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May 2, 2016

Ms. Barcy F. McNeal, Secretary
Public Utilities Commission of Ohio
180 E. Broad St., 11th Floor
Columbus, OH 43215-3793

Re: Case No. 16-0841-EL-BGA
Carroll County Energy LLC
Application for Second Amendment to its Certificate

Dear Ms. McNeal:

Accompanying this letter are hard copies of an Application for a Second Amendment to the Certificate of Environmental Compatibility and Public Need for an electric generation facility granted to Carroll County Energy LLC ("CCE"). The original Application for a Second Amendment was electronically filed.

CCE was granted a certificate of environmental compatibility and public need to construct a natural gas-fired combined-cycle electric generation facility in Washington Township, Carroll County, Ohio on April 28, 2014 in Case No. 13-1752-EL-BGN.

In this Application for a Second Amendment to its Certificate, CCE is proposing to install a septic system on the facility property. The Ohio Environmental Protection Agency has issued a permit to install the septic system.

In accordance with former Rule 4906-5-03 of the Ohio Administrative Code, I would like to make the following declarations:

Name of the applicant:
Carroll County Energy LLC
c/o Advanced Power Services (NA) Inc.
31 Milk Street, Suite 1001 Boston, MA 02109

Name of the proposed facility and location:
Carroll County Energy
Washington Township
Carroll County, Ohio

VORYS

Ms. Barcy F. McNeal^{Legal Counsel}

May 2, 2016

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Name of the authorized representative:

Michael J. Settineri

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Columbus, Ohio 43215

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Notarized Statement:

See attached Affidavit of Charles Davis, President

Thank you for your consideration.

Very truly yours,



Michael J. Settineri

MJS/jaw
Enclosure

**In the Matter of the Application of)
Carroll County Energy LLC for a)
Second Amendment to its Certificate) Case No. 16-0841-EL-BGA
issued in Case No. 13-1752-EL-BGN.)**

COMMONWEALTH OF MASSACHUSETTS)
) SS:
COUNTY OF SUFFOLK)

4. To the best of his knowledge, the Application for a Second Amendment is complete.

Carroll County Energy LLC

Sworn to before me and signed in my presence this 2nd day May, 2016.

ARCS

My Commission Expires Feb. 5, 2021

4/28/2016 24387608

BEFORE THE OHIO POWER SITING BOARD

**In the Matter of the Application of)
Carroll County Energy, LLC for a) Case No. 16-0841-EL-BGA
Second Amendment to Its Certificate)
Issued in Case No. 13-1752-EL-BGN.)
)**

**Application for a Second Amendment of the
Carroll County Energy Certificate
Granted April 28, 2014 in
Case No. 13-1752-EL-BGN**

May 2016

BEFORE THE OHIO POWER SITING BOARD
Second Amendment Application of Carroll County Energy, LLC
Carroll County Energy
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Section 13-02 – Project Description and Schedule

- Figure 02-2 – Facility and Vicinity
- Figure 02-2b – Proposed Additional Tree Clearing Areas
- Figure 02-3a through 3c – Proposed Septic System Plot Plans
- Figures 02-5a through 5b – Preliminary Water Balance

Section 13-03 – Site Alternatives Analysis

- No updated figures.

Section 13-04 – Technical Data

- No updated figures

Section 13-05 – Financial Data

- No figures

Section 13-06 – Environmental Data

- No updated figures

Section 13-07 – Social and Ecological Data

- No updated figures

LIST OF APPENDICES

No change to appendices; one additional appendix:

- Appendix P: Ohio EPA Permit to Install

LIST OF ACRONYMS AND ABBREVIATIONS

Application	the original Application provided to the Ohio Power Siting Board to support a request for a Certificate of Environmental Compatibility and Public Need to Construct an Electric Generation Facility
BMPs	Best Management Practices
CCE	Carroll County Energy, LLC
the Facility	the nominal 742 MW natural gas-fired combined cycle electric generating facility to be located in Carroll County, Ohio
the Facility Site	the 77-acre property proposed as the location of Carroll County Energy
gpd	gallons per day
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
ODNR	Ohio Department of Natural Resources
Ohio EPA	Ohio Environmental Protection Agency
OPSB	Ohio Power Siting Board
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

4906-13-01 Project Summary and Facility Overview

As discussed in Section 4906-13-01 of the original Application for Certificate of Environmental Compatibility and Public Need (the Application), Carroll County Energy, LLC (CCE) has developed, is currently constructing, and plans to own and operate the Carroll County Energy (the Facility). As also discussed, CCE is within the corporate organizational structure of Advanced Power AG (Advanced Power), an international developer of independent power generation projects. The Applicant is aware that the new rules are in effect, but inasmuch as the Application to which this Amendment refers was filed under the rules in existence before December 11, 2015, this Amendment application tracks the designations of the older rules. Applicant believes that it has addressed anything that is substantively necessary in the new rules.

(A) PROJECT SUMMARY AND OVERVIEW

No change to introductory language.

(1) General Purpose of the Facility

No change since original filing.

(2) Description of the Facility

The original filing addressed Carroll County Energy, a nominal 742 megawatt (MW) natural gas-fired combined cycle electric generating facility developed, built, owned, and operated by CCE. The Facility is located on a 77-acre property accessible via State Route 9 (Kensington Road NE) within Washington Township, Carroll County, Ohio (the Facility Site). No changes to major components of the Facility have occurred since the original filing.

This Amendment submitted to the Ohio Power Siting Board (OPSB) addresses installation of a proposed septic system to be used for disposal of sanitary wastewater at the Facility. The Facility's first amendment (Case No. 14-2085-EL-BGA) described that "...sanitary wastewater from the Facility will either be stored in an onsite holding tank, and periodically trucked offsite..., or disposed of via an onsite septic system, pending final design." A location for the potential future septic system was not identified at that time. Since that amendment was filed, CCE has worked with the Ohio Environmental Protection Agency (Ohio EPA) to identify a suitable location for the septic system within the original Facility Site addressed in the original Application. To ensure compliance with Ohio EPA requirements, the septic system will be located within the original, studied Facility Site, but outside the original limit of disturbance.

The proposed septic system has been authorized by Ohio EPA (see Appendix P), and will include a pretreatment system, force main pipeline, and septic mound system to treat approximately 735 gallons per day (gpd) of wastewater from the Facility. The construction will require work in an area of approximately 0.65 acre, including approximately 0.53 acre of additional tree clearing; tree clearing will be restricted to occur only from October 1 through March 31 in order to avoid potential impacts to summer roosting bat species that have the potential to be present in the region.

(3) Site Selection Process

No change since original filing.

(4) Principal Environmental and Socioeconomic Considerations

No change since original filing.

(a) Potential Construction Impacts

Addition of the proposed septic system to the northwest of the Facility will enlarge the Facility's area of disturbance by 0.65 acre in order to place the septic system mound in undistributed soils per Ohio EPA design requirements. As a result, clearing of 0.53 acre of additional trees will occur, as shown in Figure 02-2b. Clearing will be seasonally restricted, occurring between October 1 and March 31, to avoid impacts to summer roosting bat species that have the potential to be present in the region.

(b) Potential Operational Impacts

With the addition of the proposed septic system, sanitary wastewater collected during operation of the Facility will be pumped to the pretreatment and septic mound systems. This pumped treated wastewater in the septic mound system will be allowed to naturally percolate/infiltrate into on-site soils.

(5) Project Schedule

Construction is underway, with commencement of commercial operations now planned to occur by December 2017.

(A) DETAILED DESCRIPTION OF PROPOSED GENERATION AND ASSOCIATED FACILITIES

An updated Figure 02-2 shows the Facility and vicinity on an aerial photograph overlay, showing surrounding road names and major features of the proposed Facility. Additional detail is provided in Figures 02-3a through 3c, plot plans which depict the proposed septic system in relation to the Facility.

(1) Project Details

(a) Generating Units

No change since original filing.

(b) Land Area Requirements

No additional land will be required for the proposed septic system. All septic system components will be located within the original Facility Site just outside of the Facility's existing limit of disturbance (see Figure 02-2).

(c) Fuel Quantity and Quality

No change since original filing.

(d) Plant Emissions

No change since original filing.

(e) Water Requirements

No change since original filing.

(f) Water Discharge Requirements

Facility wastewater will be pumped to the proposed septic system. The proposed septic system is designed to process water from sanitary uses with an average daily hydraulic flow of 735 gpd.

(g) Stormwater Management

No change since original filing.

(2) Description of Major Equipment

No change has occurred to the Facility's major equipment. Sanitary wastewater generated at the Facility will be pumped to the proposed septic system for disposal. The septic system will consist of a septic tank, dosing tanks, biofilters, submersible pumps, and a mounded distribution system. Drawings of the proposed septic system components are presented in Figures 02-3a through 3c and detailed descriptions of septic system components are described in the Ohio EPA Permit to Install for the septic system, which is presented in Appendix P.

(3) Transmission Line Interconnect

No change since original filing.

(4) New Natural Gas Transmission Line

No change since original filing.

(B) DETAILED PROJECT SCHEDULE

(1) Schedule

The Facility is currently under construction, with commencement of commercial operations expected to occur by December 2017.

(2) Necessity to Maintain Schedule

No change since original filing, other than an adjusted commercial operation date anticipated to occur in December 2017.

(A) SITE SELECTION STUDY

No change since original filing.

(1) Site Selection Process

(a) *Description of Study Area*

No change since original filing.

(b) *Study Area and Site Map*

No change since original filing.

(c) *Siting Criteria*

No change since original filing.

(d) *Process for Identifying the Proposed Site*

No change since original filing.

(e) *Factors in Selecting the Proposed Site*

No change since original filing.

(2) Constraint Map

No change since original filing.

(B) SUMMARY TABLE OF EVALUATED SITES

No change since original filing.

(C) ADDITIONAL SITE SELECTION STUDIES

No change since original filing.

(A) SITE

(1) Geography and Topography

No change since original filing.

(2) Aerial Photograph

An updated Figure 02-2 provides an aerial photograph showing the location of the Facility and proposed septic system in relation to surface features. As stated previously, the proposed septic system will be located entirely within the Facility Site, and just outside the prior limits of disturbance (as is required by Ohio EPA for installation of this type of system).

(3) Site Mapping

No change since original filing.

(4) Geology and Seismology

(a) Geological Issues

No change since original filing.

(b) Soils and Soil Suitability

No change since original filing.

(5) Hydrology and Wind

(a) Characteristics of Directly Affected Waterbodies

No change since original filing.

(b) Potential for Flooding or High Wind Conditions

No change since original filing.

(c) Aquifer Mapping

No change since original filing.

(B) LAYOUT AND CONSTRUCTION

No change since original filing. Erosion and sediment controls will be installed in the proposed limit of disturbance area prior to installation of the proposed septic system.

(1) Site Activities

(a) Test Borings

No change since original filing.

(b) Removal of Vegetation

As previously described, the septic system will be installed within an approximately 0.65-acre area just north and west of the Facility. Approximately 0.53 acre of trees will be cleared from this area (see Figure 02-2b). Clearing will be restricted to occur between October 1 and March 31 to avoid impacts to potential summer bat roosting.

(c) Grading and Drainage

In order to preserve the integrity of existing soils, in accordance with Ohio EPA requirements, the proposed location for the installation of the septic system is in an undisturbed area that has not been graded. Appropriate stormwater Best Management Practices (BMPs) will be utilized during system installation.

(d) Access Roads

No change since original filing.

(e) Removal and Disposal of Debris

No change since original filing.

(f) Post-Construction Reclamation

No change since original filing.

(2) Layout

The overall layout of the proposed Facility has not changed with the addition of a septic system on the Facility Site. The overall layout of the Facility and the proposed septic system is provided on the updated Proposed Facility and Vicinity (Figure 02-2) and the Proposed Septic System Plot Plans (Figure 02-3a through 3c).

(3) Structures

(a) Dimensions

Dimensions of the Facility's major structures have not changed since the original filing.

(b) Construction Materials

No change since original filing.

(c) Color and Texture

No change since original filing.

(d) Pictorial Sketches

No change since original filing.

(e) Unusual Features

No change since original filing. The proposed septic system will not materially change the design and appearance of the Facility.

(4) Plans for Construction

No change since original filing.

(5) Future Plans

No change since original filing.

(C) EQUIPMENT

(1) Description of Major Generating Equipment

No change since original filing.

