

**SUNCOKE ENERGY
SOUTH SHORE FACILITY**

**EXHIBIT H
SITE ASSESSMENT REPORT
MERCHANT ELECTRIC GENERATING FACILITY AND
NON-REGULATED ELECTRIC TRANSMISSION LINE**

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Case #: 2014-00162

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1.0 DESCRIPTION OF PROPOSED FACILITY (KRS 278.708(3)(a))

SESS is proposing to construct and operate a merchant electric generating facility in Greenup County, Kentucky and a 138 kilovolt (kV) non-regulated electric transmission line (referred to as radial tie line throughout this application) which would connect to AEP's Millbrook Park, Ohio substation. The merchant electric generating facility would be contained within the SESS proposed heat recovery coke plant, as detailed below and in **Exhibit K – Heat Recovery Coke Plant Description**. Power produced from the proposed merchant electric generating facility would be transmitted on an independent radial tie line between the merchant electric generating facility and the Millbrook Park substation, with no ties or impact to the existing Kentucky power transmission system. The SESS proposed coke plant would purchase plant power from Kentucky Power via the nearby 69 kV transmission line. The proposed coke plant would consist of a heat recovery coke facility (including heat recovery coke ovens, a common tunnel to transfer heat, flue gas desulfurization, and a final stack to emit the desulfurized flue gas) as the source of steam to the merchant electric generating facility (see **Exhibit K** for full description and a Simplified Process Diagram). Waste heat converted to high-pressure, high-temperature steam at the heat recovery coke facility would feed the merchant electric generating facility's steam turbine generator (STG) to convert the steam to electricity. To maximize the amount of power produced, the STG includes a vacuum condenser which subcools condensate from the steam to create a vacuum to extract the maximum amount of power. The merchant electric generating facility would include the STG, the vacuum condenser, cooling tower, extraction steam systems, related process and instrument control systems, and a generator step up unit and associated electrical equipment. Because there is no independent footprint for the merchant electric generating facility separate from the proposed heat recovery coke plant, for purposes of this application, the central STG is utilized for defining the location of the merchant electric generating facility.

No fuel is direct fired at the merchant electric generating facility as it is converting steam (generated from waste heat at the coke plant) to power. Steam is the only source of feed to produce power provided to the merchant electric generating facility; no additional sources of fuel are used in the generation of steam. Therefore, there is no exhaust stack for the merchant electric generating facility. As noted above, the proposed heat recovery coke plant includes the final stack, or main stack, which emits the coke oven flue gas after treatment by the flue gas desulfurization system. For the purposes of this application, we are nevertheless applying the criteria of KRS 278.704(2) and KRS 278.706(2)(e) to the final stack for the coke plant, as if it

were an exhaust stack. A nominal 40-80 megawatts (MW) of electricity would be produced from the steam generated.

SESS also proposes to construct a new 138 kV electric radial tie line sufficient to transmit the electric power generated to the existing AEP Millbrook Park substation, located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky, traversing only facility property and the Ohio River. A conceptual site plan is provided as Figure 2 and a plant layout is provided as Figure 3. The location of the proposed generating 138 kV radial tie line is depicted on Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan.

1.1 Site Selection

SESS selected the proposed site in an extensive search for an appropriate location for the project. The site is located in an existing industrial area surrounded by current and former industrial sites. The Project Site is the appropriate size and allows access to adequate service and transportation assets for the project. The site's access to barge transportation for bringing in metallurgical coal, approximately 50% of which may be sourced from Kentucky, access to the rail line that would be used to carry the finished coke product offsite, the ability to utilize surface water from the Ohio River for the project's process and non-process operations, and the industrial setting all make the proposed facility location a good fit.

Given the symbiotic relationship of generating electricity from steam recovered by waste heat from the coke making process, SESS believes the requirement of locating the proposed facility on a site where existing electric generating facilities are located, as stated in KRS 278.706(2)(g), is not applicable to the proposed SESS facility. The primary purpose of the heat recovery coke plant is to convert metallurgical coal into metallurgical coke. Steam and power produced are byproducts.

1.2 Surrounding Land Uses

The subject property is a total of approximately 250 acres in an industrial area near South Shore, Kentucky. It is currently utilized for agricultural purposes and is bordered by properties that have a history of being used for industrial purposes. To the north is the Ohio River. To the west is the MarkWest Hydrocarbon plant that produces natural gas and natural gas liquids from fractionation. To the east of the Reid property is the former Hooker Chemical/Kentucky Ohio Transportation Inc./South Shore Terminal/Eastern Terminal (Hooker Chemical) site. Also to the east of the Siloam property and south of the Reid property is the land owned by Graf Brothers, which manufactures and stores hard wood flooring and lumber. Access to the subject property

is via Johnson's Lane along the eastern boundary and via a drive off of Route 23 along the southern boundary.

Residential Neighborhoods and Structures

There are no residential structures or neighborhoods adjacent to the facility or within 1,000 feet of the facility's proposed main exhaust stack (refer to **Figure 4 - Setback Requirements Map**). One residence is located to the adjacent south of the CSX rail line and approximately 400 feet east of the Siloam property that is located south of the CSX rail line and north of US Highway 23. A residential structure is also located to the south of the CSX rail line and north of US Highway 23 along the western side of Johnson's Lane. Various residences are located along the southern side of US Highway 23.

Pursuant to KRS 278.706(2)(b), **Figure 5 - Two-Mile Site Vicinity Map** depicts the closest residential structures and those residential neighborhoods located within a 2-mile radius of the merchant electric generating facility. (As noted above, for purposes of this application, the central STG is utilized for defining the location of the merchant electric generating facility.) The closest residential structures are the aforementioned residences located to the adjacent south of the CSX rail line, approximately 1,700 feet south-southeast and approximately 2,200 feet southeast, respectively, from the proposed central STG. The next closest residential structure is located on the south side of US Highway 23, approximately 2,500 feet south from the proposed central STG.

"Residential neighborhood" is defined by KRS 278.700(6) as "a populated area of five (5) or more acres containing at least one (1) residential structure per acre". Five residential neighborhoods, located to the south, east, and west of the subject property are within 2 miles of the proposed central STG in Kentucky. SESS has been conservative in defining areas as meeting the definition of residential neighborhood and has included any area that potentially meets the definition.

Schools

There are two schools within two miles of the proposed central STG in Kentucky. The nearest schools are McKell Elementary School and McKell Middle School, approximately 1.7 miles southwest of the proposed central STG.

Hospitals and Nursing Homes

There are no hospitals or nursing homes within two miles of the proposed central STG in Kentucky.

Public and Private Parks

There are no public or private parks within two miles of the proposed central STG in Kentucky. The nearest public park in Kentucky is Legion Park in the city of South Shore, approximately 2.6 miles to the southwest from the proposed central STG. The closest state park or nature preserve in Kentucky is Greenbo Lake State Resort Park, approximately 14 miles southeast of the subject property, and the nearest federal park or nature preserve in Kentucky is the Daniel Boone National Forest, approximately 35 miles southwest of the subject property.

1.3 Legal Boundaries

The subject site property is comprised of the Siloam property (west) and the Reid property (east). The Siloam property to the north of the CSX rail line is used for agricultural purposes, and the portion of the Siloam property to the south of the CSX rail line and north of US Highway 23 is used for cattle grazing. The portion of the subject property owned by Reid is used for agricultural purposes. A copy of the property survey has been included as **Exhibit A - Property Survey Map**.

1.4 Proposed Access Control

SESS understands the critical importance of access control for an operating facility. The facility would operate 24-hours a day and therefore access would be managed at all times. The Project Site would be fenced with access through controlled gates. The gates would be monitored at all times. Access would be granted to employees, material delivery trucks, documented visitors, utility providers, and vendors/contractors.

1.5 Location of Facility Buildings and Radial Tie Lines

Figure 3 - Plant Layout Map identifies and provides relative locations of various proposed structures to be constructed for the project. **Figure 5 - Two-Mile Vicinity Map** depicts the closest residential structures and those residential neighborhoods located within a two-mile radius of the merchant electric generating facility. (As noted above, for purposes of this application, the central STG is utilized for defining the location of the merchant electric generating facility.) **Figure 6** depicts the **Radial Tie Line Route and One-Mile Vicinity Plan**

and **Figure 7 - Radial Tie Line Plan and Profile Sheets** provides detail of the location and construction of each radial tie line structure.

1.6 Location and Use of Access Ways, Internal Road and Railways

The site is accessed from United States (US) Highway 23, approximately two miles east-northeast of South Shore, Kentucky (refer to **Figure 1 - Site Location Map**). There would be access to a CSX rail line that would be used for offsite transport of the finished coke product.

1.7 Existing or Proposed Utilities to Service the Project

The project would be serviced by the following utilities:

- Electric: Kentucky Power
- Water: South Shore Water Works Company
- Sewer: City of South Shore Wastewater Treatment Plant
- Natural Gas: Columbia Gas

The project would require a cooling water intake structure (CWIS) to be designed and constructed to withdraw water from the Ohio River. The water would be primarily used for quenching and cooling tower needs. The CWIS would be compliant with Section 316(b) of the CWA. An intake pipe and wedge-wire screen would be installed on the river bottom, and pumps for the structure would be housed within a concrete pump house that would be located on the bank of the river on the eastern portion of the site. Water supply from the South Shore Water Works Company would be used for potable uses and as a secondary (backup) source for facility cooling water needs.

The project would require specific discharge piping for non-process water (cooling tower blowdown, boiler blowdown, and other non-process waters). The system would consist of discharge piping and an anticipated multi-port diffuser located within the Ohio River. The non-process water discharge would be permitted under a Kentucky Pollutant Discharge Elimination System (KPDES) discharge permit that would be issued for the site. It is anticipated that outflow would be through a diffuser system to facilitate compliance with Kentucky water quality standards.

Sanitary wastes from the site would be conveyed to and treated by the City of South Shore Wastewater Treatment Plant.

1.8 Compliance with Applicable Setback Requirements

The proposed merchant electric generating facility would not be located on the site of a former coal processing plant, so the latter part of KRS 278.706(2)(e) requiring a statement that the site is compatible with setback requirements provided under KRS 278.704(5) is inapplicable to the SESS project. Likewise, the facility would not be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), so the last sentence of KRS 278.706(2)(e) is also inapplicable to the project.

With regard to the first sentence set forth in KRS 278.706(2)(e), while the proposed facility would not be located on the site of a former coal processing plant, it would not be using on-site waste coal as a fuel source, and it is therefore unclear whether the statement regarding the 1,000-foot requirement for the exhaust stack and the 2,000-foot requirement for all proposed structures or facilities used for the generation of electricity applies to the SESS project.

Nevertheless, in order to ensure compliance with the statute and because, pursuant to KRS 278.704(2), no construction certificate shall be issued to construct a merchant electric generating facility unless the exhaust stack of the proposed facility will be at least one thousand (1,000) feet from the property boundary of any adjoining property owner and all proposed structures or facilities used for generation of electricity will be two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility, SESS makes the statements set forth below with regard to the location of the proposed exhaust stack and applicable structures. With regard to the SESS project, all proposed structures or facilities used for generation of electricity are located more than 2,000-feet from any residential neighborhoods, schools, hospitals or nursing home facilities; and, therefore the project is in compliance with the 2,000-foot setback requirement under either KRS 278.706(2)(e) or KRS 278.704(2).

In terms of any setback requirement for the “exhaust stack” under the statute, as noted above, the proposed heat recovery coke plant includes the final stack, or main stack, which emits the coke oven flue gas after treatment by the flue gas desulfurization system. For purposes of this application and in order to ensure full compliance with the statute, we are nevertheless applying the criteria of KRS 278.706(2)(e) and KRS 278.704(2) to the final stack for the coke plant, as if it were an exhaust stack. The proposed exhaust stack is less than 1,000 feet from one adjacent property owned by DGGG realty and populated by Graf Brothers. The property within the 1,000-foot radius is operating as a commercial and industrial facility and is depicted on **Figure 4 - Setback Requirements Map**.

KRS 278.704(4) allows the Siting Board to grant a deviation from these setback requirements if the proposed facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than those specified above. A separate motion requesting a deviation pursuant to KRS 278.704(4) will be filed by the Applicant.

The legislative history and statutory language of the statute suggest that the primary purpose of the setback requirements is to protect the assumptions and expectations of property owners who had no reason to expect the construction of a merchant power plant near their property.

As evidenced by **Exhibit D - Land Option Agreement**, DGGG Realty and Graf Brothers have been aware of the proposed project for roughly 4 years. Originally, SESS had a purchase option agreement to purchase a portion of the Graf Brothers' land when a larger plant was under consideration. The bridge overpass spanning the CSX rail was originally intended for Johnson's lane which caused concern to Graf Brothers. In response, Graf Brothers added a clause in the last unexecuted land option extension agreement which would not allow for construction of a bridge overpass on Johnson's lane. In an attempt to alleviate the concern Graf Brothers raised, even though SESS chose not to accept the terms of the option extension, SESS relocated the overpass onto the proposed plant property.

Additionally, the exhaust stack for a typical merchant power plant is for the venting of combustion products from direct fired fuels solely for the purpose of power production. The proposed final stack, or main stack, for the heat recovery coke plant that is the subject of this application is distinguishable, in that it exists to vent coke oven flue gas after treatment by the flue gas desulfurization system. (See **Exhibit K.**)

Given that the adjacent property owners are aware, and have been aware, of the proposed SESS project, the coke plant and merchant electric generating facility have been designed in accordance with emissions compliance requirements, and the property within 1,000 feet of the stack is an industrialized zone, in its motion, SESS will request that a deviation from the setback requirements be issued based upon a finding that the proposed project is designed and located to meet the goals of applicable statutes at a distance closer than 1,000 feet.

1.9 Evaluation of Noise Levels

There is a Noise Ordinance (**Exhibit C2**) for the unincorporated boundaries of Greenup County but that noise ordinance would not be applicable to the proposed SESS project since the noise ordinance only applies to homes or residences. The subject property is located within an industrial area. To the adjacent west is MarkWest Hydrocarbon plant that produces natural gas.

To the adjacent south is the Graf Brothers site, which processes and stores hard wood flooring and lumber. Each of the bordering sites at present produce a relatively high level of noise. The subject property operations would also be set back approximately 1,400 feet from Route 23, providing a buffer between the proposed facility operations and the community.

In addition to the noise produced by the adjacent facilities, there is currently a high noise level in the area due to the traffic volume along Route 23 and the CSX railroad to the south. According to the Kentucky Transportation Cabinet Division of Planning, the average daily traffic volume along Route 23 near the proposed site location is approximately 11,800 vehicles. The project would employ approximately one hundred workers, which would have a negligible increase to the current traffic volume and similarly negligible increase to the noise levels.

Perimeter noise monitoring was completed by Pekron Consulting at SunCoke's Middletown, Ohio heat recovery coke plant, which is similar to the proposed South Shore facility. Unlike South Shore, Middletown is situated close to the neighboring community and is surrounded by public roadways. The noise study was completed for both construction and normal operation activities. This study indicated the background noise levels related to traffic and other area activities matched or were higher than those from the facility. This indicated that noise did not pose a negative contribution effect upon the surrounding community. The Middletown plant is closer to the roadway, unlike the proposed SESS plant's closest operating unit (quench tower), which would be on the north side of the CSX railroad approximately 1,400 feet from Highway 23. The highest potential noise emitting unit (steam turbine generator) would be approximately 1,800-feet from Highway 23 and is contained within a building. The SunCoke Middletown coke plant location has topography similar to the proposed SESS plant location, which suppresses the noise generated at the plant site. Similar to the Middletown site, it can be assumed that the noise levels generated at the proposed SESS site would not pose a negative contributing effect upon the noise levels within the surrounding properties. As indicated in **Exhibit H1 - Middletown Facility Noise Study**, noise measurements recorded at the entrance to the Middletown coke plant during non-construction of the facility (background) on July 1, 2010, construction of the facility on July 2, 2010, and during operations on September 11th and 12th, 2012 were all consistent. Maximum pre-construction noise levels (74.5 sound pressure level or dBA) at the entrance to the Middletown coke plant were actually higher than maximum operational noise levels (66.0 dBA) recorded during the study.

2.0 COMPATIBILITY OF THE FACILITY WITH THE SCENIC SURROUNDINGS

The site is located in an existing industrial area currently surrounded by Mark West and Graf Brothers and the former Hooker Chemical site. The site is believed to be aesthetically compatible with the present-day surroundings.

The subject site is currently utilized for agricultural purposes and is bordered by properties that have a history of being used for industrial and commercial purposes. As discussed in Section 1.2, to the north of the site is the Ohio River, to the west is the Mark West Hydrocarbon plant, to the east of the Reid property is the former Hooker Chemical site, and to the east of the Siloam property and south of the Reid property is the Graf Brothers site.

The closest residential structures are located to the adjacent south of the CSX rail line, approximately 1,700 feet south-southeast (Greenup County Parcel # 100-00-00-002.00) and approximately 2,200 feet southeast (Greenup County Parcel # 100-00-00-007.00), respectively, from the proposed central STG. The next closest residential structure is located on the south side of US Highway 23, approximately 2,500 feet south from the proposed central STG (Greenup County Parcel # 100-20-01-046.00).

As noted earlier, for purposes of this application, SESS has utilized the central STG to define the location of the merchant electric generating facility. However, in order to take a conservative approach with regard to the visibility of the Project Site from surrounding residential structures, SESS considered the visibility of the proposed exhaust stack for the coke plant. (The proposed stack is the tallest structure on the site and exceeds the height of the STG by approximately 170'.) **Exhibit H3 - Line of Sight Profiles**, created from four different vantage points, show that the proposed stack would likely be visible from three of the four properties that were evaluated in the surrounding area. However, as seen in **Exhibit H3**, the character of the existing viewsheds for the surrounding residences would not be substantially changed by the construction of the coke plant and merchant electric generating facility, as each viewshed currently includes the Mark West and Graf Brothers industrial properties.

The radial tie line is expected to be visible to much of the surrounding area. The radial tie line structures are depicted in **Figures 6 and 7**. However, the radial tie line and structures are unlikely to alter the scenic view of any observer, especially given their location within or adjacent to an existing industrial area and the presence of existing electrical transmission infrastructure. Renderings depicting the likely view of the project from the intersections of US Highway 23 and Biggs Lane and US Highway 23 and Gibson Lane are included in **Exhibit H2 - Conceptual Viewsheds**. Due to the existing surrounding property use and electrical transmission lines, the

view of the project is likely to be no more intrusive than the existing industrial structures surrounding the Project Site from the vantage points of these two locations.

SESS also has plans to install a “green belt” which is a border of berms, trees, and landscaping surrounding the exterior view of the plant. This will be designed to be consistent with safety and maintainability at the Highway 23 entrance. See **Exhibit H4** for example designs of existing “green belts” at SunCoke Plants.

3.0 POTENTIAL CHANGES IN ADJACENT PROPERTY VALUES

As discussed throughout this report, the proposed project is located within an industrial setting. Because of the appropriate selection of this site and the significant setback distance from US 23, the facility is anticipated to have a marginal but positive effect on community property values. However, the project would have a very significant and positive overall effect on the community economic conditions.

The proposed project would positively affect community employment. The project would generate the need for short-term construction jobs during the construction phase of the project. Construction employment is expected to peak with over 600 workers over an estimated 24 to 27 month construction duration. Once the facility is operational, it would employ approximately 100 to 120 full-time employees. These new positions would also result in significant indirect economic benefit to the community in the way of new additional support services.

The proposed project would positively impact the median household income levels for those workers affiliated with the proposed project. According to the U.S. Department of Labor's Quarterly Census of Employment and Wages Program, the most recent income data available for Greenup County (2013, 2nd quarter) indicates the average annual per capita income is \$35,672. Once the facility is operational, a new payroll of approximately \$9 million/year is anticipated for the approximate 100 to 120 new full-time positions. The average employee salary would significantly exceed the average Greenup County per capita income.

4.0 ANTICIPATED NOISE LEVELS AT PROPERTY BOUNDARY

Refer to the previous Section 1.9 for a discussion of the anticipated noise levels at the property boundary.

5.0 ROAD, RAIL AND FUGITIVE DUST

The following sections provide a discussion of the project's anticipated impact on road, road, and fugitive dust.

5.1 Rail Impacts

Railroad spurs, bordering the western and northern portions of the proposed plant, would connect to the local CSX rail line. The proposed rail spurs would be used for transport of the finished coke product to its regional industrial customer. Since the inception of this project, SESS has worked closely with CSX on the design of the rail layout within the plant, impacts to the existing lines, and other considerations. SESS followed specification provided by CSX to design the rail layout. CSX has reviewed the layout and has determined that the design is optimal and includes the ability to enter and exit both east and west as well as create no impact to the main lines for switching. All activities can be performed within the plant layout. Refer to **Exhibit H5 - Summary of Rail Impact Considerations** for detail on meetings held between SESS and CSX which defined rail layout, options reviewed, and CSX acknowledgement on the proposed design.

5.2 Road Impacts

SESS has been working with Kentucky Department of Transportation (KYDOT) and the Greenup County road engineer over the past several years to address concerns with possible road impacts

The primary road impacts would be experienced during the construction phase of the project. During this construction period, 500 or more workers would be involved with the project. SESS is actively planning for this construction period, and has considered the provisions that would be required to accommodate the construction traffic. SESS would work with the KYDOT on temporary signaling and other appropriate traffic controls installed on U.S. 23 during the construction period. Construction traffic and work hours would also be staged to the extent possible. Parking for construction workers would be at the south end of the property between Highway 23 and CSX railroad with a footbridge over CSX to the site. Construction vehicles and heavy equipment would utilize Johnson's Lane during construction. While the number of construction workers would be significant, the number of construction vehicles would still be relatively small in comparison to the average daily traffic on U.S. 23. According to the Kentucky Transportation Cabinet Division of Planning the average daily traffic volume along U.S. 23 near the proposed site location is approximately 11,800.

During operation, the number of workers at the SESS plant would be significantly less than that during construction. SESS is working with KYDOT on a bridge overpass from Highway 23 over the CSX railroad into the plant. This allows for unimpeded access to the plant avoiding any blockages caused by the railroad. The Highway 23 entrance is intended to have turn lanes and acceleration lanes with a light being studied. The site would employ approximately 100 to 120 full-time employees, which would have a negligible increase to the current traffic volume.

5.3 Fugitive Dust Impact

Personal vehicles, maintenance trucks, and trucks hauling coke, breeze, and other materials would travel roads around the facility. Open-bodied trucks transporting materials likely to become airborne would be covered when in motion. These roads would be paved and appropriate control measures would be applied (e.g., flushing) when needed. There would be sections of unpaved roads in the lower tier of the property that is susceptible to flooding. These roads would not be paved to avoid introducing asphalt or related paving material into the river during a flood. The unpaved roads would be treated with petroleum resin or an environmentally acceptable dust suppressant material and watered as needed for dust control.

