

Invenergy

Red Oak Ridge Energy Center Engineering Plan

Kenosha County, Wisconsin



TABLE OF CONTENTS

1. Introduction..... 1

2. Project Description..... 1

3. Construction..... 8

4. Operation and Maintenance 9

5. Environmental Impacts 10

6. Permits and Approvals..... 16

7. Schedule..... 19

LIST OF TABLES

Table 1 NSR Major Source Thresholds 11

Table 2 Preliminary List of Federal and State Permits and Approvals..... 16

LIST OF EXHIBITS

Exhibit 1 Project Location Map

Exhibit 2 Preliminary Arrangement Schematics

Exhibit 3 Preliminary Water Balance Diagrams

Exhibit 4 Existing Electric Transmission and Natural Gas Pipeline Map

LIST OF ACRONYMS & ABBREVIATIONS

AC	Alternating Current
ATC	American Transmission Company
BACT	Best Available Control Technology
BMPs	Best Management Practices
CCCW	Closed Cycle Cooling Water
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CPCN	Certificate of Public Convenience and Necessity
ECSWMP	Erosion Control and Stormwater Management Plan
ERR	Endangered Resource Review
FEMA	Federal Emergency Management Agency
GE	General Electric
GIA	Generator Interconnection Agreement
gpm	Gallons Per Minute
gr	Grains
GRD	Guardian
GSU	Generator Step-Up
GTG	Gas Turbine Generator
HAP	Hazardous Air Pollutant
Hz	Hertz
IPaC	Information for Planning and Consultation
kV	Kilovolt
KWU	Kenosha Water Utility
KWWTP	City of Kenosha Wastewater Treatment Plant
MVA	Megavolt-amperes
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NNG	Northern Natural Gas
NO _x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
NSPS	New Source Performance Standards

OEM	Original Equipment Manufacturer
PM	Particulate Matter
PM ₁₀	PM less than 10 microns
PM _{2.5}	PM less than 2.5 microns
PSCW	Public Service Commission of Wisconsin
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
rpm	Revolutions Per Minute
SCF	Standard Cubic Feet
SER	Significant Emissions Rates
SO ₂	Sulfur Dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
tpy	Tons Per Year
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compound
VSSW	Village of Somers Sewer and Water
WDNR	Wisconsin Department of Natural Resources
WE-GO	Wisconsin Electric Gas Operations
WPDES	Wisconsin Pollutant Discharge Elimination System

1. Introduction

Red Oak Ridge Energy Center LLC (“Red Oak Ridge”), a wholly-owned subsidiary of Red Oak Ridge Holdings LLC managed by Invenergy LLC (“Invenergy”), is preparing to submit an application for a Certificate of Public Convenience and Necessity (“CPCN”) to the Public Service Commission of Wisconsin (“PSCW”) to construct and place in service the Red Oak Ridge Energy Center (“Project”), a natural gas-fired simple-cycle combustion turbine-based large electric generating facility (“Facility”) with a generation potential of 1,210 megawatts (“MW”) alternating current (“AC”) and a 345 kilovolt (“kV”) overhead generator transmission tie line (“Gen-Tie Line”).

Invenergy is a privately held company that manages business entities with over 24 years of experience responsibly developing, constructing, and operating energy facilities, including wind, solar, storage, natural gas, and transmission. With a track record of more than 200 projects and 34 gigawatts of capacity, Invenergy has experience across the Americas, Europe, and Asia.

In accordance with Wis. Stat. § 196.491(3)(a)3a, Red Oak Ridge is submitting this Engineering Plan to the Wisconsin Department of Natural Resources (“WDNR”) at least 60 days before submitting an application for a CPCN to the PSCW. Within 30 days of receiving this Engineering Plan, Red Oak Ridge requests that WDNR, based on the information contained herein, provide a list of all permits and approvals required to construct the Project.

All distances, dimensions, and descriptions below are preliminary and subject to change based on final engineering design and equipment selection.

2. Project Description

2.1 Project Overview

The Project is located in the Town of Paris, Kenosha County, Wisconsin. The Facility will include five General Electric (“GE”) 7F.05 gas turbines and H35 hydrogen-cooled generators. Although the Facility will be designed for continuous service, Red Oak Ridge anticipates it will primarily operate during periods of peak electrical demand.

In compliance with Wis. Admin. Code § PSC 4.70(2)(b)1 and § PSC 111.53(1)(f), Red Oak Ridge has identified Proposed and Alternative Sites for the Facility. The Proposed Site will connect to the transmission system via a Proposed Gen-Tie Line of less than one mile in length; therefore, provision of an alternative Gen-Tie Line route is not required. The Alternative Site will connect to the transmission system via a Gen-Tie Line of more than one mile in length; therefore, two Gen-Tie Line routes from the Alternative Site are identified (“Alternative Gen-Tie Line 1” and “Alternative Gen-Tie Line 2”). Preliminary locations of the Proposed and Alternative Sites and Gen-Tie Lines are shown in **Exhibit 1**. Adjustments to the locations of the Proposed and Alternative Sites and Gen-Tie Lines within their respective project area boundaries may be made depending on final site control and design.

2.2 Major Equipment and Systems

Preliminary arrangement schematics of the Proposed and Alternative Sites are provided in **Exhibit 2**.

2.2.1 Gas Turbine Generators

Each gas turbine generator (“GTG”) will consist of an F-class gas turbine coupled to an H35 generator driven at 3,600 revolutions per minute (“rpm”). Ambient air will be drawn into the compressor section of the gas turbine, passing through an inlet filter and evaporative cooler. During warm weather, the evaporative coolers will increase the density of inlet air, which will enhance the electrical generating capacity of the gas turbines. Heat from turbine bleed will warm inlet air and prevent icing during cold weather. The compressor section of the gas turbine will compress the inlet air and convey it to the combustion section. There, fuel will be introduced and combustion will occur. Dry ultra-low nitrogen oxide (“NO_x”) combustors will minimize NO_x formation while firing natural gas. The expansion of the combustion products will actuate a multi-stage power turbine, producing the energy that drives the compressor and the generator. Exhaust gas will pass through a silencer and exhaust stack.

The main features of each gas turbine are:

- Single fuel (natural gas);
- Dry low-NO_x combustors (DLN2.6+);
- Inlet air filtration;
- Inlet air evaporative cooling;
- Exhaust stack with emission compliance systems;
- Advanced turbine and combustion control systems; and
- Fire protection system.

The main features of each generator are:

- Synchronous, three-phase, 60 Hertz (“Hz”);
- 285 megavolt-amperes (“MVA”) capacity
- Two-pole field (3,600 rpm);
- Enhanced vibration monitoring system;
- Totally enclosed water-to-air cooled rotor and stator; and
- 18 kV Output voltage.

2.2.2 Facility Electrical Systems

Each generator will have an output of 18 kV and connect to a generator step-up (“GSU”) transformer. The GSU transformers will step up the voltage to 345 kV to match the transmission system at the point of interconnection. Each generator will have its own 345 kV circuit breaker to protect and isolate the generator during maintenance or fault conditions. An auxiliary power supply system will distribute electricity at lower voltages to auxiliary equipment, including pumps, fans, and control systems. Weather-resistant enclosures will enhance long-term reliability by shielding electrical equipment from environmental elements.

2.2.3 Emergency Backup Generators and Firewater Pumps

The Facility will include emergency backup generators, which in the event of a loss of primary power supply, will provide auto-start and backup power to essential systems. The emergency backup generators will utilize natural gas as fuel. Should there be primary power loss, or for testing purposes, emergency firewater pumps will supply water using electric motors. A separate

dedicated electrical feed will connect the emergency backup generators to the emergency firewater pumps.

2.2.4 Fuel Supply System

The Facility will be fueled by pipeline-quality natural gas and will not include backup fuel capability. Conditioning equipment will be installed to protect the system and maintain fuel requirements for the Facility. The conditioning equipment will include regulation trains, duplex filter separators, dew point heaters, coalescing filters, a final pressure control skid, and final coalescing filters. Overpressure protection will safeguard the system and duplex filter separators will enhance filtration efficiency. The dew point heater will regulate fuel temperature and prevent condensation. The final pressure control skid will provide stable pressure regulation and final coalescing filters will ensure high fuel purity. A gas chromatograph may be utilized to monitor supply at the gate station. Additional gas compression may be used due to lower minimum gas pressure guarantees. A liquid scrubber may also be included downstream of the compressors to ensure protection from entrained lube oil in the pipeline created by compressor failure.

Red Oak Ridge expects to negotiate a Gas Supply Agreement with Wisconsin Electric Gas Operations (“WE-GO”) to supply natural gas to the Facility. WE-GO will construct a natural gas pipeline lateral to connect the Facility to the Lakeshore Lateral (“LL”) pipeline supplied by the Northern Natural Gas (“NNG”), Guardian (“GRD”), and ANR (once the Rochester Lateral is approved and completed) pipelines. Red Oak Ridge expects the natural gas pipeline lateral to be located in the Town of Paris, Kenosha County, Wisconsin. Preliminary routing for the natural gas pipeline lateral from WE-GO is not currently available. WE-GO will be responsible for all activities required for the planning, construction, and operation of the natural gas pipeline lateral and associated metering and interconnection facilities, including studies, evaluations, permits, and regulatory notifications.

2.2.5 Closed Cycle Cooling Water System

The closed cycle cooling water (“CCCW”) system will consist of air-cooled heat exchangers, pumps, an expansion head tank, and a chemical feeder for each gas turbine. The CCCW system will circulate a propylene glycol/water mixture with a corrosive inhibitor to supply cooling water to equipment and reject waste heat to the atmosphere. A CCCW system is a highly reliable system and with proper maintenance, should provide trouble-free operation for the life of the gas turbine.

2.2.6 Compressed Air System

The Facility’s compressed air system will consist of compressors, inlet filters, after coolers, pressure dampening, air receiver tanks, controls, automatic condensate traps, valves, air-dryers, piping, storage tanks, and protection devices. The compressed air system will be sized according to the total capacity, pressure, and quality requirements for the Facility. Compressed air will be used for instrumentation, controls, and service air systems. Compressors automatically control motor starting and capacity output to maintain adequate system pressure and avoid overloading the power system. Compressed air systems are reliable, relatively simple, and safe in hazardous environments.

2.2.7 Exhaust and Emissions Control System

The exhaust and emissions control system will ensure compliance with regulatory air emission limits. Red Oak Ridge will implement the best available control technology (“BACT”), which includes the following:

- *Ultra-Low NO_x Combustors*
The gas turbines will be equipped with dry ultra-low NO_x combustors to minimize the formation of nitrogen oxides.
- *Continuous Emissions Monitoring System (“CEMS”)*
The CEMS will continuously monitor and record emissions of NO_x and other regulated pollutants, if required.
- *Carbon Monoxide (“CO”) and Volatile Organic Compound (“VOC”) Emissions Control*
Advanced combustion controls and optimization strategies will be employed to minimize incomplete combustion, thereby reducing CO and VOC emissions.
- *Startup and Shutdown Procedures*
Specific operating procedures will be implemented during startup and shutdown to minimize transient emissions of NO_x, CO, and other pollutants.

