

Meewasin Valley pole upgrade

Scope of project

April 2017

Project Background

SL&P approached by Meewasin Valley Authority to remove the supporting downhaul anchors to widen the trail along Spadina Crescent cross Queen Street. As those anchors supporting 400m span of a 3 phase- 477 mcm acsr bare conductors which crossing the river, there is a need of a stronger structure to hold the lines in place and keep the safe amount of clearance from lines to Saskatchewan River (CSA C22.3 Standard).

Project Description

This project has two parts. The first part is on west of the river where three 70' wooden poles and 12 anchors exist and the second part is on east of river where another three wooden poles are set to hold 3 phase of 15kv primary power distribution feeder.

Part 1- West of River

There would be an H-Frame structure with two 90' poles, 4.5 meter apart, however the space between very north leg and very south leg of existing poles is about 10m. These poles designed to be self-supported but recommended to get supported by one downhaul anchor to compromise the deflection due to a 500 meter length of span across the river.

The foundation will be concrete pile and the pole ground line diameter would be about 1m. In the preferred design, the poles shifted to Northeast corner of Kinsmen Park and the existing 40' pole with brace pole will get exchange with a 50' brand new pole with downhaul anchor.

Part 2 – East of River

As the structure will get change on west side, we have to make some changes on these existing structures as well. There would be three 65' wooden poles on about 30 meter east of existing structures with 5 meter separation between very north leg and very south leg) with an anchor on each pole.

The foundation would be a mix of concrete and crushed rock and the pole ground line diameter would be about 0.5m.

The existing switch pole that is on west of trail will be relocated to east side of trail to cross it only once and give us enough room to get the primary conductor from 3 pole structure to a 10' cross arm on switch pole.

Benefits

By doing this project, the 3 wood poles with 12 anchors that are on east side of river bank will get removed and will give enough flexibility to MVA to widen the trails without a problem. Also as the existing poles are in a slope on West side, it might not be safe anymore and they will be moved to university land.

Costs

The total cost of project estimated for \$250,000 for Saskatoon Light & Power which \$80,000 will get covered with MVA.

