

PHASE I ENVIRONMENTAL SITE ASSESSMENT
For
STA-62-24.05 PROJECT
PID 100824

Prepared for:
Ohio Department of Transportation

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EXPERIENCE | Transportation

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EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was conducted by TranSystems Corporation (TranSystems) to address suspect sites within the STA-62-24.05 (PID 100824) for the Ohio Department of Transportation (ODOT), District 4. The project is in Plain Township, Stark County, Ohio. The Phase I ESA was conducted to address suspect sites within the entire project corridor that were identified and recommended for Phase I ESA in the *ESA Screening* (GDP Group November 2016). Information pertaining to the suspect sites was obtained during site reconnaissance activities as well as retrieval of documents at state and federal agencies (such as the Bureau of Underground Storage Tank Regulations) in Columbus, Ohio.

GDP Group conducted an ESA Screening of the STA-62-24.05 (PID 100824) in Stark County, Ohio in November 2016. According to the ODOT guidance, the ESA Screening consisted of site reconnaissance of the properties including residential, commercial and industrial properties and a review of readily available regulatory information concerning the project area. The findings of the ESA Screening recommended twenty seven (27) suspect sites for Phase I ESA, with some sites including an Ohio State Fire Marshal Bureau of Underground Storage Tank Regulation (BUSTR) file review. ODOT concurred with the findings in an IOC dated 12/2/2016 and indicated that only eight (8) sites required a Phase I ESA. The following sites are listed below in Table 1 are the sites recommended by OES.

The Phase I ESA activities described herein were undertaken in accordance with the *Ohio Department of Transportation Regulatory Review Guidance* (RMR August 2017) to further determine the potential of encountering hazardous substances from the suspect sites prior to construction activities. Data collection and the site visit described in this Phase I ESA were conducted from August 28 to September 25, 2017.

Table 1. ESA Screening Suspect Sites Recommended for Phase I ESA

Site	Site Name
M	Tsangeos, James and John II / 1701-1705 30th Street NE
N	Haidet, Victor and Diane Trustees / 1641-1655 30th Street NE
W	Mckinney Enterprises Of Ohio Limited Co.
2L	Szittai, Dennis and Diane / 1132-1220 30th Street NE
2P	Jeff's Millenium Used Cars Inc. / 1430 30th Street NE
2U	Gurman Investments LLC / 1600 30th Street NE
2V	2V - Warehou5e LLC / 1620 30th Street NE
2Y	Toth, Larry A. / 1712 30th Street NE and Maple Avenue NE

Conclusions and Recommendations

Based on the activities conducted under this Phase I ESA, the following conclusions were drawn:

Site M-Tsangeos, James and John II 1701-1705 30th Street NE

The site has been a retail facility since at least the 1950s with minor generator repair for approximately two years (1959-1960). No gasoline station was observed in the research performed. It appears that this site was used as retail and residential with generator repair between 1959 and 1960. Construction will involve the removal of catch basins and storm sewers, and the installation of new roadway with curb and gutter in front of this site. Based on the absence of a gasoline station and limited maintenance performed inside the building, no further investigation appears warranted for this site.

Site N- Haidet, Victor and Diane Trustees 1641-1655 30th Street NE

The property was formerly a gasoline station. The gasoline station operated between at least 1957 to the late 1970s. There was a fire at this location in the late 1970s. Soils under this site have high permeability. Approximately 20-feet of right of way is required on the southeast corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site from southeast corner of the site to the new road center line. It appears that the pump island and tanks were located near the existing right of way. Based on the previous fire at the facility, benzo(a)pyrene is expected to be above background levels.

Based on the location of the former gasoline tanks, petroleum contaminated soil (PCS) plan notes appear warranted for this site for soil and groundwater.

Site 2Y- Toth, Larry A. 1712 30th Street NE and Maple Avenue NE

A gasoline station operated on the northwest corner of this site in at least 1956. Soils under this site have high permeability. Approximately 20-feet of right of way is required on the northwest corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site approximately 40-feet from the existing right of way. Based on the 1950 aerial photograph, it appears that the pump island was located in the existing right of way.

Based on the potential location of the former gasoline tanks and pumps, A Phase II ESA is recommended for this site in the location of the assumed dispenser. Based on no data for a former UST or fuel dispenser, a geophysical survey should be conducted on the entire portion of the site within the project study limits. A total of three (3) borings should be installed to 10-feet below ground surface near the sidewalk based on the results of the geophysical survey. One (1) boring will address the former dispenser. One (1) boring on each side of the assumed dispenser or in the areas indicated as suspect by the geophysical survey will address the former UST. Samples should be collected continuously and each two foot interval should be screened with an organic vapor analyzer. The interval with the highest reading from each boring should be analyzed for SW 846-8260 BTEX, SW 846-8270 PAHs, SW 846-6010 lead and SW-846 8015M TPH GRO and DRO.

Site 2U Gurman Investments LLC 1600 30th Street NE

A gasoline station operated on this site since at least 1970. Soil on the site exceeds BUSTR 2017 PCS re-use levels for benzene and naphthalene near the former tank cavity. Groundwater concentrations of benzo(a)pyrene, naphthalene and benzene exceed current groundwater ingestion action levels. Soils under this site high permeability. There is a private drinking water well located near the building that will require proper abandonment. No record of monitoring well abandonment was observed in the BUSTR file. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired.

Based on the potential to encounter contaminated soil and groundwater during construction or demolition, PCS plan notes appear warranted for this site for soil and groundwater.

Site 2V-Warehou5e LLC 1620 30th Street NE

This site has used cold storage chemicals since at least 1956 to at least 2001. No records indicate a hazardous/regulated substance release to soil or groundwater on the site. The EPCRA violation was for storage of a glycol system and incorrect storage of regulated substances behind the building. The glycol system is assumed to be from the cold system components. Soils under this site have high permeability. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired. Based on no evidence of a release, no further investigation appears warranted for this site.

Site 2P-Jeff's Millenium Used Cars Inc. 1430 30th Street NE

This site has been occupied with a gasoline station from at least 1974 to at least 1999. The benzene concentration is below closure action levels in soil samples collected during the closure sampling. However, no semi-volatile organic compounds were analyzed at this location. BTEX is below closure action levels in a soil sample collected from the former kerosene pump, however, results for TPH (2,270 ppm) and naphthalene (214 ppm) exceed the BUSTR Re-use action levels of 1,000 ppm and 0.051 ppm respectively. BTEX and TPH are below closure action levels in soil samples collected during the closure sampling at the former pump islands, however, no semi-volatile organic compounds were analyzed at one of the two sample locations. After over excavation of the waste oil tank cavity, remaining soil is below BUSTR Re-use action levels. Only one sample was collected from the 30 foot pipe run from the USTs to the pump islands. BUSTR guidelines require one sample every 10 feet. No groundwater was encountered during tank and associated piping removal. Based on the high concentration of benzene (0.0158 ppm) at the one pipe run sample location (L-1), there may be a higher concentration along the pipe run not sampled during the Closure sampling or Phase II ESA conducted. No floor drains or interior sampling were discussed in the Phase II ESA. Soils under this site have high permeability. The planned frontage road traverses thru the center of this property with two catch basins and storm sewer to be installed. St. Elmo Avenue will be reconstructed with an intersection on this site.

Based on the potential to encounter contaminated soil and groundwater during construction or demolition, PCS plan notes appear warranted for this site for soil and groundwater if encountered.

Site 2L- Szittai, Dennis and Diane 1132-1220 30th Street NE

The 1132 30th Street NE structure located on the western portion of the site has performed automotive service since at least 1974. The structure was constructed in 1960. This structure was a gasoline station from 1960 to at least 1966. The tanks and pumps were removed in 1977.

The structure in the center of the two gasoline station buildings (1212 30th Street NE) was constructed in 1985 and for auto sales. It does not appear that automotive service has been conducted at this building based on the building layout with no evidence of an overhead door. This structure has been occupied with auto sales since 1985.

The structure located at 1220 30th Street NE on the eastern portion of the site has been occupied with Majestic Trailer & Hitch since 2000. Clear Water Systems occupied the building from 1987 to 1996. The structure was constructed in 1960. This structure was a gasoline station from at least 1960 to at least 1977. The tanks and pumps were removed in 1987. Soils under this site have high permeability. Shallow excavation and a frontage road is planned in front of this property.

Based on the potential location of the former pumps adjacent or within the ROW, a Phase II ESA is recommended for this site in the location of the assumed dispensers on 1132 and 1220. A total of four (2 on 1132 30th property and 2 on 1220 30th Street property) borings should be installed to 10-feet below ground surface near the sidewalk based on the results of the geophysical survey. Samples should be collected continuously and each two foot interval should be screened with an organic vapor analyzer. The interval with the highest reading from each boring should be analyzed for SW 846-8260 BTEX, SW 846-8270 PAHs, SW 846-6010 lead and SW-846 8015M TPH GRO and DRO.

Site W-Mckinney Enterprises Of Ohio Limited Co. 1001-1017 30th Street NE

Sanborn Maps show the northern building with the dry cleaner was constructed in 1954 and occupied with a dry cleaning store. The northern building has been occupied with Tate Cleaners since 1956. The database lists the site

as a historical drycleaners in 1954. No compliance information or the site was available on the EPA ECHO site or the EPA multisystem site for RCRA generators. No RCRA generator number was listed on the database for this site. Neither the site or information for the site was observed on the ODOT RMR viewer. Soils under this site unknown permeability and moderately low permeability and usually the fragipan is located 15 to 30 inches below grade. Construction consisting of storm sewer installation is proposed approximately 190-feet south of the drycleaner building and shallow excavation is proposed 60-feet east of the drycleaner building.

Based on the soils and distance of construction from the dry cleaning building, no further investigation appears warranted for this site.

1.0 INTRODUCTION

This Phase I Environmental Site Assessment (ESA) was conducted by TranSystems Corporation (TranSystems) to address suspect sites within the STA-62-24.05 (PID 100824) for the Ohio Department of Transportation (ODOT), District 4. The project is in Plain Township, Stark County, Ohio. The Phase I ESA was conducted to address suspect sites within the entire project corridor that were identified and recommended for Phase I ESA in the *ESA Screening* (GDP Group November 2016). Information pertaining to the suspect sites was obtained during site reconnaissance activities as well as retrieval of documents at state and federal agencies (such as the Bureau of Underground Storage Tank Regulations) in Columbus, Ohio. Literature and documents referenced are provided in Section 5.0 of this report.

1.1 Project Description

The project study area, provided by ODOT, includes the US-62 / State Route (SR) 43 interchange and extends east along US-62 to the US-62 / Middlebranch Avenue NE intersection for a total length of approximately 1.3-miles. The project study area extends north to 31st Street NE and south Milford Street NE. The STA-62-24.05 corridor serves a mix of residential, commercial, office, retail, and institutional uses. The majority of side streets provide access to residential neighborhoods located on both north and south of US-62. Additionally, this corridor serves as the main access route between Plain Township and Interstate Route (IR) 77.

Draft Plans are included in Appendix E. Details for any utility relocation has not been determined, therefore, the right of way shown on the draft plans may move further onto the properties. Excavation depths are estimated based on current information.

1.2 Previous Investigations

GDP Group conducted an ESA Screening of the STA-62-24.05 (PID 100824) in Stark County, Ohio in November 2016. The ESA Screening was conducted in conformance with the methods and procedures described in the *Ohio Department of Transportation Regulatory Review Guidance* (RMR August 2017). According to the ODOT guidance, the ESA Screening consisted of site reconnaissance of the properties including residential, commercial and industrial properties and a review of readily available regulatory information concerning the project area. The findings of the ESA Screening recommended twenty seven (27) suspect sites for Phase I ESA, with some sites including an Ohio State Fire Marshal Bureau of Underground Storage Tank Regulation (BUSTR) file review. ODOT concurred with the findings in an IOC dated 12/2/2016 and indicated that only eight (8) sites required a Phase I ESA. The following sites are listed below in Table 1 are the sites recommended by OES.

The Phase I ESA activities described herein were undertaken in accordance with the *Ohio Department of Transportation Regulated Materials Review Guidance* (RMR August 2017) to further determine the potential of encountering hazardous substances from the suspect sites prior to construction activities. Data collection and the site visit described in this Phase I ESA were conducted from August 28 to September 25, 2017.

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2U	Gurman Investments LLC / 1600 30th Street NE

2V	2V - Warehou5e LLC / 1620 30th Street NE
2Y	Toth, Larry A. / 1712 30th Street NE and Maple Avenue NE

2.0 GEOGRAPHY/GEOLOGY FOR THE PROJECT STUDY AREA

The STA-62-24.05 corridor serves a mix of residential, commercial, office, retail, and institutional uses. The majority of side streets provide access to residential neighborhoods located on both north and south of US-62. The study area is shown on the map included in Appendix A.

The Canton East, Ohio United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map depicting the location of the project study area is included in **Appendix A**. According to the topographic map, the surface topography within the majority of the project study area appears to be sloping to the east and towards the Middle Branch Nimishillen Creek which crosses the eastern portion of the project study area. If surface topography is indicative to groundwater direction flow, it is assumed that groundwater flow within the project study area would be similar – to the east and towards the Middle Branch Nimishillen Creek. No other specific information was obtained from the USGS Topographic Map.

The majority of the project study area is depicted as a “built-up” urban area. US-62 is shown trending east-west along the entire length of the project study area. The Middle Branch Nimishillen Creek is shown entering the eastern portion of the project study area from the north and continues flowing south out of the project study area.

The project is located in the glaciated Allegheny plateaus physiographic region of Ohio. This region reflects the Wisconsinian-age clay to loam till over Mississippian and Pennsylvanian-age shales, sandstones, conglomerates and coals. Specifically the project is located in the Akron Canton Interloabate Plateau. This region is a hummocky area between two converging glacial lobes dominated by kames. Kame terraces, eskers, kettles, kettle lakes, and bogs; deranged drainage with many natural lakes; with moderate elevation relief (200’).

According to the Natural Resources Conservation Service Web Soil Survey the soils located in the project area consist of Canfield-Urban land complex, Chili-Urban land complex, Lobdell silt loam, and Urban land.

The Canfield-Urban land complex soils are located on the western portion of the project area, specifically on east side of Site W and down to the south side of Site 2L. These soils consist of silt and silt loam down to 80-inches. These soils are moderately well drained located on summit shoulders and side slopes. These soils have moderately low permeability and usually the fragipan is located 15 to 30 inches below grade.

The Chili-Urban land complex soils are located on the central portion and eastern portion of the project area, on the remaining sites. These soils are located on terraces and consist of silt loam down to 19-inches and gravelly sand loam and loamy coarse sand down to 3-feet. These soils are well drained with high permeability.

Urban land is located under the central and western portions of Site W.

3.0 PHASE I ESA PARCEL RECONNAISSANCE

The following section presents the findings of the Phase I ESA for each of the subject properties within or near the proposed construction limits as of September 21, 2017. The site plans for each site are presented in **Appendix A**. The historical aerial photographs and Sanborn Maps are presented in **Appendix B**. Records of communication, city directories and the site reconnaissance photographic log is presented in **Appendix C**. Environmental records for the relevant properties were reviewed from Bureau of Underground Storage Tank Regulation (BUSTR) and are discussed under the "Reconnaissance" heading and relevant copies are provided in **Appendix D**. Project plans are provided in **Appendix E**.

3.1 Site M-Tsangeos, James and John II 1701-1705 30th Street NE

Location/Concern

This site is located on the northeast corner of US 62 and Maple Avenue NE. This site was listed on the Historical Auto Station databases as Art S Generator Service at 1705 30th NE. Based on regulatory data, if right-of-way take or deep excavation is planned for this site additional ESA investigation was recommended. According to current right of way plans it appears that 20-feet of right of way is required from the southwest corner of this property, however, no access will be available and the owner will be displaced and the property will be an entire take. The Site Plan is presented in Appendix A.

Historical Information

The 1956 Sanborn map shows a store building similar to the current building and a residential home to the east. The 1962 and 1966 Sanborn Map shows just the store on the corner with a vacant area to the east. The 1950 to 2011 aerial photographs show the same structures as the current site. Historical aerial photographs and Sanborn Maps are provided in Appendix B. The city directories do not list the property from 1945 to 1974. The city directories show the property was occupied with Jewelers/coin shop and used restaurant equipment sales between 1987 and 1990 and the current occupant John Tsangeos II Jeweler since 1990. An interview with Mr. John Tsangeos (current owner) indicated that his family has owned the property since 1964. Mr. Tsangeos stated that he has lived in the neighborhood for 50 years. Mr. Tsangeos stated that when his family moved in Arts generator service left generators on benches in the upper floor. Mr. Tsangeos stated that no USTs were present on the property to his knowledge and the generators were only refurbished upstairs between approximately 1959 and 1960. No stains were observed when they moved in. The lower level was used as a grocery store in the early 1950s. Natural gas was always used to fuel furnaces at the property.

Reconnaissance

This site is developed with a multi-tenant, one-story, commercial structure. Current tenants of the building include two retail stores (Family Coins and John Tsangeos II Jeweler). The remainder of the site consists of a paved parking area. Site reconnaissance photograph documentation numbers 23 thru 24 are located in Appendix C.

Findings

The site has been a retail facility since at least the 1950s with minor generator repair for approximately two years (1959-1960). The site was occupied with a store and residential dwelling in 1956. No gasoline station was observed in the research performed. It appears that this site was used as retail and residential with generator repair between 1959 and 1960. Soils under this site consist of Chili-Urban land complex, which have high permeability. Construction will involve the removal of catch basins and storm sewers, and the installation of new roadway with curb and gutter in front of this site.

3.2 Site N- Haidet, Victor and Diane Trustees 1641-1655 30th Street NE

Location/Concern

This site is located on the northwest corner of US 62 and Maple Avenue NE. This site was listed on the Historical Auto Station databases as Maple Amoco Service at 1655 30th Street NE. Based on regulatory data, if a right-of-way take or deep excavation is planned for this site additional ESA investigation was recommended. According to current right of way plans it appears that an approximately 20-feet of right of way is required on the southeast corner of this property. The Site Plan is presented in Appendix A.

Historical Information

The 1956 Sanborn Map shows the site as residential with a store on the northwest corner of Maple Avenue NE and 30th Street NE. The 1960 and 1966 Sanborn Maps show the store is no longer there but a gasoline station is located west of the former store location. The 1950 aerial photograph shows the same building as depicted in the 1956 Sanborn Map. The 1957 aerial shows the building indicated on the Sanborn Map. The 1982 to 2011 aerials show a different larger building further away from the road. Historical aerial photographs and Sanborn Maps are provided in Appendix B. The city directories indicate that the site was occupied with a vacant service station in 1974. The city directories indicate that the site was occupied with residential tenants between 1974 and 1990. The city directories indicate that the site was occupied with residential tenants and a glass company between 1987 and 2016. According to an interview with Mr. Victor Haidet the current property owner, the property was purchased in 1982 and was formerly an auto sales lot.

Reconnaissance

The site consists of a one-story, brick commercial structure and a two story single family house. Both structures are owned by the same tenant. The current tenant of the commercial building is Haidet's Auto Glass and operates as an automotive windshield installation and repair facility. The structure is comprised of a customer service area and automotive garage. The remainder of the site consists of a paved parking areas. No evidence of hazardous materials was observed on Site N during site reconnaissance. An interview with Mr. John Tsangeos (eastern adjoining property owner) indicated that the site was occupied with an Amoco gasoline station in the 1960s that had a fire in the late 1970s. Mr. Tsangeos periodically used the hydraulic lift inside the service station building. According to an interview with Mr. Victor Haidet, the current property owner, in 1982 one large tank and one small tank were located and removed from middle of the lot outside the existing front door. No pumps were visible. Site reconnaissance photograph documentation number 22 is located in Appendix C.

Findings

The property was formerly a gasoline station. According to the aerials and interviews the gasoline station operated between at least 1957 to the late 1970s. There was a fire at this location in the late 1970s. a hydraulic lift was present in the former service station building. Soils under this site consist of Chili-Urban land complex, which have high permeability. Approximately 20-feet of right of way is required on the southeast corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site from southeast corner of the site to the new road center line. Based on the 1982 aerial photograph and an interview with the current property owner, it appears that the pump island and tanks were located near the existing right of way. Based on the previous fire at the facility, benzo(a)pyrene is expected to be above background levels.

3.3 Site 2Y- Toth, Larry A. 1712 30th Street NE and Maple Avenue NE

Location/Concern

This site is located on the southeast corner of US 62 and Maple Avenue NE. This site is developed with a one-story, commercial structure that operates as an outlet store (L.T. Associates Unclaimed Freight). This site was listed on the Historic Auto Station database. Based on regulatory data, if a right-of-way take or deep excavation is planned for this

site additional ESA investigation was recommended. According to current right of way plans it appears that approximately 20-feet of right of way is required on the northwest corner of this property. The Site Plan is presented in Appendix A.

Historical Information

The 1956 to 1966 Sanborn Maps show the site occupied with a gasoline station with a motel to the east. The 1950 and 1957 aerial photographs shows the same buildings as depicted in the Sanborn Maps. The 1982 to 2016 aerial photographs show vacant land on the northwest corner at the location of the gasoline station followed by a narrow building to the east. Historical aerial photographs and Sanborn Maps are provided in Appendix B. The city directories indicate that B&B Service occupied on this site in 1956. The city directories indicate that Mid City Auto Sales occupied the site in 1974. Between 1977 and 2016, Repo Depot (auto sales) and L.T. Associates Unclaimed Freight has occupied this site.

Reconnaissance

This site is developed with a one-story, commercial structure that operates as an outlet store. The current tenant is L.T. Associates Unclaimed Freight. The remainder of the site consists of a paved parking areas and a mobile home. No evidence of hazardous materials was observed on the site during site reconnaissance. Site reconnaissance photograph documentation numbers 25 thru 30 are located in Appendix C.

Findings

The Sanborn Map and city directories indicate that a gasoline station operated on the northwest corner of this site in at least 1956. Soils under this site consist of Chilli-Urban land complex, which have high permeability. Approximately 20-feet of right of way is required on the northwest corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site approximately 40-feet from the existing right of way. Based on the 1950 aerial photograph, it appears that the pump island was located in the existing right of way.

3.4 Site 2U Gurman Investments LLC 1600 30th Street NE

Location/Concern

This site is located south of US 62 and approximately 340-feet west of Maple Avenue NE. This site is developed with a one-story Canton Fuel gasoline station, a fuel canopy with three pump stations. This site operates as a gas station and convenience store.

This site was listed on the RCRA-CESQG; LUST; UST; and Historic Auto Station databases. Evidence of three USTs were observed on the east side of the site. No surface stains or evidence of a release was observed from the USTs. No other evidence of hazardous materials was observed on this site during the visual inspection. Based on the regulatory data and historical records, if a right-of-way take or deep excavation is planned for this site an additional ESA investigation was recommended. According to current right of way plans it appears that no right of way is required along the front of this property, however, the property will be land locked and will be acquired. The Site Plan is presented in Appendix A.