(a) Combustion Turbine Generators

No change since original filing.

(b) Steam Turbine Generator

No change since original filing.

(c) Heat Recovery Steam Generators

No change since original filing.

(d) Natural Gas System

No change since original filing.

(e) Steam System

No change since original filing.

(f) Condensate System

No change since original filing.

(g) Feedwater System

No change since original filing.

(h) Air Cooled Condenser

No change since original filing.

(i) Closed Loop Auxiliary/Cooling Water System

No change since original filing.

(j) Fire Protection System

No change since original filing.

(k) Water System

No change since original filing.

(l) Demineralizer

No change since original filing.

(m) Wastewater System

Facility-generated sanitary wastewater will be discharged to the proposed septic system for treatment.

(n) Backup Generator

No change since original filing.

(o) Transformers and Switchyard

No change since original filing.

(2) Emissions Control and Safety Equipment

(a) Flue Gas Emissions Control

No change since original filing.

(b) Equipment Reliability and Efficiency Reduction

No change since original filing.

(c) Effluent Control Equipment

No change since original filing.

(d) Public Safety Equipment

No change since original filing.

(3) Other Major Equipment

No change since original filing.

(a) Combustion Turbine Air Inlet Coolers

No change since original filing.

(b) Auxiliary Boiler

No change since original filing.

(c) Natural Gas Heaters

No change since original filing.

(d) Oil/Water Separator

No change since original filing.

(D) REGIONAL ELECTRIC POWER SYSTEM

No change since original filing.

(A) OWNERSHIP

No change since original filing.

(B) CAPITAL AND INTANGIBLE COSTS

(1) Estimated Capital and Intangible Costs

No change since original filing.

(2) Capital Cost Comparison

No change since original filing.

(3) Present Worth and Annualized Capital Costs of Alternatives

No change since original filing.

(C) OPERATION AND MAINTENANCE EXPENSES

(1) Estimated Annual Operation and Maintenance Expenses

(a) Fixed Operation and Maintenance

No change since original filing.

(b) Variable Operation and Maintenance

No change since original filing.

(c) Fuel Operating Expense

No change since original filing.

(2) Operation and Maintenance Expenses Comparison

No change since original filing.

(3) Present Worth and Annualized Operation and Maintenance Expenses for Alternatives

No change since original filing.

(D) DELAYS

No change since original filing other than the adjusted date for commercial operation of December 2017.

(A) GENERAL

No change to introductory language.

(B) AIR

(1) Preconstruction

(a) Description of Ambient Air Quality

No change since original filing.

(b) Description of Pollution Control Equipment

No change since original filing.

(c) Description of Regulatory Applicability

No change since original filing.

(d) Required Permits to Install and Operate Air Pollution Sources

No change since original filing.

(e) Air Monitoring Stations and Major Source Mapping

No change since original filing.

(f) Demonstration of Regulatory Compliance

No change since original filing.

(2) Construction

No change since original filing.

(3) Operation

(a) Description of Air Quality Monitoring Plans

No change since original filing.

(b) Estimated Air Concentration Isopleths

No change since original filing.

(c) Potential Failure of Air Pollution Control Equipment

No change since original filing.

(C) WATER

There is no change to water supply sources for the Facility. Approximately 735 gpd of sanitary wastewater generated by the Facility will be disposed of through the proposed on-site septic system.

(1) Preconstruction

(a) List of Permits

No change since original filing. CCE has obtained a Permit to Install for the proposed septic system from the Ohio EPA, as provided in Appendix P.

(b) Location of Survey Data Sources

No change since original filing.

(c) Description of Data Sampling Stations

No change since original filing.

(d) Water Quality of Receiving Stream

No change since original filing. Treated sanitary wastewater processed by the proposed septic system will infiltrate into the surrounding soils and will not be discharged to a body of water.

(e) Water Discharge Permit Information

No change since original filing.

(2) Construction

(a) Description of Water Monitoring and Gauging Stations

No change since original filing.

(b) Quality and Quantity of Aquatic Discharges from the Site

No change since original filing.

(c) Plans to Mitigate Effects

No change since original filing. The use of BMPs in accordance with federal and state requirement will ensure that the potential for erosion and sedimentation will be minimized during installation of the proposed septic system.

(d) Changes in Flow Patterns and Erosion

No change since original filing.

(3) Operation

(a) Description of Water Monitoring and Gauging Stations

No change since original filing.

(b) Water Pollutant Control Equipment and Treatment Processes

Sanitary wastewater generated at the Facility will be treated through the proposed septic system.

(c) NPDES Requirements and Schedule

No change since original filing. No National Pollutant Discharge Elimination System (NPDES) permit will be required for the discharge of processed sanitary wastewater from the proposed septic system.

(d) Quantitative Flow Diagram

The updated Figures 02-5a and 02-5b provides the Facility water balance with the addition of the proposed septic system for disposal of sanitary wastewater generated on-site.

(e) Water Conservation Practices

No change since original filing.

(D) SOLID WASTE

(1) Preconstruction

No change since original filing.

(2) Construction

No change since original filing.

(3) Operation

No change since original filing.

(4) Licenses and Permits

No change since original filing.

No change to introductory language since original filing.

(A) HEALTH AND SAFETY

(1) Demographic Characteristics

No change since original filing.

(2) Atmospheric Emissions

No change since original filing.

(3) Noise

No change since original filing

(a) Construction Noise Levels

No change since original filing.

(b) Operational Noise Levels

No change since original filing.

(4) Water

No change since original filing. No impact to waterbodies is anticipated as a result of the proposed septic system.

(a) Construction and Operation Impact to Public and Private Water Supplies

No change since original filing.

(b) Impact of Pollution Control Equipment Failures on Public and Private Water Supplies

No change since original filing. Sanitary wastewater generated by the Facility will be treated by the proposed septic system and will have no adverse impacts on public or private water supplies.

(B) ECOLOGICAL IMPACT

(1) Site Information

(a) Mapping

No change since original filing.

(b) Vegetation Survey

No change since original filing.

(c) Species Survey

No change since original filing.

(d) Ecological Study

No change since original filing.

(e) List of Major Species

No change since original filing.

(2) Construction

(a) Impact of Construction on Undeveloped Areas

Installation of the proposed septic system will be within an additional 0.65 acre of land located adjacent and to the northwest of the original area of disturbance for the Facility. As shown in Figure 02-2b, approximately 0.53 acre of tree clearing will occur

within the proposed limit of disturbance. Because the Facility is located within the range of the Indiana bat and northern long-eared bat, tree clearing will be restricted to occur between October 1 and March 31 to avoid potential impacts to summer bat roosting.

The proposed septic system has been authorized by Ohio EPA and is located 57 feet from the nearest wetland. The 20-foot riparian buffer reflected in the original Application will be, therefore, maintained.

(b) Impact of Construction on Major Species

No change since original filing; this proposed work area is within the original Facility Site. As previously discussed, the 0.53 acre of tree clearing associated with the installation of the proposed septic system will be limited to occur between October 1 and March 31 (see Figure 02-2b).

(c) Mitigation for Short-Term and Long-Term Construction Impacts

No change since original filing. Sediment and erosion controls and dust and particulate controls will be utilized throughout installation of the proposed septic system. Once installation is complete, revegetation of disturbed areas will occur to stabilize exposed areas of soil.

(3) Operation

(a) Impact of Operation on Undeveloped Areas

No change since original filing.

(b) Impact of Operation on Major Species

No change since original filing.

(C) Economics, Land Use and Community Development

(1) Land Uses

(a) Land Use Mapping

No change since original filing.

(b) Residential Structures

No change since original filing.

(c) Land Use Impact

No change since original filing.

(d) Structures to be Removed or Relocated

No change since original filing.

(e) Formally Adopted Plans for Future Use of the Site and Surrounding Lands

No change since original filing.

(f) Applicant Plans for Concurrent or Secondary Uses of the Site

No change since original filing.

(2) Economics

(a) Annual Total and Present Worth of Construction and Operation Payroll

No change since original filing.

(b) Construction and Operation Employment

Construction of the Facility is currently underway, and will continue until commercial operations, now anticipated to be in December 2017.

(c) Increase in Local Revenue

No change since original filing.

(d) Economic Impact on Local Commercial and Industrial Activities

No change since original filing.

(3) Public Services and Facilities

No change since original filing.

(4) Impact on Regional Development

(a) Impact on Regional Development

No change since original filing.

(b) Compatibility with Regional Plans

No change since original filing.

(D) Cultural Impact

No change since original filing.

(1) Cultural Resource Mapping

No change since original filing.

(2) Cultural Resource Impacts

No change since original filing. As previously discussed, the proposed septic system will be located on the Facility Site, which was previously surveyed. No archaeological impacts are anticipated.

(3) Cultural Resource Landmarks

No change since original filing.

(4) Land and Water Recreation Area Mapping

No change since original filing.

(5) Land and Water Recreation Areas

No change since original filing.

(6) Recreational Areas and Potential Impacts

No change since original filing.

(7) Measures to Minimize Visual Impacts

No change since original filing.

(E) Public Responsibility

(1) Public Interaction Program

No change since original filing.

(2) Liability Compensation Plans

No change since original filing.

(F) AGRICULTURAL DISTRICT IMPACT

No change since original filing.

(1) Agricultural Land Mapping

No change since original filing.

(2) Potential Impact to Agricultural Lands

(a) Potential Construction, Operation and Maintenance Impacts

No change since original filing.