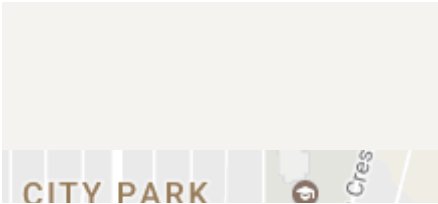
Construction time

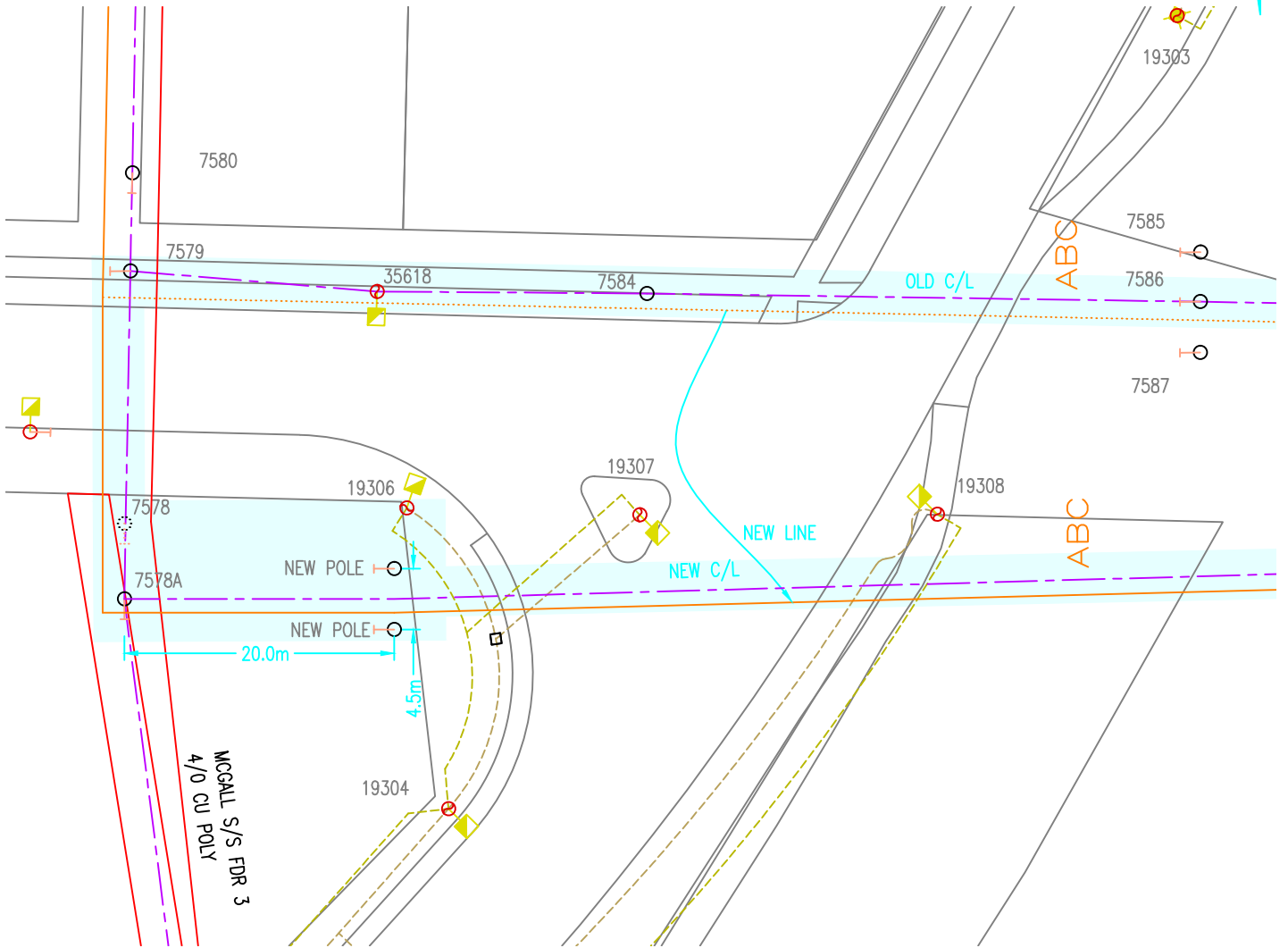
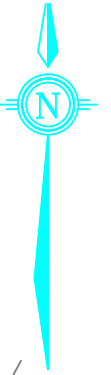
The construction could get started in June 2017 and will be done in 4 weeks.