Historical Information

There is no Sanborn Map coverage for this site. The 1970 to 2011 aerial photographs show the current site layout. The 1950 and 1957 aerial photographs show the site as undeveloped. Historical aerial photographs are provided in Appendix B. The city directories indicate that Clark gasoline service station and Canton Fuel operated on this site since at least 1977. No Sanborn Map coverage was available for the site.

Reconnaissance

Evidence of three USTs were observed on the east side of the site. No surface stains or evidence of a release was observed. Site reconnaissance photograph documentation numbers 19 thru 21 are located in Appendix C.

According to the BUSTR file for incident number 76000582, a closure report was submitted for the property on December 18, 1996. This report is for the closure of three USTs located beneath the site. Two of the USTs were 8,000 gallon gasoline tanks and one was a 1,000 gallon tank used to store kerosene. All three USTs were constructed of steel and were located in two cavities. The three tanks were removed on October 26, 1996. Twelve of fifteen soil samples exceeded the BUSTR action levels for benzene, ethyl benzene, xylene, benzo (a) pyrene and total petroleum hydrocarbons.

In February of 1998, four monitoring wells were installed and two additional monitoring wells were installed in March 2003. A Tier 2 Evaluation Report was submitted in February 2006 with an interim response action notification for quarterly groundwater sampling. Groundwater flow was determined to flow northeast. Groundwater is located between 4.5 and 6.5 feet below ground surface. Groundwater samples in 2007 show concentrations of benzene (0.0918 ppm) which exceed the action level of 0.005 ppm, concentrations of naphthalene (0.0308 ppm) which exceed the action level of 0.0014 ppm in monitoring well MW-3 located approximately 80-feet from US 62. Groundwater samples in 2005 show concentrations of benzene (a) pyrene (0.00022 ppm) which exceed the action level of 0.0002 ppm in monitoring well MWT-11 located approximately 40-feet from US 62. Groundwater samples in 2011 show concentrations of benzene(a)pyrene (0.00078 ppm) which exceed the action level of 0.0002 ppm in monitoring well MWT-7 located approximately 120-feet from US 62. Groundwater samples in 2005 show concentrations of benzene(a)pyrene (0.00087 ppm) which exceed the action level of 0.0002 ppm in monitoring well MWT-14 located approximately 130-feet from US 62.

A Bioscreen Fate & Transport Model report was submitted in September 2011. Chemicals of concern are below calculated site specific target levels for the site. A no further action was granted October 3, 2011. This site appears to use a private drinking water well and is not attached to the city water supply.

Findings

The gasoline station operated on this site since at least 1970. Soil on the site exceeds BUSTR 2017 PCS re-use levels for benzene and naphthalene near the former tank cavity. Groundwater concentrations of benzo(a)pyrene, naphthalene and benzene exceed current groundwater ingestion action levels. Soils under this site consist of Chili-Urban land complex, which have high permeability. There is a private drinking water well located near the building that will require proper abandonment. No record of monitoring well abandonment was observed in the BUSTR file. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired.

3.5 Site 2V-Warehouse LLC 1620 30th Street NE

Location/Concern

This site is located south of US 62 and approximately 240-feet west of Maple Avenue NE. The site was listed on the Integrated Compliance Information System (ICIS) database with an EPCRA 325 Action for Penalty and Ohio Cessation of Regulated Operations (OH CRO) database. The ICIS provides a database that when complete, will contain integrated enforcement and compliance information across most of EPA's programs. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. Facilities covered under EPCRA federal facility (or other entity) is a "covered facility" and subject to EPCRA if it meets one or more of EPCRA's threshold reporting requirements. These requirements include the presence of an extremely hazardous substance (EHS) as defined under EPCRA § 302; a release of an EHS or CERCLA hazardous substance defined by EPCRA § 304; the presence of certain quantities of a hazardous or toxic chemical as defined by EPCRA §§ 311-3; or facilities within certain Standard Industrial Classification codes and with 10 or more full-time employees, as defined by EPCRA § 313. A 325 action penalty may

be for violations for emergency notification, reporting violations, frivolous trade secret claims made in violation of section 322 of EPCRA.

The OH CRO database from the Ohio EPA, tracks sites that have experienced the discontinuation or termination of regulated operations or the finalizing of any transaction or proceeding through which those operations are discontinued. "Regulated Operations" means the production, use, storage or handling of regulated substances.

Based on regulatory data, if a right-of-way take or deep excavation is planned for this site an additional ESA investigation was recommended. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired. The Site Plan is presented in Appendix A.

Historical Information

There is no Sanborn Map coverage for this site. The current structure is shown on the 1994 to 2011 aerial photographs. The 1966, 1970 and 1991 aerial photographs show a slightly smaller southern portion of the building. The 1957 aerial photograph shows a small building near SR 62 and undeveloped southern portion of the site. The 1950 aerial photograph shows an undeveloped site with some trees and field with a possible bill board near SR 62. Historical aerial photographs are provided in Appendix B. The city directories indicate that the site was occupied with Pro Audio and DJ Entertainment in 2016; Ohio China and Equipment Wholesale in 2006; Country Lane Foods and Expressway Cold Storage between 1987 and 1990 (with an EPCRA violation in 2001); and Biffs Steaks Expressway Cold Storage and between 1956 and 1974. The Stark County Auditor reports the construction date as 1955.

Reconnaissance

This site is developed with a 3,504 square foot two-story commercial structure that operates as an electronics repair and retail store (Warehou5e). The remainder of the site consists of paved parking and landscaped areas. Site reconnaissance photograph documentation numbers 17 thru 18 are located in Appendix C. According to Fire Inspector Scott Kelly of the Plain Township Fire Department, the site had an ammonia release in 1982 on the roof. A file shows the OEPA reported violations of paint cans, three 55-gallon drums of used oil, and a 55-gallon drum of "water" on the docks behind the building. Additionally, a glycol system not used behind the building was in violation of EPCRA during the OEPA visit.

Findings

This site has used cold storage chemicals since at least 1956 to at least 2001. No records indicate a hazardous/regulated substance release to soil or groundwater on the site. The EPCRA violation was for storage of a glycol system and incorrect storage of regulated substances behind the building. The glycol system is assumed to be from the cold system components. Soils under this site consist of Chili-Urban land complex, which have high permeability. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired.

3.6 Site 2P-Jeff's Millenium Used Cars Inc. 1430 30th Street NE

Location/Concern

This site is located on the southwest corner of US 62 and St. Elmo Avenue NE. This site was listed on the LUST, UST, and Historic Auto Station database. According to information identified during the ESA Screening one incident involving a UST release was reported for this site. No evidence of USTs were observed during the site reconnaissance. There were no surface stains or evidence of a release. Two steel 55-gallon drums labeled old gas were located on the east side of the building. No evidence of staining was observed around the drums. Based on the regulatory data, if a right-of-way take or deep excavation is planned for this site an additional ESA investigation was recommended. According to current right of way plans it appears that this entire property is required for the project. The Site Plan is presented in Appendix A.

Historical Information

There is no Sanborn Map coverage for this site. The site appears to be developed with the current structures in the 1970 to 2011 aerial photographs. The site appears to be developed in the 1957 aerial photograph. The site appears to be disturbed but vacant in the 1950 aerial photograph. Historical aerial photographs are provided in Appendix B. The city directories indicate the site was occupied with Expressway American and Kev & Ed Auto Service from 1974 to 1988. The city directories indicate that Jeff Baldwin and Johns Auto Sales occupied the site from 2006 to 2016. The BUSTR file indicates the site was Johns Route 62 Auto Sales in 1999. Sanborn Maps do not cover the site area between Roland Avenue NE and St. Elmo Avenue NE.

Reconnaissance

This site is developed with a vacant 1,827 square foot one-story commercial structure with a canopy. The building is constructed with a customer service area and an attached three car garage. Site reconnaissance photograph documentation numbers 13 thru 16 are located in Appendix C. According to the BUSTR file for incident number 7630958, five USTs were removed from two cavities located east of the building and a 550-gallon waste oil UST located west of the building were removed in June 1993. No groundwater was encountered during tank and associated piping removal. Soil samples collected contained concentrations of TPH above action levels. During a Phase II ESA conducted in November 1998 it was determined that petroleum contamination was above Category 3 action levels in the area of the waste oil UST only. In February 1999 over excavation was performed around the waste oil UST cavity with 36 cubic yards removed and disposed. The results from four soil samples of the waste oil UST cavity walls after over excavation were below laboratory reporting levels for volatile organic compounds. The TPH results were between 16 and 35 ppm. A no further action status was granted in 1999. No MTBE was analyzed in any sample collected from the site. The two 55-gallon drums labeled old gas observed during the ESA Screening site visit, were not observed during the site reconnaissance. A natural gas line was marked in front of this property from US 62 to the western corner of the building near the former waste oil UST location. Hydraulic lifts are assumed to have been used at this facility based on the overhead doors observed.

Findings

This site has been occupied with a gasoline station from at least 1974 to at least 1999. According to the BUSTR file the benzene concentration is below closure action levels in samples collected during the closure sampling. However, no semi-volatile organic compounds were analyzed at the L-1 sample location. BTEX is below closure action levels in a sample collected from the former kerosene pump, however, results for TPH (2,270 ppm) and naphthalene (214 ppm) exceed the BUSTR Re-use action levels of 1,000 ppm and 0.051 ppm respectively. BTEX and TPH are below closure action levels in samples collected during the closure sampling at the former pump islands, however, no semi-volatile organic compounds were analyzed at one of the two sample locations. After over excavation of the waste oil tank cavity, remaining soil is below BUSTR Re-use action levels. However, no semi-volatile organic compounds were analyzed at the L-1 sample location. Only one sample was collected from the 30 foot pipe run from the USTs to the pump islands. BUSTR guidelines require one sample every 10 feet. Based on the high concentration of benzene (0.0158 ppm) at the one pipe run sample location (L-1), there may be a higher concentration along the pipe run not sampled during the Closure sampling or Phase II ESA conducted. The BUSTR Sample Location Site Plan is provided in Appendix A. No floor drains or interior sampling were discussed in the Phase II ESA. Soils under this site consist of Chili-Urban land complex, which have high permeability. The planned frontage road traverses thru the center of this property with two catch basins and storm sewer to be installed. St. Elmo Avenue will be reconstructed with an intersection on this site.

3.7 Site 2L- Szittai, Dennis and Diane 1132-1220 30th Street NE

Location/Concern

This site is located the southwest corner of US 62 and Rowland Avenue NE. This site was listed on the RCRA-small quantity generator (SQG) and Historic Auto Station databases. According to information identified on Sanborn® Fire

Insurance Maps, two fueling stations were located on this site in 1956, 1962, and 1966. A 55-gallon drum was observed on the north side of the building during the ESA Screening site visit. The drum appeared to be in good condition with no staining observed. The drum was not labeled and its' contents are unknown. Based on the regulatory data and historical records, if a right-of-way take or deep excavation is planned for this site additional ESA investigation was recommended. According to current right of way plans it appears that approximately 5-feet of right of way is required along the front of this property. The Site Plan is presented in Appendix A.

Historical Information

The 1956 Sanborn Map shows the site as undeveloped. The 1962 and 1966 Sanborn Maps show the site with two gasoline stations. The 1950 aerial photograph shows the site developed with what appears to be two residential structures located on the western portion and eastern portion. The 1957 aerial photograph shows only one structure on the western portion of the site with the remainder grass covered. The 1966 to 1982 aerial photographs show the two gasoline station structures indicated on the Sanborn Maps. The 1994 to 2011 aerial photographs show the current site structures and parking areas. Historical aerial photographs and Sanborn Maps are provided in Appendix B.

The city directories indicate that the site was vacant in 1945. The city directories indicate that the site was residential in 1956 and occupied with Robinhood Tire at 1132 30th Street NE and Standard Oil at 1220 30th Street NE in 1974. The city directories indicate that the site was a vacant store room and Standard Oil in 1977. The city directories indicate that the site was vacant at 1212 and 1220 30th Street NE with only Layland Motors listed at 1132 30th Street NE. The city directories indicate that the site was occupied with Layland Motors, Hart Auto Sales and Clear Water Systems in 1990. The city directories indicate that the site was occupied with Layland Motors, Loseys Used Car and a game room in 2006. The city directories indicate that the site was occupied with Layland Motors repair and service, Capital Motors and Majestic Trailer & Hitch in 2016.

Reconnaissance

This site is developed with three, single-story, commercial structures. The current tenants of the buildings include a: trailer hitch store (Majestic Trailer Hitch) on the eastern portion of the site at 1220 30th Street NE; used car lot (Capitol Motors) in the central portion at 1212 30th Street NE; and auto repair garage (Layland Motors) on the western portion of the site at 1132 30th Street NE. The remainder of the site consisted of paved parking areas. Site reconnaissance photograph documentation numbers 7 thru 12 are located in Appendix C. According to an interview with Denny Szitti the property owner, the tanks and pumps located at 1132 30th Street NE were removed the in 1977. Mr. Szitti has owned the 1132 30th Street property since 1977. The property was purchased from a person that sold dishes out of the facility and removed the tanks and pumps before the property transfer. The building had two floor drains and two hydraulic lifts that were removed before an addition in 1985. No hydraulic oil was observed during construction. Minor maintenance is performed in the building with new motor oil stored in a 250-gallon AST and a self-contained parts cleaner used in the maintenance bays. The used motor oil is stored in drums and picked up by Akron Canton Waste Oil periodically. The parts cleaner is maintained by Safety Kleen periodically. Parts cleaner solvent is why this site is a RCRA SQG. Mr. Szitti constructed the 1212 30th Street property in 1985. The building was constructed and used for auto sales only. Mr. Szitti purchased the 1220 30th Street property in 1996 from Clear Water Systems. Clear Water Systems owned and occupied the building and property from 1987 to 1996. Clear Water Systems removed the tanks in 1987. Mr. Szitti indicated that he removed one single lift and one floor drain from the bay. No hydraulic oil was observed during construction. No violations are on record on the EPA Enforcement and Compliance History Online website for Layland Motors.

Findings

The 1132 30th Street NE structure located on the western portion of the site has performed automotive service since at least 1974. The Stark County Auditor shows that the structure was constructed in 1960. According to Sanborn Maps this structure was a gasoline station from 1960 to at least 1966. This structure was occupied with Robinhood Tire in 1974. This structure has been occupied with Layland Motors since at least 1987. The tanks and pumps were removed in 1977.

The structure in the center of the two gasoline station buildings (1212 30th Street NE) is reported by the Stark County Auditor as constructed in 1985 and classified as auto sales. It does not appear that automotive service has been conducted at this building based on the building layout with no evidence of an overhead door. This structure has been occupied with auto sales since 1985.

The structure located at 1220 30th Street NE on the eastern portion of the site has been occupied with Majestic Trailer & Hitch since 2000. Clear Water Systems occupied the building from 1987 to 1996. The Stark County Auditor shows that the structure was constructed in 1960. According to Sanborn Maps and city directories this structure was a gasoline station from at least 1960 to at least 1977. According to an interview the tanks and pumps were removed in 1987. Soils under this site consist of Chili-Urban land complex, which have high permeability. Shallow excavation and a frontage road is planned in front of this property.

3.9 Site W-Mckinney Enterprises Of Ohio Limited Co. 1001-1017 30th Street NE

Location/Concern

This property is located on the northeast corner of Martindale Road NE and 30th Street NE. Gibbs Avenue NE borders the site on the east. This site was listed on the Dry Cleaners and Historical Cleaners databases. According to information identified in Sanborn® Fire Insurance Maps, this site has been developed with a dry cleaner since at least 1956; however, no evidence of hazardous materials was observed on this site during the visual inspection. Based on historical records and regulatory data this site has been occupied with a dry cleaner since 1956; therefore, if a right-of-way take or deep excavation is planned for this site additional ESA investigation was recommended. The Site Plan is provided in Appendix A. According to current right of way plans it appears that approximately 25-feet of right of way is required from the southeast corner of this property and construction will occur on Gibbs Avenue NE located east of the property.

Historical Information

The Stark County Auditor shows four buildings on the property that were constructed in 1955 and one building constructed in 1959. The three narrow buildings located on the northern portion were combined with brick between each one to form one long building.

The 1950 aerial photograph shows the large building on the southwest portion of the property, a shorter building on the northern portion of the property, small buildings oriented north south along the central portion of the site, and two residential houses along Gibbs Avenue NE. The 1957 aerial photograph shows the current buildings with one residential structure located on the corner of Gibbs Avenue NE and 30th Street NE. The 1966 thru 2011 aerial photographs show the current site structures. The 1956 Sanborn Map shows four of the five buildings on the site with the northern building labeled dry cleaning, the southwest building labeled furniture, and the southeast building labeled office. The 1962 and 1966 Sanborn Maps show the current structures with one building added on the northeast portion labeled candy factory and the other buildings labeled the same as 1956. A small portion of a dwelling is visible east of the office that was observed in the 1950 and 1956 aerial photographs. Historical aerial photographs and Sanborn Maps are provided in Appendix B. City directories indicate that "Tate" and Tate Cleaners occupied the site since 1956. City directories indicate that the other buildings were occupied with the Ohio State Highway Patrol, dance school, furniture store, and State license agency between 1987 and 2016.

Reconnaissance

This site is developed with three separate commercial structures consisting of: two one-story, single tenant buildings and a one-story, multi-tenant building. The current tenants of the buildings include: McKinney's Furniture Outlet in the southwest building; an electronic casino (777) in the southeast building; and a commercial drycleaner (Tate Cleaners) and P.C. Repair in the northern building. The remainder of the site consists of paved parking areas. An interview with

a front counter employee indicated that a still was present on site and waste product was picked up periodically. Site reconnaissance photograph documentation numbers 1 thru 6 are located in Appendix C.

Findings

Sanborn Maps show the northern building with the dry cleaner was constructed in 1954 and occupied with a dry cleaning store. According to city directories the northern building has been occupied with Tate Cleaners since 1956. The database lists the site as a historical drycleaners in 1954. No compliance information or the site was available on the EPA ECHO site or the EPA multisystem site for RCRA generators. No RCRA generator number was listed on the database for this site. Neither the site or information for the site was observed on the ODOT RMR viewer. Soils under this site consist of Urban land complex, which have unknown permeability and Canfield-Urban land complex soils which have moderately low permeability and usually the fragipan is located 15 to 30 inches below grade. Construction consisting of storm sewer installation is proposed approximately 190-feet south of the drycleaner building and shallow excavation is proposed 60-feet east of the drycleaner building.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the activities conducted under this Phase I ESA, the following conclusions were drawn:

4.1 Site M-Tsangeos, James and John II 1701-1705 30th Street NE

The site has been a retail facility since at least the 1950s with minor generator repair for approximately two years (1959-1960). No gasoline station was observed in the research performed. It appears that this site was used as retail and residential with generator repair between 1959 and 1960. Construction will involve the removal of catch basins and storm sewers, and the installation of new roadway with curb and gutter in front of this site. Based on the absence of a gasoline station and limited maintenance performed inside the building, no further investigation appears warranted for this site.

4.2 Site N- Haidet, Victor and Diane Trustees 1641-1655 30th Street NE

The property was formerly a gasoline station. The gasoline station operated between at least 1957 to the late 1970s. There was a fire at this location in the late 1970s. Soils under this site have high permeability. Approximately 20-feet of right of way is required on the southeast corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site from southeast corner of the site to the new road center line. It appears that the pump island and tanks were located near the existing right of way. Based on the previous fire at the facility, benzo(a)pyrene is expected to be above background levels.

Based on the location of the former gasoline tanks, petroleum contaminated soil (PCS) plan notes appear warranted for this site for soil and groundwater.

4.3 Site 2Y- Toth, Larry A. 1712 30th Street NE and Maple Avenue NE

A gasoline station operated on the northwest corner of this site in at least 1956. Soils under this site have high permeability. Approximately 20-feet of right of way is required on the northwest corner of this property. Construction will involve the removal and installation of catch basins and storm sewers in front of this site approximately 40-feet from the existing right of way. Based on the 1950 aerial photograph, it appears that the pump island was located in the existing right of way.

Based on the potential location of the former gasoline tanks and pumps, A Phase II ESA is recommended for this site in the location of the assumed dispenser. Based on no data for a former UST or fuel dispenser, a geophysical survey should be conducted on the entire portion of the site within the project study limits. A total of three (3) borings should be installed to 10-feet below ground surface near the sidewalk based on the results of the geophysical survey. One (1) boring will address the former dispenser. One (1) boring on each side of the assumed dispenser or in the areas indicated as suspect by the geophysical survey will address the former UST. Samples should be collected continuously and each two foot interval should be screened with an organic vapor analyzer. The interval with the highest reading from each boring should be analyzed for SW 846-8260 BTEX, SW 846-8270 PAHs, SW 846-6010 lead and SW-846 8015M TPH GRO and DRO.

4.4 Site 2U Gurman Investments LLC 1600 30th Street NE

A gasoline station operated on this site since at least 1970. Soil on the site exceeds BUSTR 2017 PCS re-use levels for benzene and naphthalene near the former tank cavity. Groundwater concentrations of benzo(a)pyrene, naphthalene

and benzene exceed current groundwater ingestion action levels. Soils under this site high permeability. There is a private drinking water well located near the building that will require proper abandonment. No record of monitoring well abandonment was observed in the BUSTR file. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired.

Based on the potential to encounter contaminated soil and groundwater during construction or demolition, PCS plan notes appear warranted for this site for soil and groundwater.

4.5 Site 2V-Warehou5e LLC 1620 30th Street NE

This site has used cold storage chemicals since at least 1956 to at least 2001. No records indicate a hazardous/regulated substance release to soil or groundwater on the site. The EPCRA violation was for storage of a glycol system and incorrect storage of regulated substances behind the building. The glycol system is assumed to be from the cold system components. Soils under this site have high permeability. Construction is planned within the existing right of way on this site, however, access to US 62 will be eliminated and the property will be acquired. Based on no evidence of a release, no further investigation appears warranted for this site.

4.6 Site 2P-Jeff's Millenium Used Cars Inc.1430 30th Street NE

This site has been occupied with a gasoline station from at least 1974 to at least 1999. The benzene concentration is below closure action levels in soil samples collected during the closure sampling. However, no semi-volatile organic compounds were analyzed at this location. BTEX is below closure action levels in a soil sample collected from the former kerosene pump, however, results for TPH (2,270 ppm) and naphthalene (214 ppm) exceed the BUSTR Re-use action levels of 1,000 ppm and 0.051 ppm respectively. BTEX and TPH are below closure action levels in soil samples collected during the closure sampling at the former pump islands, however, no semi-volatile organic compounds were analyzed at one of the two sample locations. After over excavation of the waste oil tank cavity, remaining soil is below BUSTR Re-use action levels. Only one sample was collected from the 30 foot pipe run from the USTs to the pump islands. BUSTR guidelines require one sample every 10 feet. No groundwater was encountered during tank and associated piping removal. Based on the high concentration of benzene (0.0158 ppm) at the one pipe run sample location (L-1), there may be a higher concentration along the pipe run not sampled during the Closure sampling or Phase II ESA conducted. No floor drains or interior sampling were discussed in the Phase II ESA. Soils under this site have high permeability. The planned frontage road traverses thru the center of this property with two catch basins and storm sewer to be installed. St. Elmo Avenue will be reconstructed with an intersection on this site.

