DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Gas Rates.	)))	Case No. 12-1685-GA-AIR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	)))	Case No. 12-1686-GA-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of an Alternative Rate Plan for Gas Distribution Service.	))))	Case No. 12-1687-GA-ALT
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	)))	Case No. 12-1688-GA-AAM

SUPPLEMENTAL DIRECT TESTIMONY OF

JESSICA L. BEDNARCIK

ON BEHALF OF

DUKE ENERGY OHIO, INC.

_____ Management policies, practices, and organization

_____ Operating income

_____ Rate Base

_____ Allocations

_____ Rate of return

_____ Rates and tariffs

__X__ Other: Manufactured Gas Plant Site Remediation

February 25, 2013

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ATTACHMENTS

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jessica Lyn Bednarcik, and my business address is 526 South Church Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS) as Manager of the Remediation and Decommissioning Group, which is part of Corporate Environmental Services. DEBS provides various administrative and other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. ARE YOU THE SAME JESSICA LYN BEDNARCIK WHO FILED DIRECT TESTIMONY IN THESE PROCEEDINGS?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESTIMONY?

A. The purpose of this Supplemental Direct Testimony is to provide support for the Company's objections to certain findings and recommendations contained in the Report by the Staff of the Public Utilities Commission of Ohio (Staff) issued in these proceedings on January 4, 2013 (Staff Report). Specifically, I am providing additional information regarding the background of Duke Energy Ohio's former Manufactured Gas Plant (MGP) sites, as well as the reason for and nature of cleanup activities at those sites. In so doing, I will support the historic useful nature of the properties in question for the provision of gas utility services and their current use in

the provision of utility services.

Q. PLEASE SUMMARIZE YOUR SUPPLEMENTAL TESTIMONY.

A. In summary, the West End and East End Sites have been used by Duke Energy Ohio and its predecessor companies for gas transmission, production and other utility service since the mid-1800s. Although the two sites have undergone changes in operations and equipment over the years, they currently house a number of critical infrastructures that are necessary for the provision of utility services, both gas and electric. Such uses are anticipated to continue into the foreseeable future. There are also infrastructures on both of the sites that are critical for transportation and other utility services. The Staff's recommendations to parse these properties and to recommend recovery of costs related to randomly selected portions of land is unreasonable and fails to consider the history of these utility properties and their current uses. It is undeniable that the contamination on these two sites was due to the existence and operation of MGPs, used in the provision of gas utility service to customers in the Company's southwestern Ohio service territory.

In the mid-to-late 2000s, due to changes in the anticipated use of the properties surrounding the two MGP sites, Duke Energy Ohio reprioritized the sites and moved diligently to investigate, and thereafter commenced remediation, in a manner that is consistent with MGP remediation throughout the country. Investigations and subsequent remediation were carried out following United States Environmental Protection Agency (US EPA) and Ohio Environmental Protection Agency (Ohio EPA) Voluntary Action Program (VAP) guidelines,

utilizing Ohio EPA Certified Professionals. Factors including, but not limited to, cost, risk to human health and the environment, long term and short term risk, and the ability to implement remediation strategies were all considered in determining the appropriate course of action at each site. The actions taken were prudent and reasonable, and designed to resolve environmental liability and mitigate future risk to the Company, rate payers, shareholders, and others.

II. OBJECTIONS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE THE COMPANY'S OBJECTION NO. 6.

A. The Company objects to the Staff's recommendations with respect to the Company's request for recovery of costs for the environmental investigation and remediation of its two former MGP sites, East End and West End, and particularly with the Staff's arbitrary and unreasonable determination and application of the used and useful standard.

Q. PLEASE EXPLAIN WHY THE COMPANY DISAGREES WITH STAFF'S RECOMMENDATION TO ONLY PERMIT RECOVERY OF MGP REMEDIATION EXPENSES INCURRED FOR 25 FEET ON EACH SIDE OF THE CENTERLINE OF GAS PIPELINES LOCATED ON THE EASTERN PARCEL OF EAST END.

A. The entire East End property, known as the "East End Gas Works," was the location of historic gas-related utility operations that, as explained in the Direct Testimony of Company Witness Kevin D. Margolis, has resulted in environmental liabilities related to the operation of the plants. Such properties continue to be an integral part of the Duke Energy Ohio utility system, and not

just the 25 feet identified by the Staff. Duke Energy Ohio's predecessor companies owned and operated the MGPs located at East End, and the manufactured gas produced at the sites was distributed and used by gas ratepayers during plant operations. Although I am not an attorney, based upon my experience, training and responsibilities as Manager of the Remediation and Decommissioning Group, which is part of Corporate Environmental Services, and upon advice of counsel, I understand that Duke Energy Ohio has liability for remediating contamination at the entire site from such operations under federal law, specifically the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

Furthermore, Duke Energy Ohio, under CERCLA, is responsible for impacts not only within the boundaries of the historic site and directly under the location of historic equipment, but also for any cleanup required off-site that can be linked to the operations conducted at the MGP site while under Duke Energy Ohio ownership and/or operation. This area includes land beyond the location of the current gas pipelines and in excess of the 25 feet arbitrarily selected by the Staff. The entire site is the East End Gas Works, used for gas processing, storage, and distribution throughout southwest Ohio. Again, the entire site was used and is currently used in providing gas utility service to Duke Energy Ohio's customers (as well as those of its predecessor companies) and the liability imposed under CERCLA extends beyond the limited area identified by the Staff.

Q. PLEASE EXPLAIN WHY THE COMPANY OBJECTS TO STAFF'S RECOMMENDATION THAT DEFERRED EXPENSES RELATED TO THE LAND REFERRED TO IN THE STAFF REPORT AS PURCHASED PROPERTY SHOULD NOT BE RECOVERED.

A. Although the bulk of the MGP operations were historically located on the East Parcel, West Parcel, and Middle Parcel, they once extended into portions of the property purchased in 2011. Furthermore, as discussed above, and in the Direct Testimonies of Mr. Margolis, Duke Energy Ohio is responsible for impacts not only within the boundaries of the historic site and directly under the location of historic equipment, but also for cleanup of any impacts off-site that can be linked to the operations conducted at the site while under Duke Energy Ohio ownership and/or operation. Such is the case with the purchased property at issue. The cleanup at the East End site was caused by contamination stemming from MGP operations by Duke Energy Ohio. Customers benefitted from the services provided by the plants at this location. Staff's elimination of this parcel is unreasonable, denies the Company its ability to recover its prudently incurred expenses and, as I understand, ignores the liability placed upon the Company under the law.

Q. PLEASE DISCUSS THE COMPANY'S OBJECTION TO THE STAFF'S RECOMMENDATION THAT THE COMPANY SHOULD NOT RECOVER EXPENSES ASSOCIATED WITH REMEDIATION AT THE WEST END SITE, NORTH OF MEHRING WAY.

A. West End was the location of historic gas related operations that resulted in

environmental remediation obligations related to the operation of the plants. Such properties continue to be an integral part of the Duke Energy utility system. Duke Energy Ohio's predecessor companies owned and operated the MGPs located at West End, and the manufactured gas produced at the sites was distributed and used by gas ratepayers during plant operations. As I previously mentioned, Duke Energy Ohio has the liability for remediating contamination from such operations under CERCLA.

Furthermore, Duke Energy Ohio is responsible for impacts not only within the boundaries of the historic site and directly under the location of historic equipment, but also for any cleanup required off-site that can be linked to the operations conducted at the MGP site while under Duke Energy Ohio ownership and/or operation. The cleanup at the West End site was caused by contamination stemming from MGP operations by Duke Energy Ohio or its predecessor companies. Customers benefitted from the services provided by the plants at this location. Staff's elimination of this parcel is unreasonable, denies the Company its ability to recover its prudently incurred expenses and as I understand, ignores the liability placed upon the Company under the law.

Q. PLEASE EXPLAIN THE COMPANY'S OBJECTION TO STAFF'S RECOMMENDATION REGARDING RECOVERY OF EXPENSES ASSOCIATED WITH REMEDIATION AT THE WEST END SITE SOUTH OF MEHRING WAY.