Stack height and diameter will be design inputs for air dispersion modeling and testing requirements.

2.2.8 Lubricating Oil System

The lubricating oil system will circulate oil to control and lubricate bearings and other GTG components. The lubricating oil system will consist of lubrication oil pumps (dual redundant AC motor-driven pumps), hydraulic pumps (dual redundant AC motor-driven variable displacement pumps), filters, coolers (stainless steel plate/frame oil-to-coolant heat exchanger), mist elimination, oil reservoirs, piping, instrumentation, and control systems. Each GTG will include its own accessory module that houses a lubrication oil reservoir and pumping system. The lubrication oil reservoir will be located in a containment area for spill prevention.

2.2.9 Water Wash System

A water wash system will maintain performance by periodically cleaning the gas turbine compressor blades. The water wash system will consist of a water storage tank, detergent storage tank, pumps, piping, instrumentation, and controls.

2.2.10 Water Supply System

Service water and demineralized water will be required to operate and maintain the Facility. Water will be supplied to the Proposed Site by the Kenosha Water Utility (“KWU”) or the Village of Somers Sewer and Water (“VSSW”), which has confirmed the capability of extending the necessary water to the Proposed Site. Water will be supplied to the Alternative Site by a new high-capacity well. The water supply system will include redundant pumps, storage capacity, instrumentation, and control to ensure operational reliability. The Proposed Site will include an approximately 350,000-gallon service water storage tank, 250,000-gallon demineralized water

storage tank, and 2,000-gallon potable water storage tank. The Alternative Site will include larger service and demineralized water tanks (700,000 gallons and 400,000 gallons, respectively) to account for the variability of a high-capacity well.

The service water system will distribute low-pressure water throughout the Facility for the following uses:

- Hose stations for maintenance washdown;
- Demineralized water treatment system;
- Gas turbine evaporative cooling system makeup;
- Fire protection system supply; and
- Domestic water for lavatories and other uses.

The water supply system will be efficiently designed to minimize wastewater. To generate demineralized high purity water, the Facility will implement advanced water treatment technologies, such as ion exchange, reverse osmosis, and electrodialysis. The water supply system design will include back-flow prevention devices to separate the process users from the potable users.

The Facility is estimated to use up to approximately 233 gallons per minute (“gpm”) of water (up to 335,520 gallons per day) at maximum load. Of this, approximately 230 gpm may be used for gas turbine evaporative cooling which will only occur when ambient temperatures are above 59°F for additional power augmentation. Evaporative cooling water will recycle approximately five cycles of concentration and once water conductivity increases, the water will blowdown into the wastewater storage tank at a rate of approximately 46 gpm (up to 66,240 gallons per day) for storage and offsite removal. The remaining approximately 3 gpm will be used for Facility lavatory and other miscellaneous uses. The Facility will be designed to minimize wastewater and maximize efficiency of demineralized water production and usage. Preliminary water balance diagrams for the Facility identifying inflows, reuse pathways, effluent losses, and outfall pathways are provided in **Exhibit 3**.

2.2.11 Wastewater Disposal System

The wastewater disposal system will be designed to comply with all applicable federal, state, and local regulations, and will provide separate handling for sanitary, process wastewater, and stormwater streams. Any wastewater deemed hazardous will be handled and disposed of in accordance with WDNR permits and all other applicable regulations.

Sanitary wastewater generated at the Proposed Site will be conveyed through either KWU or VSSW sewer lines for treatment at the City of Kenosha Wastewater Treatment Plant (“KWWTP”). Sanitary wastewater generated at the Alternative Site will be treated through an on-site septic system designed to meet the operational needs of the Facility.

Process wastewater from Facility drains, demineralization of service water, and evaporative cooler blowdown will be collected in a wastewater storage tank (approximately 80,000 gallons). The Facility will be designed to recycle wastewater streams where feasible, resulting in a maximum wastewater discharge of approximately 47 gpm (up to 67,680 gallons per day). The majority of this discharge, approximately 46 gpm, originates from evaporative cooler blowdown,

which primarily occurs during summer months when ambient temperatures exceed 59°F. Each gas turbine will be equipped with an individual wash drain storage tank to collect wastewater. These tanks will be installed underground, feature double-wall construction, and include leak detection monitoring. Drain tanks will be periodically emptied. The Proposed Site will be connected to the KWWTP allowing all process wastewater to be discharged for treatment. The Alternative Site will not have a physical connection to the KWWTP, requiring process wastewater to be transported by truck. The Alternative Site may be permitted to discharge non-contact cooling water (evaporative cooling blowdown) under the National Pollution Discharge Elimination System (“NPDES”) industrial stormwater program, contingent on compliance with Wisconsin Pollutant Discharge Elimination System (“WPDES”) effluent discharge standards.

The stormwater runoff management system will collect and discharge stormwater from the Facility into a stormwater detention basin where it will eventually be released offsite in a controlled manner. Any leaked oil will be separated from contact stormwater prior to discharge to the stormwater detention basin. A Stormwater Pollution Prevention Plan (“SWPPP”) will be developed and implemented in accordance with federal, state, and local regulations to minimize sediment and pollutant discharge from the site during construction and operation.

2.2.12 Fire Protection System

The design for the Facility’s fire protection system and its constituent features will be based on recommendations from the National Fire Protection Association (“NFPA”) 850, “Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations,” NFPA 37, “Installation and Use of Stationary Combustion Engines and Gas Turbines,” NFPA 54, “National Fuel Gas Code,” NFPA 70, “National Electrical Code,” NFPA 110, “Emergency and Standby Power Systems” and their referenced standards.

To ensure adequate flow and pressure during emergencies, firewater will be drawn from a combined firewater and service water storage tank and through a dedicated suction line connected to primary and redundant firewater pumps. The main fire header will loop around the power block to supply main branch lines to buildings, auxiliary structures, enclosures, yard fire hydrants, and wet suppression systems. Yard fire hydrants will be located no more than 300 feet from each other, in accordance with NFPA 850. Portable fire extinguishers will be located throughout the Facility in accordance with NFPA 10.

The principal fire protection panel will be located in the central control room, with alarm annunciation throughout the entire Facility. The main panel will be connected to local fire control panels located throughout the Facility.

2.2.13 Facility Buildings

The Facility will include buildings essential for the safe and reliable operation and maintenance of equipment. The Facility buildings include:

- Control, administration, and warehouse/maintenance building;
- Gas compressor building;
- Water treatment building; and
- Miscellaneous buildings, including, but not limited to, the firewater pump enclosure, substation control enclosure, and electrical equipment enclosures.

For the protection of personnel and sensitive equipment, buildings will include appropriate fire protection, heating, ventilation, air conditioning systems, and physical security. All building design will follow applicable regulations.

2.3 Gen-Tie Line

The Gen-Tie Line will be a single or double circuit three-phase overhead 345 kV transmission line carrying electricity from the Facility to the point of interconnection. The conductor will be properly sized to meet thermal stability, vibration resistance, and any other required technical criteria. The span lengths between transmission structures will be approximately 300 to 1,100 feet. The right-of-way width will be approximately 50 to 150 feet. The transmission structure heights will be approximately 130 to 190 feet.

The Proposed Site will connect to the transmission system at a new switchyard constructed along the Pleasant Prairie – Arcadian and Arcadian – Zion 345kV transmission lines via a Proposed Gen-Tie Line approximately 3,500 feet long. The Proposed Gen-Tie Line will likely consist of five to seven monopole steel transmission structures.

The Alternative Site will connect to the transmission system at the Paris Generating Station Substation via either Alternative Gen-Tie Line 1 or Alternative Gen-Tie Line 2. Alternative Gen-Tie Line 1 is approximately 8,000 feet long and will likely consist of 11 to 15 monopole steel transmission structures. Alternative Gen-Tie Line 2 is approximately 8,500 feet long and will likely consist of 9 to 14 monopole steel transmission structures.

2.4 Interconnection Switchyard

The Proposed Site will connect to the transmission system at a new switchyard constructed along the Pleasant Prairie – Arcadian and Arcadian – Zion 345kV transmission lines. Red Oak Ridge expects to provide American Transmission Company (“ATC”) a graded pad for the new switchyard to accommodate interconnection of the Proposed Site. Red Oak Ridge expects ATC will be responsible for constructing the new switchyard.

The Alternative Site will connect to the transmission system at the Paris Generating Station Substation. Red Oak Ridge expects ATC to perform modifications to the Paris Generating Station Substation to accommodate interconnection of the Alternative Site. These modifications may include extension of the existing 345 kV bus, installation of one or more circuit breakers, installation of a transmission line takeoff structure, modification of the existing Pleasant Prairie – Arcadian and/or Arcadian – Zion transmission lines, and associated civil works, including expansion of the graded substation pad.

Final construction obligations to support interconnection of the Project will be established in accordance with the generator interconnection process and the terms of the Generator Interconnection Agreement (“GIA”).

2.5 Natural Gas Pipeline

Red Oak Ridge expects to negotiate a Gas Supply Agreement with WE-GO to supply natural gas to the Facility. WE-GO will construct a natural gas pipeline lateral to connect the Facility to the LL pipeline supplied by the NNG, GRD, and ANR (once the Rochester Lateral is approved and

completed) pipelines. Red Oak Ridge expects the natural gas pipeline lateral to be located in the Town of Paris, Kenosha County, Wisconsin. Preliminary routing for the natural gas pipeline lateral from WE-GO is not currently available. The location of existing electric transmission and natural gas infrastructure in relation to the Project are shown in **Exhibit 4**. WE-GO will be responsible for all activities required for the planning, construction, and operation of the natural gas pipeline lateral and associated metering and interconnection facilities, including studies, evaluations, permits, and regulatory notifications.

3. Construction

The first step in construction will be to survey, stake, and prepare workspaces for clearing. Appropriate safety measures will be implemented before excavation, including notification through the Wisconsin one-call system to ensure third-party utilities are properly marked. Erosion control measures will be implemented according to the Project's Erosion Control and Stormwater Management Plan ("ECSWMP") and applicable permit conditions. Environmentally sensitive areas will be clearly marked to designate them as avoidance areas. Workspaces will then be cleared and graded, as necessary, to provide construction access and facilitate the safe movement of equipment and personnel.

Temporary construction workspaces and laydown areas will include trailers with administrative offices, employee parking, water service, power service, portable latrines, tool sheds, storage containers, and space for delivery and storage of equipment and materials. Construction workspaces will be fenced, as needed, to prevent access by wildlife or unauthorized personnel. A temporary concrete batch plant may be installed to prepare foundations and supply concrete on site.

