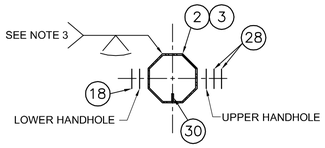
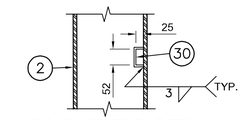
BILL OF MATERIALS

MK. NO.	QTY. REQ'D.	DESCRIPTION	SIZE	MATERIAL	REMARKS	LINE NO.
		51.24 m (50') FOLD DOWN POLE – F50				1
1	1	BASE PLATE	32 x 381 x 381	G40.21 300W		2
2	1	OCTAGONAL SECTION SHAFT	267 A/F – 160 A/F x 4.76	G40.21 300W		3
3	1	OCTAGONAL SECTION SHAFT	160 A/F – 70 A/F x 4.76	G40.21 300W		4
4	1	HINGE SKIRT	263 A/F – 173 A/F x 6.35	G40.21 300W		5
5	2	HAND HOLE RING	152 x 330 x 64 x 12.7 THK.	G40.21 300W		6
6	2	HAND HOLE COVER	3 THK.	ASTM A1011 GR. 50		7
7	2	COVER BAR	38 x 356 x 8 THK.	G40.21 300W		8
8	2	HEX HEAD REGULAR BOLT	10 DIA. (3/8") x 89 LG.	SAE GR. 5	GALVANIZED	9
9	2	CUP WASHER	10 DIA.	ALUMINUM		10
10	1	GROUND STUD	10 (3/8") UNC x 38 LG.	SAE GR. 5 PLATED	c/w 2 NUTS & 4 FLAT WASHERS	11
11	1	LOWER HINGE PLATE	12.7 THK. TO FIT 151 A/F	G40.21 300W		12
12	1	UPPER HINGE PLATE	12.7 THK. TO FIT 151 A/F	G40.21 300W		13
* 13	1	HINGE PIN HEX BOLT	19 (3/4") DIA. x 267 LG.	ASTM F593 TYPE 316	c/w 1 NUT & 2 WIDE WASHERS	14
14	1	LOWER FLANGE PLATE	147 x 147 x 12.7 THK.	G40.21 300W		15
15	1	UPPER FLANGE PLATE	147 x 147 x12.7 THK.	G40.21 300W		16
16	1	HINGE PIN TUBE	33.4 O.D. (1" NOM.) x 172 LG.	A53 GR. B SCH. 160	INSIDE GREASED	17
17	1	LOCKING TAB	6.35 THK.	G40.21 300W		18
18	1	WINCH PLATE	160 x 149 x 9.52 THK.	G40.21 300W		19
19	2	SIDE PLATE	111 x 159 x 19.05 THK.	G40.21 300W		20
20	1	WINCH HOOK	111 LG. x 9.52 THK.	G40.21 300W		21
21	1	COUNTERWEIGHT	508 DIA. x 19.05 THK.	G40.21 300W		22
22	1	TENON	73 O.D. x 125 LG.	ASTM A35 GR. B	63 (2 1/2") SCH. 40 PIPE	23
23	1	LIGHTNING ARRESTOR	60 O.D. x 3048 LG. x 3.9 THK.	ASTM A35 GR. B	50 (2") SCH. 40 PIPE	24
24	4	HEX HEAD BOLT	16 DIA. (5/8") x 50 LG.	SAE GR. 5	GALVANIZED c/w HEAVY HEX NUT & NARROW WASHER	25
25	1	HEX HEAD TAP BOLT	19 DIA. (3/4") x 64 LG.	SAE GR. 5 TAP BOLT	FULLY THREADED, GALVANIZED	26
26	1	FLAT WASHER NARROW	19 DIA. (3/4")	SAE GR. 5	GALVANIZED	27
27	1	HEX HEAVY NUT	19 DIA. (3/4")	GR. 5	GALVANIZED	28
28	2	PIPE PENETRATION (2")	60.3 O.D. x 25	ASTM A53 GR. B SCH. 40	REMOVE BURRS AND SHARP EDGES	29
29	4	WINCH MOUNT BOLT	10 DIA. (3/8") x 25	ASTM A193 B8 CLASS 2	RE-TAP AFTER GALVANIZING	30
30	1	CONDUIT TAB	6.35 x 12 x 102 LG.	G40.21 300W	BEND TO SUIT	31
31	8	PLATE WASHER	8 THICK	G40.21 300W		32

