



COORPORACION VENEZOLANA DE GUAYANA

EQUIPOS DE GENERACION
CICLO SENCILLO Y CICLO
COMBINADO



GE FRAME 7 EA





CVG GE FRAME 7EA

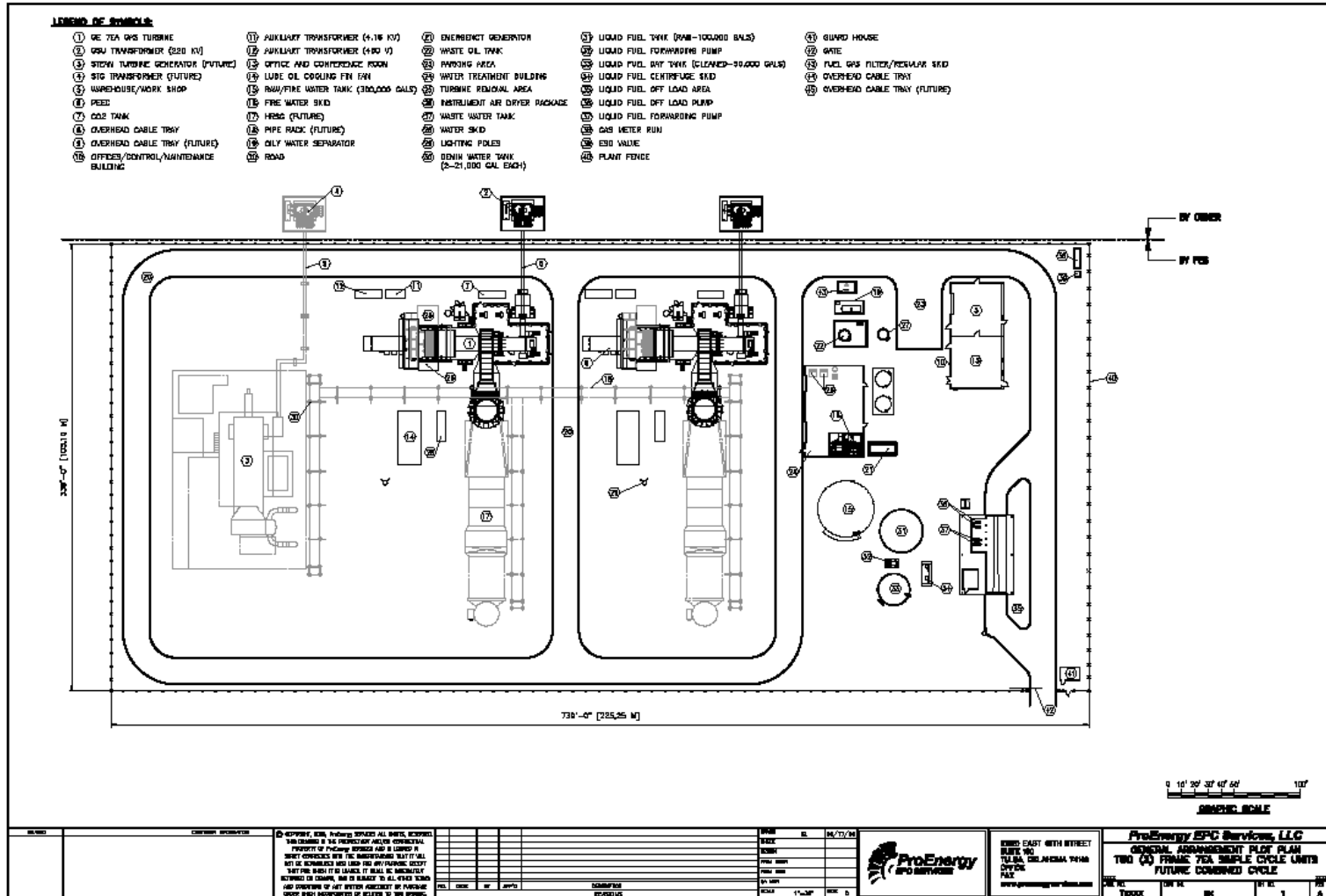




Performance GE 7EA



- **Simple Cycle Performance** **60Hz**
- Output 84.4 MW
- Heat Rate 10,480 Btu/kWh (11,100 kJ/kWh)
- Mass Flow 2361 lb/sec (1071 kg/sec)
- Turbine Speed 3600 rpm
- Exhaust Temperature 995°F (538°C)
- Model Designation (PG7121)