During construction, measures will be taken to prevent excessive particulate matter emissions from vehicular traffic and construction activities. These measures may include seeding, straw, adding a gravel layer, covering, wetting, or otherwise controlling particulate matter emissions. Materials suitable for backfill will be stored outside of floodplains and other regulated areas. Proper stormwater erosion control, pollution prevention methods, and best management practices ("BMP"s) will be implemented as required by WDNR and applicable regulations.

After site clearing and grading, foundation installation for the main equipment (gas turbines, generators, GSU transformers, tanks and auxiliaries, etc.) will begin. Main equipment will be set on their foundations upon delivery to the site. Construction of the five gas turbine trains will occur in sequential order. After structural steel erection, mechanical erection, piping, and electrical installation will occur. Underground installation of the grounding/earthing network will begin early in the construction process and continue progressively as other work areas are completed by the foundation, structural, or mechanical crews.

Testing and pre-commissioning activities will begin after a gas turbine train has been fully installed and completed including applicable auxiliary equipment. After all five gas turbine trains have been fully tested and pre-commissioned, hot commissioning will occur. After achieving commercial operation, temporary construction workspaces will be restored by decompacting the subsoil, replacing the topsoil, and installation of vegetation consistent with WDNR Conservation Practice Standard 1059 Seeding for Construction Site Erosion Control.

Construction of an overhead transmission line generally follows a sequence of pre-construction surveying, right-of-way clearing, mat placement and access route grading (if necessary), foundation installation, structure assembly and erection, conductor, optical ground wire (if applicable), and shield wire installation, ground rod installation, demobilization, and site restoration.

Transmission structures will either be secured by concrete drilled pier foundations or direct embedment, backfilling with crushed rock, native soils, or concrete slurry. Concrete drilled pier foundation installation typically involves excavating and placing temporary or permanent casing, rebar, anchor bolt cages, and concrete. The concrete pier typically projects one to two feet above surface grade. Direct embedding typically involves drilling or digging a hole for each structure, partially filling the hole with crushed rock, and then setting the structure on the top of the rock base. The area around the structure is then backfilled with crushed rock or soil once the structure is set. Excess soil from the excavation may be spread and leveled near the structure. Foundations will vary from approximately three to eight feet in diameter and 20 to 30 feet or more in depth, each depending on soil conditions observed during final geotechnical investigation.

After the concrete drilled pier foundation is set and cured, the transmission structures will be assembled, erected, and bolted to the foundation. The bottom section of larger structures is typically bolted to the foundation independently. The upper structures are typically attached from the top down using a crane. If the structure is directly embedded, it is typically assembled on the ground then installed into the backfilled foundation hole. Conductor and overhead ground wire stringing will be performed with the use of temporary pulling and tensioning sites set up near dead-end structures. After construction, workspaces will be restored by decompacting the subsoil, replacing the topsoil, and seeding in accordance with landowner requests or standards established in the WDNR Conservation Practice Standard 1059 Seeding for Construction Site Erosion Control.

4. Operation and Maintenance

The Project will be designed and constructed to allow for safe control, operation, and monitoring from a central control room. Control systems will be fully automated, however manual operation from a central control room will be possible.

The Facility will be capable of automatic, steady state, and part-load generation control, allowing for continuous load changes that maintain emissions within regulated limits. In the event of unscheduled isolation from the electrical grid, the Facility will have the necessary emergency systems to ensure safe shutdown and to safeguard equipment and systems.

The Facility will include redundant systems to enhance reliability and minimize downtime, including critical control, safety, and auxiliary systems. The design control system will incorporate robust cybersecurity features to prevent unauthorized access and ensure compliance with regulatory standards. Remote monitoring capabilities will allow operational oversight and diagnostics from off-site locations.

Major maintenance will be completed in general conformance with the baseline inspection, repair, and replacement intervals set forth by the original equipment manufacturer (“OEM”). Assuming a starts-based operating profile, the periodic major maintenance events for each gas

turbine are anticipated to be scheduled in general conformance with the following OEM-recommended baseline inspection intervals: (i) 900 factored fired starts between hot gas path inspections (which are inclusive of combustion inspections) and (ii) 2,400 factored fired starts between major inspections. Service intervals may be adjusted based on prior operating experience, engineering judgement, and subsequent revision(s) to the applicable OEM maintenance interval guidance.

In order to ensure first responders are prepared for potential on-site incidents, Red Oak Ridge will regularly coordinate with local first response agencies for training, in accordance with the Project's Emergency Response Plan. For any scenarios related to Project construction or operation that may be unfamiliar to local first responders, Red Oak Ridge will arrange for professional training to alleviate any concerns related to preparedness.

The Facility is expected to operate for approximately 30 years but may operate for a longer period.

5. Environmental Impacts

5.1 Air Quality

The Facility will include five GE 7F.05 gas turbines and ancillary equipment including two natural gas-fired dew point heaters, two natural gas emergency backup generators, and natural gas for building heating.

Air emissions from the combustion of natural gas consist mainly of carbon dioxide ("CO₂"), NO_x, CO, VOC, particulate matter ("PM"), PM less than 10 microns ("PM₁₀"), and PM less than 2.5 microns ("PM_{2.5}"). The gas turbines, dew point heaters, emergency backup generators, and building heating will be fueled by natural gas and will not include backup fuel capability.

Nitrogen oxides are primarily formed in the gas turbine combustors because of the high temperatures generated during the combustion process. To limit the formation of NO_x, dry low-NO_x combustors will be utilized to reduce temperatures in the combustion section. Sulfur dioxide emissions are directly related to how much sulfur is in the fuel. The pipeline-quality natural gas that will be used is expected to contain 0.4 grains ("gr") of sulfur per 100 standard cubic feet ("SCF") of gas (gr/100 SCF). This small amount of sulfur is either a remnant of hydrogen sulfide (when the gas is initially processed) or from the sulfur introduced as a mercaptan to make the gas odorous for safety purposes. Sulfur dioxide emissions while combusting natural gas will be minimal.

Potential emissions from the Facility will be reviewed under various state and federal programs including:

- National Ambient Air Quality Standards ("NAAQS");
- New Source Review ("NSR") requirements for major sources and modifications, including:
- Prevention of Significant Deterioration ("PSD") review;
- New Source Performance Standards ("NSPS");
- National Emission Standards for Hazardous Air Pollutants ("NESHAPs");

- Acid Rain Provisions of 40 Code of Federal Regulations (“CFR”) Parts 72-75 and Wis. Admin. Code Ch. NR 409; and
- Various other state regulations within NR 400 – 499.

The Project location is classified as “in attainment” for all regulated NSR pollutants with respect to the NAAQS. The Facility will be considered major for NSR, as the potential to emit (“PTE”) rates for CO and NO_x are above the major source NSR emissions threshold of 250 tons per year (“tpy”) individually. Additionally, the PTE rate for CO₂e exceeds the major NSR threshold of 100,000 tpy. As a major NSR source, the Project emissions must be evaluated against PSD significant emissions rates (“SER”) thresholds. The PTE rates for CO, NO_x, VOC, PM, PM₁₀, PM_{2.5}, and CO₂e exceed the PSD SER thresholds. The Facility emissions of any single hazardous air pollutant (“HAP”) will not exceed the major source threshold of 10 tpy for a single HAP, nor will total HAP emissions exceed the major source threshold of 25 tpy for all HAPs combined.

The Facility will meet state and federal requirements and emissions limits through the use of air pollution control technology, good operating practice, and reliance on natural gas. Air dispersion modeling, performed as part of the construction permit application, will be used to predict the ambient air quality changes from planned additions at the site. Predicted ambient air quality will be compared to, and must comply with, NAAQS and the PSD allowable concentration increments under WDNR and federal regulations.

Table 1 compares pollutants and potential emission amounts from the new equipment with NSR major source thresholds. The Facility will require a major NSR permit.

Table 1 NSR Major Source Thresholds

Pollutant	Maximum Emissions		NSR Major Source Applicability Thresholds/ Major Significant Emissions Rate Thresholds ^(a) (tpy)
	Expected to Exceed	Not Expected to Exceed	
NO _x	X		250/40
CO	X		250/100
PM	X		250/25
PM ₁₀	X		250/15
PM _{2.5}	X		250/10
SO ₂		X	250/40
VOC		X	250/40
CO ₂ e	X		100,000/75,000
Sulfuric Acid Mist		X	250/7
Lead		X	250/0.6

Pollutant	Maximum Emissions		NSR Major Source Applicability Thresholds/ Major Significant Emissions Rate Thresholds ^(a) (tpy)
	Expected to Exceed	Not Expected to Exceed	
Fluorides		X	250/3
Total Reduced Sulfur		X	250/10
(a) Major source threshold triggered for at least one pollutant, therefore major significant emissions rate thresholds apply.			

The Project is subject to the following 40 CFR Part 60 NSPS subparts:

- 40 CFR Part 60, Subpart A – General Provisions
- 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Dew Point Heater)
- 40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Emergency Backup Generators)
- 40 CFR Part 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines
- 40 CFR Part 60, Subpart TTTTa – Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units

The combustion turbine NSPS limits under Subpart KKKK are less stringent than the proposed emission limits. NSPS spark-ignition engine limits under Subpart JJJJ are typically met and certified by equipment manufacturers. Red Oak Ridge will source compliant engines with manufacturer certifications of compliance that document the applicable limits. Finally, Subpart TTTTa for natural gas-fired combustion turbines will determine the CO₂ emissions limit depending on actual operation capacity factor (determined on a 12-month and 3-year rolling period MW basis).

Most NESHAPs do not apply to the Facility because it is considered an area source of HAPs, as emissions do not exceed the 10 tpy threshold for any single HAP, or 25 tpy total HAP. The only NESHAP that would be applicable to the Project is: 40 CFR 63, Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines. The emergency backup generators will meet Subpart ZZZZ requirements by complying with NSPS requirements under 40 CR 60, Subpart JJJJ, as cited above.

5.2 Land Cover

The Proposed Site and Gen-Tie Line are located on land used for row crop agriculture. The surrounding land cover includes developed (non-residential), agriculture, and developed (residential). The Alternative Site is located on land used for row crop agriculture. Alternative Gen-Tie Line 1 and 2 are located on land used for row crop agriculture, land that has been developed as part of the Paris Solar and Battery Energy Storage Project (*See* PSC Docket No. 9801-CE-100), and land that has been developed for the Paris Generating Station (*See* PSC Docket No. 6630-CE-316). The surrounding land cover includes agriculture, developed

(residential), and developed (non-residential). Approximately 25 to 40 acres of land are expected to be permanently impacted to host the Facility. Detailed land cover impacts will be provided in the CPCN application.

