JOINT PUBLIC NOTICE

March 20, 2016

United States Army
Corps of Engineers
New Orleans District
Regulatory Branch
7400 Leake Avenue
New Orleans, La. 70118-3651

(504) 862-2548/ FAX (504) 862-2574
Project Manager
Johnny Duplantis
Permit Application Number
MVN-2015-02516-WPP

State of Louisiana
Department of Environmental Quality
Post Office Box 4313
Baton Rouge, La. 70821-4313
Attn: Water Quality Certifications

(225) 219-3225/FAX (225) 325-8125
Project Manager
Elizabeth Hill
WQC Application Number
WQC # 170315-01

Interested parties are hereby notified that a permit application has been received by the New Orleans District of the U.S. Army Corps of Engineers pursuant to: [ ] Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403); and/or [X] Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344).

Application has also been made to the Louisiana Department of Environmental Quality, for a Water Quality Certification (WQC) in accordance with statutory authority contained in Louisiana Revised Statutes of 1950, Title 30, Chapter 11, Part IV, Section 2074 A(3) and provisions of Section 401 of the Clean Water Act (P.L.95-17).

PROPOSED CONSTRUCTION OF ENTERGY POWER STATION IN CALCASIEU PARISH

NAME OF APPLICANT: Entergy Louisiana, LLC, c/o CB&I, 4171 Essen Lane, Baton Rouge, Louisiana, 70809.

LOCATION: Located at Latitude 30.267378, Longitude -93.2896, The Lake Charles Power Station (LCPS) would be located within the boundary of the property on which the existing Entergy Louisiana, LLC (ELL) Roy S. Nelson Generating Plant (Nelson) is situated. Nelson is located in Calcasieu Parish, near Westlake, Louisiana.

DESCRIPTION: Proposed construction of a combined cycle power plant to include; Combined Cycle Gas Turbine equipment/building/enclosures, laydown and parking areas, road entrances, structures, buildings, tanks, sewage treatment plants, and supply lines, located on a 149.51 acre site. Further description of the LCPS is attached to this JPN. Approximately 77.67 acres of jurisdictional wetlands will be permanently, temporarily, and/or partially impacted through project construction. The applicant has proposed to purchase the required credits from an approved mitigation bank to offset any unavoidable losses to wetland functions caused by project implementation. The applicant has proposed to acquire pineflatwoods/savanna credits from an approved mitigation bank within the watershed, to offset in-kind and/or historically in-kind habitats at the site, should a DA permit be warranted.

The comment period for the Department of the Army Permit and the Louisiana Department of Environmental Quality WQC will close **20 days** from the date of this joint public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit and/or this WQC request and must be mailed so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the applicant's name and the Permit Application Number, and be mailed to the Corps of Engineers at the address above, **ATTENTION: REGULATORY BRANCH**. Similar letters concerning the Water Quality Certification must reference the applicant's name and the WQC Application number and be mailed to the Louisiana Department of Environmental Quality at the address above.

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 5:00 p.m. Copies may be obtained upon payment of costs of reproduction.

Corps of Engineers Permit Criteria

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers is soliciting comments from the public, federal, state, and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to make, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

No properties listed on the National Register of Historic Places are near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. Copies of this notice are being sent to the State Archeologist and the State Historic Preservation Officer.

Our initial finding is that the proposed work would neither affect any species listed as endangered by the U.S. Departments of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species. Utilizing Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on any listed species.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the destruction or alteration of 0.00 acre(s) of EFH utilized by various life stages of red drum and penaeid shrimp. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency. Also, a certification that the proposed activity will not violate applicable water quality standards will be required from the Department of Environmental Quality, before a permit is issued.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

You are requested to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

Darrell S. Barbara
Chief, Western Evaluation Section
Regulatory Branch

Attachments

ATTACHMENT 1
LAKE CHARLES POWER STATION PROJECT

1.0 Project Description

The Lake Charles Power Station (LCPS) is a proposed combined cycle power plant that will be located within the boundary of the property on which existing Entergy Louisiana, LLC (ELL) Roy S. Nelson Generating Plant (Nelson) is situated. Nelson is located in Calcasieu Parish near Westlake, Louisiana (**Figure 1**).

Entergy is proposing to install two MHPSA 501GAC "G" Class combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs) with duct firing, and one steam turbine generator (STG) in a 2x1 Combined Cycle Gas Turbine (CCGT) configuration. The two gas turbines will be referred to as Unit 1A and 1B. The combustion turbines will use natural gas as its only fuel source. The steam turbine (Unit 1C) will receive steam from the combustion turbine flue gas. The LCPS has a predicted net output capacity of a nominal 994 MW at ISO conditions with supplemental duct firing. The combustion turbine generators will be connected to the existing 138 kV Nelson Switchyard. The steam turbine generator will connect to the existing 230 kV Nelson switchyard.

Entergy is requesting Section 404 coverage for the construction of LCPS.

The LCPS project will involve the following:

- Construct two new LA 379 (River Road) entrances and roads to LCPS
- Construct laydown areas and parking lots
- Construct retention basin
- Install electrical duct bank, raw water line, potable water line, flocculant line, and treated wastewater line
- Install construction power transformer
- Install 18-inch diameter Augered Cast-In-Place (ACIP) piles
- Install underground utilities
- Install foundations for all structures, buildings, and tanks
- Install fuel gas supply line
- Install water well for potable water
- Install Package Sewage Treatment Plant (STP)
- Install new intake pumps with filtered intake from existing Sabine River Authority (SRA) Makeup Water Pond
- Install CCGT equipment, enclosures, and buildings

The area of disturbance for these activities is shown on **Figure 2A and Figure 2B**. Details regarding the LCPS project are provided in **Section 2.0** below. A list of all excavations and fill for each project activity are provided in **Table 1**.

Table 1: Structures and Materials for the LCPS Project

Project Component	**Fill** *cubic yards*	**Excavation** *cubic yards*	**Reference Figure(s)**
ACIP	**6,126**	**6,126**	7A, 7B
Utilities in Power Block	**92,701**	**92,701**	8H
Construction Transformer	**39**	**0**	5
Deep Excavations	**141**	**291**	8A, 8B, 8C, 8D, 8E, 8F, 8G
Ditches	**8,465**	**0**	17, 19A, 19B
Security Fence	**75**	**75**	2B
Flocculant Line	**25**	**56**	11
Foundations	**15,668**	**0**	14C
Fuel Supply Lateral Line	**1,425**	**4,044**	13A, 13B
Oil/Water Separator – Process and Storm	**58**	**200**	8E, 16D
Parking, Laydown Areas, Etc.	**72,687**	**65,174**	2A, 2B
Potable Water	**4**	**21**	8H
Power Poles – Steel and Timber	**28**	**28**	2A, 2B, 2C, 6, 18A, 18B
Raw Water/Duct Banks/Wastewater	**991**	**2,778**	8H, 9A, 9B, 10A, 10B
Roadways	**12,059**	**3,630**	2A, 2B
Sewer Line	**92**	**328**	8H
Spoils Pile	**4,941**	**0**	4
Storm Water Drainage	**1,359**	**3,242**	16A, 16B, 16C, 16D
Storm Water Retention Pond	**0**	**29,631**	2A, 2B, 16E
Water Well	**3**	**23**	12
TOTAL	**216,891**	**208,353**	

2.0 Details of Lake Charles Power Station Project

2.1 Laydown Areas, Parking Lots and Roads

Roadway construction for the new power plant will consist of a main entrance road from Houston River Road to the power plant and a construction parking entrance road that loops around the laydown area to the construction parking lot. Additionally, service and maintenance roads to all major equipment or areas will be serviced with limestone (**Figure 2B**).

New entrance roads will be constructed from LA 379. The first 50 feet of each road will be constructed of concrete. A 24-inch reinforced concrete pipe (38 feet) will be installed in the existing ditch where each entrance crosses (**Figure 3A**). All roads will be finished with approximately 2 to 3 inches of coarse aggregate over 8 inches of aggregate and a geotextile fabric (**Figure 3B**). The road will be constructed 24 feet wide with 2-foot shoulders. The new entrance roads will accommodate employee vehicles and construction deliveries.

A security guard house and gate will be constructed at the main entrance where all traffic will be checked in by security prior to entering the facility. Employees will also use this entrance road as a means of ingress and egress from the employee parking areas. A new 8-foot high security fence will be installed around the perimeter of LCPS.

The entire power block area within the loop road not otherwise surfaced will be surfaced with crushed rock. Construction parking and laydown areas will be covered with crushed rock or gravel surfacing.

Figure 2A and 3A denotes the limits of the parking areas and the laydown area. Approximately 8 inches of aggregate will be installed in the laydown and parking areas.

2.2 Spoils Pile

Spoils will be stockpiled on the east side of the laydown area. The spoils will be placed as to not interfere with drainage of the immediate areas. The location of the spoils pile and details are shown on **Figure 4**. Silt fencing will be installed around the spoils area and drainage will be directed to the west via surface flow.

Temporary spoils piles will be generated from utility installations. The excavated material will be utilized to backfill the excavations/trenches. Unsuitable and excess spoils will be placed on the spoils pile.

2.3 Construction Power Transformer and Power Lines

A 3,000 kVA construction power transformer and power lines will be installed prior to site mobilization. The power transformer will be installed southwest of the Power Block of the LCPS (**Figure 2B**). The transformer slab will be a three-phase transformer slab structure (**Figure 5**). An overhead power line supported by 18-inch diameter timber poles will be installed to provide power to the transformer. The timber pole will be installed 8 feet below the ground surface (**Figure 6**) and an underground line (30-inch trench) will be installed from the transformer to provide power to the site trailers and other services. The locations of the overhead and underground lines are shown on **Figure 2B**.

2.4 ACIP Piles

Due to the soft soils conditions on site, heavily loaded plant equipment and structures will be supported on pile foundations. ACIP piles are expected to be utilized. These ACIP piles will be used for the CTG, HRSG, and STG foundations along with a select few other foundations (**Figure 7A**). The remaining foundations for the Water Tanks, buildings and smaller equipment will be shallow foundations bearing on native soil.

A typical pile section is shown on **Figure 7B**. **Figure 7B** also provides a schedule indicating the number of piles to be used for all equipment that will be on pile supported foundations. Approximately, 1,294 18-inch piles, 80 feet deep, are estimated to be required to support structures and equipment. ACIP piles will be installed using a process that provides continuous grout pressure out from the borehole and on curing will have an intimate bond with the surrounding soils providing little or no pathway for flow along the pile-soil interface.

Installation of piles will adhere to the American Concrete Institute (ACI) Specifications for Structural Concrete (ACI 301).

Spoils generated during the ACIP pile installation will be placed in the spoils pile located on the eastern side of the Power Block (**Figure 4**). A pile subcontractor will mobilized to install the piles in accordance with engineering drawings and specifications.

2.5 Underground Utilities

Areas of deep excavation for the installation of the water treatment building sump, condensate pumps sump, water wash sump, HRSG blowdown sump, oil/water separator, cooling tower basin, and circulating water

lines are shown on **Figure 8A**. A plan and section view of deep excavations are shown on **Figures 8B through 8G**.

The raw water line, potable water line, electrical duct bank, and treated wastewater line will originate outside of the Power Block.

A 16-inch high density polyethylene (HDPE) raw water line will be installed from a new pump structure installed adjacent to the existing SRA pond to the Power Block (**Figure 9A**). A new 36-inch x 30-inch electrical duct bank will run parallel to the raw water line. The location, section, and details are shown on **Figures 9B**. **Section 2.6** discusses the modification to the cooling water intake on the SRA pond.