Image capture: Sep 2015 © 2017 Google

Street View - Sep 2015

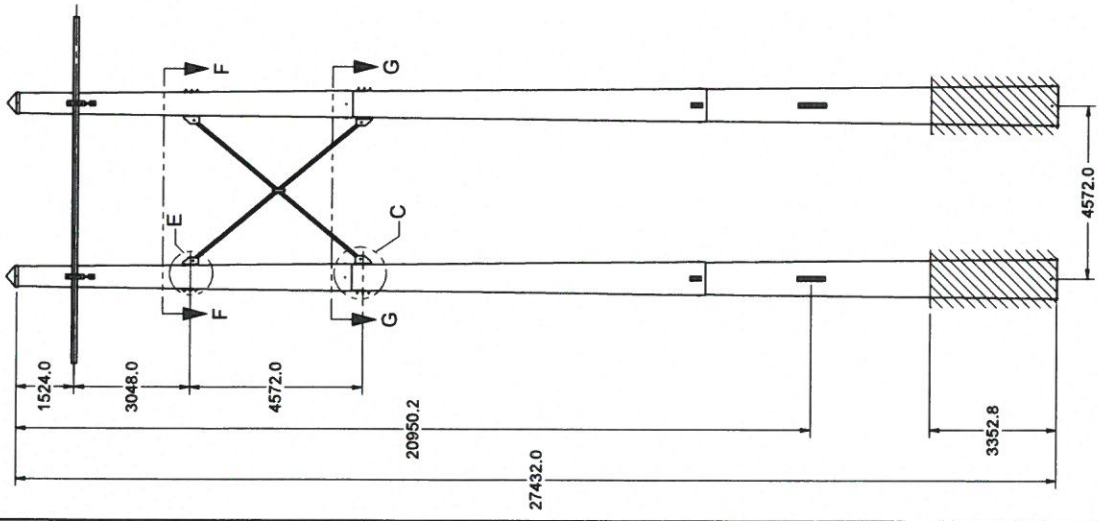




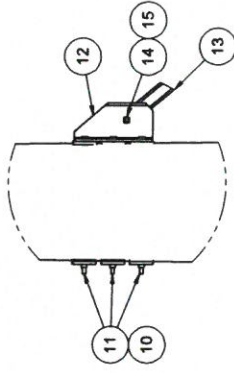
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REVISED BY		DRAWN BY				SCALE	REV NO
DATE		DATE		PRIMARY RIVER CROSSING WEST		Horizontal 1:500	
CHECKED BY		DESIGNED BY				Vertical	
DATE		DATE				DRAWING NUMBER	
APPROVED BY		APPROVED BY					

JUL 19 2016

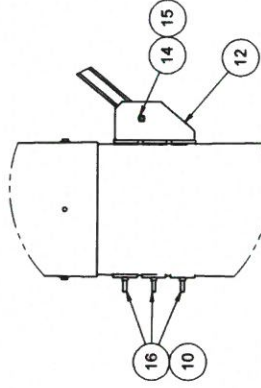
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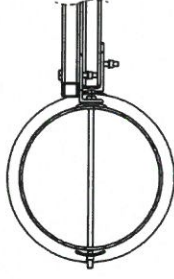
ELEVATION VIEW



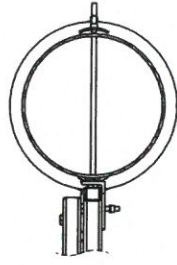
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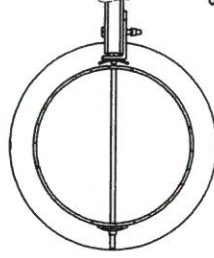
DETAIL C
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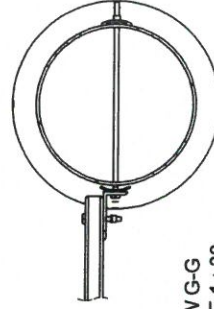
VIEW F-F
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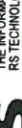
VIEW G-G
SCALE 1:20



