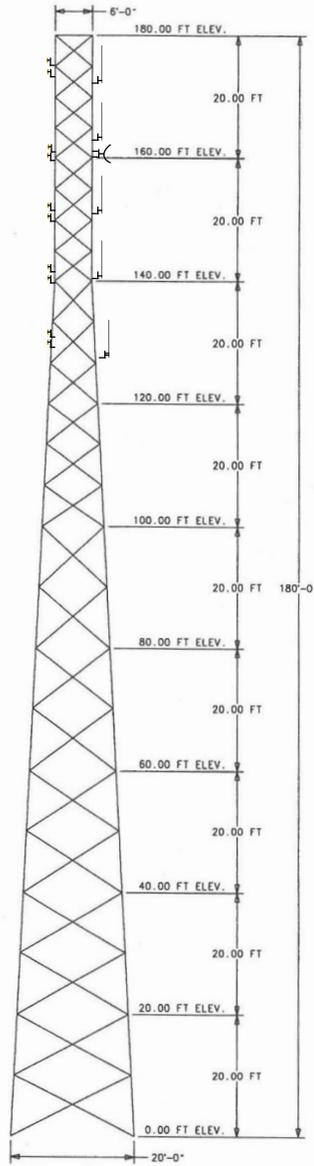


Attachment D.2 Tower Drawing with Antennae

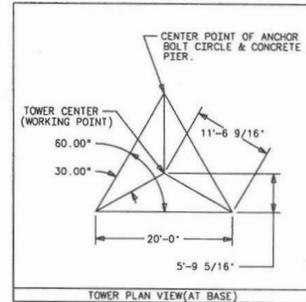
MEMBER TYPE & SIZE CHART	
SECTION 1 ELEVATION = 160.00 FT TO 180.00 FT	
LEG = PIPE 2.88 O.D. X 0.203 WALL THK.	
DIAGONAL = 4 1.75 X 1.75 X 0.188	
HORIZONTAL = 4 2.50 X 2.50 X 0.188	
APPROXIMATE SECTION WEIGHT = 900#	
SECTION 2 ELEVATION = 140.00 FT TO 160.00 FT	
LEG = PIPE 3.50 O.D. X 0.216 WALL THK.	
DIAGONAL = 4 1.75 X 1.75 X 0.188	
APPROXIMATE SECTION WEIGHT = 950#	
SECTION 3 ELEVATION = 120.00 FT TO 140.00 FT	
LEG = PIPE 4.00 O.D. X 0.226 WALL THK.	
DIAGONAL = 4 2.00 X 2.00 X 0.188	
APPROXIMATE SECTION WEIGHT = 1100#	
SECTION 4 ELEVATION = 100.00 FT TO 120.00 FT	
LEG = PIPE 4.50 O.D. X 0.237 WALL THK.	
DIAGONAL = 4 2.00 X 2.00 X 0.188	
APPROXIMATE SECTION WEIGHT = 1250#	
SECTION 5 ELEVATION = 80.00 FT TO 100.00 FT	
LEG = PIPE 5.56 O.D. X 0.258 WALL THK.	
DIAGONAL = 4 2.50 X 2.50 X 0.188	
APPROXIMATE SECTION WEIGHT = 1600#	
SECTION 6 ELEVATION = 60.00 FT TO 80.00 FT	
LEG = PIPE 6.63 O.D. X 0.280 WALL THK.	
DIAGONAL = 4 3.00 X 3.00 X 0.188	
APPROXIMATE SECTION WEIGHT = 2050#	
SECTION 7 ELEVATION = 40.00 FT TO 60.00 FT	
LEG = PIPE 6.63 O.D. X 0.280 WALL THK.	
DIAGONAL = 4 3.00 X 3.00 X 0.188	
APPROXIMATE SECTION WEIGHT = 2150#	
SECTION 8 ELEVATION = 20.00 FT TO 40.00 FT	
LEG = PIPE 6.63 O.D. X 0.280 WALL THK.	
DIAGONAL = 4 3.00 X 3.00 X 0.250	
APPROXIMATE SECTION WEIGHT = 2550#	
SECTION 9 ELEVATION = 0.00 FT TO 20.00 FT	
LEG = PIPE 8.63 O.D. X 0.322 WALL THK.	
DIAGONAL = 4 3.50 X 3.50 X 0.250	
APPROXIMATE SECTION WEIGHT = 3550#	

APPROXIMATE TOWER WEIGHT = 16100#



NOTES:

- MAXIMUM DESIGN REACTIONS AT BASE:
SHEAR = 18.06 KIPS/LEG
VERTICAL DOWNWARD = 206.03 KIPS/LEG
VERTICAL UPWARD = 191.18 KIPS/LEG
- TOWER DESIGN CRITERIA: EIA/TIA-222-G \times H
- THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING:
STRUCTURE CLASSIFICATION = III
TOPOGRAPHY CATEGORY = 1
A. CASE 1 WIND = 85 MPH ICE = 0.00 IN (N/A)
CASE 2 WIND = 30 MPH ICE = 1.50 IN
CASE 3 WIND = 60 MPH ICE = 0.00 IN
FOR TWIST & SWAY
B. ANTENNA LOADING IS PER THE ANTENNA MOUNTING TABLE SHOWN BELOW.
- FINISH: GALVANIZED PER ASTM A-123
- THIS QUOTE/PERMIT DRAWING SHALL NOT BE USED FOR CONSTRUCTION.
- SITE NAME = BULL RUN FILTRATION FACILITY
- TIA-H, $V_{ref} = 105$ mph, class III.



ANTENNA MOUNTING TABLE					
ANTENNA TYPE & MODEL NO.	SIZE (DECIMAL FEET)	FREQUENCY	QTY.	MOUNTING HEIGHT (DECIMAL FEET)	MOUNTING AZIMUTH
4-6' HIGH PERFORMANC		N/A		180.00 FT	N/A
2-MEDIUM YAGI		N/A		170.00 FT	N/A
2-MEDIUM YAGI		N/A		160.00 FT	N/A
2-MEDIUM YAGI		N/A		150.00 FT	N/A
2-MEDIUM YAGI		N/A		140.00 FT	N/A
2-MEDIUM YAGI		N/A		130.00 FT	N/A
1-WHIP (2.5' X 8')		N/A		170.00 FT	N/A
1-WHIP (2.5' X 8')		N/A		160.00 FT	N/A
1-WHIP (2.5' X 8')		N/A		150.00 FT	N/A
1-WHIP (2.5' X 8')		N/A		140.00 FT	N/A
1-WHIP (2.5' X 8')		N/A		130.00 FT	N/A
1-36" Standoff		N/A		170.00 FT	N/A
1-36" Standoff		N/A		160.00 FT	N/A
1-36" Standoff		N/A		150.00 FT	N/A
1-36" Standoff		N/A		140.00 FT	N/A
1-36" Standoff		N/A		130.00 FT	N/A

* = CENTERLINE OF ANTENNA, N/A = NOT AVAILABLE

NOTE: 4-6' HIGH PERFORMANCE MICROWAVE DISHES MODELED AT 180' AFG ARE FOR TOWER LOADING PURPOSES. FOR CONSTRUCTION, ONLY ONE 6' MICROWAVE DISH WILL BE INSTALLED AT 160' AFG.

ORDER NO. 541305	FILE ID 4130580	SCALE NONE	DATE 02/09/22	ENGR JEC1
DESCRIPTION 180.0 FT SELF-SUPPORTING TOWER, SITE: BULL RUN FILTRATION FACI				