The 12-inch HDPE treated wastewater line runs from the Power Block to an existing drainage ditch (**Figure 10A**). A new 21-inch x 21-inch electrical duct bank will run parallel to the wastewater line. **Figure 10B** shows the wastewater line in cross-section.

A new 1-inch polyethylene flocculant line will be installed to treat the raw water at the SRA pond. **Figure 11** shows the location, section, and details of the flocculant line.

The Power Block area will be excavated to an average depth of 6 feet to accommodate utility installation. The utilities that will be installed include closed cooling water, service and instrument air, storm water, service water, fire protection water, demineralized water, plant drain, raw water, and electrical duct banks. Excavations will be 12 feet in depth at the location that the underground utilities intersect with the circulating water lines (**Figure 8H**).

2.6 Cooling Water Intake Structure Modification

Dual raw water pumps will be installed at the new intake structure on the SRA pond (**Figure 9A**). The raw water pumps provide water for various plant uses and makeup water to the circulating water system. The circulating water system will include two 50% capacity vertical pumps mounted in a sump incorporated in the basin of the cooling tower. The pumps will be installed in a concrete structure with the appropriate access and clearances for mobile cranes to remove the pumps for maintenance.

2.7 Water Well Installation

A new water well will be installed south of the Power Block near the Control Building to provide potable water to LCPS (**Figure 12**). The 4-inch polyvinyl chloride (PVC) water well will be installed to approximately 400 feet into the Chicot aquifer. The water will be installed by a registered driller. The location and details are shown on **Figure 12**. Installation of the water well will produce drill cuttings. Drill cuttings will be placed in the spoils pile discussed in **Section 2.2**. A 3-inch HDPE potable water line will be installed above grade from the new water well to the Water Treatment to the Power Block.

2.8 Fuel Gas Piping

The LCPS Units 1A and 1B will connect to a 20-inch fuel gas line that will run from the metering station to a proposed connection at the eastern property boundary. The proposed gas supply will be from an existing gas pipeline located approximately 11 miles north of the Nelson Plant Facility. The proposed gas supply line will be constructed by the supplier and will be located within an existing gas corridor (**Figure 13A and 13B**).

For access, ditches will be bridged and where the pipeline crosses Waters of the U.S., an open cut excavation method will be used. Appropriate best management practices (BMPs) will be implemented to minimize impacts. Construction will also include metering stations, surface interconnect sites, 24-foot wide access roads, and temporary workspaces. The pipeline will be constructed with 6 feet of cover over the top of pipe

within the pipeline easement. Inside of the fenced metering station, the pipe will be installed with a minimum 3 feet of cover over the top of pipe. Sections and details of the fuel gas piping installation are show on **Figure 13B.**

2.9 LCPS Power Block

The LCPS Power Block will include the major equipment for the CCGT unit (**Figures 14A and 14B**). The CCGT unit will consist of two CTGs, HRSGs, and one STG. A list of equipment to be installed is found on **Figure 14B**. ACIP pile supported foundations will be used for the CTG, HRSG, and STG along with a select other foundations. The remaining foundations for the Cooling Tower, Water Tanks, buildings and smaller equipment will be shallow foundations. The arrangement of the foundations for the Power Block equipment is provided on **Figure 14C.**

Approximately 37 components of the HRSG, CTGs, and STG equipment will be hauled from a barge landing in the city of Westlake. Self-propelled modular transporters will be used to transport all of the components.

2.10 Drainage and Erosion Control

Existing swales and ditches will be used to allow for proper drainage of all roads, parking areas, and the laydown area. Storm water culverts will be provided at the entrance and exit drives of all laydown and parking areas.

Silt fencing will be installed throughout the project site to control storm water and will be installed around all excavations and embankment areas. Temporary fabric inlets or hay bales will be used to control storm water entering catch basins. Typical silt fencing details and fabric inlets are shown on **Figure 15**.

Storm water drainage in the Power Block is designed for a 25 year, 24-hour storm return period. The LCPS storm water system will operate independently from the Operating Facility system. The permanent storm water drainage system for the project shall consist primarily of catch basins and underground piping in the power block area with surface drainage in the other plant areas and culverts at the perimeter loop roads. Underground piping material will typically be reinforced concrete pipe (RCP) unless code requires another material. Roads which cross over open channels will be constructed with culverts to pass the design flow. Culverts will be constructed of reinforced concrete or HDPE pipe.

Surface runoff will be collected via the storm water drainage system and processed through two storm water oil/water separators (OWS). The discharge of the storm water OWS will be directed to a retention basin and will discharge into an existing site drainage ditch that flows into the Houston River. The OWS will be capable of processing the "first flush" only. The discharge of the storm water OWS will be directed to the existing storm water drainage ditch system. Storm water drainage structure locations are shown on **Figure 16A and Figure 16B. Figure 16C** shows drainage details and schedule of catch basins and piping. Plan and section views of the OWS is shown on **Figure 16D**. The Retention Basin Plan and Section views are shown on **Figure 16E**.

A section of the existing drainage ditch east of the Power Block will be upgraded with rip rap for approximately 2,761 feet between the LCPS discharge point and the haul road (**Figure 17**).

2.11 Sewer Treatment Plant

A new Sewer Treatment Plant (STP) will be installed for LCPS in accordance with Louisiana Department of Health and Hospitals (DHH). Sewage will travel by gravity to the lift station located west of the STP before treatment at the new STP. The effluent will discharge to the retention basin. Refer to **Table 1** for

volumes of excavation and fill for the sewer line. The STP and lift station will be located near the Administration Building (**Figure 2B)**.

2.12 Radial Generation Interconnection Tie Lines

Once constructed, LCPS will be connected to the existing Nelson 138 kV and 230 kV switchyards. Radial generation interconnection tie lines will be installed on 22 supporting structures (**Figure 18A**).

Each structure will consist of an 8-foot diameter concrete or steel pole attached to an 8-foot diameter steel pile (**Figure 18B**). The steel piles will be installed using a vibrator hammer to drive the piles to a depth of approximately 60 feet. The pile will be cleaned out with an auger and filled with concrete. The first 10 feet of each pile may be hydro-vacuumed to identify potential obstructions. Hydro-vacuuming will also be used to install the associated anodes. Approximately eight anodes will be installed at each pole structure for corrosion protection. A 1-foot diameter hole will be hydro-vacuumed to a maximum depth of 10 feet. Once the anode is installed the hole will be backfilled with sand.

Hydro-vacuuming uses water to excavate an area and will produce a slurry of soil and water. The slurry spoils will be collected into a vacuum truck as they are generated. The slurry spoils will be disposed in the SRA dredge disposal area north of the SRA pond (**Figure 2B**).

3.0 Project Purpose and Need

Entergy Services, Inc. performs system planning functions for all Entergy operating companies. In executing this function, an integrated resource plan is developed that defines the regional load projections and determines the type and quantity of generation needs to meet system reliability criteria. The Lake Charles area was identified as a region that requires additional baseload capacity due to the region's industrial renaissance.

The proposed LCPS is scheduled to begin construction November 1, 2017. All work is expected to be completed by May 1, 2020.

4.0 Impacts to Waters of the US, Avoidance, and Mitigation

The location of LCPS was selected to avoid high quality wetlands within the property boundaries of the Nelson facility. However, the construction of the LCPS will impact low to moderate quality wetlands. In addition to siting the LCPS to avoid high quality wetlands, the layout of the LCPS was modified to avoid wetlands near LA 379 **(Figure 19A and Figure 19B)**.

On November 12, 2015, a wetland determination request was submitted to the U.S. Army Corps of Engineers for approximately 230 acres that included the LCPS project area of interest. A Preliminary Jurisdictional Determination (PJD) was received on October 27, 2016 (Account Number MVN-2015-02516-SK) (**Attachment 4**). Based on project engineering designs, it was determined that three small areas outside of the issued PJD (MVN-2015-02516-SK) were needed to incorporate a pipeline, utility line right-of-way, and an existing drainage ditch. On November 20, 2016 another wetland delineation was performed on the needed additional areas. A report is being prepared for submittal to the USACE New Orleans District to request a PJD amendment for the additional project areas. The data submitted in the issued PJD (MVN-2015-02516-SK) and the data collected from the November 20 wetland delineation for the PJD amendment were superimposed on the current project general arrangement to determine impacts to waters of the US. As a result of this effort, approximately 77.67 acres of wetlands (including temporary and permanent impacts) and 3.29 acres of other waters of the US (including temporary and permanent impacts) will be impacted by the proposed project. The acreage and type of impacts to each wetland and habitat are listed below and depicted in **Figure 19B**.

- Palustrine emergent persistent (PEM1) wetlands; permanent impacts 0.36 acres and temporary/partial impacts 1.80 acres (comprised of coastal prairie habitat)

- Palustrine forested broad-leaved decisions (PFO1) wetlands; permanent impacts 19.40 acres and temporary/partial impacts 0.0.09 acres (comprised of hardwood flatwoods and relic bottomland hardwood forested habitats)

- Palustrine forested needle-leaved evergreen (PFO4) wetlands; permanent impacts 0.98 acres and temporary/partial impacts 1.73 acres (comprised of relic pine flatwoods and pine flatwoods pond habitats now under silviculture)

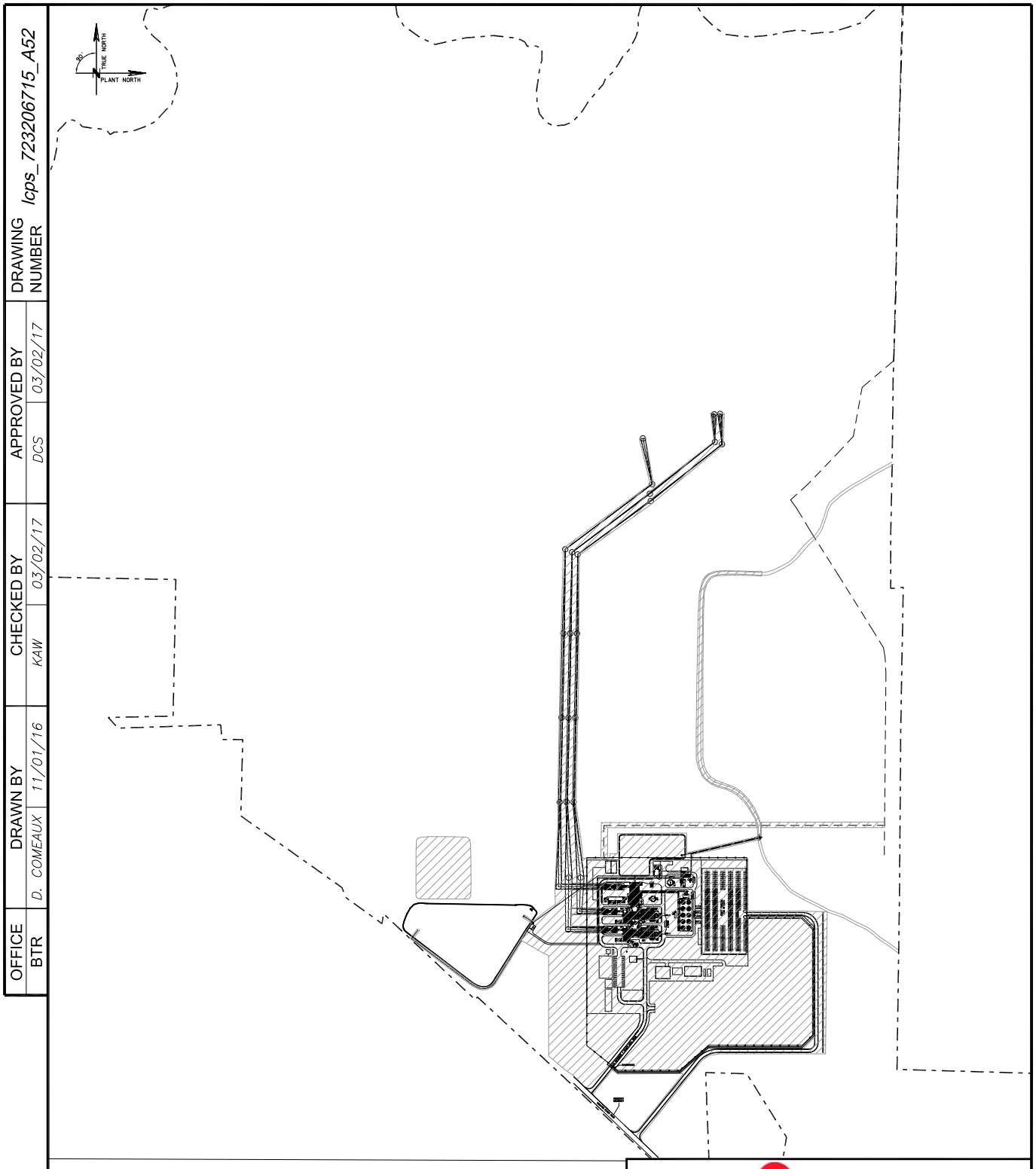
- Palustrine scrub-shrub broad-leaved deciduous and needle-leaved evergreen (PFO1/4) wetlands; permanent impacts 42.18 acres and temporary/partial impacts 7.83 acres (comprised of relic pine flatwoods and pine flatwoods ponds and hardwood flatwoods habitats in early successional stage and now under silviculture)