5.3 Wetlands and Riparian Areas

HDR Inc. (“HDR”) performed a water resource field delineation on a portion of the Proposed Site Property and the entire Alternative Site Property in May 2025. The portions of the Proposed Site Property and Alternative Gen-Tie Lines that have not been field delineated were desktop delineated. Eight wetland features have been field delineated thus far on the Proposed Site Property, and two wetland features have been field delineated on the Alternative Site Property. Desktop delineation data indicates potential for wetlands and waterways within the remainder of the Proposed Site Property and along parts of the Alternative Gen-Tie Lines. Supplemental field delineations are planned for 2025 and will supersede desktop-mapped information in assessment of Project impacts where obtained.

Red Oak Ridge will avoid and minimize impacts to water resources to the extent practicable. Minor impacts associated with the Alternative Site and Gen-Tie Lines are anticipated. Impact evaluation for the Proposed Site and Gen-Tie Line is pending final site control and design. Detailed information regarding wetlands and waterways and any unavoidable impacts will be provided in the CPCN application.

5.4 Floodplains

No Federal Emergency Management Agency (“FEMA”) floodplains were identified at either Sites or Gen-Tie Lines, therefore no impacts to these resources are expected.

5.5 Federal and State Listed Species

Federally protected species include those categorized as threatened, endangered, or proposed for listing (i.e. candidate species) by the United States Fish and Wildlife Service (“USFWS”), under the authority of the Endangered Species Act of 1973 (16 United States Code [USC] 1531–1544). Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act, enforced by the USFWS (16 U.S.C. 668-668c). In addition, the WDNR maintains a list of threatened and endangered species for Wisconsin. Laws and regulations pertaining to state-listed endangered or threatened species are contained in Wisconsin State Statute 29.604 and Administrative Rule Chapter NR 27.

5.5.1 Federally Protected Species

The Proposed and Alternative Sites and Gen-Tie Lines were evaluated for the potential presence of federally listed species and their habitats. The USFWS’s Information for Planning and Consultation (“IPaC”) tool identified the whooping crane (*Grus americana*; non-essential experimental population), the proposed threatened Monarch butterfly (*Danaus plexippus*) and Western regal fritillary (*Argynnis idalia occidentalis*), and the threatened Eastern prairie fringed orchid (*Platanthera leucophaea*) as potentially occurring in the area. The monarch butterfly and Western regal fritillary are currently proposed for a threatened listing with an estimated decision date of December 31, 2025. Species proposed for listing are not afforded regulatory protections; however, these species may require further review if they are listed. Regulatory restrictions are

reduced for non-essential experimental populations. Red Oak Ridge will provide an updated IPaC list in the CPCN application.

The Proposed and Alternative Sites are currently used for row crop agriculture and therefore do not provide suitable habitat for listed species. The Sites may provide stopover habitat for the whooping crane, but impacts are not anticipated. Desktop data indicates the Gen-Tie Lines primarily cross over agricultural and developed lands built as a part of the Paris Solar and Battery Energy Storage Project and the Paris Generating Station. Therefore, the potential for occurrence of federally listed species within the Sites and Gen-Tie Lines is moderate to low.

There are no designated critical habitats currently identified within the Sites or Gen-Tie Lines for any federally protected species. Additionally, based on a review of the WDNR Natural Heritage Inventory portal, no known bald or golden eagle nests are located within the Sites or Gen-Tie Lines.

5.5.2 State-Protected Species

The Proposed Site and Gen-Tie Line and Alternative Site and Gen-Tie Lines were included in Endangered Resource Reviews (“ERR”s) (ERR Log #25-435 and 25-436 respectively) conducted by WDNR on June 18, 2025. No required actions were identified for either Site. The ERR that includes the Proposed Site and Gen-Tie Line included recommended actions for two species (one bird and one crustacean), and the ERR for the Alternative Site and Gen-Tie Lines included one recommended action for a special concern bird.

Both Sites and the Proposed Gen-Tie Line are currently used for row crop agriculture, therefore suitable habitat for these species is not likely present. The Alternative Site Gen-Tie Lines primarily cross over agricultural and developed lands built as a part of the Paris Solar and Battery Energy Storage Project and the Paris Generating Station. Therefore, the potential for occurrence of state listed species within the Sites and Gen-Tie Lines is moderate to low.

5.6 Cultural Resources

HDR performed a Cultural Resource Literature Review and Assessment for the Proposed and Alternative Sites and Gen-Tie Lines. Four archaeological sites and one architectural property were identified within the Proposed Site study area. One archaeological site and five architectural properties were identified within the Alternative Site study area. HDR performed a Phase I Archaeological Survey on portions of the Proposed and Alternative Site properties and recommended that the archaeological sites are not eligible for the National Register of Historic Places (“NRHP”). Direct and indirect impacts to archaeological sites are expected to be avoided. Architectural properties within 0.25 miles of Project facilities will be surveyed, inventoried, evaluated for NRHP eligibility, and/or assessed for potential adverse impacts from the Project, as appropriate. Detailed information regarding cultural resources will be provided in the CPCN application.

5.7 Noise

The Project will be designed to adhere to the same limitations followed by similar fossil fuel power generating stations. A detailed noise analysis will be provided with the CPCN application.

5.8 Waste Disposal and Chemical Storage

The Facility will be natural gas-fired and will not generate an ash byproduct requiring waste disposal. Solid wastes will be produced from construction debris, construction workers, and employees during operation of the Facility. These wastes will be collected in trash containers and hauled to a local landfill.

A Spill Prevention, Control, and Countermeasure (“SPCC”) Plan will be developed for both construction and operation of the Project and comply with all federal and state law requirements. The SPCC Plan will establish training, inspection protocols, and response procedures. A safety data sheet inventory will be available to all site personnel and provided to local first responders. Spill kits will be made available on site. The SPCC Plan will be developed and implemented after initial construction mobilization, but before any materials are stored that would trigger the requirement for its preparation. At a minimum, the SPCC Plan will identify the following:

- Typical fuels, chemicals, lubricants, and paints to be used or stored on-site;
- Methods and location of storage;
- Locations designated for lubrication and refueling (i.e., outside of sensitive resource areas);
- Preventive measures to be used to minimize potential impacts;
- Mitigation methods to be implemented in the event of a spill;
- Location of construction spill kits (gloves, booms, sorbents, barrier materials, etc.);
- Emergency notification procedures and forms;
- Contact information for individuals requiring notification if a spill should occur; and
- Procedures for handling contaminated and spill response materials.

All contractors will be responsible for preparing their own SPCC plans that are tailored to their specific construction activities. Each SPCC plan will be regularly updated during construction.

A construction superintendent will be responsible for spill containment and cleanup. The construction superintendent will report significant spills (defined as 55 gallons or more) of chemicals and any oil, such as lubricants, fuel, or grease. The construction superintendent will also supervise the cleanup and disposal of contaminated soil and cleanup materials.

Diesel and gasoline fuel may be temporarily stored at the Facility in aboveground tanks during construction. During re-fueling or transfer of these fuels, preventative measures will be implemented to reduce the risk of spills. Lubricating oils and certain other industrial chemicals required for the Project will be stored in specially designed and covered containment areas. Routine inspections and service will keep equipment in good working condition and reduce the risk of leaks of transmission, hydraulic, or brake fluid. Chemical storage areas will be well marked and include eye wash stations, first aid kits, safety showers, hose stations, and spill kits with absorbent pads and/or material.

Larger spills will be removed from the containment area using a vacuum tank truck or be pumped into a suitable container for cleanup. Minor spills will be treated with pad and other absorbent products. The products, along with any contaminated soil, will be immediately removed and disposed of in accordance with state regulations. The pads and absorbent products will be stored on maintenance trucks or in dedicated areas that are readily accessible.

6. Permits and Approvals

Federal- and state-level permits and approvals that may be necessary for the construction or operation of the Project are identified in **Table 2**. In addition to the permits identified, Red Oak Ridge may apply for local permits to facilitate cooperation with local governments. In the event local permits are withheld or delayed, installation and utilization of the facility may nevertheless proceed under Wis. Stat. § 196.491(3)(i).

Table 2 Preliminary List of Federal and State Permits and Approvals

Agency	Permit/Approval	Notes
Federal		
Federal Aviation Administration	Determination of No Hazard to Air Navigation	7460 Notice of Proposed Construction or Alteration required for construction of structures >200 feet tall or possibly for shorter structures within 5 miles of airport runways greater than 3,200 feet in length. See 14 Code of Federal Regulations (CFR) § 77.13.
United States Fish and Wildlife Service	Endangered Species Act Review	Consultation is required if the Project may impact federally listed species or designated critical habitats. Consultations result in a written biological opinion of whether the project is likely to jeopardize a listed species or adversely modify designated critical habitat. Endangered Species Act Review includes potential for Incidental Take Permit.
United States Army Corps of Engineers	Section 401 Water Quality Certification	Impacts to jurisdictional water resources will be avoided and minimized to the extent practicable. The Project will be evaluated to determine the appropriate authorization for unavoidable impacts.
	Section 404 Wetland Permit	Impacts to jurisdictional water resources will be avoided and minimized to the extent practicable. The Project will be evaluated to determine the appropriate authorization for unavoidable impacts.
State		
Public Service Commission of Wisconsin	Certificate of Public Convenience and Necessity (Wis. Stat. § 196.491)	Required for construction of a large electric generating facility or high-voltage transmission line.
Wisconsin Department of Natural Resources	Air Pollution Control Construction Permit (Wis. Stat. § 285, NR 405-408)	Required for construction and operation of new source of air emissions.

Agency	Permit/Approval	Notes
	Prevention of Significant Deterioration (“PSD”) Permit	Required for construction and operation of new source of air emissions.
	Title V Air Permit (Wis. Admin. Code Ch. NR 407)	Required for construction and operation of new source of air emissions.
	Wisconsin Pollutant Discharge Elimination System Construction Stormwater General Operating Permit (Wis. Stat. Ch. 283, Wis. Admin. Code Chs. NR 205, 216 & NR 151)	Required for land disturbance or construction activities that disturb one or more acres with a point source discharge to surface waters of the United States.
	Water Quality Certification (NR 103 and 299)	For any activities subject to U.S. Army Corps of Engineers Section 404 permitting, WDNR must issue Water Quality Certification.
	Wetland Fill Permit (Wis. Stat. Ch. 281)	Impacts to wetland resources will be avoided and minimized to the extent practicable. The Project will be evaluated to determine the appropriate authorization for unavoidable impacts.
	Construction Affecting Navigable Waterways (Wis. Stat. Ch. 30)	Impacts to jurisdictional water resources will be avoided and minimized to the extent practicable. The Project will be evaluated to determine the appropriate authorization for unavoidable impacts.
	Wisconsin Pollutant Discharge Elimination System Non-Contact Cooling Water or Condensate or Boiler Water General Discharge Permit (Wis. Stat. Ch. 283)	Required for discharge of non-contact cooling water, air conditioning condensate, and similar discharges free of toxic substances to surface waters of the United States or seepage systems.
	Wisconsin Pollutant Discharge Elimination System Pit/Trench De-Watering (Wis. Stat. Ch. 283)	Required for point-source discharge of any pollutants into the waters of the State.
	Incidental Take of Threatened or Endangered Resource (Wis. Stat. Ch. 29)	Consultation and the potential for an Incidental Take Permit is required if state listed species are impacted.