(b) Agricultural Mitigation Practices

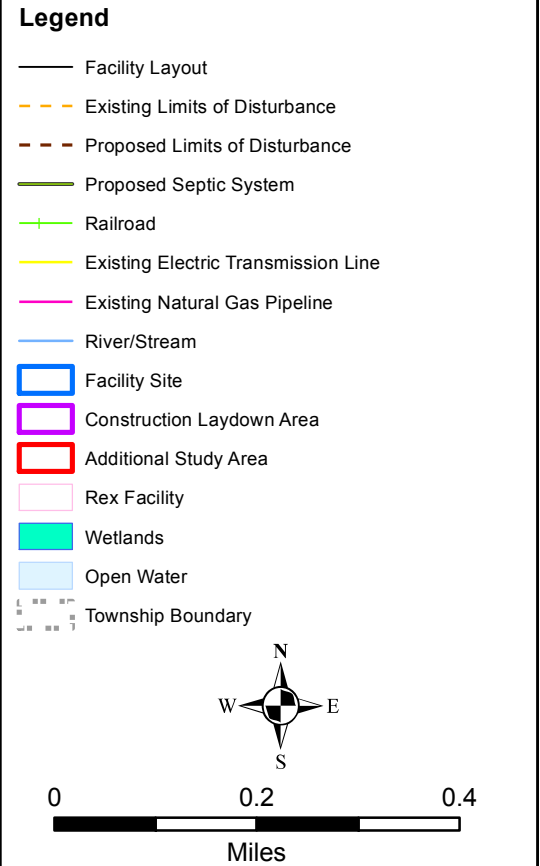
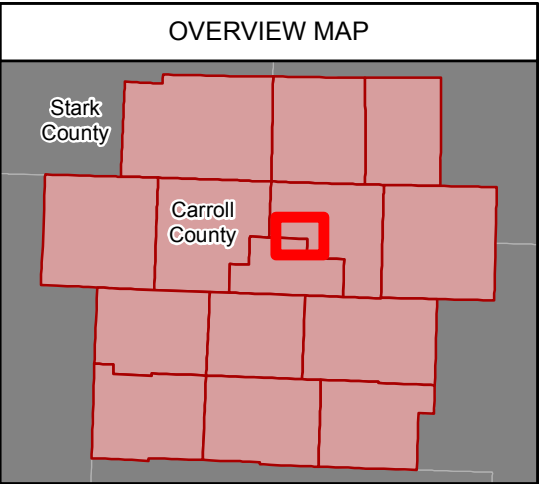
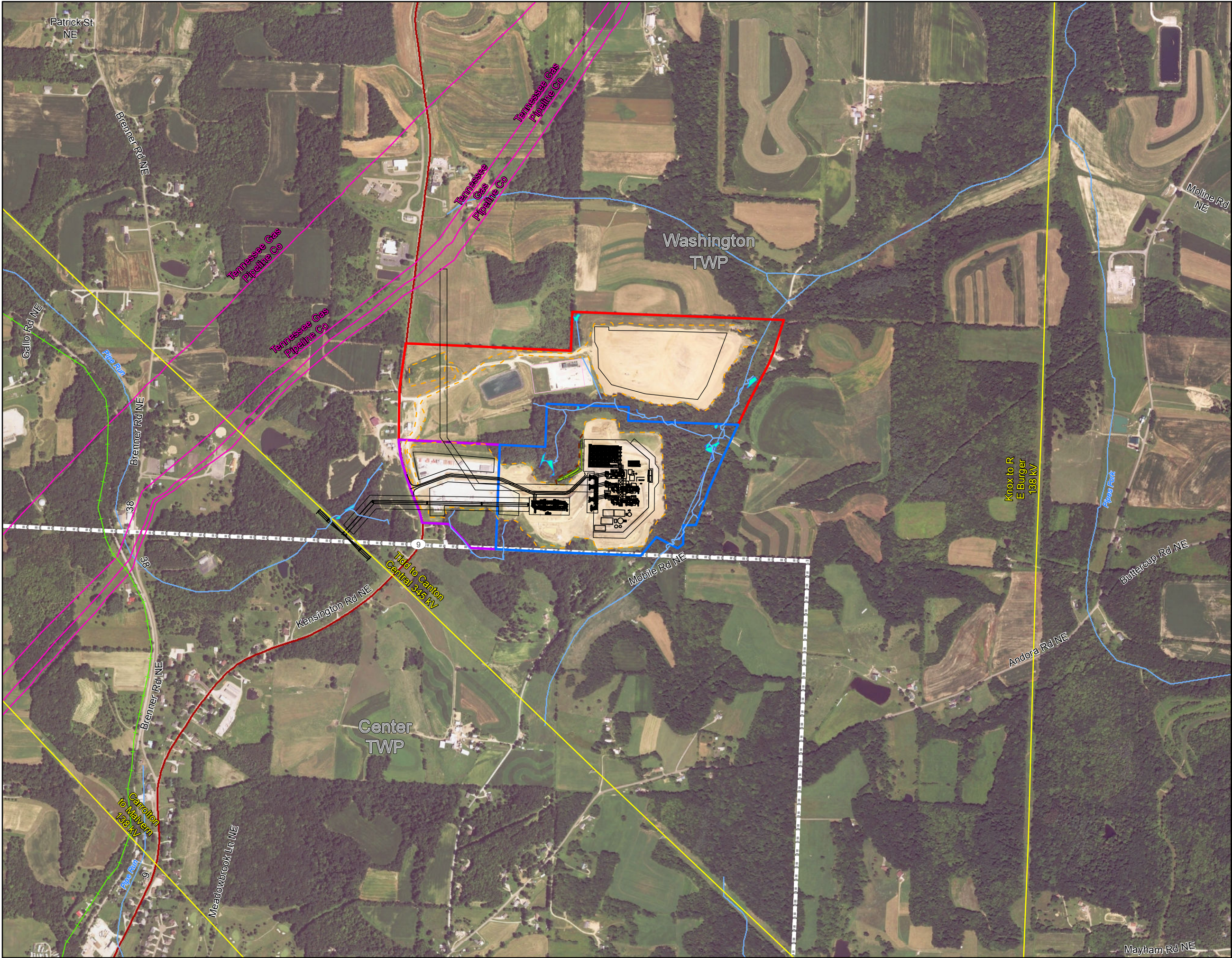
No change since original filing.

(3) Potential Impact on Agricultural Viability

No change since original filing.

Section 13-02: Figures

- **Figure 02-2: Proposed Facility and Vicinity**
- **Figure 02-2b: Proposed Additional Tree Clearing Areas**
- **Figure 02-3a through 3c: Proposed Septic System Plot Plans**
- **Figure 02-5a and 5b: Preliminary Water Balance**

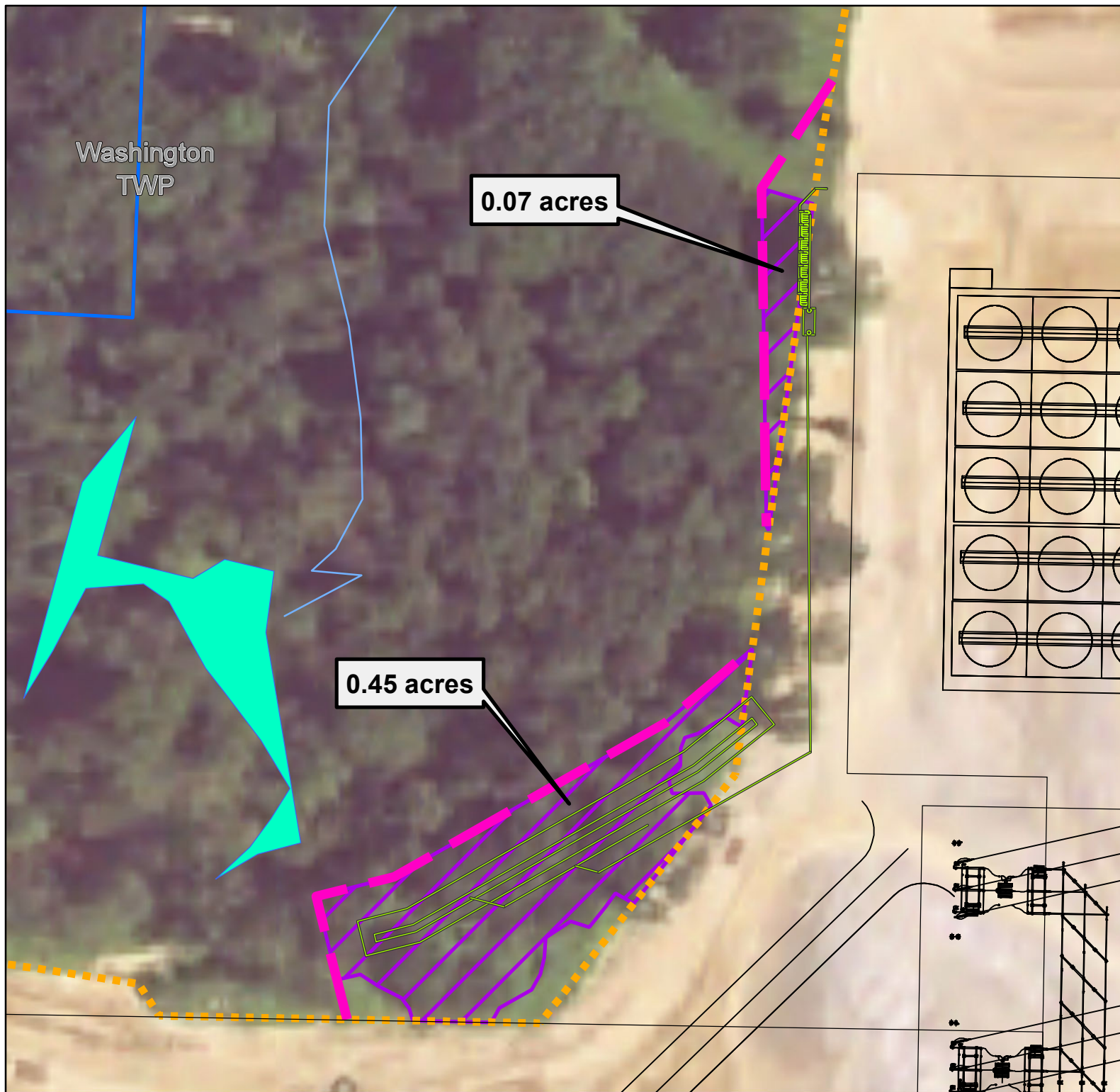


Carroll County
ENERGY

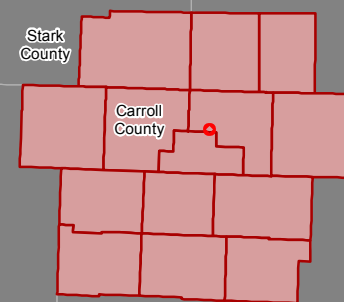
**Figure 02-2
Proposed Facility
and Vicinity**

Version 2.0

Carroll County Energy
Carroll County, Ohio



OVERVIEW MAP



Legend

- Facility Layout
- Existing Limits of Disturbance
- Proposed Limits of Disturbance
- Proposed Septic System
- Facility Site
- Wetland
- Tree Clearing Area



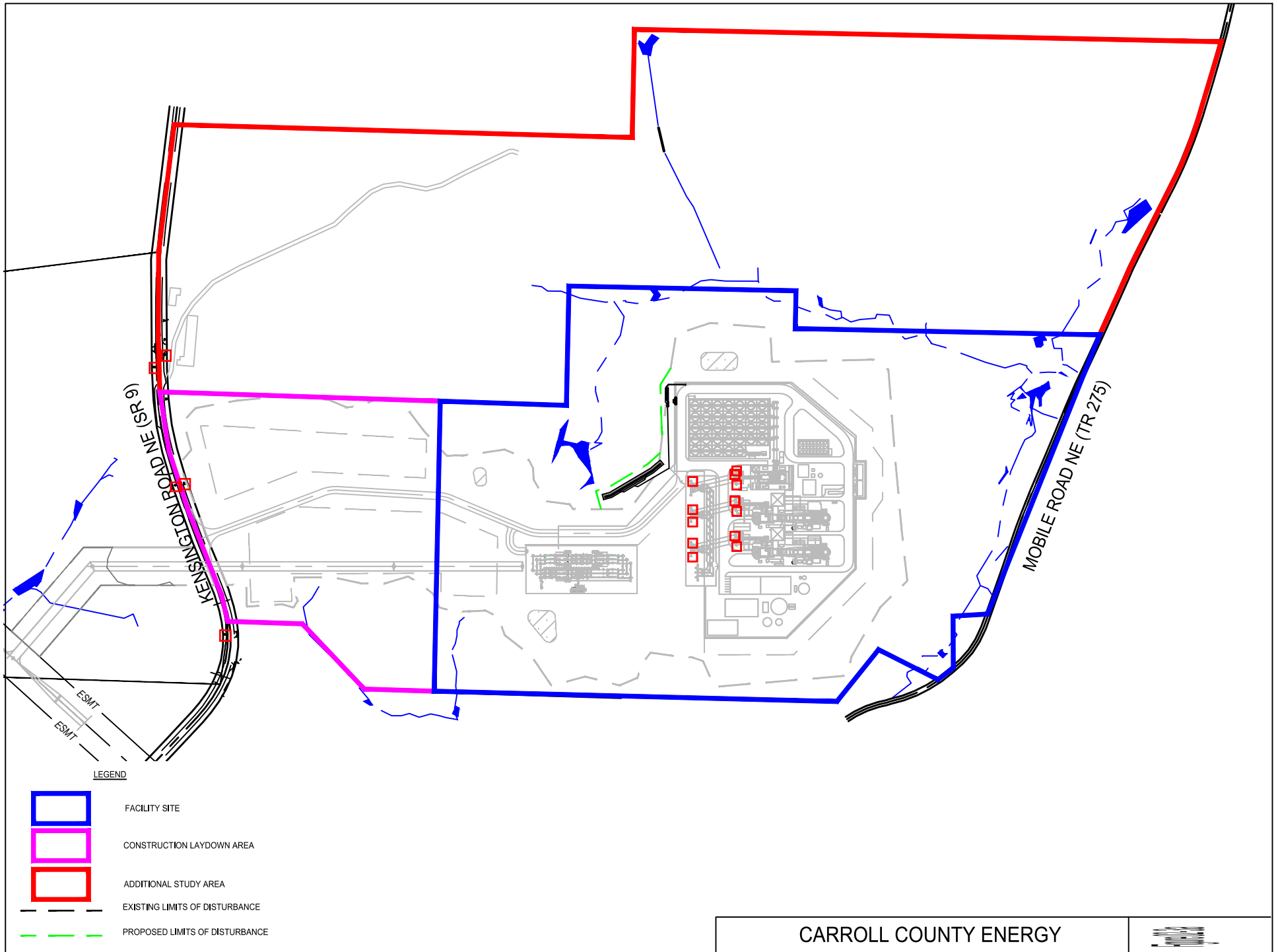
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Carroll County
ENERGY