The acreage and type of impacts to each other waters of the US consisted of artificial or modified drainages which are listed below and depicted in **Figure 19B**.

- Impacts to drainages (perennial, intermittent, and ephemeral); 0.73 acres of permanent impacts and 2.56 acres of temporary/partial impacts.

Approximately 77.67 acres of wetlands (including temporary and permanent impacts) will require compensatory mitigation. Based on the Louisiana Wetland Rapid Assessment Method (LRAM) Impact-Bank spreadsheet calculations 627 credits are needed in compensatory mitigation to offset the 77.67 acres of wetland impacts from the proposed project (**Attachment 5**).

FIGURES



OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	11/01/16	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A52

LEGEND

- Extent of Construction Disturbance (approximately 149.51 ac)
- Property Boundary
- Proposed Fuel Supply Line

SCALE

0 1,200 2,400 FEET

Entergy

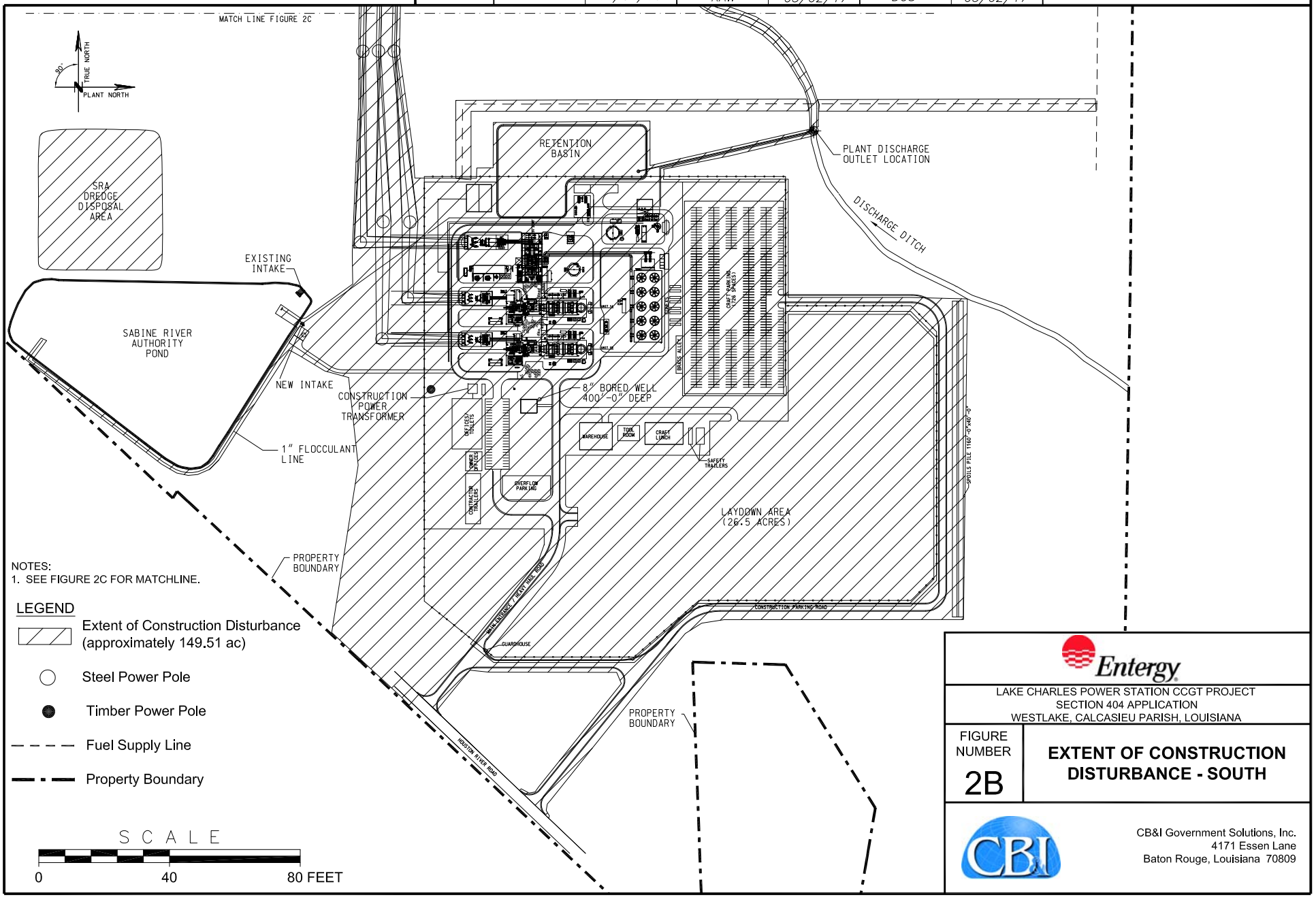
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 2A

OVERALL EXTENT OF CONSTRUCTION DISTURBANCE

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	11/01/16	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A25



Entergy

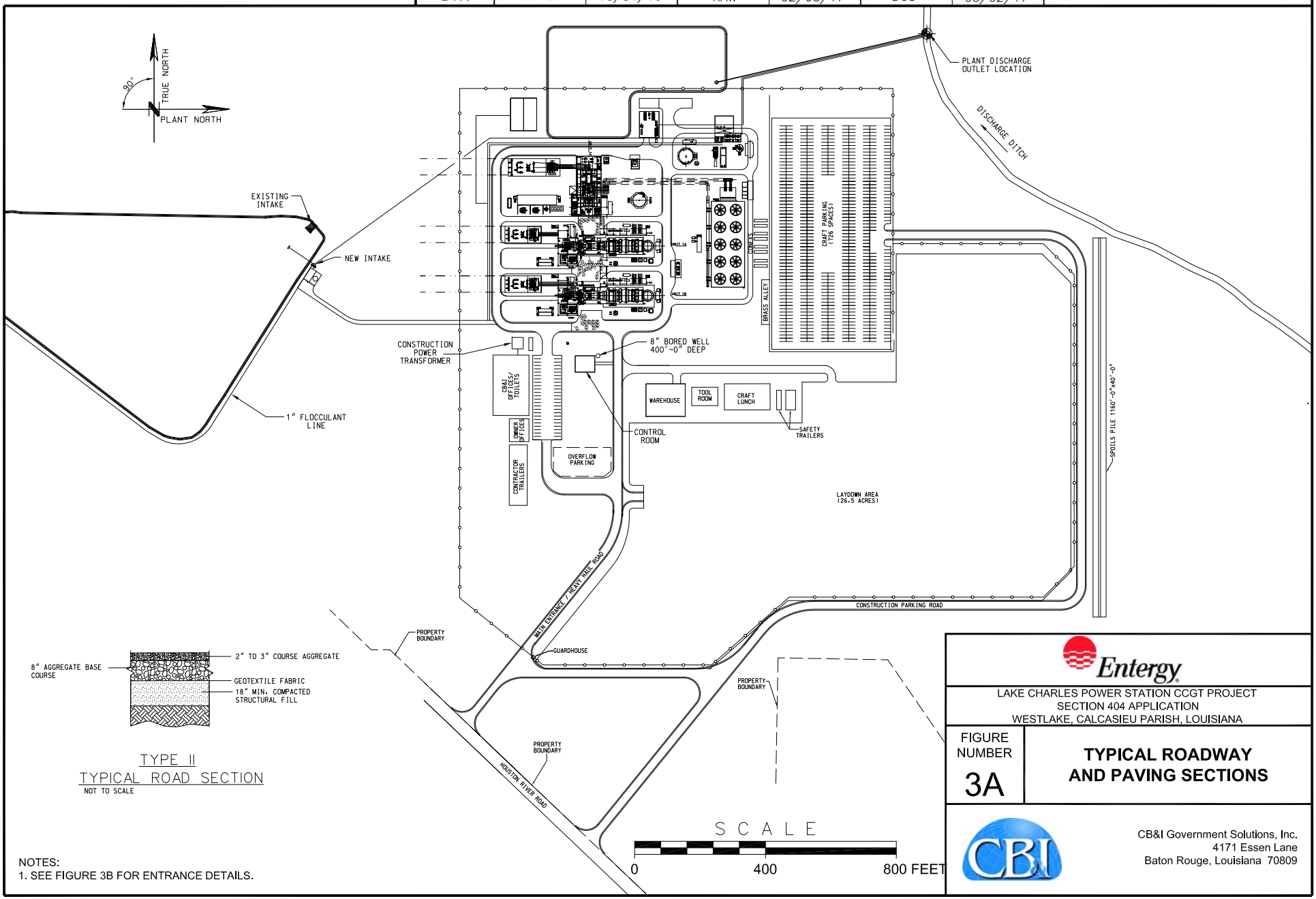
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 2B

EXTENT OF CONSTRUCTION DISTURBANCE - SOUTH

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/31/16	KAW	02/08/17	DCS	03/02/17	lcps_723206715_A49



TYPE II
TYPICAL ROAD SECTION
NOT TO SCALE

NOTES:
1. SEE FIGURE 3B FOR ENTRANCE DETAILS.