Based on the potential to encounter contaminated soil and groundwater during construction or demolition, PCS plan notes appear warranted for this site for soil and groundwater if encountered.

4.7 Site 2L- Szittai, Dennis and Diane 1132-1220 30th Street NE

The 1132 30th Street NE structure located on the western portion of the site has performed automotive service since at least 1974. The structure was constructed in 1960. This structure was a gasoline station from 1960 to at least 1966. The tanks and pumps were removed in 1977.

The structure in the center of the two gasoline station buildings (1212 30th Street NE) was constructed in 1985 and for auto sales. It does not appear that automotive service has been conducted at this building based on the building layout with no evidence of an overhead door. This structure has been occupied with auto sales since 1985.

The structure located at 1220 30th Street NE on the eastern portion of the site has been occupied with Majestic Trailer & Hitch since 2000. Clear Water Systems occupied the building from 1987 to 1996. The structure was constructed in 1960. This structure was a gasoline station from at least 1960 to at least 1977. The tanks and pumps were removed in 1987. Soils under this site have high permeability. Shallow excavation and a frontage road is planned in front of this property.

Based on the potential location of the former pumps adjacent or within the ROW, a Phase II ESA is recommended for this site in the location of the assumed dispensers on 1132 and 1220. A total of four (2 on 1132 30th property and 2 on 1220 30th Street property) borings should be installed to 10-feet below ground surface near the sidewalk based on the results of the geophysical survey. Samples should be collected continuously and each two foot interval should be screened with an organic vapor analyzer. The interval with the highest reading from each boring should be analyzed for SW 846-8260 BTEX, SW 846-8270 PAHs, SW 846-6010 lead and SW-846 8015M TPH GRO and DRO.

4.8 Site W-Mckinney Enterprises Of Ohio Limited Co. 1001-1017 30th Street NE

Sanborn Maps show the northern building with the dry cleaner was constructed in 1954 and occupied with a dry cleaning store. The northern building has been occupied with Tate Cleaners since 1956. The database lists the site as a historical drycleaners in 1954. No compliance information or the site was available on the EPA ECHO site or the EPA multisystem site for RCRA generators. No RCRA generator number was listed on the database for this site. Neither the site or information for the site was observed on the ODOT RMR viewer. Soils under this site unknown permeability and moderately low permeability and usually the fragipan is located 15 to 30 inches below grade. Construction consisting of storm sewer installation is proposed approximately 190-feet south of the drycleaner building and shallow excavation is proposed 60-feet east of the drycleaner building.

Based on the soils and distance of construction from the dry cleaning building, no further investigation appears warranted for this site.

5.0 REFERENCES

Ohio Physiographic Province map, Brockman, 1998.

Stark County Auditor

Ohio Dept. of Transportation Office of Environmental Services, 2017: Environmental Site Assessment Guidelines.

State of Ohio Database Reports:2017 Bureau of Underground Storage Tank Regulations

U.S. Geological Survey, 7.5-minute series Topographic Map

U.S. Dept. of Agriculture, Soil Conservation Service, Soil Survey of Stark County, Ohio, 1989.

6.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

TranSystems' Scientists responsible for this ESA Screening Report are Scott Stewart and Brian Metz.



Scott Stewart, Environmental Technician



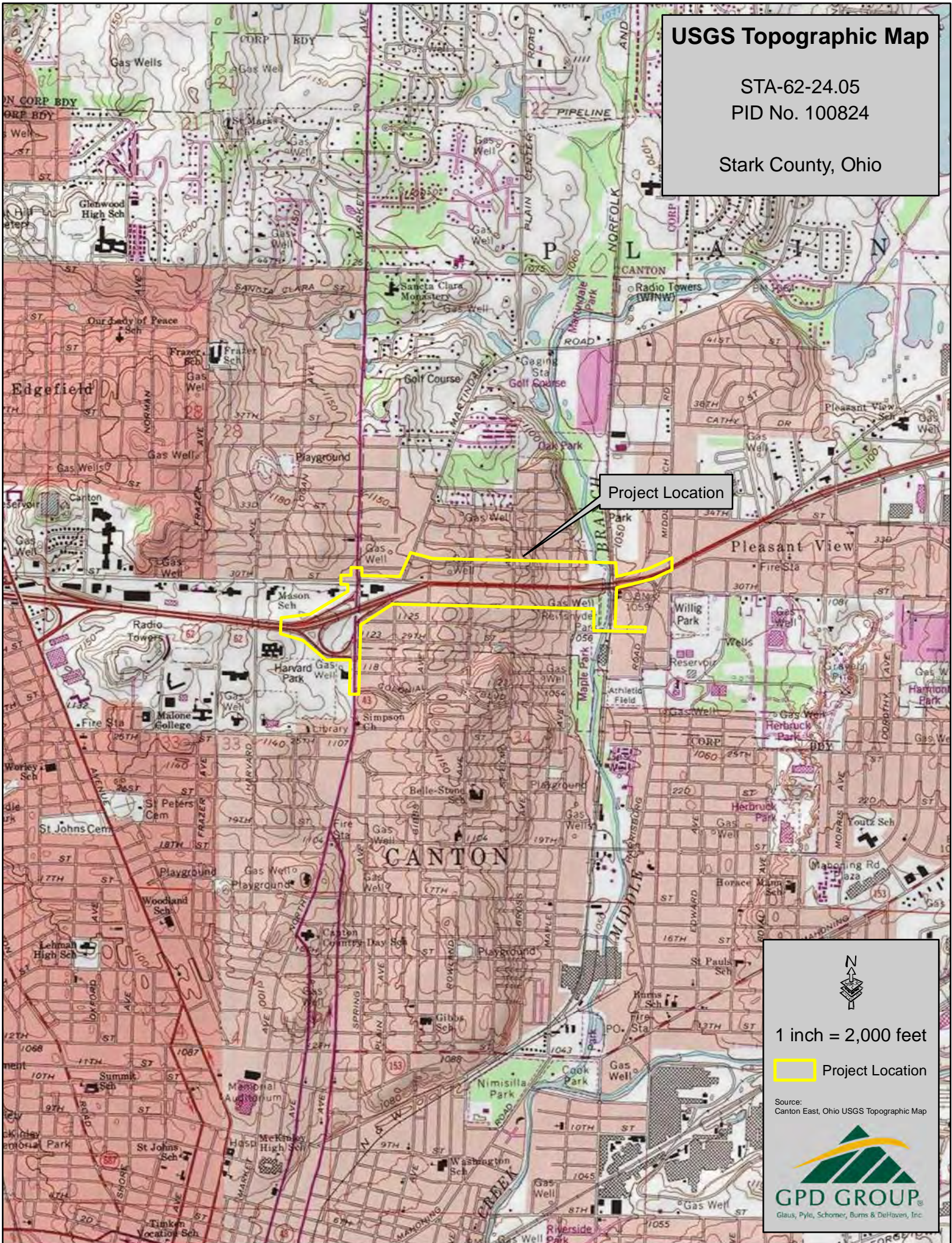
Brian Metz, Senior Environmental Scientist

APPENDICES

APPENDIX A



USGS Topographic Map
STA-62-24.05
PID No. 100824
Stark County, Ohio



Project Location

N

1 inch = 2,000 feet

Project Location

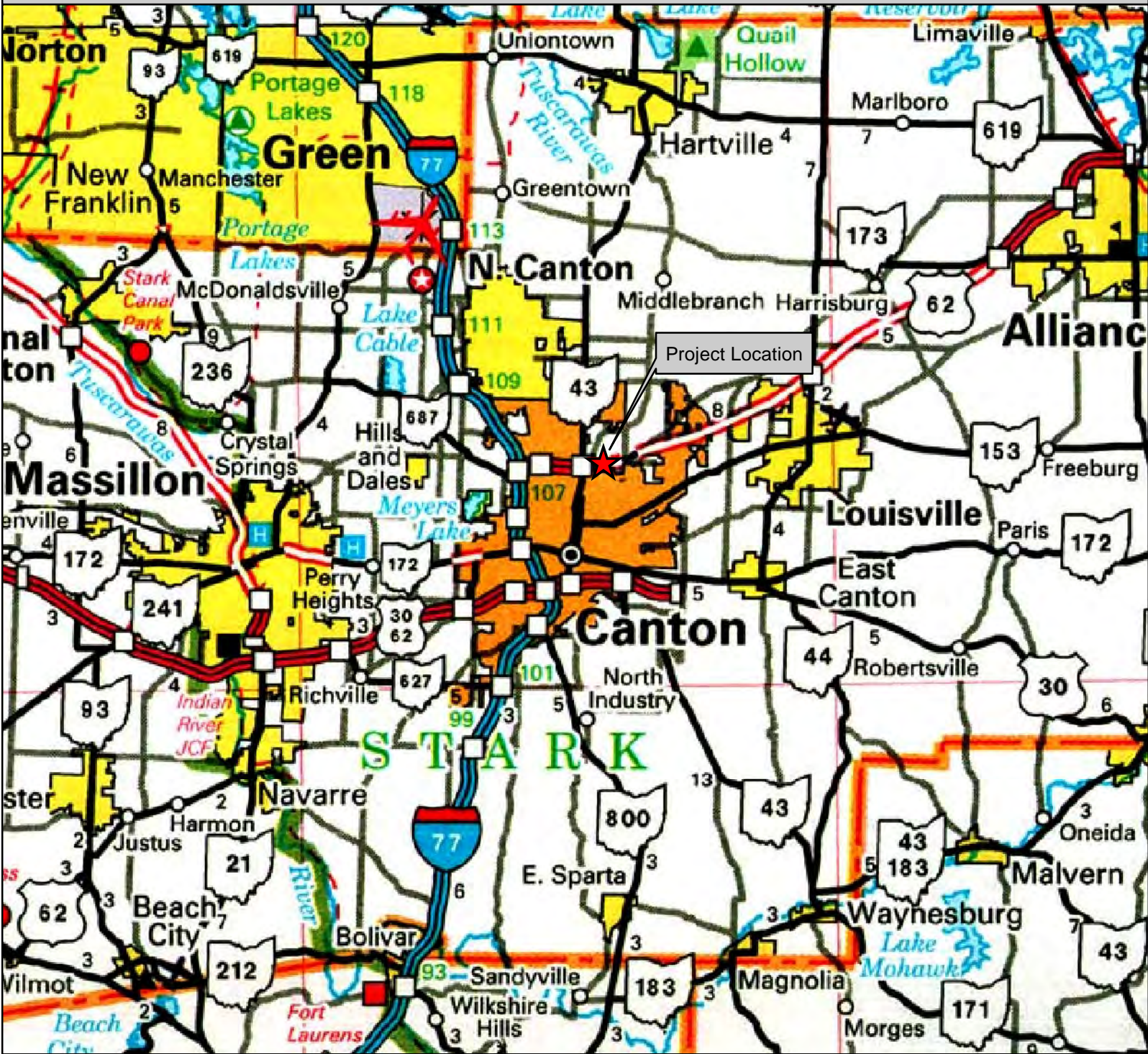
Source:
Canton East, Ohio USGS Topographic Map

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHoven, Inc.

County Road Map

STA-62-24.05
PID No. 100824

Stark County, Ohio



Project Location

Map Not to Scale

Source: Ohio Department of Transportation Online Mapping





Site Plan
Sites M
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049

MAPLE AV

● = Proposed Phase II ESA Boring Locations

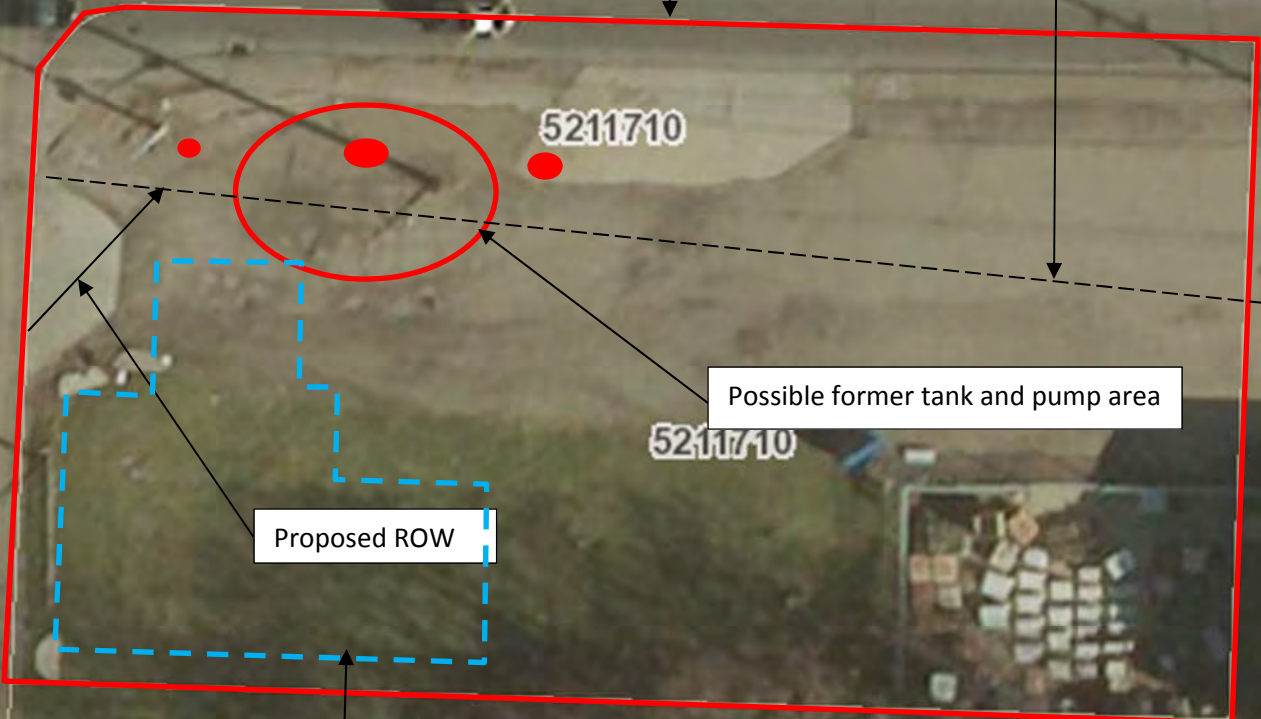


Proposed Underground Work Area

62

Former ROW in 1950s

Existing ROW



5211710

Possible former tank and pump area

5211710

Proposed ROW

Approximate location of Former gasoline station structure

5211711



Site Plan
Site 2Y
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



Approximate location of former gasoline station structure

Proposed ROW

Existing ROW

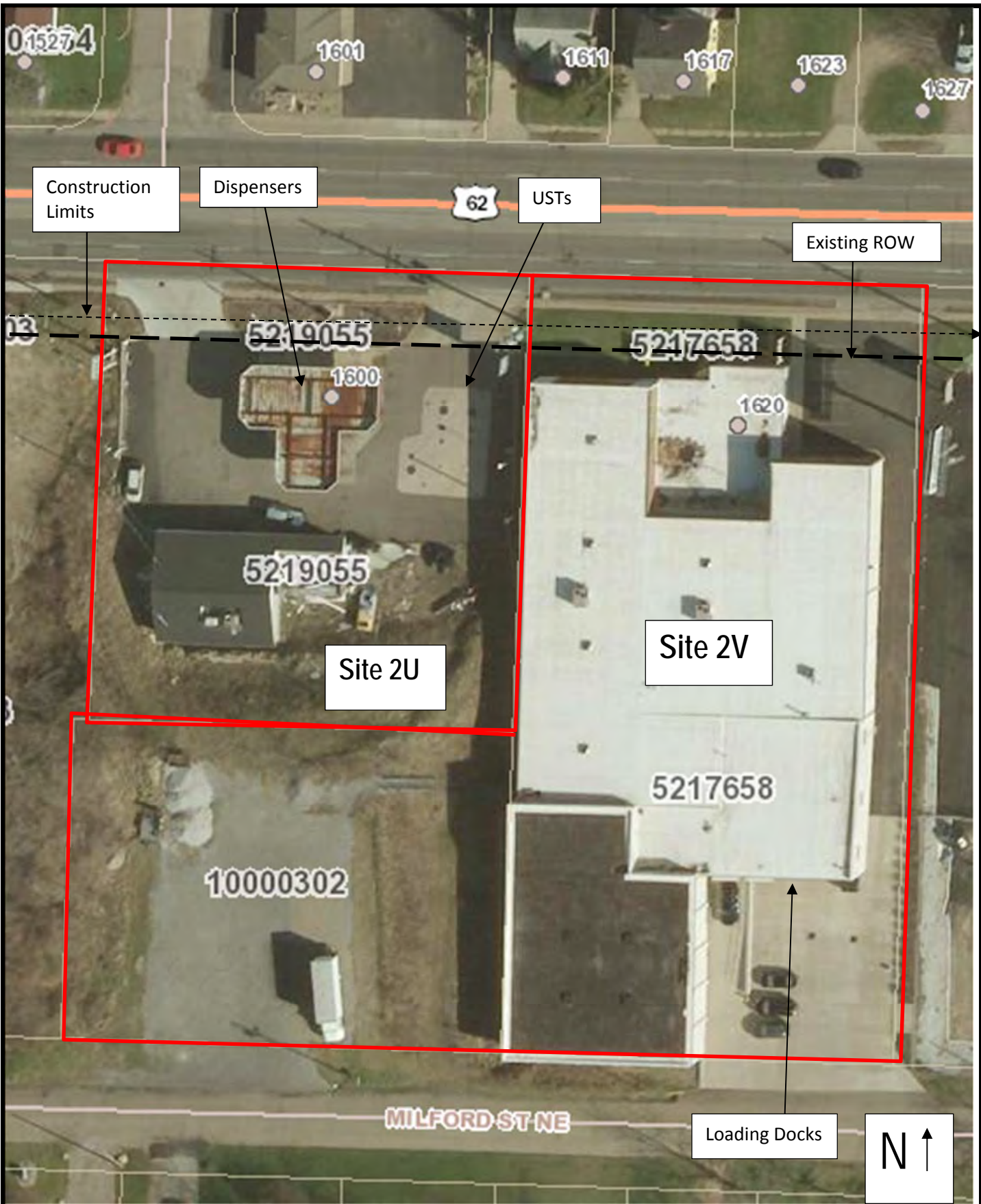
Approximate location of former USTs

Proposed underground work area



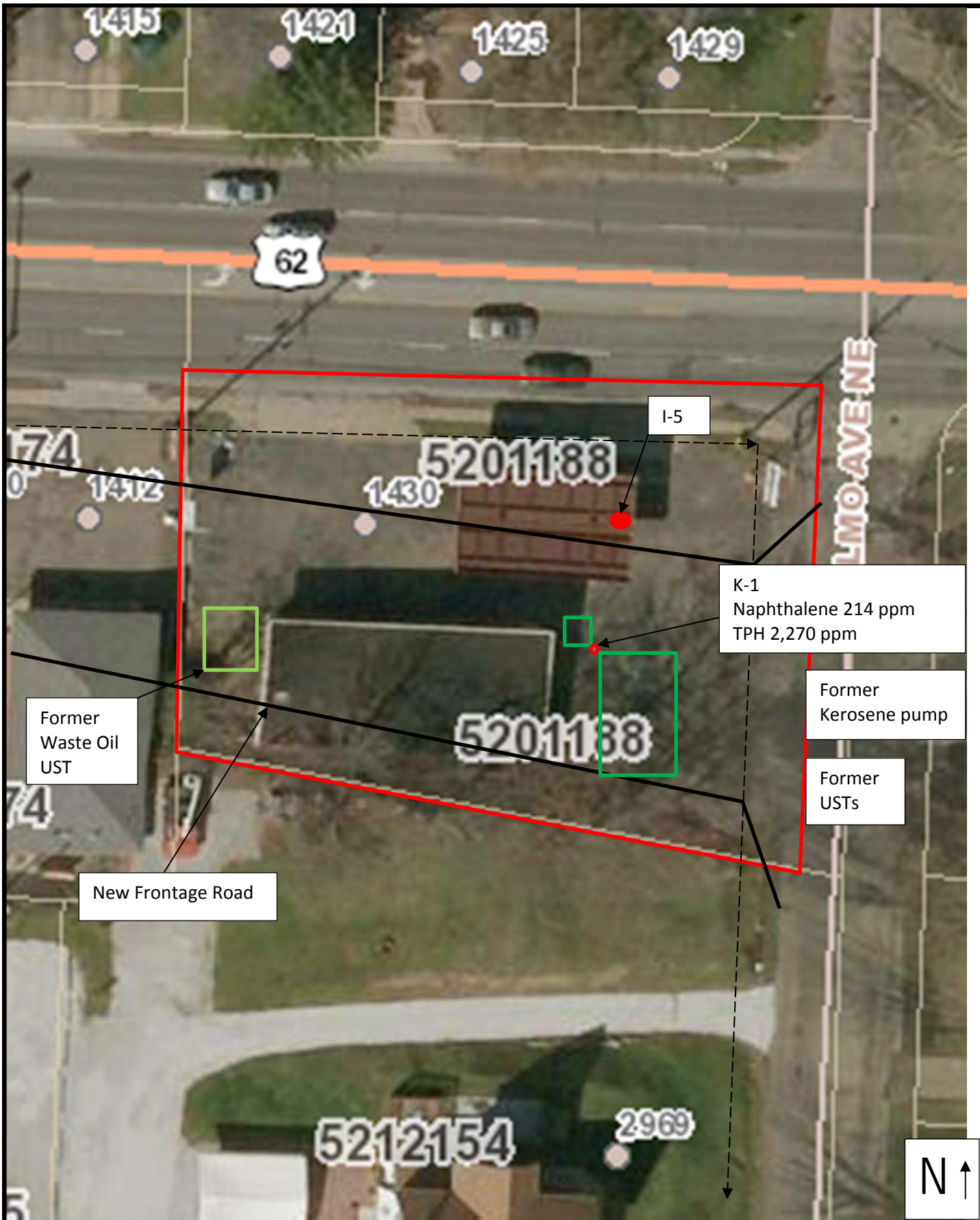
Site Plan
 Site N
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