SCALE 1-20
MAJORITY OF STRUCTURE
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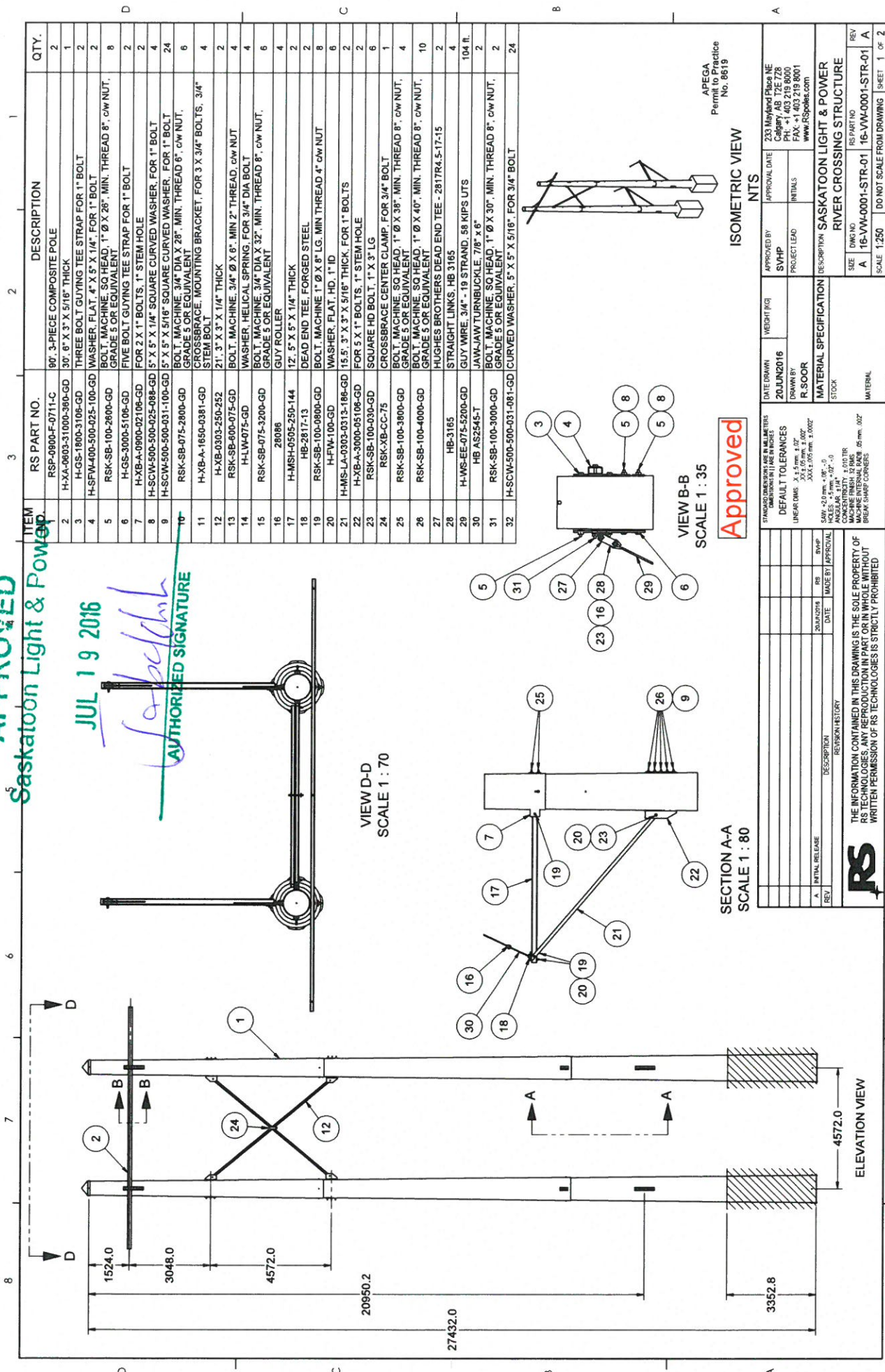
Customer Review

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				UNLESS OTHERWISE SPECIFIED				20/JAN/2016				R. SOOR				SVHP				APPROVAL DATE																															
REVISION HISTORY				DESCRIPTION				DATE				RS				SVHP				PROJECT LEAD				INITIALS				DESCRIPTION: SASKATOON LIGHT & POWER RIVER CROSSING STRUCTURE																							
A. INITIAL RELEASE				20/JAN/2016																												SIZE				DWG NO: 16-VW-0001-STR-01				REV											
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APPROVED
Saskatoon Light & Power

