

NOTES:

1. FOUNDATION AND LEVELING NON-SHRINKING GROUT SHALL BE SUPPLIED BY OTHERS.
2. FOUNDATION FOOTPRINT SHALL BE DETERMINED BY OTHERS. REFER TO STANDARD DIN 4024 PART 2 FOR FOUNDATION DESIGN REQUIREMENTS.
3. REFER TO HOWDEN DRAWING Z-172443 FOR ADDITIONAL FOUNDATION AND LOAD DETAILS AND FOUNDATION BLOCK INSTALLATION DETAILS.
4. DELETED
5. DELETED
6. SOLE PLATES, HEX NUTS, WASHERS, JACKING SCREWS, AND ALL THREAD ROD SUPPLIED BY AIR CLEAN.
7. SHIM GENERATOR AND/OR TURBINE AS REQUIRED FOR COUPLING ROUGH ALIGNMENT. LEVEL TURBINE AND GENERATOR FRAMES TO $\pm 1/16"$.
8. INSTALL GENERATOR NON-SHRINK GROUT AFTER AIRCLEAN PERFORMS COUPLING ALIGNMENT.

RECOMMENDED INSTALLATION SEQUENCE :

- A. PRE-ATTACH HOWDEN SUPPLIED TURBINE FOUNDATION BLOCKS TO THE TURBINE BASE FRAME. REFER TO HOWDEN DRAWING Z-108021.
- B. PLACE THE STEAM TURBINE ON CONCRETE FOUNDATION WITH HOWDEN SUPPLIED LEVELING SPINDLES AND LOCATE TURBINE PER SITE INSTALLATION DRAWINGS.
- C. LEVEL TURBINE TO $\pm 1/16"$
- D. LOCATE GENERATOR ANCHOR THREADED RODS USING THE GENERATOR TEMPLATE SHOWN ON SHEET 4. PRIOR TO INSTALLING ANCHORS, MEASURE ANCHOR HOLE LOCATIONS ON THE GENERATOR FRAME AND SOLE PLATES TO ENSURE GENERATOR TEMPLATE MATCHES GENERATOR. INSTALL GENERATOR ANCHOR RODS USING EPOXY ADHESIVE PER DETAIL B. MEASURE DIAGONALS BETWEEN ANCHOR RODS TO ENSURE PROPER LOCATION OF GENERATOR ANCHORS BEFORE EPOXY HARDENS.
- E. INSTALL GENERATOR SOLE PLATES ON ANCHOR BOLTS AND LEVEL TO $\pm 1/16"$. USE AIRCLEAN SUPPLIED HEAVY HEX NUTS TO LEVEL SOLE PLATES AS SHOWN ON DETAIL B. ALTERNATIVELY, CONTRACTOR MAY USE THE STRAIGHT AND TAPERED WEDGES SUPPLIED WITH GENERATOR IF PREFERRED.
- F. PLACE GENERATOR ON SOLE PLATES AND INSTALL 8 GENERATOR MOUNTING BOLTS TO SECURE GENERATOR TO SOLE PLATES.
ENSURE GENERATOR IS AT MAGNETIC CENTER. REFER TO SECTION 4.4 OF TOPS MANUAL FOR DETAILS.
- G. USE JACKING SCREWS AND SHIMS TO ALIGN TURBINE AND GENERATOR SHAFTS PER COUPLING ALIGNMENT DETAIL (SEE 14791-D-GAR). REFER TO LOVEJOY COUPLING DRAWING AND INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION. AIRCLEAN WILL ASSIST WITH TURBINE AND GENERATOR COUPLING ALIGNMENT.
- H. AFTER TURBINE AND GENERATOR ARE LEVELED AND COUPLING ALIGNED, TIGHTEN GENERATOR ANCHOR RODS WITH HEX NUTS AND WASHERS PER DETAIL B TO A MAXIMUM TIGHTENING TORQUE OF 1560 FT-LBS. FILL HOLES TO ENCAPSULATE TURBINE FOUNDATION BLOCKS WITH NON-SHRINK GROUT PER DETAIL A.
- I. INSTALL LEVELING NON-SHRINK GROUT BENEATH GENERATOR SOLE PLATE PER DETAIL B.