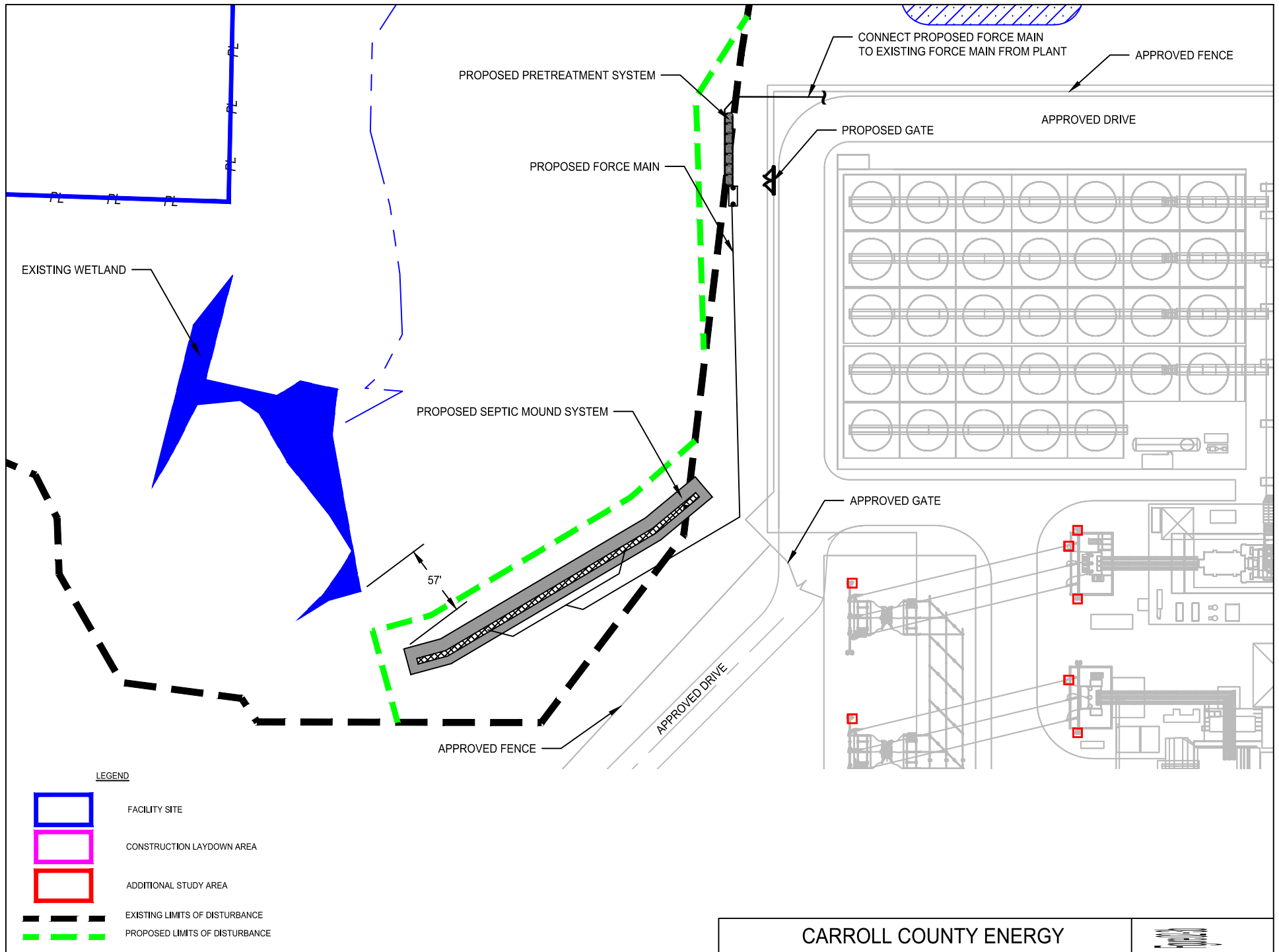
Figure 02-2b Proposed Additional Tree Clearing Areas

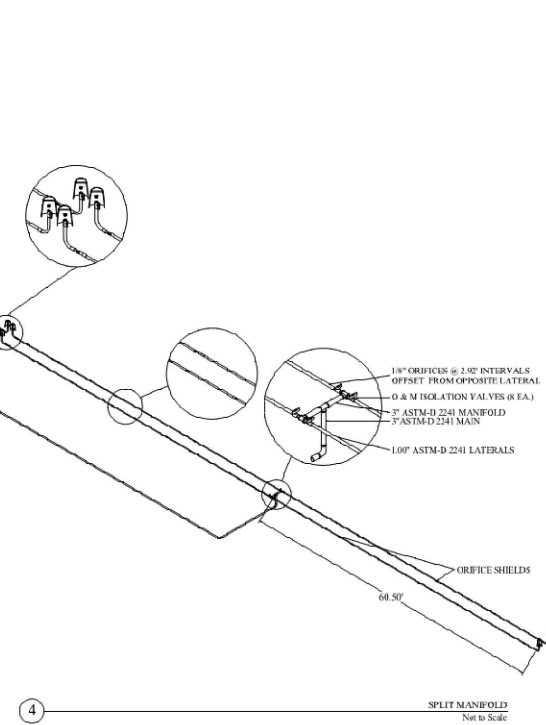
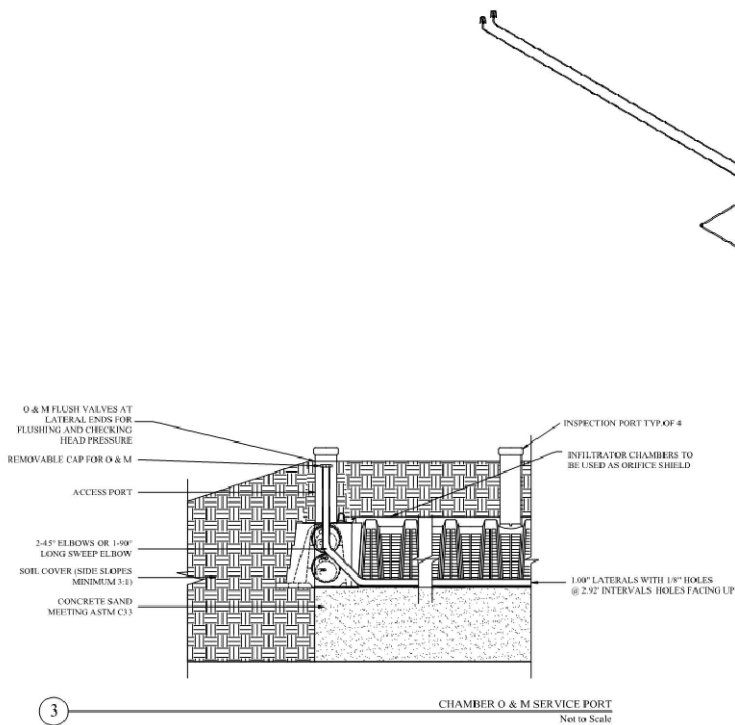
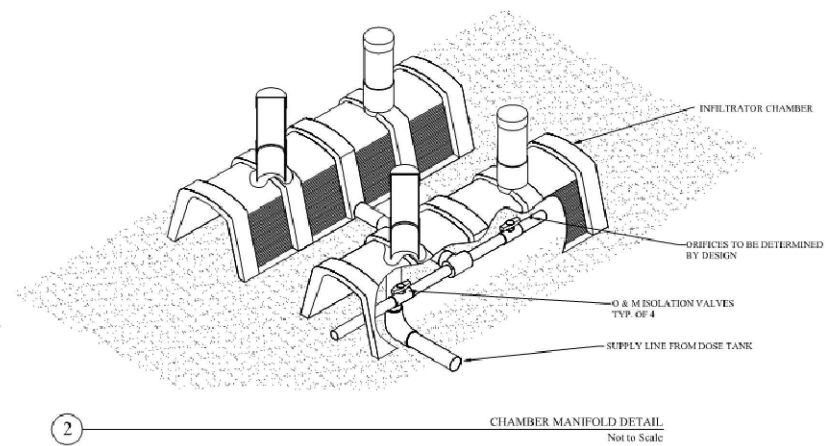
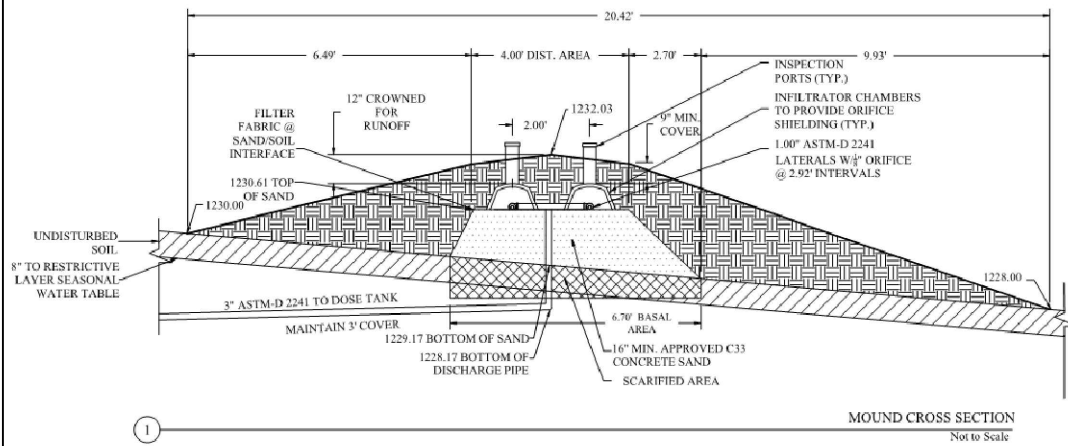
Version 2.0

Carroll County Energy
Carroll County, Ohio



CARROLL COUNTY ENERGY





CARROLL COUNTY ENERGY

Water Balance Stream Flow Rate Table									
	Carroll County Energy Project	CCA 19126	CCA 19126 1% BD	CCA 19127	CCA 19136	CCA 1930	CCA 1931	CCA 19135	
	Fuel	Gas	Gas	Gas	Gas	Gas	Gas	Gas	
	Loading	100%	100%	100%	100%	100%	100%	100%	
	Dry bulb temperature, °F	90	90	90	100	59	59	0	
	Relative Humidity, %	50%	50%	50%	50%	60%	60%	70%	
	Wet bulb temperature, °F	75.0	75.0	75.0	83.0	52.0	52.0	0.0	
	Evaporative coolers	ON	ON	ON	ON	ON	OFF	OFF	
	Duct burners	ON	ON	OFF	ON	ON	OFF	OFF	
Stream No.	STREAM DESCRIPTION	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Flow Rate (gpm)	Notes
1	Total Plant Makeup Water from Village of Carrollton Municipal Water System, gpm	89.3	70.0	75.0	94.0	62.5	47.7	22.6	
2	UF Influent, gpm	95.2	57.1	72.4	95.7	91.8	67.9	68.9	
3	Demineralized Water System Influent, gpm	85.7	51.4	65.2	86.1	82.6	61.1	62.0	
4	UF Backwash Flow, gpm	9.5	5.7	7.2	9.6	9.2	6.8	6.9	Note 5
5	Demineralized Water to Demineralized Water Storage Tank, gpm	85.7	51.4	65.2	86.1	82.6	61.1	62.0	
6	Demineralized Water to HRSG/Steam Cycle, gpm	85.7	51.4	65.2	86.1	82.6	61.1	62.0	
7	Sampling Losses to Wastewater Collection Tank, gpm	17.1	17.1	13.0	17.2	16.5	12.2	12.4	Note 6
8	HRSG/Steam Cycle Blowdown, gpm	68.6	34.3	52.2	68.9	66.1	48.9	49.6	Note 7
9	Blowdown System Vent Losses, gpm	38.7	19.4	24.4	38.9	37.3	22.5	22.6	
10	Blowdown Tank Effluent , gpm	29.9	14.9	27.8	30.0	28.8	26.4	27.0	
11	UF Cartridge Filter Effluent, gpm	9.5	5.7	7.2	9.6	9.2	6.8	6.9	
12	Evaporative Cooler Influent, gpm	67.5	67.5	67.5	73.5	33.6	33.6	0.0	
13	Evaporation from Evaporative Coolers, gpm	50.6	50.6	50.6	55.1	25.2	25.2	0.0	Note 8
14	Evaporative Cooler Blowdown to Wastewater Collection Tank, gpm	16.9	16.9	16.9	18.4	8.4	8.4	0.0	Note 8
15	Service Water to Service Water Users, gpm	5.0	5.0	5.0	5.0	5.0	5.0	5.0	Note 10 & 11
16	Oil / Water Separator Influent, gpm	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
17	Oil / Water Separator Sludge to Off-Site Disposal, gpm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Note 3
18	Oil / Water Separator Effluent to Wastewater Collection Tank, gpm	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
19	Potable Water from Potable Water Supply, gpm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Note 9 & 11
20	Potable Water to Sanitary Users, gpm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Note 9 & 11
21	Sanitary Waste to Holding Tank, gpm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
22	Sanitary Sewage	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
23	Fire Water Users, gpm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Note 3 & 11
24	CTG Wash Water, gpm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Note 3
25	ACC Wash Water, gpm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Note 3
26	Total Discharge to WW Ion Exchange, gpm	78.4	59.6	69.9	80.2	67.9	58.8	51.3	
27	Recycle from WW Ion Exchange to Service / Fire Water Tank, gpm	78.4	59.6	69.9	80.2	67.9	58.8	51.3	

