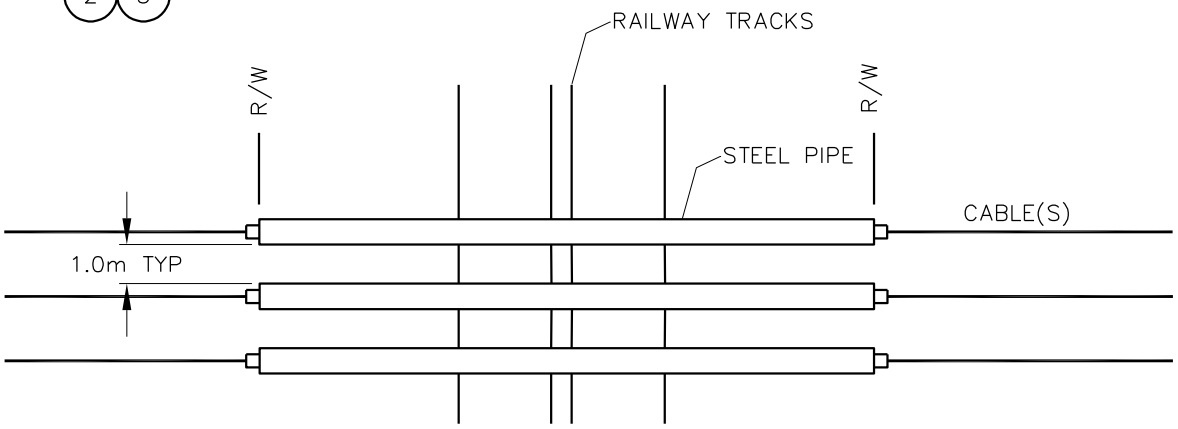
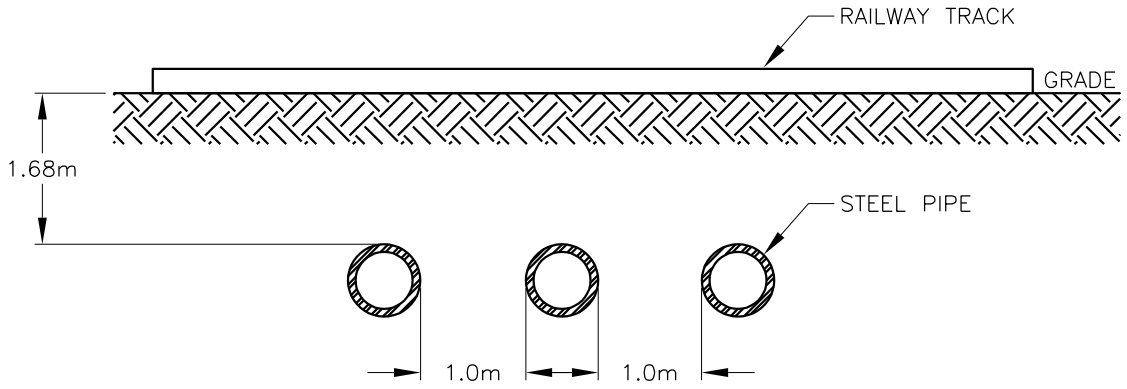
CROSSING PROFILE





OVERHEAD VIEW



CROSS-SECTIONAL VIEW

NOTES:

1. FOR CABLE MARKER SEE B-30-15
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

	SaskPower – DISTRIBUTION STANDARDS			
	APPROVAL L.MOEN	DESIGN CHK. Y.PATEL	DRN.D.REDEKOPP CHKD. 2022-05-13	RAILWAY TRIPLE CROSSING
	DATE OF ISSUE 2022-08-15		DRAWING NO. C-26-24-04 SHEET 3 of 3	REV. –

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