JUL 19 2016

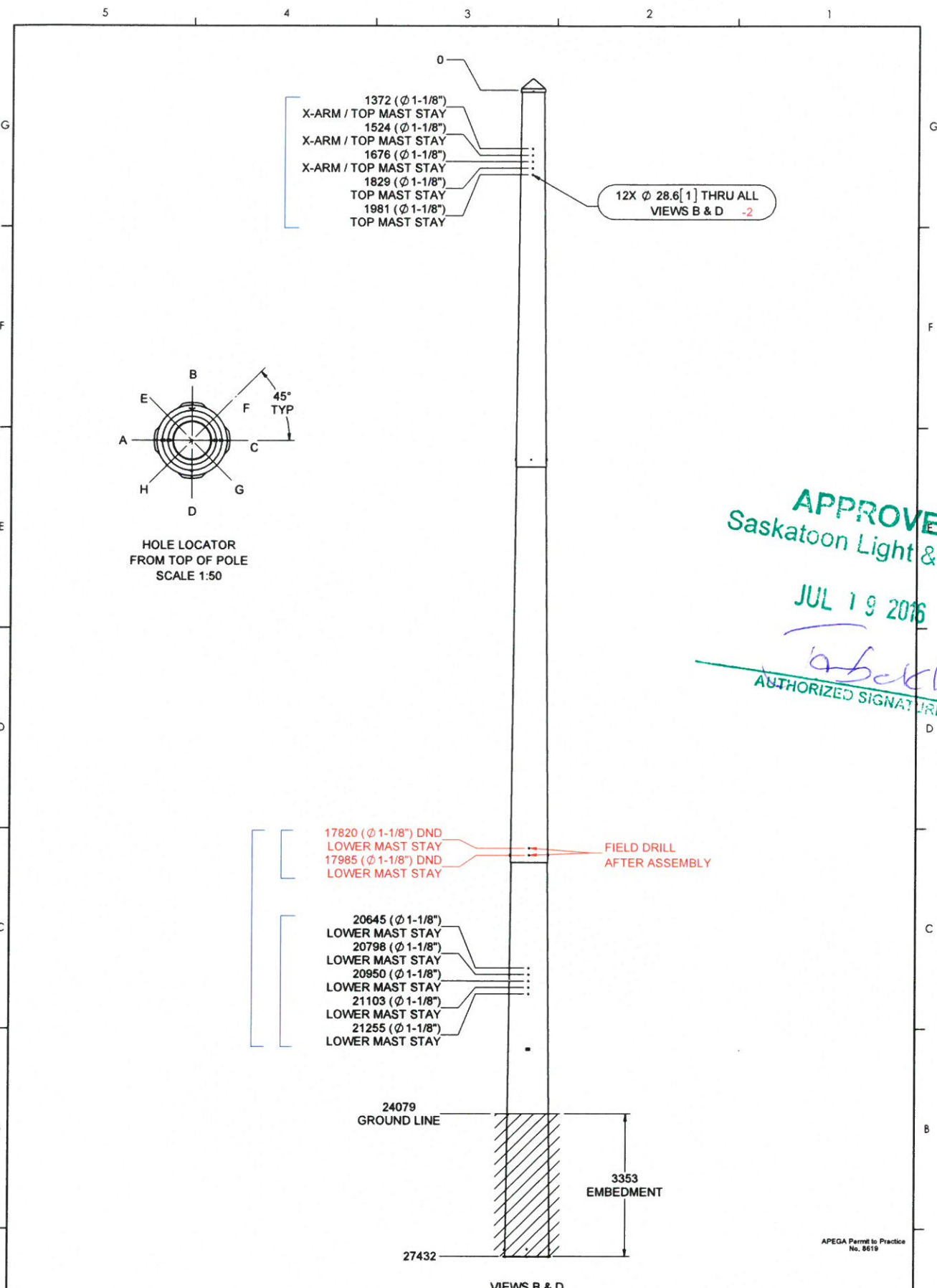
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				DEFAULT TOLERANCES		DRAWN BY R. SOOR		INITIALS		APPROVAL DATE 233 Mayfield Place NE Calgary, AB T2E 7Z8 Phone: +1 403 219 8000 Fax: +1 403 219 8001 www.RSglobal.com	
				LINEAR DIMS X ± 0.5 mm, ± 0.02" XX ± 0.5 mm, ± 0.002"				PROJECT LEAD			
				ANGULAR DIMS ± 0.5° ± 0.02° ± 0.1° ± 0.002°				MATERIAL