- NOTES:**
- Water flow rates are based on the specified process conditions for the plant configuration shown on Sheet 1 and are shown in gpm unless otherwise specified. These cases may or may not represent the appropriate design flow for a particular stream. Therefore, it is not appropriate to reference this drawing alone as a basis for establishing system, equipment or line sizing design flows.
 - Design based on a 2 x 2 x 1 configuration combined cycle power plant and heat balances titled GE Carroll County Energy Center 207FA.05 dated 07/11/14 via email.
 - Normally no flow.
 - Condensate polisher is regenerated off-site.
 - UF Backwash is estimated at 10% of the influent flow.
 - Sampling losses are estimated at 0.5% of the steam turbine exhaust flow.
 - HRSG blowdown is equal to 2% of the steam turbine exhaust flow for all cases except the CCA 19126 1% BD case, in which the HRSG blowdown is equal to 1% of the steam turbine exhaust flow .
 - Evaporative cooler evaporation is from heat balances referenced in Note 2 above. The evaporative coolers are assumed to operate at 4 cycles of concentration (COC) based on GE Power Systems Water Supply Requirements for Gas Turbine Inlet Air Evaporative Coolers, GEK107158A, January 2002. Actual COC may vary depending on water quality, heat balance case, and ambient temperature.
 - Potable water usage (daily average) calculated based on 25 employees each using 35 gpd.
 - Service water usage is estimated to be 5 gpm.
 - Flows referenced by this note are associated with batch processes and represent average flows. Instantaneous flows may be higher.
 - HRSG blowdown is cooled by the CCW heat exchanger.
The quench water temperature for the boiler blowdown tank is assumed to be 70 °F, the Blowdown Tank effluent is 212 °F and the quenched blowdown temperature is 140 °F.

Appendix P: Ohio EPA Permit to Install



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

March 15, 2016

Re: Carrollton
Carroll County
Application No. 1077100
Application for Carroll County Energy –
Sewage Treatment System
Plans Received on December 23, 2015
Revised Plans Received March 1, 2016
From: CESO, Inc.
CERTIFIED MAIL

Carroll County Energy LLC
Attn: Mike Murphy
2022 Kensington Road, NE (Rt. 9)
Carrollton, OH 44615

Ladies and Gentlemen:

Enclosed is an approved Ohio EPA Permit to Install. This permit contains several conditions and restrictions, I urge you to read it carefully. A general condition of your permit states that issuance of the permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations. You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel", which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address: Environmental Review Appeals Commission, 77 South High Street, 17th Floor, Columbus, OH 43215. If you have any questions, please contact the Ohio EPA District Office.

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at <http://www.surveymonkey.com/s/ohioepacustomersurvey>. If you have any questions, please contact the Ohio EPA district office to which you submitted your application.

Sincerely,

Kevin J Fowler, Supervisor
Permit Processing Unit, Division of Surface Water

KJF/bd
Enclosure

cc: Northeast District Office

CESO, Inc.

Carroll County Health Department

Ohio Environmental Protection Agency

Permit to Install

Application No: 1077100

Applicant Name: Carroll County Energy LLC
Address: 2022 Kensington Road, NE (Rt. 9)
City: Carrollton
State Zip: OH 44615

Person to Contact: Mike Murphy
Telephone: 617-456-2200

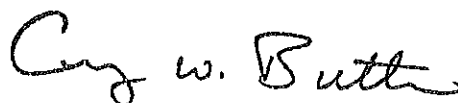
Description of Proposed Source: Carroll County Energy - Sewage Treatment System, Carrollton, Carroll County

Issuance Date: March 15, 2016

Effective Date: March 15, 2016

The above named entity is hereby granted a permit to install for the above described source pursuant to Chapter 3745-42 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source of environmental pollutants will operate in compliance with applicable state and federal laws and regulations. Issuance of this permit does not constitute expressed or implied assurance that, if constructed or modified in accordance with those plans and specifications, the above described source of pollutants will be granted the necessary operating permits. This permit is granted subject to the following conditions attached hereto.

Ohio Environmental Protection Agency



Craig W. Butler
Director
P.O. Box 1049
50 West Town Street, Suite 700
Columbus, OH 43216-1049

This permit shall expire if construction has not been initiated by the applicant within eighteen months of the effective date of this permit. By accepting this permit, the applicant acknowledges that this eighteen month period shall not be considered or construed as extending or having any effect whatsoever on any compliance schedule or deadline set forth in any administrative or court order issued to or binding upon the permit applicant, and the applicant shall abide by such compliance schedules or deadlines to avoid the initiation of additional legal action by the Ohio EPA.

The director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records, or reports pertaining to the construction, modification, or installation of the above described source of environmental pollutants.

Issuance of this permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations.

Any well, well point, pit or other device installed for the purpose of lowering the ground water level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745-9-10 of the Ohio Administrative Code or in accordance with the provisions of this plan or as directed by the Director or his representative. For more information please contact: Division of Drinking and Ground Water - Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, Ohio 43215 (614) 644-2752.

Any person installing any well, well point, pit or other device used for the purpose of removing ground water from an aquifer shall complete and file a Well Log and Drilling Report form with the Ohio Department of Natural Resources, Division of Water, within 30 days of the well completion in accordance with the Ohio Revised code Section 1521.01 and 1521.05. In addition, any such facility that has a capacity to withdraw waters of the state in an amount greater than 100,000 gallons per day from all sources shall be registered by the owner with the chief of the Division of Water, Ohio Department of Natural Resources, within three months after the facility is completed in accordance with Section 1521.16 of the Ohio Revised Code. For copies of the necessary well log, drilling report, or registration forms, please contact:

Ohio Department of Natural Resources
2045 Morse Road Bldg. E
Columbus, OH 43229-6693
(614) 265-6717

1. The proposed wastewater disposal system shall be constructed in strict accordance with the plans and application approved by the director of the Ohio Environmental Protection Agency. There shall be no deviation from these plans without the prior express, written approval of the agency. Any deviations from these plans or the above conditions may lead to such sanctions and penalties as provided for under Ohio law. Approval of these plans and issuance of this permit does not constitute an assurance by the Ohio Environmental Protection Agency that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

2. If the construction area for this project is one acre or more, or is part of a larger development that is one acre or more, the applicant must submit a Notice of Intent (NOI) for coverage under the general construction stormwater permit to Ohio EPA at least 21 days prior to the start of construction of this project.

3. For projects involving construction or placement of fill in a stream or wetland, the applicant shall contact the appropriate district of the U.S. Army Corps of Engineers for a determination regarding potential impacts to water of the state as well as the requirements for obtaining, if necessary, certification. The applicant shall acquire a Section 404 permit and 401 water quality certification, if needed, before impacting any waters of the state as part of this project.

4. This facility meets the definition of a class V injection well contained within paragraph (E) of rule 3745-34-04 of the Ohio Administrative Code. As required in the code, the permittee shall notify the director of Ohio EPA of the existence of any class V injection well within thirty days of installing the well. A UIC Inventory Form shall be completed and submitted to the Ohio EPA Division of Drinking and Ground Water. Forms can be obtained by visiting the Ohio EPA web site at <http://www.epa.state.oh.us/ddagw/Documents/autoinvenform.PDF> or contacting the Division of Drinking and Ground Water in the district offices.
5. The Carroll County Energy LLC shall be responsible for proper operation and maintenance of the wastewater disposal system.
6. This permit to install applies only to the wastewater disposal system listed above. The installation of drinking water supplies, air contaminant sources, or solid waste disposal facilities will require the submittal of a separate application to the director.
7. Provisions shall be made for proper operation of the wastewater pumping facilities.
8. This temporary treatment works shall be abandoned when so ordered by the director of the Ohio Environmental Protection Agency.
9. This permit applies to a wastewater disposal system designed to serve an average daily hydraulic flow of no more than 735 gallons.
10. Roof drains, foundation drains, and other clean water connections to the disposal system are prohibited.
11. No liquids, sludges, or toxic or hazardous substances other than those set forth in the approved permit shall be accepted for disposal without the prior written approval of the Ohio Environmental Protection Agency.
12. Sewer and manhole construction joints shall conform to standards of the Ohio Environmental Protection Agency.
13. The treatment works shall be abandoned and the sanitary sewers shall connect to the public sanitary sewerage system whenever such system becomes available.
14. The sanitary control of the area shall be maintained within a 50 foot radius of each water supply well.
15. The applicant shall notify the Ohio Environmental Protection Agency if the applicant does not continue as the sole user of the sewage disposal system.
16. The Northeast District office of the Ohio Environmental Protection Agency shall be notified in writing as to (a) the construction starting date; (b) the construction completion date; and (c) the date the wastewater disposal system was placed into operation.
17. The tile field shall not be constructed during periods when the ground is frozen or when the moisture content will cause smearing of the trench walls and/or trench bottom.
18. The permit to install is not an authorization to discharge pollutants to waters of the state. Pursuant to Chapter 6111 of the Ohio Revised Code, the applicant shall apply for a permit to discharge (NPDES) 180 days prior to any discharge of pollutants to waters of the state.



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

March 15, 2016

Re: Carrollton
Carroll County
Application No. 1077100
Application for Carroll County Energy –
Sewage Treatment System
Plans Received on December 23, 2015
Revised Plans Received March 1, 2016
From: CESO, Inc.
CERTIFIED MAIL

Carroll County Energy LLC
Attn: Mike Murphy
2022 Kensington Road, NE (Rt. 9)
Carrollton, OH 44615

Ladies and Gentlemen:

Enclosed is an approved Ohio EPA Permit to Install. This permit contains several conditions and restrictions, I urge you to read it carefully. A general condition of your permit states that issuance of the permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations. You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel", which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address: Environmental Review Appeals Commission, 77 South High Street, 17th Floor, Columbus, OH 43215. If you have any questions, please contact the Ohio EPA District Office.

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at <http://www.surveymonkey.com/s/ohioepacustomersurvey>. If you have any questions, please contact the Ohio EPA district office to which you submitted your application.

Sincerely,

Kevin J Fowler, Supervisor
Permit Processing Unit, Division of Surface Water

KJF/bd
Enclosure

cc: Northeast District Office

CESO, Inc.

Carroll County Health Department

Ohio Environmental Protection Agency

Permit to Install

Application No: 1077100

Applicant Name: Carroll County Energy LLC
Address: 2022 Kensington Road, NE (Rt. 9)
City: Carrollton
State Zip: OH 44615

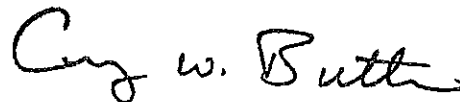
Person to Contact: Mike Murphy
Telephone: 617-456-2200

Description of Proposed Source: Carroll County Energy - Sewage Treatment System, Carrollton, Carroll County

Issuance Date: March 15, 2016
Effective Date: March 15, 2016

The above named entity is hereby granted a permit to install for the above described source pursuant to Chapter 3745-42 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source of environmental pollutants will operate in compliance with applicable state and federal laws and regulations. Issuance of this permit does not constitute expressed or implied assurance that, if constructed or modified in accordance with those plans and specifications, the above described source of pollutants will be granted the necessary operating permits. This permit is granted subject to the following conditions attached hereto.