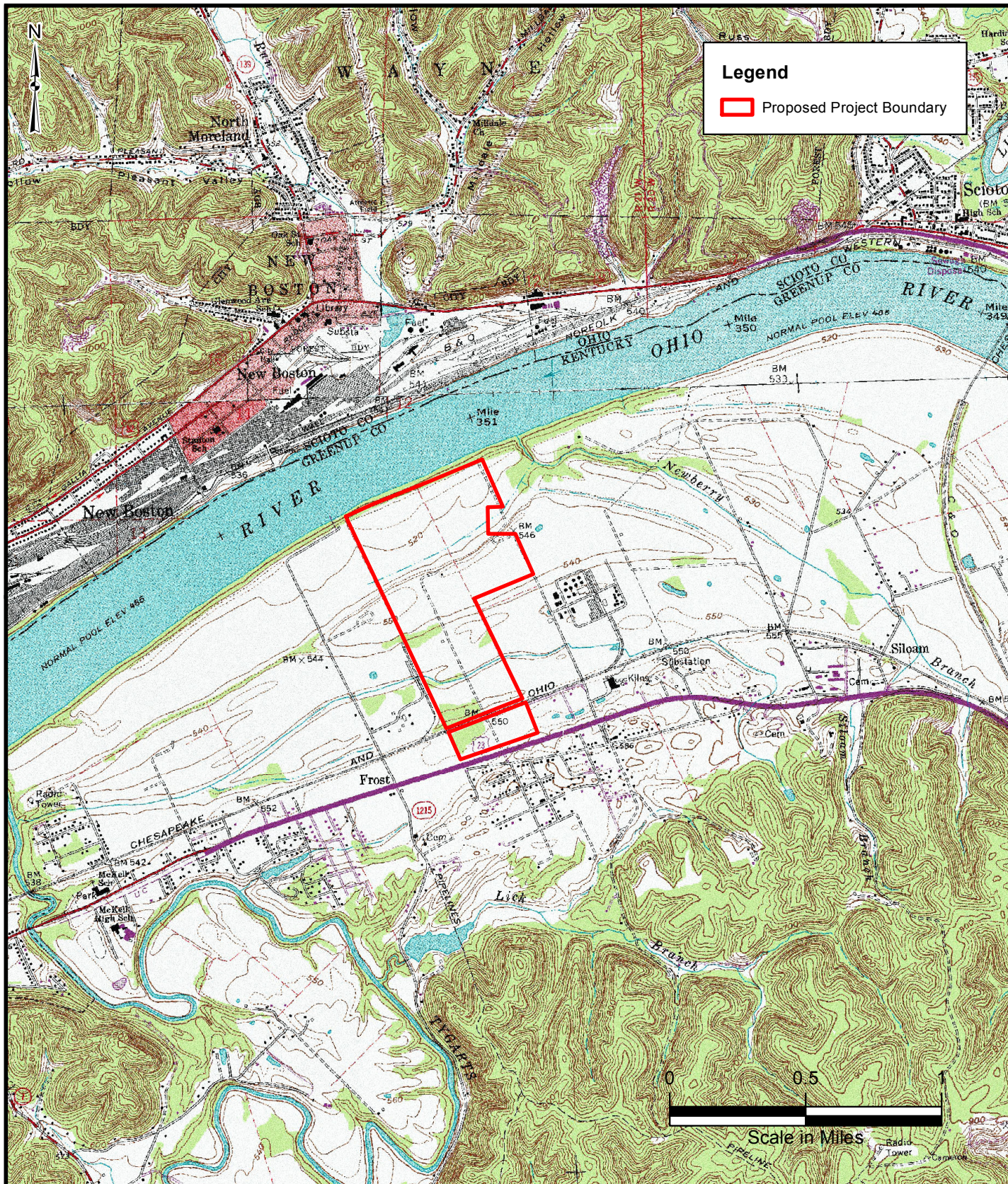
Coal transfer, coal storage, and the coal crusher at the coke plant are regulated under "Standards of Performance for Coal Preparation and Processing Plants," 40 CFR 60, Subpart Y. This regulation limits opacity to 10% for coal processing and conveying equipment, coal storage systems, or coal transfer and loading systems except for open coal storage. Loading, unloading, and conveying operations of open storage piles are not subject to the opacity limit. A fugitive dust control plan is required for open coal storage.

Short-term construction emissions would occur while the facility is being built. Emissions of fugitive dust during construction would be minimized by employing controls such as watering unpaved roads, flushing paved roads, vegetating disturbed surfaces, stockpiling materials as soon as practicable, and other measures so that short-term daily construction impacts would not likely exceed those already occurring from current nearby activities. Therefore, short-term construction impacts should be minimal and not pose a threat to ambient air quality.

6.0 MITIGATING MEASURES

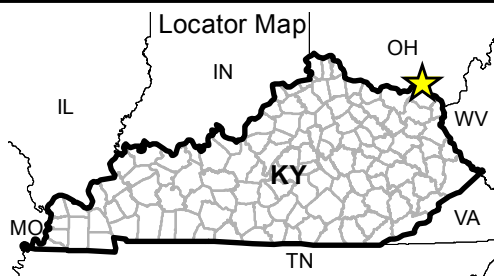
SESS's proposed heat recovery coke plant has considered mitigating measures in the site's development and design. As such, listed below is a summary of some actions taken and proposed by SESS to identify and mitigate potential impacts to the surrounding community and environment:

- SESS designated a site in an established industrial park to decrease the effect of the project on an area less compatible with the project;
- SESS would provide a green belt around portions of the Project Site to achieve two objectives: provide a visual barrier to the local area and reduce the noise levels generated;
- SESS has considered potential impacts to wildlife and jurisdictional waters in its site design and has taken steps to minimize potential impacts by locating all transmission structures outside of wetland areas.
- SESS has assessed the potential for effects on the cultural resources of the area. In response, it has taken steps to minimize impacts to sensitive areas near the Ohio River by restricting site activities to defined minimal corridor areas.
- The SESS site has been designed such that facility buildings and operations are setback approximately 1,400 feet from the U.S. 23 entrance.
- SESS would paint project structures a neutral color, excluding markings which may be obligatory by OSHA, the Federal Aviation Administration (FAA) and/or Kentucky Airport Zoning Commission (KAZC) or to otherwise protect the safety of employees.



LEGEND:

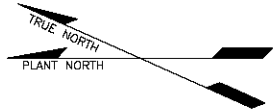
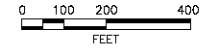
BASE MAP SOURCE:
USGS 7.5' Topographic Quadrangle
Portsmouth, KY-OH (1977)
New Boston, OH-KY (1976)



**SunCoke Energy
South Shore Facility**

FIGURE 1
SITE LOCATION MAP

PRELIMINARY



JOHNSON LANE

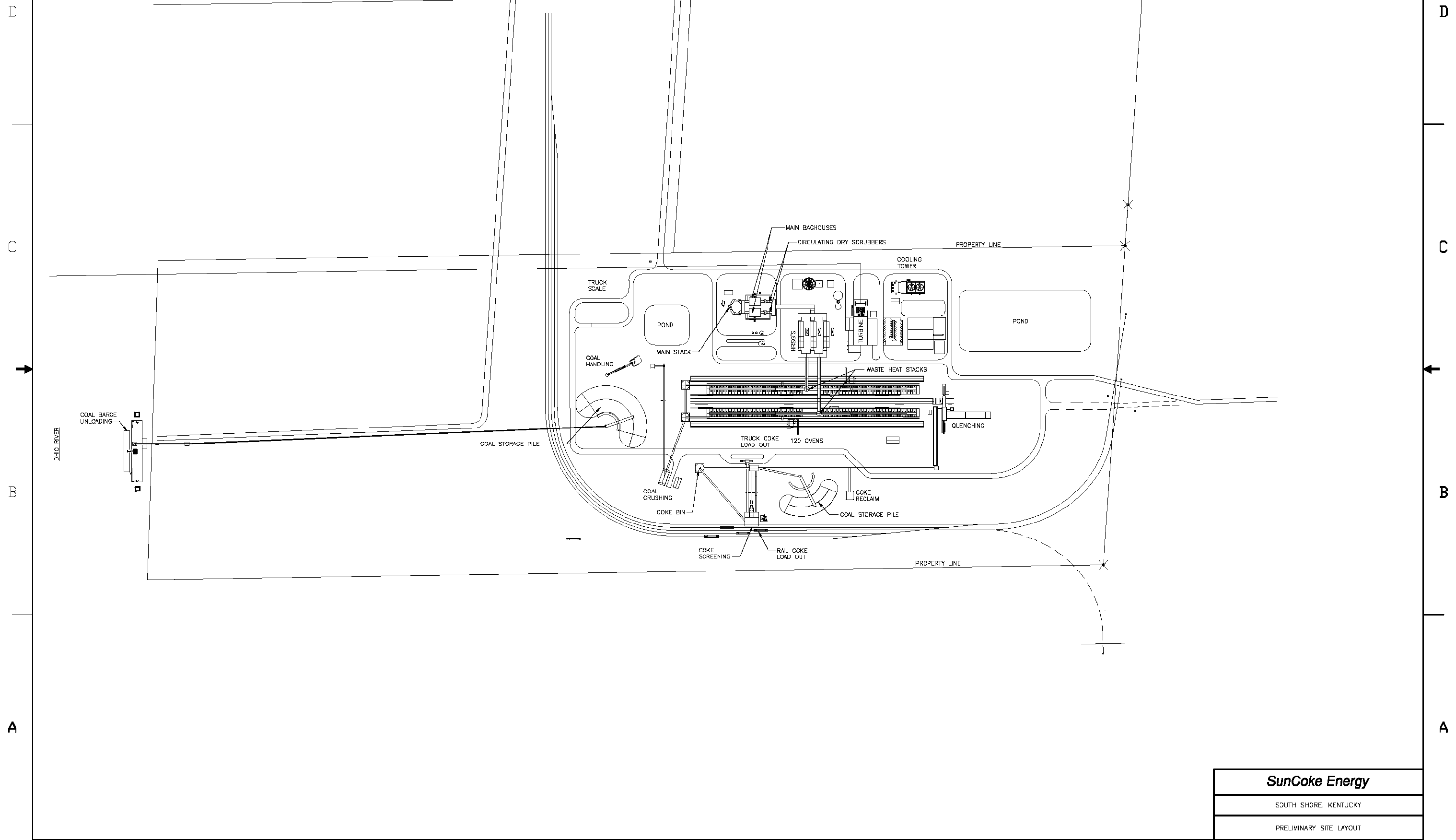


FIGURE 2
CONCEPTUAL SITE PLAN

SunCoke Energy
SOUTH SHORE, KENTUCKY
PRELIMINARY SITE LAYOUT

PRELIMINARY

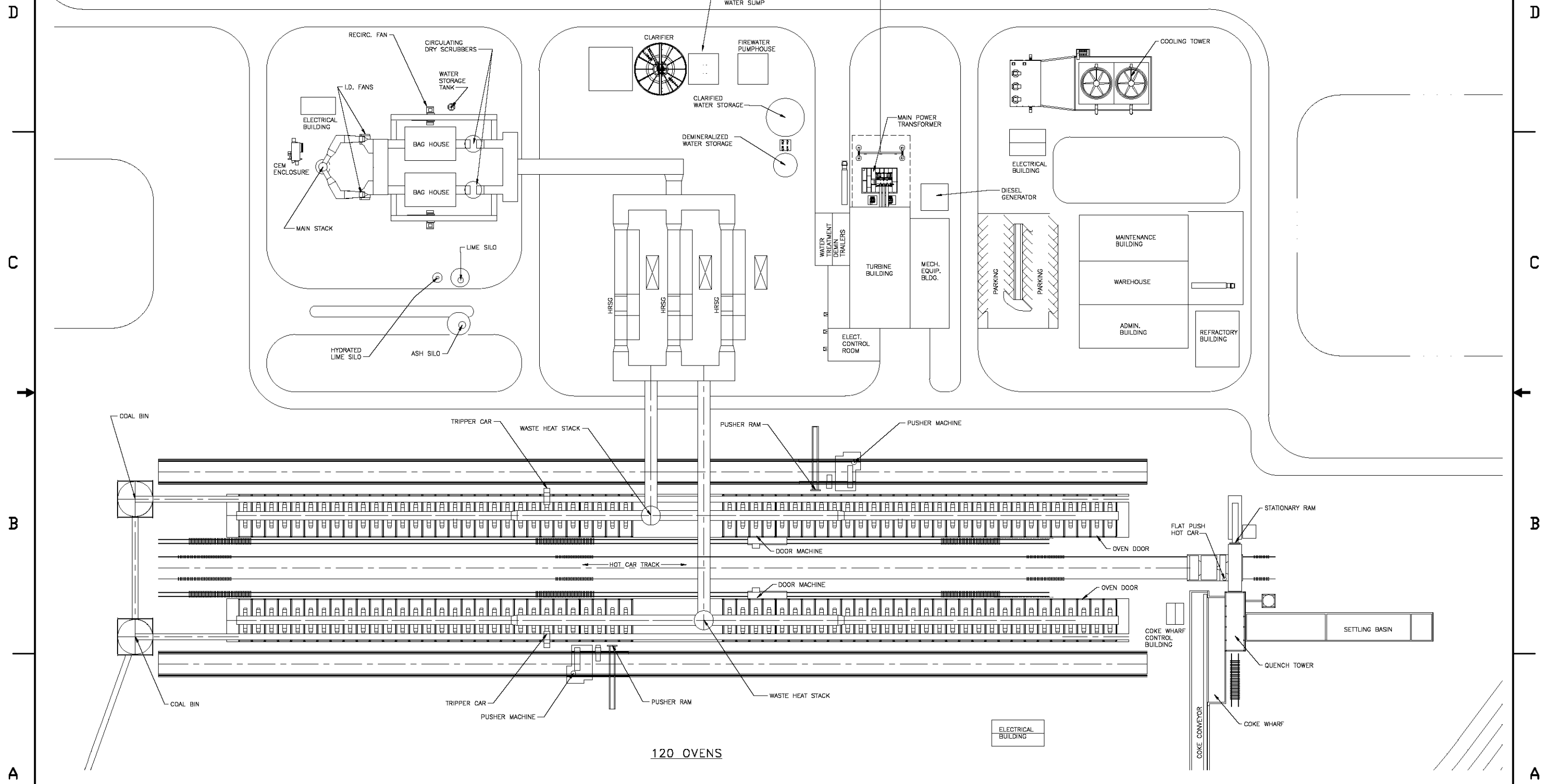
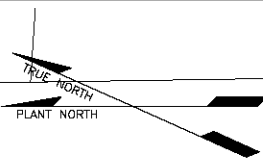
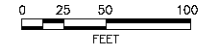
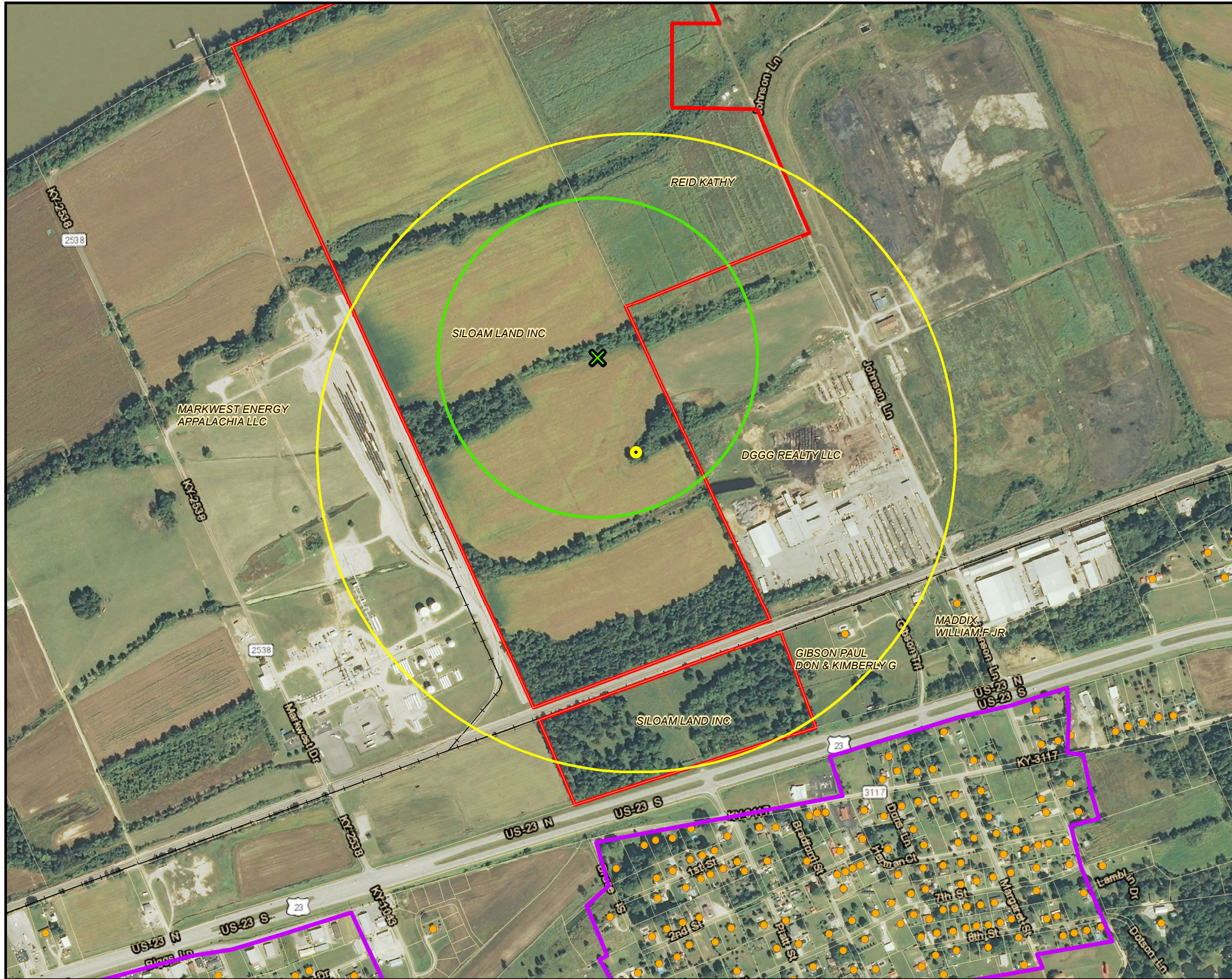


FIGURE 3
PLANT LAYOUT

SunCoke Energy
SOUTH SHORE, KENTUCKY
PRELIMINARY SITE LAYOUT OVENS AT POWER ISLAND



Legend

- Residential Structure
- Approximate Steam Turbine Generator Location
- ✕ Approximate Main Stack Location
- 1,000' Buffer of Approximate Main Stack Location
- 2,000' Buffer of Approximate Steam Turbine Generator Location
- Approximate Project Boundary
- Residential Neighborhood as defined by KRS 278.700(6)
- Greenup County Parcel
- +— Rail Line

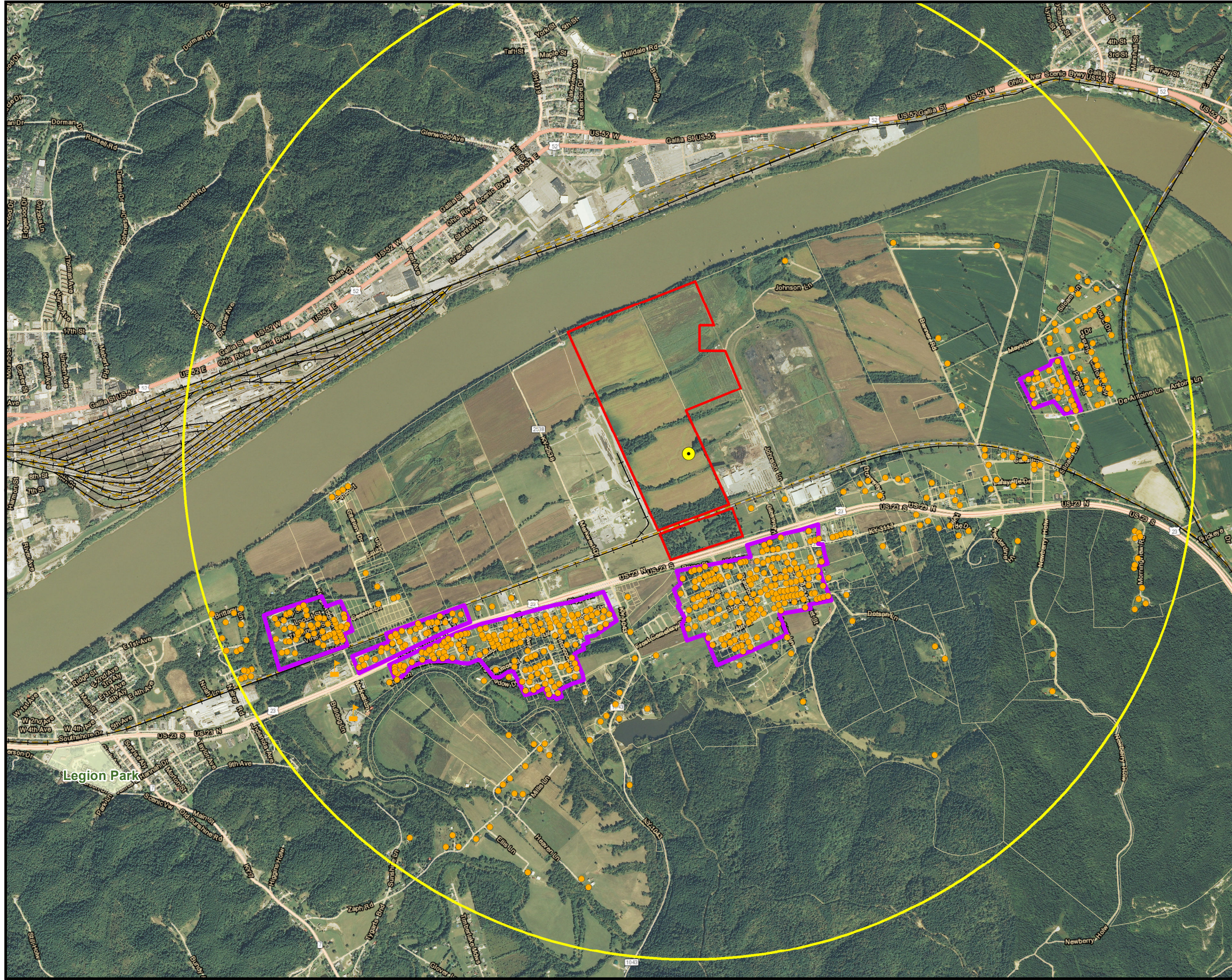


BASE MAP SOURCE:
National Agricultural Imagery Program, 2013

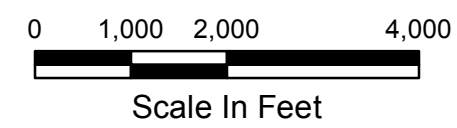
**SunCoke Energy
South Shore Facility**

FIGURE 4
SETBACK REQUIREMENTS MAP

DATE: 10/10/2014	
CREATED BY: KB	CHECKED BY: JP
JOB NO. 25368724	URS



- Legend**
- Approximate Steam Turbine Generator Location
 - Residential Structure
 - Schools
 - Approximate Project Boundary
 - Two-Mile Buffer of Approximate Steam Turbine Generator Location
 - Park
 - Residential Neighborhood as defined by KRS 278.700(6)
 - Greenup County Parcel
 - Rail Line

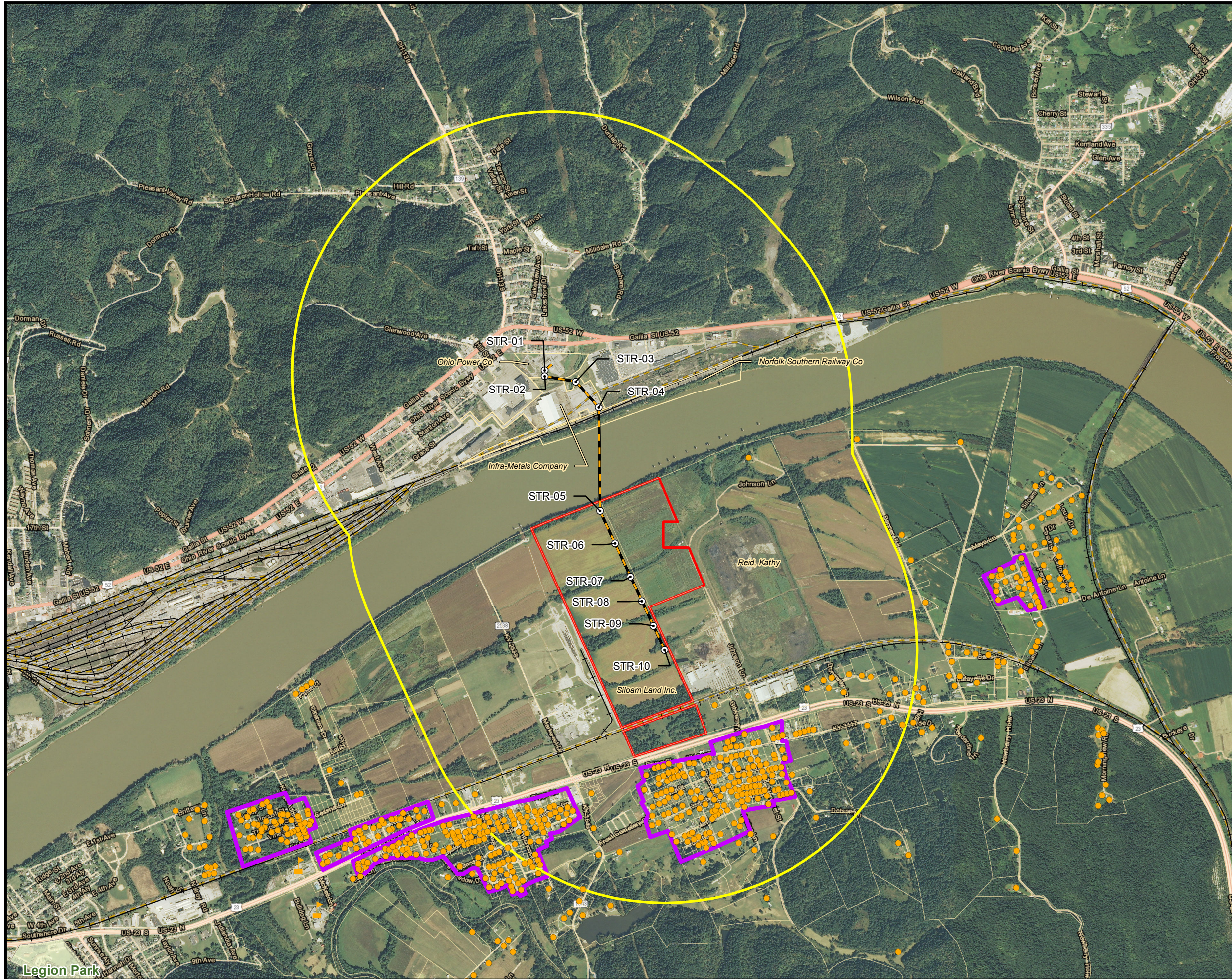


BASE MAP SOURCE:
National Agricultural Imagery Program, 2013

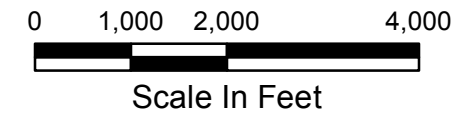
**SunCoke Energy
South Shore Facility**

FIGURE 5
TWO-MILE SITE VICINITY MAP

DATE: 10/22/2014	
CREATED BY: KB	CHECKED BY: JP
JOB NO. 25368724	



- Legend**
- Residential Structure
 - ⊙ Proposed Radial Tie Line Structure
 - 🏫 Schools
 - Proposed Radial Tie Line
 - 🟡 One-Mile Buffer of Proposed Radial Tie Line
 - 🌳 Park
 - 🔴 Approximate Project Boundary
 - 🟠 Residential Neighborhood as defined by KRS 278.700(6)
 - Rail Line