Entergy

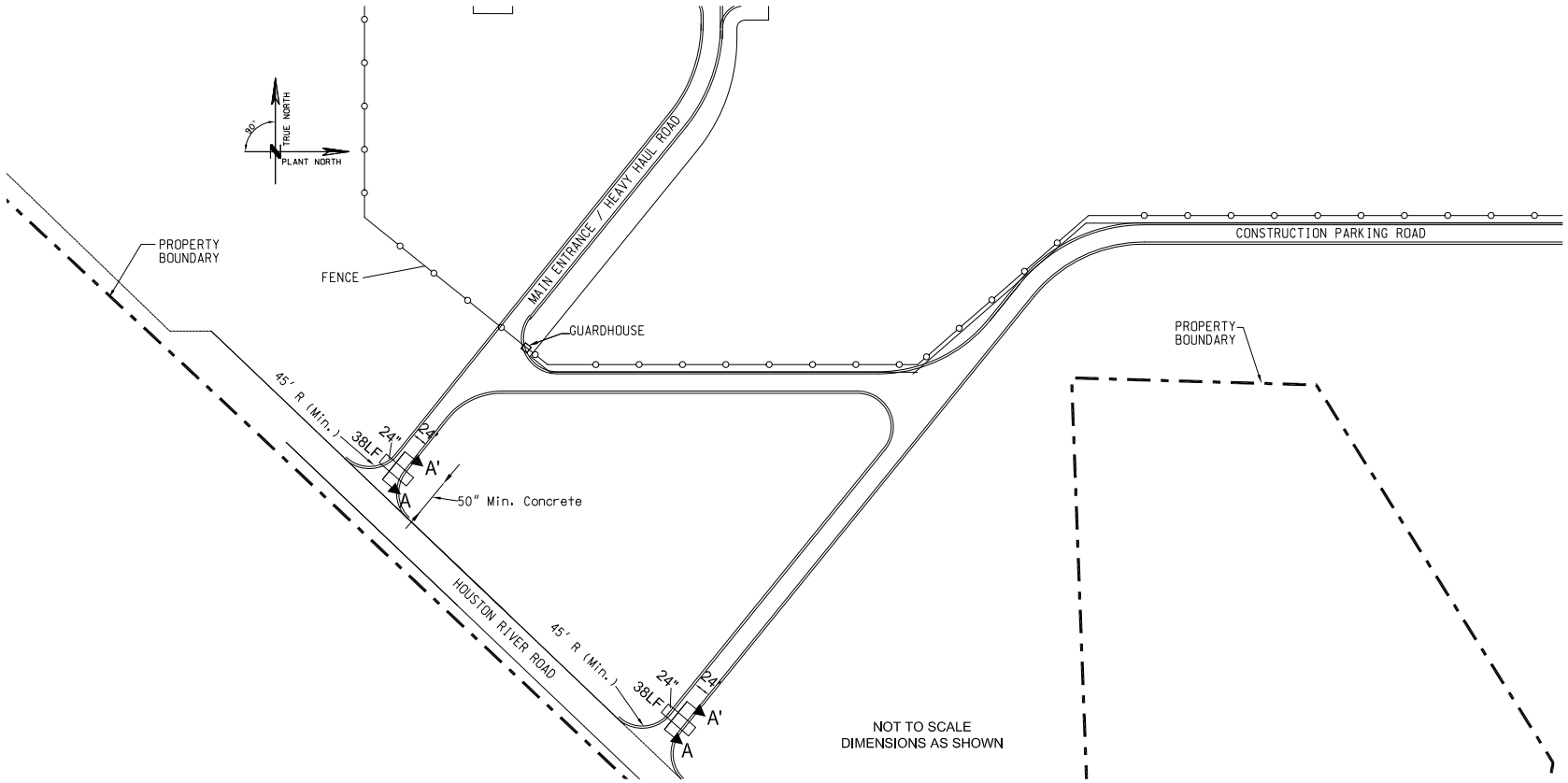
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

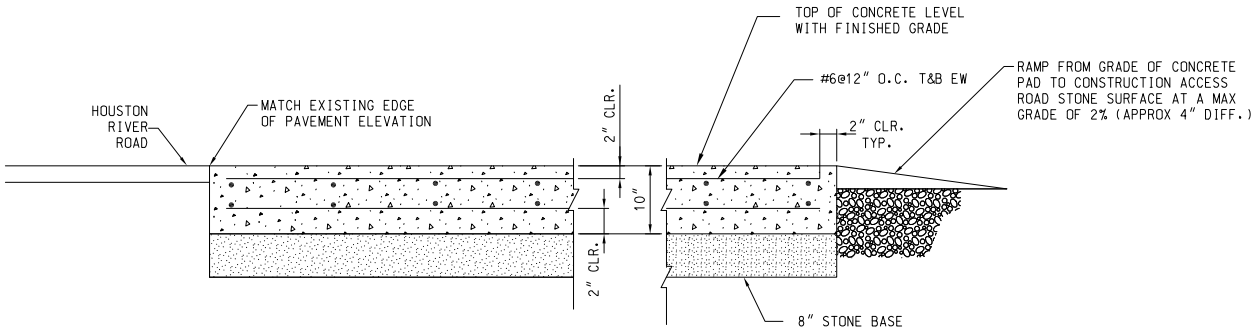
FIGURE NUMBER 3A

TYPICAL ROADWAY AND PAVING SECTIONS

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/24/16	KAW	02/08/17	DCS	03/02/17	lcps_723206715_A42





CONCRETE PAVING FOR CONSTRUCTION ACCESS/PERMANENT PLANT ENTRANCE - SECTION A - A'

NOT TO SCALE

NOTES:
1. SEE FIGURE 3A FOR ENTRANCE LOCATION.

REFERENCE: Source Drawing provided by CB&I Power, 152675-000-CV-03-00036 Rev B. Revised drawing of scps_152720_A88.

Entergy

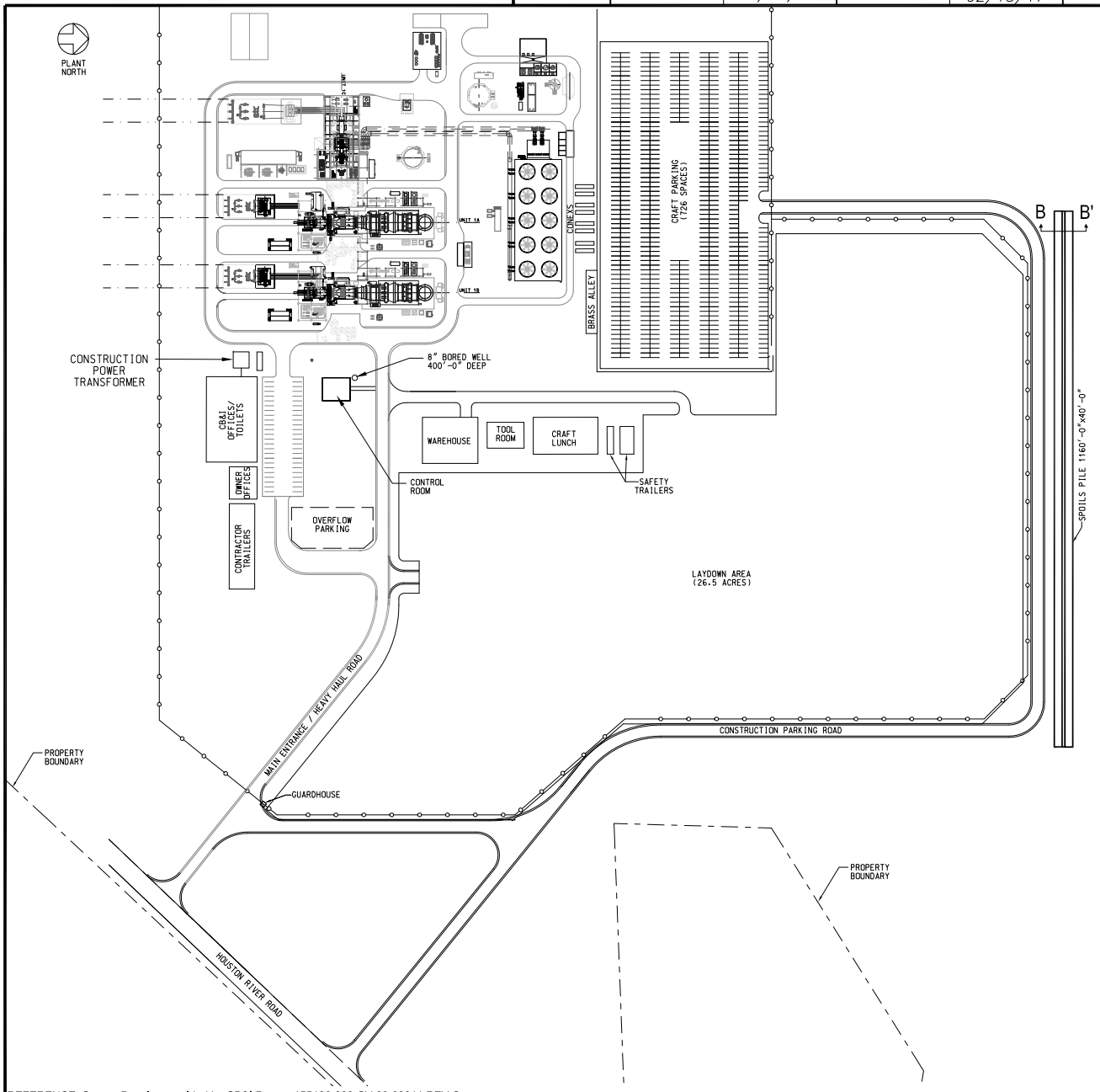
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

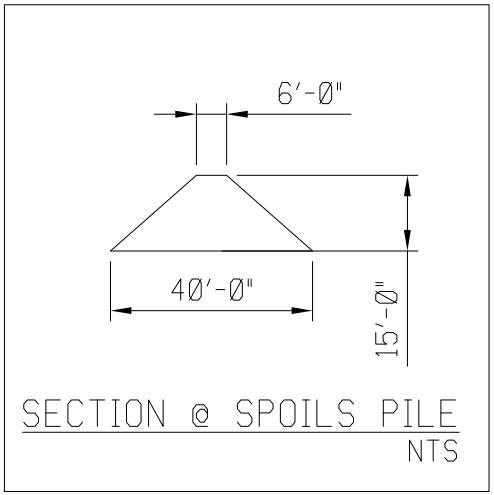
FIGURE NUMBER 3B

LA 379 ENTRANCE DETAILS AND ROAD SECTION

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/19/16	KAW	02/15/17	DCS	03/02/17	lcps_723206715_A30





SECTION @ SPOILS PILE
NTS

SCALE
0 350 700 FEET

REFERENCE: Source Drawing provided by CB&I Power, 155126-000-CV-03-00011 REV C.