Ohio Environmental Protection Agency



Craig W. Butler
Director
P.O. Box 1049
50 West Town Street, Suite 700
Columbus, OH 43216-1049

This permit shall expire if construction has not been initiated by the applicant within eighteen months of the effective date of this permit. By accepting this permit, the applicant acknowledges that this eighteen month period shall not be considered or construed as extending or having any effect whatsoever on any compliance schedule or deadline set forth in any administrative or court order issued to or binding upon the permit applicant, and the applicant shall abide by such compliance schedules or deadlines to avoid the initiation of additional legal action by the Ohio EPA.

The director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records, or reports pertaining to the construction, modification, or installation of the above described source of environmental pollutants.

Issuance of this permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations.

Any well, well point, pit or other device installed for the purpose of lowering the ground water level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745-9-10 of the Ohio Administrative Code or in accordance with the provisions of this plan or as directed by the Director or his representative. For more information please contact: Division of Drinking and Ground Water - Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, Ohio 43215 (614) 644-2752.

Any person installing any well, well point, pit or other device used for the purpose of removing ground water from an aquifer shall complete and file a Well Log and Drilling Report form with the Ohio Department of Natural Resources, Division of Water, within 30 days of the well completion in accordance with the Ohio Revised code Section 1521.01 and 1521.05. In addition, any such facility that has a capacity to withdraw waters of the state in an amount greater than 100,000 gallons per day from all sources shall be registered by the owner with the chief of the Division of Water, Ohio Department of Natural Resources, within three months after the facility is completed in accordance with Section 1521.16 of the Ohio Revised Code. For copies of the necessary well log, drilling report, or registration forms, please contact:

Ohio Department of Natural Resources
2045 Morse Road Bldg. E
Columbus, OH 43229-6693
(614) 265-6717

1. The proposed wastewater disposal system shall be constructed in strict accordance with the plans and application approved by the director of the Ohio Environmental Protection Agency. There shall be no deviation from these plans without the prior express, written approval of the agency. Any deviations from these plans or the above conditions may lead to such sanctions and penalties as provided for under Ohio law. Approval of these plans and issuance of this permit does not constitute an assurance by the Ohio Environmental Protection Agency that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.
2. If the construction area for this project is one acre or more, or is part of a larger development that is one acre or more, the applicant must submit a Notice of Intent (NOI) for coverage under the general construction stormwater permit to Ohio EPA at least 21 days prior to the start of construction of this project.
3. For projects involving construction or placement of fill in a stream or wetland, the applicant shall contact the appropriate district of the U.S. Army Corps of Engineers for a determination regarding potential impacts to water of the state as well as the requirements for obtaining, if necessary, certification. The applicant shall acquire a Section 404 permit and 401 water quality certification, if needed, before impacting any waters of the state as part of this project.

4. This facility meets the definition of a class V injection well contained within paragraph (E) of rule 3745-34-04 of the Ohio Administrative Code. As required in the code, the permittee shall notify the director of Ohio EPA of the existence of any class V injection well within thirty days of installing the well. A UIC Inventory Form shall be completed and submitted to the Ohio EPA Division of Drinking and Ground Water. Forms can be obtained by visiting the Ohio EPA web site at <http://www.epa.state.oh.us/ddagw/Documents/autoinvenform.PDF> or contacting the Division of Drinking and Ground Water in the district offices.
5. The Carroll County Energy LLC shall be responsible for proper operation and maintenance of the wastewater disposal system.
6. This permit to install applies only to the wastewater disposal system listed above. The installation of drinking water supplies, air contaminant sources, or solid waste disposal facilities will require the submittal of a separate application to the director.
7. Provisions shall be made for proper operation of the wastewater pumping facilities.
8. This temporary treatment works shall be abandoned when so ordered by the director of the Ohio Environmental Protection Agency.
9. This permit applies to a wastewater disposal system designed to serve an average daily hydraulic flow of no more than 735 gallons.
10. Roof drains, foundation drains, and other clean water connections to the disposal system are prohibited.
11. No liquids, sludges, or toxic or hazardous substances other than those set forth in the approved permit shall be accepted for disposal without the prior written approval of the Ohio Environmental Protection Agency.
12. Sewer and manhole construction joints shall conform to standards of the Ohio Environmental Protection Agency.
13. The treatment works shall be abandoned and the sanitary sewers shall connect to the public sanitary sewerage system whenever such system becomes available.
14. The sanitary control of the area shall be maintained within a 50 foot radius of each water supply well.
15. The applicant shall notify the Ohio Environmental Protection Agency if the applicant does not continue as the sole user of the sewage disposal system.
16. The Northeast District office of the Ohio Environmental Protection Agency shall be notified in writing as to (a) the construction starting date; (b) the construction completion date; and (c) the date the wastewater disposal system was placed into operation.
17. The tile field shall not be constructed during periods when the ground is frozen or when the moisture content will cause smearing of the trench walls and/or trench bottom.
18. The permit to install is not an authorization to discharge pollutants to waters of the state. Pursuant to Chapter 6111 of the Ohio Revised Code, the applicant shall apply for a permit to discharge (NPDES) 180 days prior to any discharge of pollutants to waters of the state.

REPORT ON DETAIL PLANS OF A PROPOSED SEWAGE TREATMENT SYSTEM FOR CARROLL COUNTY ENERGY LLC LOCATED AT 2022 KENSINGTON NE, WASHINGTON TOWNSHIP, CARROLL COUNTY.

On December 22, 2015 detail plans of the above referenced project were received by the Northeast District Office of the Ohio Environmental Protection Agency. Revisions were received on February 16, 2016 and March 1, 2016. The plans were prepared and submitted by CESO, Inc., Dan Kever, P.E., Engineering Manager.

GENERAL

The proposed system will be used to service the new natural gas powered electric generating plant. The power plant will have 21 full-time employees. There will be no food service.

The sewage treatment system will be located on the west side of the property. Point of discharge will be to a mounded distribution system.

BASIS OF DESIGN

21 employees x 35 gpd/employee = 735 gpd

SEWAGE TREATMENT FACILITIES

The proposed sewage treatment facility is to consist of one 2,500-gallon septic tank followed by a 1,000-gallon dosing chamber, Puraflow Peat Biofilters, a second dosing tank, and a mounded pressure distribution system.

The dosing chambers will be equipped with a submersible pump, having a capacity of 30 gpm at a total dynamic head of 80 feet. Each pump will be equipped with a timer device and a visual type alarm device will be included in case of any pump malfunction. A backup pump will be available on site.

The Puraflow Peat Biofilters will consist of 7 parallel units each unit having a 150 gallon capacity. The units are pre-assembled and shipped to the site ready to be installed. The mounded distribution system will be of conventional design containing a split manifold. The mound will use the Infiltrator chamber system.


Water will be supplied from the City of Carrollton.

Estimated cost of the project is \$ 400,000.00.

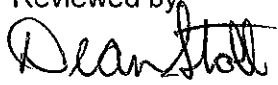
SUMMARY

Detail plans of the above referenced project appear satisfactory. It is recommended that they be approved subject to the usual conditions.

Prepared by:


Todd Surrena
Environmental Engineer
Division of Surface Water

Reviewed by:


Dean Stoll, P.E.
Unit Supervisor
Division of Surface Water

TS/DS/cs
March 4, 2016

RECEIVED

DEC 22 2015

Attachment 1

OHIO EPA NEDO

FMR NO: 25932-000-MRA-MPGL-00001



**Pollution
Control
Systems, Inc**

5827 Happy Hollow Rd. Suite I-B
Milford, OH 45150-1830
Tel: (513) 831-1165 Fax: (513) 965-4812
E-mail: Polconsys@aol.com
www.PollutionControlSystem.com

PRE-FABRICATED FIBERGLASS PUMP STATION / LIFT STATION SPECIFICATIONS

One (1) prefabricated fiberglass packaged pump station and related equipment constructed in accordance with the plans and specifications stated herein. The pump station will be as per Pollution Control System, Inc. (PCS) recommendations or equal based on the requirements stated here.

A. General Specifications

Pump Station Diameter:	4 ft.
Pump Station Height:	10 ft.
Overall Length/Width/Height:	As per Manufacturer's Standard
Shipping Weight: (approximate)	As per Manufacturer's Standard

B. Materials of Construction

The plastics terminology used in this standard shall be in accordance with the ASTM designations D3753-99.

The resin shall be of commercial grade and shall either be evaluated as a laminate by test or determined by previous service to be acceptable for the environment.

The reinforcing material shall be a commercial grade of glass fiber having a coupling agent which will provide a suitable bond between the glass reinforcement and the resin.

The laminate shall consist of an inner surface, an interior layer, and an exterior layer of laminate body.

The inner surface shall be free of cracks and crazing with a smooth finish using gelcoat or reinforced with glass surface veil.

The interior layer will have a minimum of 0.100 inch of the laminate next to the inner surface and shall be reinforced with no less than 20 percent nor more than 30 percent by weight of non-continuous glass strands having fiber lengths from 0.5 to 2.0 inches.

The exterior layer of body of laminate shall be of construction suitable for the service intended and contain sufficient glass by weight to provide the aggregate strength necessary to meet the tensile and flexural requirements. The exterior surface shall be relatively smooth, with no exposed fibers or sharp projections. Hand work finish is acceptable but enough resin shall be present to prevent fiber show.

The tank walls will be designed to withstand wall collapse based on the assumption that saturated soil exerts hydrostatic pressure of 120 pounds per cubic foot. The tank wall laminate will be constructed to withstand or exceed two (2x) times the actual imposed loading on any depth of basin. Depth of bury to be specified with wall thickness calculated and guaranteed by the manufacturer.

The tank bottom will be constructed suitable for the service designated. Under totally water submerged conditions, the center deflection of any empty tank bottom will be less than 3/8" as not to interfere with the bottom pump mounting requirements and rail systems. All basins over 10' in depth will have a steel insert.

The finished laminate shall be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, air bubbles, pinholes, dimples, and delaminations.

The pump basin shall be constructed of fiberglass in any standard diameter up to and including 120" and specified depth. The bottom of the basin shall be reinforced with a fiberglass plate extending beyond the basin for anchoring the unit to the foundation pad.

Basin extensions can be provided in increments of 6" and up to 36" in length to accommodate height requirements over 240".

C. *Basin Covers*

The fiberglass basin covers shall be either epoxy coated steel, galvanized steel, or aluminum with stainless steel mounting hardware and components. The cover will include a hinged access door with a handle and lock, and will include a vent coupling.

D. *Pumps*

A duplex set of solids handling grinder pumps having a capacity of 30gpm at 23 feet TDH will be provided complete with a disconnect elbow and galvanized / stainless steel guide rails. The pump motors will be rated for 460 volts, 3 phase and 60 Hz frequency. The pumps shall be supplied with lift out chains.

E. *Lift Out Rail System/ Slide Rail Assemblies*

A guide rail system will be provided for each pump. The system will consist of a cast base unit, a pump adapter assembly, upper guide rail bracket and galvanized or

stainless steel guide rails. On deeper units, an intermediate support is necessary to stabilize the rail system. Pump rails will be sized based on discharge piping size and base elbow type used. Stainless steel lifting chains will be provided for each pump for pump removal.

F. Piping

A 4-inch diameter inlet to the basin shall utilize an adaptaflex coupling or cast iron hub. The discharge piping through the wall will include either a stainless steel coupling, environboot, or sleeve link.

The station discharge piping will be 2 inch dia pipe, schedule 40 steel and will terminate with a 150 Class female NPT coupling suitable to be combined to PVC, ASTM D1784 Schedule 80 of 2.5 inch pipe. Each pump discharge line will have a check valve and a gate valve. The common discharge pipe will exit the station through an adaptaflex coupling or a cast iron hub. Discharge piping connected to the fitting will be supplied and installed by the contractor.

G. Central Control Panel

A central control system installed within a weatherproof enclosure will be provided. The fiberglass enclosure will be NEMA 4X rated. The panel will contain a motor starter with thermal overload protection and an H-O-A selector switch for each pump. It will alternate the pumps on successive cycles and turn on the second pump if the first pump fails or if the inflow exceeds the capacity of one pump. Properly sized circuit breakers or fuses will protect all pumps and controls. All motor and level control wiring shall be pre-wired and will pass through the top of the wet well and into the bottom of the control panel. However, if pre-wiring is not possible, Supplier shall provide 30 ft. of both power and instrumentation cables.