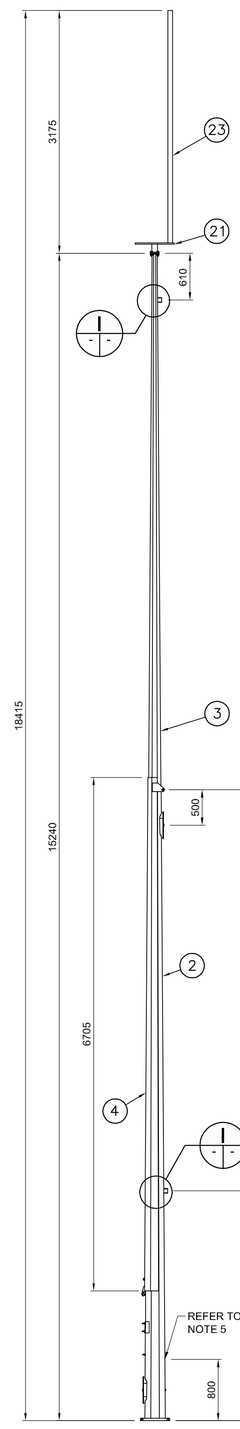
* APPROVED ALTERNATE TO MK. 13: 19 (3/4") DIA. x 279 LG. ASTM A193 B8M CLASS 2 ROD THREADED 35 mm EACH END, c/w 2 NUTS & 2 WIDE WASHERS.



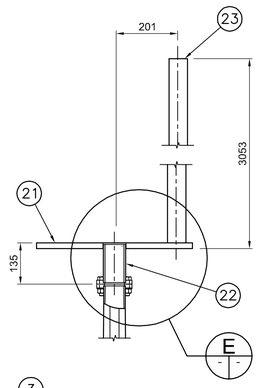
ORIENTATION

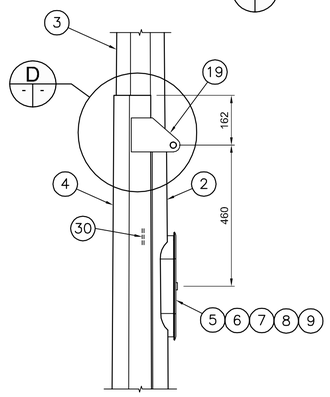


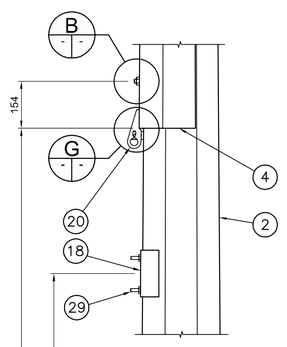
CONDUIT TAB DETAIL

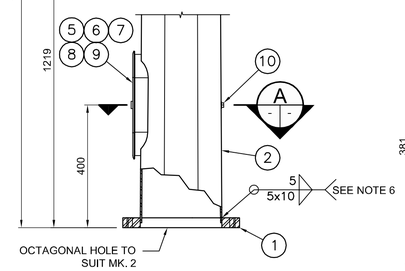


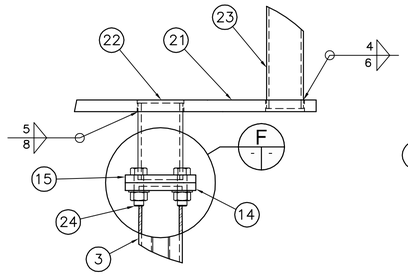
POLE ELEVATION
NTS











DETAIL E
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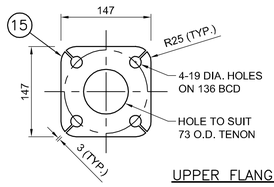
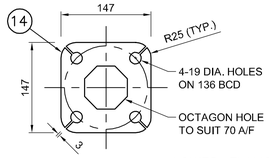
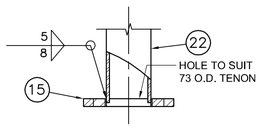
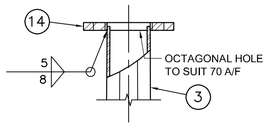


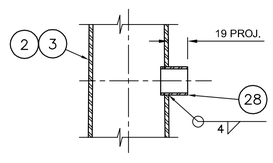
UPPER FLANGE PLATE



LOWER FLANGE PLATE







DETAIL
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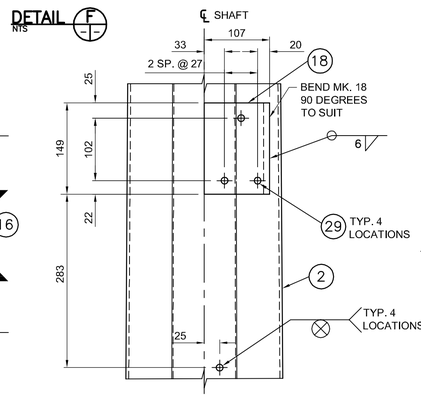

WINCH MOUNT DETAIL
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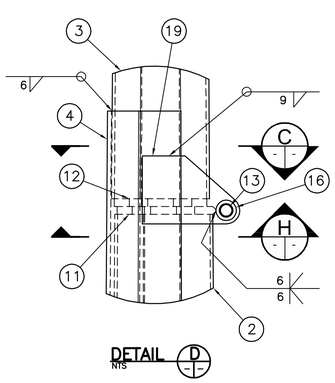