Agency	Permit/Approval	Notes
	Water Use Approval (Wis. Stat. § 281.35, Wis. Admin. Code Ch. 142)	Required for construction of a private well.
	Private Well Notification Number	Required for construction of a private well.
	Well Permit (Wis. Stat. Ch. 280, Wis. Admin. Code Ch. NR 812)	Required for construction of a new well.
	High Capacity Well Permit (Wis. Stat. § 281.34; Wis. Admin. Code § NR 812.09)	Required for construction of a well, or well system on the same property, that has a capacity of more than 100,000 gallons per day.
	Water Treatment and Conditioning Permit (WI-0046450-6)	Required for water treatment and conditioning facilities that result in discharges of backwash water, regeneration water, concentrate or reject water, unit wash water or drainage water, or other similar wastewaters associated with water treatment processing that are discharged to surface waters or indirectly to groundwaters via seepage.
	Concrete Products Operations Permit (WI-0046507-6)	Required for construction and operation of a concrete batch plant.
United States Environmental Protection Agency, Wisconsin Department of Natural Resources	Title IV Acid Rain Permit	Required for construction and operation of new sources of air emissions.
Wisconsin Department of Transportation	Oversize-Overweight Vehicle Permit	Required for any vehicles exceeding posted limits on state roads.
	Right-of-Way Permit	Required for any construction in a state highway right-of-way.
	Utility Permit	Required for construction or maintenance of a utility facility in state highway right-of-way.
Wisconsin Department of	Construction of all Buildings and Structures	Required approval of plans and specifications under Wis. Stat. §101.02.

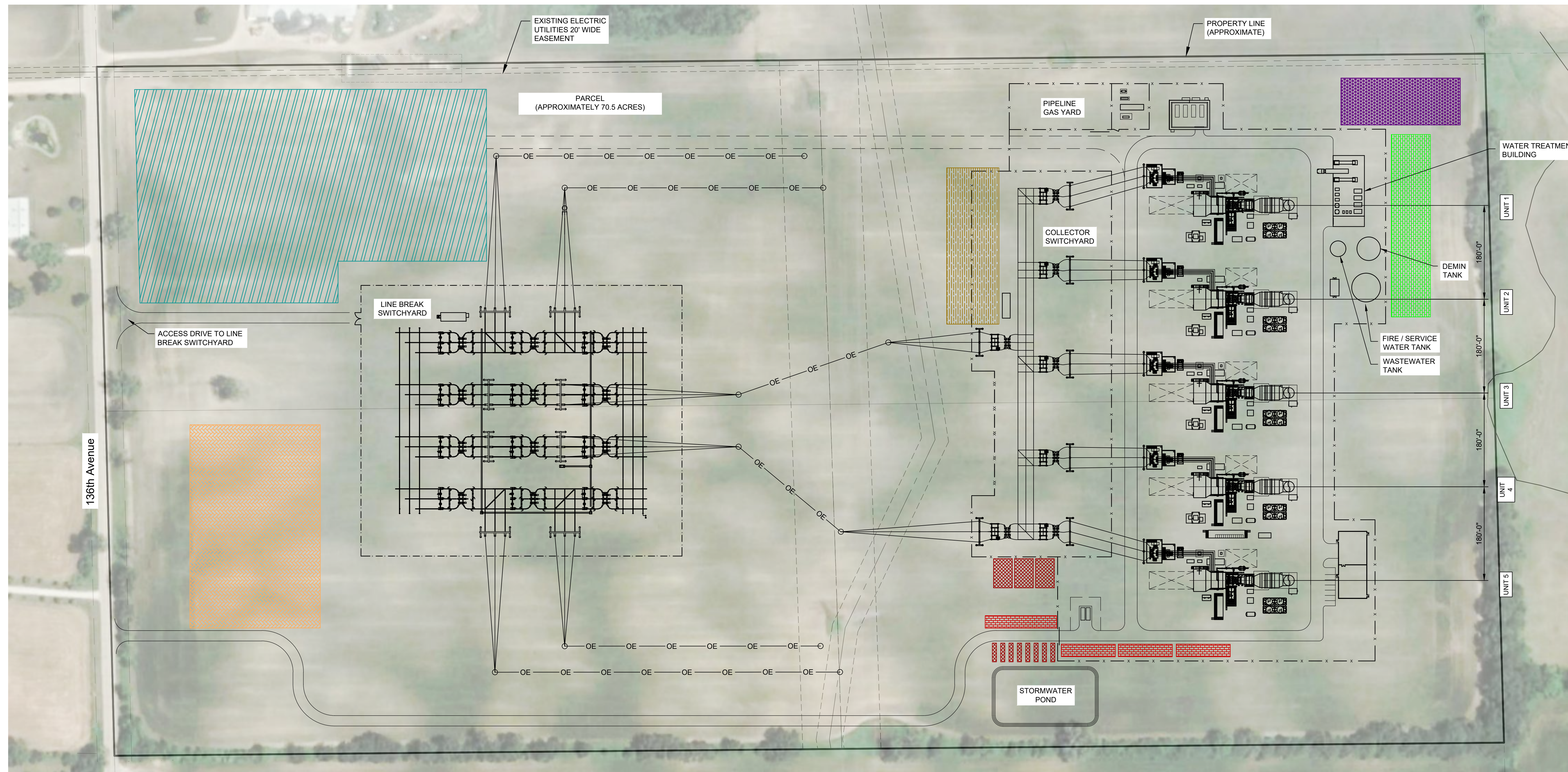
Agency	Permit/Approval	Notes
Safety and Professional Services	Installation of Fuel or Lubricating Oil Storage Tanks	Required approval of plans and specifications under Wis. Stat. §101.09.
	Installation of Dust Filtering and HVAC Equipment	Required approval of plans and specifications under Wis. Stat. §101.12.
	Installation and Registration of Boilers, Pressure Vessels, and Power Piping	Requires an initial inspection after construction, annual thereafter. (Wis. Stat. § 101.17.)
	Sanitary Permit	Required under Wisconsin Privacy Law, Wis. Stat. § 15.04(1)(m).
Wisconsin Historical Society	Archaeological Survey Approval	Approval of archaeological surveys (Wis. Stat. § 44.40) and Section 106 of National Historic Preservation Act.
Wisconsin Department of Agriculture, Trade, and Consumer Protection	Storage Tank Permit, Form ERS-7658	Required for flammable, combustible, and hazardous liquid storage. Tank registration is required for aboveground tanks over 5,000 gallons in size.

7. Schedule

Red Oak Ridge plans to submit a CPCN application to the PSCW in Q3 2025. Construction of the Project is expected to begin in Q2 2027 and be completed in Q2 2030, contingent on successful permitting, agency approvals, and other development and pre-construction activities.

NOTES:

1. LAYOUT IS CONCEPTUAL AND INTENDED FOR DISCUSSION PURPOSES ONLY. NOT FOR CONSTRUCTION.



SITE GENERAL ARRANGEMENT

SCALE: 1" = 100'-0"



LEGEND:

PRIMARY EQUIPMENT LAYDOWN
AREA 350'x600' (5.4 ACRES)

SECONDARY EQUIPMENT LAYDOWN /
FABRICATION AREA 100'x250' (0.6 ACRES)

HV LAYDOWN AREA
100'x350' (0.7 ACRES)

TANK ERECTION LAYDOWN
AREA 75'x350' (0.6 ACRES)

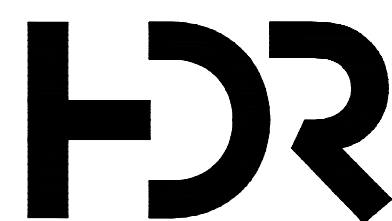
36'x56' CREW TRAILER
36'x56' OFFICE TRAILER
36'x56' MISC. TRAILER
(8) 8'x36' MISC. TRAILERS

CREW / OFFICE PARKING (2) 24'x100'
SUPERVISOR PARKING 24'x100'

CRAFT PARKING AREA
(390'x500') 2.2 ACRES

TEMPORARY CONSTRUCTION
ROAD

PLANT FENCE



E	07/23/2025	ISSUED FOR ENG PLAN
D	07/18/2025	REVISED
C	07/09/2025	REVISED
B	05/14/2025	REVISED
A	04/30/2025	FOR REVIEW
ISSUE	DATE	DESCRIPTION