Site Plan
 Site 2U & 2V
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



Former Waste Oil UST

New Frontage Road

I-5

K-1
Naphthalene 214 ppm
TPH 2,270 ppm

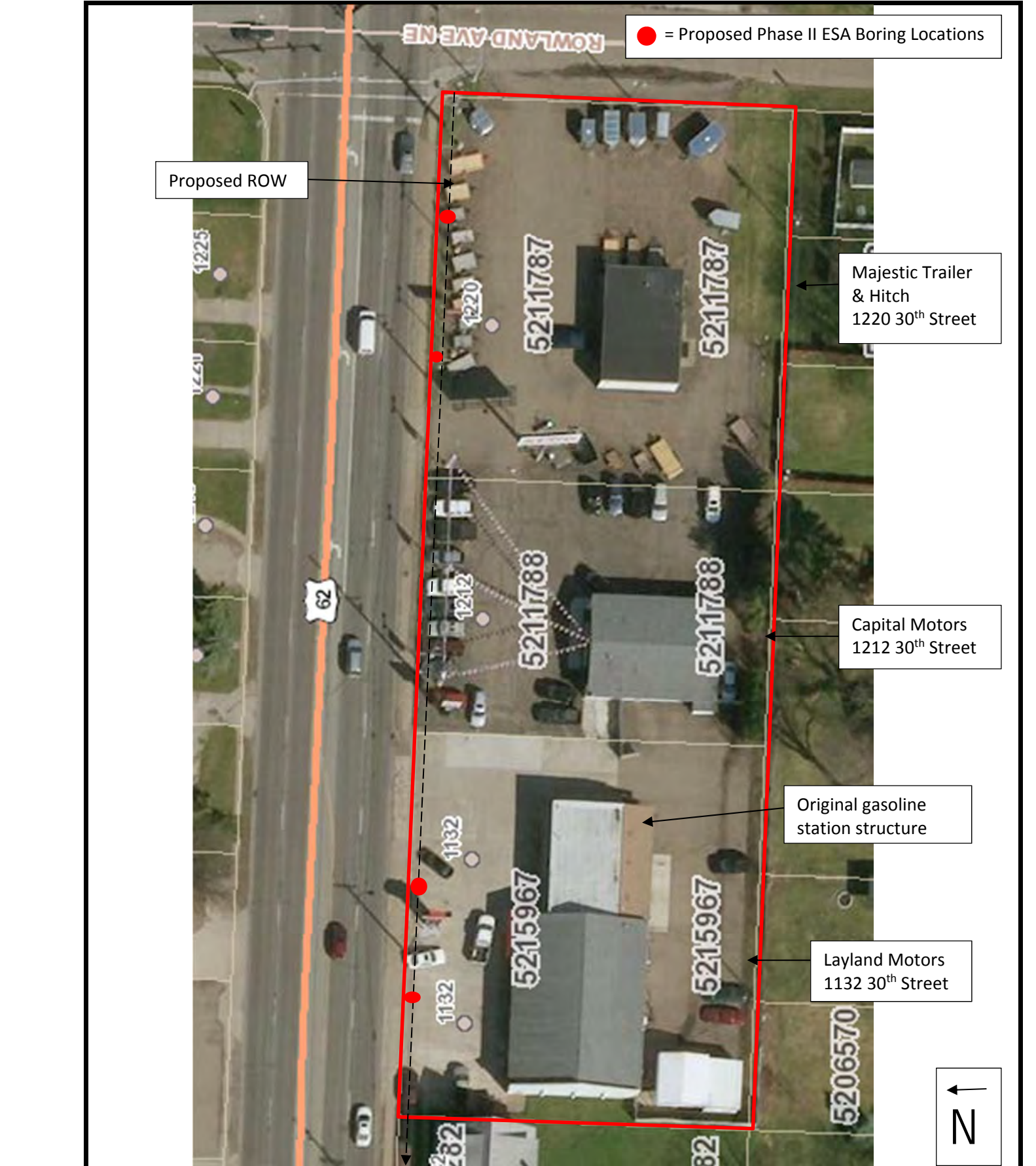
Former Kerosene pump

Former USTs



Site Plan
Site 2P
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



Site Plan
 Site 2L
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

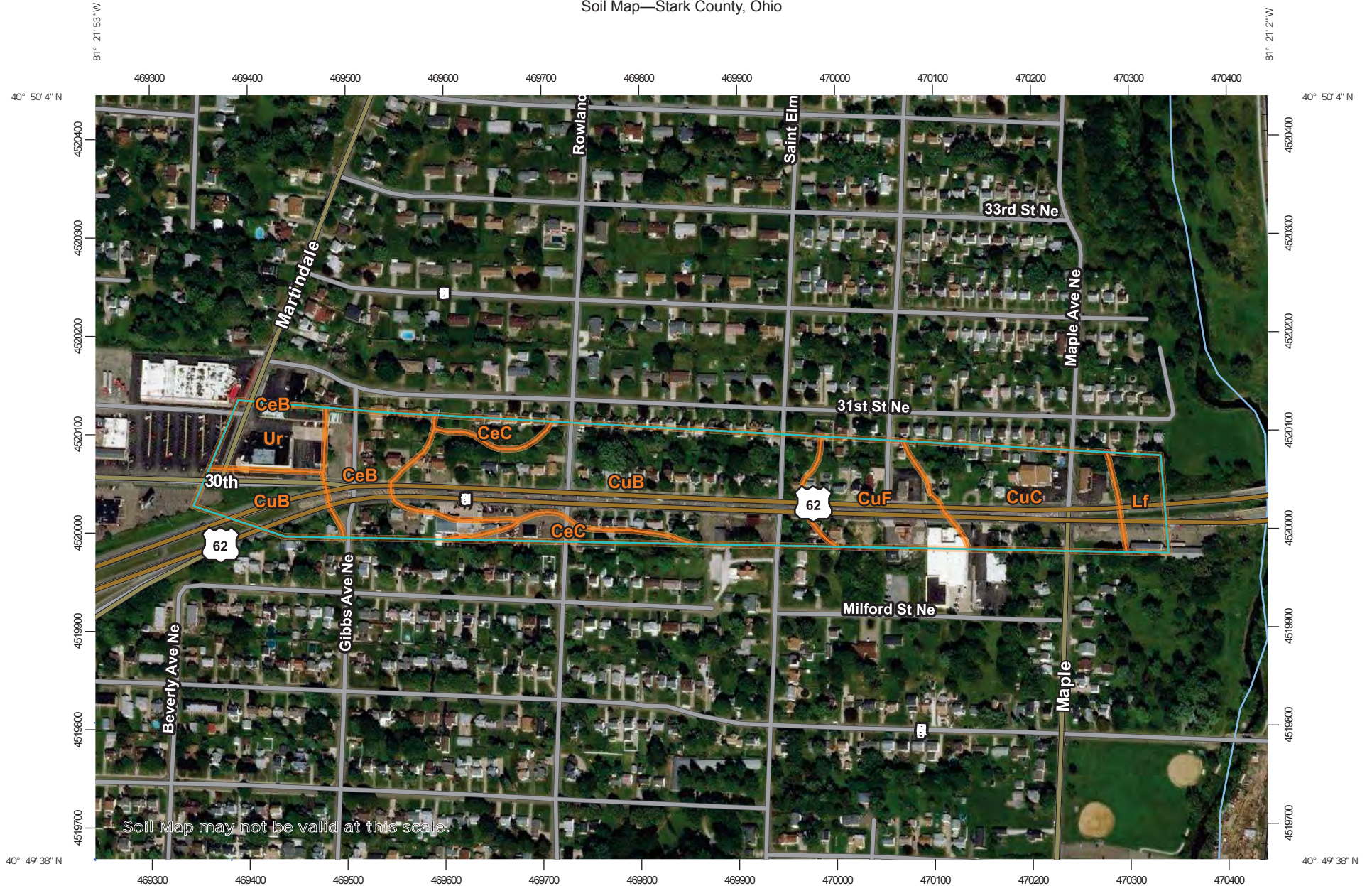
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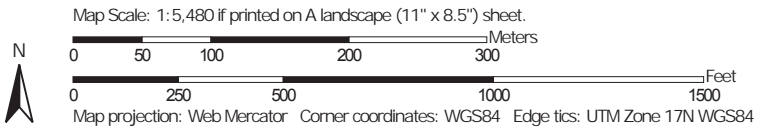
Site Plan
Site W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049

Soil Map—Stark County, Ohio




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Stark County, Ohio

Survey Area Data: Version 13, Sep 19, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 25, 2014—Mar 21, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Stark County, Ohio (OH151)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeB	Canfield-Urban land complex, 2 to 6 percent slopes	3.3	11.7%
CeC	Canfield-Urban land complex, 6 to 12 percent slopes	1.4	5.2%
CuB	Chill-Urban land complex, undulating	12.1	43.4%
CuC	Chill-Urban land complex, rolling	4.8	17.2%
CuF	Chill-Urban land complex, steep	3.4	12.1%
Lf	Loddell silt loam, occasionally flooded	1.2	4.2%
Ur	Urban land	1.7	6.2%
Totals for Area of Interest		28.0	100.0%

Stark County, Ohio

CeB—Canfield-Urban land complex, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2v03v

Elevation: 590 to 1,970 feet

Mean annual precipitation: 33 to 52 inches

Mean annual air temperature: 43 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Canfield and similar soils: 45 percent

Urban land: 35 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canfield

Setting

Landform: Till plains

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Till

Typical profile

Ap - 0 to 6 inches: silt loam

BE - 6 to 9 inches: silt loam

Bt1 - 9 to 15 inches: silt loam

2Bt2 - 15 to 21 inches: loam

2Bt3 - 21 to 26 inches: loam

2Btx1 - 26 to 38 inches: loam

2Btx2 - 38 to 45 inches: loam

2C1 - 45 to 62 inches: loam

2C2 - 62 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 15 to 30 inches to fragipan

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat):

Moderately low (0.01 to 0.14 in/hr)

Depth to water table: About 10 to 21 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D

Hydric soil rating: No

Description of Urban Land

Setting

Down-slope shape: Linear

Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent

Hydric soil rating: Unranked

Ravenna

Percent of map unit: 10 percent

Landform: Till plains

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Interfluve, base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Data Source Information

Soil Survey Area: Stark County, Ohio

Survey Area Data: Version 13, Sep 19, 2016

Stark County, Ohio

CuB—Chili-Urban land complex, undulating

Map Unit Setting

National map unit symbol: 9nm

Elevation: 700 to 1,160 feet

Mean annual precipitation: 32 to 42 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 133 to 193 days

Farmland classification: Not prime farmland

Map Unit Composition

Chili and similar soils: 50 percent

Urban land: 50 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chili

Setting

Landform: Terraces

Parent material: Outwash

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 19 inches: silt loam

H3 - 19 to 36 inches: gravelly sandy loam

H4 - 36 to 60 inches: loamy coarse sand

Properties and qualities

Slope: 0 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Hydrologic Soil Group: A

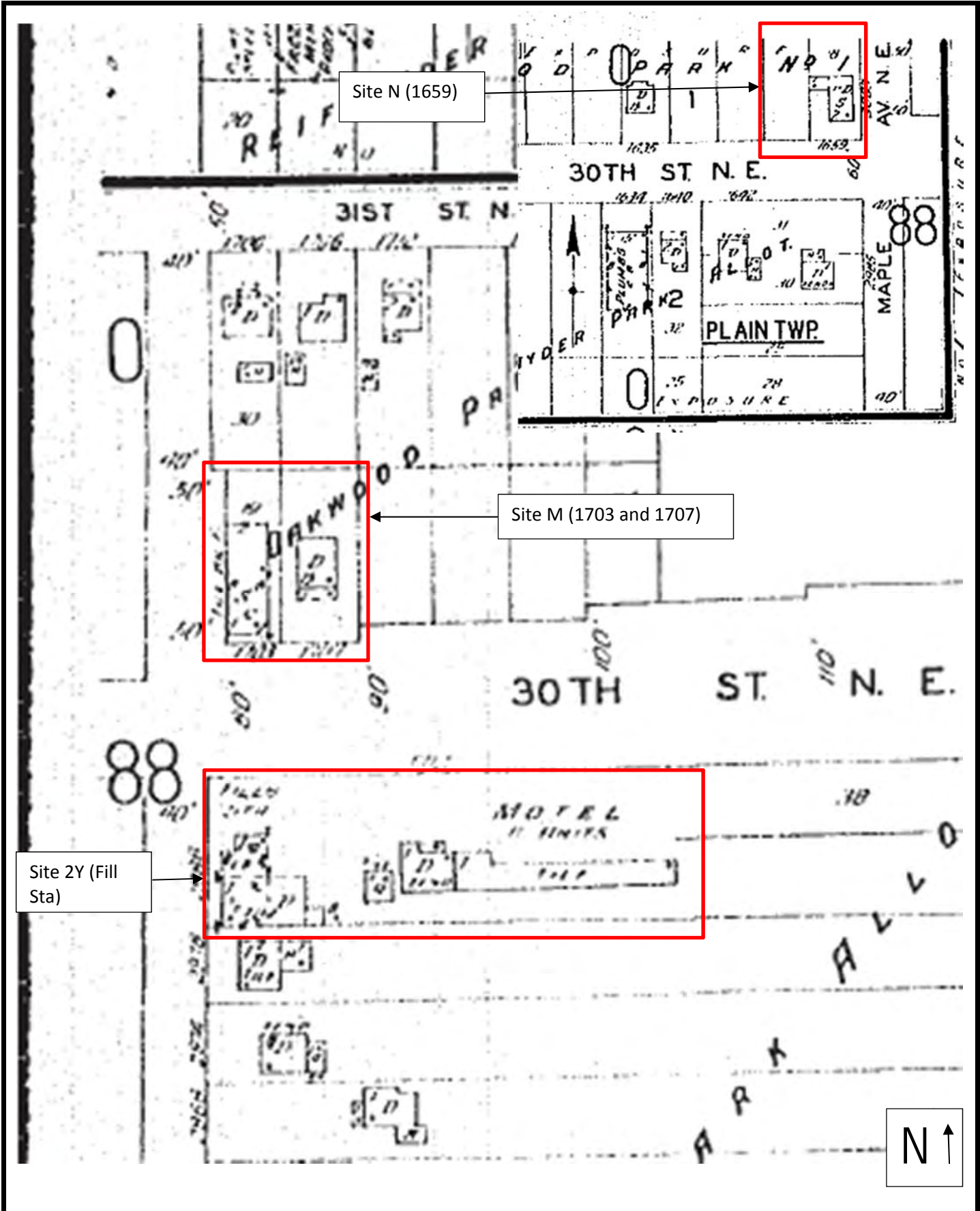
Other vegetative classification: Unnamed (G139XYB-10H)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Stark County, Ohio
Survey Area Data: Version 13, Sep 19, 2016

APPENDIX B



Site N (1659)

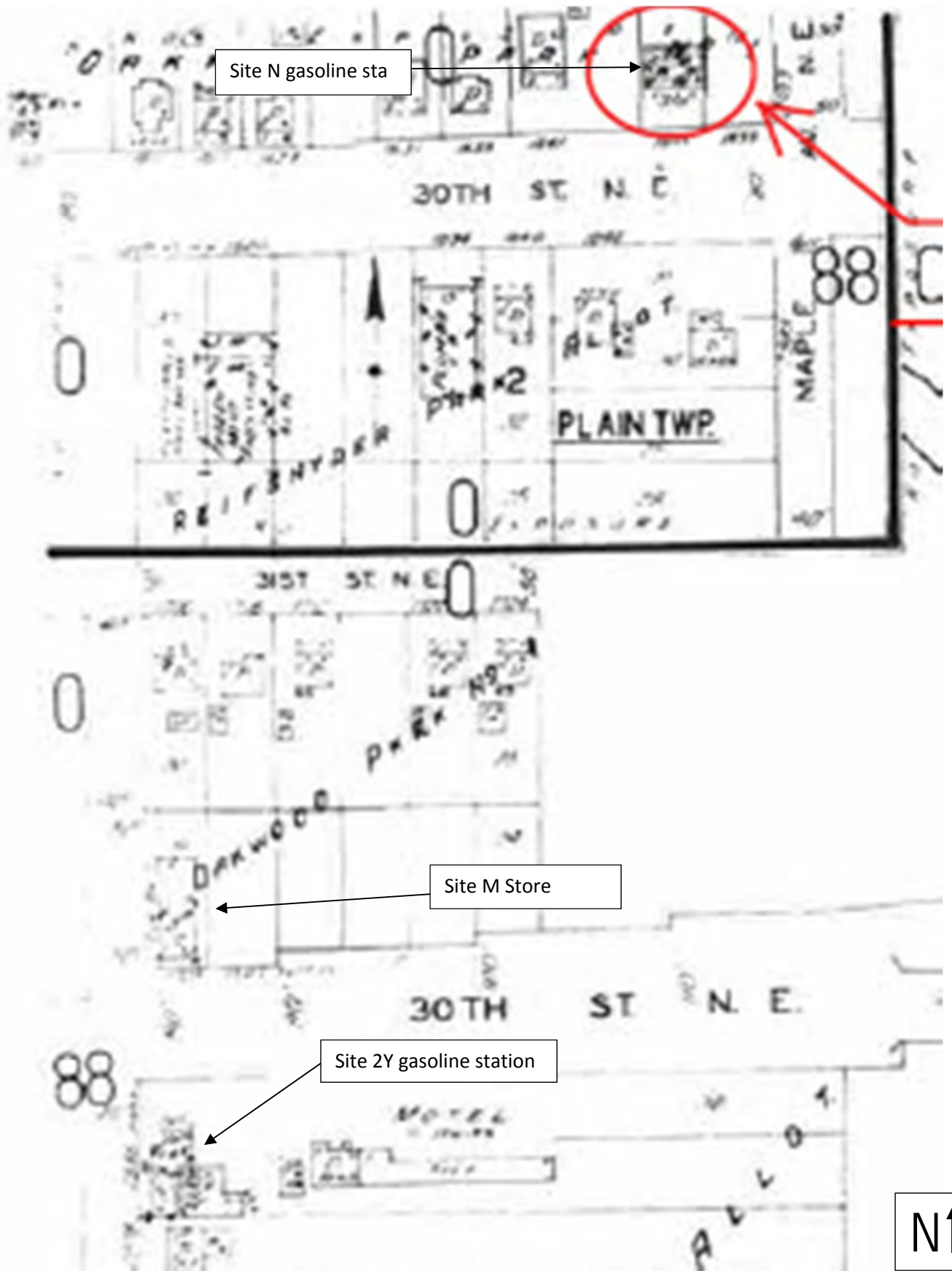
Site M (1703 and 1707)

Site 2Y (Fill Sta)



1956 Sanborn Map
 Sites N, M and 2Y
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



Site N gasoline sta

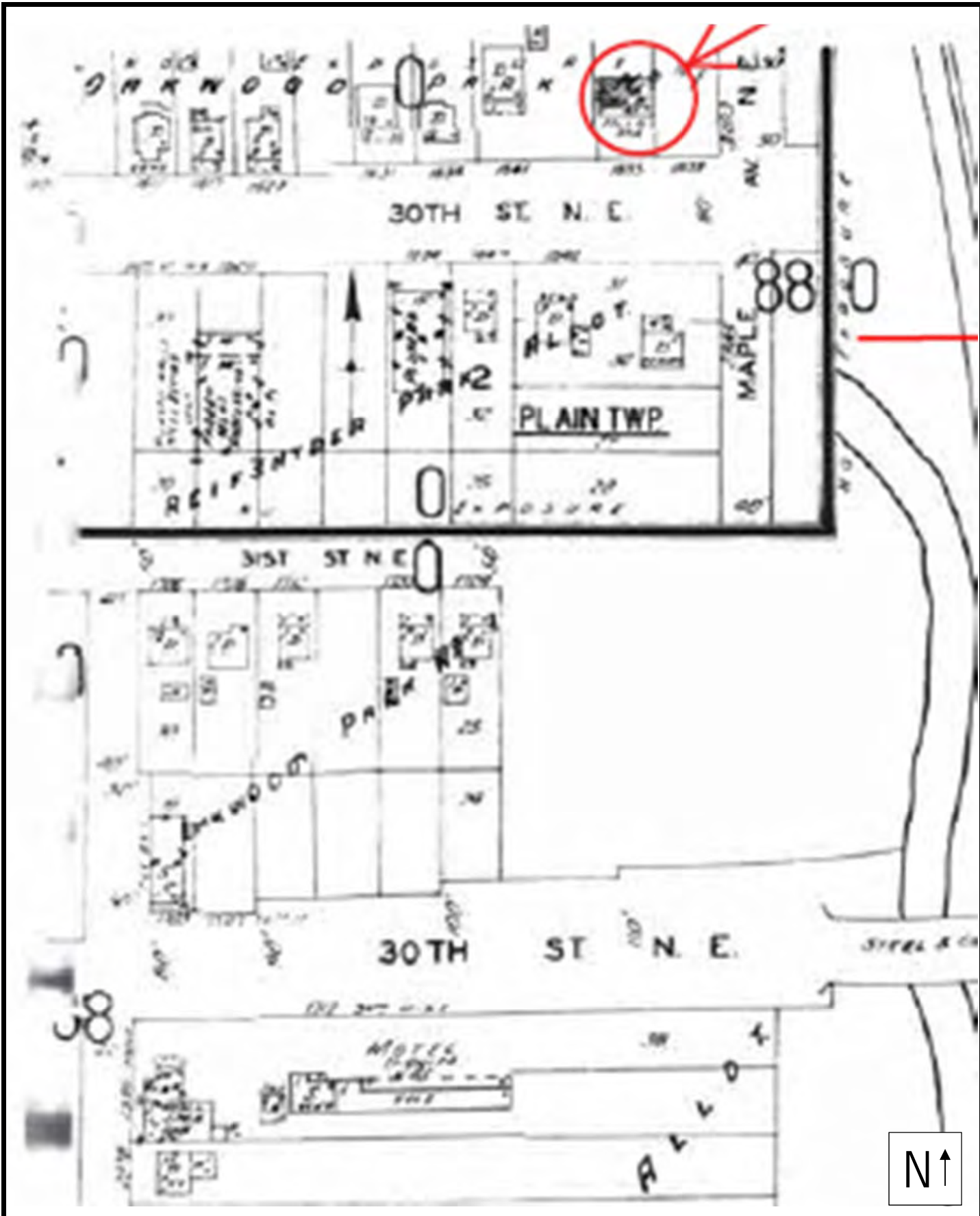
Site M Store

Site 2Y gasoline station



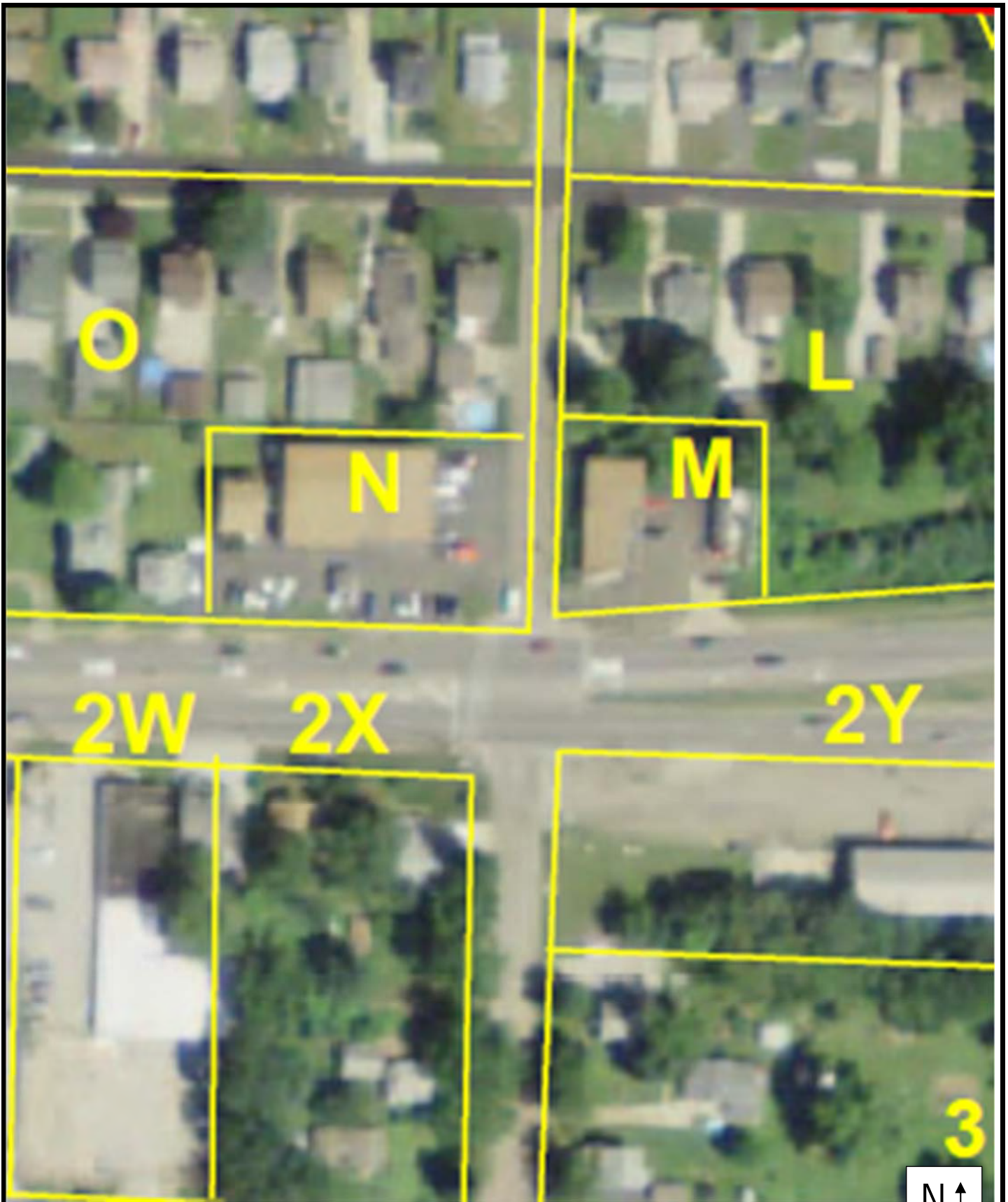
1962 Sanborn Map
 Sites N, M and 2Y
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



