

GAS/ELECTRIC PARTNERSHIP HOUSTON, TX

Leigh Severin & Travis Tyer-Williams

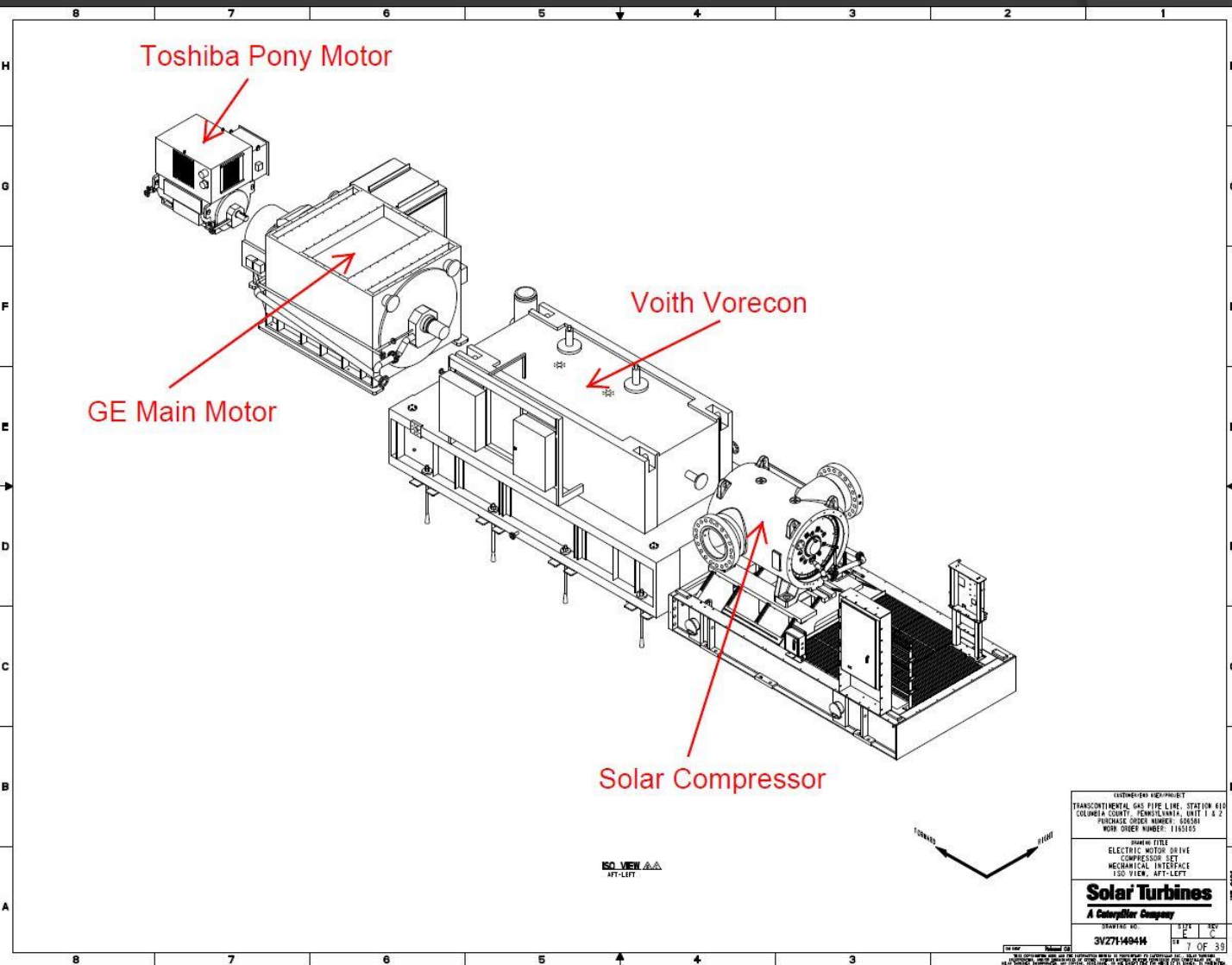
Ron Miller-Basic Systems

Matt Colosino-Crescent Power Systems



Pony Motor Starting System for a Gas Compressor Train

Compressor Train



System Criteria

● Pony Motor Details

- Torque Rating
- LV or MV
- Duty
- Bearings & Lubrication
- VFD Compatible
- Coupling