BASE MAP SOURCE:
National Agricultural Imagery Program, 2013

**SunCoke Energy
South Shore Facility**

FIGURE 6
RADIAL TIE LINE ROUTE AND
ONE-MILE VICINITY PLAN

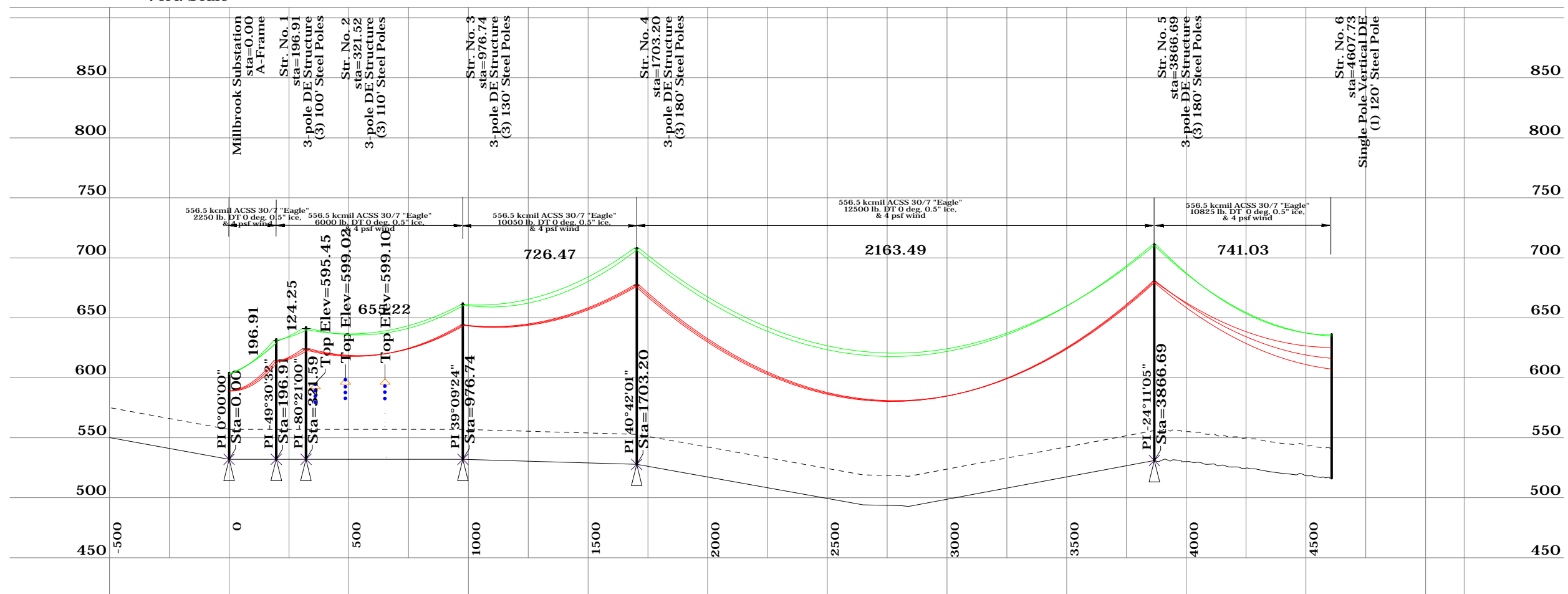
DATE: 10/22/2014	
CREATED BY: KB	CHECKED BY: JP
JOB NO. 25368724	URS



PRELIMINARY
NOT FOR CONSTRUCTION

SEAL

500.0 ft. Horiz. Scale
100.0 ft. Vert. Scale



C:\PROJECTS\Sun Coke Millbrook Park\Conceptual Designs\Attachments\PS_Border-B.dxf

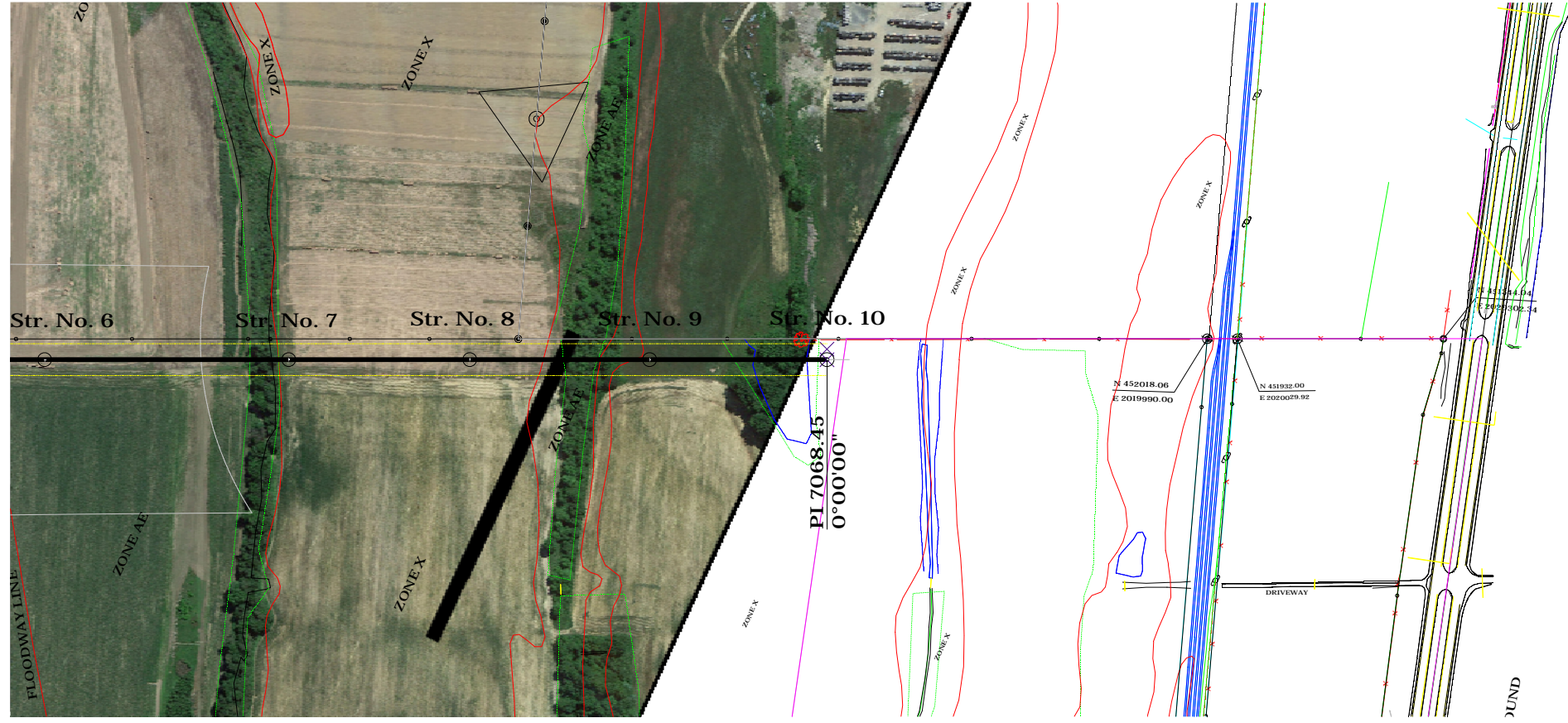
REV	DATE	DESCRIPTION

CLIENT PROJ.	SUNCOKE ENERGY
REF. NO.	POWER SERVICES
PROJ. NO.	SOUTH SHORE PLANT
DATE	9-18-14
SCALE	1"=500' Horiz; 1"=100' Vert
DWN BY	LJL
CKD BY	
APP'D BY	PJR

DWG. NO.
**P&P Option A
Sheet 1 of 2**

Power Services
Engineering and Management Services
1616 E. Millbrook Rd. Suite 210
Raleigh, NC 27609
TEL: 919-256-5900 FAX: 919-256-5939

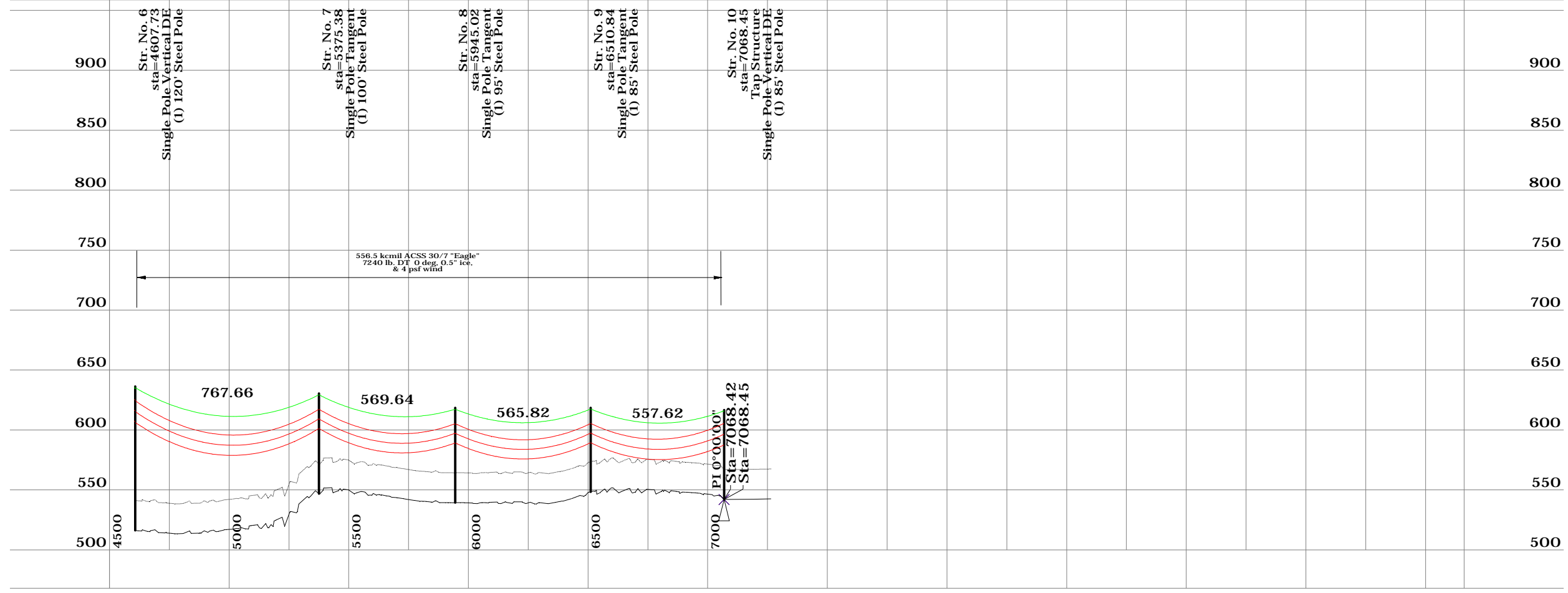
C:\PROJECTS\Sun Coke Millbrook Park\Conceptual Designs\Attachments\PS_Border-B.dxf



PRELIMINARY
 NOT FOR CONSTRUCTION

SEAL

500.0 ft. Horiz. Scale
 100.0 ft. Vert. Scale



Power Services
 Engineering and Management Services
 1616 E. Millbrook Rd. Suite 210
 Raleigh, NC 27609
 TEL: 919-256-5900 FAX: 919-256-5939

REV	DATE	DESCRIPTION

CLIENT PROJ.	SUNCOKE ENERGY
REF. NO.	POWER SERVICES
PROJ. NO.	SOUTH SHORE PLANT
DATE	9-18-14
SCALE	1"=500' Horiz; 1"=100' Vert.
DWN BY	LVJ
CKD BY	
APP'D BY	PJR

DWG. NO.	P&P Option A
	Sheet 2 of 2

EXHIBIT H1
MIDDLETOWN FACILITY NOISE STUDY

Pekron Consulting

Environmental Health & Safety

NOISE MONITORING

During the Construction of the

MIDDLETOWN COKE PLANT

For

SUNCOKE ENERGY
Middletown Coke Company
Middletown, Ohio

January 10, 11, 18, 19, 2011

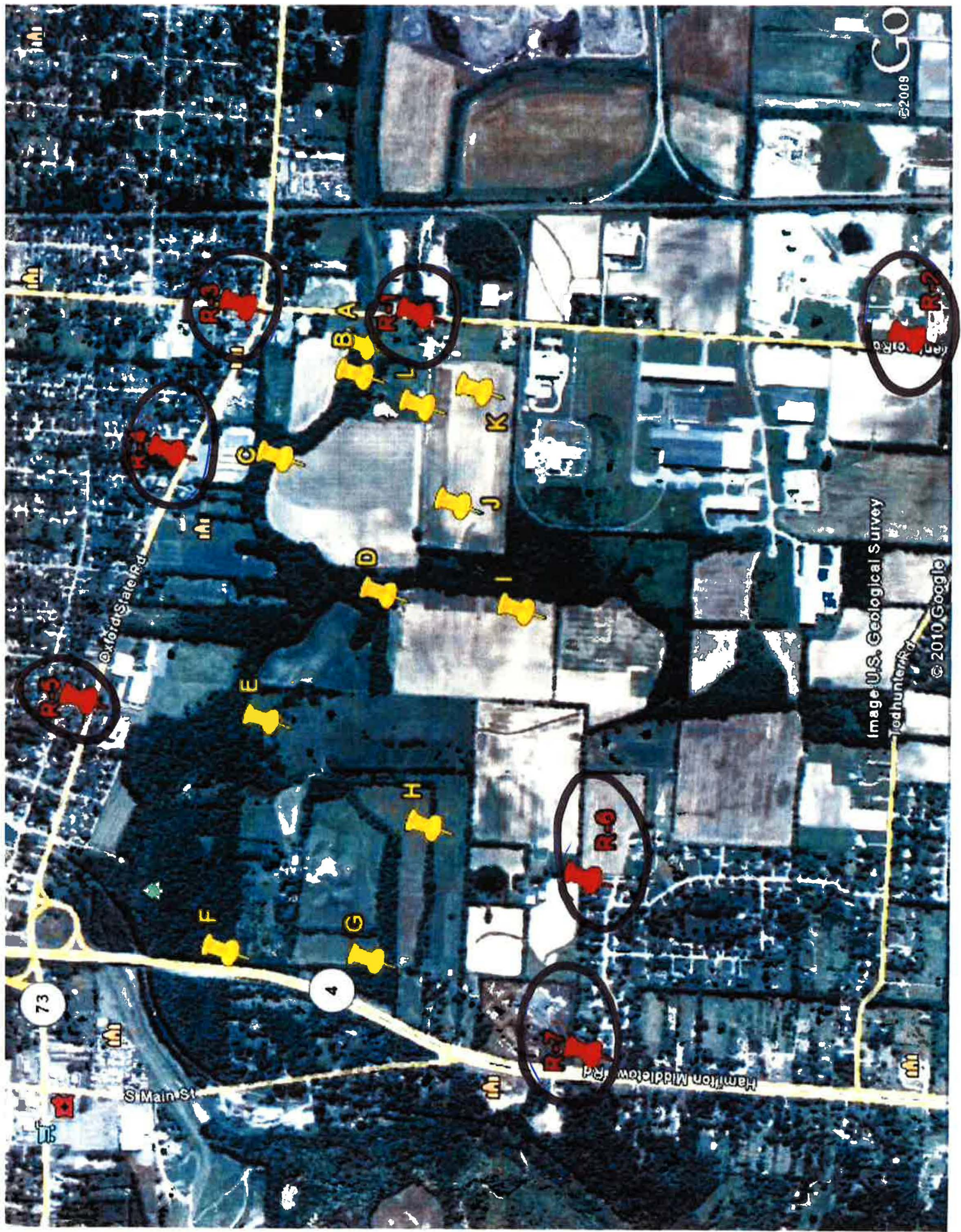


Image U.S. Geological Survey

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GO

TABLE 1
SUMMARY OF OCTAVE BAND ANALYZER AND SOUND PRESSURE LEVEL MEASUREMENTS
SURROUNDING COMMUNITY LOCATIONS
SUNCOKE MIDDLETOWN COKE COMPANY
MIDDLETOWN, OHIO
JANUARY 18, 2011

Map Location	Monitoring Session	Octave Band Analyzer Measurements (Hz) ^c											Maximum SPL ^a (dBA) ^b	Construction Noise Distinguishable at Location
		16	31.5	63	125	250	500	1000	2000	4000	8000	16000		
R-1	Background	5.8	29.9	47	42.8	46.6	46.3	47.8	51.7	53.3	26.2	26.3	73.0	NA
	Construction	8.4	24.4	45.1	44.1	48.5	52.1	49.1	44.3	39.9	31.5	26.3	60.5	YES
R-2	Background	9.6	23.1	31.7	35.5	49	49.4	65.3	51.7	55.6	33.8	26.3	74.1	NA
	Construction	12.9	22.8	36.6	39.7	45.5	60.6	53.9	48.4	38.0	25.0	26.3	73.7	NO
R-3	Background	10.8	30.6	47	55.1	50.8	48.1	60.5	58.4	51.5	51.4	26.3	74.1	NA
	Construction	10.7	35.9	48.7	55.2	45.9	47.4	49.7	47.7	53.6	46.2	26.3	74.7	NO
R-4	Background	10.4	22.9	36.6	52.4	51.7	53.6	63.2	62.9	56.6	50.4	36.0	81.4	NA
	Construction	8.5	20.0	31.1	43.1	35.6	51.5	58.2	50.5	45.0	45.0	26.3	56.6	NO
R-5	Background	7.0	12.8	30.1	41.8	41.3	49.1	60	55.9	40.2	37.4	26.3	64.7	NA
	Construction	9.3	19.7	30.8	43.3	46.1	51.2	54.4	51.7	52.6	52.2	26.3	65.0	YES
R-6	Background	6.9	18.4	30.6	38.4	38.5	32.8	41.9	28.3	29.2	23.3	26.3	45.7	NA
	Construction	4.8	11.3	31.1	25.5	31.6	29.9	37.1	32.6	24.9	23.3	26.3	48.0	NO
R-7	Background	6.0	19.2	47.0	52.0	43.5	46	62.5	60.0	48.7	42.3	26.3	71.3	NA
	Construction	7.3	12.9	30.5	39.3	38.0	49.9	59.4	62.4	53.5	54.6	26.3	73.3	NO

a – Sound Pressure Level

b – Decibel level measured on the A-weighted scale, slow response

c – Hertz

General Construction with Pile Driving

TABLE 3
SUMMARY OF OCTAVE BAND ANALYZER AND SOUND PRESSURE LEVEL MEASUREMENTS
SURROUNDING COMMUNITY LOCATIONS
SUNCOKE MIDDLETOWN COKE COMPANY
MIDDLETOWN, OHIO
JANUARY 19, 2011

Map Location	Monitoring Session	Octave Band Analyzer Measurements (Hz) ^c											Maximum SPL ^a (dBA) ^b	Construction Noise Distinguishable at Location
		16	31.5	63	125	250	500	1000	2000	4000	8000	16000		
R-1	Background	10.6	27.9	41.1	51.2	58.7	64.1	63.7	68.5	68.5	68.3	57.1	67.3	NA
	Construction - AM	12	34.6	44.8	46.4	49.9	55.7	55.1	53.8	46.4	31.3	26.3	68.0	YES
	Construction - PM	12.4	25.6	39.3	39.5	47.8	54.2	54	54.4	49.6	23.3	26.3	69.2	YES
R-2	Background	10.3	13.8	27	37.1	44.6	50	53.2	54.4	54.2	52.1	46.6	73.5	NA
	Construction - AM	12.2	19.7	33.5	34.5	46.2	43.6	46.8	41.5	34.1	30.4	26.3	62.3	NO
	Construction - PM	10.7	19.9	30.6	32.9	36.8	43	47.4	47	33	23.3	26.3	63.0	NO
R-3	Background	16.5	33.8	47	57.1	64.6	70	73.2	74.4	74.2	72.1	66.6	75.6	NA
	Construction - AM	13.6	36.7	50.3	50.5	67.7	62.2	65.3	55.3	48.8	32.4	26.3	75.5	NO
	Construction - PM	17.5	25.8	38.9	47.1	49.8	59.4	57.1	56.8	45.8	47	26.3	74.6	NO
R-4	Background	9.2	20	33.2	43.3	50.8	56.2	59.4	60.6	60.4	58.3	52.4	67.0	NA
	Construction - AM	8.1	18.5	34	37.9	34.4	45.1	53.5	47.3	23.1	23.3	26.3	74.4	NO
	Construction - PM	17.1	34.1	35.7	45.4	37.1	47.6	56.3	47.7	45.8	30.5	26.3	71.2	NO
R-5	Background	7.2	19.5	32.7	42.8	50.3	55.7	58.9	60.1	59.9	57.8	52.3	65.5	NA
	Construction - AM	12.2	18.2	32.2	37.7	42	41.8	50.9	45	32.3	23.3	26.3	60.5	YES
	Construction - PM	7.9	16.5	30.6	39.1	40.7	36	46.2	45.1	43.3	33	26.3	61.7	YES
R-6	Background	4.6	6.9	20.1	30.2	37.7	43.1	46.3	47.5	47.3	45.2	39.1	46.2	NA
	Construction - AM	11.3	14.3	25.3	28.1	28.1	37.3	39.9	34.6	33.6	23.3	26.3	61.8	NO
	Construction - PM	8.4	17.1	27.4	28.3	37.5	36.4	38.5	28.8	27.4	23.3	26.3	54.5	NO
R-7	Background	11.7	29	42.2	52.3	59.8	65.2	68.4	69.2	69.4	67.3	61.6	71.3	NA
	Construction - AM	8.9	12.6	38.6	44.5	41.6	39.4	60.6	57.8	50.2	26.2	26.3	71.6	NO
	Construction - PM	14	11.8	28.4	29.8	43.5	40	48.8	52.3	51.5	30.6	26.3	73.0	NO

a – Sound Pressure Level

b – Decibel level measured on the A-weighted scale, slow response

c – Hertz

General Construction with Pile Driving

Pekron Consulting

Environmental Health & Safety

NOISE MONITORING

During the Construction of the

MIDDLETOWN COKE PLANT

For

SUNCOKE ENERGY
Middletown Coke Company
Middletown, Ohio

July 1 - 2, 2010

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: ENTRANCE TO MIDDLETOWN COKE
COMPANY SITE

Field Date Sheet

Map Location: R-1

1 of 38

Date: JULY 1, 2010 Time: 4:35 pm

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	41.4	43.2	49.9	51.8	54.8	59.8	74.5	59.8	52.3	55.3	55.3

dBA Level: 55.3 – 74.5 at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**

NOISE SOURCES: TRUCK TRAFFIC IN AND OUT OF SITE; VEHICULAR AND TRUCK

TRAFFIC ON YANKEE ROAD

MEASUREMENT OBTAINED APPROXIMATELY 50 FEET FROM CENTERLINE OF YANKEE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: ENTRANCE TO MIDDLETOWN COKE
COMPANY SITE

Field Date Sheet

Map Location: R-1

20 of 38

Date: JULY 2, 2010 Time: 10:55 am

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.1	45.6	42.1	45.9	47.7	55.6	65.4	55.5	52.3	55.3	55.3

dba Level: 55.3 – 65.4; 75.2; 78.6 at 1000 Hz

Notes: MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY

NOISE SOURCES: TRUCK TRAFFIC IN AND OUT OF SITE; VEHICULAR AND TRUCK

TRAFFIC ON YANKEE ROAD

MEASUREMENT OBTAINED APPROXIMATELY 50 FEET FROM CENTERLINE OF YANKEE RD.