1966 Sanborn Map
 Sites N, M and 2Y
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



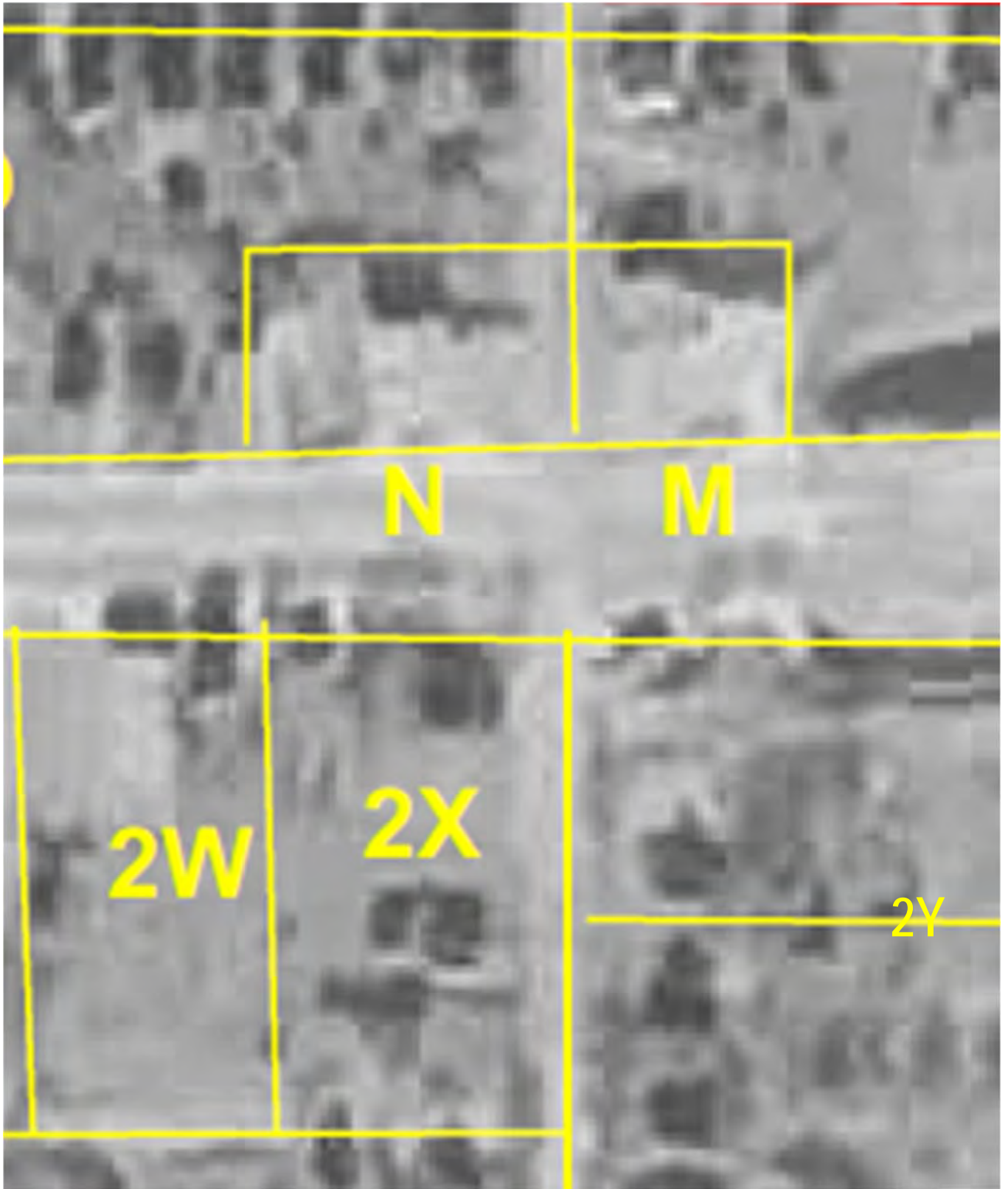
2011 Aerial Photograph
Sites N,M and 2Y
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1982 Aerial Photograph
Sites N, M and 2Y
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1957 Aerial Photograph
Sites N,M and 2Y
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



Possible tank location

Canopy



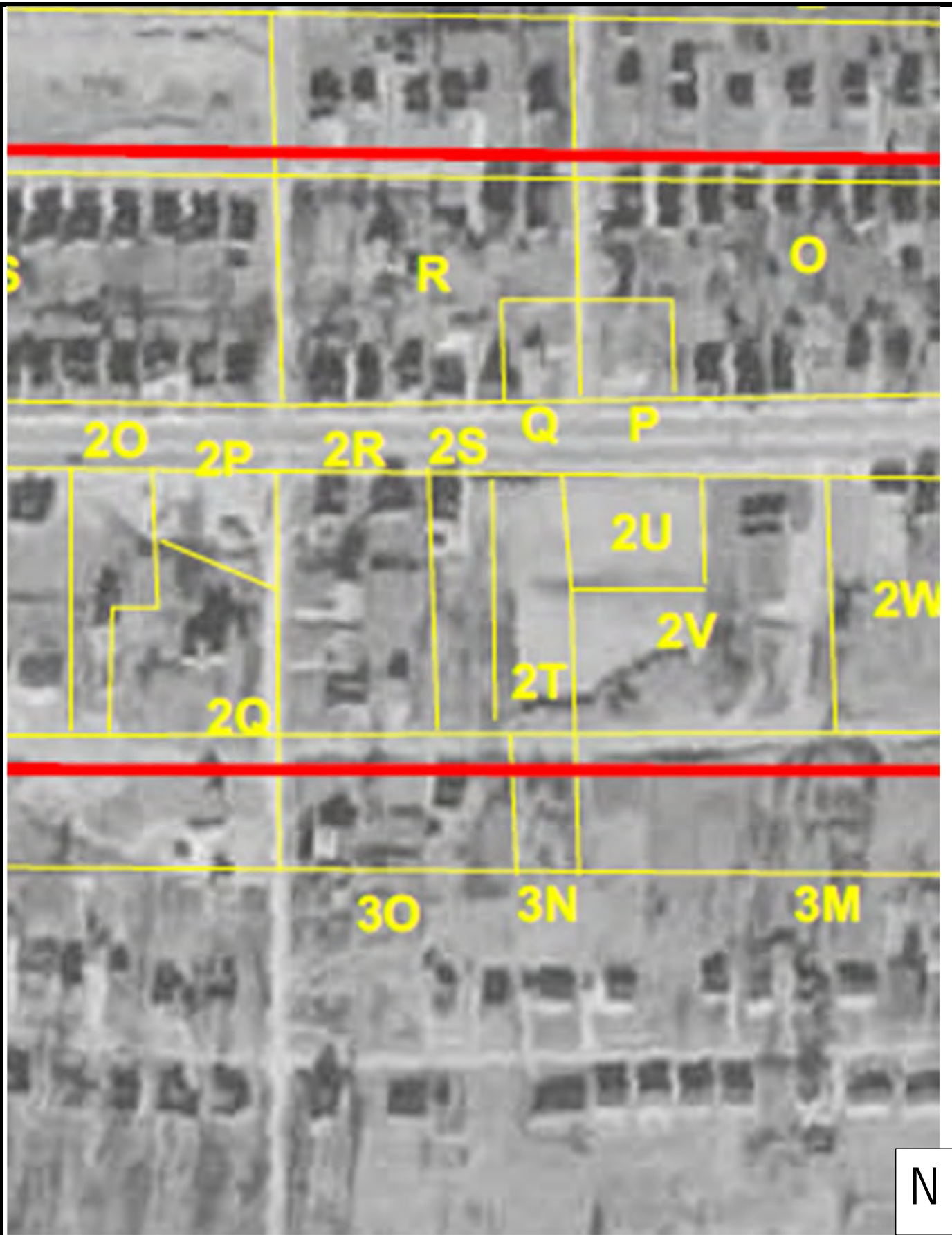
1950 Aerial Photograph
Sites N,M and 2Y
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



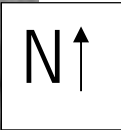
1950 Aerial Photograph
Sites 2P, 2U & 2V
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1957 Aerial Photograph
Sites 2P, 2U & 2V
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1970 Aerial Photograph
Sites 2P, 2U & 2V
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1982 Aerial Photograph
Sites 2P, 2U & 2V
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



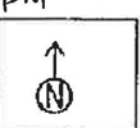
1994 Aerial Photograph
Sites 2P, 2U & 2V
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049

• NO MTBE ANALYZED
• RESULTS IN PPM

Expressway Mobil
1430 30th Street, NE, Canton, Ohio 44705

UST System Map
(Not to Scale)

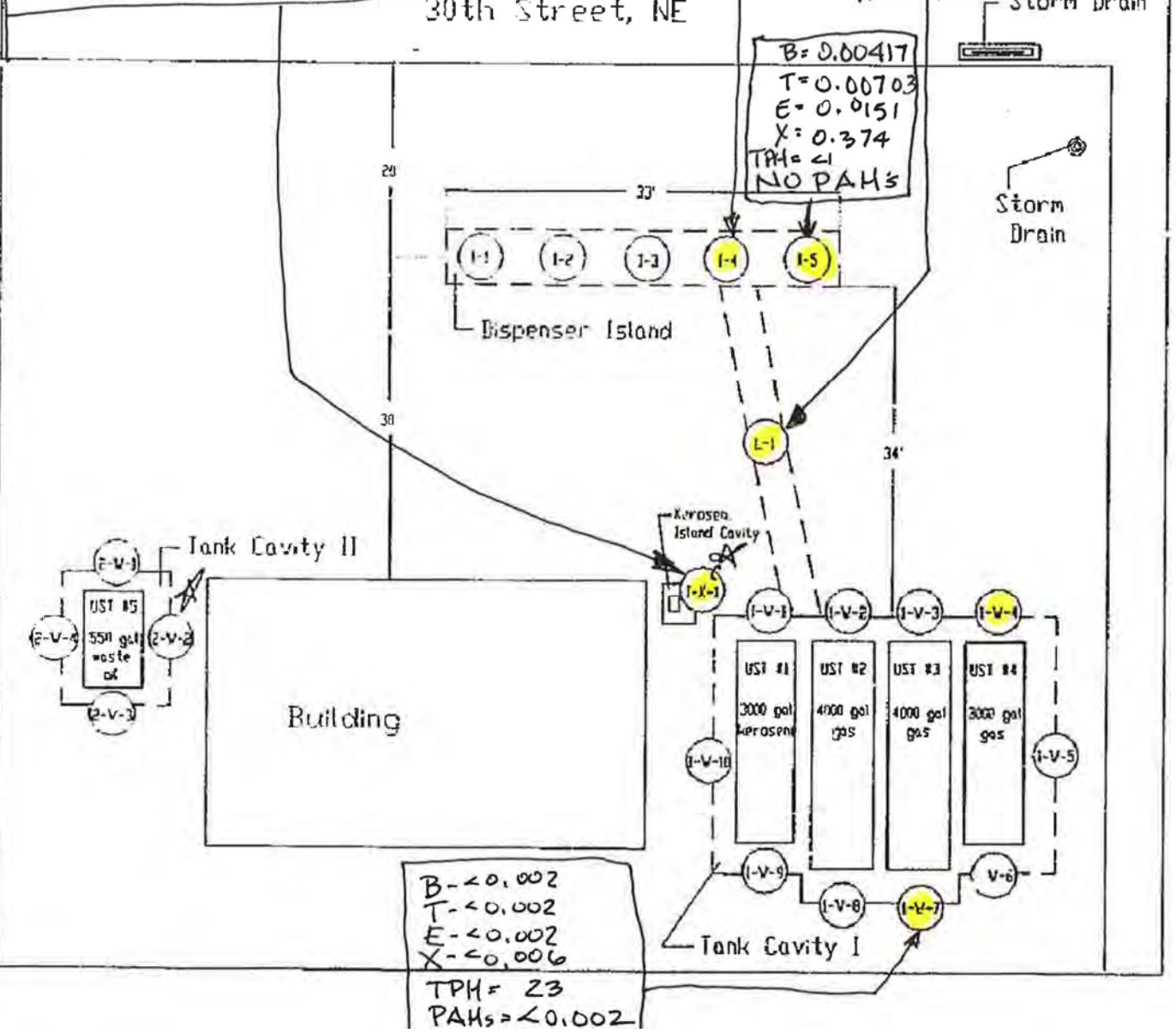


B < 0.002	ALs 0.015
T < 0.002	4.91
E < 0.002	4.55
X = 0.00816	15.7
TPH = 2270	1000
XXXXXXXXXXXX XXXX	
XXXXXXXXXXXX XXXX	
XXXXXXXXXXXX XXXX	
NAPHTHALENE 214	3.98

BTEX < 0.002
TPH = 86
PAHs < 0.002
CHRYSENE = 269

* Dimensions Approximate
* Highlighted samples submitted for lab analysis

B- 0.0158	.015
T- 0.0216	4.91
E- 0.0365	4.55
X 0.112	15.7
TPH < 1	1000

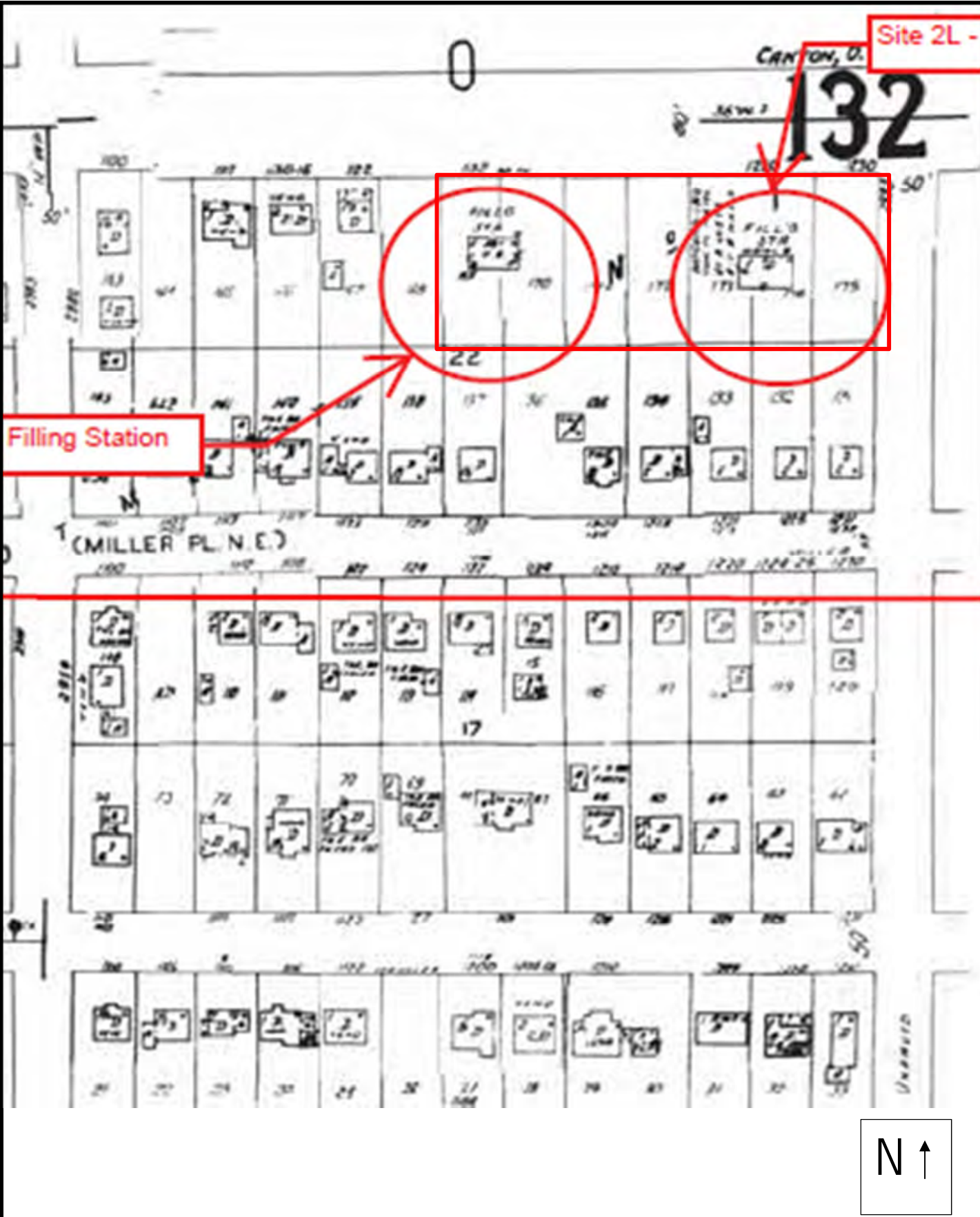


BUSTR Closure Assessment Site Plan
Site 2P Jeff's Millenium Used Cars Inc. 1430 30th Street NE
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049

Site 2L -

CANTON, O.
132



Filling Station

N ↑



1962 Sanborn Map
 Site 2L
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



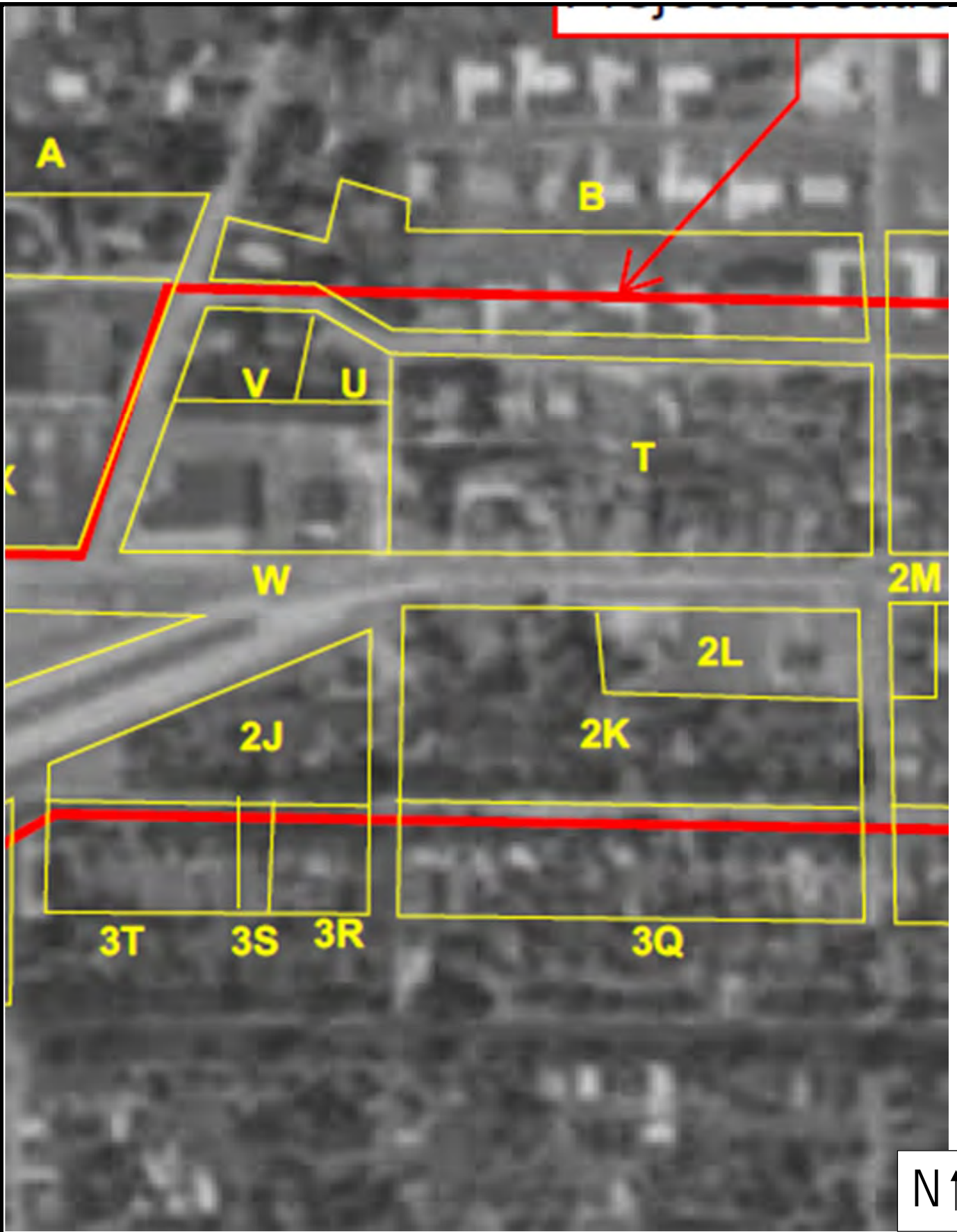
1950 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1957 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1966 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1970 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