A. West End was the location of historic gas related operations that resulted in environmental remediation obligations related to the operation of the plants and

such properties continue to be an integral part of the Duke Energy Ohio utility system. Duke Energy Ohio's predecessor companies owned and operated the MGPs located at West End, and the manufactured gas produced at the sites was distributed and used by gas ratepayers during plant operations. As I previously mentioned Duke Energy Ohio has the obligation for remediating contamination from such operations under CERCLA.

Furthermore, Duke Energy Ohio is responsible for impacts not only within the boundaries of the historic site and directly under the location of historic equipment, but also for any cleanup required off-site that can be linked to the operations conducted at the MGP site while under Duke Energy Ohio ownership and/or operation. The cleanup at this site was caused by contamination stemming from MGP operations by Duke Energy Ohio's predecessor companies. Customers benefitted from the services provided by the plants at this location. Staff's elimination of this parcel is unreasonable, denies the Company its ability to recover its prudently incurred expenses and as I understand, ignores the liability placed upon the Company under the law.

Q. PLEASE EXPLAIN HOW WEST END HAS BEEN UTILIZED BY THE COMPANY FOR THE PROVISION OF GAS DISTRIBUTION SERVICE DURING THE TIME PERIOD OF THE MGP FORMER OPERATIONS AS WELL AS TODAY.

A. Duke Energy Ohio and its predecessor entities have generally owned the parcels comprising the West End location since the 1800s, although several parcels have been acquired over time. The Cincinnati Gas, Light & Coke Company acquired

the parcels to the north of Mehring Way (f/k/a Front Street) between 1851 and 1876. The Cincinnati Gas, Light & Coke Company and the Cincinnati Gas & Electric Company acquired the parcels south of Mehring Way between 1878 and 1962. Therefore, the property that currently comprises the West End location has been used by Duke Energy Ohio predecessor entities, including entities that owned and operated the historic MGP, since the construction of the first MGP on the site.

Sanborn Fire Insurance Maps and historical aerial photographs are typically utilized when trying to determine the types of operations that occurred on the property over the operational lifetime. For the Duke Energy Ohio MGPs, historical information was also determined from photographs of the sites and a book in the Company archives titled "History of the Cincinnati Gas & Electric Company from 1837 to 1956," by Walter R. Keagy and Allen C. Strunk, hereafter referred to as "History of CG&E." Information from "History of CG&E" indicates that the original MGP plant was located south of Mehring Way. The plant was expanded in 1857, again south of Mehring Way. Although no drawings or photographs exist of the first two MGPs located at the West End site, supposed remnants of the plants were discovered during remedial activities.

According to "History of CG&E," the entire West End MGP was reorganized between 1871 and 1873. The reorganization included moving the coal distillation works to the river side of Front Street and moving all condensing, measuring, purifying and exhausting apparatus to the north site of Front Street. Two new retort houses, an additional coal elevator, and a new coal house were

constructed on the south side and, on the north side, a new condenser, engine and meter, new scrubbers, valve houses, three new gas holders, and “ample” tar tanks were also constructed.

The first Sanborn Fire Insurance Map (Sanborn) obtained for the site is from 1887. This Sanborn shows operational equipment both north and south of Mehring Way. North of Mehring Way, the equipment includes four gas holders, purifying houses, a lime room with tar wells listed as being in the basement, scrubbers, a meter room, a condenser room, an area designated as pipe storage, a coal shed, and a wagon shed. South of Mehring Way, the equipment included one gas holder; coal houses; retorts; carpenter, blacksmith and machine shops; and coal piles. An 1891 Sanborn shows the same equipment present as the 1887 Sanborn.

The construction of the electric station south of Mehring Way began in 1916, according to “History of CG&E,” with partial operation beginning in 1918. Also in 1918, a producer gas plant began operation on the north side of Front Street to provide supplemental gas, in addition to natural gas, for peak demands in the heating season.

The 1922 Sanborn Map shows five gas holders, a pipe shop, a supply house, two booster houses and a water gas producer house north of Mehring Way. South of Mehring Way there was one gas holder, a boiler house, a generator room, garage, meter house, offices and measuring station. The 1922 Sanborn is the first Sanborn that shows the building outline of the electric station.

The 1934 Sanborn provides capacities for a number of the gasholders

north of Mehring Way: 457,000 cubic feet (CF); 392,000 CF; 458,000 CF; and 1,597,000 CF. A supplies warehouse, two booster houses, three purifier tanks, tar wells, water gas producer, wash room and a miscellaneous storage house were also shown as being present north of Mehring Way. South of Mehring Way, the Sanborn indicates that the one gas holder's capacity was 1,592,700 CF. Also present are a coal pit, boiler house, generator room, garage and meter shop, measuring station, oil house, filter house and office, and the electric generating station.

The only change between the 1934 and the 1950 Sanborn is north of Mehring Way, where only the eastern-most gas holder is shown; also shown are a wash room, two booster houses, pipe shop, transformers and a dismantling house. An aerial photograph from 1956 shows one gas holder and six buildings north of Mehring Way and one gas holder and the electric generating station south of Mehring Way. The gas holders are not present north of Mehring Way in a 1968 aerial photograph, but the gas holder pad south of Mehring Way is still visible, as well as the electric generating station. A transmission tower and a substation appear on the property for the first time in the 1968 aerial photograph. A second substation appears south of Mehring Way in the 1988 aerial photograph.

It appears that Duke Energy Ohio employees started parking on the West End property, north of Mehring Way, in the 1980s. Prior to the closure of the parking lot, the employees who utilized the lot worked in various Duke Energy Ohio business units, including but not limited to, Gas Operations, Gas Distribution, Power Delivery, Real Estate, Legal, Finance, and Communications.

This particular area was used for employee parking until remediation work began in 2011.

The remedial activities, including the soil and groundwater investigations and excavations related to the remediation, have verified the presence of a number of the historic MGP structures that were shown on the Sanborn Maps on both sides of Mehring Way, including all of the gas holders shown on the Sanborns, as well as the larger tar holders north of Mehring Way. During the remediation, the presence of structures south of Mehring Way that are assumed to be part of the earliest MGPs were also unearthed. MGP-related impacts have been discovered throughout the site, both north and south of Mehring Way.

Maps that show the general location of current and historic equipment, as indicated by Sanborn Fire Insurance Maps and other Duke Energy drawings are submitted as attachments JLB-SUPP-1 and JLB-SUPP-2.

The West End site remains an important part of the Duke Energy utility system. Duke Energy Ohio currently owns and operates two 12-inch diameter gas transmission pipelines that enter Ohio at the West End site. At the valve pit located at the riverbank, the two lines combine into one 20-inch diameter pipe. The pipeline supplies natural gas to the Ohio gas distribution system. The pipeline has a normal operating pressure of 90 to 95 psig and a maximum operating pressure of 136 psig. The termination point of the transmission pipeline is the meter and regulator station located at the corner of Rose Street and Mehring Way, on the south side of Mehring Way. This is the "gas generating/pump house" referred to in my initial testimony. This building also houses the Remote

Terminal Units (RTU) equipment, which is part of the Supervisory Control and Data Acquisition (SCADA) system that monitors and controls the natural gas distribution system. Duke Energy Ohio is also planning to install a new gas transmission line at this property.

Duke Energy Ohio will retain ownership of the property south of Mehring Way for both the gas and electric operations. Based upon current designs, a portion of the property will become a right of way for the new Brent Spence Bridge.

North of Mehring Way will be retained by Duke Energy Ohio for electric transmission and distribution use. In addition to the electric equipment, it is also anticipated that parking for Duke Energy Ohio employees will be reinstated upon completion of remediation work. A portion of the easternmost part of the property will become a right of way for the new Brent Spence Bridge.

Q. PLEASE EXPLAIN HOW EAST END HAS BEEN UTILIZED BY THE COMPANY FOR THE PROVISION OF GAS TRANSMISSION AND PRODUCTION, AND OTHER UTILITY SERVICE DURING THE TIME PERIOD OF THE MGP FORMER OPERATIONS AS WELL AS TODAY.

A. Duke Energy Ohio and its predecessor entities have generally owned the parcels comprising the East End location, and operated the site as a gas utility, since the 1800s. The site is commonly referred, even today, as the East End Gas Works or East Works. The parcels of land that comprise the Middle Parcel and the West Parcel of the site were purchased by the Cincinnati Gas, Light & Coke Company and the Cincinnati Gas & Electric Company in 1875, 1883, 1962 and 1975. The

parcels of land that comprise the East Parcel were acquired between 1888 and 1945. Therefore, the property that currently comprises the East End Gas Works has been used by Duke Energy Ohio and its predecessor entities, including the entities that owned and operated the historic MGP, since the construction of the MGP.