- Fuel Consumption 305 (Liters/Mw-hr)
- Gas 864,462 (Cubic-Feet/hr)
- Liquid fuel is an Option
- **Combine Cycle**
- Output 130 MW 1 x 1
- Heat Rate 6,800 Btu/KWh (7,173 Kj/KWh)
- 264 MW 2 x 1
- 6,700BTU/KWh (7,087 Kj/KWh)





CVG LM6000





GE LM6000 Ciclo Abierto



Gobierno Bolivariano
de Venezuela

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para las Industrias Básicas y Minería





Performance LM6000



• Simple Cycle Performance	60Hz	
• Output	48 MW	
• Heat Rate	8434 Btu/kWh	(8916 kJ/kWh)
• Shafts	2	
• Exhaust Flow	295 lb/sec	(134 kg/sec)
• Turbine Speed	3600 rpm	
• Exhaust Temperature	826°F	(441°C)
• Model Designation	LM6000PC	
• Fuel Consumption	244.97	(Liters/Mw-hr)
• Liquid	2903	(Gallons/Hr)
• Gas	391,279	(Cubic feet/Hr)



LM6000 Ciclo Combinado



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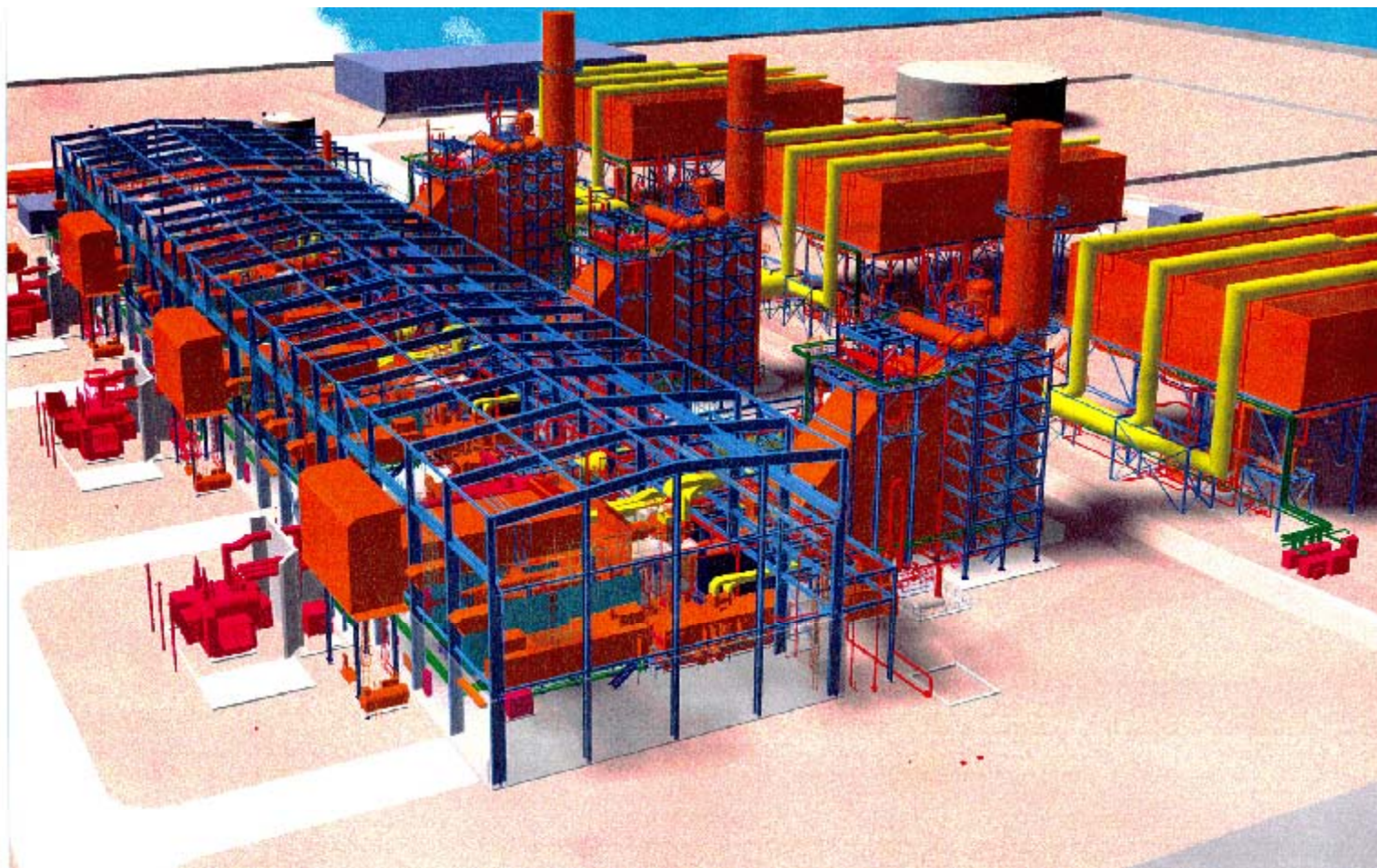
GE LM6000 Ciclo Combinado