J_B	MAW		
J_B	MAW		
J_B	MAW		
J_B	MAW		
J_B	MAW		
J_B	MAW		
DRAWN	ENGINEER	CHECKED	APPROVED

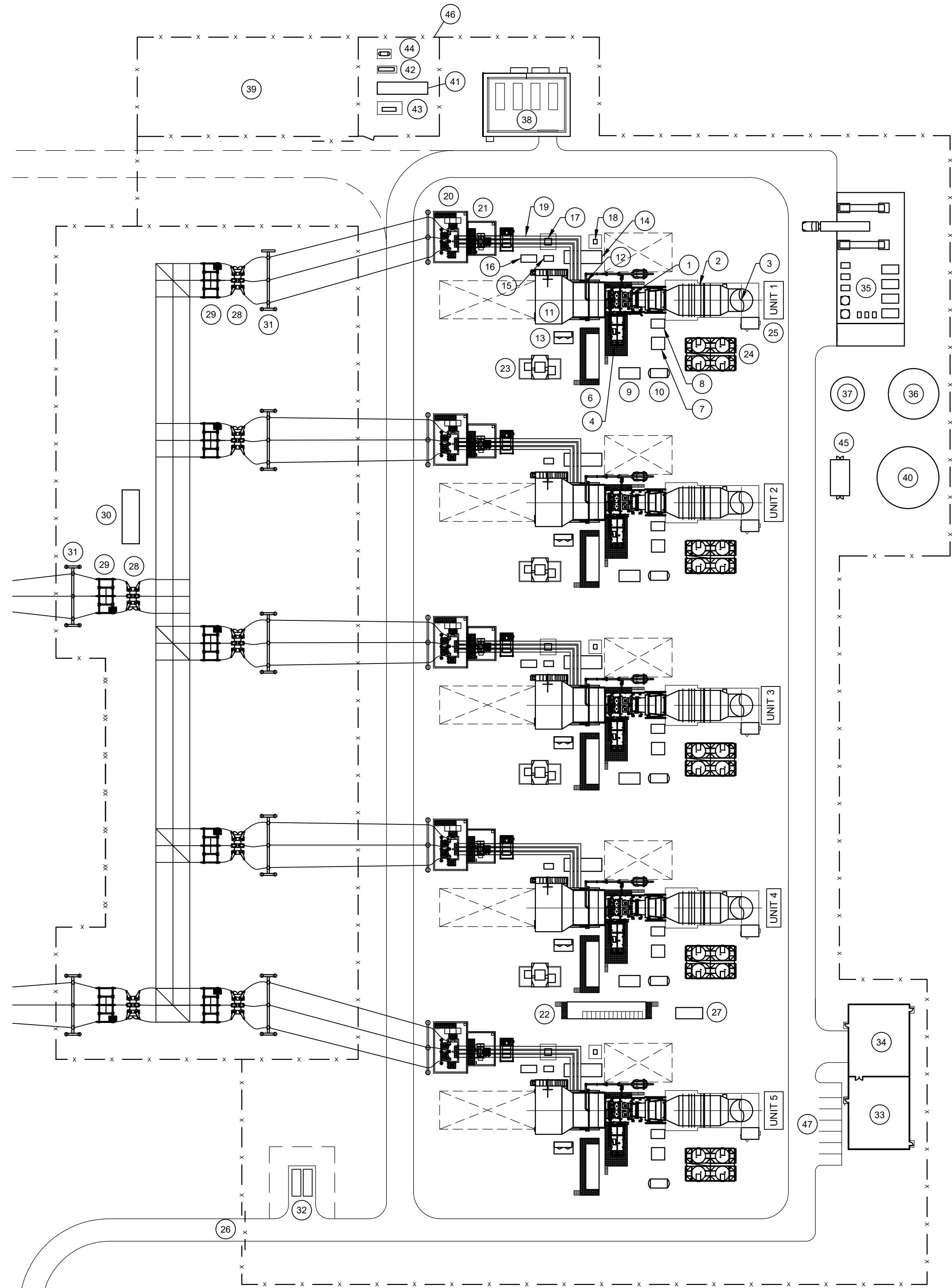
PRELIMINARY
NOT FOR CONSTRUCTION

RED OAK RIDGE ENERGY CENTER LLC

EXHIBIT 2
GENERAL ARRANGEMENT
PROPOSED SITE

FILENAME C1040.DWG
SCALE 1"=100'

SHEET
10396738-0GA-C1040



POWERBLOCK PLAN

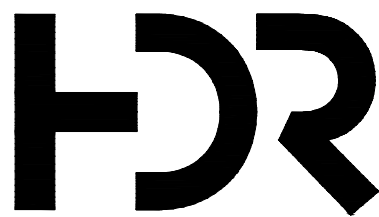
SCALE: 1" = 70'-0"

70 35 0 70 140 210

NOTES:

1. LAYOUT IS CONCEPTUAL AND INTENDED FOR DISCUSSION PURPOSES ONLY. NOT FOR CONSTRUCTION.

PROPOSED BUILDING AND EQUIPMENT LIST:	
MARK	DESCRIPTION
1	GAS TURBINE
2	GT EXHAUST SILENCER
3	GT EXHAUST STACK
4	GT ACCESSORY MODULE
5	NOT USED
6	PACKAGED ELECTRICAL AND ELECTRONIC CONTROL COMPARTMENT (PEECC)
7	FUEL GAS ABSOLUTE SEPARATOR SKID
8	WATER MIST FIRE PROTECTION SKID
9	WATER WASH SKID (ONE PER TWO GT)
10	WATER WASH / FALSE START DRAIN TANK
11	GT INLET AIR FILTER HOUSE
12	GENERATOR (NOT VISIBLE - BELOW AIR FILTER)
13	CARBON DIOXIDE STORAGE RACK
14	LCI / EXCITATION COMPARTMENT
15	EXCITATION TRANSFORMER
16	ISOLATION TRANSFORMER (NOT APPLICABLE TO UNITS 2 & 4)
17	DC LINK REACTOR ((NOT APPLICABLE TO UNITS 2 & 4)
18	AC REACTOR (NOT APPLICABLE TO UNITS 2 & 4)
19	GENERATOR ISO-PHASE BUS
20	GENERATOR STEP-UP TRANSFORMER
21	AUXILIARY TRANSFORMER
22	MEDIUM VOLTAGE SWITCHGEAR ENCLOSURE
23	SECONDARY UNIT SUBSTATION LOW VOLTAGE SWITCHGEAR
24	COOLING WATER AIR COOLED HEAT EXCHANGER
25	CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) ENCLOSURE
26	SECURITY GATE
27	STANDBY LV DIESEL GENERATOR
28	SWITCHYARD HV CIRCUIT BREAKER
29	SWITCHYARD HV DISCONNECT SWITCH
30	SWITCHYARD CONTROL BUILDING
31	SWITCHYARD T-LINE DEAD END STRUCTURE
32	HYDROGEN TUBE TRAILER
33	ADMINISTRATION BLDG.
34	WAREHOUSE
35	WATER TREATMENT BUILDING
36	DEMIN TANK (250,000 GAL.)
37	WASTEWATER TANK (80,000 GAL.)
38	GAS COMPRESSOR BUILDING
39	PIPELINE GAS YARD
40	FIRE WATER TANK (530,000 GAL.)
41	FUEL GAS REGULATOR
42	FUEL GAS HEATER
43	FUEL GAS SEPARATOR SKID
44	FUEL GAS DRAIN TANK
45	FIRE PUMP ENCLOSURE
46	GAS YARD
47	PARKING



C	07/23/2025	ISSUED FOR ENG PLAN
B	07/18/2025	REVISED
A	07/10/2025	FOR REVIEW
ISSUE	DATE	DESCRIPTION

J_B	MAW		
J_B	MAW		
J_B	MAW		
DRAWN	ENGINEER	CHECKED	APPROVED

PRELIMINARY
NOT FOR CONSTRUCTION

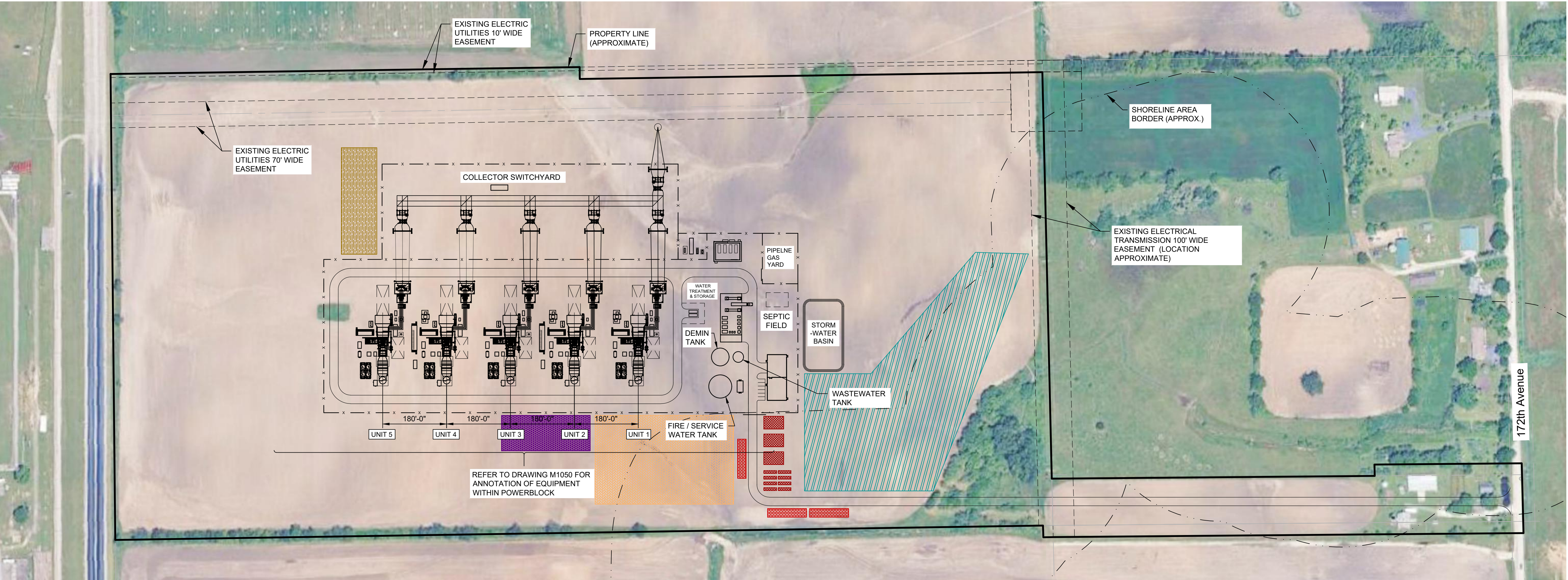
RED OAK RIDGE ENERGY CENTER LLC

FILENAME	M1040.DWG
SCALE	1"=70'

EXHIBIT 2
POWERBLOCK PLAN
PROPOSED SITE

SHEET
10396738-0GA-M1040

NOTES:
1. LAYOUT IS CONCEPTUAL AND INTENDED FOR DISCUSSION PURPOSES ONLY. NOT FOR CONSTRUCTION.



SITE GENERAL ARRANGEMENT
SCALE: 1" = 150'-0"

LEGEND:

PRIMARY EQUIPMENT LAYDOWN AREA (5.0 ACRES)

SECONDARY EQUIPMENT LAYDOWN / FABRICATION AREA 100'x250' (0.6 ACRES)

HV LAYDOWN AREA 100'x350' (0.7 ACRES)

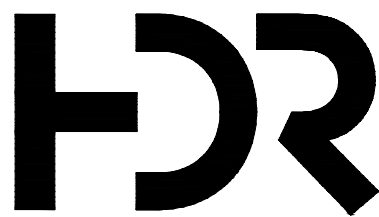
TANK ERECTION LAYDOWN AREA 75'x350' (0.6 ACRES)

36'x56' CREW TRAILER
36'x56' OFFICE TRAILER
36'x56' MISC. TRAILER
(8) 8'x36' MISC. TRAILERS

CREW / OFFICE PARKING (2) 24'x100'
SUPERVISOR PARKING 24'x100'

CRAFT PARKING AREA (390'x500') 2.2 ACRES

PLANT FENCE



E	07/23/2025	ISSUED FOR ENG PLAN
D	07/18/2025	REVISED (CONSTRUCTION AREAS)
C	07/09/2025	REVISED
B	05/14/2025	REVISED
A	04/30/2025	FOR REVIEW
ISSUE	DATE	DESCRIPTION