The entire property is used as the East End Gas Works, but designations "East Parcel," "Middle Parcel," and "West Parcel" were created solely to aid in the planning and execution of the remedial actions at the East End site. Generally the East Parcel is the area between the eastern property border and vacated Pittsburgh Street (f/k/a Marmet Street), the Middle Parcel is the area between vacated Pittsburgh Street and vacated St. Andrews Street, and the West Parcel is between the vacated St. Andrews Street and the Duke western property border as of 2006. Some land that was part of the original MGP site, to the west of the West Parcel, was sold by the Company in 2006 and reacquired by Duke Energy Ohio in 2011. As part of the 2011 real estate transaction, Duke Energy Ohio also acquired numerous contiguous properties located between the West Parcel and Gotham Street to the west, some of which were suspected of being impacted by the former MGP operations.

According to "History of CG&E," operations at the East End Site began in 1884. The earliest Sanborn Fire Insurance Map obtained by Duke Energy Ohio for the site is from 1891. The Sanborn map shows the plant located on the Middle Parcel and consisting of two gasholders with capacities of 700,000 ft each, a tar well, scrubbers, purifiers, retorts and a coal shed. Elevated tramways extend into

the East Parcel. The buildings that housed the purifiers and scrubbers are present on the site today and are utilized by Gas Operations and Gas Construction and Maintenance Crews. Investigations have confirmed the presence of the gas holders and tar well on the Middle Parcel.

The 1904 Sanborn map shows the addition of a tar well to the Middle Parcel, as well as a tar tank and an iron tar well located on the West Parcel. The tar tank was located and removed during remedial activities that occurred on the West Parcel. The iron tar tank was located as well and partially removed; a portion of this tank extended past Duke Energy Ohio's western property border at the time of the remediation and will be addressed in future remedial actions.

The 1917 Sanborn map shows the same features as the previous Sanborn maps, except the iron tar tank on the West Parcel has been removed, as well as the two tar holders on the Middle Parcel. The two gas holders on the Middle Parcel are shown as 650,000 CF and are listed as "not used." A third gas holder is shown on the East Parcel, with a 3,694,000 CF capacity.

The 1950 Sanborn map shows, on the East Parcel, the gas holder from the 1917 Sanborn map, four purifiers, precipitators, and a 1,000,000 gallon oil tank. The retort on the Middle Parcel has been replaced by a Generator House. On the West Parcel, propane gas tanks are present. Remnants of a number of these structures were discovered during remedial actions.

A facility plan from 1963 shows, in addition to the structures listed above, two additional oil storage tanks on the East Parcel surrounded by secondary containment; two tar separators and a tar settling tank on the Middle Parcel; and a

tar pit on the West Parcel. All of these structures have been confirmed through investigations conducted at the site.

At the time when soil and groundwater investigations began at the site in 2006, the concrete structures that were the secondary containment for the oil tanks shown on the 1963 site plan were still located on the East Parcel, but they were located below an area of permitted Clean Hard Fill, obtained from the installation and repair of gas lines throughout Duke Energy Ohio's service area. The Clean Hard Fill area encompassed the majority of the East Parcel. The Middle Parcel was used, and continues to be used as a Gas Operations Plant and as a staging area for Gas Construction and Management crews. The West Parcel was used as a safe set back between the gas plant and properties owned by third parties; gas crews also used the West Parcel for training exercises prior to the confirmation of impacted material on the parcel.

There are a number of gas transmission lines that are located on the East Parcel, a sensitive underground structure related to Gas Operations is located substantially on the Middle Parcel but extending into the West Parcel, and new equipment related to the Gas Plant are located on the West Parcel.

The remedial activities, including the soil and groundwater investigation and excavations related to the remediation, have verified the presence of a number of the historic MGP structures that were shown on the Sanborn Maps and facility map on the East End site. Also, based upon the route of many of the gas transmission lines located on the East Parcel and Middle Parcel, it appears that the lines were installed to go around historic MGP related equipment.

A map that shows the general location of current and historic equipment, as indicated by Sanborn Fire Insurance Maps and the facility map is submitted as attachment JLB-SUPP-3. Information on the current gas equipment location on the property was described in my initial testimony.

Duke Energy Ohio will retain and continue to utilize the East End Gas Works property. Duke Energy Ohio will continue to maintain current gas lines, plans on constructing new gas transmission lines, and will continue to operate the gas plant.

Future use of the property purchased in 2011 will be determined based on the needs of the Company after completion of all investigation and remediation, if required.

III. ENVIRONMENTAL REMEDIATION ACTIVITIES

Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO INITIATED ENVIRONMENTAL WORK IN 2006 RELATED TO ITS MGP SITES IN OHIO.

A. Since 1988, Duke Energy has been systematically reviewing all of its MGP sites. The MGP sites across the Company's entire service territory were originally prioritized based on a number of criteria, including but not limited to current site use and use of groundwater in the surrounding community. For example, a site located next to a school was prioritized higher than a site located within an industrial area with limited access due to the presence of fencing. As site conditions change, for example due to neighborhood development, sites are reprioritized.

It should also be noted that, although some sites may have been initially prioritized lower within the portfolio, outside forces such as the presence of additional responsible parties with a different remedy timeline or a state regulatory agency with a mandate from its state governing body to look at MGP sites may have accelerated schedules.

The two Duke Energy Ohio MGP sites were initially considered lower priority sites because a) they were owned by Duke Energy Ohio or predecessor companies and therefore the Company was able to limit access to the sites; b) groundwater was not used as a source of drinking water at the sites or by the surrounding properties; and c) the sites were essentially "capped" by asphalt, concrete, or soil layers (for example, the permitted Clean Hard Fill located on the east parcel of East End), which limited contact. The East End and West End sites were reprioritized in 2006 and 2009, respectively, due to changes in site conditions and outside forces.

Q. PLEASE EXPLAIN THE CIRCUMSTANCES THAT RESULTED IN THE REPRIORITIZATION OF THE EAST END SITE IN 2006.

Between 2005 and 2006 at East End, planned residential development of adjoining properties to the east and west of the site, and an ingress-egress and utility easement and landscape easement across a portion of the West Parcel led to a re-evaluation of the site's priority. The neighboring developers began site preparation and started marketing the properties for residential development. The presence of residential development next to the East End site and the possibility of contactors, construction workers, and residents having access to portions of the

property via the ingress-egress and utility easement and landscape easement altered the "limited accessibility" engineering control. The landscape easement also allowed for the removal of the clean "cap" on portions of the West Parcel for planting. The presence of residents in close proximity to the site changed the priority ranking due to the increased risk of potential contact with the conditions at the East End site and the risk of greatly increased costs if remediation were to have occurred at a later date. Therefore Duke Energy Ohio believed it was prudent to commence investigation in a diligent manner at that time.

Discussions were also held with one of the developers to determine if MGP related chemicals had migrated or had been placed on his property during MGP plant operations or decommissioning, to address any potential worker exposure concerns.

Remediation activities have also been sequenced at East End to facilitate planned improvements to the site: on the East Parcel, a "clean gas corridor" was installed along the southern fence line so that when gas transmission lines are replaced in the future, gas workers will not come in contact with either impacted soil or solidified impacted soil during installation activities. On the West Parcel, the MGP project manager worked with Gas Operations and Gas Engineering to identify a suitable location for new vaporizers, which were installed by Gas Operations in 2012. An alternative entrance and road way were also constructed across the West Parcel, at the completion of the remediation, to be utilized by gas employees whenever the gas plant is operating.

The active use of the East End Gas Works by the Gas Department further

necessitated the separation of the site into the three parcels: the East Parcel, the West Parcel and the Middle Parcel. Remedial actions were staged so that gas activities could continue without interruption while remedial actions were conducted.

