REVISIONS					
ZONE	LTR	ECO	DESCRIPTION	DATE	APPROVED

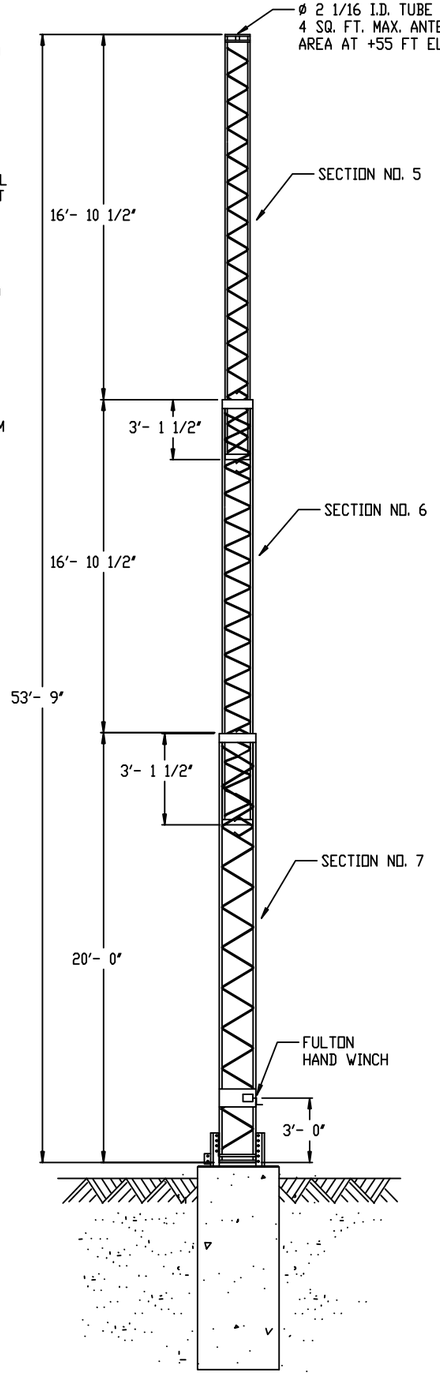
NOTES: UNLESS OTHERWISE SPECIFIED

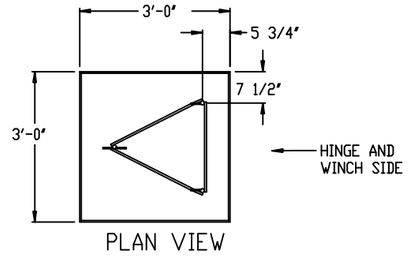
1. THE TOWER SHALL BE FABRICATED AND ASSEMBLED IN CONFORMANCE WITH THE 2012 IBC.
2. THE TOWER SHALL BE COMPLETELY HOT DIPPED GALVANIZED AFTER FABRICATION.
3. FLEXIBLE GALVANIZED AIRCRAFT CABLES OF 7 X 19 TYPE SHALL CONFORM TO A DESIGN LOAD EQUAL TO 1400 POUNDS FOR 1/4 INCH SIZE. THE MANUFACTURER'S CERTIFICATE OF GUARANTEE FOR MINIMUM BREAKING STRENGTH SHALL SHOW A BREAKING STRENGTH OF THREE TIMES THE DESIGN LOAD OF 1400 POUNDS FOR EACH FOLL OF CABLE AND SHALL BE SUBMITTED FOR EACH JOB TO THE BUILDING DEPARTMENT UPON REQUEST.
4. THE CONCRETE SHALL CONSIST OF CEMENT(5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE), AGGREGATE (3/4" SIZE), SAND, AND WATER (WATER TO CEMENT RATIO SHALL NOT EXCEED 0.50, AND CONCRETE SLUMP SHALL NOT EXCEED 4 1/2 INCHES) TO YIELD A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
5. ALL FOOTINGS SHALL PENETRATE INTO AND BEAR UPON UNDISTURBED SOIL OR COMPACTED SOIL - EACH SOIL WITH A MINIMUM IN-PLACE-DENSITY, AS DETERMINED BY ASTM D1556-70, OF 92% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT ESTABLISHED IN ACCORDANCE WITH ASTM D1557-70, FOR THE SOIL OF THE TOWER SITE. ALL BACKFILL SOIL SHALL CONFORM WITH THE IN-PLACE-DENSITY AND OPTIMUM MOISTURE CONTENT REQUIREMENTS OF THIS PARAGRAPH.
6. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615-76A AND AWS D1.1-90 STRUCTURAL WELDING CODE-REINFORCING STEEL.
7. TOWER IS DESIGNED TO BE USED IN A FULLY EXTENDED POSITION.