GE 7FA Ciclo Combinado





CVG GE FRAME 7 FA







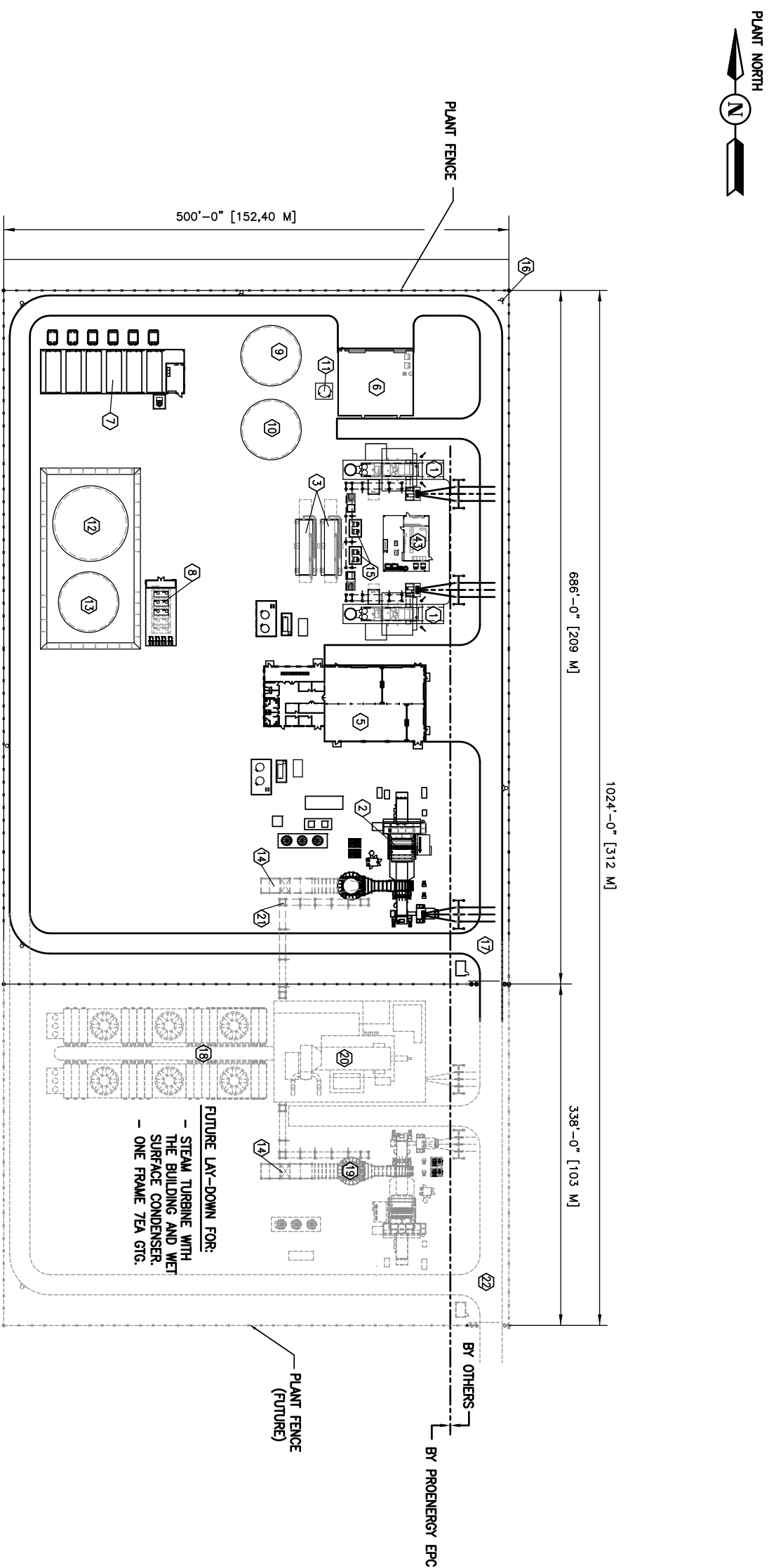
Performances



• Simple Cycle Performance	60Hz	
• Serial Number	298957-298958-298959	
• Output	171.7 MW	
• Heat Rate	9,360 Btu/kWh	(9,873 kJ/kWh)
• Pressure Ratio	16.0:1	
• Mass Flow	981 lb/sec	(445 kg/sec)
• Turbine Speed	3600 rpm	
• Exhaust Temperature	1,114°F	(601°C)
• Model Designation	PG7241FA	
• Fuel Consumption	272	(Liters/Mw-hr)
	11,572	(Gallons/hr)
	1,559,591	(Cubic-Feet/hr)
• Combined Cycle Performance		
• 60 Hz	(S107FA)	60 Hz (S207FA)
• Net Plant Output	262.6 MW	529.9 MW
• Heat Rate	6090 Btu/kWh (6,424 kJ/kWh)	6040 Btu/kWh (6,371 kJ/kWh)
• Net Plant Efficiency	56.0%	56.5%
• GT Number & Type	1 x MS7001FA	2 x MS7001FA



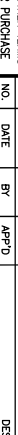
CVG PLANTA PROPUESTA "A"



