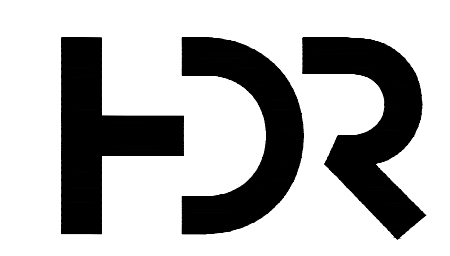


Revisions	
A	Project: 10419484 FEASIBILITY STUDY REPORT Dwn: J.B. 01/23/2025 Chkd: MAW 01/23/2025 Appd:
B	Project: 10419484 ISSUED FOR CPCN APPLICATION Dwn: J.B. 02/02/2025 Chkd: MAW 02/02/2025 Appd:

A  
B  
C  
D  
E

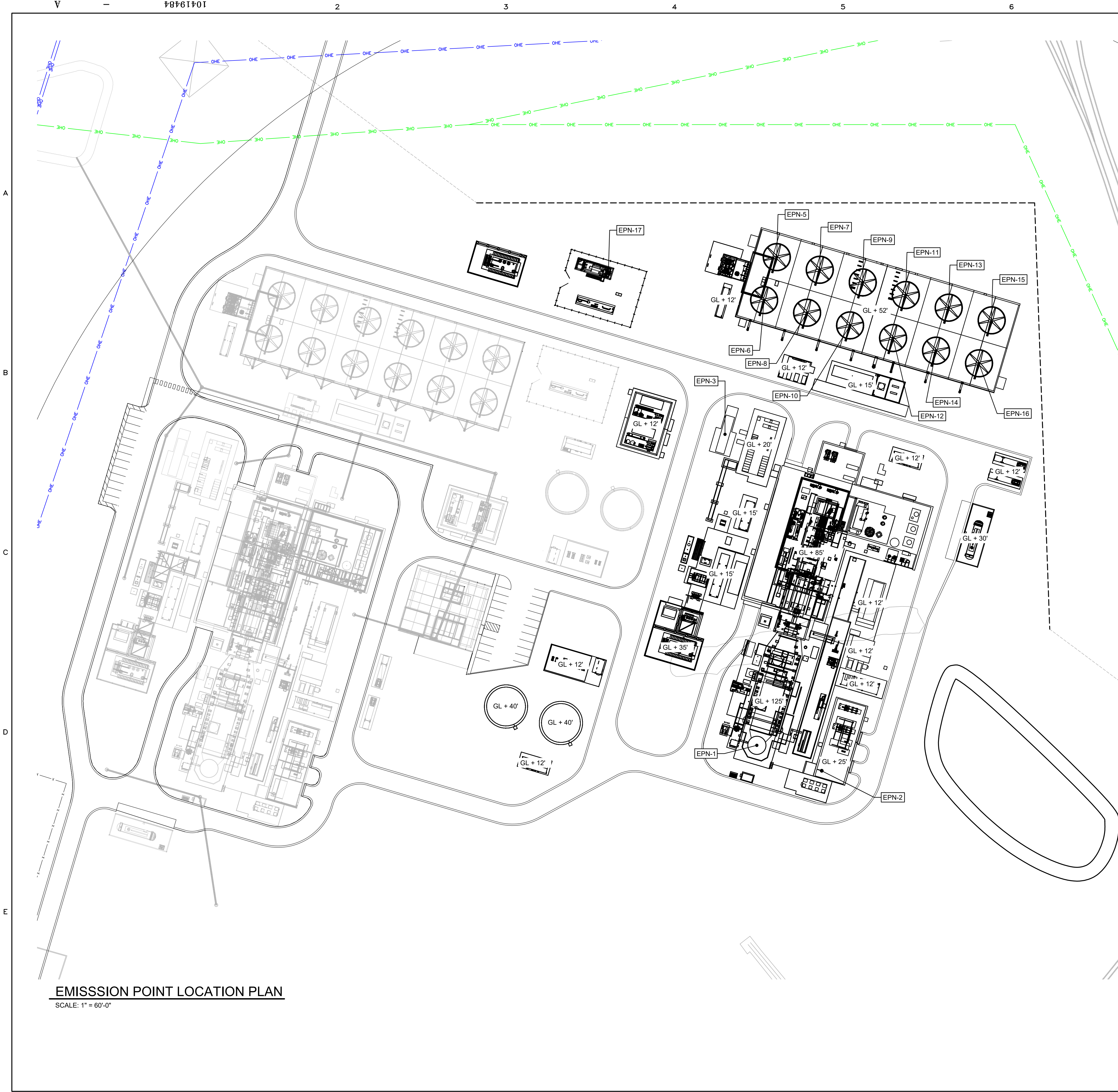
A  
B  
C  
D  
E

**SITE PLAN**  
SCALE: 1" = 300'-0"



Location and Unit: MILL CREEK	Contract No. 1224/2024	Drawn: J.B.
Scale: 1" = 300'-0"	Engineering discipline: CIVIL	Checked: MAW
Drawing type: PLAN	PPL companies: IG&E KU	Approved: -
Title: COMBINED CYCLE GENERATION PROGRAM MILL CREEK UNIT 6 SITE ARRANGEMENT		Released for: REVIEW
Originator: HDR ENGINEERING, INC	Task or Project No. 10419484	Alternate Drawing No. -
Drawing No. 10419484-6GA-C1010 B		Rev. -



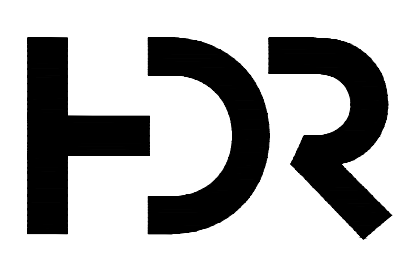
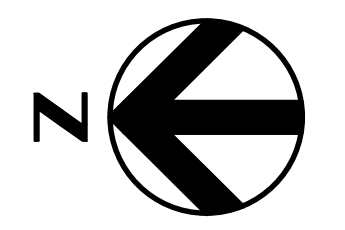


EMISSION POINTS				
EMISSION POINT NUMBER (EPN)	NAME	SPCS NAD83 (FEET)	UTM ZONE 16S (METERS)	HEIGHT ABOVE GRADE (FEET)
1	HRSG STACK	1,163,292 ft E 204,138 ft N	595,878 m E 4,211,772 m N	185
2	AUXILIARY BOILER	1,163,280 ft E 204,056 ft N	595,895 m E 4,211,766 m N	60