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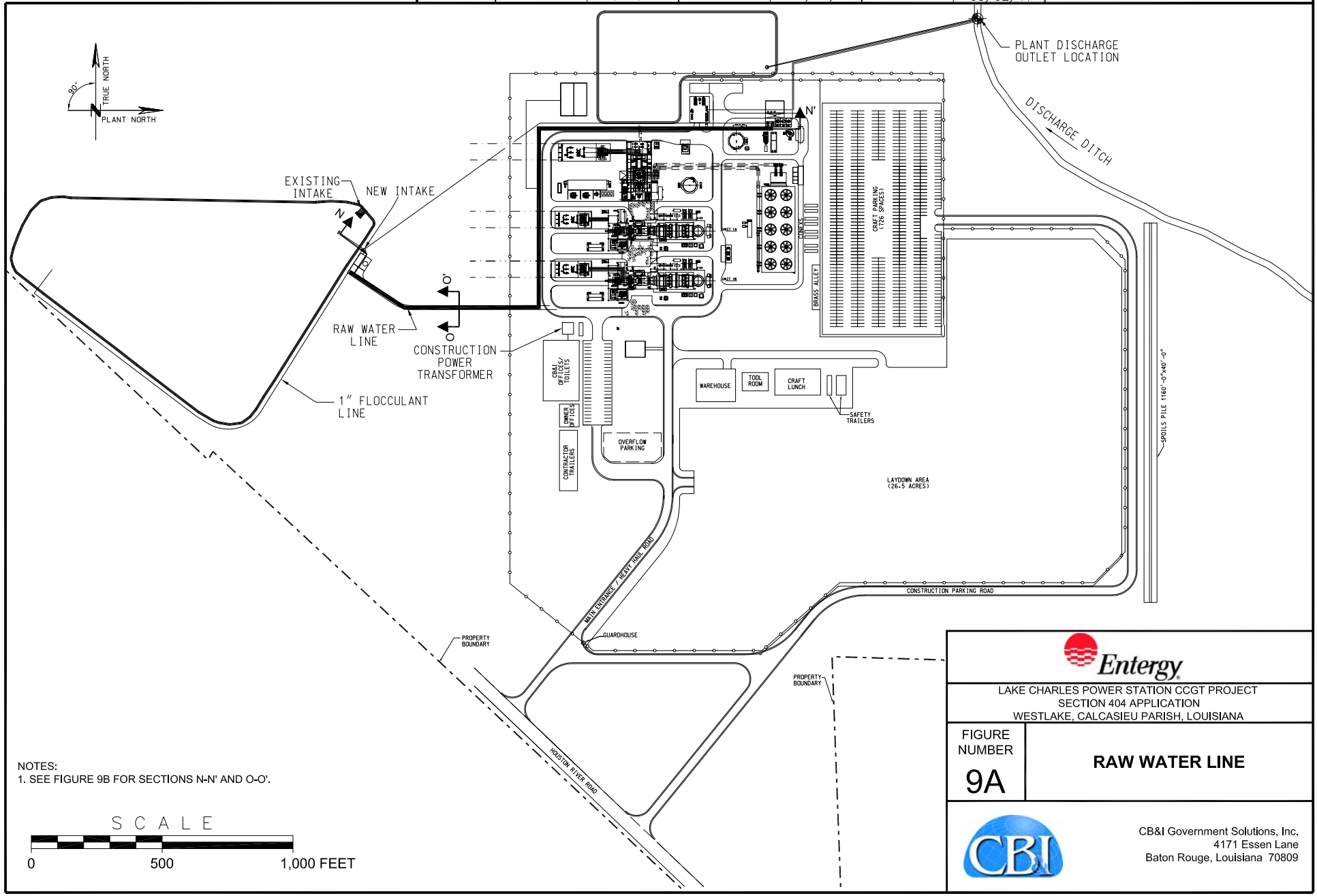
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 4

SPOILS PILE LOCATION AND CROSS-SECTION

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER	lcps_723206715_A43
BTR	D. COMEAUX	10/27/16	KAW	03/02/17	DCS	03/02/17		



NOTES:
1. SEE FIGURE 9B FOR SECTIONS N-N' AND O-O'.

SCALE
0 500 1,000 FEET

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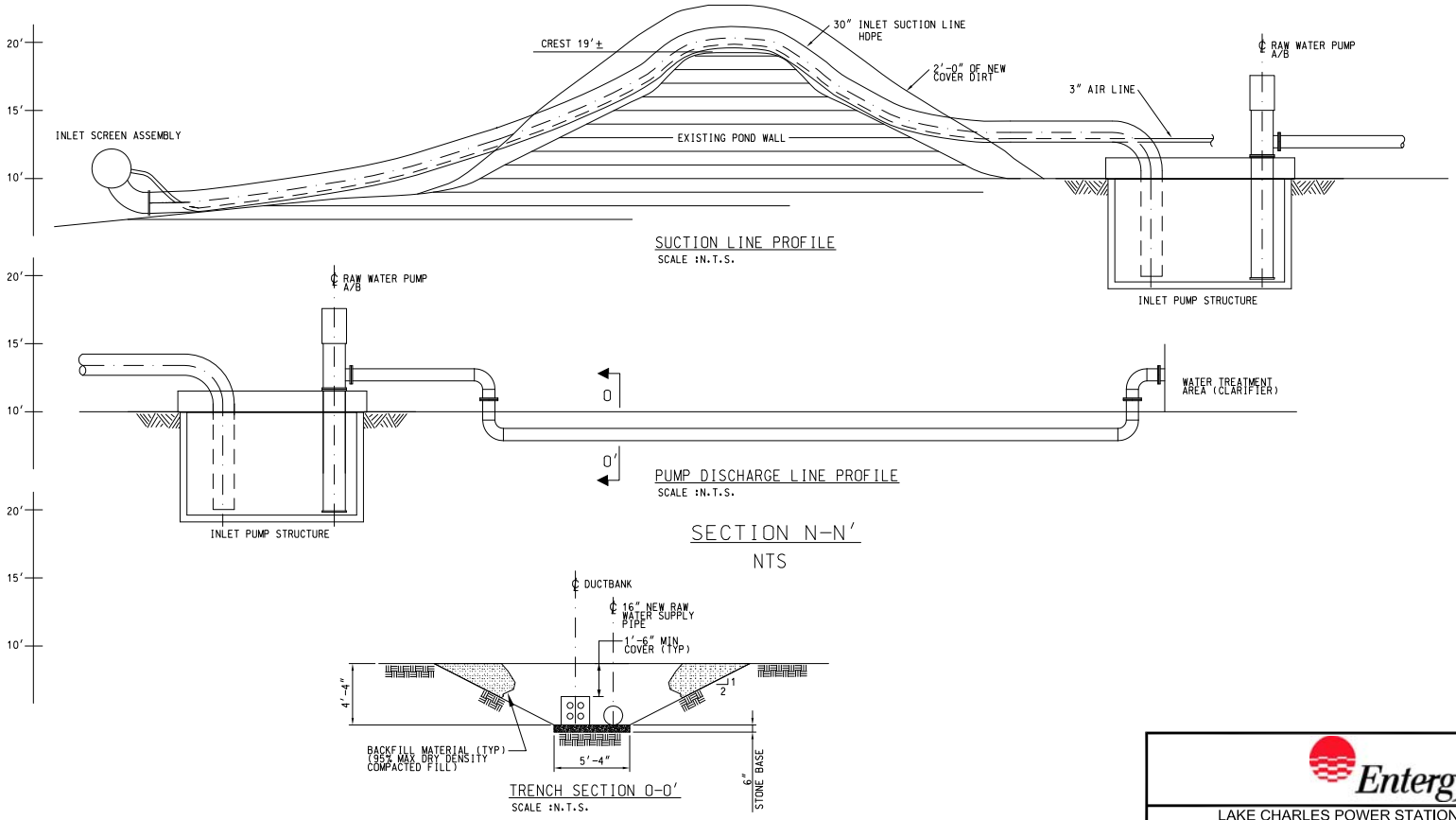
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 9A

RAW WATER LINE

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/27/16	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A44



NOTES:
1. SEE FIGURE 9A FOR LOCATION OF SECTION N-N' AND O-O'.

SCALE
0 80 160 FEET

Entergy

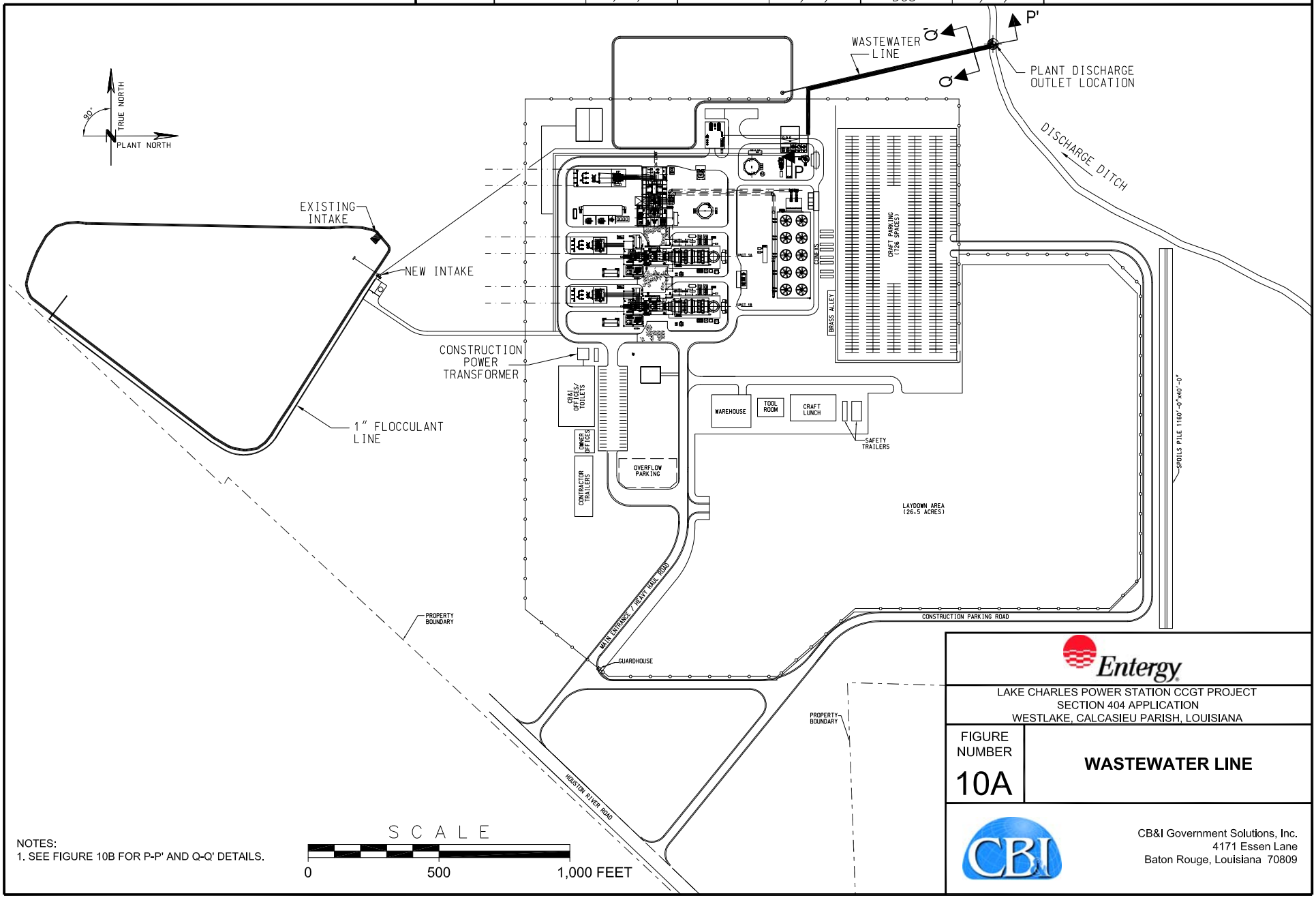
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER
9B

RAW WATER SECTION AND DETAILS

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/27/16	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A46



NOTES:
1. SEE FIGURE 10B FOR P-P' AND Q-Q' DETAILS.