SPECIFICATION		DESCRIPTION SASKATOON LIGHT & POWER RIVER CROSSING STRUCTURE	
				SAW ± 2.0 mm, ± 0.08" ± 0 CONCENTRICITY ± 0.01 TR HOLE LOCATIONS ± 0.5 mm, ± 0.02" ANGULAR 1/4° MACHINE FINISH 12 RAKE 60 mm 60" BREAK SHARP CORNERS				STOCK			
				REVISION HISTORY				MATERIAL			
				A. INITIAL RELEASE		20/JUN/2016		REV		REV	
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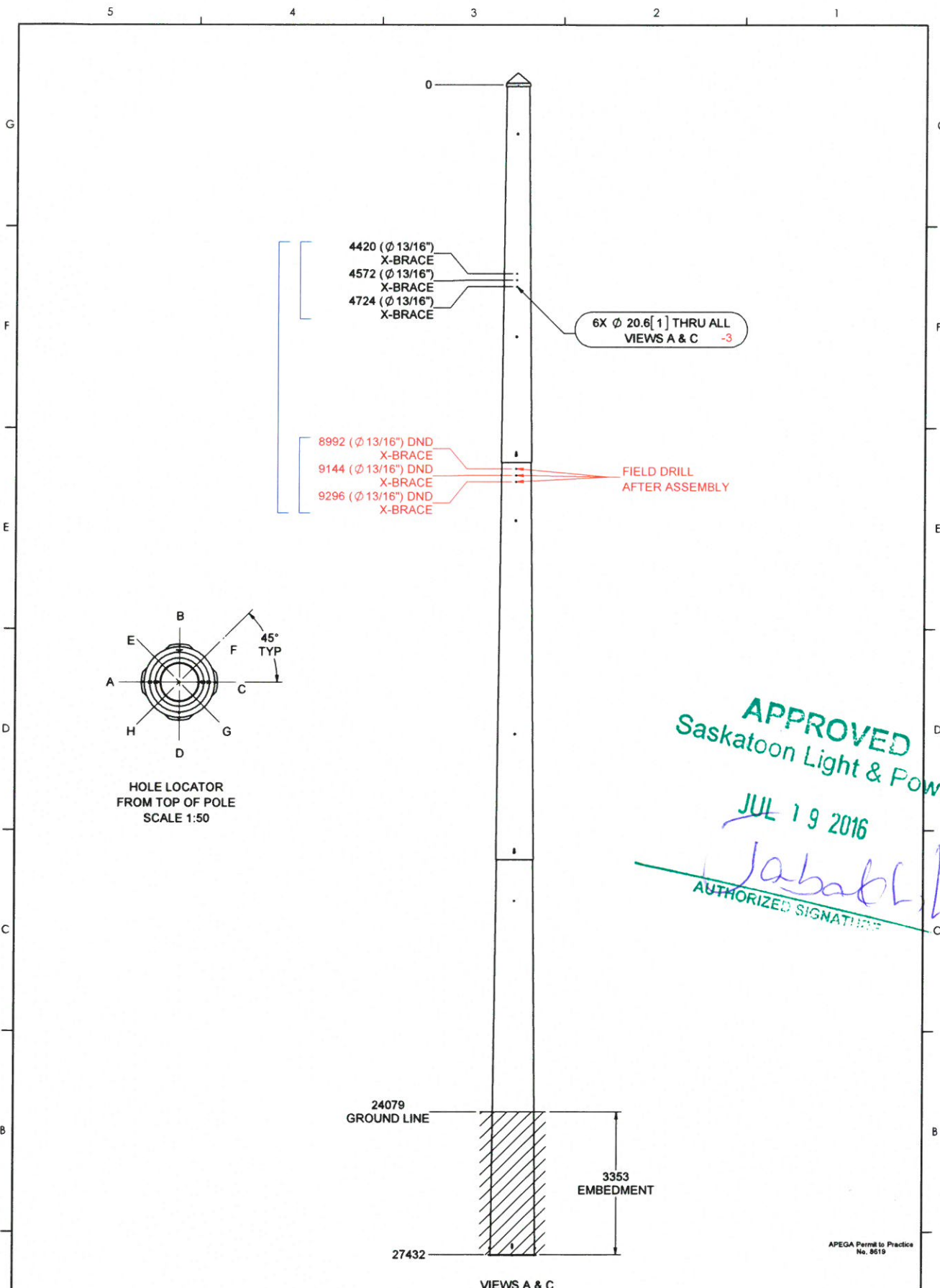