The Buyer will bring in one 480V, 60Hz, 3 phase, at control panel main disconnect switch. The Supplier will derive control power internally. Thermostatically controlled electrical heating elements shall be provided to prevent condensation inside the control panel. The Supplier shall submit the wiring diagram with the termination details for Buyer to terminate its power and control cables.

Motor design, fabrication and test shall comply with NEMA MG1 and testing in accordance with IEEE 112. 120 VAC space heaters will be provided for motors 25 HP and above.

H. Junction Box

When the control panel is remotely located from the station, a weatherproof junction box will be provided near the top of the station to accept the equipment control cables. A conduit connection will be provided for connecting field installed conduit and wiring to the

control panel.

I. Four (4) Float Level Controls

Four (4) float switches will be suspended from a bracket mounted inside the station. These float switches will be suspended at proper depths to control the "OFF", "ON", "Both Pumps ON" levels and generate "Emergency High Water Alarm". A red flashing warning light will be mounted in the control panel to indicate a high water condition. Supplier to provide DPDT potential free contact corresponding to "Emergency High Water Alarm" in the Supplier's local control panel for Buyer's use.

J. Lifting Hoist

A lifting hoist will be supplied to ease pump removal from the basin. The hoist will be as per manufacturer's recommendation. The hoist assembly will include an embedded socket for hoist placement in the top of the cover.

M. Guarantee

PCS or equal will guarantee for one (1) year from the scheduled ship date that the vessel and all component equipment will be free from defective materials and workmanship. PCS will furnish replacement parts for any component considered in the opinion of PCS to be defective, whether of his or other manufacturer during the guarantee period.



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FIELD MATERIAL REQUISITION

Carroll County Energy Facility

Page 1 of 2

FMR Number 25932-000-MRA-MPGL-00001		Date December 08, 2015	P.O. NO	
Job No 25932	Sub No 230	Date Required February 17, 2016	SUPPLIER NAME	
Required for Purchase		Requestor Suman Giri Phone:	PAYMENT TERMS	
Deliver to	Buyer Birju Vasani Phone: +91 124 4098951 Fax:	SHIPPING TERMS		
Approved By 1 Ashish Bhatia Engineering Supervisor	2 Michael Rider Engineering Group Supervisor	3 Ian Mitchell Project Engineer	SHIP VIA	
4	5	6	SHIP DATE	

ITEM	QTY UNIT	DESCRIPTION	COST CODE	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
1	1 EA	The following items are not changed SEWAGE LIFT STATION FOR WATER TREATMENT AREA Tag ID 00-XN-MS-001 Datasheet 25932-000-MPD-MPGL- 00001		0.00	0.00				
2	1 EA	SEWAGE LIFT STATION FOR ADMINWAREHOUSE AREA Tag ID 00-XN-MS-002 Datasheet 25932-000-MPD-MPGL- 00002		0.00	0.00				

BID TOTAL				
AWARD TOTAL				
QUOTED BY				
AWARD DATE				

FIELD MATERIAL REQUISITION

Carroll County Energy Facility

Page 2 of 2

Notes:

Instructions to Buyer: 1) Refer Attachment 1 for details of Sewage Lift Station of Water Treatment Area

2) Refer Attachment 2 for details of Sewage Lift Station of Admin/Warehouse Area



Bechtel Corp.
Job Name: CCEC PROJECT (25932)
Job No: CCEC

Piping Class Specification Report

Class: 3SQ0

Page: 1 of 4
Run Date: 28-APR-15
Revision: *Published*

Rev	Issue Date
0	28-Apr-15

Class: 3SQ0

Polyvinyl Chloride (PVC) 150 PSIG Plumbing Code 0.0 CA

DESIGN CODE: PLUMBING CODE		Temperature / Pressure Limits		
PIPE MATERIAL: PVC D1784 SCH 80		Temp.	Pressure Min.	Pressure Max.
LARGE FIT. MATERIAL: PVC D1784 SCH 80		(F)	(psig)	(psig)
SMALL FIT. MATERIAL: PVC D1784 SCH 80		32		150
VALVE MATERIAL: CI A126B		73		150
VALVE TRIM: --		80		132
FLANGE MATERIAL: PVC D1784		90		112
FLANGE RATING: CL150 FF		100		93
GASKET MATERIAL: 1/8" NR GUM RUBBER		120		60
CORROSION ALLOWANCE: 0.0		130		45
		140		33

SERVICE: # AS APPLICABLE

GENERAL NOTES FOR CLASS:

- 014 Only the short description of Commodity Code can be seen in Piping Class Specification Report. Detailed descriptions are available in the Purchase Description Report.
- 186 Manufacturer's instructions on joint assemblies and support requirements shall be provided with all shipments of pipe and fittings, and shall be strictly followed by installer.
- 238 Joints:-
Solvent Cement per ASTM D2564, Except at Flanged Equipment Connections.
- 239 Based Upon application (Flow Medium), Stud Bolts, Nuts and Washers may be galvanized per ASTM A153, or Stainless Steel.
- 916 Procedures for making joints with PVC plastic pipe and fittings, by means of solvent cements, shall be in accordance with standard practices listed in ASTM D2855.

NOTES FOR SPECIFIC STOCK SIZES:



Bechtel Corp.
Job Name: CCEC PROJECT (25932)
Job No: CCEC

Piping Class Specification Report

Class: 3SQ0

Revision:

Page: 2 of 4
Run Date: 28-APR-15
Published

Rev#	Size Range	Stock Code Description	Bechtel Code	Client Code	Option	Bolt Ref.	Note No.
PIPE							
<i>Pipe,</i>							
	.5 - .5	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
	.75 - 1	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
	1.5 - 2	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
	2.5 - 3	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
	4 - 4	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
	6 - 8	Pipe, PVC-D1784-12454B, Sch80, PE, D1785 PVC1120, 20 Ft,	PPPC4B00080MX				
FITTINGS							
<i>Coupling,</i>							
	.5 - 8	Cplg, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCD4B000804L				
<i>Coupling - Reducing,</i>							
	.75 - .75	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
	1 - 1	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
	1.5 - 1.5	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
	2 - 2	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
	2.5 - 2.5	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
	3 - 3	RdCpl, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008017				
<i>Cap,</i>							
	.5 - .5	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
	.75 - 1	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
	1.5 - 2	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
	2.5 - 3	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
	4 - 4	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
	6 - 6	Cap, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCC4B000809L				
<i>Elbow - 90,</i>							
	.5 - .5	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
	.75 - 1	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
	1.5 - 2	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
	2.5 - 3	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
	4 - 4	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
	6 - 8	El 90, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFQN4B000801S				
<i>Elbow - 45,</i>							
	.5 - .5	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
	.75 - 1	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
	1.5 - 2	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
	2.5 - 3	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
	4 - 4	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
	6 - 8	El 45, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFRN4B00080P0				
<i>Reducer - Concentric,</i>							
	3 - 3	RedCon, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008104				
	4 - 4	RedCon, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008104				
	6 - 6	RedCon, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008104				
	8 - 8	RedCon, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCE4B0008104				
<i>Reducer - Eccentric,</i>							
	3 - 3	RedEcc, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCS4B0008104				
	4 - 4	RedEcc, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCS4B0008104				
	6 - 6	RedEcc, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCS4B0008104				
	8 - 8	RedEcc, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCS4B0008104				
<i>Tee - Equal,</i>							
	.5 - .5	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
	.75 - 1	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
	1.5 - 2	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
	2.5 - 3	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
	4 - 4	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
	6 - 8	Tee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd,	PFCT4B00080GA				
<i>Tee - Reducing,</i>							
	.75 - .75	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	1 - 1	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	1.5 - 1.5	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	2 - 2	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	2.5 - 2.5	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	3 - 3	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	4 - 4	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	6 - 6	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				
	8 - 8	RedTee, PVC-D1784-12454B, Sch80, Soc, D2467, Mlidd, HbyB,	PFCV4B00080WS				



Bechtel Corp.
Job Name: CCEC PROJECT (25932)
Job No: CCEC

Piping Class Specification Report

Class: 3SQ0

Revision:

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Published

Rev#	Size Range	Stock Code Description	Bechtel Code	Client Code	Option	Bolt Ref.	Note No.
FITTINGS							
<i>Lateral,</i>							
	.5 - .5	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
	.75 - 1	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
	1.5 - 2	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
	2.5 - 3	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
	4 - 4	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
	6 - 8	Lat, PVC-D1784-12454B, Sch80, Soc, D2467,	PFCL4B000800M				
FLANGES							
<i>Flange - Blind,</i>							
	.5 - 1	FlgBlnd, PVC-D1784-12454B, CL150, FF, B16.5, D2467, 150psig @ 73 F,	PFFB4B0100100				
	1.5 - 2	FlgBlnd, PVC-D1784-12454B, CL150, FF, B16.5, D2467, 150psig @ 73 F,	PFFB4B0100100				
	2.5 - 3	FlgBlnd, PVC-D1784-12454B, CL150, FF, B16.5, D2467, 150psig @ 73 F,	PFFB4B0100100				
	4 - 4	FlgBlnd, PVC-D1784-12454B, CL150, FF, B16.5, D2467, 150psig @ 73 F,	PFFB4B0100100				
	6 - 8	FlgBlnd, PVC-D1784-12454B, CL150, FF, B16.5, D2467, 150psig @ 73 F,	PFFB4B0100100				
<i>Flange - Socket,</i>							
	.5 - 1	FlgSoc, PVC-D1784-12454B, CL150, FF, Soc, B16.5, D2467, 150psig @ 73 F,	PFFZ4B0100100				
	1.5 - 2	FlgSoc, PVC-D1784-12454B, CL150, FF, Soc, B16.5, D2467, 150psig @ 73 F,	PFFZ4B0100100				
	2.5 - 3	FlgSoc, PVC-D1784-12454B, CL150, FF, Soc, B16.5, D2467, 150psig @ 73 F,	PFFZ4B0100100				
	4 - 4	FlgSoc, PVC-D1784-12454B, CL150, FF, Soc, B16.5, D2467, 150psig @ 73 F,	PFFZ4B0100100				
	6 - 8	FlgSoc, PVC-D1784-12454B, CL150, FF, Soc, B16.5, D2467, 150psig @ 73 F,	PFFZ4B0100100				
GASKETS							
<i>Gasket,</i>							
	.5 - .5	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
	.75 - 1	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
	1.5 - 2	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
	2.5 - 3	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
	4 - 4	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
	6 - 8	Gasket, NatRbr30, CL150, FlatFF, 1/8", B16.21, B16.5,	PGGC100100002				
BOLTS							
<i>Machine Bolt,</i>							
	.5 - 1	McBlt, A307B/563A/F436, B1.1,	FBBM8Z0000000				
VALVES							
<i>Valve - Gate,</i>							
	2 - 2	Vlv-Gt, A126B, 150 CWP, ReslWdge, BB, NRS w/2" Nut, FF, B16.1, UL/FM, NSF61, Brnz Stm, Buna-N O-Rng, B16.10, B&T4905 CI Vlv Box Size 20, EpCldInOut,	PVVGPF0200NB0				
	4 - 4	Vlv-Gt, A126B, 150 CWP, ReslWdge, BB, NRS w/2" Nut, FF, B16.1, UL/FM, NSF61, Brnz Stm, Buna-N O-Rng, B16.10, 2SNOT, B&T4905 CI Vlv Box Size 21, EpCldInOut, Vlv Bx Ext & Stm Ext Kits,	PVVGPF0200NB1				
	4 - 4	Vlv-Gt, A126B, 150 CWP, ReslWdge, BB, NRS w/2" Nut, FF, B16.1, UL/FM, NSF61, Brnz Stm, Buna-N O-Rng, B16.10, 2SNOT, B&T4905 CI Vlv Box Size 22, EpCldInOut, Vlv Bx Ext & Stm Ext Kits,	PVVGPF0200NB2		11012		



Bechtel Corp.
Job Name: CCEC PROJECT (25932)
Job No: CCEC

Piping Class Specification Report

Class: 3SQ0

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Published

Branch Table: 90 Branch Main 3SQ0 (Pref 1)
Header Size (NPS)