System Criteria

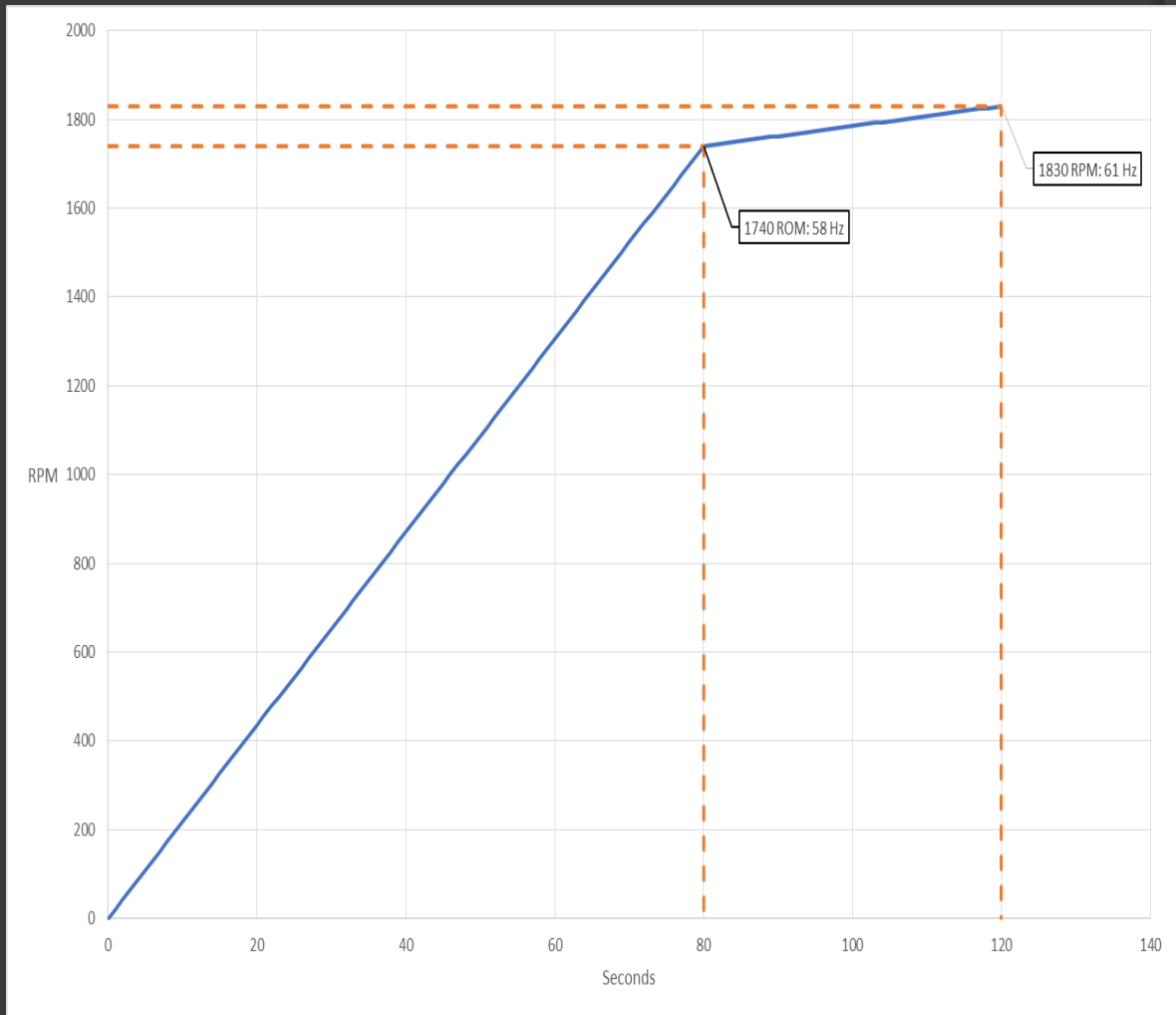
● VFD Details

- Rating
- Input Voltage
- Harmonics
- Redundancy
- Sync-transfer Controls
- Acceleration
- Testing