J_B	MAW
J_B	MAW
J_B	MAW
J_B	MAW
J_B	MAW
J_B	MAW
DRAWN	ENGINEER
CHECKED	APPROVED

PRELIMINARY
NOT FOR CONSTRUCTION

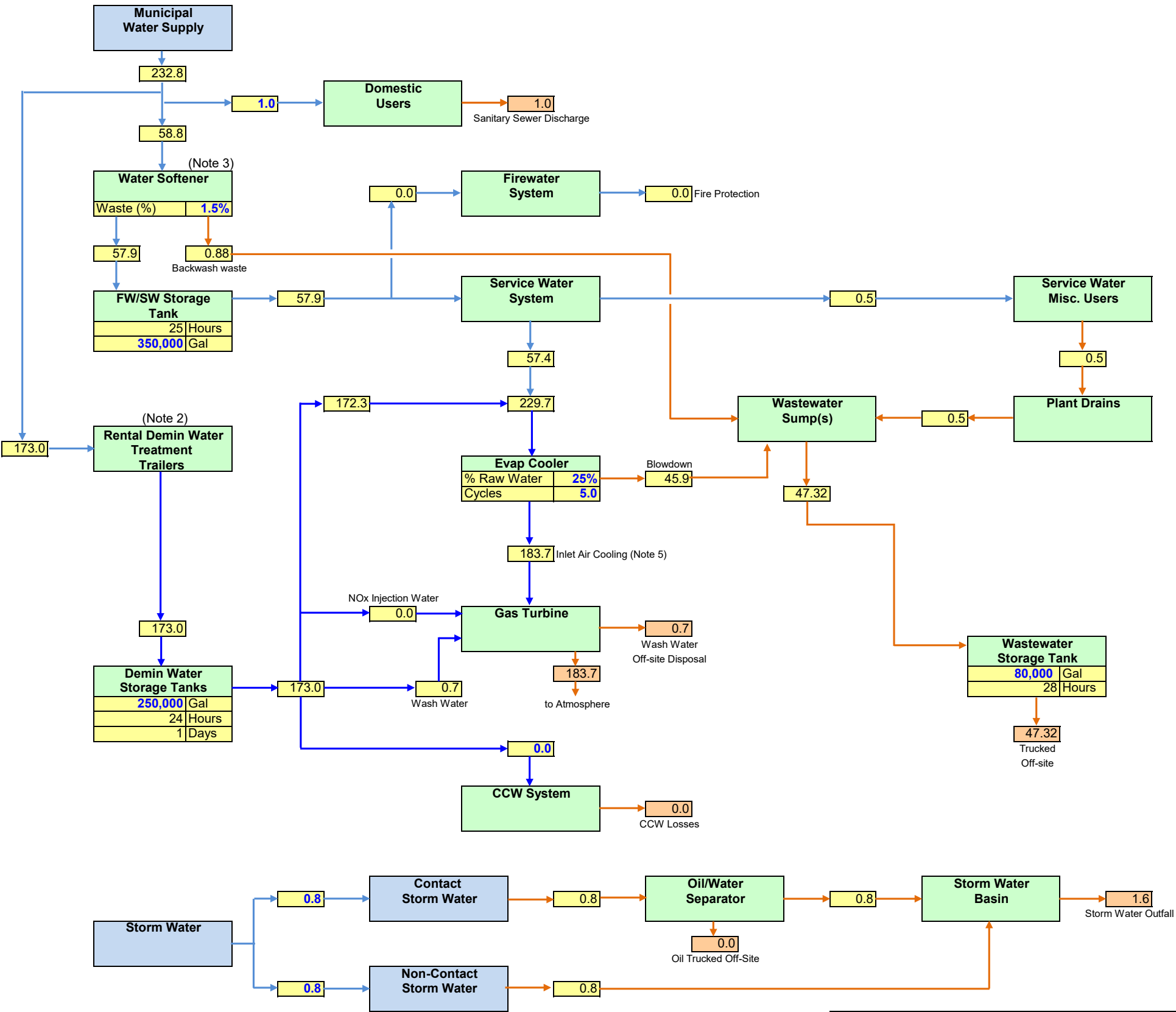
RED OAK RIDGE ENERGY CENTER LLC

EXHIBIT 2
GENERAL ARRANGEMENT PLAN
ALTERNATIVE SITE

FILENAME C1050.DWG
SCALE 1"=150'

SHEET
10396738-0GA-C1050

Balance 0.0



- NOTES
1. All flows are in US GPM unless otherwise specified.
 2. Rental treatment system may consist of ion exchange vessels. Vessels may be regenerated offsite.
 3. Based on assumed water quality, softening or filtration may be required to reduce iron and copper and remove some calcium hardness. Upon further confirmation of water quality, the need for treatment should be re-evaluated.
 4. COCs & Raw Water are based on assumed municipal water quality and GE's water quality requirements for evap. coolers provided in DWG Number GEK017158_Rev D.
 5. Inlet air cooling demand estimated based on maximum water consumption use case, based on GE heat and mass balance data for ROREC.

Legend	
—	Raw/Potable/Service Water
—	Cooling Water
—	Waste Stream
—	Recovered/Recycled Water
—	Steam
—	High Purity Water
	Indicates material that leaves the system
	Internal flow
	Water Source
	Process Block

Case or Scenario:		Case 13 - Summer					
Configuration		5x0 SC					
Turbines in Service		5					
Net Pwr Out (MW)		1108					
Dry Bulb Temp, deg F		90.0					
Dry Bulb After Fog, deg F		na					
Relative Humidity (%)		30%					
Wet Bulb Temp, deg F		68					
Inlet Air Cooling		Yes					
Site Altitude (Feet)		725					
Ambient Pressure, psia		14.33					

E	07/21/25	Revised	JMH				
D	07/18/25	Revised	JMH				
C	07/16/25	Revised	JMH				
B	07/15/25	Client Comments	JMH				
A	04/07/25	Initial Draft	JMH				

Rev	Date	Description	Drwn	Chckd	Eng	PEng	PMgr
Drawn By	Date	Professional Engineer Stamp					
Julie Horan	07/21/25						
Checked By	Date						
Engineer	Date						
Project Engineer	Date						
Project Manager	Date						



Exhibit 3

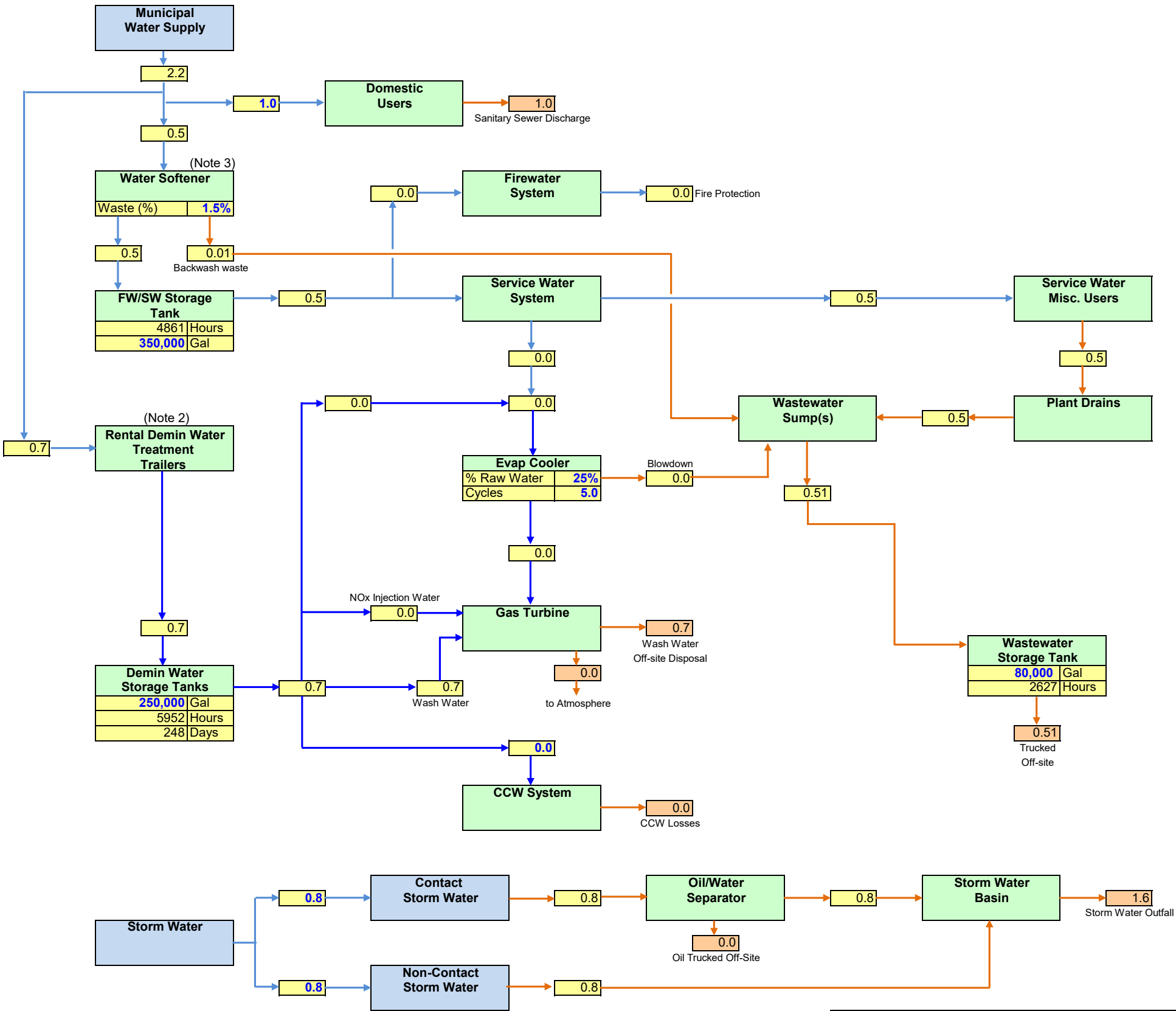
Red Oak Energy Center

Proposed Site Water Balance Diagram

Scale: N/A		
Dwg No	10396738-OWB-M1000	Sheet No. 01
		Rev E

PRELIMINARY

Balance 0.0



- NOTES
1. All flows are in US GPM unless otherwise specified.
 2. Rental treatment system may consist of ion exchange vessels. Vessels may be regenerated offsite.
 3. Based on assumed water quality, softening or filtration may be required to reduce iron and copper and remove some calcium hardness. Upon further confirmation of water quality, the need for treatment should be re-evaluated.
 4. COCs & Raw Water are based on assumed municipal water quality and GE's water quality requirements for evap. coolers provided in DWG Number GEK017158_Rev D.
 5. Inlet air cooling demand estimated based on maximum water consumption use case, based on GE heat and mass balance data for ROREC.