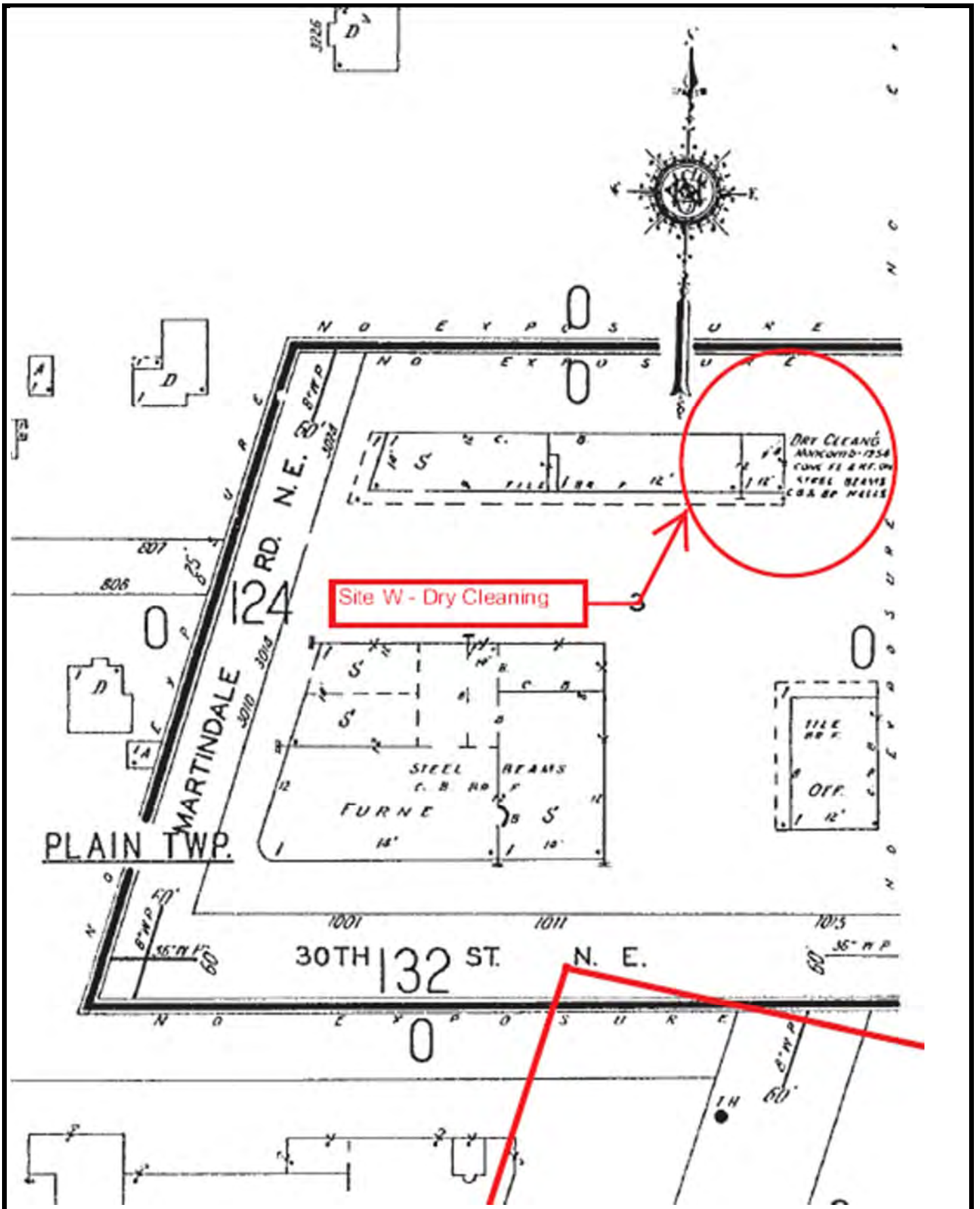
1982 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



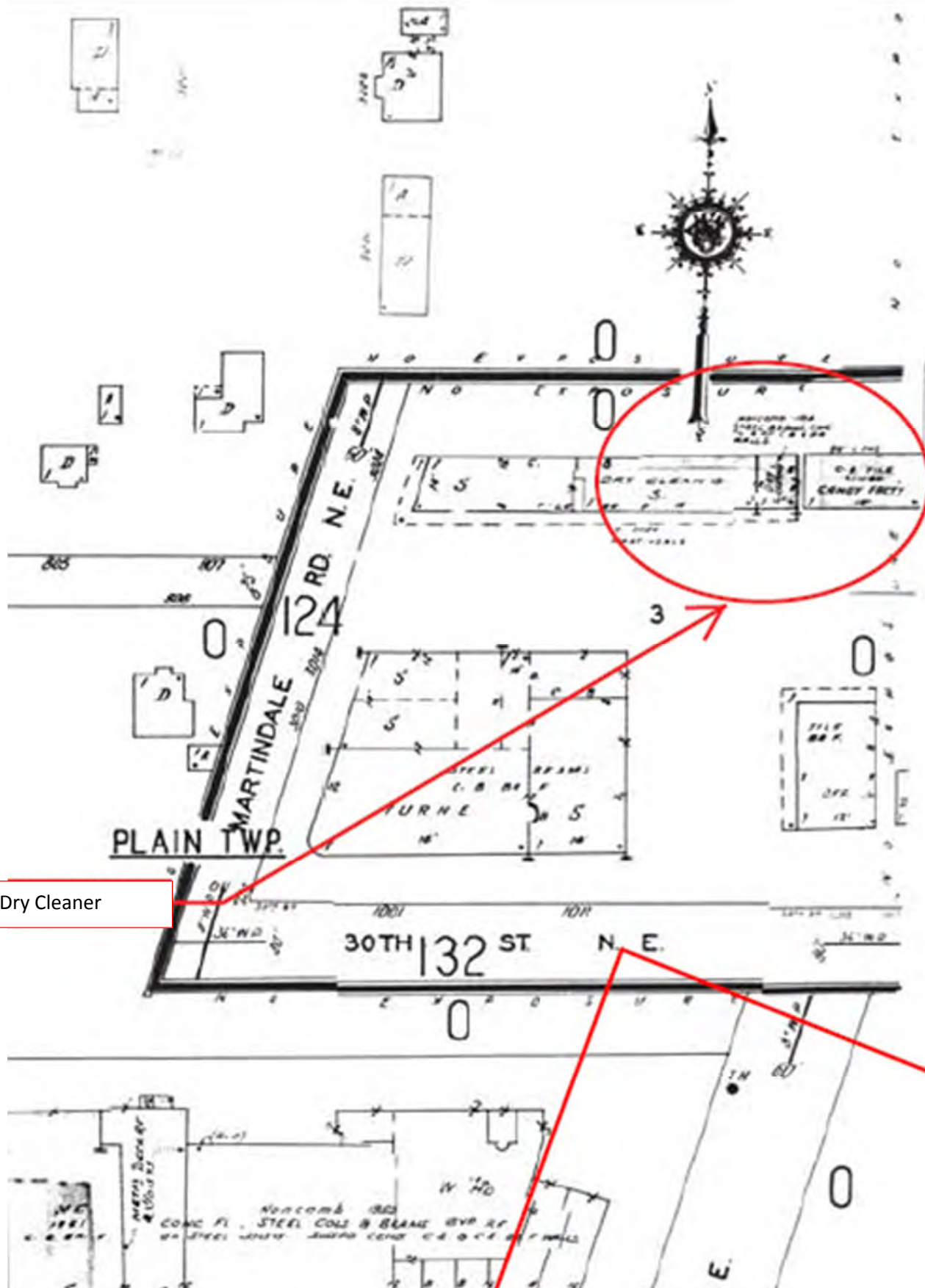
1994 Aerial Photograph
Sites 2L & W
STA-62-20.05 (PID 100824)
Canton, Stark County, Ohio

Project No.:
P403160049



1956 Sanborn Map
 Site W
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049

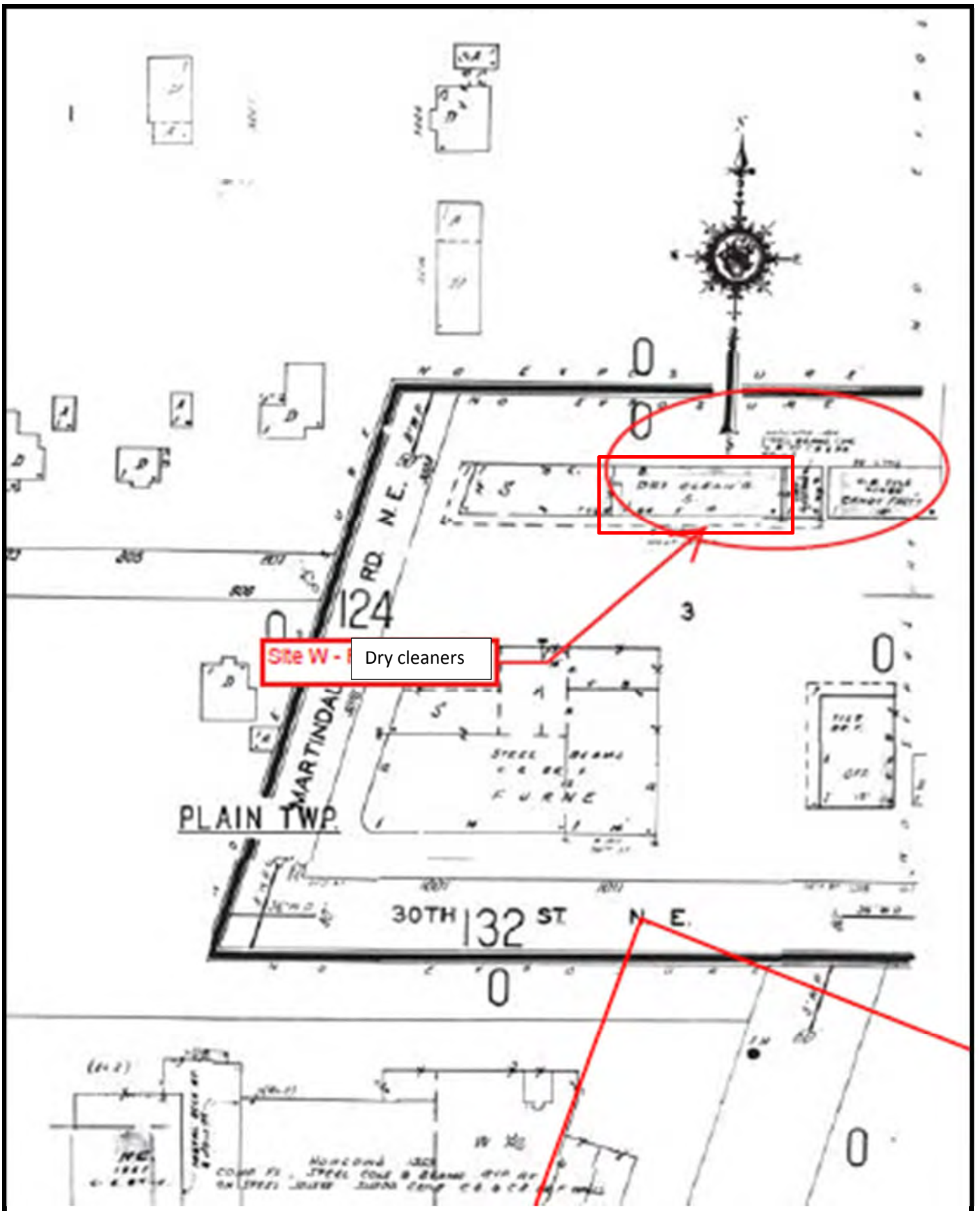


Dry Cleaner



1962 Sanborn Map
 Site W
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049



Site W - Dry cleaners



1966 Sanborn Map
 Site W
 STA-62-20.05 (PID 100824)
 Canton, Stark County, Ohio

Project No.:
 P403160049

APPENDIX C



Photo 1

Site W

1015 30th Street NE
Canton, OH 44714

Standing in SW corner
of Skill Games parking
lot looking NE at Skill
Games building



Photo 2

Site W

1013 30th Street NE
Canton, OH 44714

View of Tate's
Cleaners located on
the northern portion of
the site.

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 3

Site W

1015 30th Street NE
Canton, OH 44714

Standing in NE corner
of Skill Games parking
lot looking SW towards
Skill Games building



Photo 4

Site W

1017 30th Street NE
Canton, OH 44714

Standing at SE end of
Tate Cleaners building
complex looking NW
towards Tate Cleaners
complex

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 5
 Site W
 1001 30th Street NE
 Canton, OH 44714
 Standing at corner of
 30th Street and
 Martindale Road
 looking N along the
 West side of
 McKinney's Outlet
 building



Photo 6
 Site W
 1001 30th Street NE
 Canton, OH 44714
 Standing at corner of
 30th Street and
 Martindale Road
 looking E along the
 South side of
 McKinney's Outlet
 building

STA-62-24.05
 Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
 August 30, 2017

Project Number:
 P403160049



Photo 7

Site 2L

1132 30th Street NE
Canton, OH 44714

Standing in NW corner of Layland Motors' parking lot looking E along 30th Street, viewing Layland's parking lot and front of shop



Photo 8

Site 2L

1132 30th Street NE
Canton, OH 44714

Standing in NW corner of Layland Motors' parking lot looking S along Layland's West property line

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049

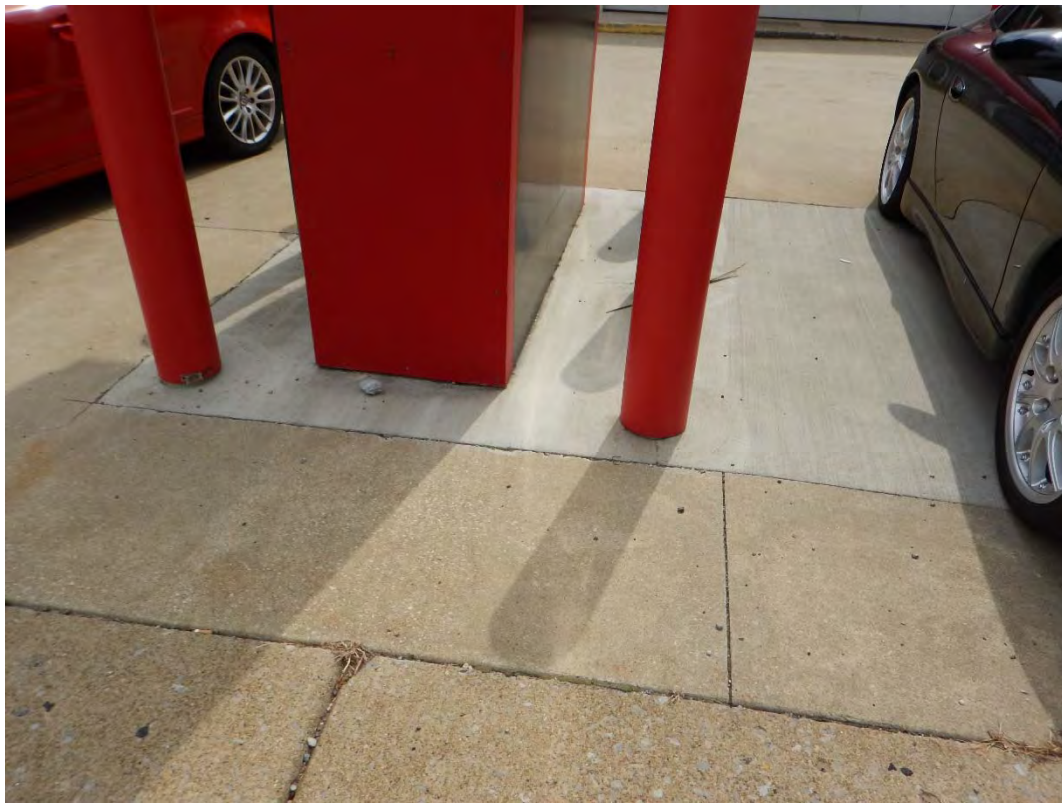


Photo 9

Site 2L

1132 30th Street NE
Canton, OH 44714

Standing at the base of the Layland Motors front sign in the N end of their parking lot looking S at the base of the sign and the newer concrete pad



Photo 10

Site 2L

1212 30th Street NE
Canton, OH 44714

Standing in the NW corner of the Capital Motors parking lot looking SE at the front of Capital Motors' building and parking lot

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 11

Site 2L

1220 30th Street NE
Canton, OH 44714

Standing in the NW corner of the old gas station parking lot looking SE towards the building and parking lot of the old gas station



Photo 12

Site 2L

1220 30th Street NE
Canton, OH 44714

Standing at the corner of 30th Street and Rowland Ave looking W towards the old gas station building and parking lot

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 13

Site 2P

1430 30th Street NE
Canton, OH 44714

Standing at corner of
30th Street and St
Elmo Ave looking W
towards the old pump
station and building



Photo 14

Site 2P

1430 30th Street NE
Canton, OH 44714

Standing in NW corner
of old gas station
parking lot looking SE
toward the old gas
station building

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 15

Site 2P

1430 30th Street NE
Canton, OH 44714

Standing in the SW corner of the gas station lot, on the W side of the building looking down at the possible location of old fuel tanks that have been removed



Photo 16

Site 2P

1430 30th Street NE
Canton, OH 44714

Standing in the SE corner of the gas station lot looking W towards the gas station building

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 17

Site 2V

1620 30th Street NE
Canton, OH 44714

Standing in NE corner
of the Warehouse5e lot
looking W along the
North front of the
Warehouse5e building
complex



Photo 18

Site 2V

1620 30th Street NE
Canton, OH 44714

Standing in NE corner
of Warehouse5e lot
looking S along the
East side of the
Warehouse5e building
complex

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 19

Site 2U

1600 30th Street NE
Canton, OH 44714

Standing in the NE
corner of the Canton
Fuel parking lot
looking SW towards
the Canton Fuel gas
station



Photo 20

Site 2U

1600 30th Street NE
Canton, OH 44714

Standing in the NW
corner of the Canton
Fuel parking lot
looking S towards the
gas station building

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 21

Site 2U

1600 30th Street NE
Canton, OH 44714

Standing in the NW
corner of the Canton
Fuel parking lot
looking SW towards
the vacant lot
neighboring the gas
station



Photo 22

Site N

1655 30th Street NE
Canton, OH 44714

Standing at the SE
corner of 30th Street
and Maple Ave looking
NW across 30th Street
towards Haidet's Auto
Glass

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 23

Site M

1703 30th Street NE
Canton, OH 44714

Standing at the SW corner of 30th Street and Maple Ave looking NE across 30th Street towards Tsangeos Jeweler



Photo 24

Site M

1703 30th Street NE
Canton, OH 44714

Standing on S side of 30th Street, SE of Tsangeos looking NW across 30th Street towards Tsangeos Jeweler

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 25

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the NW corner of the L.T. Associates' parking lot looking SE towards the L.T. Associates' building complex



Photo 26

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the N side of the L.T. Associates' parking lot looking SE towards the Repo-Depot trailer

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 27

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the NE corner of the L.T. Associates' parking lot looking S towards the N side of the Repo-Depot trailer



Photo 28

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the NE corner of the L.T. Associates' parking lot looking SW towards the L.T. Associates' building complex and parking lot

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049



Photo 29

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the SW corner of the L.T. Associates' lot looking E towards the L.T. Associate's building, viewing the open land in the SW corner of the lot



Photo 30

Site 2Y

1712 30th Street NE
Canton, OH 44714

Standing in the SW corner of the L.T. Associates' lot looking N towards 30th Street and entrance to L.T. Associates' parking lot

STA-62-24.05
Canton, Stark County, Ohio

PHOTO DOCUMENTATION



Date of Photograph:
August 30, 2017

Project Number:
P403160049

RECORD OF COMMUNICATION

DATE: September 14, 2017

TIME: 4:00 PM

BY: Scott Stewart

WITH WHO: John Tsanegos

Phone No.: 330-452-0929

OF: Tsanegos Jewelers

SUMMARY:

An interview with Mr. John Tsangeos (current owner) indicated that his family has owned the property since 1964. Mr. Tsangeos stated that he has lived in the neighborhood for 50 years. Mr. Tsangeos stated that when they moved in Arts generator service left generators on benches in the upper floor. Mr. Tsangeos stated that no USTs were present on the property to his knowledge and the generators were only refurbished upstairs between approximately 1959 and 1960. No stains were observed when they moved in. The lower level was used as a grocery store in the early 1950s. Natural gas was always used to fuel furnaces at the property.

Mr. Tsangeos indicated that the western adjoining site (Site N) was occupied with an Amco gasoline station in the 1960s that had a fire in the late 1970s.

Mr. Tsangeos indicated that the southern adjoining site (Site 2Y) was occupied with an Sohio gasoline station and became a used auto sales lot.

RECORD OF COMMUNICATION

DATE: September 19, 2017

TIME: 11:55 AM

BY: Scott Stewart

WITH WHO: Fire Inspector Scott Kelly

Phone No.: 330-492-4089

OF: Plain Township Fire Department

SUMMARY:

Mr. Kelly has been with the department for 38 years. Mr. Kelly stated that the file for the Warehouse LLC property at 1620 30th Street NE shows no USTs but an ammonia release in 1982 on the roof. The file shows the OEPA reported violations of paint cans, three 55-gallon drums of used oil, and a 55-gallon drum of "water" on the docks behind the building. Additionally, a glycol system not used behind the building is in violation of EPRCA. The glycol system is assumed to be from the cold system components.

Mr. Kelly did not have any information on file for 1701-1705 30th Street NE property (Tsanegos Jewelers). He does not remember any gasoline station at that location.

RECORD OF COMMUNICATION

DATE: June 6, 2017

TIME: 2:30 PM

BY: Scott Stewart

WITH WHO: Battalion Chief Kosch

Phone No.: 614-239-4089

OF: Port Columbus Fire Department

SUMMARY:

Mr. Kosch stated that there have been no spills or responses to the Property in the past 15 years. Prior to 1995, the Columbus Fire Department had jurisdiction on the airport property. The Dollar site was vacant for 10 years.

RECORD OF COMMUNICATION

DATE: September 20, 2017

TIME: 3:00 PM

BY: Scott Stewart

WITH WHO: Denny Szitti

Phone No.: 330-754-6801

OF: Property owner of 1132-1220 30th Street NE (Layland Motors, Capitol Motors, and Majestic Trailer & Hitch)

SUMMARY:

Mr. Szitti has owned the 1132 30th Street property since 1977. The property was purchased from a person that sold dishes out of the facility and removed the tanks and pumps before the property transfer. The building had two floor drains and two hydraulic lifts that were removed before an addition in 1985. No hydraulic oil was observed during construction. Minor maintenance is performed in the building with new motor oil stored in a 250-gallon AST and a self-contained parts cleaner used in the maintenance bays. The used motor oil is stored in drums and picked up by Akron Canton Waste Oil periodically. The parts cleaner is maintained by Safety Kleen periodically.