3	EMERGENCY DIESEL GENERATOR	1,163,684 ft E 204,179 ft N	596,023 m E 4,211,807 m N	16
4	NOT USED	- ft E - ft N	- m E - m N	25
5	COOLING TOWER CELL 1	1,163,856 ft E 204,129 ft N	596,076 m E 4,211,794 m N	66
6	COOLING TOWER CELL 2	1,163,910 ft E 204,113 ft N	596,093 m E 4,211,789 m N	66
7	COOLING TOWER CELL 3	1,163,840 ft E 204,075 ft N	596,093 m E 4,211,777 m N	66
8	COOLING TOWER CELL 4	1,163,894 ft E 204,059 ft N	596,088 m E 4,211,773 m N	66
9	COOLING TOWER CELL 5	1,163,824 ft E 204,020 ft N	596,067 m E 4,211,760 m N	66
10	COOLING TOWER CELL 6	1,163,878 ft E 204,004 ft N	596,084 m E 4,211,756 m N	66
11	COOLING TOWER CELL 7	1,163,808 ft E 203,966 ft N	596,072 m E 4,211,762 m N	66
12	COOLING TOWER CELL 8	1,163,862 ft E 203,950 ft N	596,080 m E 4,211,739 m N	66
13	COOLING TOWER CELL 9	1,163,792 ft E 203,912 ft N	596,059 m E 4,211,727 m N	66
14	COOLING TOWER CELL 10	1,163,846 ft E 203,896 ft N	596,075 m E 4,211,723 m N	66
15	COOLING TOWER CELL 11	1,163,776 ft E 203,857 ft N	596,054 m E 4,211,710 m N	66
16	COOLING TOWER CELL 12	1,163,830 ft E 203,841 ft N	596,071 m E 4,211,706 m N	66
17	FUEL GAS HEATER	1,163,889 ft E 204,326 ft N	596,084 m E 4,211,854 m N	66