75.2 dBA TRUCK TRAFFIC ALONG YANKEE; 78.6 dBA TRUCK TRAFFIC ENTERING SITE

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF YANKEE ROAD
AND TODHUNTER ROAD

Field Date Sheet

Map Location: R-2

2 of 38

Date: JULY 1, 2010 Time: 4:50 pm

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	38.3	46.1	54.0	64.1	64.7	76.6	66.6	52.3	55.3	55.3

dba Level: 55.3 - 76.6; 88.6 at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON YANKEE ROAD

88.6 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE: SEMI

MEASUREMENT OBTAINED APPROXIMATELY 30 FEET FROM CENTERLINE OF YANKEE RD. AND 300 FEET FROM CENTERLINE OF TODHUNTER RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF YANKEE ROAD
AND TODHUNTER ROAD

Field Date Sheet

Map Location: R-2

21 of 38

Date: JULY 2, 2010 Time: 11:02 am

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	32.9	34.3	37.2	41.3	40.3	44.7	46.3	49.3	52.3	55.3	44.5

dBA Level: 46.3 – 55.3; 74.5; 79.2 at 1000 Hz

Notes: **MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON YANKEE ROAD

74.5 dBA VEHICLE TRAFFIC; 79.2 dBA TRUCK TRAFFIC ON YANKEE RD.

MEASUREMENT OBTAINED APPROXIMATELY 30 FEET FROM CENTERLINE OF YANKEE RD. AND 300 FEET FROM CENTERLINE OF TODHUNTER RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF YANKEE ROAD
AND OXFORD STATE ROAD

Field Date Sheet

Map Location: R-3

3 of 38

Date: JULY 1, 2010 Time: 5:05 pm

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	34.5	53.8	64.9	51.2	54.8	60.9	55.0	60.2	55.3	55.3

dBA Level: 55.3 – 60.9; 68.9, 74.1 at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON YANKEE OXFORD STATE AND

THROUGH INTERSECTION; 68.9 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE: SEMI; 74.1 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE: MOTORCYCLE

MEASUREMENT OBTAINED APPROXIMATELY 60 FEET FROM CENTERLINE OF YANKEE RD. AND 60 FEET FROM CENTERLINE OF OXFORD STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF YANKEE ROAD
AND OXFORD STATE ROAD

Field Date Sheet

Map Location: R-3

22 of 38

Date: JULY 2, 2010 Time: 11:10 am

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	32.9	34.3	42.7	43.9	45.2	46.3	49.3	49.3	52.3	55.3	55.3

dBA Level: 49.3 – 55.3; 66.2, 73.3 at 1000 Hz

Notes: **MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY**

NOISE SOURCES: **VEHICULAR AND TRUCK TRAFFIC ON YANKEE OXFORD STATE AND**

66.2 dBA VEHICLE TRAFFIC; 73.3 dBA TRUCK TRAFFIC THROUGH INTERSECTION

MEASUREMENT OBTAINED APPROXIMATELY 60 FEET FROM CENTERLINE OF YANKEE RD. AND 60 FEET FROM CENTERLINE OF OXFORD STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: OXFORD STATE ROAD;
 MIDDLETOWN QUICK STOP PARKING
 LOT

Field Date Sheet

Map Location: R-4

4 of 38

Date: JULY 1, 2010 Time: 5:15 pm

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	39.7	52.5	58.0	56.6	57.0	62.5	59.9	52.3	55.3	55.3

dBA Level: 55.3 – 62.5; 76.0 at 1000 Hz

Notes: BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON OXFORD STATE ROAD

76.0 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE: SEMI

MEASUREMENT OBTAINED APPROXIMATELY 30 FEET FROM CENTERLINE OF OXFORD STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: OXFORD STATE ROAD;
MIDDLETOWN QUICK STOP PARKING
LOT

Field Date Sheet

Map Location: R-4

23 of 38

Date: JULY 2, 2010 Time: 11:18 am

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	31.5	34.2	41.8	46.9	60.9	63.7	64.4	61.3	52.3	55.3	55.3

dba Level: 46.3 – 62.8; 70.0; 75.5 at 1000 Hz

Notes: MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON OXFORD STATE ROAD

70.0 dBA VEHICLE TRAFFIC; 75.5 dBA TRUCK TRAFFIC ALONG OXFORD STATE RD.

MEASUREMENT OBTAINED APPROXIMATELY 30 FEET FROM CENTERLINE OF OXFORD STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: AMANDA ELEMENTARY SCHOOL;
INTERSECTION OF OXFORD STATE
AND JUDY DR. Field Date Sheet

Map Location: R-5 5 of 38

Date: JULY 1, 2010 Time: 5:25 pm

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	34.9	42.0	44.8	55.9	51.5	55.9	49.3	52.3	55.3	55.3

dBA Level: 48.9 – 55.9; 59.6 at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON OXFORD STATE ROAD

59.6 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE:
MOTORCYCLE

MEASUREMENT OBTAINED APPROXIMATELY 150 FEET FROM CENTERLINE OF OXFORD
STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: AMANDA ELEMENTARY SCHOOL;
INTERSECTION OF OXFORD STATE
AND JUDY DR. Field Date Sheet

Map Location: R-5 24 of 38

Date: JULY 2, 2010 Time: 11:25 am

Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.1	33.3	48.7	47.8	43.3	43.3	46.3	52.3	52.3	55.3	55.3

dB(A) Level: 46.3 – 55.3; 56.9 at 1000 Hz

Notes: MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ON OXFORD STATE ROAD

56.9 dBA TRUCK TRAFFIC ALONG OXFORD STATE ROAD

MEASUREMENT OBTAINED APPROXIMATELY 150 FEET FROM CENTERLINE OF OXFORD STATE RD.

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF NIEDERLANDER AND CAROL ANN
 Map Location: R-6
 Date: JULY 1, 2010 Time: 5:40 pm
 Industrial Hygienist: KYLE NEWBURN

Field Date Sheet
 6 of 38

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	34.4	36.6	40.3	43.5	48.0	46.3	49.3	52.3	55.3	55.3

dBA Level: 46.3 – 55.3; at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**
NOISE SOURCES: GENERAL NEIGHBORHOOD NOISE; NO SPECIFIC NOISE SOURCES

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF NIEDERLANDER AND CAROL ANN Field Date Sheet
 Map Location: R-6 25 of 38
 Date: JULY 2, 2010 Time: 11:40 am
 Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	32.3	33.8	34.2	37.2	40.3	43.3	46.3	49.3	52.3	55.3	55.3

dba Level: 46.3 – 55.3; at 1000 Hz

Notes: MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY
NOISE SOURCES: GENERAL NEIGHBORHOOD NOISE; NO SPECIFIC NOISE SOURCES

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF NIEDERLANDER AND CAROL ANN Field Date Sheet
 Map Location: R-7 7 of 38
 Date: JULY 1, 2010 Time: 5:55 pm
 Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	33.4	34.1	34.7	44.5	49.5	55.7	51.4	52.6	52.3	55.3	55.3

dBA Level: 51.4 – 55.3; 66.8 at 1000 Hz

Notes: **BACKGROUND MEASUREMENTS OBTAINED DURING NON-CONSTRUCTION**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ALONG STATE ROUTE 4

66.8 MEASUREMENT OBTAINED AFTER OCTAVE BAND SEQUENCE; SOURCE: SEMI

MEASUREMENT OBTAINED APPROXIMATELY 100 FEET FROM THE NORTH BOUND LANE OF STATE ROUTE 4

OCTAVE BAND MEASUREMENTS

At the Middletown Coke Plant

Location Description: INTERSECTION OF NIEDERLANDER AND CAROL ANN Field Date Sheet
 Map Location: R-7 26 of 38
 Date: JULY 2, 2010 Time: 11:48 am
 Industrial Hygienist: KYLE NEWBURN

Frequency (Hz):	16	31.5	63	125	250	500	1000	2000	4000	8000	16,000
dB:	32.6	34.9	35.8	43.4	44.8	49.3	46.3	49.3	52.3	55.3	55.3

dB(A) Level: 46.3 – 55.3; 62.0; 63.7 at 1000 Hz

Notes: **MEASUREMENTS OBTAINED DURING CONSTRUCTION ACTIVITY**

NOISE SOURCES: VEHICULAR AND TRUCK TRAFFIC ALONG STATE ROUTE 4

62.0 dBA VEHICULAR TRAFFIC; 63.7 dBA TRUCK TRAFFIC ALONG STATE ROUTE 4

MEASUREMENT OBTAINED APPROXIMATELY 100 FEET FROM THE NORTH BOUND LANE OF STATE ROUTE 4

Pekron Consulting

Environmental Health & Safety

September 18, 2012

Mr. Ron Howard
MTO Construction Safety Manager
SunCoke Energy, Inc
Middletown Operations
3353 Yankee Road
Middletown, Ohio 45044

Dear Mr. Howard:

On September 11 and 12, 2012, Pekron Consulting, Inc. was contracted by Middletown Coke to perform area noise monitoring at their facility located at 3353 Yankee Road in Middletown, Ohio. Monitoring was performed to determine noise levels in various areas at this facility. Specifically, outside areas and perimeter measurements were collected during both production and non production shifts. This letter report summarizes noise monitoring data and the results obtained for your consideration.

Noise Monitor

A pre-calibrated and post-calibrated Quest Technologies Sound Level Meter (model 2900 Type 2) was used to perform the area noise monitoring. The meter was set to record in slow response at a range between 60 dBA and 130 dBA. During this survey, the monitor was held out at arms length and at ear level to determine the noise level in that area.

Discussion

During the coke making process at the Middletown Coke facility, employees have the potential to be exposed to various noisy atmospheres which could result in hearing loss. Area monitoring was performed in areas where employees or contractors could potentially perform work. Area and perimeter monitoring was performed during each shift to evaluate both production and non production noise levels. Employees and contractors working in these areas should be made aware of the potential hazards from both continuous and intermittent noise if they are found to be greater than 85 dBA based on an 8 hour workday.

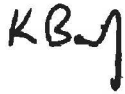
It is important to note that employees working at the Middletown Facility work a twelve hour shift. OSHA has a reduced Action Level for noise based on a twelve hour work day of 82.1 dBA or equivalent 35% dose. Employees working a twelve hour shift would be required to be included in a Hearing Conservation Program (HCP) and be offered proper hearing protection if exposed over the 82.1 dBA during their shift.

Results

Pekron Consulting, Inc. performed area noise monitoring for the Middletown Coke at their facility located at 3353 Yankee Road in Middletown, Ohio. The noise maps are included in the attachment for your consideration.

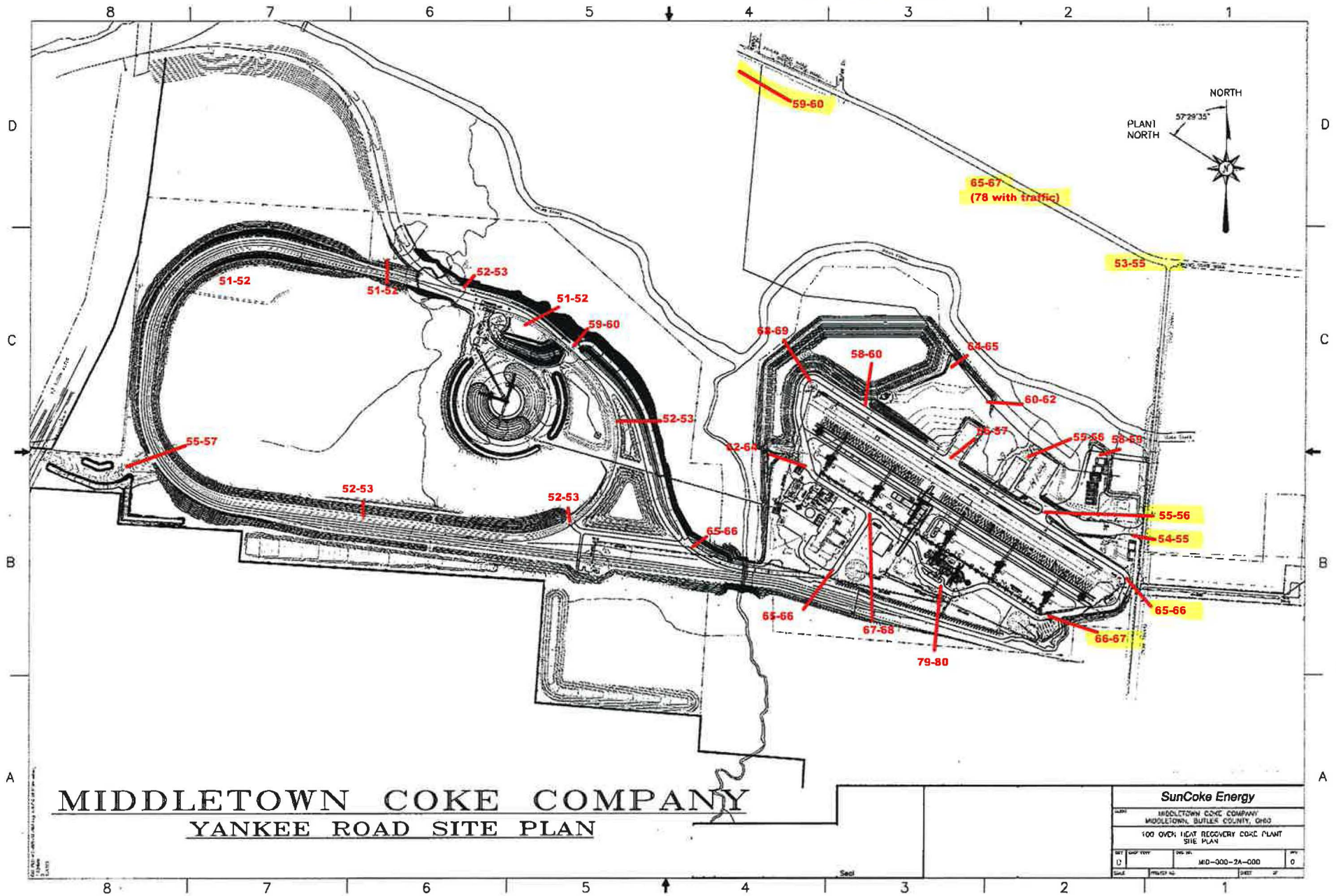
If you have any questions regarding our services, please do not hesitate to contact me at (708) 839-0600.

Sincerely,

A handwritten signature in black ink, appearing to read "KB", with a stylized flourish at the end.

Kevin Bailey

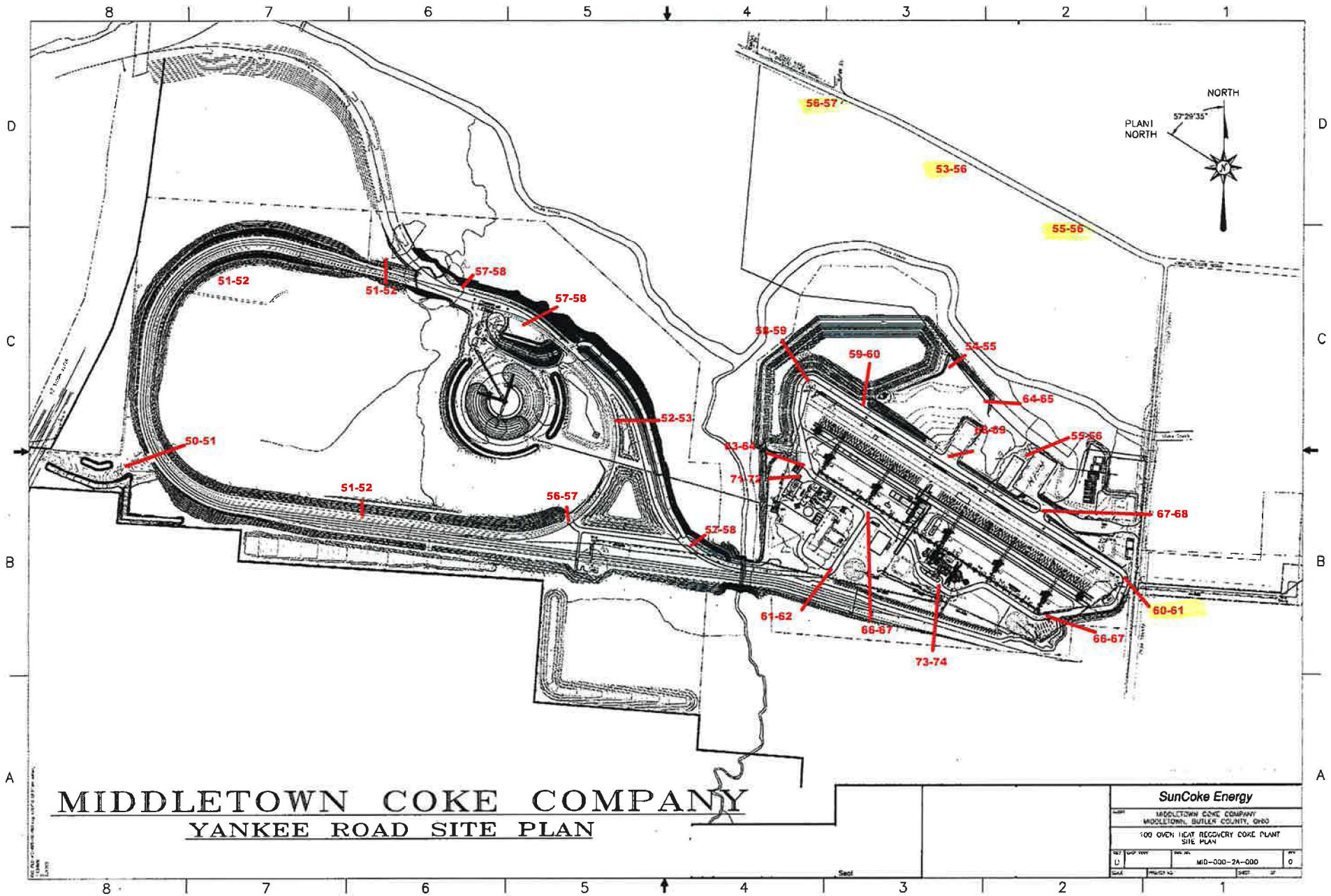
Area Noise Measurements - Day Shift



MIDDLETOWN COKE COMPANY
YANKEE ROAD SITE PLAN

SunCoke Energy		
MIDDLETOWN COKE COMPANY MIDDLETOWN, BUTLER COUNTY, OHIO		
100 OVEN HEAT RECOVERY COKE PLANT SITE PLAN		
REV	DATE	BY
1	MID-000-2A-000	0
SCALE	PROJECT NO.	SHEET OF

Area Noise Measurements - Evening Shift



MIDDLETOWN COKE COMPANY
YANKEE ROAD SITE PLAN

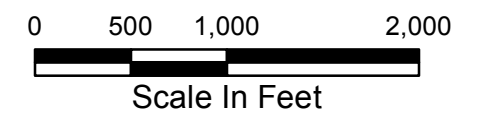
SunCoke Energy		
PROJECT: MIDDLETOWN COKE COMPANY MIDDLETOWN, BUTLER COUNTY, OHIO		
100 OVEN HEAT RECOVERY COKE PLANT SITE PLAN		
REV	DATE	BY
L1	MID-000-2A-000	0
SCALE	PROJECT NO.	SHEET
		1 of 1

EXHIBIT H2
CONCEPTUAL VIEW SHEDS



Legend

- Line of Sight
- Location of Photo
- Approximate Stack Location
- Other Greenup County Parcel
- Greenup County Residential Parcel
- Proposed Project Boundary



BASE MAP SOURCE:
National Agricultural Imagery Program, 2013






**SunCoke Energy
South Shore Facility**

CONCEPTUAL VIEWSHED FROM
US HIGHWAY 23 & BIGGS LANE

DATE: 7/28/2014	
CREATED BY: KB	CHECKED BY: JP
JOB NO. 25368724	URS



Legend

-  Location of Photo
-  Approximate Stack Location
-  Other Greenup County Parcel
-  Greenup County Residential Parcel
-  Proposed Project Boundary

0 500 1,000 2,000



Scale In Feet

BASE MAP SOURCE:
National Agricultural Imagery Program, 2013

**SunCoke Energy
South Shore Facility**

CONCEPTUAL VIEWSHED FROM
US HIGHWAY 23 & GIBSON TRAIL

DATE: 7/28/2014

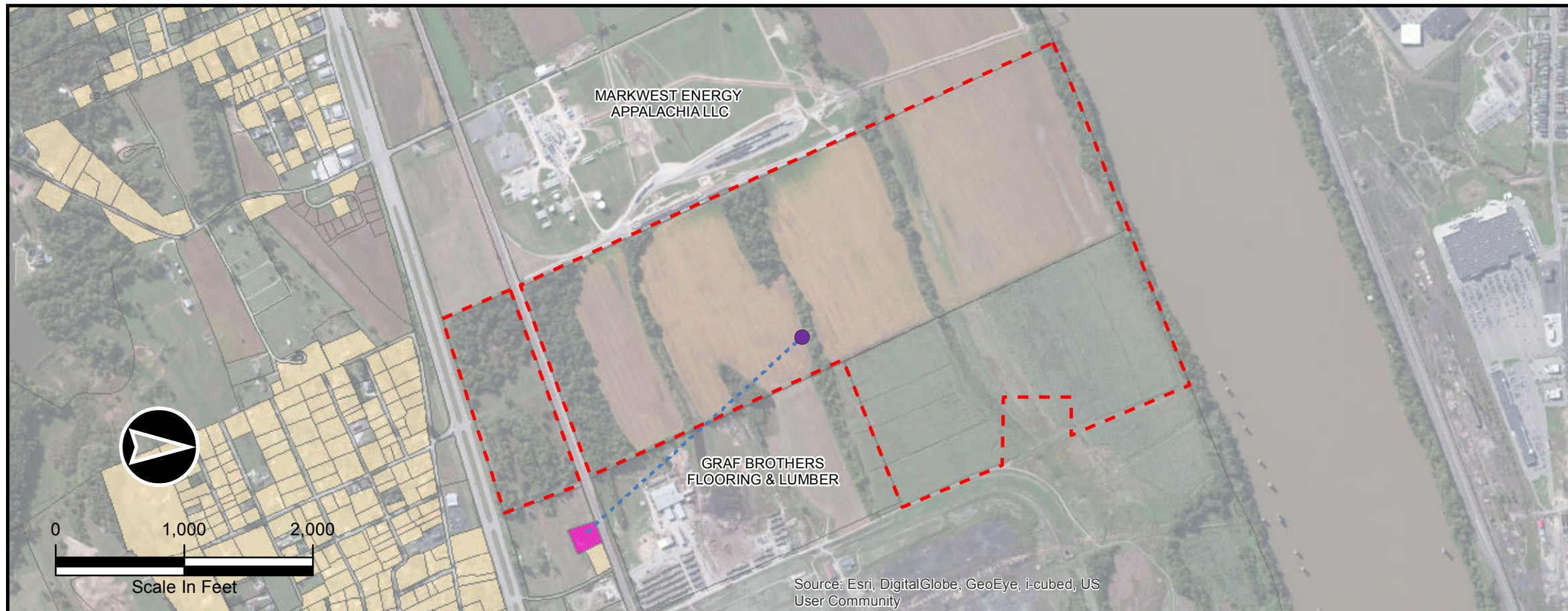
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JOB NO. 25368724