Legend

- Raw/Potable/Service Water
- Cooling Water
- Waste Stream
- Recovered/Recycled Water
- Steam
- High Purity Water

Indicates material that leaves the system

Internal flow

Water Source

Process Block

Case or Scenario:		Case 5 - Winter					
Configuration		5x0 SC					
Turbines in Service		5					
Net Pwr Out (MW)		1159					
Dry Bulb Temp, deg F		10.0					
Dry Bulb After Fog, deg F		na					
Relative Humidity (%)		60%					
Wet Bulb Temp, deg F		7					
Inlet Air Cooling		No					
Site Altitude (Feet)		725					
Ambient Pressure, psia		14.33					

E	07/21/25	Revised	JMH				
D	07/18/25	Revised	JMH				
C	07/16/25	Revised	JMH				
B	07/15/25	Client Comments	JMH				
A	04/07/25	Initial Draft	JMH				

Rev	Date	Description	Drwn	Chckd	Eng	PEng	PMgr
Drawn By			Date				
Julie Horan			07/21/25				
Checked By			Date				
Engineer			Date				
Project Engineer			Date				
Project Manager			Date				



Exhibit 3

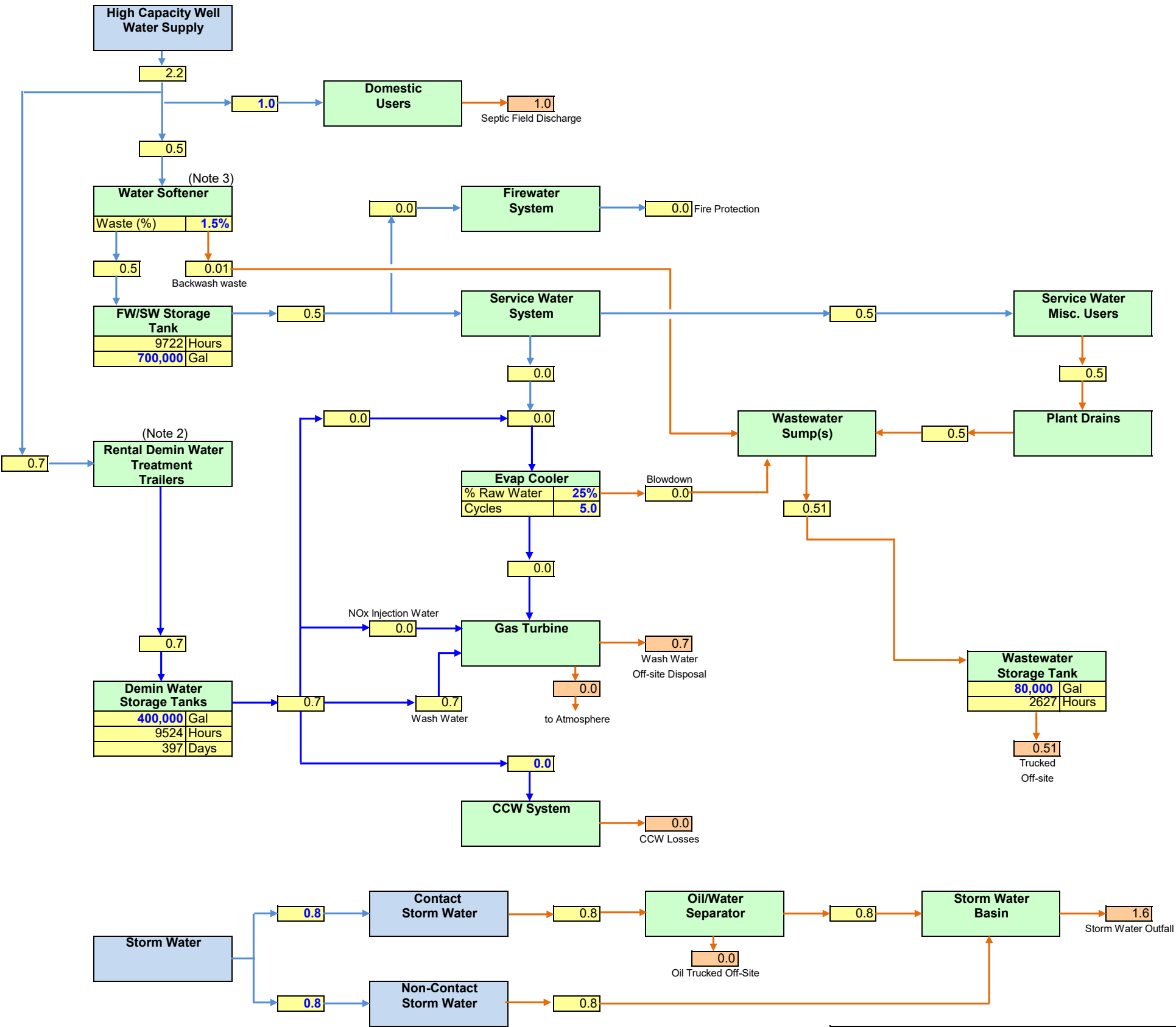
Red Oak Energy Center

Proposed Site Water Balance Diagram

Scale: N/A		
Dwg No	10396738-OWB-M1000	Sheet No. 02
		Rev E

PRELIMINARY

Balance 0.0



- NOTES
1. All flows are in US GPM unless otherwise specified.
 2. Rental treatment system may consist of ion exchange vessels. Vessels may be regenerated offsite.
 3. Based on assumed well water quality, softening or filtration may be required to reduce iron and copper and remove some calcium hardness. Upon further confirmation of water quality, the need for treatment should be re-evaluated.
 4. COCs & Raw Water are based on assumed well water quality and GE's water quality requirements for evap. coolers provided in DWG Number GEK017158_Rev D.
 5. Inlet air cooling demand estimated based on maximum water consumption use case, based on GE heat and mass balance data for ROREC.
 6. Based on estimated flow rate of a high capacity well and subject to change.

Legend

- Raw/Potable/Service Water
- Cooling Water
- Waste Stream
- Recovered/Recycled Water
- Steam
- High Purity Water

Indicates material that leaves the system

Internal flow

Water Source

Process Block

All flows are in US GPM unless otherwise specified.

Case or Scenario:	Case 5 - Winter
Configuration	5x0 SC
Turbines in Service	5
Net Pwr Out (MW)	1159
Dry Bulb Temp, deg F	10.0
Dry Bulb After Fog, deg F	na
Relative Humidity (%)	60%
Wet Bulb Temp, deg F	7
Inlet Air Cooling	No
Site Altitude (Feet)	725
Ambient Pressure, psia	14.33

Rev	Date	Description	Drwn	Chckd	Eng	PEng	PMgr
C	07/21/25	Revised	JMH				
B	07/18/25	Revised	JMH				
A	07/16/25	Initial Draft	JMH				

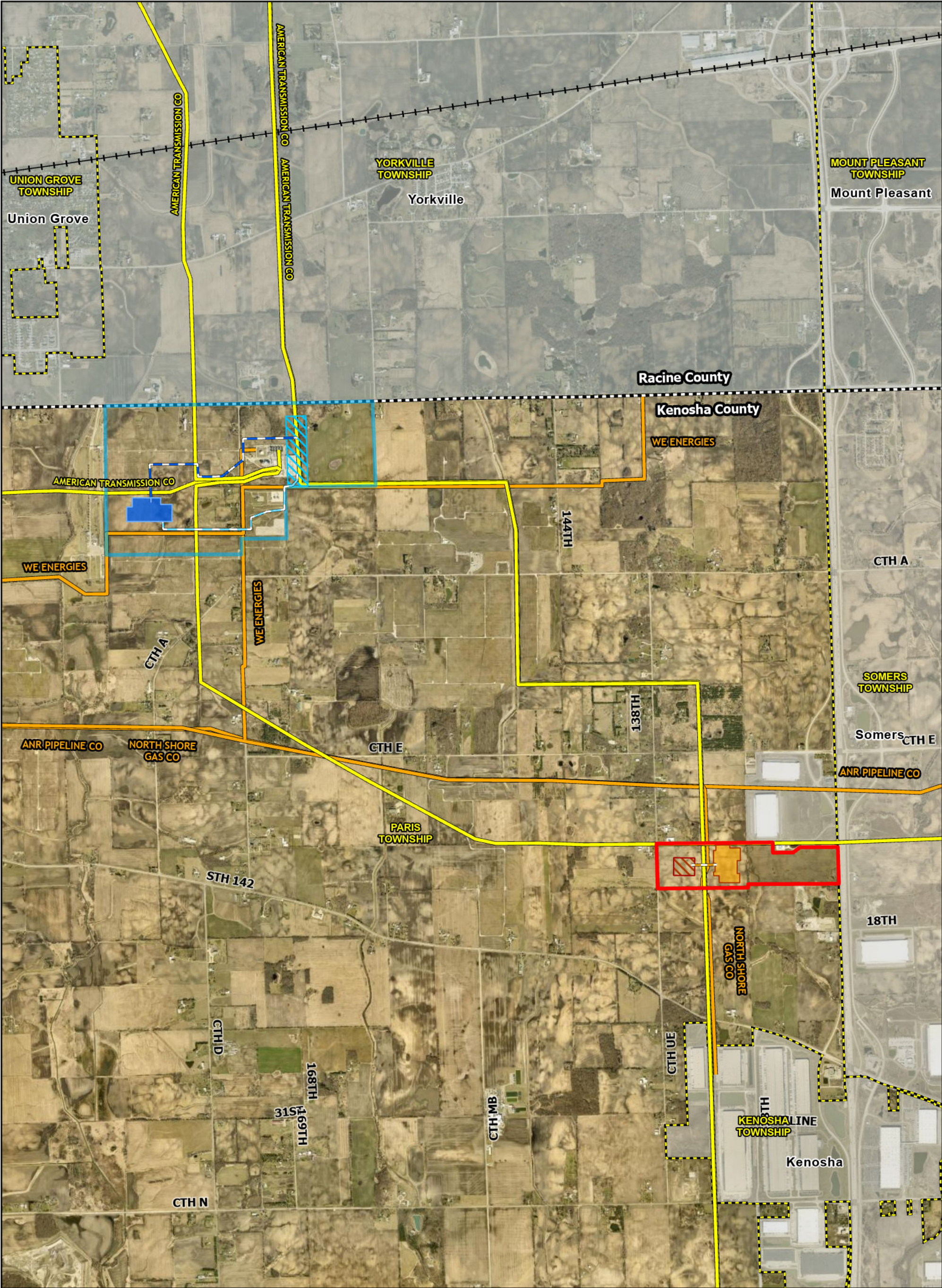
Drawn By	Date	Professional Engineer Stamp
Julie Horan	07/21/25	
Checked By	Date	
Engineer	Date	
Project Engineer	Date	
Project Manager	Date	



Red Oak Energy Center

Alternative Site Water Balance Diagram

PRELIMINARY



SE Wisc Reg Planning Comm, SEWRPC, Maxar, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

N

0

0

Miles

Invenergy

Red Oak Ridge Energy Center

Existing Electric Transmission and Natural Gas Pipeline Map

Proposed Project Area Boundary

Proposed Site

Proposed Gen-Tie Line

Proposed Site Interconnection Switchyard

Alternative Project Area Boundary

Alternative Site

Alternative Gen-Tie Line 1

Alternative Gen-Tie Line 2

Paris Generating Station Substation

Existing Transmission Line

Existing Natural Gas Pipeline

County Boundary

Township Boundary

Municipal Boundary

Kenosha County, Wisconsin

Exhibit 4

Minnesota

Wisconsin

Iowa

Illinois

Minneapolis

Chicago

PROJECT