ALL COORDINATES ARE BASED ON NAD83 KENTUCKY STATE PLANE NORTH ZONE 1601, US SURVEY FEET. ALL ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM.  
BASE ELEVATION = 460 FEET ABOVE SEA LEVEL.  
\* NOT SHOWN ON THIS DRAWING REFER TO SHEET 10419484-6GA-C1011 FOR LOCATION.

Revisions	
A	Project: 10419484 FEASIBILITY STUDY REPORT Dwn: J.B Chkd: MAW Appd: 01/23/2025
B	Project: 10419484 ISSUED FOR PCPN APPLICATION Dwn: J.B Chkd: MAW Appd: 02/20/2025

**EMISSION POINT LOCATION PLAN**  
SCALE: 1" = 60'-0"



Location and Unit: MILL CREEK	Scale: 1" = 60'-0"	Contract No.	<b>IG&amp;KU</b> PPL companies	Generation Services	Drawn: J.B
Engineering discipline: CIVIL	Drawing type: PLAN			Checked: MAW	Approved:
COMBINED CYCLE GENERATION PROGRAM MILL CREEK UNIT 6 EMISSION POINT LOCATION PLAN				Released for: REVIEW	Alternate Drawing No.:
Originator: HDR ENGINEERING, INC	Job or Project No. 10419484	Drawing No. 10419484-6GA-C1012	Rev: B		