CA56 STEAM TURBINE 820-TB-8209 AND SYNCHRONOUS GENERATOR 830-GN-8312

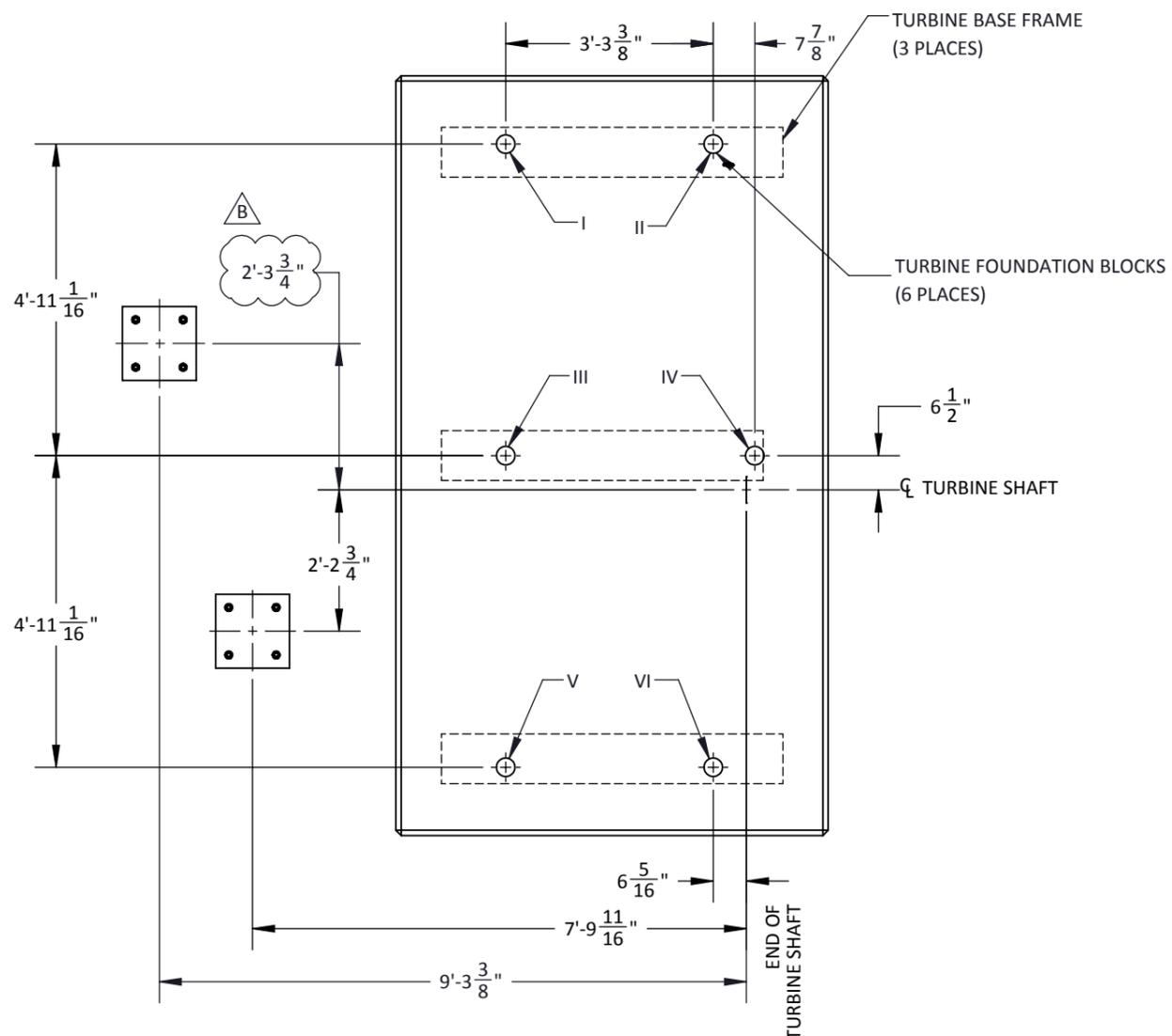
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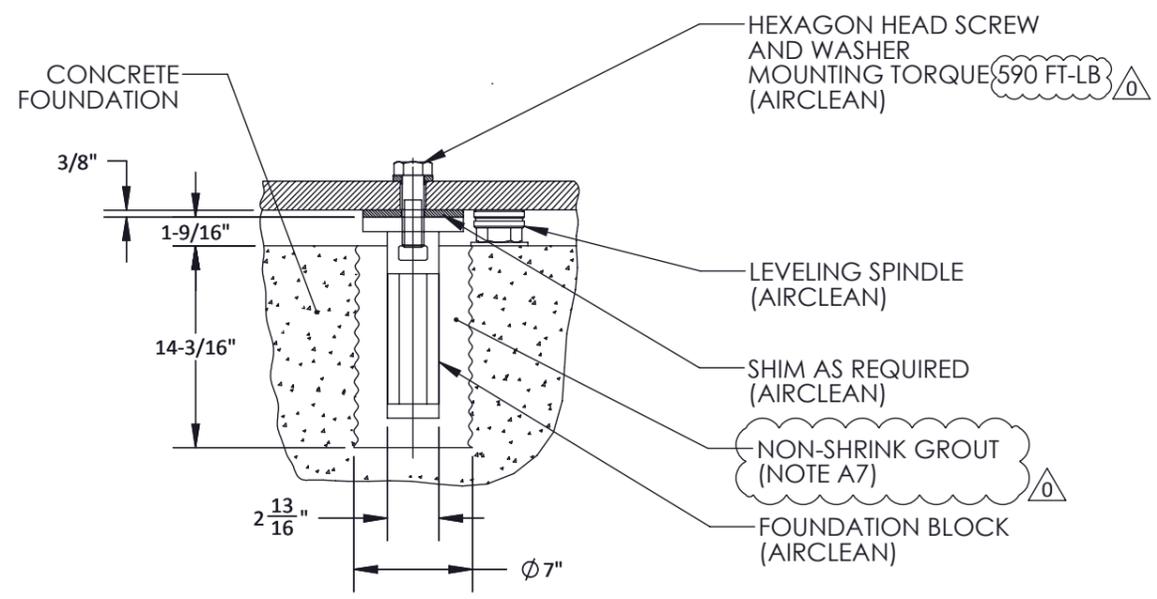
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www.aircleanenergy.com
4725 W. Marginal Way S.W. Phone: (206) 860-4930
Seattle, WA 98106 Fax: (206) 860-4982