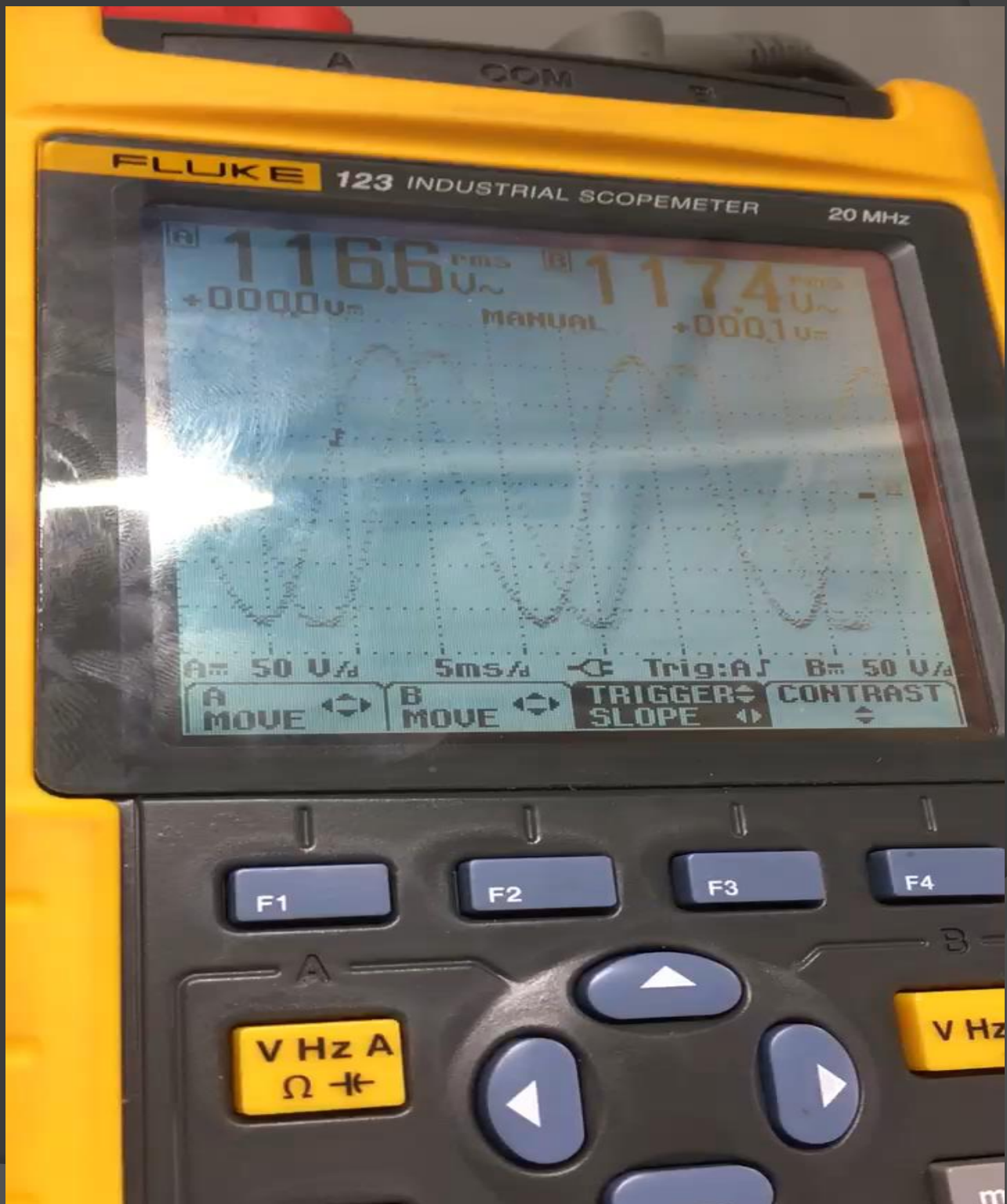
Important Items

- Coordination amongst equipment suppliers
- Process Starting Conditions
- Control Systems
- Regenerated Power to the VFD
- Reverse Power to the Utility