MATERIAL SPECIFICATION:

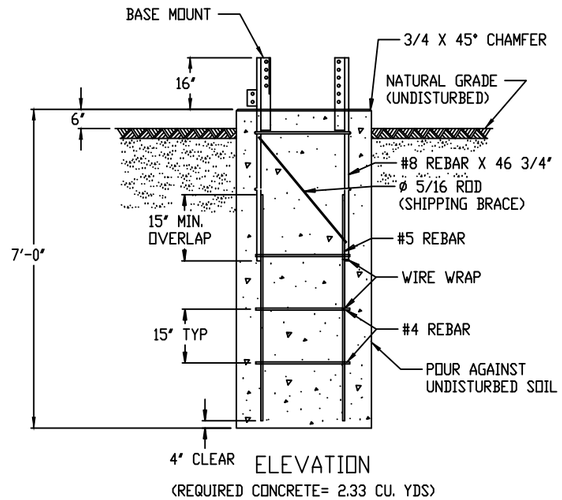
SHAPES	ASTM A36
PLATES	ASTM A36
PIPE	ASTM A-53 GRADE B
TUBE	ASTM A513 TYPE 5 DOM Fy=70 KSI (TOWER LEGS)

GALVINIZED PER ASTM A123 AND 153



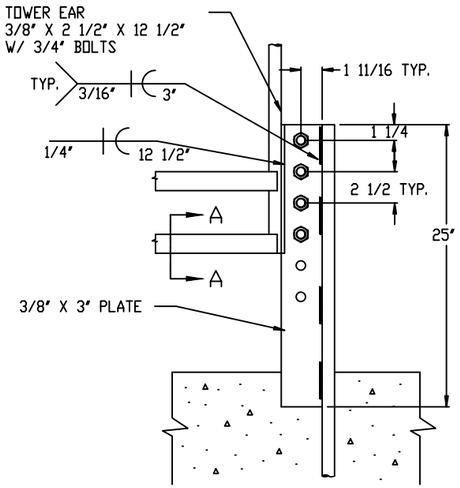


PLAN VIEW



ELEVATION

(REQUIRED CONCRETE= 2.33 CU. YDS)



CONNECTION DETAIL

TOWER DESIGN LOADING

APPLICABLE CODE/STANDARD:
1. ANSI/TIA-222-H
2. ASCE 7-16
3. AISC 15th (LRFD)
4. 2018 IBC

WIND DESIGN DATA:
1. ASCE 7-16 & TIA-222-H
- BASIC WIND SPEED: 115-MPH, 3-SECOND GUST
- BASIC WIND SPEED W/ 0.25" ICE THICKNESS: 30-MPH
- SERVICE WIND SPEED: 60-MPH, 3-SECOND GUST
2. RISK CATEGORY: II
3. WIND EXPOSURE: C
4. Kd = WIND DIRECTION PROBABILITY FACTOR: 0.85
5. TOPOGRAPHIC CATEGORY: 1
- CREST HEIGHT: 0'
6. WIND BASE SHEAR: 607 lb

EARTHQUAKE DESIGN DATA:
1. RISK CATEGORY II
2. IMPORTANCE FACTOR, Ia.: 1.00
3. S_S: 0.276, S_1: 0.087
4. SITE CLASS: D
5. SDS: 0.291, SD1: 0.139
6. RESPONSE MODIFICATION COEFFICIENT, R: 3.0
7. SEISMIC DESIGN CATEGORY: C
8. BASE SHEAR: ≈ 60 lb (w/ice)
9. ANALYSIS PROCEDURE: ELF