Entergy

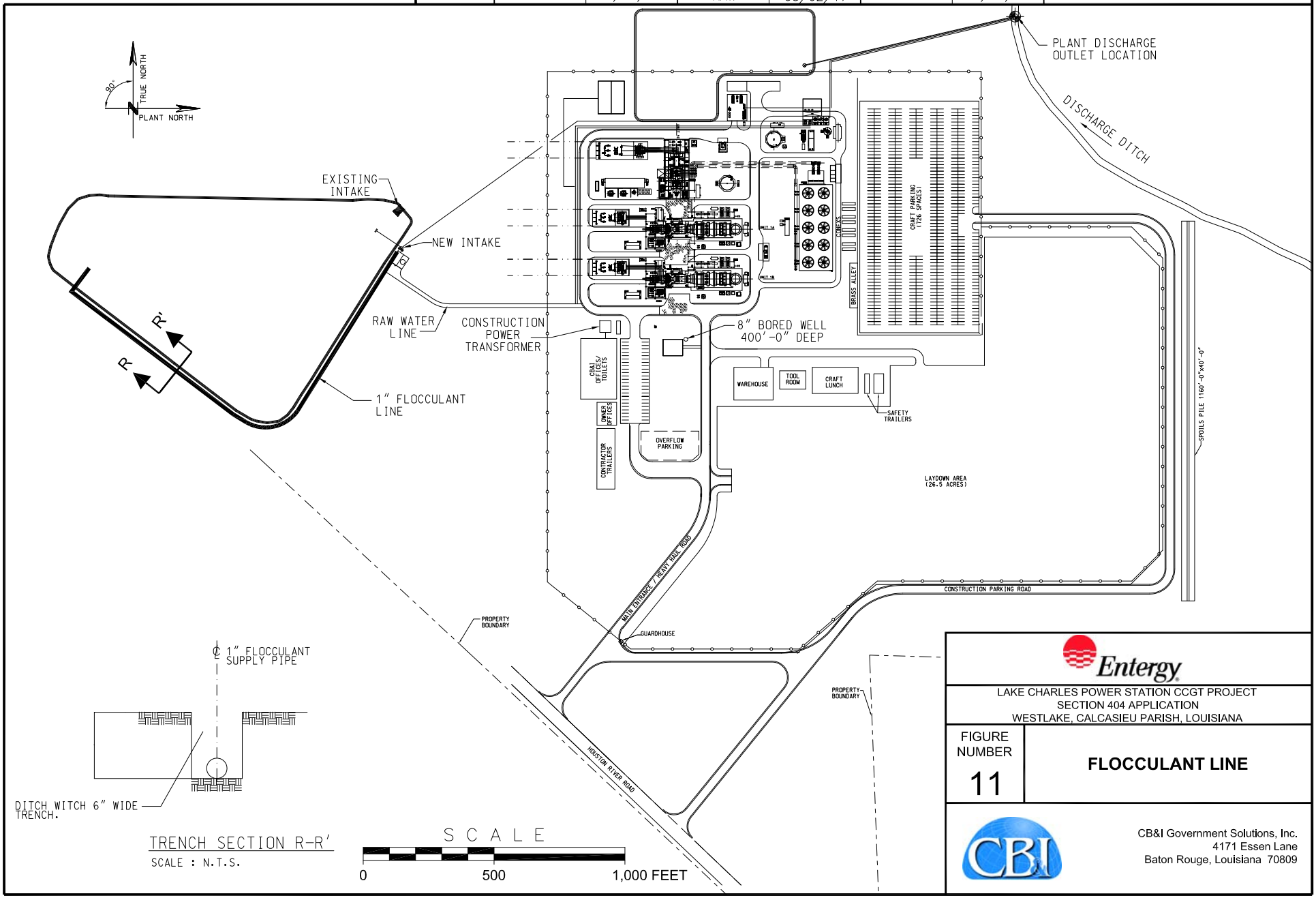
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER
10A

WASTEWATER LINE

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/27/16	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A45



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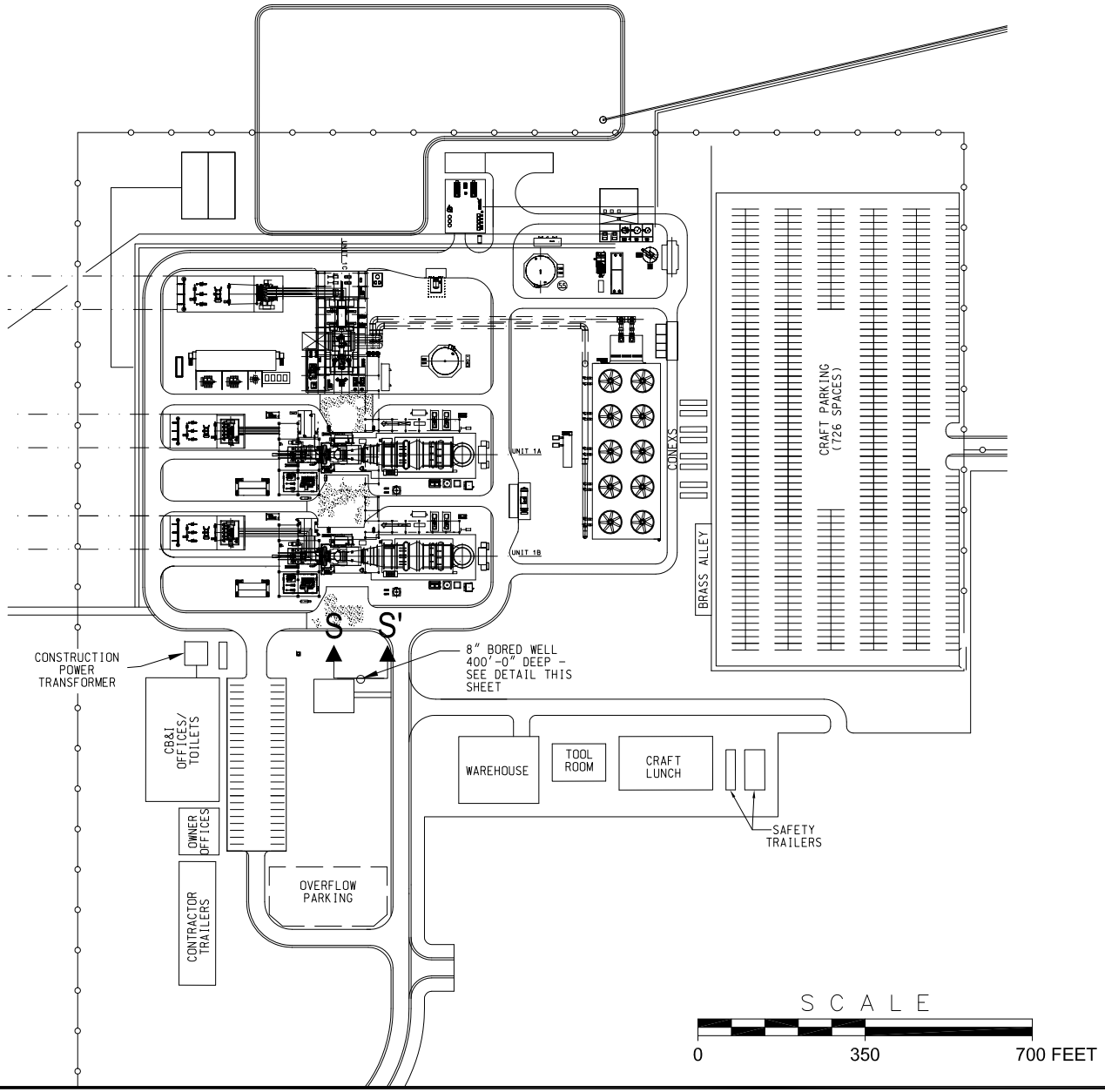
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

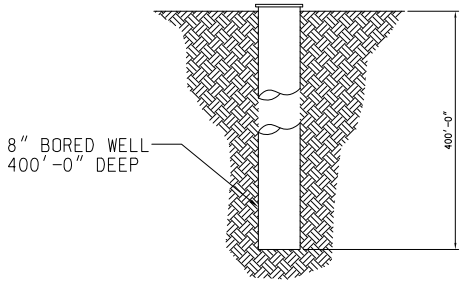
FIGURE NUMBER 11

FLOCCULANT LINE

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	10/25/16	KAW	02/08/17	DCS	03/02/17	lcps_723206715_A34





SECTION S-S'
BORED WELL DETAIL
NTS

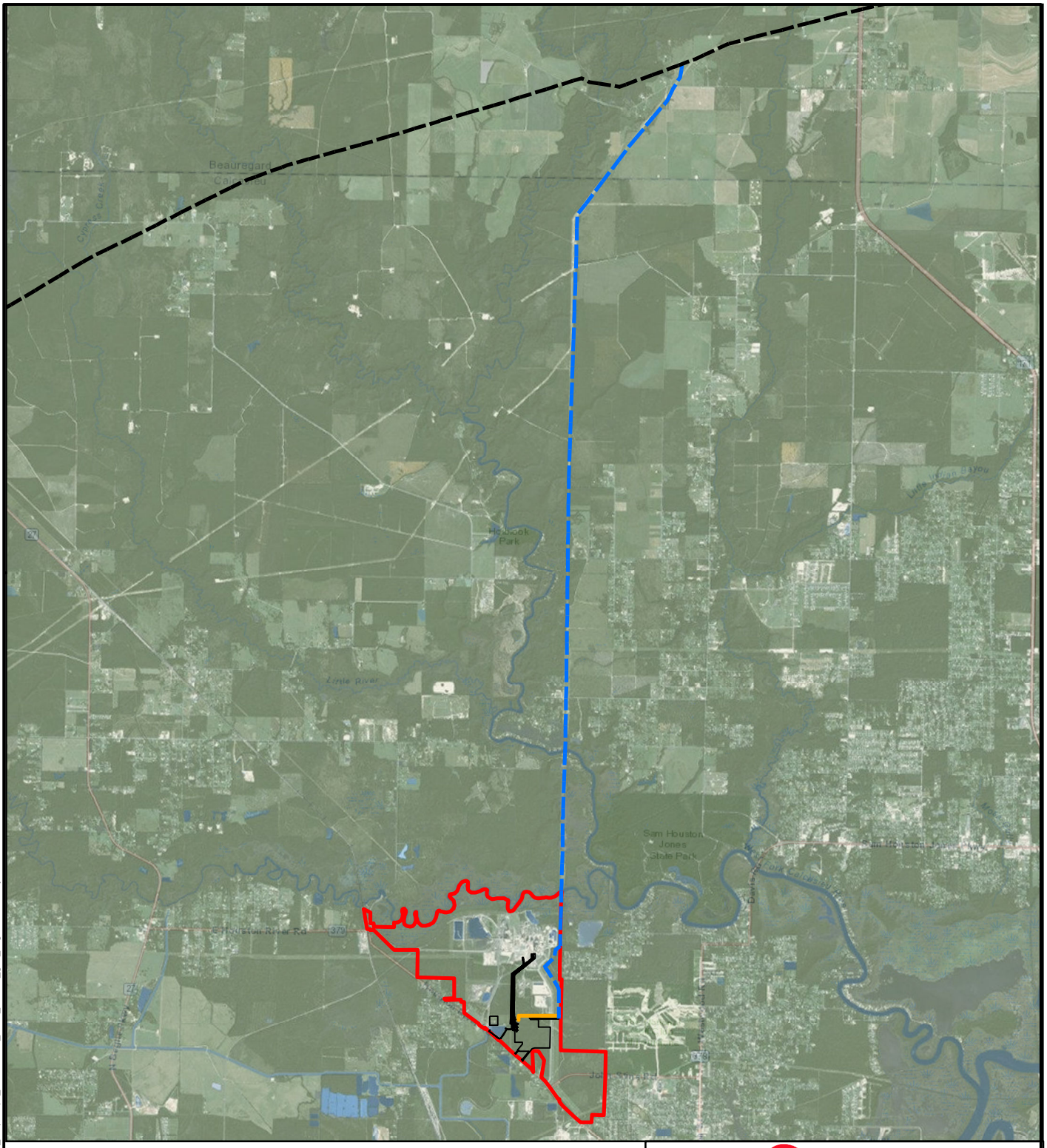
Entergy

LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 12

WATER WELL LOCATION AND DETAILS

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809



Legend

- Existing Natural Gas Line
- Proposed Fuel Supply Line
- LCPS Fuel Gas Lateral
- Roy S. Nelson Property Boundary

NOTES:
1. Fuel Gas supply line (to be permitted, owned and operated by fuel gas supplier).
2. Actual location of Fuel Gas Line to be determined.