VIEWS B & D

				DATE DRAWN 28JUN2016	WEIGHT (KG) 1570	APPROVED BY	APPROVAL DATE	233 Mayland Place NE Calgary, AB T2E 7Z8 PH: +1 403 219 8000 FAX: +1 403 219 8001 www.RSspoles.com
				DRAWN BY R.SOOR		PROJECT LEAD	INITIALS	
				MATERIAL SPECIFICATION				
				STOCK				
				MATERIAL				
				DESCRIPTION				
				SASKATOON LIGHT & POWER				
				90', 3-PIECE COMPOSITE POLE				
				SIZE A	DWG NO 16-VW-0001-CDL-01	RS PART NO RSP-0900-F-0711-C	REV X1	
				SCALE NTS	DO NOT SCALE FROM DRAWING		SHEET 3 OF 3	

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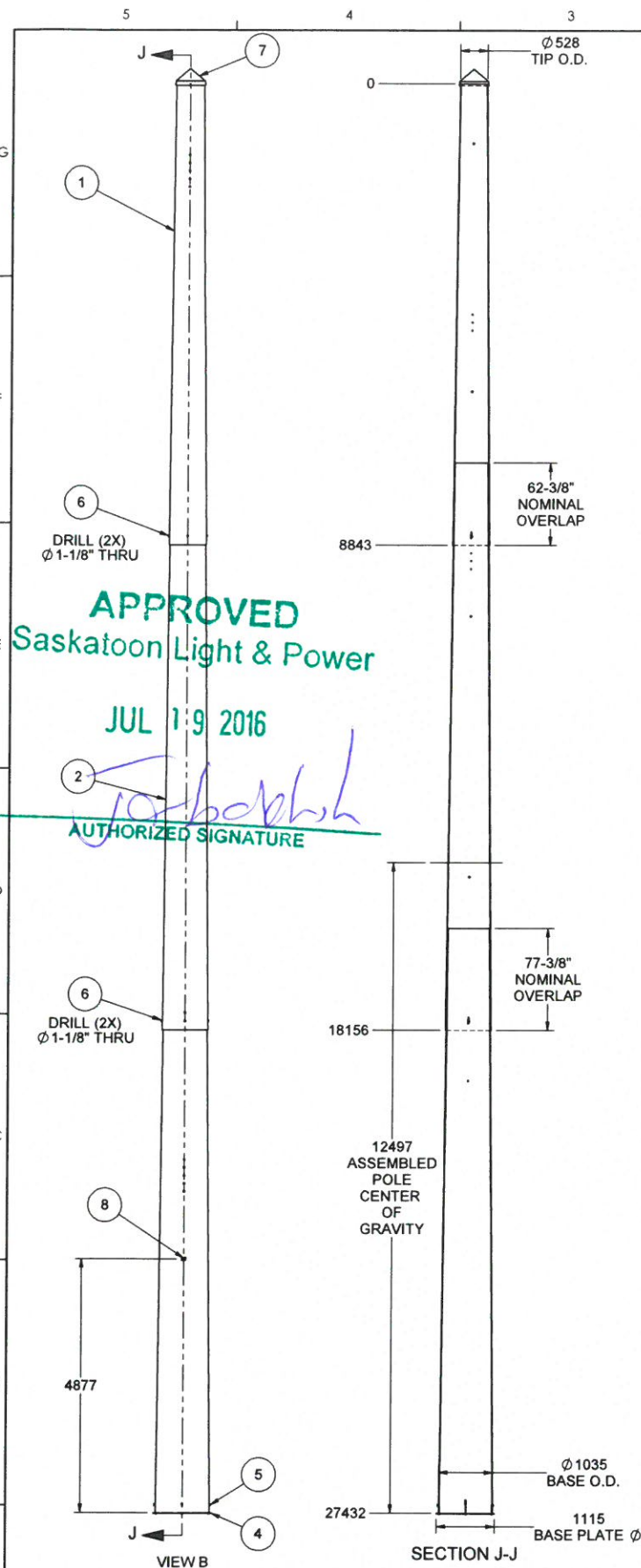
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A		INITIAL RELEASE				28JUN2016		RB		MATERIAL SPECIFICATION		DESCRIPTION SASKATOON LIGHT & POWER 90', 3-PIECE COMPOSITE POLE							
REV				DESCRIPTION		DATE		MADE BY		APPROVAL		STOCK							
				REVISION HISTORY															
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												SCALE NTS		DO NOT SCALE FROM DRAWING		SHEET 2		OF 3	

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ITEM NO.	RS PART NO.	DESCRIPTION	QTY.
1	RSM-07	MODULE #6/7	1
2	RSM-09	MODULE #8/9	1
3	RSM-11	MODULE #10/11	1
4	H-BP-T-11	MODULE #10/11 BASE PLATE CLOSED SLOT	1
5	RSK-JB-S-SS	7.5" X 3/8" J-BOLT, KIT	1
6	RSK-JK-BN-S-GD	BLIND NUT JOINT KIT, HDG	2
7	RSK-TC-220	22.0" TOP CAP KIT, BLACK	1
8	RSK-ID-PT-SS	KIT, POLE ID TAG	1