GEOTECHNICAL DESIGN DATA:
1. ANSI/TIA-222-H ANNEX F, TABLE F-1

FOUNDATION REACTIONS:
1. **AXIAL: 815 lb**
2. SHEAR: 607 lb
3. MOMENT: 19 kip-ft
4. TORQUE: 0 kip-ft

ITEM	QTY REQD	PART NO. IDENTFYING NO.	NOMENCLATURE OR DESCRIPTION	DWG NO.
9	1		INSTRUCTION MANUAL, LM-354	
8	1		CONCRETE BASE ASSEMBLY, RCB -54	
7	2		4A PULLEY ASSEMBLY K8 BEARING	
6	1		WINCH, FULTON K1550	
5	1		#5 LIFT CABLE, 1/4" 7 X 9 GALVANZIED	
4	1		LIFT CABLE, 1/4" 6 X 36 GALVANIZED	
3	1		LM-354 #5 SECTION WELDMENT	
2	1		LM-354 #6 SECTION WELDMENT	
1	1		LM-354 #7 SECTION WELDMENT	

PARTS LIST

NEXT ASSY	USED ON
APPLICATION	DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:
DECIMALS XX=±.06 XXX=± ANGLES ± 1/2
STRAIGHT EDGE .008

MATERIAL

FINISH

PART NO.

APPROVALS	DATE
DRAWN Austin H	06/21/21
CHECKED	
ENG. APPD.	

ASHJIAN TOWERS CORPORATION
2765 S. TEMPERANCE AVE., FOWLER, CA. 93625

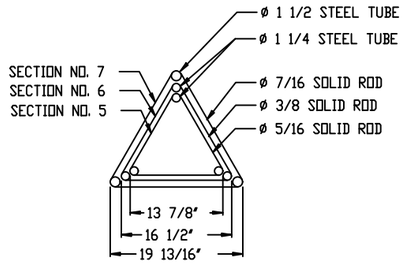
TITLE
LM-354 CRANK UP TOWER

SIZE	CAGE CODE	DRAWING NO.	REV.
D			

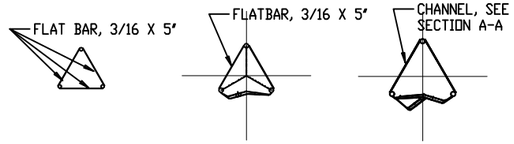
SCALE 1/1 SHEET 1 OF 2

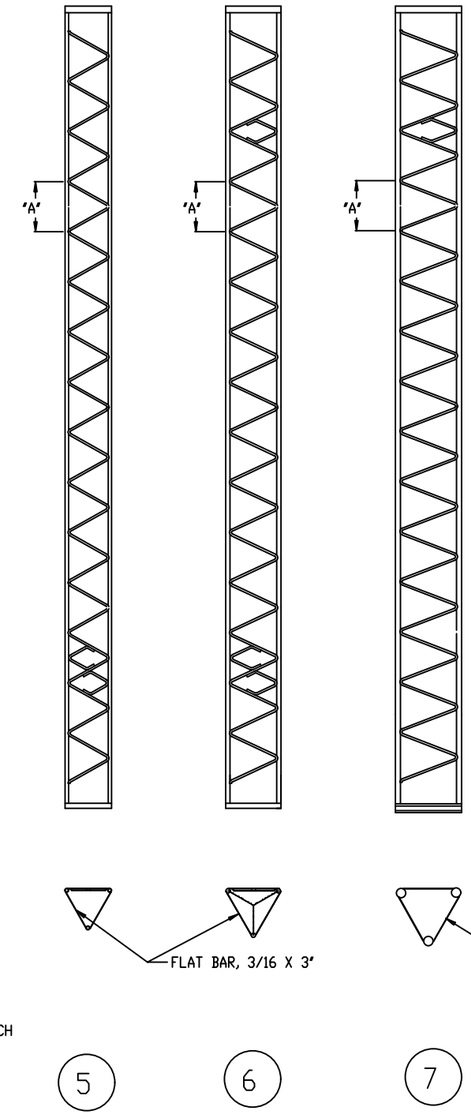
REVISIONS					
ZONE	LTR	ECO	DESCRIPTION	DATE	APPROVED