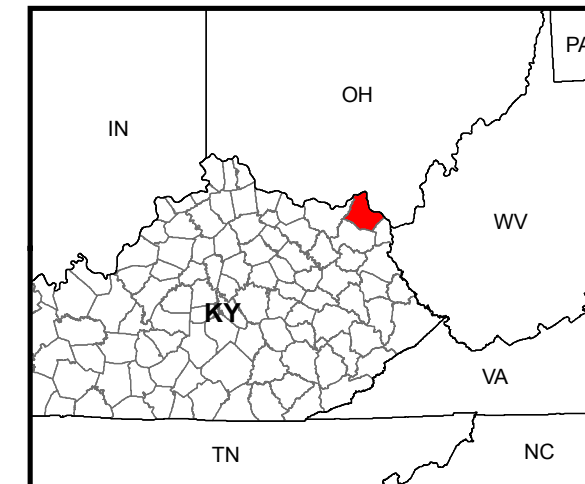
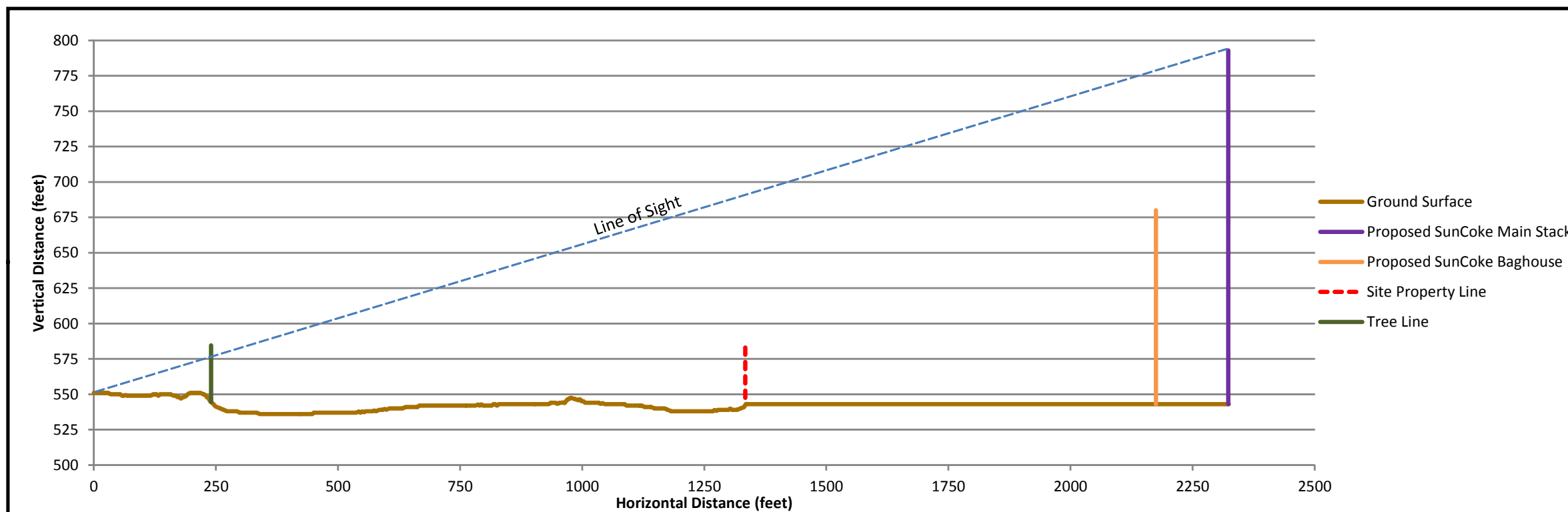
CHECKED BY: JP



EXHIBIT H3
LINE OF SIGHT PROFILES



Line of Sight Profile from Greenup County Parcel # 100-00-00-002.00

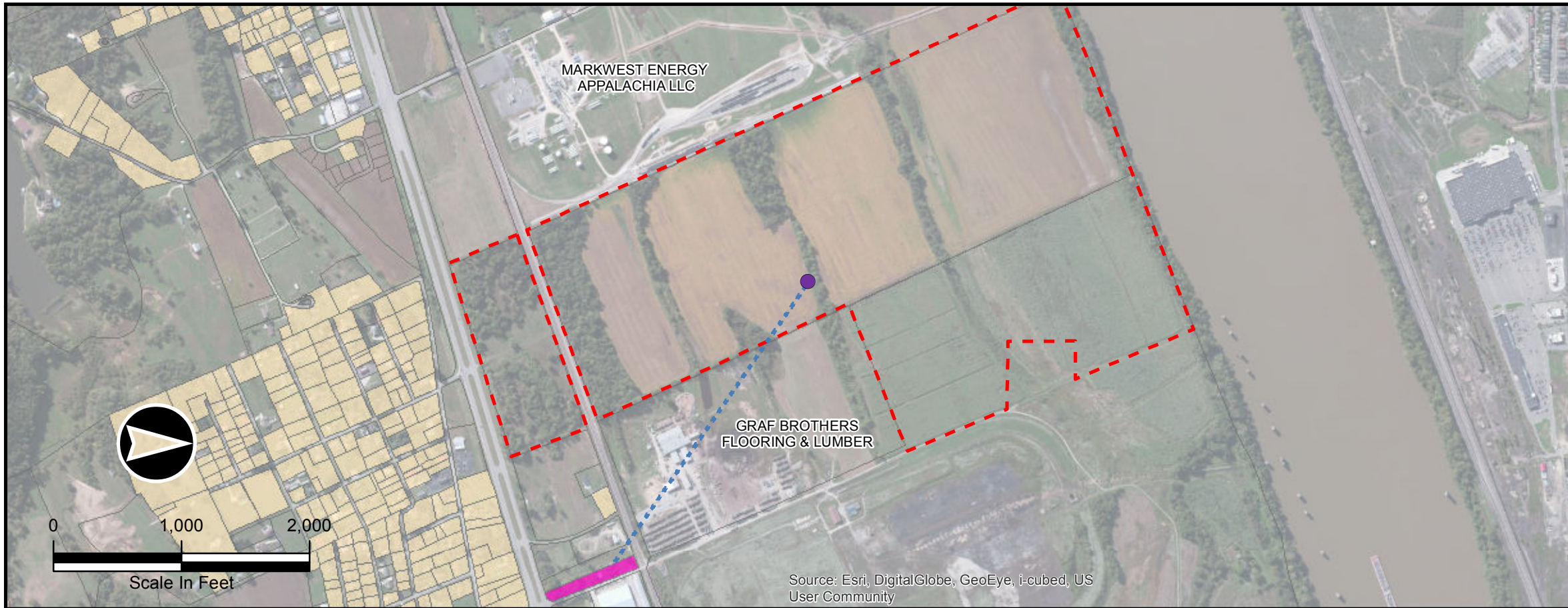


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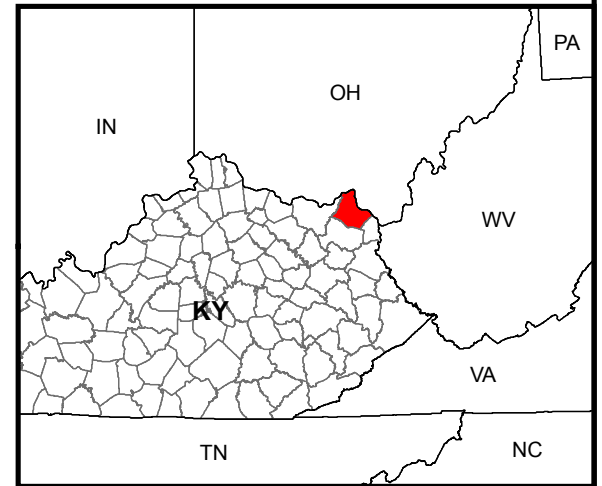
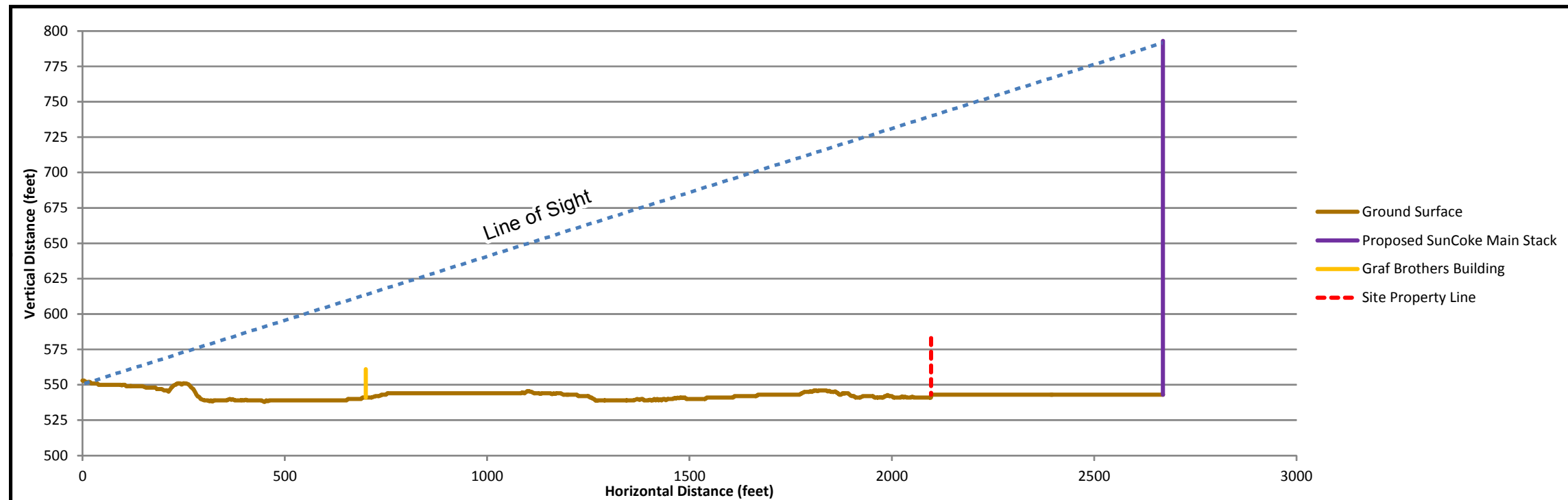
- Approximate Proposed Stack Location
- - - Line of Sight
- - - Proposed Project Boundary
- Other Greenup County Parcel
- Greenup County Parcel # 100-00-00-002.00
- Greenup County Residential Parcel

SunCoke Energy South Shore Facility

LINE OF SIGHT PROFILE FROM GREENUP COUNTY PARCEL # 100-00-00-002.00



Line of Sight Profile from Greenup County Parcel # 100-00-00-007.00

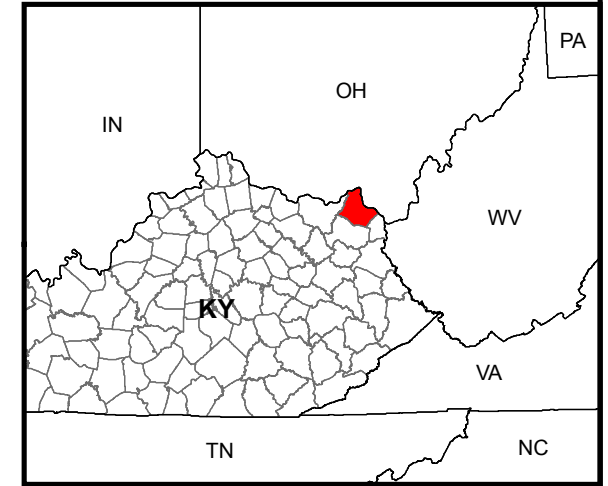
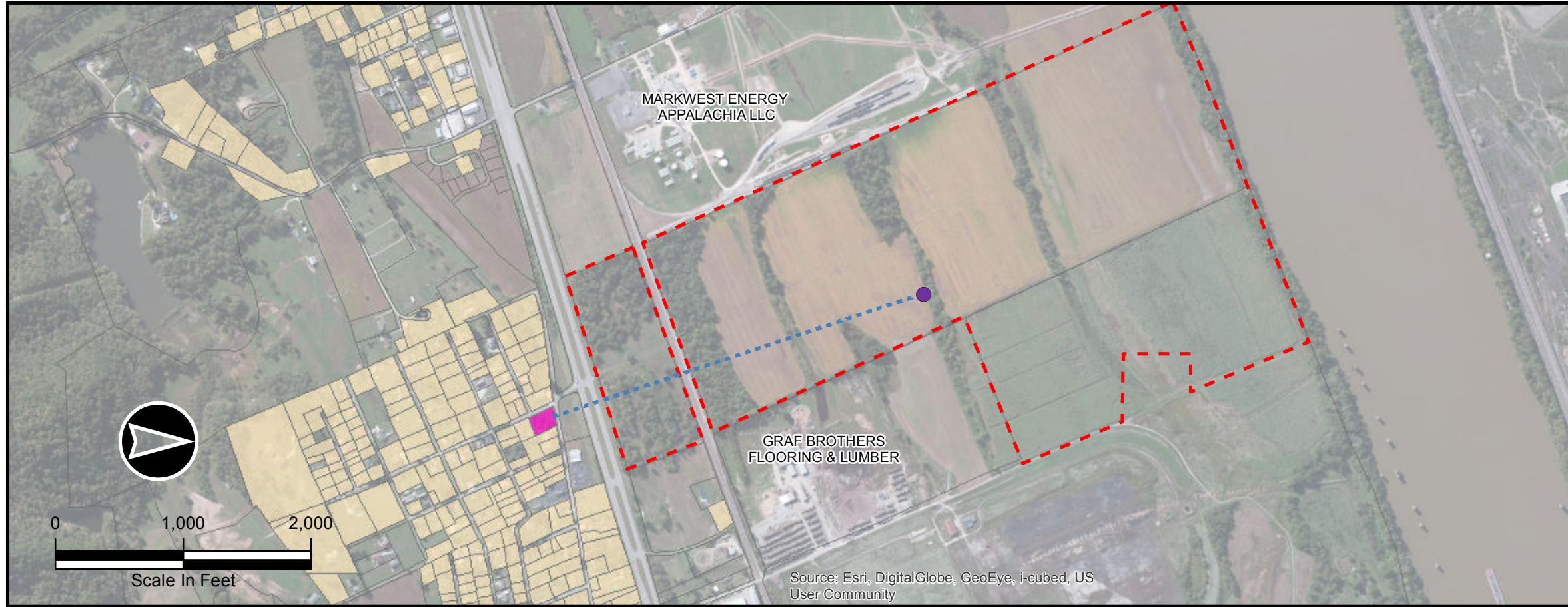


Legend:

- Approximate Proposed Stack Location
- - - Line of Sight
- - - Proposed Project Boundary
- Other Greenup County Parcel
- Greenup County Residential Parcel
- Greenup County Parcel # 100-00-00-007.00

SunCoke Energy South Shore Facility

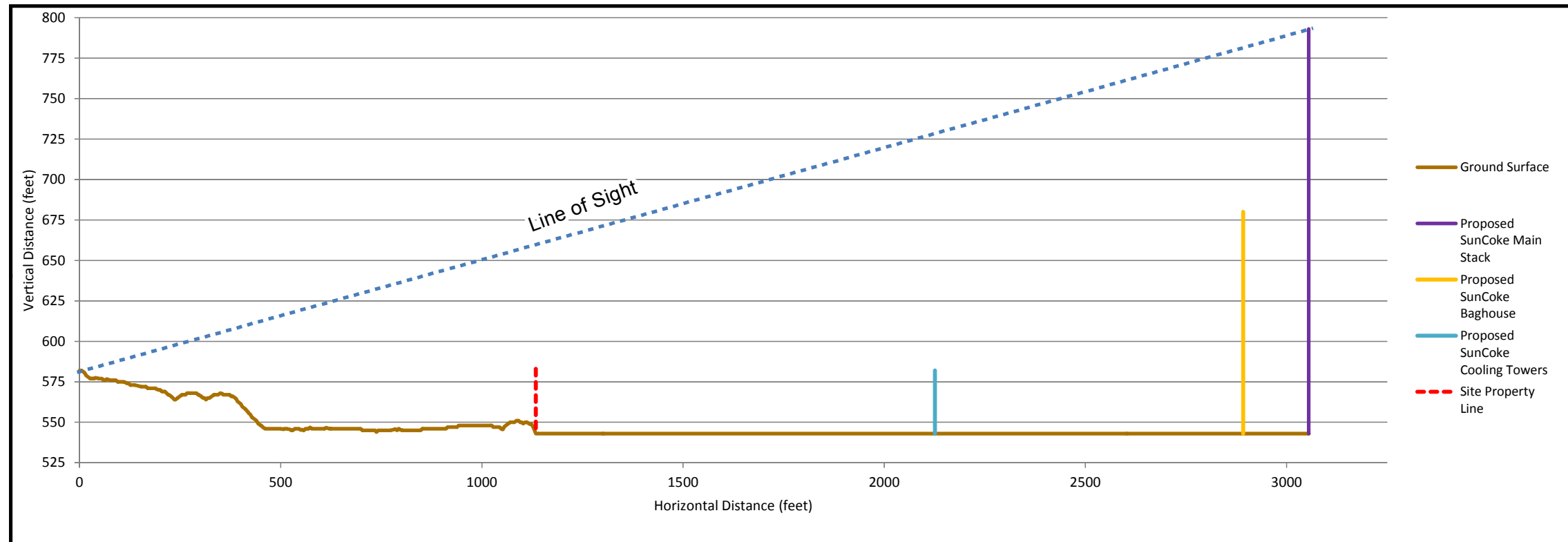
LINE OF SIGHT PROFILE FROM
GREENUP COUNTY
PARCEL # 100-00-00-007.00



Legend:

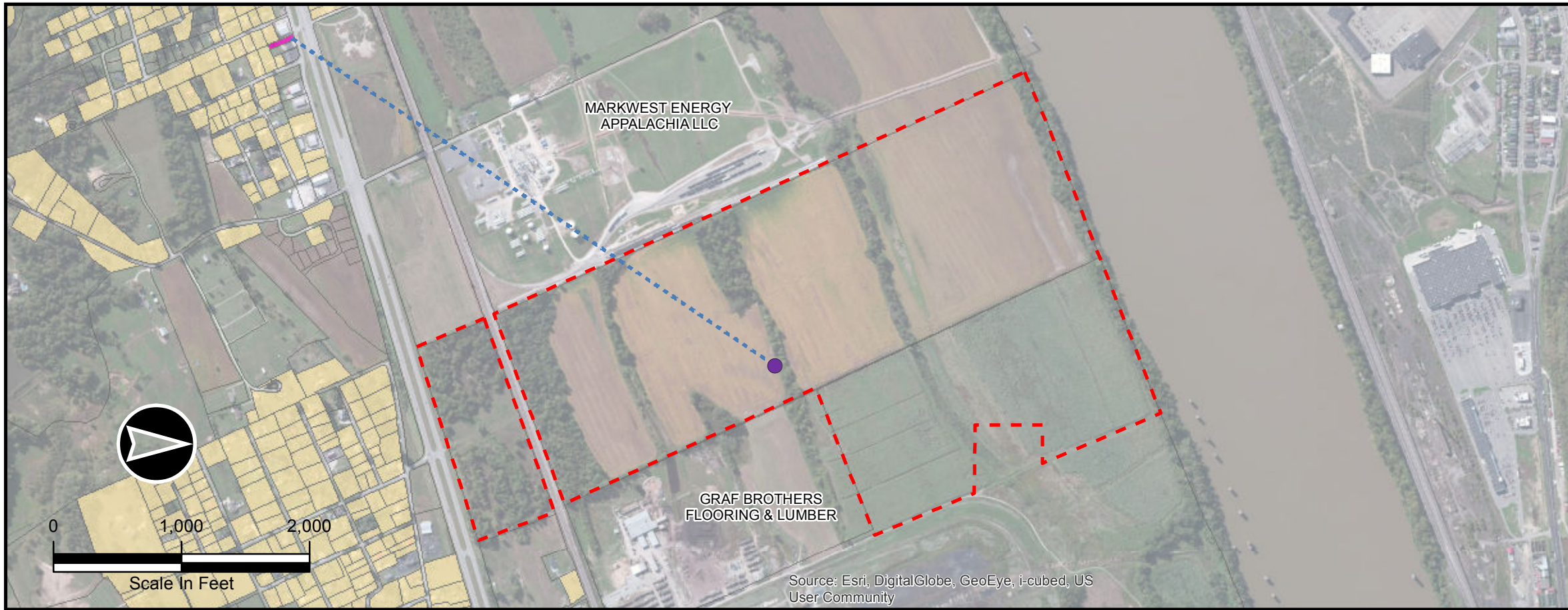
- Approximate Proposed Stack Location
- - - Line of Sight
- - - Proposed Project Boundary
- Other Greenup County Parcel
- Greenup County Residential Parcel
- Greenup County Parcel # 100-20-01-046.00

Line of Sight Profile from Greenup County Parcel # 100-20-01-046.00

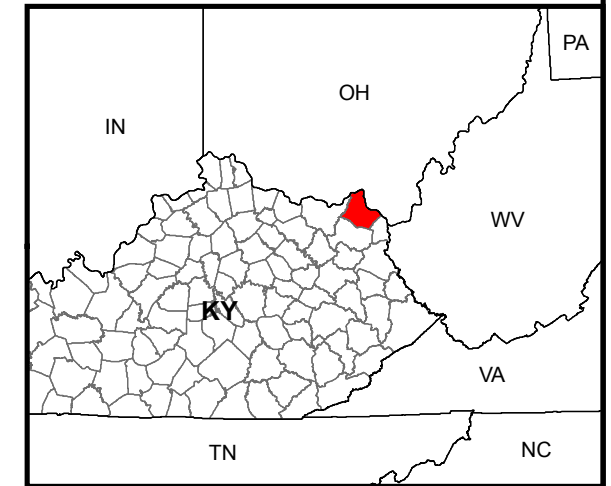
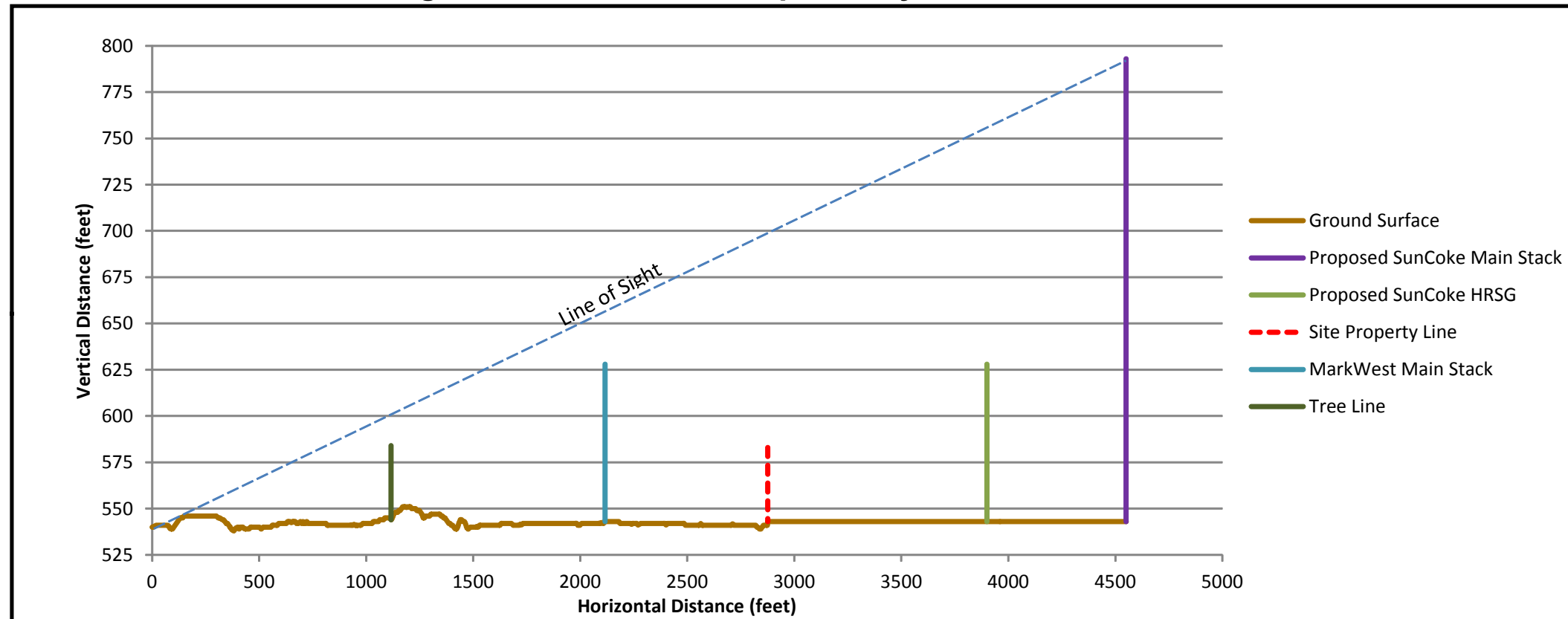