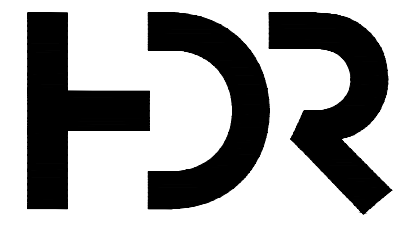
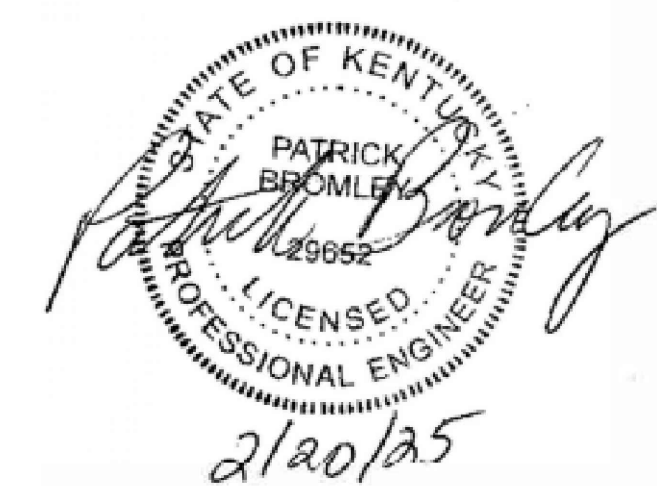
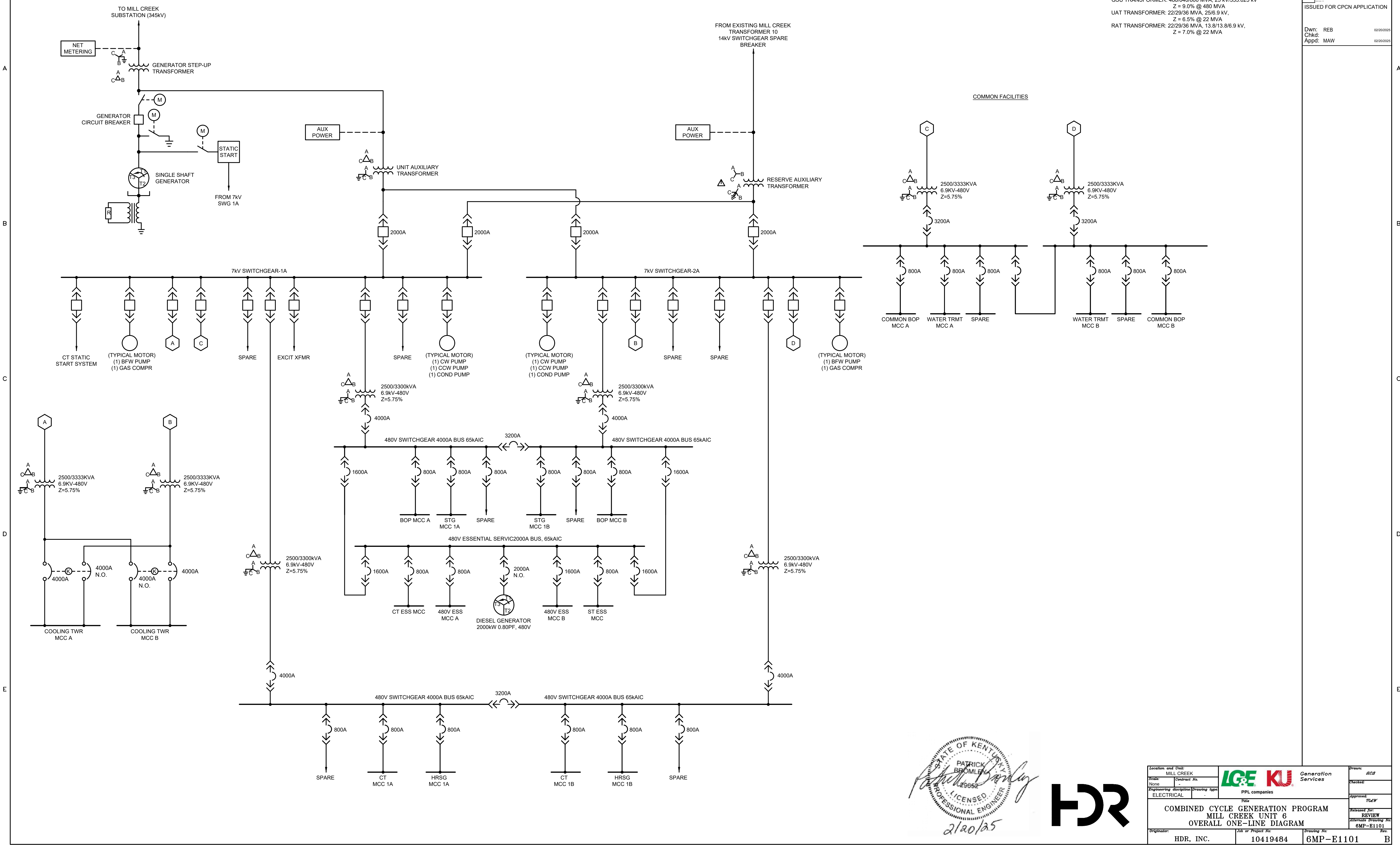


Revisions

A	Project: 1041984	Drawn: REB	01/15/2025
	INITIAL ISSUE	Chkd: MAW	01/15/2025
B	Project: 1041984	Drawn: REB	02/20/2025
	ISSUED FOR CPCN APPLICATION	Chkd: MAW	02/20/2025