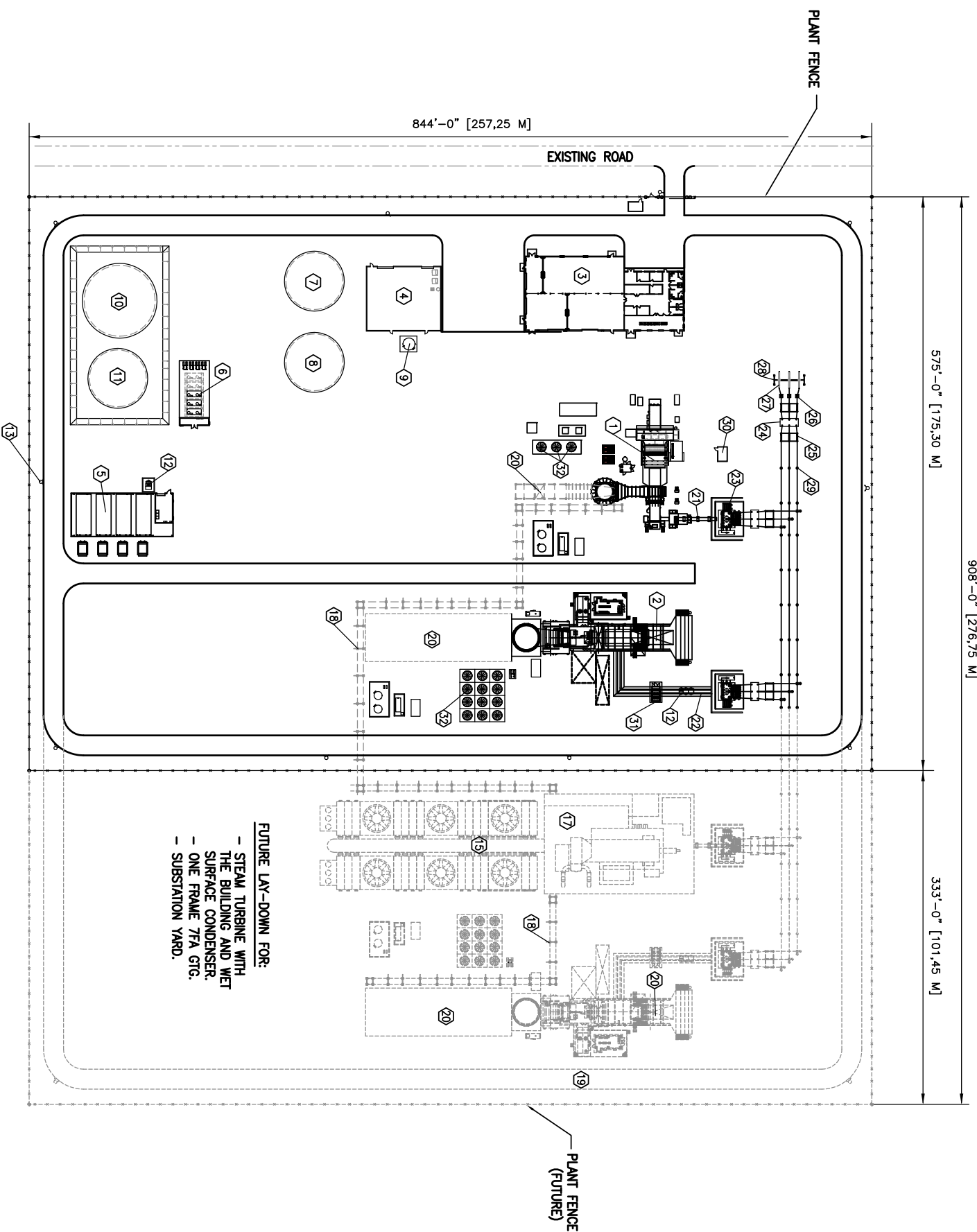
- ## LEGEND:
- ① G.E. LM-6000 GAS TURBINE GENERATOR.
 - ② G.E. FRAME 7EA GAS TURBINE GENERATOR.
 - ③ AIR INLET CHILLER PACKAGE.
 - ④ UTILITY BUILDING.
 - ⑤ CONTROL/OFFICES/WAREHOUSE BUILDING.
 - ⑥ WATER TREATMENT BUILDING.
 - ⑦ GAS COMPRESSORS WITH SHED, FIN FANS, AND MCC ROOM.
 - ⑧ CENTRIFUGE PACKAGE.
 - ⑨ RAW WATER TANK.
 - ⑩ DEMIN WATER TANKS.
 - ⑪ R.O. WATER TANK.
 - ⑫ RAW DIESEL FUEL TANK.
 - ⑬ TREATED FUEL TANK.
 - ⑭ HRSG (FUTURE).
 - ⑮ AUXILIARY TRANSFORMERS.
 - ⑯ LIGHTING POLES.
 - ⑰ ROAD.
 - ⑱ WET SURFACE CONDENSER (FUTURE).
 - ⑲ G.E. FRAME 7EA (FUTURE).
 - ⑳ STEAM TURBINE GENERATOR WITH BUILDING (FUTURE).
 - ㉑ PIPE RACKS (FUTURE).
 - ㉒ ROAD (FUTURE).