SunCoke Energy South Shore Facility

LINE OF SIGHT PROFILE FROM GREENUP COUNTY PARCEL # 100-20-01-046.00



Line of Sight Profile from Greenup County Parcel # 083-40-01-050.00



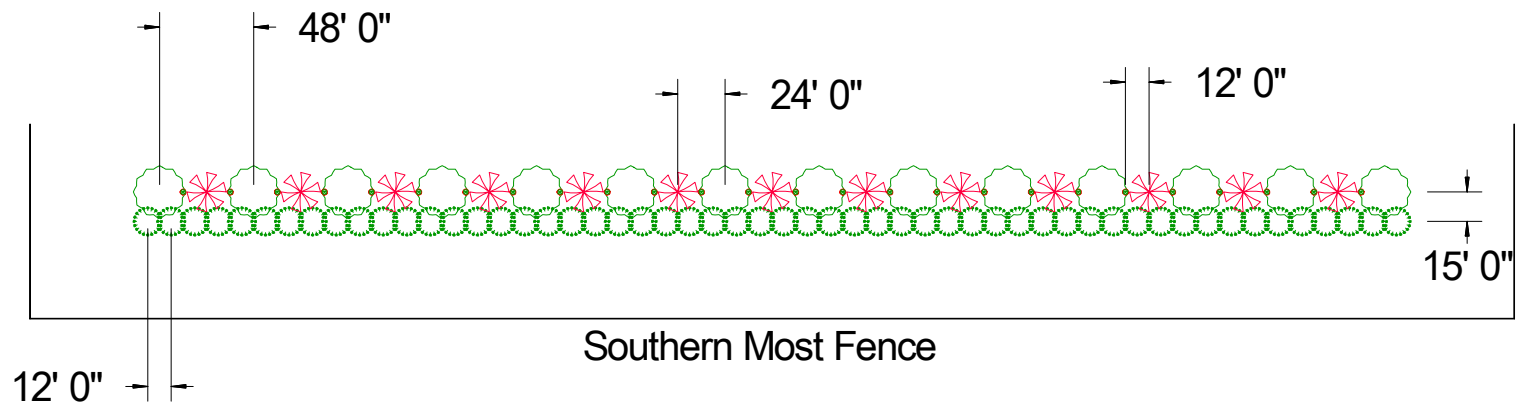
Legend:

- Approximate Proposed Stack Location
- - - Line of Sight
- - - Proposed Project Boundary
- Other Greenup County Parcel
- Greenup County Parcel # 083-40-01-050.00
- Greenup County Residential Parcel

SunCoke Energy South Shore Facility

LINE OF SIGHT PROFILE FROM GREENUP COUNTY PARCEL # 083-40-01-050.00

EXHIBIT H4
SUNCOKE PLANT GREENBEIT EXAMPLES



Southern Most Fence

Legend			
	Common Name	Size	Qty
Shrub, Deciduous			
	Ornamental Shrubs	4-5'	26
Tree, Deciduous			
	Ornamental Trees	2"	13
Tree, Evergreen			
	Shade Trees	2"	14
	Colorado & Norway Spruce	8-9'	54

Revision #:

Date: 3/6/2012

Scale:





0' 1" = 30' 0"

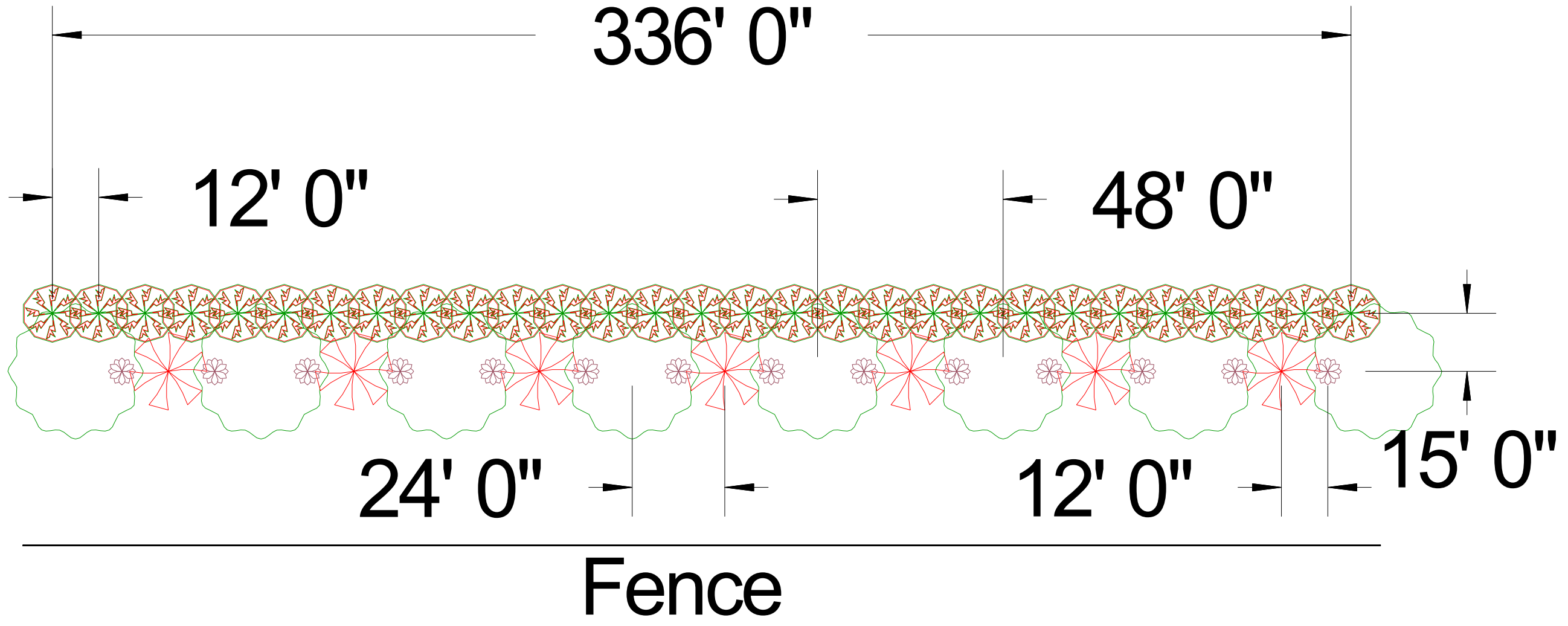
Landscape Plan:

SunCoke Middletown

Landscape Design by: Chris Wilson

Wilson Garden Center, Inc.

Legend			
	Common Name	Size	Qty
Tree, Deciduous			
	Ornamental Trees	2"	7
	Shade Trees	2"	8
	Ornamental Shrubs	4-5'	14
Tree, Evergreen			
	Colorado & Norway Spruce	8-10'	29



Revision #:	Scale:	Landscape Plan:	Landscape Design by: Chris Wilson
Date: 2/17/2012	0' 1" = 30' 0"	Suncoke Middletown	Wilson Garden Center, Inc.



Aerial Picture of Middletown Coke 2.09.12

EXHIBIT H5
SUMMARY OF RAIL IMPACT CONSIDERATIONS

SunCoke Energy Project Raven FEL-3

Distribution

Those present +
G. Rudowski,
C. Kos

CSX Coordination Meeting

MEETING DATE: February 22, 2012

LOCATION: McKell Library & Project Site, South Shore, Kentucky

PRESENT: Vince Damiano – SunCoke
Stephen Haynes – SunCoke
David Potthoff - SunCoke
David Schwake – SunCoke
James Skipworth - SunCoke
Timothy Kaiser – Hatch
Rick Wallace – Hatch
Grant Chaney – CSX
Louis Muldrow – CSX
Rusty Olson - CSX

PURPOSE: Meet with CSX to identify requirements for rail access to the project site.

1. Introduction

A meeting was set up between SunCoke Energy, Hatch Associates and CSX to identify the rail needs for the proposed South Shore, KY location of the 660k tpy coke oven facility. The intent of the meeting was for an exchange of information between the interested parties so that a final workable design of the rail access to and within the site can be developed.

2. Safety Topic

The meeting was opened with a review of the emergency exits from the meeting room.

3. Discussion

3.1 An overview of the project was provided by David Schwake for the purpose of updating the CSX representatives as to the current status and layout of the project.

3.2 The CSX representatives were advised that the plant size has been reduced from 1.1m tpy capacity that they had previously seen to a 660k tpy capacity facility.



- 3.3 Current plans are to have coal delivered to an offsite supplier facility, such as KRT, for blending and loading into a barges for delivery to the SunCoke facility. This was identified so that CSX was aware that there is a potential for additional rail traffic in addition to the trains needed for shipping coke from the proposed South Shore Facility. At this time the arrangements for the delivery of the coal to the blending/barge loading facility are the responsibility of the blending/barge loading supplier.
- 3.4 An initial review of the proposed layout of the plant was performed by the group. This included the original FEL 2 ladder arrangement and the most recently proposed four (4) line ladder arrangement with turn and extension.
- 3.5 Space limitations of the site and available property were discussed.
- 3.6 The option to purchase a 200 foot wide strip of property, adjacent to the east side of the property, from the Graf Brothers will probably not be possible. The current layout of the facility and track work have taken this into consideration and does not utilize this property.
- 3.7 There is an option to purchase property northeast of the site. This property is between the Graf Brothers property and the river, known as the Reid Property. If purchased it would be available for construction lay down, secondary access to the site and possibly an extension to the plant rail layout.
- 3.8 The need for a grade crossing versus an overpass was discussed. During the site visit it was noted that there are basically two (2) main line tracks and two (2) lead tracks. In addition, in some places the top of rail elevation of the main line tracks and the top of rail elevation of the lead tracks are different by +/- 18".
- 3.9 An overpass on Johnson Lane was initially discussed during the earlier development phase. However physical space restrictions and utility relocation would make this difficult. In addition the intersection of Johnson Lane with US 23 is near to a curve on US 23. There would be a short line of sight to the proposed traffic signal and turning lanes. These issues makes the preferred location for a new/upgraded intersection to be at the proposed plant property.
- 3.10 There have been some discussions with the state concerning a possible overpass, turning lanes on US 23 and a traffic signal. The state has indicated they would help however for the state to do this would take at least 3 years. This would be too late for use during construction.
- 3.11 CSX advised that the main line which parallels US 23 and crosses the proposed plant property is a High Capacity Line.
- 3.12 CSX indicated that although there is some traffic which is somewhat scheduled most traffic is of the on demand type, whenever the mines call for the trains.
- 3.13 The frequency of the trains (traffic density) was requested from CSX in order to evaluate the impact of utilizing a grade crossing on construction and operations. CSX said they would forward that information to SunCoke.
- 3.14 SunCoke asked that if an overpass was required because of the rail traffic if there was an economic incentive available.



- 3.15 CSX had previously reviewed the loop track layout from the preliminary 1.1m tpy layout for the effect on CSX Operations. CSX noted that any changes from the loop track previously approved will require the District Managers approval again. They have requested some time to review the latest 660k tpy layout and provide some rail layout suggestions for the in plant rail layout.
- 3.16 CSX advised that even though the Russell Yard is only 17 miles east of the proposed plant location it is their recommendation to keep partial trains, and both full and empty trains, out of the yard. Russell Yard is not really set up to build Unit Trains and this would cause delays in delivering the trains to the customers. If at all possible they requested that the entire Unit Trains be assembled at the SunCoke facility.
- 3.17 CSX advised that curves on any track that their locomotives will have to travel will need to be 10 degree curves or less. This is because the 6 axle locomotives cannot handle 12 degree or larger curves.
- 3.18 Number 10 turnouts are to be used coming into the plant from the CSX lead track. Number 10 turnouts are preferred for the in plant rail but a Number 8 could be used for the far end of the run if only a single in plant loco will be traveling that section.
- 3.19 Several concepts for the in plant rail layout were discussed. These consisted of the following a.) the ladder track arrangement shown on the initial layout, b.) a full loop, c.) a balloon, and d.) a lengthened version of the ladder track as shown on the second layout drawing. Variations on the ladder track lay out were discussed.
- 3.20 The initial ladder track arrangement would require several moves to break the empty train into +/- 30 car sections and the same number of moves to assemble a unit train. There is also a possibility of the locomotives needing to go out onto the CSX lead track while doing this. CSX indicated that this is not permitted.
- 3.21 The full loop or even a partial loop arrangement would require purchasing the property from the Graf Brothers. It is believed that the cost of this property will be too high to facilitate this arrangement. In addition, this places the facility into an "island" and causes other issues and additional costs.
- 3.22 The balloon arrangement was mentioned but not expanded upon because of the space limitations on the site.
- 3.23 The lengthened version of a ladder track arrangement was discussed. The option to purchase the Reid Property adjacent to the northeast corner of the site between the Graf Brothers property and the river would allow for a longer track lay out. This option will be further investigated to see how long of a unit train could be handled.
- 3.24 It was mentioned that a coke facility operates 365 days a year.
- 3.25 When the plant is pushing coke it is a continuous operation and is loaded directly into the rail cars. There is no surge bin in the system and limited time for a train to be run through the load out. Coke storage on the ground causes a reduction in the value of the coke of \$50 to \$70.
- 3.26 Estimated time to load an individual coke car is 25 minutes.

- 3.27 SunCoke estimates loading out 28 to 29 cars per shift.
- 3.28 Steve Haynes indicated that belt weighing will probably be the method utilized to determine the quantity loaded into rail cars in lieu of a track scale.
- 3.29 It was mentioned that steel constructed rail cars will be used for the coke and not cars of aluminum construction.
- 3.30 CSX anticipate using two (2) locomotives for the unit trains. The locomotives have 6 axles and are each 75 feet long for a total of 150 feet.
- 3.31 The basic CSX coke car is 53'-1" long coupling to coupling.
- 3.32 The standard coke car holds approximately 52 tons and the high top car holds 75 to 77 tons.
- 3.33 A unit train going to AK Steel (East) could be 60 to 62 cars.
- 3.34 A typical unit train going elsewhere (West) would range from 80 to 90 cars. It is anticipated, and agreed to by CSX, that 80 cars would be the normal unit train for this facility.
- 3.35 CSX to review if a 1.5% grade on the track exiting the plant is acceptable.
- 3.36 CSX mentioned that they anticipate pushing the empty train into the facility and pulling the loaded train out.
- 3.37 CSX asked if building out on the lower portion of the property was possible as a way to obtain the needed track length. They were advised that there would be other costs associated with this such as performing a flood study to see how it affects other nearby properties and then possible costs to mitigate this. A trestle was mentioned to minimize this. CSX mentioned that an estimated cost for them to build a trestle is approximately \$5000.00 per linear foot of each track.
- 3.38 CSX would like to be able to go both east and west as they exit the plant. This may not be possible with the site and plant layout but CSX will look at this while they are developing recommended in plant rail layouts.
- 3.39 It was identified that the facility would probably produce two (2) different blends of coke. This would require the ability to produce two (2) separate unit trains. Based on this it is anticipated that a minimum of five (5) tracks would be needed, two (2) tracks for empty trains, two (2) tracks for full trains and one (1) track for a run around. There may also be a need to have the ability to store a few spare cars on site.
- 3.40 CSX requested an AutoCad or Microstation Version 7 copy of the property and plant layout so that they could develop a few suggestions for in plant rail layout. The file should be transmitted to Rusty Olson of CSX, rustin_olson@csx.com. Hatch advised that the file would be transmitted either by the end of the day of first things Thursday morning.
- 3.41 SunCoke advised that a finalized layout of the plant had to be submitted to the consultant for modeling emissions points by March 12, 2012. CSX asked if they could have a week to look at some layout options and submit them to SunCoke for consideration. SunCoke said they need any ideas from CSX by March 5, 2012.

- 3.42 SunCoke asked that Hatch look at the ability of loading out coke on more than one (1) track.
- 3.43 During the site visit it was suggested that if the in plant rail lines turn and go east, after passing the coal stacker, that the possibility of having the coal conveyor from the barge unloading facility go beneath the rail lines. This would save the cost of foundations and towers to have the conveyor go over the tracks.

4. Action Summary

- 4.1 Hatch to transmit the AutoCad or Microstation Version 7 general arrangement drawing to Rusty Olson. (Complete - Initial AutoCad version posted to ftp site Wednesday evening with a second version emailed Thursday morning).
- 4.2 CSX to submit proposed in plant rail layouts for SunCoke consideration within a week for review internally and with SunCoke. CSX indicated a number of layouts would be available on February 29, 2012.

Timothy P. Kaiser/Rick Wallace

TPK:TPK



Minutes of Meeting

April 25, 2012

**SunCoke Energy
Project Raven FEL-3A**

Distribution

Those present +
G. Rudowski
C. Kos
R. Sturgulewski**Railroad Layout Meeting**

MEETING DATE: April 20, 2012

LOCATION: SunCoke Offices Lisle, IL

PRESENT:

Vince Damiano – SunCoke	Timothy Kaiser – Hatch
Stephen Haynes – SunCoke	Rick Wallace – Hatch
David Potthoff - SunCoke	Grant Chaney – CSX
David Schwake – SunCoke	Louis Muldrow – CSX
Ziwei Liao - SunCoke	Rusty Olson – CSX
James Skipworth – SunCoke (Phone)	Dan Mulvaney – CSX
Stephanie Renner – RailServe	Bob Frulia – CSX (Phone)
John Roberts – RailServe	
Mike Eldridge – RailServe (Phone)	

PURPOSE: Meet with SunCoke, Hatch, CSX & RailServe to discuss rail layout.

1. Introduction

A meeting was set up between SunCoke Energy, Hatch Associates, CSX Railroad and RailServe to discuss and hopefully determine the rail needs and layout for the proposed South Shore, KY location of the 660k tpy coke oven facility. The intent of the meeting was for an exchange of information and ideas between the interested parties so that a final workable design of the rail access to and within the site could be developed.

2. Safety Topic

The meeting was opened with a review of the emergency exits from the meeting room and other basic housekeeping items.

If you disagree with any information contained herein, please advise immediately.

H341500-0000-10-203-002, Rev. 0

Page 1



Safety • Quality • Sustainability • Innovation

© Hatch 2012/04

3. Discussion

- 3.1 The following overview of the project was provided by David Schwake and Ziwei Liao of SunCoke Energy for the purpose of updating the representatives as to the current status and layout of the project.
- 3.1.1 The proposed facility will consist of 120 coke ovens with an annual capacity of 660k TPY.
- 3.1.2 Will include a 40 to 70 MW electric generation facility.
- 3.1.3 Construction will begin in mid 2013 with the facility coming on-line by the end of 2015.
- 3.1.4 The currently proposed location is South Shore, Kentucky but there is a possibility it may be in Haverhill, Ohio.
- 3.1.5 The South Shore property is bounded on the north by the Ohio River, the south by US-23, the west by Mark West Hydrocarbon Partners, LTD, and on the east by DGGG Realty, LLC (currently occupied by Graff Brothers) and Eastern Terminals Land Company, LLC properties.
- 3.1.6 The property slopes downward from the south at US-23 toward the river on the north with a major drop off approximately two thirds of the way from the highway. The higher portion of the property is approximately at the 500 year flood level and the lower portion of the property near the river is at the 100 year flood level.
- 3.1.7 The southern portion of the property is crossed by the CSX main line tracks consisting of two main lines and two lead tracks.
- 3.1.8 The plant will be located on the upper portion of the property between the rail lines and the drop to the 100 year flood level.
- 3.1.9 The plant will need two entrances. The main entrance will be directly from US-23 where the property fronts the highway and the second entrance will be from Johnson Lane to the east.
- 3.1.10 SunCoke anticipates needing a railway overpass for the permanent plant entrance from US-23. The cost of this overpass would probably be on SunCoke's expense. Had the overpass been located on Johnson lane the state would have contributed to the cost of the overpass. The state will do the improvements to US-23 including turning lanes and a traffic light.
- 3.1.11 SunCoke stated that they did not want to build an underpass/chunnel on the access road from Johnson Lane under the in plant rail lines as they are very expensive.
- 3.1.12 Construction parking is planned for the area between US-23 and the main rail lines with a temporary pedestrian bridge over the tracks to provide workers a safe way to access the site. It is estimated that at the height of construction there could be 1000 workers.
- 3.1.13 A temporary construction access road with a grade crossing over the main line would be provided from US-23.
- 3.1.14 SunCoke currently holds the option to purchase the Eastern Terminals Land Company, LLC property on the east side between the river and the property utilized by the Graff Brothers. It is planned to use this property for construction lay down, the access road from Johnson Lane and the extension of the in plant track.

- 3.1.15 SunCoke also currently holds the option to purchase a 200 foot wide strip of property from the Graff Brothers on the east side of the site. This option will expire in the near future. If this is purchased SunCoke will need to give up a portion of the Eastern Terminals property.
- 3.1.16 Currently it is planned that the plant will produce two (2) different types of coke. SunCoke hopes to be able to push only one (1) type a day
- 3.1.17 Sixty (60) ovens will be pushed a day over a ten (10) hour shift. Each oven will produce approximately thirty (30) tons of coke.
- 3.1.18 After the coke is pushed from the oven it is quenched and immediately screened and loaded directly in to rail cars. The coke is not double handled.
- 3.2 Comments were made to the fact that environmental permitting was progressing for the South Shore, KY site and that the emission points were, for all intent and purposes, set.
- 3.3 The following overview of the current "L" shape track layout and operation was provided by Richard Wallace.
 - 3.3.1 Currently shows trains coming from and exiting to the east. An option to come and go to the west is shown provided we are able to cross the corner of the Mark West property. The access to the east currently shows two (2) tracks connecting to the CSX lead track.
 - 3.3.2 Track 1 is the loadout track, track 2 is the run around track, track 3 is for delivering empty cars, tracks 4, 5 and 6 are for full cars. Tracks 3, 4 and 5 will hold at least seventy (70) cars each. Track 6 will hold ten (10) cars.
 - 3.3.3 Empties would be brought in on the second connecting track and continue onto track 3, the engines would then disconnect from the train and exit on track 2 and continue to the CSX lead track via the first connecting track.
 - 3.3.4 The plant will transfer five (5) empties at a time from track 3 to track 1 for loading. A car puller will be utilized to bring the cars through the load out facility.
 - 3.3.5 The loaded cars will be transferred to tracks 4, 5 or 6 depending on which type of coke is being loaded at that time.
 - 3.3.6 Loading of cars is intermittent since it is directly loaded into the cars as the coke comes from the quench tower and is dependent on how the ovens are pushed.
 - 3.3.7 It is estimated to take approximately thirty (30) minutes to load an individual car.
 - 3.3.8 It is anticipated that an eighty (80) car train will be ready for shipment every three (3) days.
 - 3.3.9 When picking up a full train the engine would pull on to track 6, pick up the ten (10) full cars, pull out on to the connecting track, push on to track 4 or 5 and connect to the remaining seventy (70) cars, and then exit the plant.
- 3.4 RailServe mentioned that if they operated this layout that they would pull twenty (20) cars from the empty track back toward the main line and push them through the load out structure instead of pulling five (5) cars from the other end.

- 3.5 It was noted that for this "L" shape layout that CSX would not be able to pick up a full 80 car train when they drop off an 80 car empty train because the empty train is blocking access to the full tracks. It was Hatch's understanding that because of crew time limits CSX would not be able to drop off and pick with the same crew so this was not identified as a concern. CSX however clarified that it would be their intention to drop off and pick up, as the normal case.
- 3.6 The following overview of the CSX oval or loop shaped "O" track layout and operations was provided by Rusty Olson
- 3.6.1 The loop configuration provides access from both the east and the west.
- 3.6.2 The layout shows five (5) tracks in the loop. Four (4) tracks are access by CSX for delivering empty and taking full trains and the inner most track is for SunCoke use in loading the cars
- 3.6.3 The SunCoke load out track will totally circle the plant.
- 3.6.4 With this layout all trains are pulled. No pushing of cars required.
- 3.6.5 Each of the four (4) tracks accessible by CSX will hold approximately 81 cars.
- 3.7 It was identified that with the "O" configuration the plant is completely enclosed by the rails and a tunnel/chunnel would be required for the second plant access road from Johnson Lane. As previously mentioned SunCoke would prefer to avoid this.
- 3.8 To operate with the "O" layout and move 80 cars continuously SunCoke would need to obtain a larger engine than what is currently in the CAPEX.
- 3.9 CSX was advised that SunCoke would be loading approximately 25 cars a day with a specific type of coke and the second day would be the second type of coke. This needs to be accounted for in the operation of the "O" layout.
- 3.10 David Schwake responded to CSX on what was the objection of the "O" layout. His comments included costs associated with purchasing the Graff Brothers and Reed property and swap, access to the overall site and barge unloading area including over-passes and/or tunnels, capital cost, area reduction for the construction and lay down area, ongoing site area reduction and overall safety.
- 3.11 CSX brought up other "L" track layouts done by them, internally discussed, but not passed on outside of CSX until then. The layout showed entrance and exit in both east and west direction without needing the Mark West property. However, this ran track through the location of the quenching tower and require "pushing" empty cars in. After a bit more discussion the layout was modified a number of times including a "diamond" crossing of the east and west entrances. CSX operations is not for this as it is a high maintenance crossing.
- 3.12 Discussion was held on the issues of having to run different size unit trains (60 car and 80 car) on how this would affect production, cars needed, storage needed and deliveries.
- 3.13 Discussions were held on the operation between the SunCoke engine and the CSX engine. Details would be worked out later dealing with radio communications, CSX main line protection and air brake testing. Concern for both engines were implied.