Q. PLEASE EXPLAIN THE CIRCUMSTANCES THAT RESULTED IN THE REPRIORITIZATION OF THE WEST END SITE IN 2009.

A. The prioritization of the West End site changed once the Ohio Department of Transportation (ODOT) and the Kentucky Department of Highways (KY DOH) finalized the preferred location of the new Brent Spence Bridge Corridor Project as directly crossing the West End site. Construction activities related to the bridge project would alter the potential exposure pathways, especially as it related to construction workers. In addition, Duke Energy Ohio must relocate a number of electric utilities that are in conflict with the planned route of the new bridge and associated approaches, also increasing the exposure potential to Duke Energy Ohio workers and contractors.

The remediation schedule was also accelerated because the new structures, if constructed prior to remediation, would hinder and greatly increase the cost of future work due to accessibility restrictions.

After the reprioritization of West End, Duke Energy Ohio environmental personnel worked diligently to start activities, in order to support the schedule for the new Brent Spence Bridge that had been communicated by ODOT.

Duke Energy Ohio also plans to replace the gas transmission line that enters Ohio at West End. The Gas Department's replacement activities will be

coordinated with the investigation and potential remediation of those areas that will be disturbed by installation of the new gas line.

Q. PLEASE EXPLAIN WHEN DUKE ENERGY OHIO FIRST BECAME AWARE OF THE NEED FOR SITE REMEDIATION AT EAST END AND WEST END.

A. MGP related obligations have been anticipated at Duke Energy MGP sites since 1988, when the Company began its MGP-related program. Since the MGP operations in Ohio date back to the mid-1800s, the numbers of records available for review are at times few to none. Accordingly, Duke Energy Ohio has had to rely upon limited historic photographs, Sanborn Maps, and drawings to understand the history, usage and configuration of the properties. There is no way to determine without performing a subsurface investigation if structures had been removed in the past, or if by-products remained on the site after plant demolition. At any MGP or environmentally impacted site, the extent of the liability is unknown prior to the performance of environmental investigation activities. Duke Energy Ohio knew that site remediation would be required once the existence of impacted material was confirmed, during the initial subsurface investigation at East End in 2006 and at West End in 2009. Once the presence of impacted material was confirmed, Duke Energy Ohio moved prudently to address the impacts, based upon the current use of the sites, discussions with the Ohio EPA Certified Professionals on the Ohio EPA's regulations related to the removal of impacted materials, as well as the known and anticipated future use of the sites.

Q. PLEASE LIST THE REPORTS PRODUCED THAT DOCUMENT THE

NEED FOR REMEDIATION AT EAST END.

A. As indicated in my initial testimony, the environmental work at East End has been conducted following the guidelines of the Ohio EPA VAP program, under the direction of a VAP Certified Professional. A VAP Phase I Property Assessment contains information concerning the Certified Professional's investigation of the historical and current uses of the property. The purpose of a Phase I Property Assessment under the VAP is to determine whether there is any reason to believe that any releases of hazardous substances or petroleum have or may have occurred on, underlying, or are emanating from a property, including any release from management, handling, treatment, storage, or disposal activities from on or off-property activities. The scope of a property assessment is to characterize a property for the purposes of participation in the VAP and to determine the necessity for and initial scope of a property assessment. See Ohio Administrative Code (OAC) 3745-300-06. A VAP Phase II Property Assessment documents the investigation activities carried out at the site based on the findings in the Phase I. A Phase II Property Assessment must be conducted if the Phase I reveals any information that establishes any reason to believe that a release of hazardous substances or petroleum has or may have occurred on the property, or these substances are underlying or emanating from the property. The purpose of a Phase II property assessment is to conduct an investigation sufficient to determine whether all applicable standards are met or to determine that remedial activities conducted in accordance with the VAP at the property meet or will achieve applicable standards. See OAC 3745-300-07.

An Ohio EPA VAP Phase I Environmental Site Assessment was prepared for the East and West Parcels at the East End site in 2008 and for the Middle Parcel in 2011. Reports on these Phase I Property Assessments were produced by Duke Energy Ohio pursuant to requests for production of documents in these proceedings. The Phase I Property Assessments were performed in accordance with OAC 3745-300-06 and identified the historic use of the property as an MGP. The Phase I determined there was reason to believe that releases of hazardous substances or petroleum have or may have occurred on, underlying, or are emanating from the property and concluded that a Phase II Property Assessment was necessary. Based on the Phase I Property Assessments, an Ohio EPA Phase II Property Assessment was performed in accordance with OAC 3745-300-07 and reports were prepared on such work in 2009 for the East Parcel and the West Parcel. Reports on these Phase II Property Assessments were produced by Duke Energy Ohio pursuant to requests for production of documents in these proceedings. The Phase II Property Assessment involved soil and groundwater sampling and determined that hazardous substances and petroleum were present at the East End site at concentrations which did not meet applicable VAP standards for such contaminants. Therefore, remediation would be required under the VAP to meet applicable VAP standards for the East End site. A Remedial Action Plan for the East and West Parcels was prepared in 2009, a copy of which was produced by Duke Energy Ohio pursuant to requests for production of documents in these proceedings. Duke Energy Ohio thereafter implemented the Remedial Action Plan. The Phase II Report for the Middle Parcel is currently being

developed.

Q. LIST THE REPORTS PRODUCED THAT DOCUMENT THE NEED FOR REMEDIATION AT WEST END.

A. As indicated in my initial testimony, the environmental work at West End has been conducted following the guidelines of the Ohio EPA VAP program, under the direction of a VAP Certified Professional. An Ohio EPA VAP Phase I Environmental Site Assessment was performed in accordance with OAC 3745-300-06 for the West End site in 2010. A report documenting the Phase I Property Assessment was produced by Duke Energy Ohio pursuant to requests for production of documents in these proceedings. The Phase I Property Assessment identified the historic use of the property as an MGP. The Phase I determined there was reason to believe that releases of hazardous substances or petroleum have or may have occurred on, underlying, or are emanating from the property and concluded that a Phase II Property Assessment was necessary. Based on the Phase I Property Assessment, an Ohio EPA Phase II Property Assessment was performed in accordance with OAC 3745-300-07 and a report was prepared on such work in 2010 for the West End site. The report on this Phase II Property Assessment was produced by Duke Energy Ohio pursuant to requests for production of documents in these proceedings. The Phase II Property Assessment involved soil and groundwater sampling and determined that hazardous substances and petroleum were present at the West End site at concentrations which did not meet applicable VAP standards for such contaminants. Therefore, remediation would be required under the VAP to meet applicable VAP standards

for the West End site. The Phase II Property Assessment report contains an appendix which contains a "Basis of Design Memorandum," a document that is similar to the Remedial Action Plan created for the East End site. Duke Energy Ohio thereafter began implementing the selected remedial activities at the West End site.

Q. LIST THE TECHNOLOGIES THAT ARE TYPICALLY CONSIDERED IN DEVELOPING THE REMEDIAL ACTION PLAN FOR SOIL AND GROUNDWATER REMEDIATION AT AN MGP SITE.

A. Technologies typically considered include, but are not limited to, monitored natural attenuation, excavation, solidification, *in-situ* chemical oxidation, thermal heating, containment, engineering controls, and institutional controls. Combinations of technologies are also considered. Technology decisions are based upon the past experience of the Duke Energy project managers, environmental consultants, and through lessons learned from other utilities and industry groups such as the Electric Power Research Institute (EPRI).

Q. PLEASE EXPLAIN GENERALLY HOW DUKE ENERGY DECIDES ON THE REMEDIAL ACTIONS EXECUTED AT A REMEDIATION SITE.

A. Duke Energy project managers, in connection with the environmental consultants who have been hired for the individual clean-up sites, work together to determine the best method or methods for remedial action. Factors that are taken into account include, but are not limited to, those factors that are typically analyzed in an US EPA Feasibility Study. The factors that are looked at in the Feasibility Study include, but are not limited to whether the remedial action is protective of

human health and the environment; its effectiveness, both short term and long term; the ability to implement a particular action; and its cost. In analyzing these factors, Duke Energy project managers also take into account the current and anticipated future use of the site, and short term and long term liability of the site based upon the chosen remedial action. Risk assessments are also performed, to look at the current risk to a number of potential groups of people that may be present on or otherwise be exposed to the site. The groups of people that may be evaluated in the risk assessment include, but are not limited to child and/or adult trespasser, child and/or adult resident, construction worker, and industrial/commercial worker. Another factor that is analyzed is each state's regulatory cleanup program as it relates to the presence of "source material" on the site. For example, based upon discussions with the Ohio EPA VAP Certified Professional, Duke Energy Ohio proceeded with removal and/or *in-situ* treatment of source material, such as tar-like material (TLM) and oil-like material (OLM) in the subsurface, as the Ohio EPA VAP requires removal or treatment of such material, to the extent that it is technically feasible to remove or treat it.

Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO DECIDED UPON THE REMEDIAL ACTIONS EXECUTED AT THE EAST END SITE.

A. For the East Parcel, the factors that were looked at when evaluating the available remedial actions included the fact that the parcel would be retained by Duke Energy Ohio for extensive utility service operations, that there were high pressure gas mains traversing the site that would need maintenance and eventual replacement by Duke Energy Ohio Gas Operations crews, and that TLM and

OLM was present in the fill material underlying portions of the site. The majority of the impacted soil, including the TLM and OLM, was located in the top 20 feet of the site, although the impacts did extend deeper in some areas. The available options included excavation with off-site disposal, *in-situ* solidification, and capping. Capping was the least cost option looking at short term liability, and the easiest to implement, however, it did not reduce the long term liability on the site, as TLM and OLM would still be present. Also, as gas crews performed maintenance on the current lines or installed new lines, certified crews would have to be called out to handle the impacted soil before work could commence, resulting in added cost and exposure from such work. Finally, as discussed above, Ohio EPA's VAP required removal and/or treatment of source material in the subsurface, if it could be removed or treated in a feasible manner.

Both excavation and *in-situ* solidification could be implemented, reducing the long term liability on the site by either removing or binding up the contaminants, eliminating potential contact by future site workers or construction workers and minimizing future leaching of material into the groundwater. Solidification was chosen as the preferred option due to its cost-effectiveness, especially since it would minimize off-site disposal costs as well as reduce the number of vehicles going to the landfill.

Since the contaminants would still be present in the solidified material and therefore cannot be handled except by certified crews, the remediation group worked with Gas Engineering to determine the optimum location for future gas transmission lines. The location was determined and designed as a "clean gas

corridor," containing no solidified material but only clean backfill. Clean backfill was also placed around the existing gas transmission lines, so that gas crews would be able to easily work on them in the future. Two feet of clean backfill was also installed throughout the parcel, over the solidified material.

For the West Parcel, the factors that were taken into account when evaluating the remedial options included the fact that the parcel would be retained by Duke Energy Ohio; the extent of OLM and TLM that was present, especially in the location of the former tar lagoon; and that impacted groundwater was likely migrating outside the property boundaries. Also, during the investigation, the sampling rig that was initially mobilized to the site to take samples encountered numerous subsurface obstructions. A special rig which could more easily cut through subsurface obstructions such as rock, foundations, or other debris was mobilized to the site to take samples. The presence of the multiple obstructions encountered during the investigation phase of the remediation was a factor in determining the remedial alternatives.

As with the East Parcel, capping was considered but not selected as a viable option for long term risk management and it did not meet Ohio EPA VAP requirements. Solidification was considered, but as subsurface obstructions have to be removed before the solidification auger can be advanced into the ground, the West Parcel would have essentially had to be excavated first to perform solidification. Another consideration with solidification was the potential vibrations that would occur in the subsurface if the solidification auger encountered an unknown subsurface obstruction. Vibrations were a concern at

the site, especially on the West Parcel, due to sensitive underground utilities. The potential risk to these sensitive utilities, and the difficultly with implementation due to subsurface obstruction, left excavation as the preferred remedial option. The excavation depth was chosen in order to reduce the long term liability of the site and to achieve a greater level of protection to the environment, specifically the groundwater.

Containment was also evaluated for the West Parcel, but the difficulty in connecting a containment wall to the bedrock, especially with the presence of the sensitive subsurface utilities, eliminated this option from consideration.

For both parcels, it was assumed that future institutional controls in the form of land use restrictions and/or groundwater restrictions would be implemented. Also, areas of the site that did not contain OLM and TLM but only impacted soil were remediated to a level that would be acceptable to both construction workers and commercial/industrial workers; it was assumed that the site would never be used for residential use.

Q. PLEASE EXPLAIN HOW DUKE DECIDED UPON THE REMEDIAL ACTIONS EXECUTED AT THE WEST END SITE.

A. For the West End Site, the factors used when evaluating the remedial options included the fact that the parcel would be retained by Duke Energy Ohio for extensive utility service operations and that OLM and TLM were present in the subsurface. Treating the impacted material only in those area that would have been affected by the construction activities was evaluated, and only to the depths where construction workers would be exposed, but since the new electric

equipment would limit the future accessibility of those areas, and would substantially increase the cost of any future environmental work in those areas, to reduce the long term risk and limit potential costs for future actions it was determined to address the impacts, especially the TLM and OLM, while the areas were more readily accessible.

Excavation, solidification and containment were all evaluated. During the bidding process, containment was eliminated due to elevated costs and the difficulty of keying the containment wall into the bedrock, which is present at a depth of greater than 100 feet. The hydraulic effect of the Ohio River on the containment wall was also a concern with this option. Excavation and solidification were carried forward as viable remedial options as they could be more easily implemented and would limit the future liabilities associated with subsurface contaminants. It was determined that clean backfill would be placed in the top 15 feet of the site, as this is the expected area where future construction activities, especially those associated with the new electrical equipment, would occur. Solidification was chosen to bind up the contaminants below 20 feet as it was a cheaper option than deep excavation, the number of subsurface obstructions were minor or were known and either removed or incorporated into the solidification plan below 20 ft, and it was also easier to implement than excavation to the deeper depths as an earth retention system would not be required below the excavation depth. Also by excavating initially to 20 feet, the excess material that was generated during solidification, due to the addition of binding agents and sometimes referred to as “fluff,” was able to be managed and

left on-site, reducing the amount of truck traffic and material that needed to be disposed off-site.

Additional investigations were executed throughout the site after the initial 20 foot excavation was completed, to more clearly delineate the location of TLM and OLM in the subsurface. These additional investigations helped to refine and in some places reduce the area requiring solidification, especially in the area north of Mehring Way.

Areas of the site that did not contain OLM and TLM but only impacted soil were remediated to a level that would be acceptable to both construction workers and commercial/industrial workers; it was assumed that the site would never be used for residential use.

The remediation work was sequenced to minimize potential exposure during construction activities related to the bridge project.

IV. ENVIRONMENTAL REMEDIATION COSTS

Q. PLEASE EXPLAIN WHAT VARIABLES AFFECT THE COSTS ASSOCIATED WITH THE CLEAN UP OF MGP SITES.

A. Variables include, but are not limited to, the regulating agency's standards related to source-like material, the number of years that the plant operated, the amount of gas produced at the site over its operational lifetime, the type of processes used to manufacture the gas, disposal options, current and future site use, whether the utility owns the property or it is owned by a third party, physical barriers or obstructions at the site or in close proximity of the site, the depth to the subsurface confining layer, groundwater flow rate and depth, the time when the remediation

occurred, the site area, and many others. As the East End site and the West End site have a long history of operation, were large gas producers while they operated, have unique on-site barriers that need to be considered in the remedial options (sensitive underground utilities and gas operations at East End, electric equipment and bridge at West End), and have impacts present at depths greater than 20 feet at the site, it would be expected that the cost to remediate these sites would be higher than a site that only operated a few years, with contamination only a few feet deep.

Duke Energy's Project Managers also track costs and project tasks to help determine any potential cost savings, working with environmental consultants to implement cost effective best practices. Examples include the additional site investigation at West End that allowed for the reduction of the *in-situ* solidification footprint, the removal of a barrier wall between the West Parcel and Middle Parcel at East End due to observations made during excavation, the strategic use of multiple mix designs based upon the nature of the contaminants, and the solicitation of multiple competitive bids for larger scope items.

Q. PLEASE EXPLAIN WHAT DUKE ENERGY OHIO IS DOING TO PURSUE OTHER MEANS OF FUNDING THE REMEDIATION AT EAST END AND WEST END.

A. Duke Energy Ohio has given notice to insurance carriers who held policies with Duke Energy Ohio or predecessor companies during the period of time when the MGPs operated or during the time period when damages due to the MGPs occurred to the extent such policies and carriers have been identified.