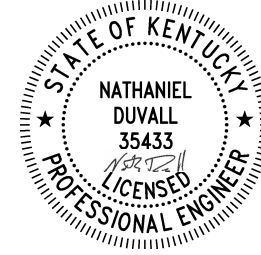
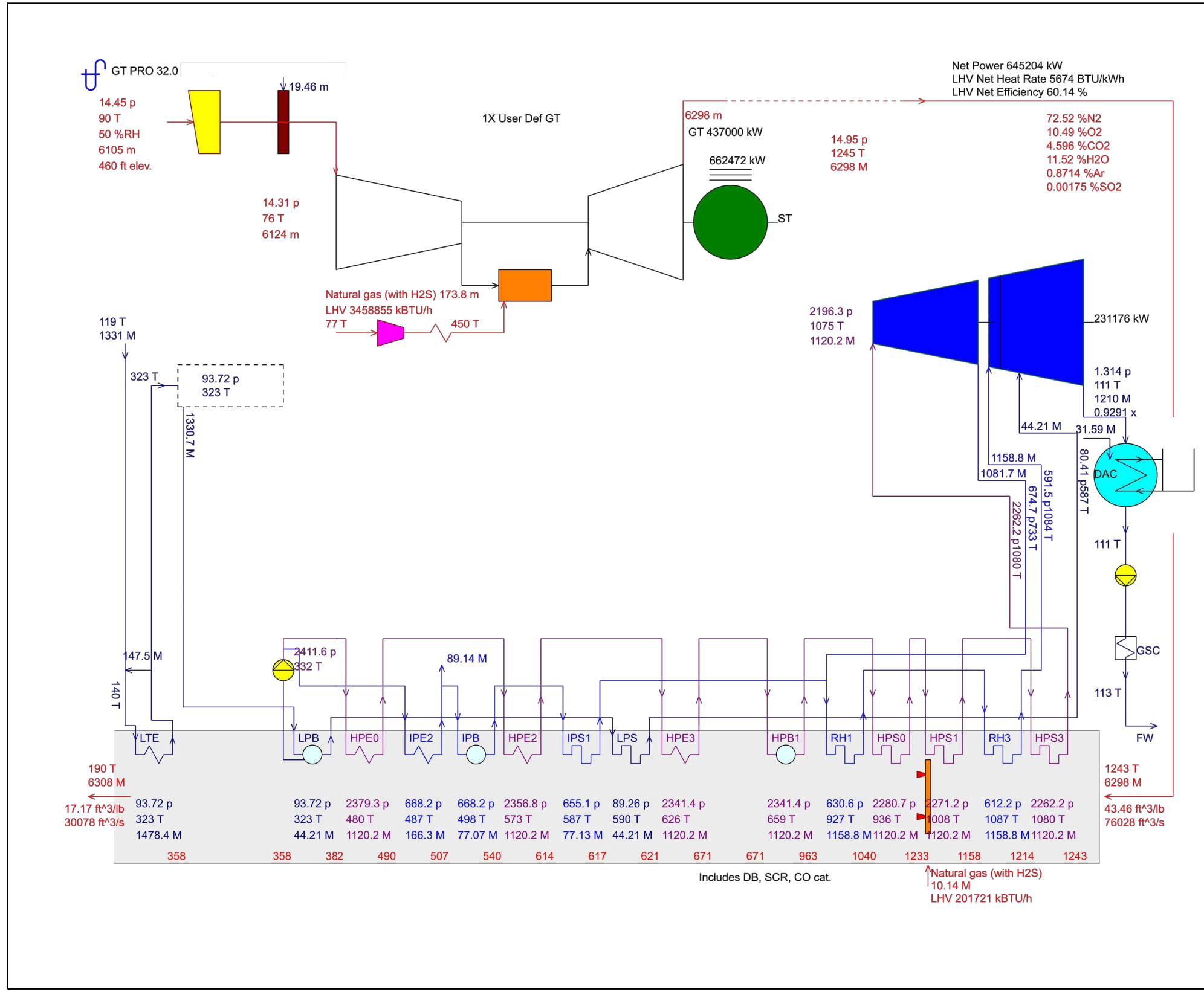
NOTES:

- ALL EQUIPMENT RATINGS ARE ESTIMATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL EQUIPMENT RATING SELECTION.
- GENERATOR AND TRANSFORMER RATINGS  
 GENERATOR RATING: 817 MVA, 25 kV, 0.85 PF  
 GSU TRANSFORMER: 480/640/800 MVA, 25 kV/353.625 kV  
 Z = 9.0% @ 480 MVA  
 UAT TRANSFORMER: 22/29/36 MVA, 25/6.9 kV,  
 Z = 6.5% @ 22 MVA  
 RAT TRANSFORMER: 22/29/36 MVA, 13.8/13.8/6.9 kV,  
 Z = 7.0% @ 22 MVA



Location and Unit: MILL CREEK	 Generation Services	Drawn: REB
Scale: None		Checked:
Engineering discipline: ELECTRICAL	PPL companies	Approved: MAW
Title: COMBINED CYCLE GENERATION PROGRAM MILL CREEK UNIT 6 OVERALL ONE-LINE DIAGRAM		Released for: REVIEW
Originator: HDR, INC.	Job or Project No.: 10419484	Alternate Drawing No.: 6MP-E1101
	Drawing No.: 6MP-E1101	Rev.: B

PERFORMANCE SUMMARY	
AMBIENT TEMPERATURE	90°F
RELATIVE HUMIDITY	50%
ELEVATION	460'
FUEL	NATURAL GAS
CT LOAD	100%
EVAP COOLER STATUS	ON
NET OUTPUT NEW AND CLEAN	645,204 kW
NET HEAT RATE (HHV) NEW AND CLEAN	6293 BTU/kWh



2/20/2025

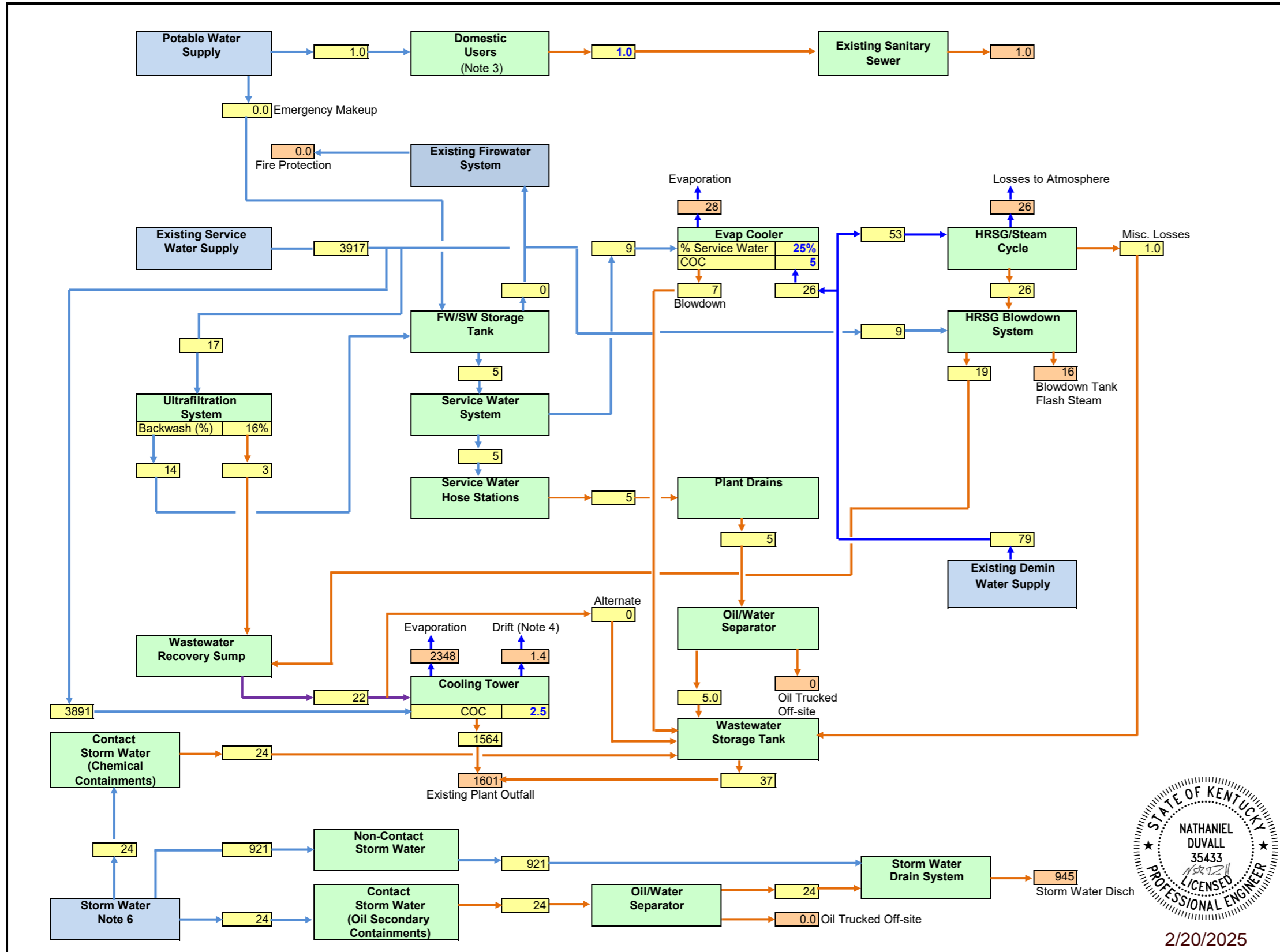
ISSUE	DATE	DESCRIPTION	PROJECT MANAGER	PROJECT NUMBER
A	02/20/25	ISSUED FOR CPCN	MAW	10419484