0 20' 40' 60' 80' 100' 200'

GRAPHIC SCALE

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907 SOUTH DETROIT AVE SUITE 1400 TULSA, OKLAHOMA 74120 OFFICE FAX www.proenergyservices.com			
ProEnergy EPC Services, LLC			
(2) GENERAL ARRANGEMENT PLOT PLAN			
LM-6000 & (1) FRAME 7EA GTG UNITS			
CVG POWER PLANT A			
SIGNOR	DWG NO.	SH NO.	REV
11001	1001-10-001	1	A

PLANTA PROPUESTA "B"




- ### LEGEND:
- | | |
|------|---|
| 17 | G.E. FRAME 7EA GAS TURBINE GENERATOR. |
| 22 | G.E. FRAME 7FA GAS TURBINE GENERATOR. |
| 33 | CONTROL/OFFICES/WAREHOUSE BUILDING. |
| 44 | WATER TREATMENT BUILDING. |
| 55 | GAS COMPRESSORS WITH SHED, FIN FANS,
AND MCC ROOM. |
| 66 | CENTRIFUGE PACKAGE. |
| 77 | RAW WATER TANK. |
| 88 | DEMIN WATER TANKS. |
| 99 | R.O. WATER TANK. |
| 1010 | RAW DIESEL FUEL TANK. |
| 1111 | TREATED FUEL TANK. |
| 1212 | AUXILIARY TRANSFORMERS. |
| 1313 | LIGHTING POLES. |
| 1414 | ROAD. |
| 1515 | WET SURFACE CONDENSER (FUTURE). |
| 1616 | G.E. FRAME 7EA (FUTURE). |
| 1717 | STEAM TURBINE GENERATOR WITH BUILDING (FUTURE) |
| 1818 | PIPE RACKS (FUTURE). |
| 1919 | ROAD (FUTURE). |
| 2020 | HRSG (FUTURE). |
| 2121 | OVERHEAD CABLE TRAY. |
| 2222 | ISO PHASE BUS. |
| 2323 | STEP-UP TRANSFORMER. |
| 2424 | SF6 BREAKER. |
| 2525 | DISCONNECT SWITCH. |
| 2626 | CURRENT TRANSFORMER (TYPE CVT). |
| 2727 | LIGHTNING ARRESTER. |
| 2828 | DEAD END TOWER. |
| 2929 | BUS SUPPORT. |
| 3030 | SUBSTATION HOUSE. |
| 3131 | GENERATOR BREAKER FOR 7FA. |
| 3232 | L.O. FIN FAN COOLERS. |

FUTURE LAY-DOWN FOR:

- STEAM TURBINE WITH THE BUILDING AND WET SURFACE CONDENSER.
- ONE FRAME 7FA GTG.
- SUBSTATION YARD.



GRAPHIC SCALE

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<div><div>ProEnergy EPC SERVICES</div><div>907 SOUTH DETROIT AVE SUITE 1400 TULSA OKLAHOMA 74120 OFFICE FAX www.proenergyseices.com</div></div>					
<div><div>ProEnergy EPC Services, LLC</div><div>GENERAL ARRANGEMENT PLOT PLAN (1) FRAME 7EA & (1) FRAME 7FA GTG UNITS. CVG POWER PLANT B</div><div>SEIOR JOB NO. 11002 DWG NO. 1002-10-001 SH NO. 1 REV 1 VENZUELA</div></div>					