- 3.14 It was conceded that if a reduction to 75 car unit trains would be required it could be done. This based on both customer capabilities and the SunCoke Raven site track layout.
- 3.15 A unit train of 75 cars and 2 engines was estimated to be 4200 feet long.
- 3.16 No one saw any fatal flaws in the "L" track design. However, it must be able to enter and exit from both east and west.
- 3.17 The CSX main line tracks are approximately 7 feet above the main site elevation. Any entrance track layout needs to accommodate this change in elevation.
- 3.18 It was mentioned that the slope of the access road from US-23 in to the plant for heavy equipment will need to be limited to 2 to 3%. This also needs to be addressed on the plant side of the main line tracks.
- 3.19 Storm drainage of the upper portion of the property where the plant will be located will all drain to a retention pond. No storm water from the plant will leave the property. This was mentioned because any track layout needs to allow room for the pond.
- 3.20 It was agreed that to have rail access to the west it would be necessary to occupy a corner of the Mark West property. In doing that the Mark West drill track would need to be reworked.
- 3.21 CSX advised that they will prepare an "L" shaped configuration and submit to SunCoke.
- 3.22 CSX was advised that the configuration of the batteries, quench tower and coke wharf was fixed and cannot be changed. Any track layout must avoid these items. The orientation of the settling basin to the quench tower could be changed if needed.

4. Action Summary

- 4.1 CSX will let the group know on Monday 4/23/12 on what date they can product a scale drawing of their suggested "L" track layout for the group to comment on.
- 4.2 It was conceded that a portion of the Mark West property would be needed with possible work/re-routing of their drill track. Discussions of this type will need to be pursued by SunCoke with the possible help through CSX contacts.
- 4.3 CSX will provide or tell where information on power line crossing requirements, including permit applications, can be found for both inside and outside plant. SunCoke will pursue this need.
- 4.4 CSX will provide or tell where information on underground natural gas line crossing requirements, including permit applications, can be found for both inside and outside plant. SunCoke will pursue this need.

Richard D. Wallace, Jr./Timothy P. Kaiser

RDW/TPK:RDW



**SunCoke Energy
Project Raven FEL-3A**

Distribution

Those present +
G. Rudowski
T. Kaiser
R. Sturgulewski

Railroad Layout Meeting

WEB-X DATE: May 16, 2012

LOCATION: WebEx Teleconference

PARTICIPANTS: Vince Damiano – SunCoke
Ken Plata - SunCoke
Stephen Haynes – SunCoke
David Potthoff - SunCoke
David Schwake – SunCoke
Ziwei Liao – SunCoke

Chester Kos - Hatch
Rick Wallace – Hatch
Grant Chaney – CSX
Rusty Olson – CSX
Dan Mulvaney – CSX

PURPOSE: Meeting to discuss latest Railroad Layout for General Agreement and Final Comments.

1. Introduction

A WebEx meeting was set up between SunCoke Energy, Hatch and CSX Railroad to discuss and agree upon the acceptable rail requirements and layout for the proposed South Shore, KY location of the 660k tpy coke oven facility. A revised layout and operational description was presented by Hatch. The changes in layout are a product of re-engineering by Hatch, previous meeting discussions in Lisle, IL with CSX and RailServe, and the CSX proposed layout options generated by Rusty Olson. This latest layout and operational procedure represents the best of the collective information from all parties, and made use of the available property, while maintaining the coke facility layout and construction lay-down areas.

2. Discussion

2.1 The WebEx started with an overview by Vince Damiano of SunCoke explaining the importance of working together to achieve the project goals, and to ensure a safe operating and functional railroad installation.

- 2.2 The discussion started with an overview of the new rail layout, with emphasis on significant changes and adherence to CSX and SCE operational requirements.
- Rail entry into the plant is from the East and West directions off of the main line.
 - The loadout track (track#2) remains in the same N-S loading position, but is extended to the northeast and southeast on drill tracks.
 - During car filling operations the loadout track is “isolated” from the other tracks used by CSX to bring in empties and pull out loaded coke cars.
 - A storage siding (track#1) was added to the loading track to park the “On-Site” engine and 9 cars. This can be used to service the engine or set aside unused or problem railcars.
 - Empty car tracks #3 & #5 hold 78 and 68 cars respectively. A main line engine run-around track is located between the two empty car tracks (track #4).
 - The two full car tracks #6 & #7 complete the on-site rail layout. Each track can hold up to 72 cars, which is the daily output of the oven pushing cycle for three days (24 cars x 3 days). There will be a gravel road located between the two full car tracks for CSX crew to inspect the full car string prior to departing the plant.
 - The curves of the tracks were developed to maximize the number of railcars on-site and to make up the unit trains. The curved tracks coming off the main line join at an optimal point that feeds the on-site storage tracks, retains coke facility space for future expansion & construction laydown, and minimizes the westward track incursion onto the Mark West property.
 - With the addition of the drill tracks, the on-site engine will be able to move all 24 cars used for the daily push onto the loading track at one time.
 - CSX rail specifications are addressed in this design. All curves are ten (10) degree turns, all switches are number 10 turn-outs, and grade changes are kept to 1%.
 - The rail layout changes do not affect the coke facility layout. Process emission points remain as previously designed.
- 2.3 The review continued with Steve Haynes (SCE), Rusty Olson and Dan Mulvaney (CSX) offering other ways to improve the layout shown. This included adding track to the north end of the loadout track (#2) and turnouts for additional day storage of rail cars, adding turnouts between tracks #5, #6 & #7 for flexibility of operation. It was decided to engineer these items in as future options, and evaluate their benefit after actual operation begins.
- 2.4 Discussions also included the possible movement of the westward entry point further east, so that no Mark West property was required. Hatch noted that this had been looked at in previous layout options, and resulted in less railcar storage for current and future expected products, because of the extended arc angle and “squeezing” the location of the coke quench area.

- 2.5 The Mark West property acquisition topic was raised and how best to approach this issue with them. The obvious question presented in the discussion was "what benefit does Mark West get out of this transaction". They would be sensitive to possible disruptions of their operations while their existing drill track was relocated. SunCoke would want to understand more about the Mark West rail service before meeting with them on this issue.
- 2.6 Environmental issues and other liabilities would also have to be considered in a due-diligence report. Also, it is unknown at this time who would be in position of authority to make the decision at Mark West. Their legal group would also weigh in on the decision, as would the SunCoke legal team. It was determined that a low level meeting with Mark West site personnel should be the first step.
- 2.7 The discussion then switched to CSX operations at the coke facility. It was pointed out how CSX would enter the property from either the east or west direction, pull through and drop off up to seventy eight (78) empty rail cars, uncouple the engine(s), use the run-around track to leave the site or pick up a full unit train of up to seventy two (72) rail cars, and leave in either outbound direction. There would be no interference with the empties delivered and the SunCoke loadout track would be separate for the most part.
- 2.8 Along with the items previously noted, CSX stated this was an acceptable layout and operational practice, and only small operational details were left that could be evaluated when actual operations commenced. CSX was very pleased that their concerns had been addressed, resolved, and incorporated into the current layout.

3. Action Summary

- 3.1 Hatch will add track numbers to the drawings and sketch a west entry option, as if the Mark West property was not used.
- 3.2 Ziwei Liao (SCE) will set up a meeting with the Mark West management the week of June 11, 2012, to discuss the possibility of using a corner of their property for the SunCoke rail service. The minimum land acquisition from Mark West would be about 0.25 acres. This would provide a 30 ft minimum buffer from the track centerline. The land shape is a thin triangle. More land may end up being included at the request of Mark West.
- 3.3 CSX will provide SunCoke with their internal information on the rail service to the Mark West facility. This information will be used to prepare for the meeting with the Mark West personnel.

Richard D. Wallace, Jr./Chester Kos

RDW/CK:iw
Attachment(s)/Enclosure



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H341500-0000-10-203-0003, Rev. 0
Page 3

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Railroad Operations L-Shape Layout with Reid Property (Rev. #3)

Tracks (from coke oven side outward):

#1 – Storage Siding	(One (1) Engine + Nine (9) Cars)
#2 – Loadout Track	(One (1) Engine + Twenty Four (24) Cars)
#3 – Empty Track #1 and Entrance/Exit Track (Both East and West Directions)	(Seventy Eight (78) Cars)
#4 – Run-around Track	(n/a)
#5 – Empty Track #2	(Sixty Eight (68) Cars)
#6 – Full Track #1	(Seventy Two (72) Cars)
#7 – Full Track #2	(Seventy Two (72) Cars)

Considerations:

Incoming and outgoing cars must go in both directions (east & west)
Design for an even three (3) day production, assumed 24 cars per day
Design for “drop & take” of empties and full cars
“Isolate” the loadout track from the incoming and outgoing tracks for safety and so that loading can continue while the CSX engine is on site.
Have the ability to move and load one (1) days production at a time with the SunCoke engine
Use all 10 deg turns (573.69’ Rad.)
Use all No. 10 Turnouts (5 deg – 43’’-20’’)
Gravel access road between the two (2) full tracks

Operation:

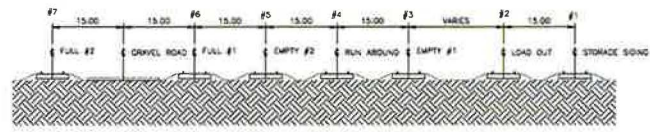
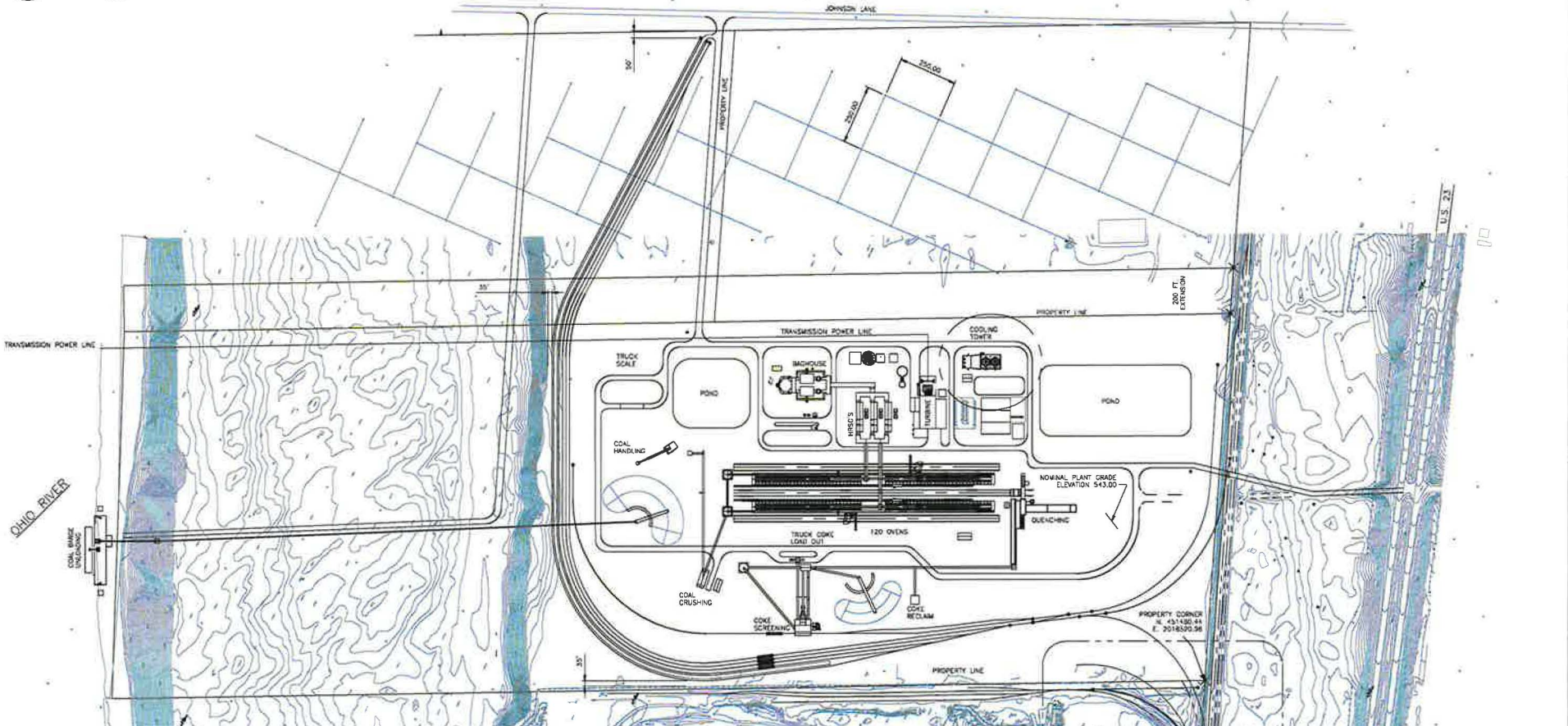
1. CSX engines (assume two (2)) pull in-to the site with up to seventy eight (78) empty cars (54’ long). Entering from either direction (east or west), CSX then drops the empties off on the clear Track #3 (empty #1). The engines uncouple and use Track #4 (run-around) to leave the site or couples to the full cars on either Track #6 (full #1) or #7 (full #2) and leaves in either direction. Note: A CSX engine can come back to pick up the full cars at most anytime from either direction as required.
2. The SunCoke single engine after deliver and at the start of the production day pulls twenty four (24) empty cars (full days loading) from Track #3 (empty #1) using the south end and pushes them onto Track #2 (loadout). The engine then pushes the empties to the other side (north) end of the loadout. When ready, loading starts and the SunCoke engine pulls the cars through the loadout to the south and adjusts as needed (Note: load can be done in either direction). At the end of production that day, the full cars will be pushed onto either Track #6 (full #1) or #7 (full #2) dependent on customer.

3. When production is finished for the first day after empties are delivered, the SunCoke engine will marshal the remaining empty cars from Track #3 (empty #1) to Track #5 (empty #2) to allow up to the next seventy eight (78) car delivery by CSX. Note: Track #5 only holds sixty eight (68) cars in lieu of the seventy eight (78). This step may or may not be necessary at all times dependant on size of train and/or customer.

8 7 6 5 4 3 2 1



REV.	DATE	DESCRIPTION	BY	CHKD.	APPD.
A		FOR REVIEW			



STANDARD CROSS SECTION
SCALE: 1"=10'

TRACKS (OVEN SIDE OUTWARD)	
#1 STORAGE SIDING	1 ENGINE = 9 CARS
#2 LOAD OUT	1 ENGINE = 24 CARS
#3 EMPTY #1	78 CARS
#4 RUN-AROUND	
#5 EMPTY #2	88 CARS
#6 FULL #1	72 CARS
#7 FULL #2	72 CARS

DAILY PRODUCTION: 80 OVENS * 35 TONS PER OVEN = 24 CARS
75 TONS PER RAIL CAR

TOTAL TRACK = 28,557 FEET 1.3 TURNOUTS

FOR INFORMATION

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE DIMENSIONS UNLESS OTHERWISE SPECIFIED DIMENSIONS ON 2 P.L. BEHIND 4.00 2 P.L. BEHIND 4.00 2 P.L. BEHIND 4.00 2 P.L. BEHIND 4.00		DATE 3/7/12	DRAWN R.SARACCO	CHECKED R.WALLACE	DATE 3/8/12	CLIENT SunCoke Energy
REVISION A FOR REVIEW		PROJECT NO. 341500		SHEET 650K TPY RECOVERY COKE PLANT RAILROAD LAYOUT		SCALE 1"=100'		
PROJECT NO. 341500		SHEET NO. 002		SCALE 1"=100'		SHEET NO. 002		

REVISION
A
IN PROGRESS

SEE DWG. NO. 341500-50-042-032 (SSC-005-2A-032) FOR BALANCED PLAN AT MARK WEST PROPERTY CORNER

8 7 6 5 4 3 2 1

SCHWAKE, DAVID J.

From: DAMIANO, VINCENT P
Sent: Friday, July 06, 2012 12:01 PM
To: SCHWAKE, DAVID J; POTTHOFF, DAVID L; Rudowski, Gary; Chester Kos (ckos@hatch.ca); LIAO, ZIWEI; Wallace, Richard (rwallace@hatch.ca)
Cc: BARBER, MICHAEL J; PLATA, KENNETH J; HAYNES, STEPHEN W; HIRT, THOMAS J; DAMIANO, VINCENT P
Subject: FW: H341500 SunCoke Raven FEL-3A - MW Mtg Action on RR Layout

Guys

Rusty's feedback on the Mark West property.

Vince

Vincent P. Damiano Jr. P.E.
Sr. Project Manager
SunCoke Energy, Inc.
1011 Warrenville Road, Suite 600
Lisle, IL 60532
Office: (630) 824-1761
Cell: (610) 551-3364
vpdamiano@suncoke.com



SunCoke Energy
www.suncoke.com

From: Olson, Rustin [mailto:Rustin_Olson@csx.com]
Sent: Friday, July 06, 2012 11:14 AM
To: HAYNES, STEPHEN W; Muldrow, Louis III
Cc: Milton, John Jr.; DAMIANO, VINCENT P; Armstrong, Bradley; Olson, Rustin
Subject: RE: H341500 SunCoke Raven FEL-3A - MW Mtg Action on RR Layout

Mr Haynes-

Please proceed with engineering showing the curve sharper than 10*, but less than 12* for consideration / acceptance by CSX Engineering. Include premium track materials including new hardwood ties, Pandrol clips with screw spikes (or equivalent), 136# or bigger Continuous Welded Rail (probably 80ft sticks welded

at the site), and a rail lubricator (@ the industry end of both rails). Facing-point switches should be avoided adjacent to the curve (I think they are). I suggest defining the curve to the actual available site conditions; labeling it something like 11*45'15" rather than 12*

thanks

Rusty Olson
Regional Manager Site Design
1717 Dixie Highway
Ft Wright KY 41011

Tel. 859.344.9675
Cell. 859.444.7033

rustin_olson@csx.com

From: HAYNES, STEPHEN W [mailto:SWHAYNES@suncoke.com]
Sent: Friday, June 22, 2012 12:36 PM
To: Muldrow, Louis III
Cc: Milton, John Jr.; Olson, Rustin; DAMIANO, VINCENT P
Subject: RE: H341500 SunCoke Raven FEL-3A - MW Mtg Action on RR Layout

Thank you, and have a good weekend.

Steve



SunCoke Energy

Stephen Haynes
Manager – Logistics
1011 Warrenville Road, Suite 600
Lisle, IL 60532
630-824-1916 Office

Project Report

August 21, 2013

SunCoke Energy
Project Raven FEL-3B

Distribution:
M. Donnelly (SXC)
K. Plata (SXC)
D. Schwake (SXC)
J. Skipworth (SXC)
G. Rudowski (Hatch)
R. Wallace (Hatch)
T. Kaiser (Hatch)
J. Magon (Hatch)

Site Railroad Layout Design Criteria

Table of Contents

1. Introduction.....	2
2. Design Criteria.....	2
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Attachment: Drawing SSC-005-2A-001 Railroad – Overall Plan Rev. 0
 SSC-005-2A-002 Railroad – Sections and Details Rev. 0



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1. Introduction

The rail siding layout for SunCoke Energy's Project Raven located in South Shore, KY has several geometric and operational challenges. To maximize efficiency and minimize transportation costs it is critical to maximize the "unit train" size for both CSX and SunCoke Energy. It is also important to allow safe and efficient operation for both parties. In addition to these goals the layout was developed within tight property boundaries with consideration for the site topography, avoiding the adjacent MarkWest Energy property, and meeting railroad design standards. Hence, during the past and current engineering project development phases (FEL-2, 3A & now 3B), numerous layouts have been developed and reviewed. The latest drawings (SSC-005-2A-001, Railroad -Overall Plan and SSC-005-2A-002 Railroad – Sections and Details) have been derived as a result of collaborations between CSX, SunCoke, outside vendors and Hatch over this period of time.

2. Design Criteria

The following design criteria has been incorporated into the railroad layout and operation description:


- 2.1 The railroad design is based on CSX Transportation's "Standard Specification for the Design and Construction of Private Sidetracks", dated June 1, 2007. Despite several attempts to contact CSX to confirm that this is the latest version, we have not yet received a response.
- 2.2 Incoming and outgoing rail cars must have the ability to travel in both directions (east & west)
- 2.3 Design for "drop & take" of empties and full rail cars is preferred
- 2.4 Track #1 is designed as a maintenance area and for storage of a spare yard engine and any damaged or unusable cars. It will be farther from Track #2 (30 feet center to center) and have a physical barrier between them for safety
- 2.5 Full and empty rail car track length is equalized to match the shortest one
- 2.6 "Isolate" the loadout track from the incoming and outgoing tracks for safety and so that SunCoke Energy loading can continue while the CSX engines are on site. The loadout track is sized to handle a full day's production of empties
- 2.7 The existing CSX second lead track (furthest north) will be cut to allow for the east and west entrance curves down to the site to begin. The existing rail between these two (2) points will either be removed or abandoned in place.
- 2.8 The existing CSX main line tracks (two (2)) and lead tracks (two (2)) are at a higher elevation than the site. Therefore vertical curves (summits) are required and will begin on the CSX second lead track just prior to the east and west entrance curves down to the site.
- 2.9 The north vertical curves (sags) will be at the end and part of the east and west entrance horizontal curves



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- 2.10 All vertical curve tangents will be a minimum of 100'-0" in length and designed to transition into the corresponding grade. (Ref. CSX Spec. Section H, Table 2).
- 2.11 Percent grade between the existing CSX tracks and the site will not exceed 2.0% (including compensation for curve). (Ref. CSX Spec. Section H, Table 2).
- 2.12 All turnouts will be #10s (116' long with 5 degree 43 minute 29 second construction angle per CSX drawing 2224).
- 2.13 All horizontal curves will meet the CSX requirement of 10 degrees (Ref. CSX Spec. Section H, Table 2) or greater except:
- a. The west entrance will be 12.0 degrees
 - b. The south end of Track #2 (Loadout) will be 11.3 degrees
 - c. The north end of Track #2 (Loadout) will be 10.27 degrees
 - d. Under no circumstances will any curve be under 12 degrees
- 2.14 Distance between site tracks will be 15'-0 or greater
- 2.15 A 15 foot wide access road is provided in between Track #6 (Full #1) and Track #7 (Full #2). The center to center distance between these two tracks is 30 feet.
- 2.16 Distance between a turnout and curve is 50'-0 or greater (Ref. CSX Spec. Section C, Turnouts, page 7)
- 2.17 The standard #10 cross-over for a 15 foot offset is used between Track #3 (empty #1) and Track #2 (loadout) ($\frac{1}{2}$ " point of frog to $\frac{1}{2}$ " point of frog is 54'-7 $\frac{1}{2}$ ") per CSX drawing 2206.
- 2.18 All tracks on the site, except for the entrance curves, are at the same elevation with top of rail being 545'-0".
- 2.19 Minimum vertical clearance for the vehicle bridge and foot bridge is 23'-0 above the top of rail of the CSX Main Line (Ref. CSX drawings 2604 and 2605).
- 2.20 The face of the south abutment of the vehicle bridge and the face of the south tower of the pedestrian bridge will be approximately 30 feet from the center of the southern CSX main line track. This places these structures outside of the CSX Right of Way and beyond the 25 foot limit for crash barriers.
- 2.21 The face of the north abutment of the vehicle bridge will be located such that the closest point of the abutment to the #2 Track (Loadout) will be 27'-3" to account for the curve in the track.
- 2.22 Vehicle bridge abutment locations to be reviewed and approved by the Kentucky Transportation Cabinet (KYTC). Any changes to the proposed locations to be coordinated between SunCoke, CSX, KYTC and Hatch.
- 2.23 The north tower of the pedestrian bridge will be outside of the CSX Right of Way.
- 2.24 Calculated number of cars and space allotted is based on equipment dimensions given on the layout drawings. Note all other criteria is identified on the layout drawings.