REFERENCE:
Imagery provided by ESRI, dated 2013

N

0 1 2

Miles

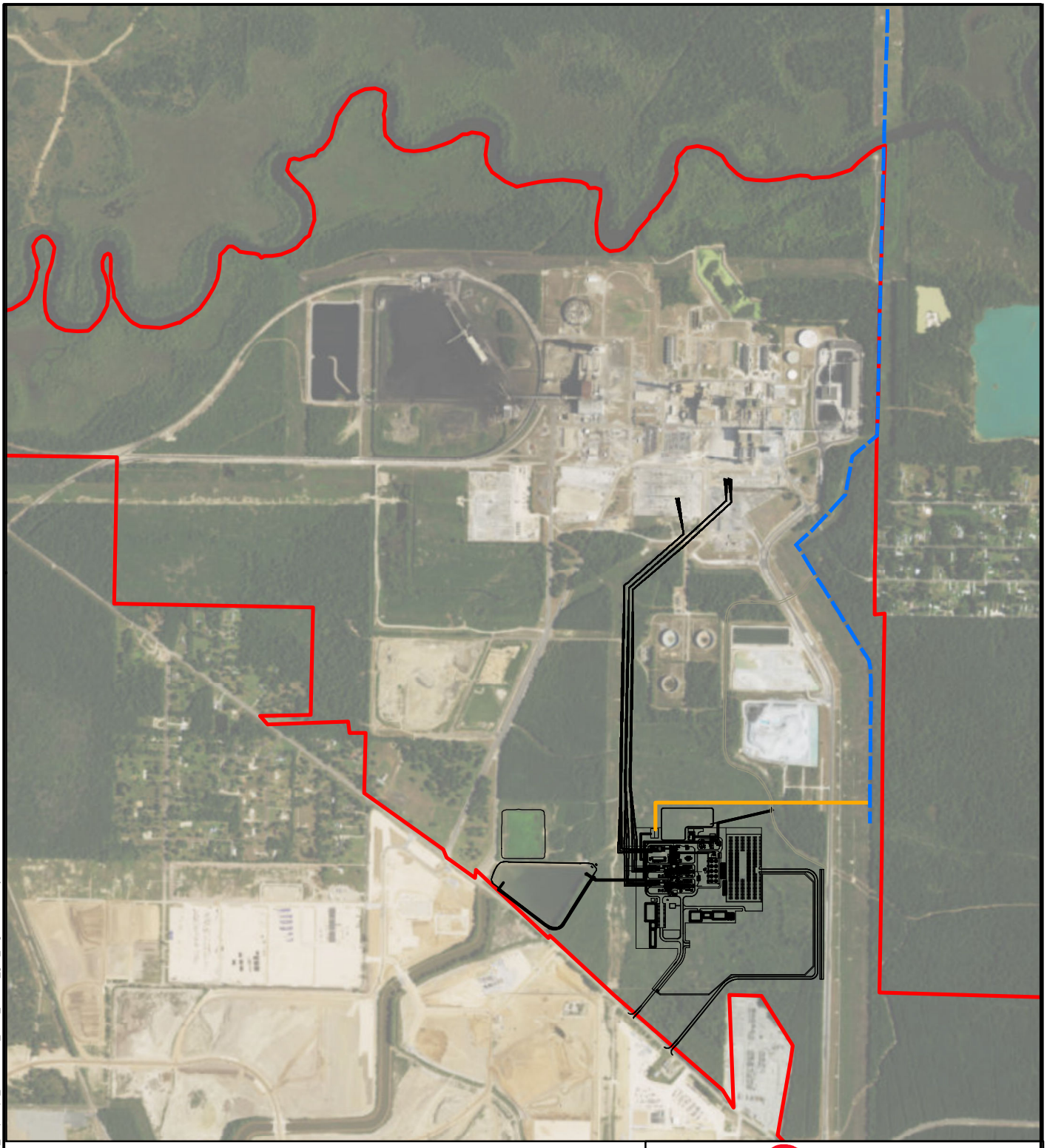
Entergy

LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER
13A

ENTIRE FUEL PATH WITH PROPERTY BOUNDARY

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809



Legend

- Proposed Fuel Supply Line
- LCPS Fuel Gas Lateral
- Roy S. Nelson Property Boundary

N

0 750 1,500 3,000

Feet

NOTES:
1. Fuel Gas supply line (to be permitted, owned and operated by fuel gas supplier).
2. Actual location of Fuel Gas Line to be determined.

REFERENCE:
Imagery provided by ESRI, dated 2013

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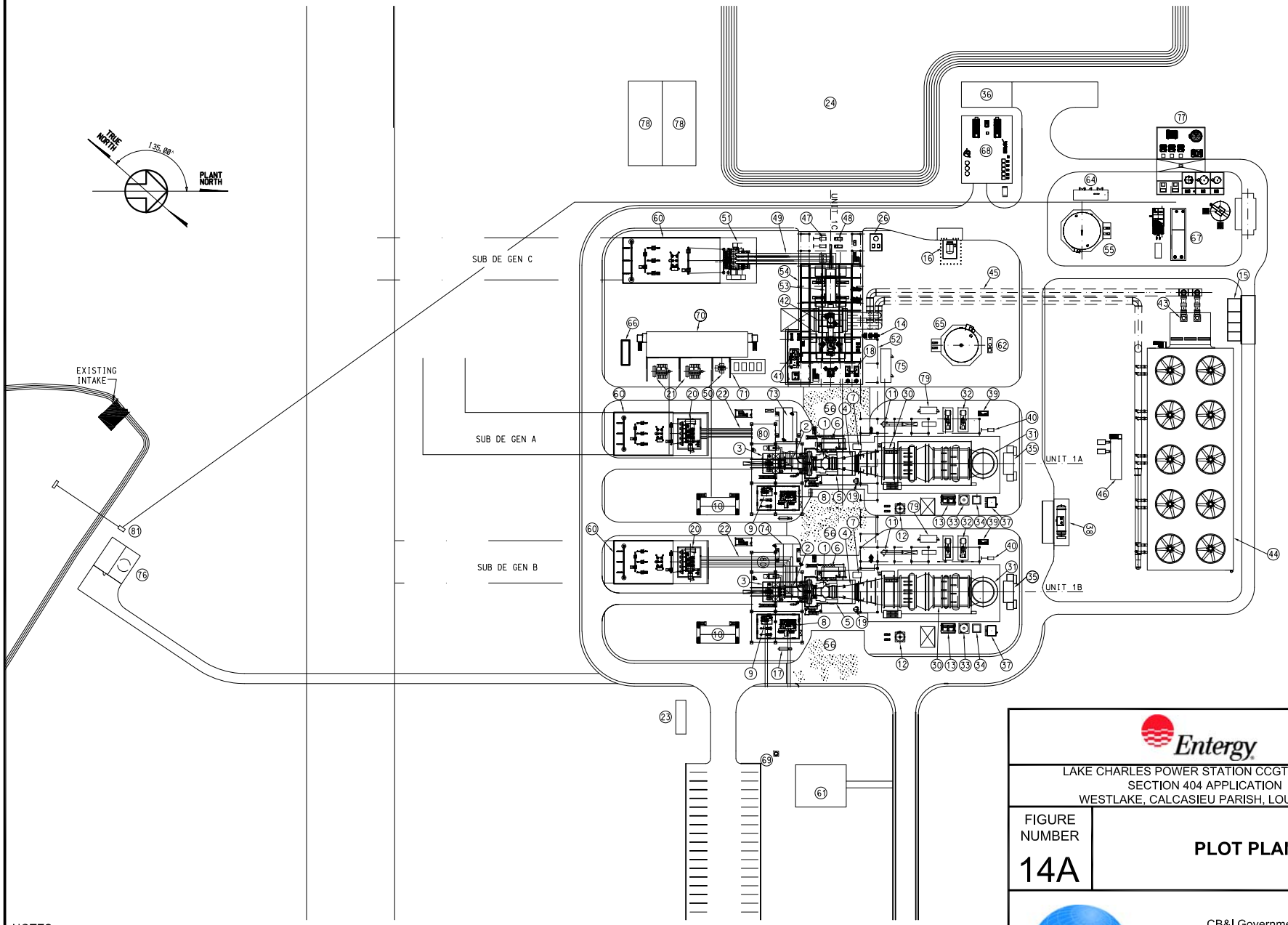
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 13B

NATURAL GAS PIPELINE ALIGNMENTS

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	02/08/17	KAW	03/03/17	DCS	03/03/17	lcps_723206715_A56



NOTES:
1. SEE FIGURE 14B FOR EQUIPMENT LIST.

REFERENCE: Source Drawing provided by CB&I Power, 155126-P-PP-0002_Rev_B.

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LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER
14A

PLOT PLAN

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
BTR	D. COMEAUX	02/08/17	KAW	03/02/17	DCS	03/02/17	lcps_723206715_A57

LEGEND

ITEM	DESCRIPTION
1	GAS TURBINE (GT)
2	GT GENERATOR
3	GT AIR INLET DUCT AND SILENCER
4	EXHAUST DIFFUSER
5	TURBINE ENCLOSURE
6	FUEL GAS MODULE
7	FUEL GAS INLET FILTER/SEPARATOR
8	LUBE OIL PACKAGE
9	CONTROL OIL SKID
10	GT CONTROL PACKAGE
11	FUEL GAS HEATER
12	TCA COOLER
13	AMMONIA FLOW CONTROL SKID
14	CONDENSATE PUMPS
15	COOLING TOWER CHEMICAL STORAGE AND UNLOADING AREA
16	HYDROGEN STORAGE AND UNLOADING AREA
17	CO2 FIRE PROTECTION SKID
18	INSTRUMENT AIR COMPRESSOR/TANK
19	WATER WASH SKID
20	GT MAIN STEP-UP TRANSFORMER (GSU)
21	UNIT AUXILIARY TRANSFORMER (UAT)
22	GT ISOLATED PHASE BUS DUCT
23	PACKAGED SEWAGE TREATMENT SYSTEM
24	STORM WATER POND
25	PLANT ENTRANCE GATE AND FENCE
26	CO2 STORAGE
30	HEAT RECOVERY STEAM GENERATOR
31	HRSG STACK
32	HRSG BOILER FEED PUMPS
33	HRSG BLOWDOWN TANK
34	HRSG BLOWDOWN SUMP
35	HRSG PDC
36	DEMIN TRAILER PARKING PAD
37	CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)
38	AQUEOUS AMMONIA TANK AND UNLOADING PAD
39	PHOSPHATE FEED SKID
40	HRSG HEAT EXCHANGER
41	STEAM TURBINE LUBE OIL SKID
42	CONDENSER
43	CIRC WATER PUMPS
44	COOLING TOWER
45	CIRC WATER PIPES
46	COOLING TOWER PDC
47	CLOSED COOLING SYSTEM HEAT EXCHANGER
48	CLOSED COOLING SYSTEM PUMPS
49	STG ISOLATED PHASE BUS DUCT
50	STG EXCITATION TRANSFORMER
51	STG MAIN STEP-UP TRANSFORMER (GSU)
52	PIPE RACK
53	STEAM TURBINE GENERATOR (STG)
54	STG ENCLOSURE
55	SERVICE WATER PUMPS
56	TEMPORARY GT MAINT CRANE PAD
60	GSUT INTERFACE SWITCHYARDS
61	ADMIN/CONTROLBLDG.
62	OIL/WATER SEPARATOR
63	SERVICE/FIRE PROTECTION WATER STORAGE TANK
64	FIRE PUMP HOUSE BUILDING
65	DEMINERALIZED WATER STORAGE TANK & PUMPS
66	DIESEL GENERATOR
67	RAW WATER TREATMENT AREA (MODULAR)
68	WATER TREATMENT MODULAR BUILDING
69	SANITARY SEWER LIFT STATION
70	MAIN PDC
71	STATION SERVICE TRANSFORMERS
72	WAREHOUSE BLDG.
73	GT EXCITATION SFC PACKAGE
74	GT EXCITATION PACKAGE
75	STG/BOP SAMPLE PANEL
76	SRA POND TREATMENT BUILDING AND SHED
77	BATCH NEUTRALIZATION
78	GAS METERING AREA (2)
79	HRSG SAMPLE PANEL
80	GENERATOR CIRCUIT BREAKER (GCB)
81	INTAKE PUMPS

NOTES:
1. SEE FIGURE 14A FOR LOCATION OF EQUIPMENT.