DETAIL
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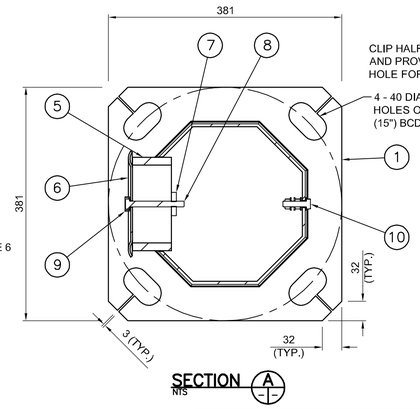

SECTION
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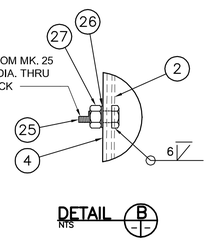

DETAIL
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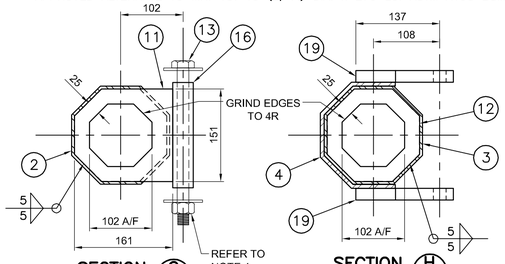
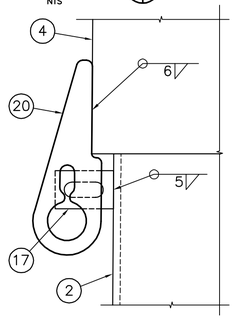


SECTION
LOWER ASSEMBLY
NTS

SECTION
UPPER ASSEMBLY
NTS



DETAIL
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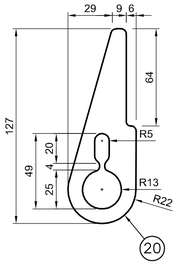
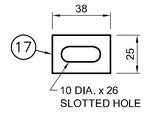
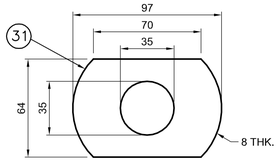


WINCH HOOK DETAIL



LOCKING TAB DETAIL



ANCHOR BOLT WASHER

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123–09 (PLUS LATEST REVISIONS) WITH NET RETENTION OF 610 g/m².
2. GRIND ALL SHARP POINTS AND EDGES.
3. LONGITUDINAL SEAM WELD SHALL HAVE 60% MINIMUM PENETRATION EXCEPT WITHIN 150 mm OF CIRCUMFERENTIAL WELDS SHALL BE COMPLETE PENETRATION.
4. APPLY SEMI–PERMANENT THREAD LOCKER COMPOUND PRIOR TO INSTALLATION OF MK. 13.
5. PROVIDE RAISED IDENTIFICATION NUMBER WITH WELDING ELECTRODE AS PER SPECIFICATION, STRUCTURE TYPE CODE = F50
6. EXTERIOR WELD JOINING SHAFT TO BASE PLATE SHALL BE AN UNEQUAL LEG FILLET WELD WITH THE LONG LEG OF THE WELD ALONG THE SHAFT, TERMINATING AT 30° FROM THE SHAFT'S SURFACE.

DESIGN CRITERIA:

1. AASHTO STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS, 2009 (5TH EDITION) PLUS INTERIMS.
2. DESIGN WIND PRESSURE CALCULATED AS $P_Z = 0.613 K_Z G V^2 I_R C_d$
   WHERE:
   K_Z AS PER AASHTO TABLE 3–5 EXCEPT NOT LESS THAN 1.0
   G = 1.14
   V = 40 m/s
   I_R AS PER AASHTO TABLE 3–2 FOR 50 YEAR DESIGN LIFE
   C_d AS PER AASHTO TABLE 3–6
3. ATTACHMENTS AT 50ft:
   - MAXIMUM TOTAL EFFECTIVE PROJECTED AREA = 1.0 m²
   - MAXIMUM WEIGHT = 20 kg

APEGM
Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 Date: JAN. 14, 2013

REDUCED DRAWING N.T.S.

NO.	REVISIONS	DATE	BY
3	REVISED BY DILLON CONSULTING	3/27/14	CDW
2	REVISED BY DILLON CONSULTING	7/25/13	CDW
1	ISSUED BY DILLON CONSULTING	1/14/13	CDW

B.M. ELEV.

DESIGNED BY	CDW
DRAWN BY	JGW
CHECKED BY	CDW
APPROVED BY	SSR
HOR. SCALE	NTS
VERTICAL	NTS
DATE	

DILLON CONSULTING

RELEASED FOR CONSTRUCTION
DATE

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL STAMPED BY
S.S. RIHAL
JAN. 14, 2013
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NUMBER
12-5954

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

15.24 m (50'-0") FOLD DOWN POLE WITH COUNTERWEIGHT AND LIGHTNING ARRESTOR

CITY DRAWING NUMBER
N/A

SHEET 1 OF 1

CONSULTANT DRAWING NUMBER
N/A

G:\CAD\125954\Contract\Current\50 FOOT FOLD DOWN.dwg