Duke Energy Ohio is also conducting ongoing research to determine if there are other potentially responsible parties for the conditions at the sites. Based upon our research conducted to-date, Columbia Gas of Ohio is a potentially responsible party that has been identified. Duke Energy Ohio is continuing to investigate whether other potentially responsible parties may exist.

Q. PLEASE EXPLAIN IF THERE ARE ANY FUNDS AVAILABLE THROUGH FEDERAL OR STATE PROGRAMS THAT COULD BE USED FOR THE REMEDIATION OF THE EAST END AND WEST END SITES.

A. Duke Energy Ohio also evaluated whether additional sources of funding were available for financing some or all of the remediation of the East End and West End sites. Programs that could be considered as potential sources of funds, namely the EPA Brownfields Program under American Recovery and Reinvestment Act (ARRA) and the Clean Ohio Fund Program (Assistance and Revitalization Funds) were unfortunately not available to Duke Energy Ohio based upon certain restrictions. The ARRA funds available for remediation efforts were administered and awarded through the EPA Brownfields Program. Duke Energy Ohio was not eligible for assessment or cleanup grants under the EPA Brownfields Program because it is not among the types of entities eligible for such grants. Entities that are eligible for awards under the EPA Brownfields Program are limited to the following: state, local and tribal governments; general purpose units of local government; land clearance authorities or other quasi-governmental entities; regional council or redevelopment agencies; states or

legislatures; and nonprofit organizations. Similarly, Duke Energy Ohio was not eligible for grants under the Clean Ohio Assistance or Revitalization Funds as such funding was available only to certain entities: townships, municipal corporations, counties, port authorities and conservancy districts. Moreover, while for-profit organizations were permitted to enter an agreement with an eligible applicant to seek such funding under the Clean Ohio Fund, entities that caused or contributed to the contamination at the property were not permitted to enter into such an agreement. Thus, it is Duke Energy Ohio's understanding that it was not eligible for any such federal or state funding.

Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO BELIEVES THAT THE DEFERRED REMEDIATION COSTS INCURRED AT THE EAST END AND WEST END SITES SHOULD BE INCLUDED IN THE GAS DISTRIBUTION CASE.

A. The East End and West End properties were the location of historic gas related operations that resulted in liabilities related to the operation of the plants, and such properties continue to be an integral part of the Duke Energy Ohio utility system. Duke Energy Ohio and its predecessor companies owned and operated the MGPs located at the East End and West End sites, and the manufactured gas produced at the sites was distributed and used by gas ratepayers during plant operations. Based upon my experience and training and upon advice of counsel, Duke Energy Ohio has the remediation obligation for contamination from such operations under the CERCLA law. Furthermore, Duke Energy Ohio is responsible for impacts not only within the boundaries of the historic site and

directly under the location of historic equipment, but also for any cleanup required off-site that can be linked to the operations conducted at the MGP site while under Duke Energy Ohio ownership and/or operation. The remediation at this site was caused by contamination stemming from MGP operations. And the Company's customers benefitted from the services provided by the plants at these locations.

Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO BELIEVES THE 2010 PROPERTY PURCHASE AT EAST END SHOULD BE INCLUDED IN THE GAS DISTRIBUTION CASE.

A. Although the bulk of the MGP operations were historically located on the East Parcel, West Parcel, and Middle Parcel, they once extended into portions of the property purchased in 2011. Furthermore, as discussed above, Duke Energy Ohio is responsible for impacts not only within the boundaries of the historic site and directly under the location of historic equipment, but also for cleanup of any impacts off-site that can be linked to the operations conducted at the site while under Duke Energy Ohio ownership and/or operation.

Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO, SHAREHOLDERS AND CUSTOMERS BENEFIT FROM THE CLEANUP OF THE EAST END AND WEST END MGP SITES.

A. The Company makes decisions on how to best manage its liability in the best interests of the Company, its shareholders, the public and its customers, taking into consideration the nature of the liability and the current and future use of the site in question. Once a liability is identified, it is typically more prudent to

investigate and remediate that liability rather than to wait for legal action by regulating agencies or by third parties. Customers benefit by the Company resolving the liability and minimizing potential future risk through the investigation and cleanup following governmental standards. Duke Energy Ohio's decision to be proactive to address and correct the conditions at these two sites is the responsible and prudent thing to do. Being reactive and waiting until there is a release or an action by a regulatory agency is not in the best interests of anyone, especially the Company's customers.

If there was an enforcement action mandating cleanup, the Company may be forced to cease or curtail operations or may be forced to conduct remediation in a manner that may adversely affect operations at the site, thereby impacting the Company's customers. The actions conducted at East End and West End were sequenced to minimize disruptions to operations.

Q. PLEASE PROVIDE A DETAILED EXPLANATION FOR THE EXPENSE TYPES SHOWN ON SCHEDULE C-3.2.

A. The entries included in the "investigation" row include charges from the environmental consultant hired to perform investigations on different media on the MGP sites. The media include, but are not limited to, soil, groundwater, and ambient air. Tasks include, but are not limited to, the preparation of reports, the validation of analytical results, the development of drawings and tables, meetings, hiring and managing of subcontractors *(i.e.,* drillers and analytical laboratories), and development of strategies with the Duke Energy Project Manager. Personnel utilized by the environmental consultants include, but are not limited to,

engineers, geologists, project managers, industrial hygienists, health and safety professionals, field technicians, and administrative support.

The entries included in the "air monitoring" row include the charges from the environmental consultant hired to perform perimeter air monitoring during soil remediation to ensure the protection of people working and living in the surrounding community. Tasks include, but are not limited to, the development of a perimeter air monitoring plan, validation of analytical results, tracking of real time and cumulative data, modeling air sampling results, preparing reports, and participating in conference calls with the project team and/or the Duke Energy Project Manager. Personnel utilized by the environmental consultants include, but are not limited to, field technicians, engineers, industrial\ hygienists, and administrative support.

The entries included in the "security" row include the contract with a security firm who patrolled the MGP sites at night and during the weekend to deter vandalism or theft of construction equipment.

The entries included in the "analytical laboratory" row include services performed by contract analytical laboratories to analyze different environmental media, including, but not limited to, air, soil, and groundwater samples. Prior to 2009, all analytical laboratory services were contracted through the environmental consultant. In 2009, Duke Energy Ohio decided to set up contracts directly with the contract analytical laboratories.

The entries included in the "contractor support" row include a third party environmental consultant hired by the Duke Energy Project Manager to assist in

reviewing documentation provided by the environmental consultants.

The entries included in the “construction management/detailed design” row include the charges from the environmental consultants hired to develop the detailed design for the remediation at the site. These consultants also provided construction management services during the remediation and hired all of the subcontractors not listed in other line items. The companies hired as subcontractors were in charges of tasks such as earth moving, trucking, design and installation of earth retention systems, vibration monitoring, *in-situ* solidification, and media sampling, although this list is not exhaustive. The environmental consultant also obtained the majority of the permits required for remediation, prepared reports, and participated in meeting with the project team and/or Duke Energy Project Manager.

The entries included in the “vibration monitoring” row include the installation and monitoring of equipment installed to ensure that the remediation activities would not cause structural damage to critical infrastructure at the MGP sites. The vibration monitoring consultant prepared reports and participated in meetings with the project team and/or the Duke Energy Project Manager. At East End, Duke Energy Ohio maintained a separate contract with vibration monitoring consultant during the remediation. At West End, Duke Energy Ohio directly hired the vibration monitoring consultant for preliminary testing during the investigation and planning stage of work, but the vibration monitoring contract was held by the "Construction Management/Detailed Design" environmental consultant during soil excavation.

For the entries in the “fuel” row, starting in 2011, Duke Energy Ohio decided to contract directly with a fueling service to provide fuel for the construction equipment being utilized during remediation. Prior to 2011, fuel for the construction equipment was included in the subcontractor costs accounted for in the "Construction Management/Detailed Design" rows. Construction equipment fueled included, but is not limited to, excavators, dozers, and *in-situ* solidification rigs. Fuel for the trucks that hauled impacted soil to the permitted waste disposal location is not included in this line item; fuel for these trucks is included in the "Construction Management/Detailed Design" line items, as part of subcontractor costs.