Branch Angle: 90 Degree

0.500	PFCV									
0.750	PFCV	PFCV								
1.000	PFCV	PFCV	PFCV							
1.500	PFCV	PFCV	PFCV	PFCV						
2.000	PFCV	PFCV	PFCV	PFCV	PFCV					
2.500			PFCV	PFCV	PFCV	PFCV				
3.000				PFCV	PFCV	PFCV	PFCV			
4.000				PFCV	PFCV	PFCV	PFCV	PFCV		
6.000						PFCV	PFCV	PFCV	PFCV	
8.000							PFCV	PFCV	PFCV	PFCV
	0.500	0.750	1.000	1.500	2.000	2.500	3.000	4.000	6.000	8.000

Branch Size (NPS)


PFCV = Tee,

PFCV = RedTee,

EQUIPMENT NUMBER(S)		Pump Tag : 00-XN-MP-002A & 00-XN-MP-002B Lift Station Enclosure: 00-XN-MS-002	
QUANTITY OF LIFT STATIONS		One (1)	
RATINGS AND CONDITIONS OF SERVICE			
LIQUID PUMPED / LIQUID TEMPERATURE: MIN / MAX (/ °F / °F)		Sanitary Sewage	78 100
DESIGN FLOW RATE INTO SUMP / CAPACITY (EACH PUMP) (gpm / gpm)		35.2	40
TOTAL DISCHARGE HEAD (ft)		23	
CONSTRUCTION			
TYPE OF PUMP / ASSEMBLY		Note 2	<input type="checkbox"/> Simplex <input checked="" type="checkbox"/> Duplex
PUMP (MODEL NUMBER / MANUFACTURER):		Note 5	Note 5
SOLIDS HANDLING / NON-CLOGGING / MAX SOLID SIZE (/ in.)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Note 5
IMPELLER / SHAFT SEAL TYPE		<input checked="" type="checkbox"/> Recessed <input type="checkbox"/> Semi-enclosed	Double Tandem Mechanical shaft seal
SHAFT COUPLING TYPE		Note 5	
BEARING LUBRICATION		<input checked="" type="checkbox"/> Self Lubricated <input type="checkbox"/> Grease Packed <input type="checkbox"/> Other	
BEARING TYPE (THRUST / INTERMEDIATE)		Note 5	Note 5
WET WELL (FURNISHED BY)		<input type="checkbox"/> Buyer <input checked="" type="checkbox"/> Seller	
MATERIAL OF CONSTRUCTION/USEABLE VOLUME REQUIREMENT (Gallons)		Note 5	400
TOP/BOTTOM OF WET WELL ABOVE/BELOW GRADE ELEVATION (in. / in.)		0	120
CONNECTION DISTANCE BELOW ELEVATION (INLET / OUTLET) (in. / in.)		Later	36
GROSS CAPACITY / WET WELL DIAMETER (gallons / in.)		Note 5	48
WET WELL COVER		<input type="checkbox"/> Solid Cover <input checked="" type="checkbox"/> Hinged Access Door	
		<input type="checkbox"/> Partial Grating <input type="checkbox"/> Full Grating <input type="checkbox"/> Gas Tight	
WET WELL INLET CONNECTION (SIZE/TYPE/RATING)		4 inch	NPT 150 #
WET WELL OUTLET CONNECTION (SIZE/TYPE/RATING)		2 inch	NPT 150 #
MANHOLE OR DOOR SIZE (in. x in.)		Note 5	
PUMP DISCHARGE (SIZE / RATING) (in. / lb std)		Note 5	Note 5
VENT (SIZE / RATING) (in. / lb std)		Note 5	Note 5
EQUIPMENT WEIGHT (EMPTY / FLOODED) (lbs / lbs)		Note 5	Note 5
INSTRUMENTATION AND CONTROLS		<input checked="" type="checkbox"/> Thermal Overload Protection <input checked="" type="checkbox"/> HOA Switches	
		<input checked="" type="checkbox"/> Disconnect Switches <input checked="" type="checkbox"/> Motor Starters	
TYPE OF ALTERNATOR		<input type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Electrical	
NUMBER OF MECHANICAL FLOAT CONTROLS		4	
ENCLOSURE NEMA RATING (CONTROL PANEL/JUNCTION BOX)		NEMA 4X	Note 5
MATERIALS			
WET WELL COVER/WET WELL COVER FRAME/WET WELL COVER GASKET		Note 5	Note 5
CASE / IMPELLER / SHAFT		Note 5	Note 5
BEARINGS (THRUST / INTERMEDIATE)		Note 5	Note 5
DRIVER			
RATED HORSEPOWER / RPM		Note 5	Note 5
VOLTAGE / PHASE / FREQUENCY		Note 5	Note 5
ENCLOSURE		<input type="checkbox"/> ODP <input type="checkbox"/> WP II	
		<input checked="" type="checkbox"/> TOTALLY ENCLOSED <input type="checkbox"/> EXPLOSION PROOF	
EXAMINATION REQUIRED (Note-5)		<input type="checkbox"/> ULTRASONIC <input type="checkbox"/> EDDIE CURRENT	
		<input type="checkbox"/> MAG PART <input type="checkbox"/> LIQ PEN <input type="checkbox"/> RADIO	
		<input type="checkbox"/> PERFORMANCE <input type="checkbox"/> CERTIFIED HI	
TESTING REQUIRED (Note 5)			
POWER SUPPLY (VOLTAGE / PHASE / FREQUENCY) (/ / Hz)		460	3 60
MAXIMUM ALLOWABLE NOISE LEVELS (dBA at ft)		85	@ 3
AMBIENT CONDITIONS			
SEISMIC DESIGN REQUIREMENTS		NA	
DESIGN TEMPERATURE (MINIMUM / MAXIMUM)		78	100
COATING SYSTEM		As per Manufacturer's Standard	
NOTES:			
1. Deleted;			
2. Duplex submersible wastewater grinder pumps			
3. Useable volume shall be the volume between pump minimum submergence level and pump start level. Pump start level shall be below the bottom of inlet line.			
4. Minimum 6 inch gap shall be provided in between lead pump start and lag pump start level and in between lag pump start and alarm level.			
5. Sewage Lift Stations will be as per Attachment 2 or equal.			
001	12/4/13	Issued for Purchase	SG
000	10/6/2013	Issued for Use	AB
REV.	DATE	REASON FOR REVISION	BY
			CHK'D
			APPROVALS
		SEWAGE LIFT STATION FOR ADMIN/WAREHOUSE AREA CARROLL COUNTY ENERGY CENTER	
		Job No.: 25932	
		Datasheet No.: 25932-000-MPD-MPGL-00002	
		SHEET 1 OF 1	

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EQUIPMENT NUMBER(S)		Pump Tag : 00-XN-MP-001A & 00-XN-MP-001B Lift Station Enclosure: 00-XN-MS-001	
QUANTITY OF LIFT STATIONS		One (1)	
RATINGS AND CONDITIONS OF SERVICE			
LIQUID PUMPED / LIQUID TEMPERATURE: MIN / MAX (/ °F / °F)		Sanitary Sewage	78 100
DESIGN FLOW RATE INTO SUMP / CAPACITY (EACH PUMP) (gpm / gpm)		24.75	30
TOTAL DISCHARGE HEAD (ft)		23	
CONSTRUCTION			
TYPE OF PUMP / ASSEMBLY		Note 2	<input type="checkbox"/> Simplex <input checked="" type="checkbox"/> Duplex
PUMP (MODEL NUMBER / MANUFACTURER):		Note 5	Note 5
SOLIDS HANDLING / NON-CLOGGING / MAX SOLID SIZE (/ in.)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Note 5
IMPELLER / SHAFT SEAL TYPE		<input checked="" type="checkbox"/> Recessed <input type="checkbox"/> Semi-enclosed	Double tandem Mechanical shaft seal
SHAFT COUPLING TYPE		Note 5	
BEARING LUBRICATION (Note 5)		<input type="checkbox"/> Self Lubricated <input type="checkbox"/> Grease Packed <input type="checkbox"/> Other	
BEARING TYPE (THRUST / INTERMEDIATE)		Note 5	Note 5
WET WELL (FURNISHED BY)		<input type="checkbox"/> Buyer <input checked="" type="checkbox"/> Seller	
MATERIAL OF CONSTRUCTION/USEABLE VOLUME REQUIREMENT (Gallons)		Note 5	300
TOP/BOTTOM OF WET WELL ABOVE/BELOW GRADE ELEVATION (in. / in.)		0	120
CONNECTION DISTANCE BELOW ELEVATION (INLET / OUTLET) (in. / in.)		42.24	36
GROSS CAPACITY / WET WELL DIAMETER (gallons / in.)		Note 5	48
WET WELL COVER (Note 5)		<input type="checkbox"/> Solid Cover <input type="checkbox"/> Hinged Access Door	
		<input type="checkbox"/> Partial Grating <input type="checkbox"/> Full Grating <input type="checkbox"/> Gas Tight	
WET WELL INLET CONNECTION (SIZE/TYPE/RATING)		4 Inch	NPT 150 #
WET WELL OUTLET CONNECTION (SIZE/TYPE/RATING)		2 Inch	NPT 150 #
MANHOLE OR DOOR SIZE (in. x in.)		Note 5	
PUMP DISCHARGE (SIZE / RATING) (in. / lb std)		Note 5	Note 5
VENT (SIZE / RATING) (in. / lb std)		Note 5	Note 5
EQUIPMENT WEIGHT (EMPTY / FLOODED) (lbs / lbs)		Note 5	Note 5
INSTRUMENTATION AND CONTROLS		<input checked="" type="checkbox"/> Thermal Overload Protection	<input checked="" type="checkbox"/> HOA Switches
		<input checked="" type="checkbox"/> Disconnect Switches	<input checked="" type="checkbox"/> Motor Starters
TYPE OF ALTERNATOR		<input type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Electrical	
NUMBER OF MECHANICAL FLOAT CONTROLS		4	
ENCLOSURE NEMA RATING (CONTROL PANEL/JUNCTION BOX)		NEMA 4X	Note 5
MATERIALS			
WET WELL COVER/WET WELL COVER FRAME/WET WELL COVER GASKET		Note 5	Note 5
CASE / IMPELLER / SHAFT		Note 5	Note 5
BEARINGS (THRUST / INTERMEDIATE)		Note 5	Note 5
DRIVER			
RATED HORSEPOWER / RPM		Note 5	Note 5
VOLTAGE / PHASE / FREQUENCY		Note 5	Note 5
ENCLOSURE		<input type="checkbox"/> ODP <input type="checkbox"/> WP II	
		<input checked="" type="checkbox"/> TOTALLY ENCLOSED <input type="checkbox"/> EXPLOSION PROOF	
EXAMINATION REQUIRED (Note 5)		<input type="checkbox"/> ULTRASONIC <input type="checkbox"/> EDDIE CURRENT	
		<input type="checkbox"/> MAG PART <input type="checkbox"/> LIQ PEN <input type="checkbox"/> RADIO	
		<input type="checkbox"/> PERFORMANCE <input type="checkbox"/> CERTIFIED HI	
TESTING REQUIRED (Note 5)			
POWER SUPPLY (VOLTAGE / PHASE / FREQUENCY) (/ / Hz)		460	3 60
MAXIMUM ALLOWABLE NOISE LEVELS (dBA at ft)		85	@ 3
AMBIENT CONDITIONS		NA	
SEISMIC DESIGN REQUIREMENTS			
DESIGN TEMPERATURE (MINIMUM / MAXIMUM)		78	100
COATING SYSTEM		As per Manufacturer's Standard	
NOTES:			
1. Deleted.			
2. Duplex submersible wastewater grinder pumps			
3. Useable volume shall be the volume between pump minimum submergence level and pump start level. Pump start level shall be below the bottom of inlet line.			
4. Minimum 6 inch gap shall be provided in between lead pump start and lag pump start level and in between lag pump start and alarm level.			
5. Sewage Lift Stations will be as per Attachment 1 or equal.			
001	12/4/15	Issued for Purchase	Sumner Gentry
000	10/6/2015	Issued for Use	SG
REV.	DATE	REASON FOR REVISION	BY
		CHKD	APPROVALS
		SEWAGE LIFT STATION for WATER TREATMENT AREA CARROLL COUNTY ENERGY CENTER	
		Job No.: 25932	
		Datasheet No.: 25932-000-MPD-MPCL-00001	
		SHEET 1 OF 1	

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in

Case No(s). 16-0841-EL-BGA

Summary: Application Application for Second Amendment to its Certificate electronically filed by Mr. Michael J. Settineri on behalf of Carroll County Energy LLC