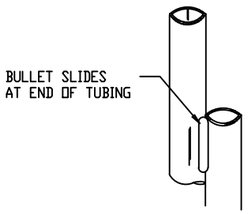
TABLE 1							
SECTION	SECTION LEG SIZE	SECTION BRACE SIZE	1/2 LOOPS (TOTAL)	DIM 'A'	WELD SCHEDULE SIZE	LENGTH	TYPE
(5)	1 1/4 X .120 WALL, STL TUBE	ø5/16 STL ROD	3 (BOTTOM ONLY)	15'	.125'	.64'	V-TYPE
(6)	1 1/4 X .120 WALL, STL TUBE	ø3/8 STL ROD	6 (TOP & BOTTOM)			.91'	
(7)	1 1/2 X .120 WALL, STL TUBE	ø7/16 STL ROD				1.24'	



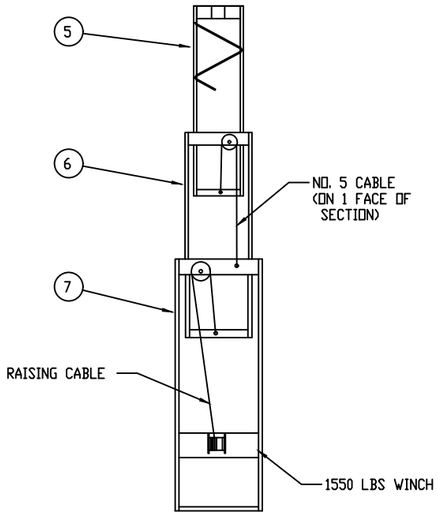
TOWER CROSS SECTION



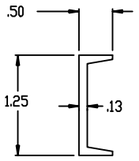




TYPICAL SECTION GUIDES

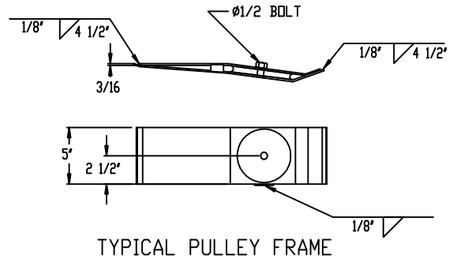


RAISING SYSTEM

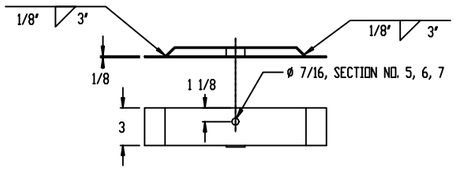


SECTION A-A

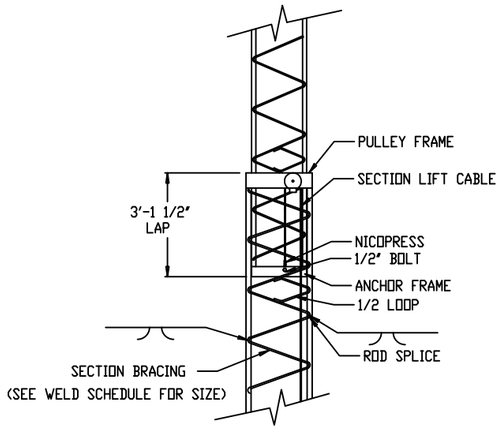
CHANNEL, 1/8 X 1/2 X 1 1/4



TYPICAL PULLEY FRAME



TYPICAL ANCHOR FRAME



TYPICAL LAP DETAIL

ALL WELDING IS SHOP WELDING, THERE IS NO FIELD WELDING REQUIRED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS XX=±.06 XXX=± ANGLES ± 1/2 STRAIGHT EDGE .008	PART NO.		
	APPROVALS	DATE	
MATERIAL	DRAWN Austin H	06/23/21	
	CHECKED		
FINISH	ENG. APPD.		
DO NOT SCALE DRAWING			

NEXT ASSY	USED ON
APPLICATION	

ASHJIAN TOWERS CORPORATION
2765 S. TEMPERANCE AVENUE, FOWLER, CALIF. 93625

TITLE: LM-354 CRANK UP TOWER

SIZE	CAGE CODE	DRAWING NO.	REV.
D			
SCALE 1/1			SHEET 2 OF 2