The entries in the “miscellaneous” row include items that did not fit within the larger classifications. Charges include, but are not limited to, electricity, communications support and the manning of a community hotline to address concerns raised by neighbors or other interested parties, permits not obtained by the environmental consultants, utility clearing services, street flaggers, the purchase of personal protective equipment *(i.e.,* hard hats, safety glasses, safety vests) for Duke Energy Ohio personnel, the rental of personal air monitoring equipment, and surveying (starting in 2012).

Entries in the “soil disposal/landfill” row include all changes related to the disposal of the impacted materials at a licensed, permitted landfill.

Entries in the “Duke Energy internal expense” row include but are not limited to air travel, rental cars, lodging, and meals for the Duke Energy Project Manager and Construction Manager, who are based in North Carolina, when they

traveled to the site or to other locations for MGP-related activities.

As previously stated, in 2009 Duke Energy Ohio decided to contract directly with contract analytical laboratories. Duke Energy Ohio has an internal group of employees who manage analytical contracts and perform quality assurance/quality control reviews of the data and the laboratories. The entries in the "Duke Energy Laboratory Labor" row include the time that those employees, who are based in North Carolina, spent on the Ohio MGP sites.

An Environmental, Health and Safety audit was conducted during remedial activities at each site. The charges included on the "Duke Energy EHS Audit Team" row includes the time these Duke Energy Ohio employees spent auditing the site. Employees who participated in the audits were based out of Ohio and North Carolina.

The East End Gas Works facility is a Gas Operations Center. Numerous high pressure gas transmission lines are located at the site and remedial work occurred near and around the lines. Duke Energy Ohio Gas employees, including a gas inspector, provided oversight while work was being conducted around the transmission lines to ensure integrity was maintained; these charges are include in the row entitles "Duke Gas Oversight."

Prior to 2012, surveying needs were provided by the internal Duke Energy Ohio surveying group, which is shown in the row titled "Duke Internal Surveying". In 2012, a contract for surveying was issued to a local Ohio surveying crew that had been audited by the internal Duke Energy Ohio surveying group in the past and is under contract for other surveying needs within Duke

Energy Ohio.

The entries in the “Duke MGP PM/Construction Oversight” row include the salary and benefits of the Duke Energy MGP project manager and construction manager, based on the number of hours associated with site work. The project manager oversees all technical aspects of the projects, and also participated in other site related activities. The construction manager is a Duke Energy representative present at the MGP sites during remediation to make sure that the work conducted by the environmental consultants, contractors and subcontractors adheres to Duke Energy Ohio's expectations; he also handles day-to-day issues that arise during remedial work.

Per regulations, only qualified personnel may enter a substation unaccompanied; therefore, during the investigation activities at West End in 2010, and also during preliminary remedial activities in 2011, personnel from the Power Delivery department had to be present whenever work was being conducted in the area south of Mehring Way. In 2011, a fence was erected to isolate the area needing remediation from the substation, thereby minimizing the need for Power Delivery Oversight. These charges are included in the row titles “Duke Power Delivery Oversight.” Time that Power Delivery personnel spend on the West End project, ensuring the integrity of the electric equipment as remediation activities occur, is also included in this line.

In 2011, Duke Energy Ohio purchased approximately 9 acres of property adjacent to the East End site. Impacts were present at the western property border; therefore it was likely that impacts were also present on the adjacent

property. A fair market value for the property was obtained by a real estate appraiser and the difference between the property purchase price and the fair market value was charged to the deferred account. The property purchase costs were split into two years because an error was discovered in the amount transferred into the deferred account; this error was corrected in 2012. These costs are on the row entitled "property purchase."

Q. PLEASE EXPLAIN THE VENDOR SELECTION PROCESS THAT DUKE ENERGY OHIO EMPLOYED FOR EAST END AND WEST END.

A. Duke Energy Ohio employs a competitive bid process, soliciting bids from environmental/engineering consulting firms who have experience within the environmental remediation industry on historic MGP site remediation projects. Bids are solicited from a minimum of three bidders but typically, for the Ohio MGP sites, Duke Energy Ohio has solicited bids from at least five environmental/engineering consulting firms. During the selection process, the bids are initially evaluated on their technical merits: whether the bidders understand the scope of work, whether the project team has the experience needed for the project, and whether staffing levels and efforts of work bid are within the expectations of the Duke Energy Ohio project manager. Safety records are also evaluated during this phase of the selection process. Interviews may be held with the bidders during this review in order to allow the Duke Energy project manager to ask questions and receive further clarifications on the details in the bid package.

Bids are then ranked based on their technical merits and the firms' safety

record; if firms do not meet the technical review or if their safety record does not meet Duke Energy Ohio standards, then they do not proceed into the next phase of the selection process.

Next, the bids are reviewed based on their price, both for items that are lump sum and items that are on a time and materials basis. With the scope of work, the Duke Energy project manager provides a rate sheet of items that are required in order to facilitate this review. For example, the rate sheet may include monthly construction trailer rental, per diem rates for on-site personnel, lump sum for permits, etc. The firms also provide a rate sheet for their personnel, i.e., senior engineer, geologist, administrative support, field technician, etc., as well as the expected number of hours that will be billed for each category. Since the majority of the construction contracts are held by the construction management/detailed design firm, the mark-up rate on subcontracts are also evaluated in this stage.

Bids are then ranked based on their price and mark-up rates. The technical ranking and the cost ranking are combined in order to determine which firm is awarded the bid. Duke Energy Ohio requires that the selected firm goes through this same process when hiring major subcontractors, in that they are required to solicit multiple bids and review the bids based on their technical merits and their price. Duke Energy Ohio is also involved in the selection process for major subcontractors and has to approve their final selection.

V. CONCLUSION

Q. WERE ATTACHMENTS JLB-SUPP-1 THROUGH JLB-SUPP-3 PREPARED BY YOU OR UNDER YOUR DIRECTION AND SUPERVISION?

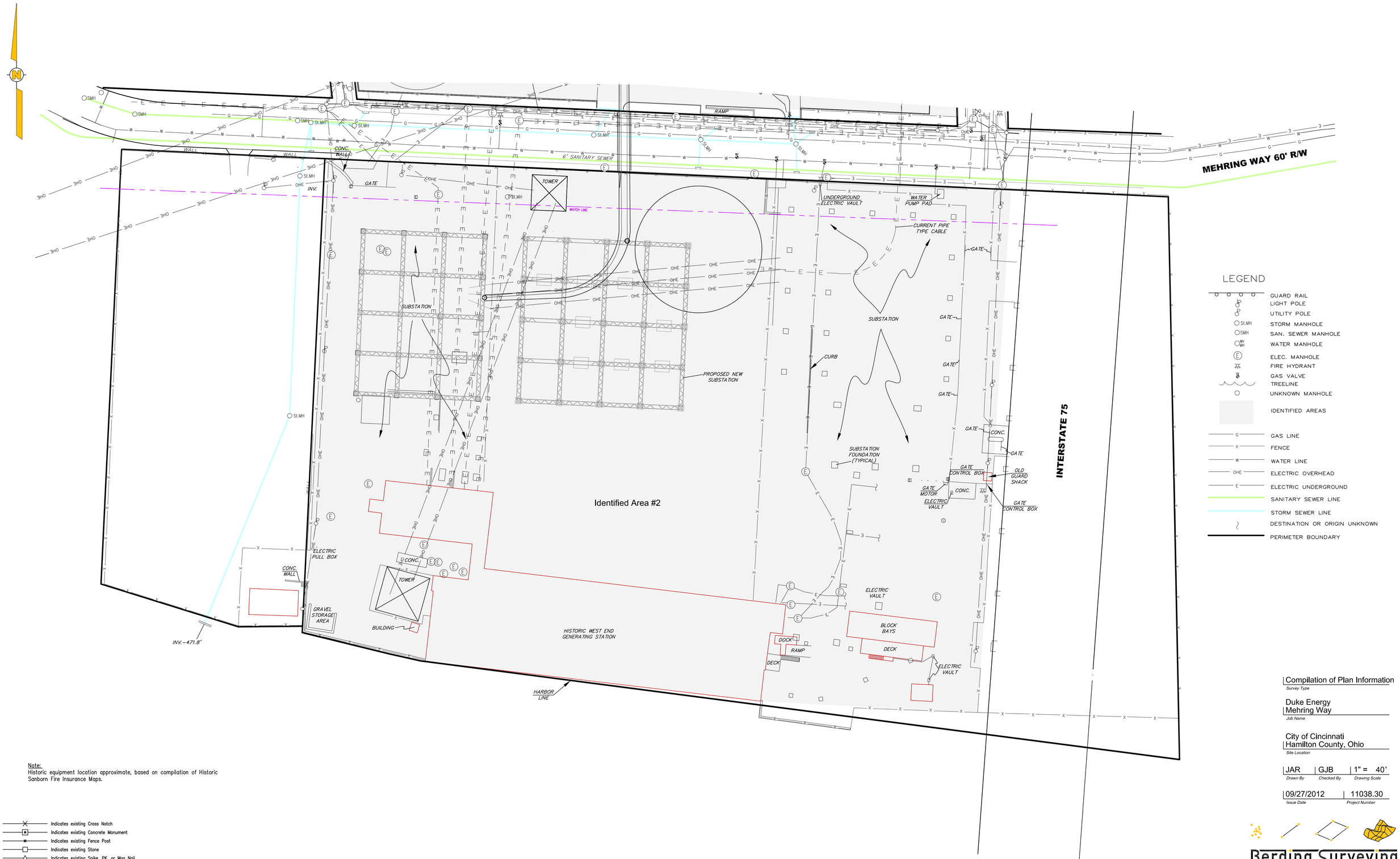
A. Yes.