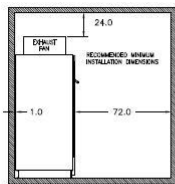
Acceleration Curve



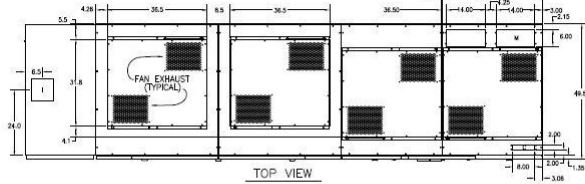
Oscilloscope Video



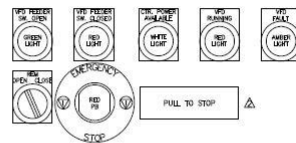
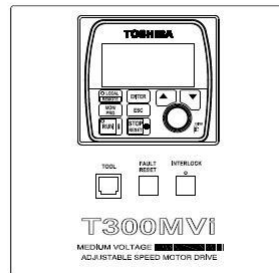
Toshiba MV VFD



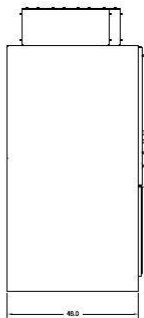
INSTALLATION DETAIL



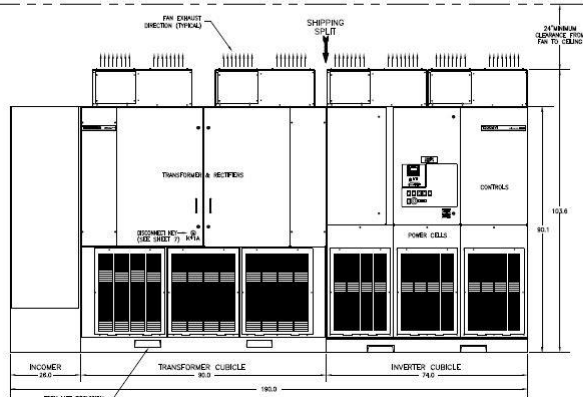
TOP VIEW



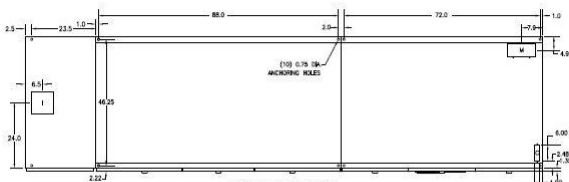
DETAIL PILOT DEVICES AND KEYPAD



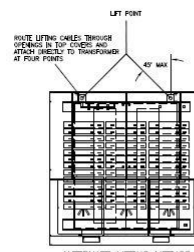
LH VIEW



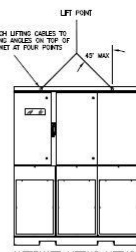
FRONT VIEW



FLOOR PLAN VIEW



ALTERNATE LIFTING METHOD
TRANSFORMER CUBICLE
(FANS REMOVED)



ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES (I)	MOTOR LEADS (M)	CONTROL WIRE (C)
TOP	_____	_____	_____
BOTTOM	8.0x8.0	10.0x5.0	2.0x6.0

INCOMING TERMINATIONS USE NEMA 2-HOLE PATTERN
MOTOR TERMINATIONS USE NEMA 4 -HOLE PATTERN

NOTES

1. ENCLOSURE TYPE: NEMA 1 W/CASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS
4. ALL DIMS ARE IN INCHES
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

TRANSFORMER/INCOMER	14,200 lbs
INVERTER	4,000 lbs

[illegible]