**MILL CREEK UNIT 6  
HEAT BALANCE DIAGRAM  
ADVANCED CLASS SINGLE SHAFT UNIT -  
SUMMER DAY FIRED CONDITION**

DATE	02/20/2025
FIGURE	0HB-M1001





Notes:

1. Based on assumed turbine performance, actual vendor data needed.
2. Cycle Make-Up assumed to be 2% of main steaming rate. Blowdown assumed to be 1% of main steaming rate.
3. Potable water flows assume 20 people on site at a time.
4. Drift assumed to be 0.001% of circulating water flow.
5. Cooling tower film selection needs to consider TSS loading of the make-up water.
6. Approximated based on 24-hour, 25-year rainfall event.

**Legend**

- Major Process Flow (Thick black line)
- Minor Process Flow (Thin black line)
- Raw/Potable Water (Blue line)
- Cooling Water (Green line)
- Waste Stream (Orange line)
- Recovered/Recycled Water (Purple line)
- Steam (Red line)
- High Purity Water (Blue line)

Indicates material that leaves the system (Orange box)

Internal flow (Yellow box)

Water Source (Blue box)

All flows are in US GPM unless otherwise specified.

<b>Case or Scenario:</b>	Summer - Fired
<b>Configuration</b>	1X1 CC
<b>Turbines in Service</b>	1
<b>Plant Net Power (MW)</b>	645
<b>Ambient temperature (deg F)</b>	90
<b>Ambient relative humidity, %</b>	50
<b>Evaporative inlet cooler effectiveness (%)</b>	0
<b>Cooling Tower COC</b>	2.5

Rev	Date	Description	Drwn	Chckd	Eng	PEng	PMgr
A	2/20/25	Issued for CPCN	JMH				MW
Drawn By	Date	Professional Engineer Stamp					
J. Horan	02/20/25						
Checked By	Date						
Engineer	Date						
Project Engineer	Date						
Project Manager	Date						
M. Wiitanen	02/20/25						



**Mill Creek Unit 6**  
**Plant Water Balance Diagram**

Scale:	N/A
Dwg No	10419484-6WB-M1000
Sheet No.	01
Rev	A