Mr. Szitti constructed the 1212 30th Street property in 1985. The building was constructed and used for auto sales only.

Mr. Szitti purchased the 1220 30th Street property in 1996 from Clear Water Systems. Clear Water Systems owned and occupied the building and property from 1987 to 1996. Clear Water Systems removed the tanks in 1987. Mr. Szitti indicated that he removed one single lift and one floor drain from the bay. No hydraulic oil was observed during construction.

RECORD OF COMMUNICATION

DATE: September 20, 2017

TIME: 4:30 PM

BY: Scott Stewart

WITH WHO: Greg McKinney part property owner

Phone No.: 330-385-1110

OF: McKinney Enterprises of Ohio Limited Co.

SUMMARY:

Mr. McKinney indicated that no gasoline stations have been located on the property to his knowledge. McKinney Enterprises purchased the property in 1997. No Phase I ESA was performed on the property.

RECORD OF COMMUNICATION

DATE: September 22, 2017

TIME: 4:30 PM

BY: Scott Stewart

WITH WHO: Victor Haidet property owner

Phone No.: 330-456-2509

OF: Haidet's Auto Glass

SUMMARY:

Mr. Haidet indicated that the property was purchased in 1982. As a condition of the sale the tanks were removed. The property was an auto sales lot and no pumps were visible. No Phase I ESA was performed on the property. One large tank and one small tank were located and removed from middle of the lot outside the existing front door. Mr. Haidet remembers that the tanks were empty and no odors were observed.

RECORD OF COMMUNICATION

DATE: September 20, 2017

TIME: 4:30 PM

BY: Scott Stewart

WITH WHO: Front counter employee

Phone No.: 330-456-5628

OF: Tate Cleaner

SUMMARY:

The employee indicated that a manager was not available and is unknown when the manager will be around to take a call. The employee stated that a still is onsite and the waste product is picked up by a company. The employee stated that Tate has been around for 45 years.

	Year								
Address (30 th Street)	2016	2006	1996	1985	1979	1970	1964	1960	1956
1701	Tsangeos	same	same	same	Family Coins	same	CM thrifty market	same	Not Listed
1655	Haidet Glass	same	same	same	TP Traders	Vacant Svc Sta	Maple and American Svc Sta	Amoco svc sta	Marge's Restaurant
1641	R. Haidet	same	vacant	Ed Okey	same	same	same	Same	Same
1001	McKinney Furniture	same	Hallmark Furniture	same	same	same	Cheton Furniture	Same	Vacant
1013	Tate Cleaners	same	same	same	same	LH Tate Jr.	Same	Same	Same
1015	Canton Drivers Exam	same	same	OH Highway Patrol	same	same	Same	Same	Same
1017	License Agency	same	same	Brown Dance School	Centurions Marching Troup	Freshwater Dance	Vacant Store Room	Bruce Candies	Not Listed
1132	Layland Motors and Repair	same	same	same	same	30 th Street Amoco	Vacant Store Room	JM Gotshall	Same
1212	Capitol Motors	Loseys Used Cars	All American Auto	Not Listed	same	same	Not Listed	Same	Not listed
1220	Majestic Trailer and Hitch	Tic Tac Challenge Gameroom	Clear H2O Systems	Standard oil	same	same	same	Walter McRobie	Not listed
1430	John's Auto Sales	same	Forrest Motors and repair	Ebey's Auto	Henson Amoco	Expressway American svc sta	RN Yoko	WD Shondrick	Not listed

1600	Canton Fuel Station	Not listed	Clark Super 100	same	same	same	Not Listed	Same	Not listed
1620	Beckett Pro Audio	Ohio China and Equipment Wholesale	Country Lane Foods and Meats	same	Biff's Steaks	same	Same	Same	Same
1712	Repo Depot Used Cars	UnClaimed Freight Salvage and Repo Depot	Repo Depot Used Cars	same	same	Vacant Store Room	Vacant Store Room	30 th Street Motel	B and B Service, 30 th Street Hotel

APPENDIX D

7630958-00

1430 30TH ST N.E.

SITE 2P-JEFF'S MILLENNIUM USED CARS



Ohio Department of Commerce

Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations

P.O. Box 687
Reynoldsburg, OH 43068-0687
Tel: (614) 752-7938 FAX: (614) 752-7942
www.com.state.oh.us

Bob Taft
Governor

Gary C. Sahadolnik
Director

April 2, 1999

DON COEN
THE COEN COMPANY
1900 19TH STREET NE
CANTON OH 44714

SITE FORMER EXPRESSWAY MOBIL/
JOHN'S ROUTE 62 AUTO SALES
1430 30TH STREET NE
CANTON OH
STARK COUNTY
INCIDENT # 7630958-00

RE **NO FURTHER ACTION STATUS** REGARDING CORRECTIVE ACTION REQUIREMENTS

Dear Mr. Coen

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed all information submitted for this incident number. Based on this information, BUSTR requires no further action involving corrective action under Ohio Administrative Code 1301.79-13.

Thank you for your cooperation. If you have any questions, please contact Tim Lutz at (614) 752-7938.

Sincerely,

Kelly J. Gill
Corrective Action Supervisor

KJG:tal

cc Site File
Chief Joseph Concalto, Canton Fire Department
Robert L. Somrak, Stark County Health District
John Fuller, John's Route 62 Auto Sales, Inc.

SITE LISTING UPDATE FORM

EXISTING INCIDENT #: 7:6:30:9:5:8:CC

FACILITY NAME: EXPRESSWAY MURIL NEW FACILITY INFO? YES NO
(Update on back)

[1] REASON FOR LISTING UPDATE

- [1] Written report/results received from owner/operator. S/A REC'D.
- [2] Verbal report/results received from owner/operator.
- [3] Written report received from BUSTR contractor.
- [4] Information collected from BUSTR field examination/inspection.
- [5] Change in site coordinator/contractor assignment.
- [6] Change/delete existing incident number - explain change in remarks section [5].
- [7] Create new incident number for additional suspected facility/location.
- [8] Orders issued.
- [9] Other:

[2] NEW SITE LISTING DATA

INCIDENT #: _____

REPORT NUMBER _____ FAC TRK# _____ SPAC _____
 EMERGENCY RESPONSE. YES NO BY: _____ FH (_____) OSPA USEPA
 STATUS. RPT SUS DIS CON ICA ICR ICC SAS SAC CAS CAP NFA
 PRIORITY. 1* 2
 CLASSIFICATION: A B C D LTF ELIGIBILITY: (CIRCLE) 2 6 OTHER
 SITE COORDINATOR: _____

*** [3] SITE SUMMARY (UPDATE FOR ALL PRIORITY 1 SITES)**

(First sentence - why is it a 1? Second sentence - who is doing what at this time)

SITE ASSESSMENT RECEIVED 12/17/98. BOPINES INSTALLED IN HOT SPOT AREAS FROM 1993 CLOSURE. SB-1 SOILS ABOVE ACTION LEVEL 7 FH ONLY. BEDROCK LN SITE FROM 5'-10' DEPTH, NO MW INSTALLED. PMP LETTER SENT TO OWNER THIS DATE.

[5] SITE MANAGEMENT REMARKS

(BUSTR actions needed/taken, reports expected, etc.)

[6] FOLLOW-UP BUSTR ACTIONS/ASSIGNMENT

(For use by supervisor)

UPDATE SUBMITTED BY: [Signature] DATE: 12/17/98
 APPROVED: [Signature] DATE: 12/28/98 ENTRY: _____ DATE: _____



FLYNN ENVIRONMENTAL, INC.

401 CLARENDON AVENUE N.W. • CANTON, OH 44708 • 330 452 9409 • FAX 330 452-3508

December 29, 1998

Mr. Don Coen
Coen Company
1960 19th Street
P.O. Box 9022
Canton, Ohio 44711-9022
Tel: (330) 452-2298
Fax: (330) 452-2398

RE: Remedial Activities
John's Route 62 Auto Sales
(Former Expressway Mobil)
1430 30th Street N.E.
Canton, Ohio 44705
BUSTR Facility #7630958

Dear Mr. Coen:

Mr. Tim Lutz from the Bureau of Underground Storage Tank Regulations contacted me on Monday December 28, 1998, regarding the remedial activities for John's Route 62 Auto Sales. To expedite remedial activities more efficiently, Mr. Lutz recommended a letter of request for over excavation of the former waste oil tank cavity in lieu of a Remedial Action Plan and public notice for the subject site.

Enclosed three (2) copies of the request letter for the over excavation of the site referenced above. Please sign on the page indicated and forward one copy of the letter to the Bureau of Underground Storage Tank Regulations (BUSTR) at the following address:

BUSTR
P.O. Box 687
Reynoldsburg, Ohio 43068-9009
ATTN: Mr. Tim Lutz

Please contact us at (800) 690-9409 if you have any questions or comments. Thank you for using Flynn Environmental.

Sincerely,

Carol Richardson
Environmental Technician

Enclosures



Ohio Department of Commerce

Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
P O Box 687
Reynoldsburg, OH 43068-9009
(614) 752-7938 FAX (614) 752-7942

George V. Voinovich
Governor

Donna Owens
Director

December 18, 1998

DON COEN
THE COEN COMPANY
1900 39TH ST NE
CANTON OH 44714

SITE FORMER EXPRESSWAY MOBIL
1430 30TH ST NE
CANTON OH
STARK COUNTY
INCIDENT # 7630958-00

RE REMEDIAL ACTION PLAN REQUEST

Dear Mr. Coen

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your report titled "Phase II Site Assessment" dated November 12, 1998. BUSTR determined that the full extent of soil and/or ground water contamination, on-site and off-site, appears to have been defined. You are required to submit a remedial action plan as prescribed in Ohio Administrative Code 1501.79-1315 and explained in BUSTR's *Corrective Action Guidance Document*. These documents describe the information which is to be submitted to BUSTR in the remedial action plan. You must submit the remedial action plan within 90 days of the date of this letter.

All excavated soils shall be managed as petroleum contaminated soils (PCS) unless laboratory analysis indicates otherwise. Underground storage tank owners and/or operators are therefore requested to complete and submit the enclosed "Soil Disposal/Treatment Notification Form". The completion of this form, along with all applicable supporting information and documentation, will allow the BUSTR staff to verify proper PCS disposal. A separate form must be completed for each soil pile or containerized soil group.

An order form is enclosed to assist you in obtaining the documents described in this letter and other publications which may help you understand the requirements for compliance with BUSTR's rules and regulations.

Thank you for your cooperation. If you have any questions, please contact me at (614) 752-7938.

Sincerely,

Tim A. Lutz
Environmental Specialist

Enclosures

cc Sue File
Carol Anne McConnell, PUSTRCB
Chief John Sabo, Plain Twp Fire Department
Robert L. Somrak, Stark County Health District

ROUTING AND CONCURRENCE SLIP

INCIDENT #	71,30958-50	DATE AUTHOR PREPARED	12/17/98	
DATE OF REQUEST		PROOF AND/OR CONCUR	DATE	INITIAL
NAME OF SITE		PIA NAME		
REQUESTED BY		AUTHOR NAME	12/17	TAL
ROUTE FROM		SUPERVISOR NAME		
ROUTE TO		ROUTE TO		
ROUTE TO		ROUTE TO		
COORDINATOR NAME	LUTZ	ROUTE TO		
	PREPARE A RESPONSE			
	STATUS UPDATE			
	FYI			
RESPOND BY DATE				
SUBMITTER NAME	RAP	DATE LETTER MAILED	12/17	TAL
REMARKS				

Telephone MEMORANDUM

INCIDENT # 7630958 02	DATE: September 8, 1998	TIME: 1:58 pm
NAME DAVID MACKAY	TELEPHONE NUMBER: 330-489-5698	
AGENCY KEY BANK	TITLE	
ADDRESS	CITY, STATE & ZIP	
SUBJECT CLOSURE ASSESSMENT FOR SITE		

NOTES & SUMMARY

Mr. Mackay wanted to know if the site was cleaned up? I told Mr. Mackay that this company had filed bankruptcy and the site needed cleaned up. The closure from 1993 was well above a .tion: levels. He was concerned that if the bank loaned money that they would be responsible for a clean up. I told him Coen Oil is liable to us for the clean up and only Coen Oil.

BUSTR Staff Member: LUTZ

FAX COVER PAGE

Key Bank Small Business
126 Central Plaza North
Canton, OH 44702

FROM: David G. Mackey

PHONE: (330) 489-5698

FAX: (330) 430-7631

TO: SUE - File Room

FAX: (614) 752-7942

TOTAL NUMBER OF PAGES INCLUDING COVER: _____

I need to know if you have the Environmental Report (Closure Assessment) for Expressway Mobile dated July 27, 1993. Here is the file info:

EXPRESSWAY MOBIL
1430 30th Street, NE
Canton, Ohio
COUNTY: STARK

Incident #: 7630953-00

Please let me know if you have the report in file, or how I can get this to you to see if this satisfies all necessary requirements.

Thanks,

David G. Mackey
David G. Mackey



Ohio Department of Commerce

George V. Voinovich, Governor

Donna Owens, Director

Division of State Fire Marshal • Bureau of Underground Storage Tank Regulations
9221 Ravenna Road, Suite D7-D8 • Twinsburg, OH 44087 • (216) 425-9848

July 14, 1994

Don Coen
The Coen Company
2207 Kimball Rd. S.E.
Canton, OH 44701

RE: Expressway Mobil
1430 30th Street N.E.
Canton, OH 44705
Stark County
Incident #7630958-00

Dear Mr. Coen:

Based on the fact that residual contamination remains above action levels following a site check or closure assessment, you are required to perform a site assessment to define the vertical and horizontal extent of soil and groundwater contamination on-site and off-site.

The on-site assessment shall be completed and the report received by the Fire Marshal within 180 days of reporting the release or suspected release.

Within 45 days of discovery of possible off-site contamination, an effort to secure off-site access shall be attempted by the owner and operator. If access is denied, a letter report shall be received by the Fire Marshal within this 45-day period which describes the efforts and the reasons why access was denied. Once off-site access is gained, the owner and operator shall define the full extent of the contamination. A letter report shall be received by the Fire Marshal within this second 45-day period with a detailed timetable for completion of the delineation.

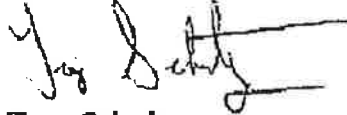
When compiling information from your assessment activities, refer to OAC §1301:7-9-13(1)(3) and the Corrective Action Guidance Document for all data required in your report. Attached to this letter is a checklist and an order form for ordering guidance material to assist in the preparation of your report.

To assist our office in expediting a review of your assessment report, please be advised that all required information must be submitted in report form. Also, please place the incident number (7630958-00) in the upper right-hand corner of all documents and reports.

Don Coen
Page 2
July 14, 1994

Thank you for your cooperation. If you have any questions regarding this matter, please call me at (216) 487-1188.

Sincerely,



Troy Schultz
Site Coordinator

TS:sk

Attachment

cc: File #7630958-00
Chief John A. Sabo, Plain Township Fire Department
Robert Somrak, Stark County Health Department

SITE LISTING UPDATE FORM

EXISTING INCIDENT #: 76309-5-00

UPDATE.001 REV 8/89

FACILITY NAME: Fugate Valley

NEW FACILITY INFO? YES [X] NO

(1) REASON FOR LISTING UPDATE

- (1) Written report/results received from owner/operator.
(2) Verbal report/results received from owner/operator.
(3) Written report received from BUSTR contractor.
(4) Information collected from BUSTR field examination/inspection.
(5) Change in site coordinator/contractor assignment.
(6) Change/delete existing incident number - explain change in remarks section [5].
(7) Create new incident number for additional suspected facility/location.
(8) Orders issued.
(9) Other:

(2) NEW SITE LISTING DATA

INCIDENT #: REPORT NUMBER FAC TRKG# SPRC

EMERGENCY RESPONSE: YES NO BY: FN () DEPA USEPA

STATUS: RPT SUS DIS COM ICA ICR ICC SAS SAC CAS CAP NFA

PRIORITY: 1* 2

CLASSIFICATION: A E C D LTF ELIGIBILITY: (CIRCLE) 1 2 6 OTHER

SITE COORDINATOR:

* (3) SITE SUMMARY (UPDATE FOR ALL PRIORITY 1 SITES)

(First sentence - why is it a 1? Second sentence - who is doing what at this time)

(4) NEW EXCEPTION REPORT DATA

SAS 7, 2, 1, 2, 1, 2

- (1) State plans to obligate over \$100,000 at a site.
(2) State actually obligated over \$100,000 at a site (cumulative expenses exceeded \$100,000 this quarter).
(3) State plans to use innovative or experimental technology at the site.
(4) State plans to provide permanent alternative drinking water supply.
(5) State plans to permanently relocate residents.
(6) State reached/received cost recovery settlement; amount:

(5) SITE MANAGEMENT REMARKS

(BUSTR actions needed/taken, reports expected, etc.)

100... - 7 LA
... - 720 P 2274...

(6) FOLLOW-UP BUSTR ACTIONS/ASSIGNMENT

(For use by supervisor)

UPDATE SUBMITTED BY: T. Sch... DATE: 6/27/94

JUN 29 1994

APPROVED: [Signature] DATE: 6/27/94 ENTRY: [Signature]



FLYNN ENVIRONMENTAL, INC.

2207 KIMBALL ROAD S.E. • P.O. BOX 20263 • CANTON OH 44701-0263 • 216-452-9409 • FAX 216-452-3508

Underground Storage Tank
Closure Assessment
of
Expressway Mobil
1430 30th Street, N.E.
Canton, Ohio

Underground Storage Tank
Closure Assessment
of
Expressway Mobil
1430 30th Street, N.E.
Canton, Ohio 44705

Prepared for:

Mr. Dan Coen
Maintenance Supervisor
The Coen Company
2207 Kimball Road, S.E.
Canton, Ohio 44701

Prepared by:

Michael J. Flynn
Flynn Environmental, Inc.
2207 Kimball Road, SE
PO Box 20263
Canton, Ohio 44701

Tank Removal Date
July 26, 1993

Soil Sampling Date
July 27, 1993

Introduction

Flynn Environmental, Inc. performed an underground storage tank (UST) closure site assessment at Expressway Mobil located at 1430 30th Street, N.E., Canton, Ohio, 44705.

The owner of the UST systems at this location is The Coen Company, located at 2207 Kimball Road, S.E., Canton, Ohio 44701.

The fire safety inspector on site during the UST removals was Mr. Troy Slabaugh, Fire Safety Inspector with Plain Township Fire Department, 2600 Easton Street, N.E., North Canton, Ohio, telephone (216) 492-4089.

The general contractor overseeing the project was Mr. Ed Bell with TankPro, telephone (216) 848-9166, located at 4870 Hametown Road, Norton, Ohio 44203.

The excavating contractor who removed the UST systems was Mr. Ed Bell with TankPro.

The certified UST installer on site during the tank removals was Mr. Ed Bell, I.D. #10-90-0714.

The owner is responsible for forwarding one copy of this report, as soon as possible, to:

The Ohio State Fire Marshal
BUSTR
Attention: UST Closure Specialist
8895 East Main Street
PO Box 687
Reynoldsburg, OH 43068-0687

The UST owner, or responsible party, as required by the Environmental Protection Agency Rule #40 CFR, Part 280-74, must keep a copy of this document and other pertinent records, such as:

- * The 30 day letter to the State Fire Marshal's BUSTR;
- * The permit from the local or state officials;
- * The closure assessment report;
- * Records indicating the methods of disposal and locations of disposal for tanks, soil, liquids, sludges, and other contaminated waste materials generated during closure.

Project Background

The UST closure plan for Expressway Mobil located at 1430 30th Street, N.E., Canton, Ohio, addressed the removal of five (5) USTs situated in two (2) tank cavities.

Tank #1 was a three thousand (3,000) gallon kerosene tank located in the western part of tank cavity I.

Tank #2 was a four thousand (4,000) gallon gasoline tank located in the middle of tank cavity I.

Tank #3 was a four thousand (4,000) gallon gasoline tank located in the eastern part of tank cavity I.

Tank #4 was a three (3,000) thousand gallon gasoline tank located in the eastern part of tank cavity I.

Tank #5 was a five hundred fifty (550) gallon waste oil tank located in tank cavity II.

The tanks did not have identification tags that would indicate when they were manufactured. However, it is estimated that the USTs are a least twenty (20) years old. All the USTs except the waste oil were fiberglass lined.

In addition to the tanks noted above, there was one dispenser island on the site located approximately thirty five feet (35') north of the tank cavity.

Site Specifics

Much of the surficial material at the site consists of shale. The site is located in a commercial area and is serviced by the City of Canton's water system.

Visual Site Evaluation

A visual site evaluation was performed prior to the excavation of the UST systems. Surface stains were observed around the waste oil fill-pipe opening.

Project Activities

On July 2, 1993, tank #1, a three thousand (3,000) gallon UST; tank #2, a four thousand (4,000) gallon UST; tank #3, a four thousand (4,000) gallon UST; tank #4, a three thousand (3,000) gallon UST; tank #5, a five hundred fifty (550) gallon UST; and one (1) dispenser island were removed from the site.

The visually contaminated soil was removed from the tank cavities and the cavities were excavated to its rock perimeter. At this point, near non-detectable readings were achieved on the photoionization detector (PID). The total volume of the contaminated backfill material has been stockpiled at the site for on-site remediation.

Bedrock at this site is encountered at 5' below grade and the cavities are 10' deep. Therefore, the UST cavities have solid rock floors and walls.

Soil Sampling

Soil sample locations and PID readings are described below (also see following site map):

Sample #	Description	Response
Tank Cavity I:		
1-W-1	2' Into the northern wall of the tank cavity 5' below grade	3 PPM
1-W-2	1' Into the northern wall of the tank cavity 5' below grade	4 PPM
1-W-3	1' Into the northern wall of the tank cavity 5' below grade	6 PPM
* 1-W-4	1' Into the northern wall of the tank cavity 5' below grade	16 PPM
1-W-5	1' Into the eastern wall of the tank cavity 5' below grade	15 PPM
1-W-6	1' Into the southern wall of the tank cavity 5' below grade	1 PPM
* 1-W-7	1' Into the southern wall of the tank cavity 5' below grade	16 PPM
1-W-8	1' Into the southern wall of the tank cavity 5' below grade	12 PPM
1-W-9	1' Into the southern wall of the tank cavity 5' below grade	8 PPM
1-W-10	1' Into the western wall of the tank cavity 5' below grade	14 PPM

Line Cavity:

* L-1	1' Below the line cavity, 2' below grade	20 PPM
-------	---	--------

Island Cavity:

<u>Sample #</u>	<u>Description</u>	<u>Response</u>
I-1	1' Below the island cavity 3' below grade	20 PPM
I-2	1' Below the island cavity 3' below grade	12 PPM
I-3	1' Below the island cavity 3' below grade	13 PPM
I-4	1' Below the island cavity 3' below grade	11 PPM
* I-5	1' Below the island cavity 3' below grade	29 PPM
* I-K-1	1' Below the kerosene island cavity 3' below grade	16 PPM

Tank Cavity II:

2-W-1	1' Into the northern wall of the tank cavity 5' below grade	2 PPM
* 2-W-2	1' Into the eastern wall of the tank cavity 5' below grade	4 PPM
2-W-3	1' Into the southern wall of the tank cavity 5' below grade	1 PPM
2-W-4	1' Into the western wall of the tank cavity 5' below grade	4 PPM

* Samples submitted for laboratory analysis.