Q. IS THE INFORMATION CONTAINED IN THESE ATTACHMENTS ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED SUPPLEMENTAL DIRECT TESTIMONY?

A. Yes.



LEGEND

- GUARD RAIL
- LIGHT POLE
- UTILITY POLE
- St.MH STORM MANHOLE
- SMH SAN. SEWER MANHOLE
- WV MH WATER MANHOLE
- E ELEC. MANHOLE
- FIRE HYDRANT
- GAS VALVE
- TREELINE
- UNKNOWN MANHOLE
- IDENTIFIED AREAS
- G GAS LINE
- X FENCE
- W WATER LINE
- OHE ELECTRIC OVERHEAD
- E ELECTRIC UNDERGROUND
- SANITARY SEWER LINE
- STORM SEWER LINE
- DESTINATION OR ORIGIN UNKNOWN
- PERIMETER BOUNDARY

Note:
Historic equipment location approximate, based on compilation of Historic Sanborn Fire Insurance Maps.

- Indicates existing Cross Notch
- Indicates existing Concrete Monument
- Indicates existing Fence Post
- Indicates existing Stone
- Indicates existing Spike, PK, or Mag Nail
- Indicates Set Mag Nail, unless noted otherwise
- Indicates set 5/8" x 30" Iron Pin and Cap
- Indicates existing Iron Pin
- Indicates existing Pipe

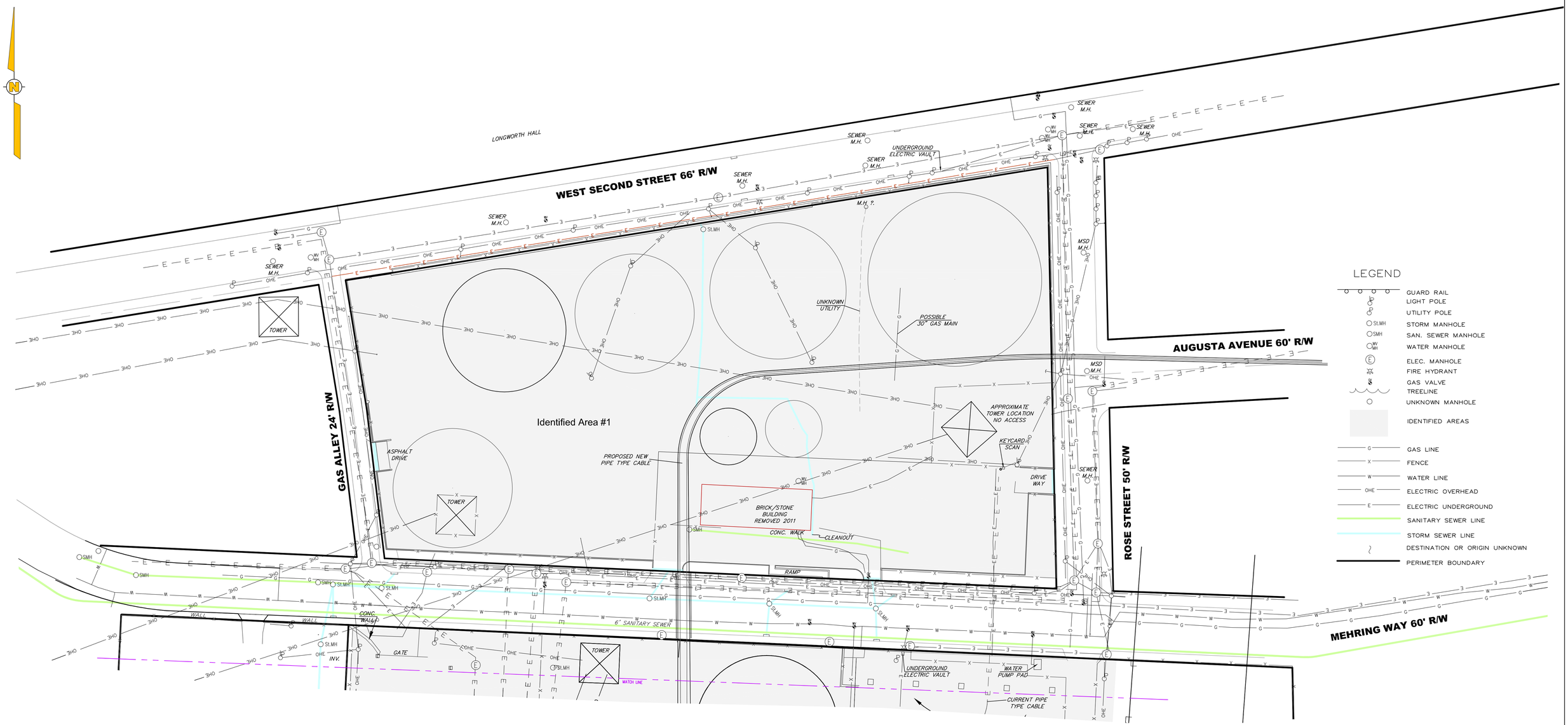
Monument Legend

40 0 20 40 80 160
1 inch = 40 feet

Compilation of Plan Information		
Survey Type		
Duke Energy Mehring Way		
Job Name		
City of Cincinnati Hamilton County, Ohio		
Site Location		
JAR	GJB	1" = 40'
Drawn By	Checked By	Drawing Scale
09/27/2012		11038.30
Issue Date		Project Number

Revised per Comment 10-10-12 DAP
Revisions

Berding Surveying
GPS Surveying • 3D Laser Scanning
741 Main Street | Milford, OH 45150 | www.berdingsurveying.com
513.831.6761 fax | 513.831.5505 tel



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Hamilton County, Ohio
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Drawn By	*Checked By*	*Drawing Scale*

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- IDENTIFIED AREAS
- G GAS LINE
- X FENCE
- W WATER LINE
- ELECTRIC OVERHEAD
- E ELECTRIC UNDERGROUND
- SANITARY SEWER LINE
- STORM SEWER LINE
- APPROXIMATE EDGE OF WATER
- CSO COMBINED SEWER OVERFLOW
- C.I. CAST IRON
- DESTINATION OR ORIGIN UNKNOWN

Note:
Known Utilities Shown.

- Indicates existing Cross Notch
- Indicates existing Concrete Monument
- Indicates existing Fence Post
- Indicates existing Stone
- Indicates existing Spike, PK, or Mag Nail
- Indicates Set Mag Nail, unless noted otherwise
- Indicates set 5/8" x 30" Iron Pin and Cap
- Indicates existing Iron Pin
- Indicates existing Pipe

Monument Legend

60 0 30 60 120 240
1 inch = 60 feet

Revised per Comment 10-10-12 DAP
Revisions

Compilation of Plan Information
Survey Type

Duke Energy
Eastern Avenue
Job Name

City of Cincinnati
Hamilton County, Ohio
Site Location

JAR	GJB	1" = 60'
Drawn By	Checked By	Drawing Scale

09/27/2012	12027.10
Issue Date	Project Number

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