- 2.25 The distance from the end of a ladder track turnout to the start of the next ladder track turnout is less than 50'-0" in order to obtain the 15'-0" center to center spacing of the ladder tracks. 

3. Delivery & Loading Operation

Based on the Design Criteria above and information contained on the attached drawings SSC-005-2A-001, Railroad – Overall Plan and SSC-005-2A-002, Railroad – Sections and Details, the following operation procedure is expected:

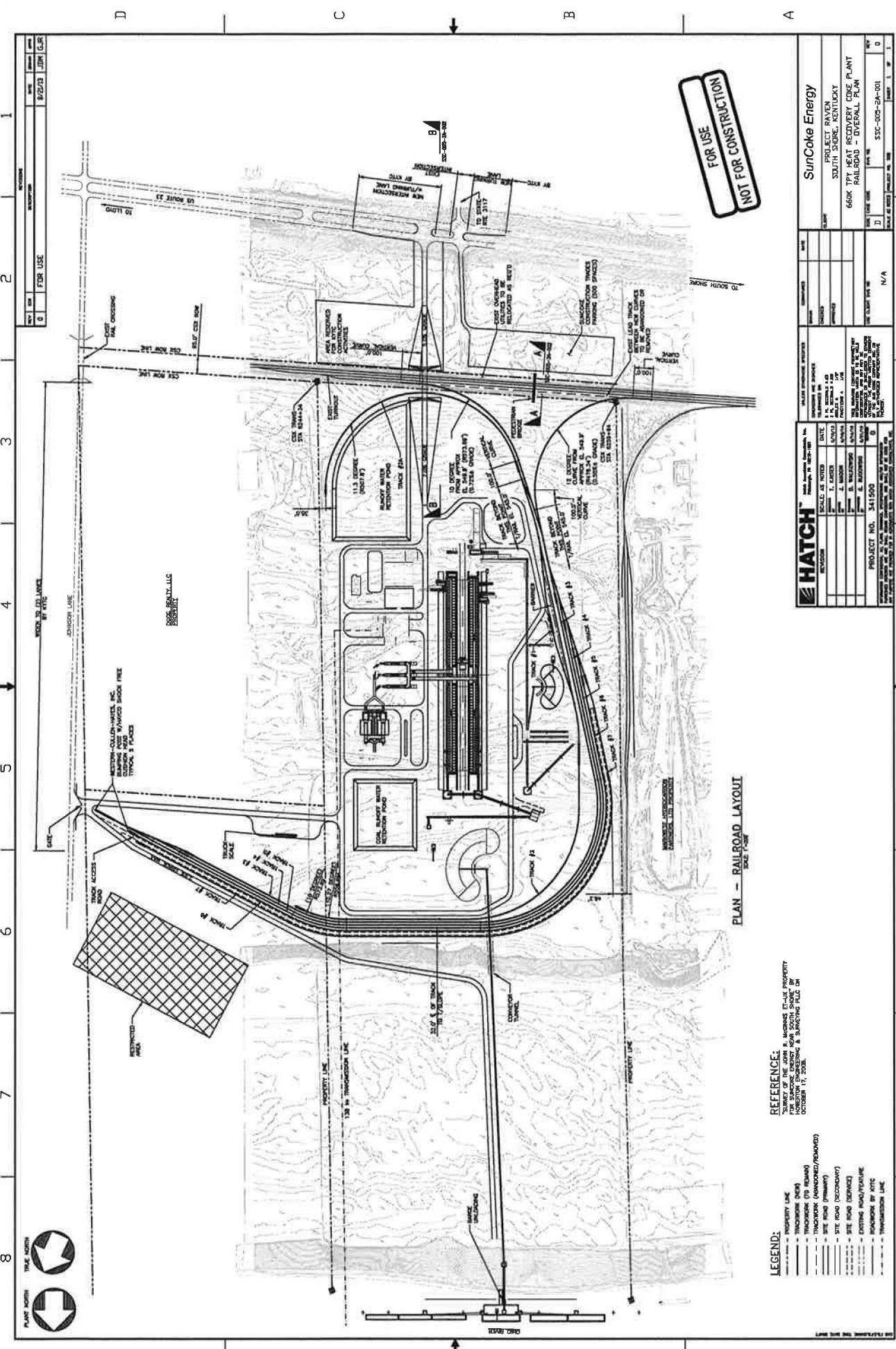
- 3.1 CSX main line engines (assume two (2)) pull on-to the site with up to the maximum number of empty cars. Entering from either direction (east or west), CSX then drops the empties off on the clear Track #3 (empty #1) or Track #5 (empty #2). The engines uncouple and use Track #4 (run-around) to leave the site or couple to the full cars on either Track #6 (full #1) or Track #7 (full #2) and leave in either direction. A gravel roadway is located between the two (2) full tracks (Track #6 & Track #7) for inspection prior to movement of the Unit Train. Additional cars could be handled but this would take more logistics, on-site time and require marshalling of cars by CSX, whether full or empties. Note: A CSX engine can return later to pick up the full cars at anytime from either direction as required.
- 3.2 After the CSX deliver and at the start of the production day, the SunCoke single yard engine will pull the full days loading schedule of empty cars from Track #3 (empty #1) or Track #5 (empty #2), using the south end, onto Track #2 (loadout). The engine then pushes the empties through the Loadout structure to the other side (north end). When ready, loading starts and the SunCoke yard engine pulls the cars through the Loadout structure to the south and adjusts speed as needed. At the end of production that day, the full cars will be pushed onto either Track #6 (full #1) or #7 (full #2) dependent on the customer.
- 3.3 When production is finished for that day, the SunCoke yard engine will either marshal the remaining empty cars from Track #3 (empty #1) to Track #5 (empty #2) or move the remaining empties to Track #2 (loadout) to allow the next empty car delivery by CSX.

R.D. Wallace, Jr./T.P. Kaiser
RDW/TPK:iw

Attachment



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FOR USE
 NOT FOR CONSTRUCTION

PLAN - RAILROAD LAYOUT
 SCALE 1/8" = 1'-0"

REFERENCE:
 SURVEY OF THE JOHN H. MORGAN ET-ALX PROPERTY
 FOR SAVING DISTRICT 100A SOUTH SHORE BY
 THE STATE OF KENTUCKY, DATED & SAVING FILED ON
 OCTOBER 17, 2008.

- LEGEND:
- PROPERTY LINE
 - TRACKWORK (TO BE BUILT)
 - TRACKWORK (ABANDONED/REMOVED)
 - SITE ROAD (SECONDARY)
 - SITE ROAD (PRIMARY)
 - SITE ROAD (SERVICE)
 - EXISTING ROAD/UTILITY
 - BOUNDARY BY KATC
 - TRANSMISSION LINE

HATCH HATCH ENGINEERING, INC. 1000 EAST MAIN STREET SUITE 200 COLUMBIA, KY 40302 PH: 502-241-1100 FAX: 502-241-1101 WWW.HATCHINC.COM		PROJECT NO. 341500 SHEET NO. 1 OF 1	
DATE	10/17/08	SCALE	AS SHOWN
DESIGNER	J. H. MORGAN ET ALX	CHECKED	J. H. MORGAN
DRAWN	J. H. MORGAN	APPROVED	J. H. MORGAN
PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN	PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN
DATE	10/17/08	PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN
PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN	PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN

OWNER	SunCoke Energy
PROJECT	PROJECT HAVEN
LOCATION	SOUTH SHORE, KENTUCKY
DESCRIPTION	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN
DATE	10/17/08
PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN
PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN

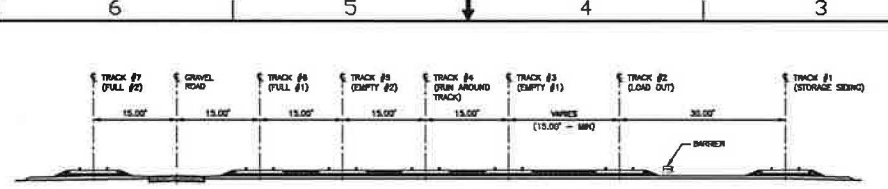
DATE	10/17/08	SCALE	AS SHOWN
DESIGNER	J. H. MORGAN ET ALX	CHECKED	J. H. MORGAN
DRAWN	J. H. MORGAN	APPROVED	J. H. MORGAN
PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN	PROJECT	660K TYPY HEAT RECOVERY COKE PLANT RAILROAD - OVERALL PLAN
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TRACKS (USABLE STORAGE LENGTHS)			
#1	STORAGE SIDING	1 YARD ENGINE + 8 CARS	528 LF
#2	LOAD OUT	1 YARD ENGINE + 38 CARS	2144 LF
#2A	LOAD OUT (TRANSFER)	1 YARD ENGINE + 27 CARS	1528 LF
#3	EMPTY #1	87 CARS	3740 LF
#4	FLN-SIDING	N/A	N/A
#5	EMPTY #2	87 CARS	3627 LF
#6	FULL #1	87 CARS	3678 LF
#7	FULL #2	87 CARS	3682 LF

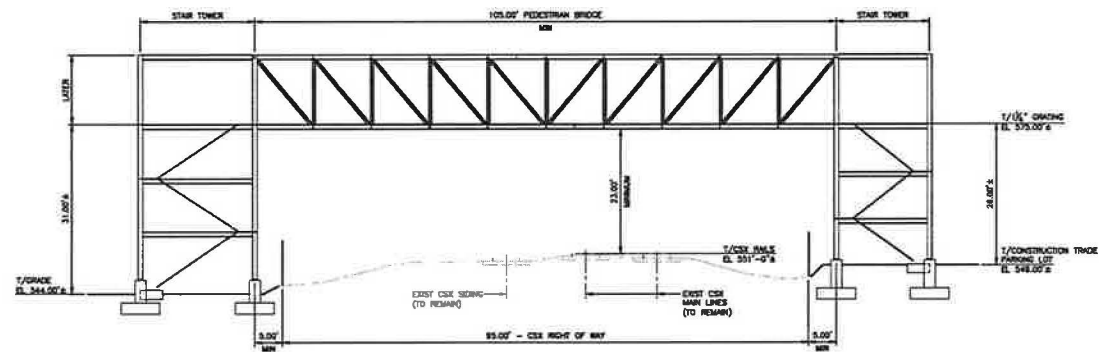
DAILY PRODUCTION: 80 CARS * 22 TONS PER CAR = 1760 TONS
 70 TONS PER RAIL CAR = 27 CARS

TOTAL TRACK = 26,651 FEET (NOT INCLUDING TURNOUTS)
 TURNOUTS = 11 TOTAL
 CSR ENGINE = 86'-11"
 YARD ENGINE = 56'-2"
 CAR = 34'-0"

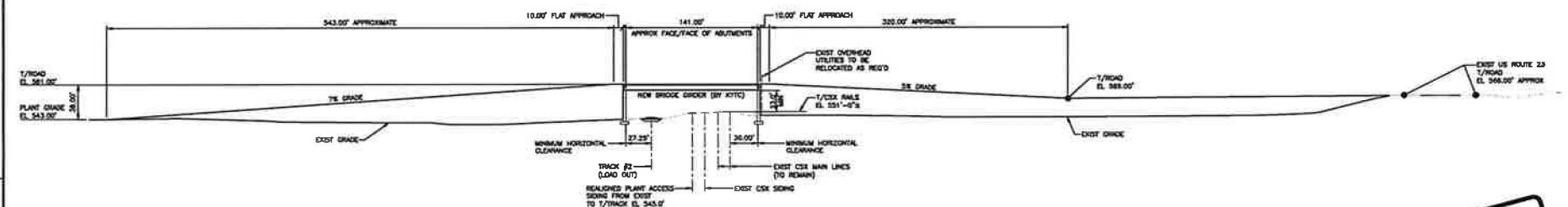
1. ALL CURVES ARE (18 DEGREES) OR LARGER UNLESS NOTED
2. ALL TURNOUTS #10
3. VERTICAL CURVE LENGTH = 100' MINIMUM
4. DISTANCE FROM TURNOUT TO CURVE OR TURNOUT = 30' MINIMUM



STANDARD RAILWAY CROSS SECTION
SCALE: 1:10



SECTION A-A
SCALE: 1:10



SECTION B-B
SCALE: 1:50

FOR USE
NOT FOR CONSTRUCTION

HATCH Inc. American Branch, Inc. Pittsburgh, PA 15222-1099		UNLESS OTHERWISE SPECIFIED		DATE	8/23/13
REVISION	SCALE AS NOTED	DATE	DESCRIPTION AND REVISIONS	DESIGNED BY	DATE
1		8/23/13	ISSUED FOR PERMIT	JDM	8/23/13
2		8/23/13	ISSUED FOR PERMIT	JDM	8/23/13
3		8/23/13	ISSUED FOR PERMIT	JDM	8/23/13
4		8/23/13	ISSUED FOR PERMIT	JDM	8/23/13
PROJECT NO. 341000		0			
SUNCOKE ENERGY		660K TPY HEAT RECOVERY COKE PLANT RAILROAD - SECTIONS AND DETAILS		SCALE AS NOTED	PROJECT NO. 341000
SUNCOKE ENERGY		660K TPY HEAT RECOVERY COKE PLANT RAILROAD - SECTIONS AND DETAILS		SCALE AS NOTED	PROJECT NO. 341000

Minutes of Meeting

September 27, 2013

SunCoke Energy
Project Raven FEL-3B

DISTRIBUTION:

Attendees +
M. Ball (SXC)
W. Gares (SXC)
P. Hanafin(SXC)
A. Hanlin (SXC)
T. Hirt (SXC)
T.G. Jayanth (SXC)
D. Johnson (SXC)
P. Norton (SXC)
J. Quanci (SXC)
V. Reiling (SXC)
K. Russell (SXC)
J. Ziegler (SXC)
tdcraven@suncoke.com

Rail, Road & Logistics Review Meeting**MEETING DATE:** September 11, 2013**LOCATION:** South Shore, Kentucky**ATTENDEES:**

SunCoke Energy – S. Morey, K. Plata, B. Rodgers, D. Schwake, J. Skipworth

Hatch – J. Cook, P. Hall, T. Kaiser, G. Rudowski

PURPOSE: Review of project with local County officials; review of the plant rail track layout, construction worker pedestrian walkway over the main rail line, and road bridge overpass with CSX; review of logistics for transporting largest practical modules from barge to construction site with Edwards Moving & Rigging; review of alternate delivery and lay-down site (Hooker Chemical property). Meeting attendees also included:

- Joe Taylor – Greenup County Roadway Department
- Bob Hammond and Bill Hanna – Ashland Alliance
- Judge Bobby Carpenter
- Rusty Olson and Mike Ward – CSX Corporation
- Scott Bridegam and Andy White – Edwards Moving & Rigging



1. Safety Topic

CSX noted an incident that happened today where a truck hauling a boat got stuck crossing the tracks once the warning lights were flashing. The train could not stop in time. The driver left the truck and survived but the boat (purchased just hours ago) was destroyed.

2. Project Status Update – D. Schwake

- 2.1 There has been a delay in the approval by KDAQ of the environmental permit application due to issues with the PM 2.5 modeling.
- 2.2 The ACOE 10/404 permit has been posted for public comment.
- 2.3 SunCoke has extended their land options.
- 2.4 SunCoke has executed the Agreement to complete the PJM Facility Study, the last phase of the PJM interconnection study.
- 2.5 SunCoke has announced their intention to acquire Kanawha River Terminals (KRT), which plans to blend, ship and provide turnkey barge offloading facilities for Project Raven.
- 2.6 SunCoke is proceeding with bidding of major equipment, maximizing modularization to compress the construction schedule.
- 2.7 Objective for producing first coke is Q1-Q2 2016.

3. Rail Discussion – T. Kaiser, R. Olson, M. Ward

- 3.1 T. Kaiser presented an overview of the in-plant railroad layout and operation.
- 3.2 In general R. Olson and M. Ward found this layout to meet their requirements, including how CSX would be able to bring in empty trains and take out full trains.
- 3.3 It was pointed out that the layout also included a siding where we could store several cars in the event they needed repairs and could perform maintenance on the in-plant engine. This siding has a 30-foot spacing to the load out track. CSX thought this was a good feature.
- 3.4 R. Olson indicated that the northernmost track is the "lead" track for MarkWest; however, after returning to the Hatch office and reviewing the area on Google Earth it can be seen that the switches from the third track to the fourth track are so close that the MarkWest is really serviced from the third track (inside lead track). This will be confirmed with R. Olson.

- 3.5 The 69kV power lines along the rail track will need to be re-worked prior to construction of the construction worker pedestrian walkway and truck overpass – need to verify clearances. The location of the power lines should be shown by Hatch on the plan and section drawings. This item has potential schedule impact to construction of the pedestrian walkway and initiation of the bridge overpass which requires follow up.
- 3.6 The method of construction for the pedestrian walkway was discussed. The best method was considered to be erecting the two bridge towers first, then move in the truss and lift it over the tracks with a mobile crane (use of a rail crane is not preferred by CSX). The pedestrian walkway can remain as a permanent structure.
- 3.7 May need a separate permit for construction of the overpass or pedestrian walkway within a certain clearance (25-ft. from ends of the rail tie) of the main line tracks. May need to move the columns outward a bit to accomplish this. Hatch will develop a drawing showing track clearances required for construction of the pedestrian walkway.
- 3.8 CSX advised that a construction plan will need to be submitted for how construction over the tracks, for the pedestrian bridge and the vehicle bridge, will be performed before any work can start. This activity will be completed by Hatch in FEL-3.
- 3.9 Construction should be scheduled around major rail traffic. There are two major scheduled trains ~ 2pm. Best timeframe for construction is 10am – 2pm; second best is 8am – 10am and 2pm-4pm, using a flag man for traffic.
- 3.10 Base design from KYDOT for the vehicle overpass would utilize retaining walls. The current design indicated on the general arrangement drawing is showing embankments as the worst case.
- 3.11 Need to confirm that the changes to the retention pond to accommodate the plant rail track layout will still hold the same capacity as before. This will be confirmed next month with the completion of the preliminary site drainage plan. The original capacity was sized to handle a “100 year” storm.
- 3.12 Within the plant, the rail track fill needs to be railroad ballast, not crushed stone.
- 3.13 CSX stated it is acceptable to double-load full trains (e.g. 67 + 23 cars) in the plant. To accomplish this CSX would need to connect to either the set of 23 or 67 cars pull out onto the lead tracks and back in to attach to the remaining set. It was noted that there would be a problem trying to bring in more than 67 empty cars at one time. However, the plant layout accommodates two tracks of 67 empty cars which would allow the building of unit trains larger than 67 cars if CSX can build the train in two stages.

- 3.14 CSX requested that the design allow for “ground air” supply (90psi dry instrument air) so that the train is ready to move without lag time to supply air to the air brakes. Should be located at the southwest end of the tracks. Jonathan Steele, CSX Mech. Engineer, can provide the air capacity requirements. M. Ward is to contact Jonathan to have him send suggested details to T. Kaiser.
- 3.15 CSX will also provide lighting requirements, especially at the manual switching locations (suggested solar powered lighting). SunCoke’s MTO plant experienced issues with CSX upon start up, with increased requirements from the original design, which Project Raven is trying to avoid. These lessons learned from MTO need to be incorporated into the discussions with CSX around lighting.
- 3.16 R. Olson will take drawings back to get signoff on width and height clearances of the truck overpass and pedestrian walkway. Although an in-plant radius of < 14degrees is generally acceptable, CSX also needs to get corporate level approval of the 12 degree curve of track toward the MarkWest property.
- 3.17 M. Ward provided the following contact information for two (2) rail installation companies that he has dealt with and is satisfied with their work:
- TTI Railroad, Inc., 205 Winchester Street, Paris, KY 40361, Russell S. Rogers (Owner & CEO), office phone: 859-987-1589 x125, cell phone: 859-227-4476
 - Tram Construction, Inc., 9279 E. Kentucky 8, Garrison, KY 41141, Terry LeMaster (Owner), office phone: 606-757-4874, cell phone: 606-922-2436.

4. Johnson Lane Improvements – D. Schwake, J. Taylor

- 4.1 The need to widen Johnson Lane was discussed and it was agreed that two (2) 12-foot paved lanes with a 2-foot gravel berm on either side of the road would be acceptable.
- 4.2 The County advised that it would take them approximately two (2) weeks to relocate the utility poles and widen the portion of Johnson Lane from the CSX crossing to our proposed gate location.
- 4.3 The County requested that we give them at least a 2 to 4 week notice before we need them to start work on widening Johnson Lane. The team internally agreed to advanced notification of at least 3 months, taking seasonality into consideration.
- 4.4 It was noted that the local asphalt plants would be closing for the “paving season” in late October and would not start up again until Spring. So it would be too late this year to perform the work. The project team needs to follow up and identify local asphalt companies with Joe Taylor to determine the span of the available asphalt window.

- 4.5 Design of this road and pavement should support an HS20 loading and meet the Kentucky Transportation Cabinet (Department of Transportation) requirements used for US 23.
- 4.6 The possibility of widening the portion of Johnson Lane from US 23 to the CSX crossing was also discussed. It was noted that the road was currently 22-foot wide and due to obstructions could not be easily widened. Should it be decided that the existing width is not sufficient, SunCoke will need to address it with KYTC.

5. Haul Road Logistics – S. Morey, G. Rudowski, J. Cook, T. Kaiser, S. Bridegam, A. White

- 5.1 Edwards Moving & Rigging representatives (Andy White and Scott Bridegam) were introduced by Jim Cook (Hatch) and made a presentation on their hauling capabilities.
- 5.2 Edwards Rigging stressed that they are not a crane company and do not own any cranes, but have close relationships with All State Cranes and other crane companies and can coordinate any cranes required to unload, shift and place equipment.
- 5.3 We discussed the possibility of unloading major modules directly from the barge on the river onto a transporter/crawler and then up onto the construction site for unloading into position.
- 5.4 J. Cook and A. White discussed requirements for barge transportation and for unloading directly at a wharf on site. J. Cook is reviewing a river survey to investigate height capacities of barge transportation based upon pond level of river and limiting height of obstacles such as bridges. This is based on shipping up the Mississippi River then the Ohio River.
- 5.5 A. White asked what the normal elevations of the river are. The following elevations were provided by T. Kaiser, based on information contained in the water permit application:
 - Normal Pool Elevation is 485'-0"
 - Ordinary High Water Elevation is 501.6'
 - Top of the river bank is approximately 525'-0"
 - Plant Nominal Elevation will be 543'-0"
- 5.6 S. Bridegam advised that their equipment could handle up to a 5 percent slope on the haul road; however, he suggested a 3.5% grade be utilized to maximize the modules.

- 5.7 SunCoke, Hatch and Edwards went to the site in the afternoon and walked down to the river to look at the proposed barge unloading location and the slope of the terrain. Edwards was confident that this route was feasible; however, even though the corridor we put into the Army Corps permit is 80 feet wide that does not necessarily mean the equipment can be 80-feet wide unless we shore the walls of the embankments. If we slope the walls, the haul road width will be narrower.
- 5.8 The height of the Goldhofer movers is adjustable; however Edwards advised that it is normally adjusted to 40" above the road surface.
- 5.9 The team also visited a vacant area of the old Hooker Chemical complex (the Phase II coal lay-down area), which would be adequate for equipment storage like conveyors, ductwork, etc. but not heavy equipment. We went down to the river nearby to look at the existing concrete barge moorings; however, the slope was too steep to consider hauling equipment from that location.
- 5.10 Based on their experience A. White will provide a recommendation by next Wednesday of the maximum dimensions of the modules that can be safely moved up the haul road. He will follow with a proposal/price to provide cost estimates for unloading and hauling the equipment and modules based on drawings to be provided by the HRSG, AQCS and STG vendors. Once Edwards has signed a NDA, Hatch will provide drawings to them.

6. Site Layout and Facilities Drawing Review – S. Morey, P. Hall

- 6.1 P. Hall reviewed Hatch's preliminary construction facility and lay-down area drawing with S. Morey; there were no major issues.
- 6.2 Hatch needs a current survey drawing to determine locations of services and utilities near the boundary of site in order to show tie-in points on the site layout drawing. Judge Carpenter will ensure that these local utilities will be run to the battery limits of the plan including potable water, sewer, and natural gas (within reason) based on the locations shown on the drawing.
- 6.3 Hatch will develop construction layout details around the KYTC truck overpass into the SunCoke site and show this on the construction facilities drawing.
- 6.4 Equipment arrangements and module details for the HRSGs and AQCS system have been requested by October 18; lay-down areas will be confirmed at that time.

Gary Rudowski
Hatch Project Manager

GJR:dmm



Safety • Quality • Sustainability • Innovation