PROJECT:	LYONS FERRY STRAW PULP POWER ISLAND	REV.	0
TITLE:	ANCHOR BOLT INSTALLATION	SHEET	1
DWG NO.	14791-D-ANC		4



TURBINE FOUNDATION BLOCK ARRANGEMENT



**DETAIL A
TURBINE FOUNDATION BLOCK INSTALLATION
(6 PLACES)**

TURBINE STATIC AND DYNAMIC LOADS				
LOCATION	LOAD FACTOR	DYNAMIC +/- Y (LBS)	DYNAMIC +/- Z (LBS)	STATIC -Y (LBS)
1	1	8,768	-	7,643
	2	4,496	8,768	
2	1	5,395	-	7,643
	2	2,698	5,395	
3	1	8,768	-	13,938
	2	4,496	8,768	
4	1	5,395	-	13,938
	2	2,698	5,395	
5	1	8,768	-	6,295
	2	4,496	8,768	
6	1	5,395	-	6,295
	2	2,698	5,395	
TURBINE EQUIPMENT MASS (LB)				
MASS OF ROTATING PARTS				4,800
TOTAL MASS (WITHOUT OIL)				28,660
REFER TO HOWDEN DRAWING Z-172443 FOR TURBINE LOAD DETAILS.				

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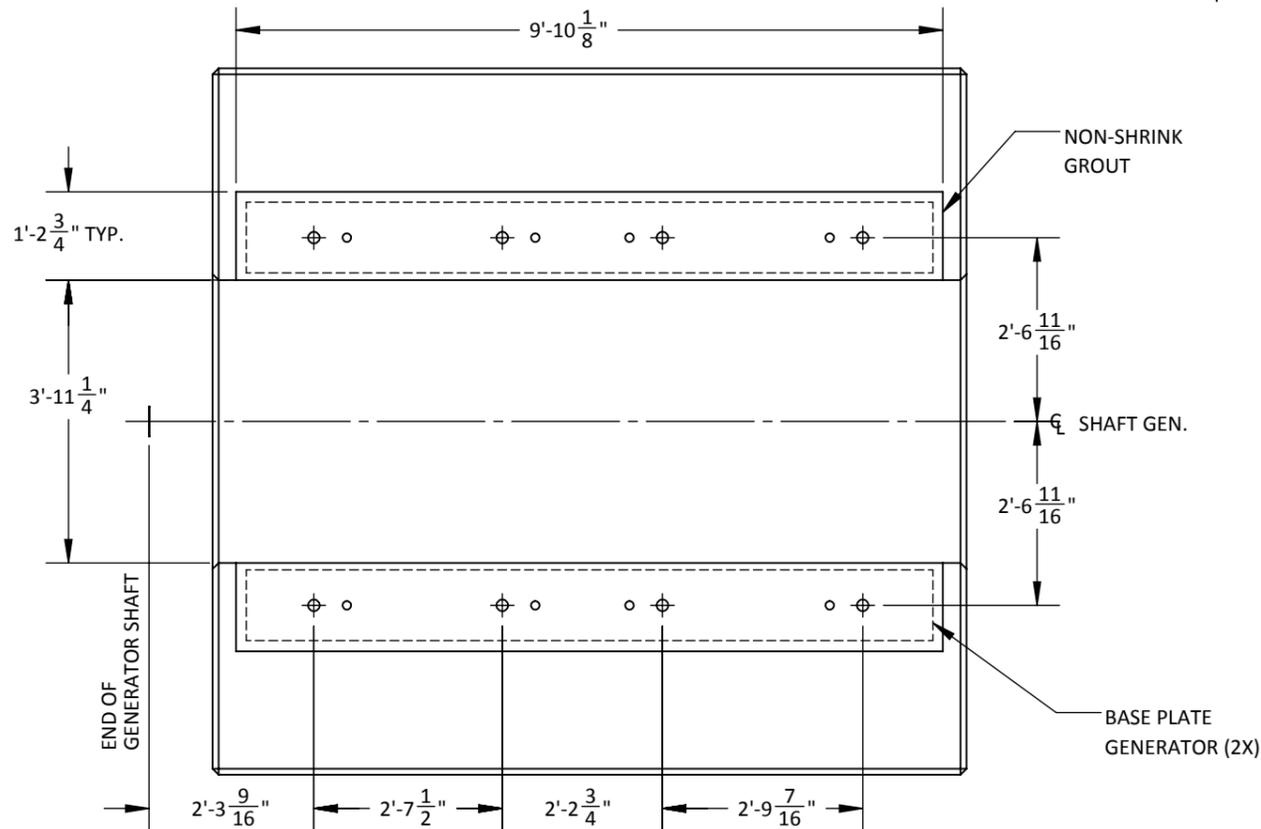
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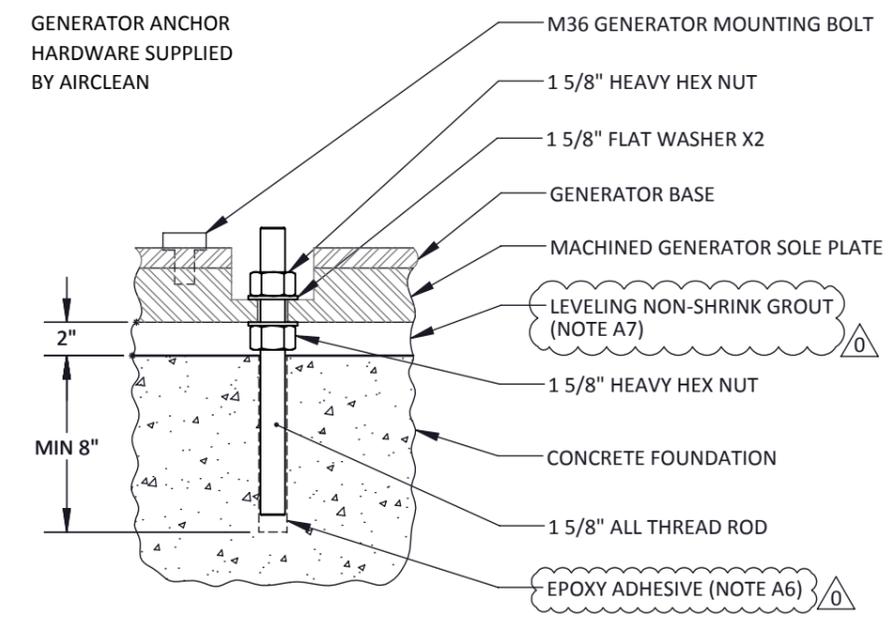
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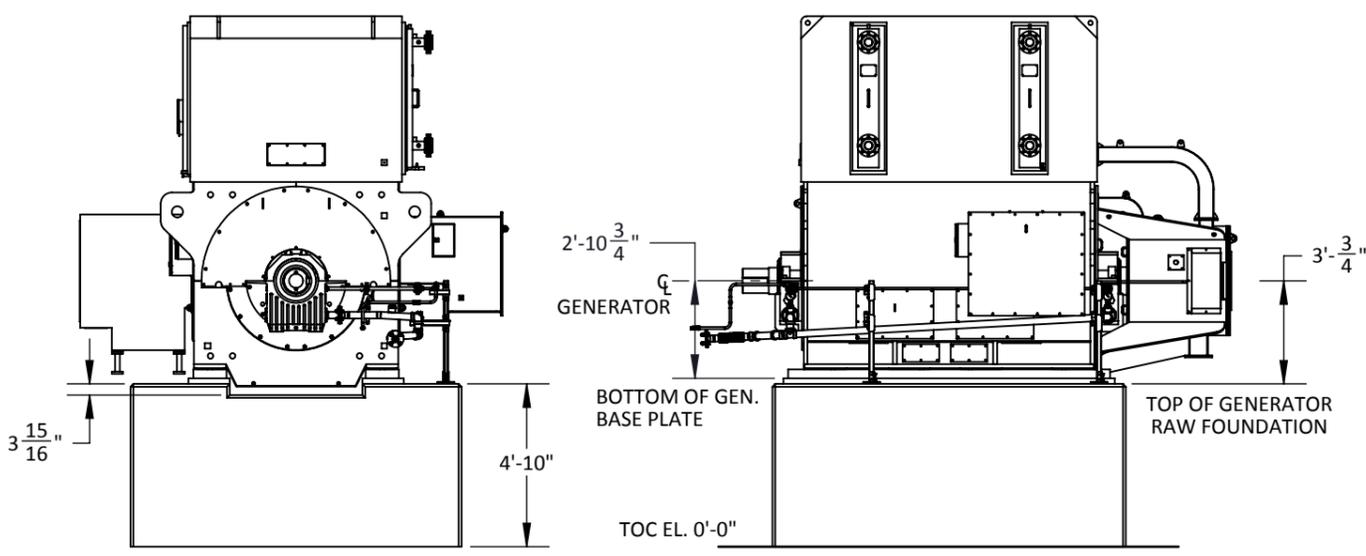
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GENERATOR ANCHOR BOLT ARRANGEMENT