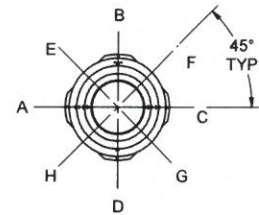


TABLE 1 (6D & 5D MINIMUM BY HOLE SIZE) 6D OR 5D (OF LARGEST HOLE) = HOLE Ø x 6 OR 5		
HOLE SIZE	6D MINIMUM DISTANCE OF HOLE TO HOLE Ø	5D MINIMUM DISTANCE OF HOLE TO EDGE
1-1/8" [26.6mm]	6-3/4" [172mm]	5-5/8" [143mm]
1-1/16" [27.0mm]	6-3/8" [162mm]	5-5/16" [135mm]
1" [25.4mm]	6" [152mm]	5" [127mm]
15/16" [23.8mm]	5-5/8" [143mm]	4-11/16" [119mm]
7/8" [22.2mm]	5-1/4" [133mm]	4-3/8" [111mm]
13/16" [20.6mm]	4-7/8" [124mm]	4-1/16" [103mm]
3/4" [19.1mm]	4-1/2" [115mm]	3-3/4" [95mm]
11/16" [17.5mm]	4-1/8" [105mm]	3-7/16" [87mm]
5/8" [15.9mm]	3-3/4" [95mm]	3-1/8" [79mm]
9/16" [14.3mm]	3-3/8" [86mm]	2-13/16" [71mm]
1/2" [12.7mm]	3" [76mm]	2-1/2" [64mm]

Customer Review

NOTE 1:

- 1.1 INSTALL HARDWARE AS PER RS STANDARD ASSEMBLY PROCEDURE.
- 1.2 STANDARD MARKING & DRILLING SHALL BE AS PER DWG NO. 7005-001-001.
- 1.3 SEE WORK INSTRUCTION WI-3014 FOR POLE ID TAG INSTALLATION.
- 1.4 ADDITIONAL FASTENERS ARE NOT RECOMMENDED IN SLIP JOINTS. REFER TO HARDWARE GUIDELINES FOR POLE WALL BEARING INFORMATION.
- 1.5 CUSTOMER SHOULD BE PREPARED TO CHASE ANY HOLE AS IT MAY FALL IN A SLIP JOINT, AFTER ASSEMBLY.
- 1.6 BLIND NUT HOLES ARE TO BE FIELD DRILLED.
- 1.7 HOLES MAY BE MOVED $\pm 3"$ VERTICALLY FOR STRUCTURAL REQUIREMENTS.
- 1.8 POLE CAP SIZE MAY VARY DUE TO DIFFERENCES IN TOP MODULE DIAMETER AFTER CUT
- 1.9 HOLE PAIRS SHOWN WITH BLUE FONT OR BRACKETS HAVE A RELATIVE TOLERANCE OF $\pm 1/16"$
- 1.10 TOLERANCES: (UNLESS OTHERWISE SPECIFIED)
DIAMETER: $\pm 1/16"$
AXIAL POSITION: $\pm 1/4"$
CIRCUMFERENTIAL: $\pm 3/8"$
- 1.11 FIELD DRILLED HOLES MUST NOT VIOLATE 6D RULE, SEE TABLE 1

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				DRAWN BY R.SOOR		PROJECT LEAD	INITIALS		
A INITIAL RELEASE				28JUN2016	RS	MATERIAL SPECIFICATION			
REV DESCRIPTION				DATE	MADE BY	APPROVAL	DESCRIPTION		
REVISION HISTORY							SASKATOON LIGHT & POWER 90', 3-PIECE COMPOSITE POLE		
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						MATERIAL			
SIZE				DWG NO		RS PART NO		REV	
A 16-VW-0001-CDL-01				16-VW-0001-CDL-01		RSP-0900-F-0711-C		X1	
SCALE				NTS		DO NOT SCALE FROM DRAWING		SHEET 1 OF 3	

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