TOSHIBA

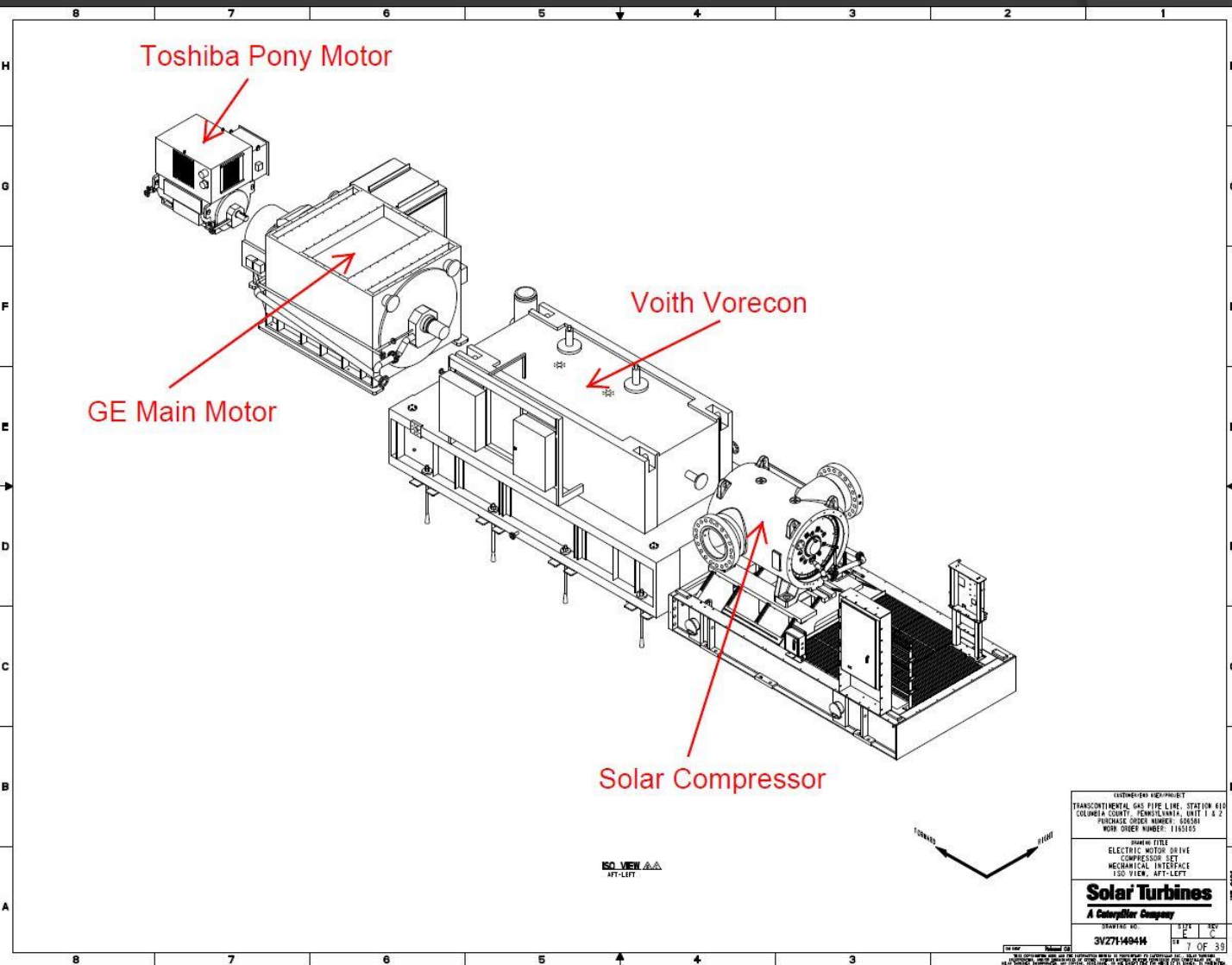
ENCLOSURE OUTLINE - FRAME 2, 4160V (1)
TOSVERT-300MM

CPS TEX

REGION	2	SCALE	1=16
VOITH PROJECT VII SOLAR-WILLIAMS			

151807118030

Compressor Train



Site View



SECTION A-A

REFERENCE DIMENSIONS

0027 SITE A-1 - SITE LAYOUT
0027 SITE A-2 - SECTION VIEW
0027 PLANS A-1 - PLANS VIEW

NOTES

1. DIMENSIONS TO BE DETAILLED INCLUDE IF NOT FOR DIMENSIONS.
2. DIMENSIONS BY P.W. TO BE VERIFIED WITH FINAL VENDOR PROPOS.
3. QUANTITY PER PHASE FOR BUS CARRIER CABLE REFERENCES ON DWG. SEE PLAN A-1.
4. BUS ATTACHED LABELS "A" ARE TO BE A SLIP POTENTIAL BUS ATTACHED LABELS "B" ARE TO BE A FIXED POTENTIAL.
5. SPACED BUSHING WITH CABLE @ 10" INTERVALS @ 10" (10" IF).
6. L.V. IF IS CONNECTED TO PHASE "B" LINE TO THE BUSHING.

NOTES

"THIS DRAWING IS NOT
VALID UNLESS A SEAL WITH
SIGNATURE IS ATTACHED TO
THIS DOCUMENT"

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Conclusion

- ⦿ Reliable
- ⦿ Efficient
- ⦿ Simple
- ⦿ Cost Effective
- ⦿ Easy to Maintain
- ⦿ Easy to Troubleshoot

Questions???