DETAIL B
GENERATOR ANCHOR ROD INSTALLATION (8 PLACES)



GENERATOR EQUIPMENT MASS (LB)	
STATOR	27,560
ROTOR	13,118
AIR COOLER	8,818
EXCITER STATOR	2,976
TOTAL WEIGHT	52,470

GENERATOR STATIC AND DYNAMIC LOADS					
LOCATION	STATIC (LBS)		DYNAMIC (LBS)		
	VERTICAL (-Y)	VERTICAL (+/-Y)	AXIAL (+/-X)	LATERAL (+/-Z)	SHORT CIRCUIT
EACH ANCHOR	6,559	9,838	656	1,640	24,537

REFER TO TDPS DRAWING 11051117 FOR GENERATOR LOAD DETAILS.

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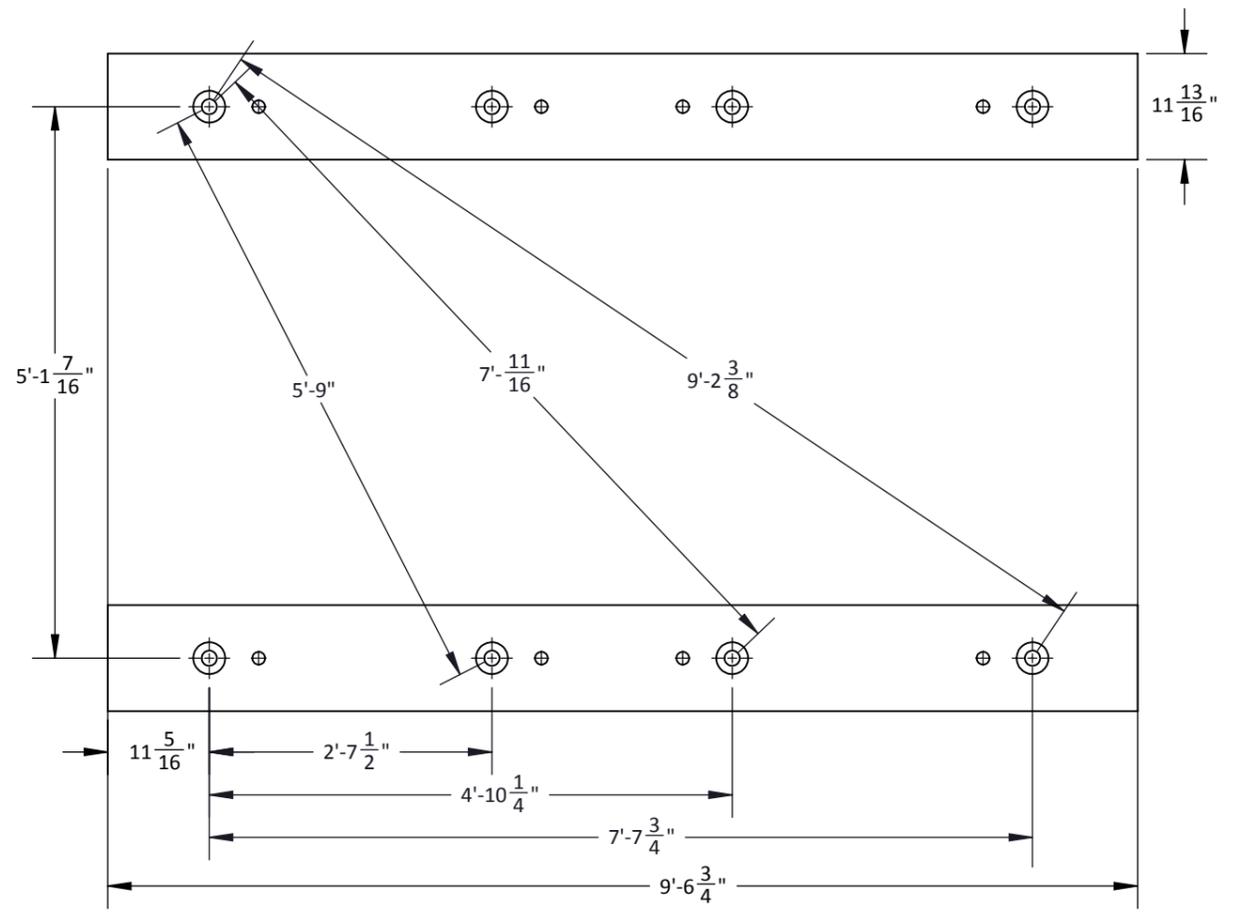
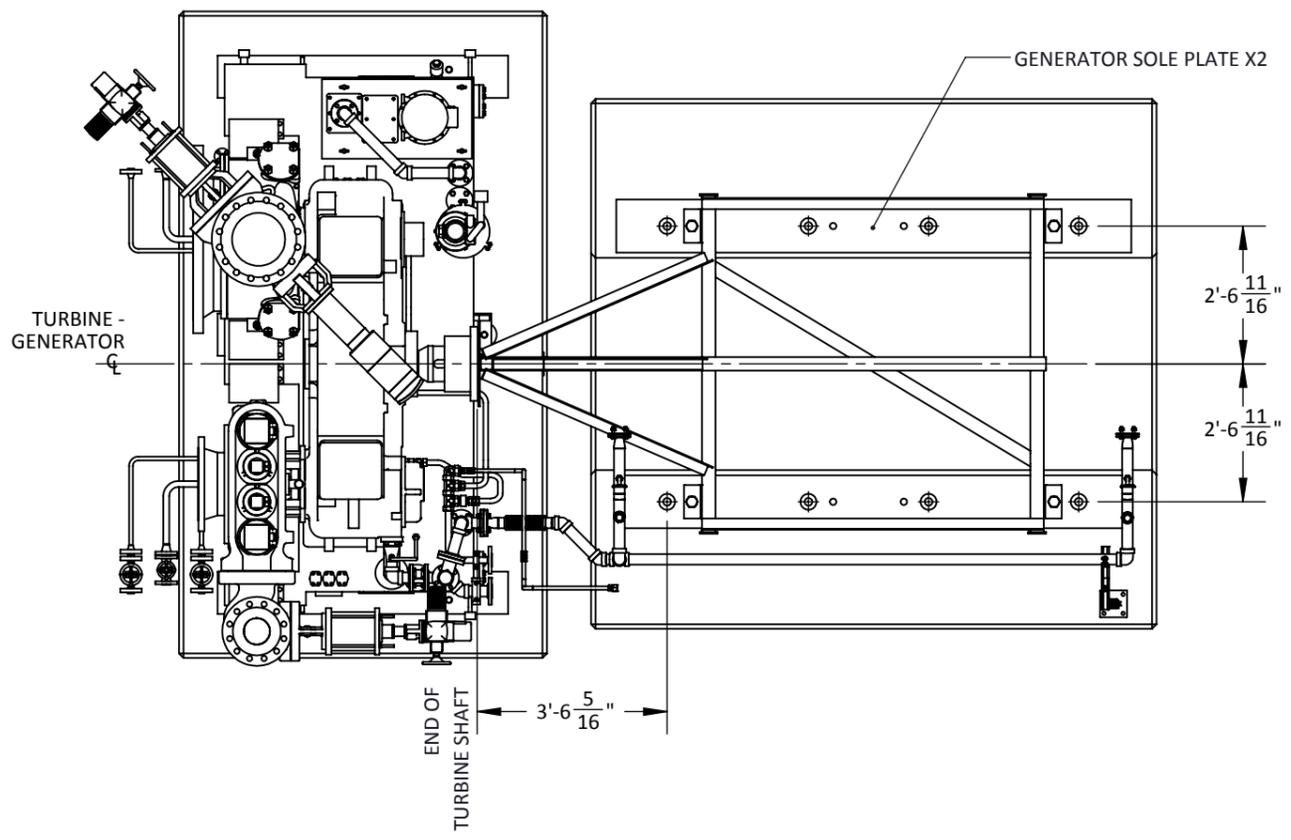