REFERENCE: Source Drawing provided by CB&I Power, 155126-P-PP-0002_Rev_B.

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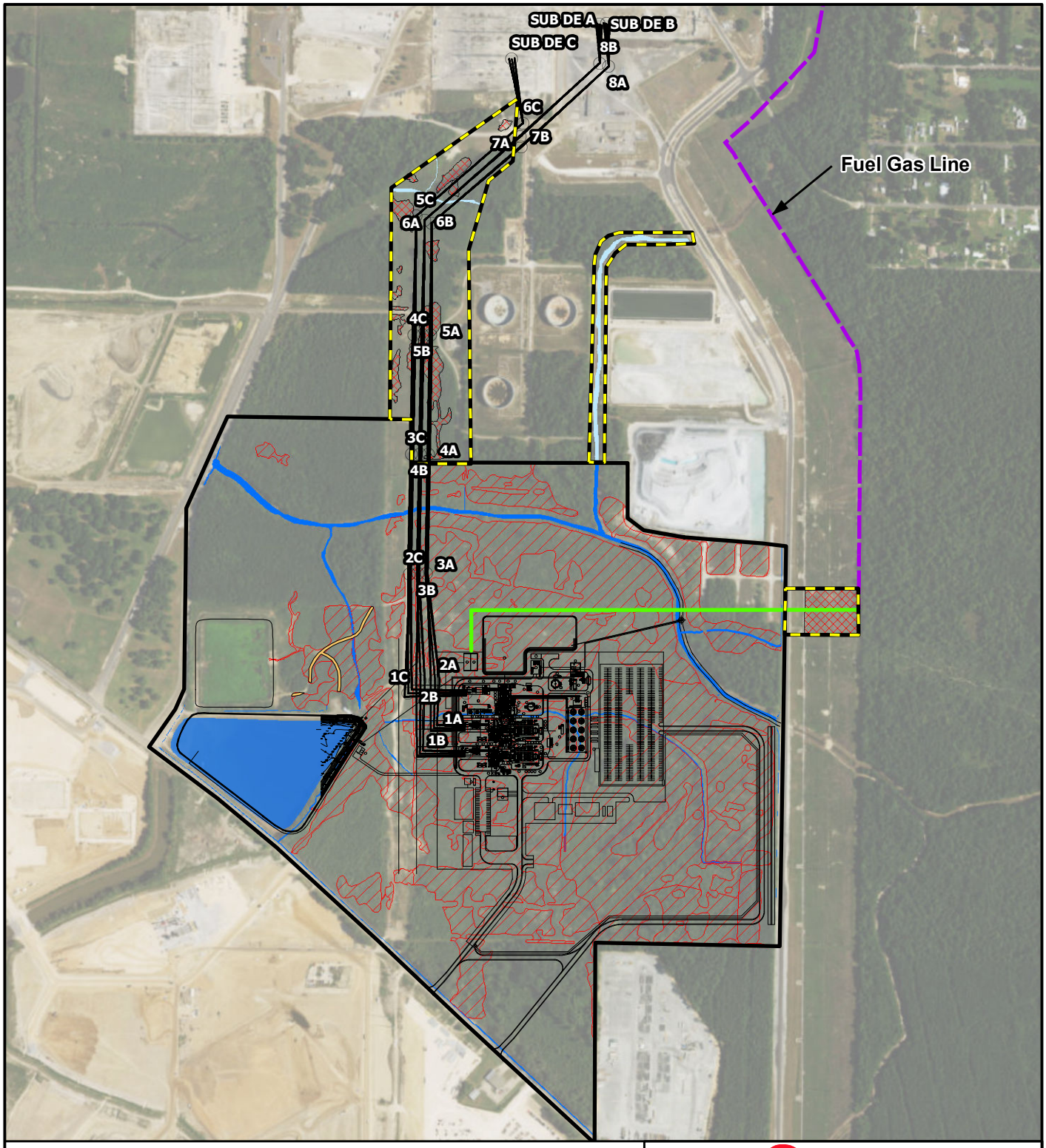
LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 14B

PLOT PLAN EQUIPMENT LIST

CB&I Government Solutions, Inc.
4171 Essen Lane
Baton Rouge, Louisiana 70809



Legend

- Proposed Fuel Supply Line
- LCPS Fuel Gas Lateral
- PJD Issued AOI
- Unauthorized Impacts
- Wetlands
- Other Waters of the US
- PJD Pending
- Potential Wetlands
- Potential Other Waters of the US

N

0 500 1,000 2,000

Feet

REFERENCE:
Imagery provided by ESRI, dated 2013

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LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 19A

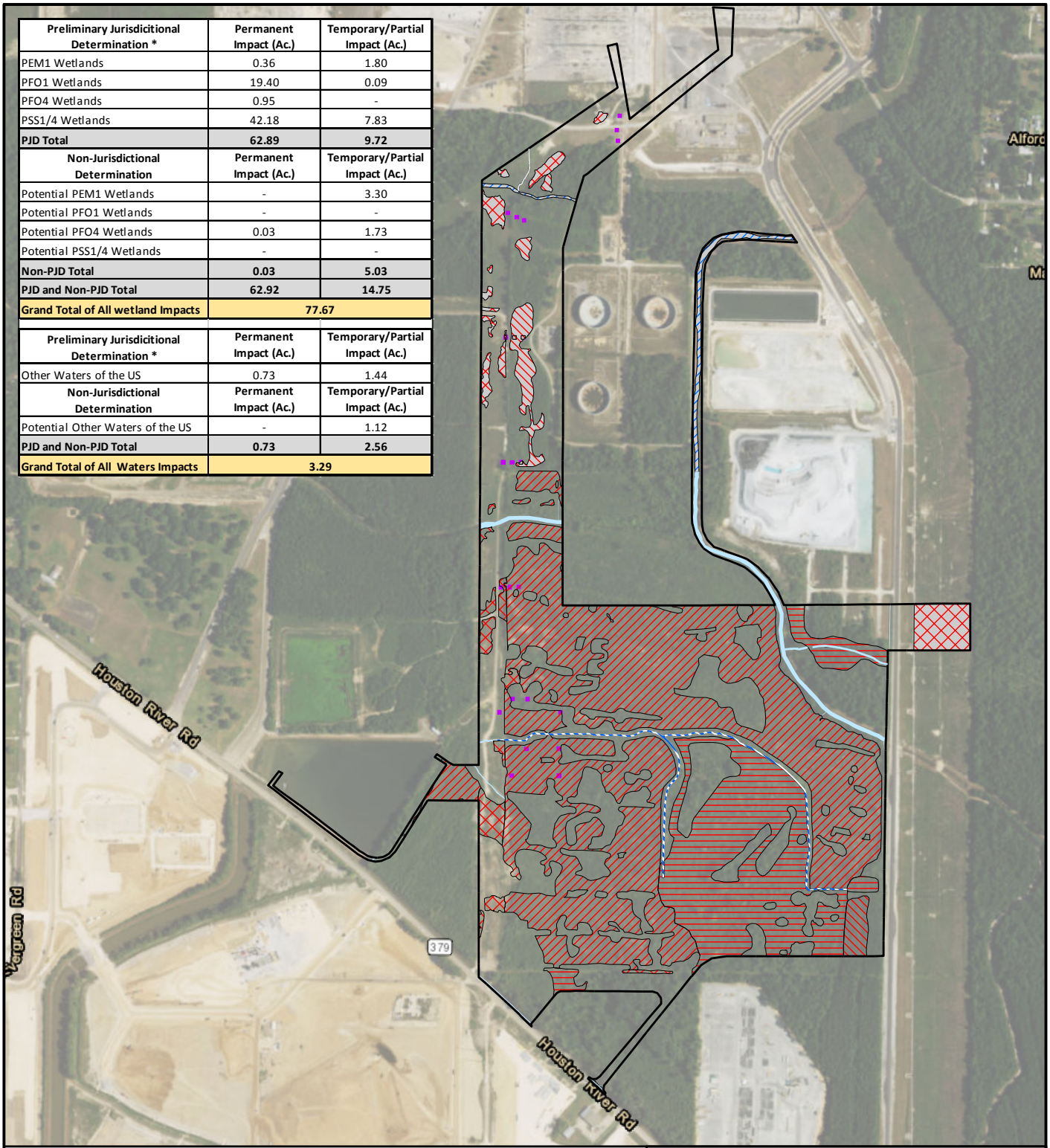
POTENTIAL WETLANDS/OTHER WATERS OF THE US AND PROJECT LAYOUT

CBI
4171 Essen Lane
Baton Rouge, Louisiana 70809
www.CBI.com

G:\Entergy\155175_Nelson\GIS_Documents\Project_Maps\entergy_155175_020_wet_pwr_line_Permit.mxd; Analyst: ; Date: 3/2/2017 9:54:11 AM

Preliminary Jurisdicitional Determination *	Permanent Impact (Ac.)	Temporary/Partial Impact (Ac.)
PEM1 Wetlands	0.36	1.80
PFO1 Wetlands	19.40	0.09
PFO4 Wetlands	0.95	-
PSS1/4 Wetlands	42.18	7.83
PJD Total	**62.89**	**9.72**
Non-Jurisdictional Determination	**Permanent Impact (Ac.)**	**Temporary/Partial Impact (Ac.)**
Potential PEM1 Wetlands	-	3.30
Potential PFO1 Wetlands	-	-
Potential PFO4 Wetlands	0.03	1.73
Potential PSS1/4 Wetlands	-	-
Non-PJD Total	**0.03**	**5.03**
PJD and Non-PJD Total	**62.92**	**14.75**
Grand Total of All wetland Impacts	**77.67**	

Preliminary Jurisdicitional Determination *	Permanent Impact (Ac.)	Temporary/Partial Impact (Ac.)
Other Waters of the US	0.73	1.44
Non-Jurisdictional Determination	**Permanent Impact (Ac.)**	**Temporary/Partial Impact (Ac.)**
Potential Other Waters of the US	-	1.12
PJD and Non-PJD Total	**0.73**	**2.56**
Grand Total of All Waters Impacts	**3.29**	



Legend

PJD (MVN-2015-02516-SK)

- PEM1 Wetlands
- PFO1 Wetlands
- PFO4 Wetlands
- PSS1/4 Wetlands
- Permanent Impacts to Waters of the US
- Temporary Impact to Waters of the US

PJD Pending

- Potential PEM1 Wetlands
- Potential PFO4 Wetlands
- Potential Other Waters of the US

- Project Impact Area (149.51 Ac.)
- Proposed Transmission Pole Location (21' x 21')

N

0 400 800 1,600

Feet

* USACE Account # MVN-2015-02516-SK

REFERENCE:
Imagery provided by ESRI, dated 2013

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LAKE CHARLES POWER STATION CCGT PROJECT
SECTION 404 PERMIT APPLICATION
WESTLAKE, CALCASIEU PARISH, LOUISIANA

FIGURE NUMBER 19B

IMPACTS TO WETLANDS AND OTHER WATERS OF THE US

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Baton Rouge, Louisiana 70809
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