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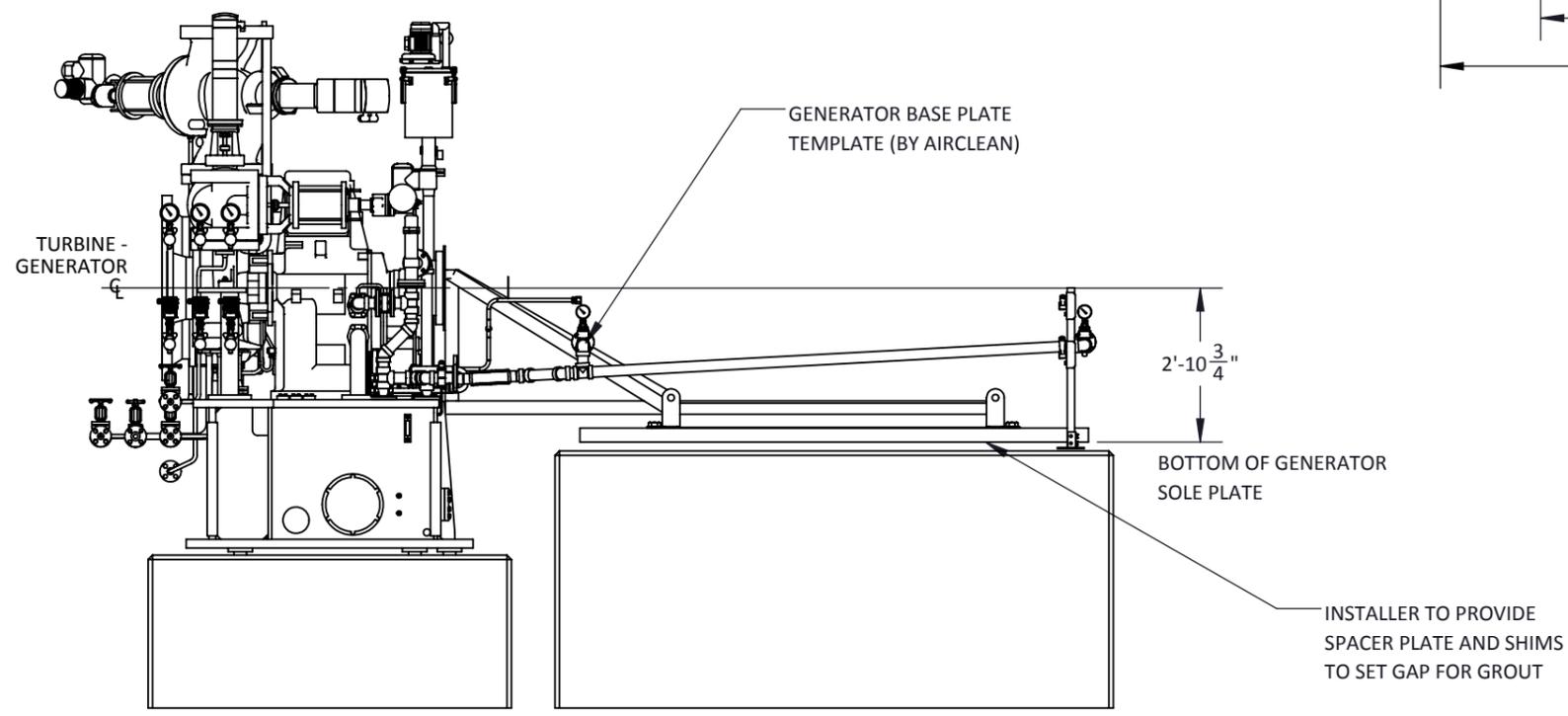
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ANCHOR BOLT DIMENSION CHECK (+/- 1/16")



GENERATOR ANCHOR TEMPLATE INSTALLATION

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