Soil Sampling Procedures

All soil samples were collected by Michael J. Flynn, who is trained and experienced in the sampling and record keeping techniques required by the State of Ohio. Sample collection was witnessed by Mr. Thomas McCallin with Plain Township Fire Department.

The soil samples were taken from the indigenous soil and collected in such a way as to not disturb the residue of any petroleum products within. A hand-held, two (2) inch AMS Core Sampler was used for collection. Care was taken to scrape away the first three (3) or four (4) inches of soil prior to sample collection.

Two (2) discrete soil samples were collected from each soil sample collection point. One (1) of these soil samples was field screened, the other sample was placed on ice in a cooler until relinquished at the laboratory.

A photoionization detector (PID) was used to screen soil samples. The PID used was manufactured by HNU Systems Inc., Model HW-101, with a 10.2EV lamp, Serial #9703. The instrument was calibrated with a benzene span setting of 9.8 and a range of 0 to 2,000 parts per million (ppm) on July 26, 1993. Samples were screened using the head space sampling technique.

The samples were sealed in appropriate two hundred fifty (250) milliliter glass containers provided by CasChem Laboratories. The jars were capped with Teflon lids and appropriately labeled and officially sealed at the site. A CasChem Lab Chain-of-Custody Record was completed at the time the sample jars were sealed. The jars were placed in a cooler with ice packs and kept cool until time of delivery to the laboratory. The samples with non-detectable results were analyzed using the lowest possible quantitation limit listed for the sample matrix (i.e., soil, water, etc...).

Summary of the Assessment and Recommendations

TankPro did an excellent job cleaning up the site. All of the visual contamination has been removed from the UST excavation zone at this site. The excavation zone was over-excavated until near non-detectable levels were achieved on a PID. The analytical results also show near non-detectable readings in the soil samples.

Method and Location of Disposal of the UST

The USTs were defumed and cut up for scrap iron recycling.

Method and Location of Disposal of the Contaminated Soil from this Site

Contaminated soil was stockpiled at this site for on-site remediation.

Method and Disposal Location of the Residual Liquids within the UST

All fluids were completely removed from the USTs prior to their exhumation.

Method and Disposal Location of the Residual Liquids within the UST Excavation Zone

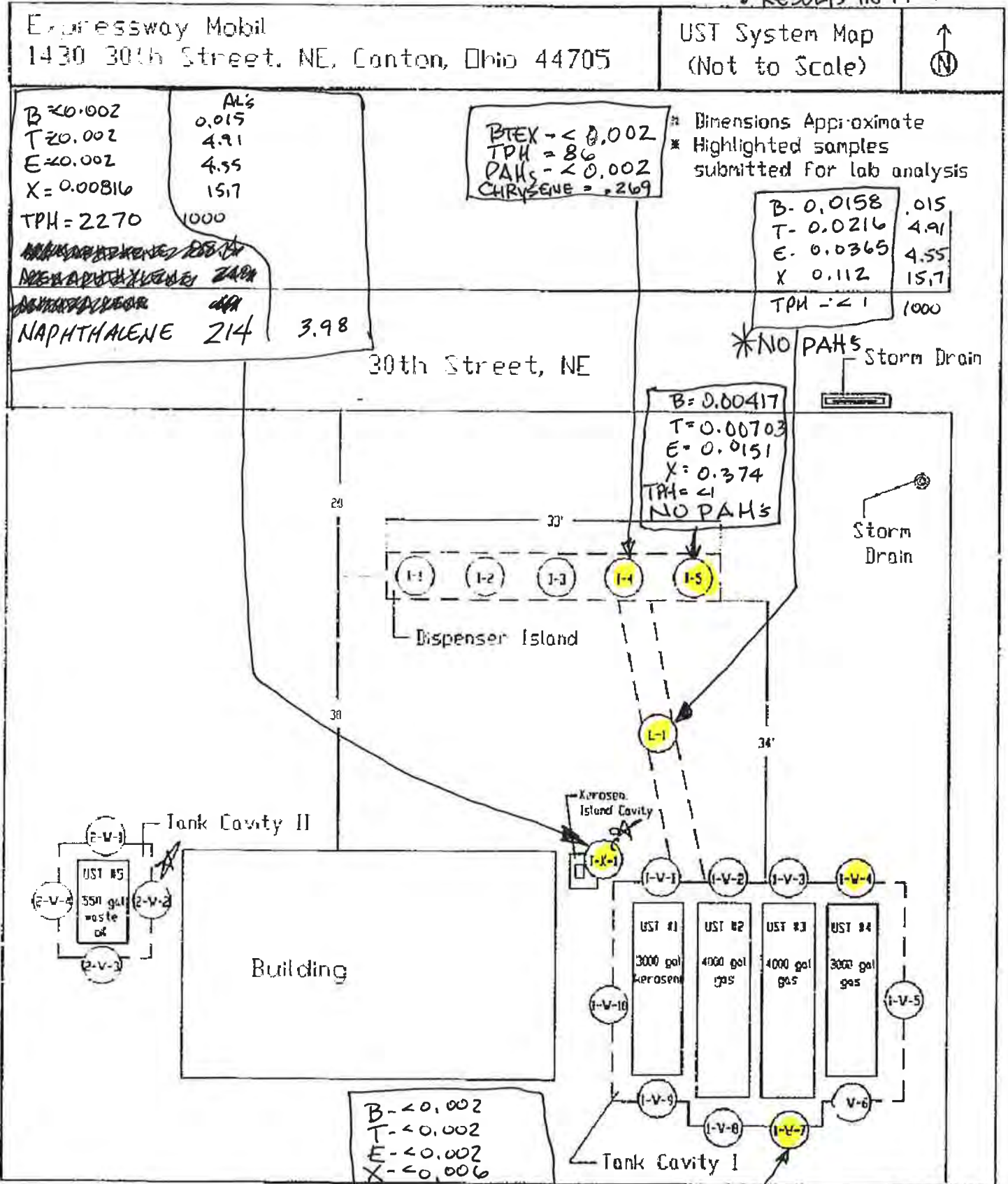
Groundwater was not present within the UST excavation zones. during the UST closure.

Method and Disposal Location of Residual Sludges from within the UST

Residual sludges were placed in steel drums for disposal.

SAMPLE SITE PLAN

- NO MTBE ANALYZED
- RESULTS IN PPM



ANALYTICAL RESULTS

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-6412

08/10/93

Laboratory Analysis Report

Client ID: 2202

Sample ID: EXPRESSWAY MOBLE

Sample Description:

1-W-4 GRAB 1' INTO NORTH WALL

Comment:

K. C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Purchase Order No.:

Date Sampled: 7-27-93

Time Sampled: 13:50

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307905	BETX (B020) 1PX (9071, 418.1)		DRY	WEIGHT	
	BETX CAL. 7-9-93				
	BENZENE	<2	ug/kg	2 ug/kg	07/29/93
	TOLUENE	<2	ug/kg	2 ug/kg	07/29/93
	ETHYLBENZENE	<2	ug/kg	2 ug/kg	07/29/93
	XYLENES	<6	ug/kg	6 ug/kg	07/29/93
	TOTAL PETROLEUM HYDROCARBONS CALB. 7-20-93	86	mg/kg DRY	10 mg/kg	08/02/93
	POLYNUCLEAR AROMATIC HYDROCARBONS (B100)		SEE	REPORT	08/10/93

DATE REPORTED: 08/10/93 TIME REPORTED: 10:39:42

RECEIVED BY:  (fax) (mail) phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705

08/10/93

QUALITY CONTROL REPORT

Client ID: 2202

Lab Number: 9307305

Sample Description:

1-W-4 GRAB 1' INTO NORTH WALL

Comment:

K.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Purchase Order No.:

Test	-----DUPLICATE ANALYSIS-----		-----MATRIX SPIKE RESULT-----		-----SURROGATE SPIKE RESULT-----		
	Result1 Units	Result2 Units	Average Spike Amt Units	Net Found Units	%Rec Spike Amt Unit	Net Found Unit	%Rec.
	BP1	BPV	ug	ug	308.ug	259.7ug	86.57

CASCHEM LABORATORIES, INC.

Customer: FLYNN ENVIRONMENTAL,
INC.

Sample ID: EXPRESSWAY
MOBILE

Sample Description:
1-W-4 GRAB 1' INTO NORTH WALL

Comment:

LAB NUMBER: 9307905

Date Sampled: 7-27-93
Time Sampled: 13:50

POLYNUCLEAR AROMATIC HYDROCARBONS
EPA METHOD NO. 8100

<u>COMPOUND</u>	<u>RESULTS (UG/KG)</u>	<u>FRACTICAL QUANTITATION LIMITS (UG/KG)</u>
1. ACENAPHTHENE	<200	200
2. ACENAPHTHYLENE	<200	200
3. ANTHRACENE	<200	200
4. BENZO(A) ANTHRACENE	<200	200
5. BENZO(A) PYRENE	<200	200
6. BENZO(B) FLUORANTHENE	<200	200
7. BENZO(GHI) PERYLENE	<200	200
8. BENZO(K) FLUORANTHENE	<200	200
9. CHRYSENE	269	200
10. DIBENZO(A, H) ANTHRACENE	<200	200
11. FLUORANTHENE	<200	200
12. FLUORENE	<200	200
13. INDENO(1, 2, 3-CD) PYRENE	<200	200
14. NAPHTHALENE	<200	200
15. PHENANTHRENE	<200	200
16. PYRENE	<200	200

ANALYSIS DATE: 8-10-93

CALIBRATION DATE: 7-29-93

CASCHEM LABORATORIES, INC.
 1712 11TH STREET, N.E.
 CANTON, OHIO 44705
 Phone (216) 588-TEST FAX:(216) 588-8412

08/10/93

Laboratory Analysis Report

Client ID: 2202
 Sample ID: EXPRESSWAY MOBLE
 Sample Description:
 1-W-7 GRAB 1' INTO SOUTH WALL
 Comment:

R.C. FLYNN
 FLYNN ENVIRONMENTAL, INC.
 2207 KIMBALL RD. SE, BOX 9022
 CANTON OH 44711

Purchase Order No.:

Date Sampled: 7-27-93
 Time Sampled: 13:31

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307906	BETX(8020)TPH(9071, 418.1) BETX CAL. 7-9-93		DRY	WEIGHT	
	BENZENE	<2	ug/kg	2 ug/kg	07/29/93
	TOLUENE	<2	ug/kg	2 ug/kg	07/29/93
	ETHYLBENZENE	<2	ug/kg	2 ug/kg	07/29/93
	KYLENES	<6	ug/kg	6 ug/kg	07/29/93
	TOTAL PETROLEUM HYDROCARBONS CALB. 7-20-93	23	mg/kg DRY	10 ug/kg	08/02/93
	POLYNUCLEAR AROMATIC HYDROCARBONS (8100)		SEE	REPORT	08/10/93

DATE REPORTED: 08/10/93

TIME REPORTED: 10:42:47

REPORTED BY

[Signature]

fax

mail

phone

CASCHEM LABORATORIES, INC.

Customer: FLYNN ENVIRONMENTAL, INC. Sample ID: EXPRESSWAY MOBLE

Sample Description:
I-W-7 GRAB 1' INTO SOUTH WALL

LAB NUMBER: 9307906

Comment:

Date Sampled: 7-27-93
Time Sampled: 13:31

POLYNUCLEAR AROMATIC HYDROCARBONS
EPA METHOD NO. 8100

<u>COMPOUND</u>	<u>RESULTS</u> <u>(UG/KG)</u>	<u>PRACTICAL</u> <u>QUANTITATION</u> <u>LIMITS (UG/KG)</u>
1. ACENAPHTHENE	<200	200
2. ACENAPHTHYLENE	<200	200
3. ANTHRACENE	<200	200
4. BENZO (A) ANTHRACENE	<200	200
5. BENZO (A) PYRENE	<200	200
6. BENZO (B) FLUORANTHENE	<200	200
7. BENZO (GHI) PERYLENE	<200	200
8. BENZO (K) FLUORANTHENE	<200	200
9. CHRYSENE	<200	200
10. DIBENZO (A, H) ANTHRACENE	<200	200
11. FLUORANTHENE	<200	200
12. FLUORENE	<200	200
13. INDENO (1, 2, 3-CD) PYRENE	<200	200
14. NAPHTHALENE	<200	200
15. PHENANTHRENE	<200	200
16. PYRENE	<200	200

ANALYSIS DATE: 8-10-93

CALIBRATION DATE: 7-29-93

CASCHEM LABORATORIES, INC.
 1712 11TH STREET, N.E.
 CANTON, OHIO 44705
 Phone (216) 588-TEST FAX:(216) 588-8412

08/02/93

Laboratory Analysis Report

K.C. FLYNN
 FLYNN ENVIRONMENTAL, INC.
 220/ KIMBALL RD. SE, BOX 9022
 CANTON OH 44711

Client ID: 2202
 Sample ID: EXPRESSWAY MOBLE
 Sample Description:
 L-1 GRAB BELOW LINE CAVITY
 Comment:

Purchase Order No.: Date Sampled: 7-27-93
 Time Sampled: 10:35

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307907	H. E. T. X. ANALYSIS (8020) CALIB. 7-9-93		DRY	WEIGHT	
	BENZENE	15.8	15.0 ug/kg	2 ug/kg	07/29/93
	ETHYLBENZENE	36.5	ug/kg	2 ug/kg	07/29/93
	TOLUENE	21.6	ug/kg	2 ug/kg	07/29/93
	XYLENES	112	ug/kg	6 ug/kg	07/29/93
	TPH-GASOLINE RANGE (5030, 8015) CAL. 7-10-93	<1	mg/kg DRY	1.0 mg/kg	07/29/93

*REUSE
 JSC's
 PL's*

0.00455

0.00491

0.0157

DATE REPORTED: 08/02/93 TIME REPORTED: 9:46:27

REPORTED BY  fax mail phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705

08/02/93

QUALITY CONTROL REPORT

K.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Client ID: 2202
Lab Number: 9307907
Sample Description:
L-1 GRAB BELOW LINE CAVITY
Comment:

Purchase Order No.:

Test	DUPLICATE ANALYSIS		MATRIX SPIKE RESULT			SURROGATE SPIKE RESULT		
	Result1 Units	Result2 Units	Average Spike Amt	Units Amt Found	Units XRec	Spike Amt Unit	Amt Found Unit	XRec.
TXS	DRY	DRY	ug	ug		300.ug	240.6ug	80.20

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-1157 FAX: (216) 588-8412

08/16/93

Laboratory Analysis Report

K.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Client ID: 2202
Sample ID: EXPRESSWAY MOBILE
Sample Description:
I-K-1 GRAB BELOW KEROSENE PUMP
Comment:

Purchase Order No.:

Date Sampled: 7-27-93
Time Sampled: 18:05

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307908	BETX(6020)1PH(9071, 418.1) BETX CAL. 7-9-93		DRY	WEIGHT	
	BENZENE	<2	ug/kg	2 ug/kg	07/29/93
	TOLUENE	<2	ug/kg	2 ug/kg	07/29/93
	ETHYLBENZENE	<2	ug/kg	2 ug/kg	07/29/93
	XYLENES	8.16	ug/kg	6 ug/kg	07/29/93
	TOTAL PETROLEUM HYDROCARBONS CALB. 7-20-93	2270	mg/kg DRY	180 mg/kg	08/02/93
	POLYNUCLEAR AROMATIC HYDROCARBONS (B100)		SEE	REPORT	08/12/93

DATE REPORTED: 08/16/93 TIME REPORTED: 12:16:27

REPORTED BY *[Signature]* fax mail phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705

08/16/93

QUALITY CONTROL REPORT

K.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Client ID: 2202
Lab Number: 9307908
Sample Description:
1-K-1 GRAB BELOW KEROSENE PUMP
Comment:

Purchase Order No.:

Test	-----DUPLICATE ANALYSIS-----		-----MATRIX SPIKE RESULT-----		-----SURROGATE SPIKE RESULT-----										
	Result1	Units	Result2	Units	Average	Spike Ant	Units	Ant Found	Units	%Rec	Spike Ant	Unit	Ant Found	Unit	%Rec.
PS	DRY		DRY		ug			ug			369.ug		194.2ug		64.73

CASCHEM LABORATORIES, INC.

Customer: FLYNN ENVIRONMENTAL, INC. Sample ID: EXPRESSWAY MOBLE

Sample Description:
I-K-1 GRAB BELOW KEROSENE
PUMP

Comment:

LAB NUMBER: 9307908

Date Sampled: 7-27-93
Time Sampled: 18:05

POLYNUCLEAR AROMATIC HYDROCARBONS
EPA METHOD NO. 8100

COMPOUND	RESULTS (UG/KG)	PRACTICAL QUANTITATION LIMITS (UG/KG)
1. ACENAPHTHENE	85,400	200
2. ACENAPHTHYLENE	249,000	200
3. ANTHRACENE	49,000	200
4. BENZO (A) ANTHRACENE	<200 2.2	200
5. BENZO (A) PYRENE	<200 1.1	200
6. BENZO (B) FLUORANTHENE	<200 5.53	200
7. BENZO (GHI) PERYLENE	<200	200
8. BENZO (K) FLUORANTHENE	209 1.97	200
9. CHRYSENE	1130 1.27	200
10. DIBENZO (A, H) ANTHRACENE	.558 .94	200
11. FLUORANTHENE	7390	200
12. FLUORENE	107,000	200
13. INDENO (1, 2, 3-CD) PYRENE	<200 .19	200
14. NAPHTHALENE	214,000 3.98	200
15. PHENANTHRENE	10,600	200
16. PYRENE	6770	200

DL
Above AL
Exceed

ANALYSIS DATE: 8-12-93 CALIBRATION DATE: 7-29-93

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

08/10/93

Laboratory Analysis Report

K.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

OVER X

Client ID: 2202
Sample ID: EXPRESSWAY MOBLE
Sample Description:
2-W-2 GRAB 1' INTO E. WALL CAVITY 2
Comment:

Purchase Order No.:

Date Sampled: 7-27-93
Time Sampled: 12:49

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307909	T.P.H. (9071, 418.1) CALIB. 7-20-93	3500	mg/kg DRY	180 mg/kg	08/02/93
	VOLATILE ORGANICS (8240)	SEE		REPORT	08/09/93

DATE REPORTED: 08/10/93 TIME REPORTED: 11:57:15

REPORTED BY JAC fax mail phone

Customer: FLYNN ENVIRONMENTAL, INC.

Sample ID: EXPRESSWAY MOBLE

Lab No.: 9307909

Sample Description:
2-W-2 GRAB 1' INTO E. WALL
cavity 2

Date Sampled: 7-27-93
Time Sampled: 12:49

ANALYTICAL FOR VOLATILES
BY METHOD # 8240

OVER X

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
1. CHLOROMETHANE	ND	10.00
2. VINYL CHLORIDE	ND	10.00
3. BROMOMETHANE	ND	10.00
4. CHLOROETHANE	ND	10.00
5. TRICHLOROFLUOROMETHANE	ND	5.00
6. 1,1-DICHLOROETHENE	ND	5.00
7. METHYLENE CHLORIDE	ND	5.00
8. TRANS-1,2-DICHLOROETHENE	ND	5.00
9. 1,1-DICHLOROETHANE	ND	5.00
10. 2,2-DICHLOROPROPANE	ND	5.00
11. CIS-1,2-DICHLOROETHENE	ND	5.00
12. CHLOROFORM	ND	5.00
13. BROMOCHLOROMETHANE	ND	5.00
14. 1,1,1-TRICHLOROETHANE	ND	5.00
15. 1,1-DICHLOROPROPENE	ND	5.00
16. CARBON TETRACHLORIDE	ND	5.00
17. 1,2-DICHLOROETHANE	ND	5.00
18. BENZENE	ND	5.00
19. TRICHLOROETHENE	ND	5.00
20. 1,2-DICHLOROPROPANE	ND	5.00
21. BROMODICHLOROMETHANE	ND	5.00
22. DIBROMOMETHANE	ND	5.00
23. TRANS-1,3-DICHLOROPROPENE	ND	5.00
24. TOLUENE	ND	5.00
25. CIS-1,3-DICHLOROPROPENE	ND	5.00
26. 1,1,2-TRICHLOROETHANE	ND	5.00
27. 1,3-DICHLOROPROPANE	ND	5.00
28. TETRACHLOROETHENE	ND	5.00
29. DIBROMOCHLOROMETHANE	ND	5.00
30. 1,2-DIBROMOETHANE	ND	5.00
31. CHLOROBENZENE	ND	5.00
32. 1,1,1,2-TETRACHLOROETHANE	ND	5.00
33. ETHYLBENZENE	ND	5.00
34. TOTAL XYLENES	ND	5.00
35. STYRENE	ND	5.00
36. BROMOFORM	ND	5.00
37. ISOPROPYLBENZENE	ND	5.00
38. 1,1,2,2-TETRACHLOROETHANE	ND	5.00
39. 1,2,3-TRICHLOROPROPANE	ND	5.00
40. BROMOBENZENE	ND	5.00
41. N-PROPYLBENZENE	ND	5.00
42. 2-CHLOROTOLUENE	ND	5.00
43. 1,3,5-TRIMETHYLBENZENE	ND	5.00
44. 4-CHLOROTOLUENE	ND	5.00

PAGE 2
LAB NUMBER: 9307909

45.	TERT-BUTYLBENZENE	ND	5.00
46.	1,2,4-TRIMETHYLBENZENE	ND	5.00
47.	SEC-BUTYLBENZENE	ND	5.00
48.	P-ISOPROPYLTOLUENE	ND	5.00
49.	1,3-DICHLOROBENZENE	ND	5.00
50.	1,4-DICHLOROBENZENE	ND	5.00
51.	N-BUTYLBENZENE	ND	5.00
52.	1,2-DICHLOROBENZENE	ND	5.00
53.	1,2-DIBROMO-3-CHLOROPROPANE	ND	100.00
54.	1,2,4-TRICHLOROBENZENE	ND	5.00
55.	HEXACHLOROBUTADIENE	ND	5.00
56.	NAPHTHALENE	ND	5.00
57.	1,2,3-TRICHLOROBENZENE	ND	5.00

OVERLY

QA/QC DATA

ND - not detected

<u>SURROGATE SPIKE</u>	<u>% RECOVERY</u>	<u>ACCEPTABLE % RECOVERY</u>
Volatiles		
1,2-Dichloroethane-d4	113	70 - 121
Toluene-d8	76	81 - 117
Bromofluorobenzene	112	74 - 121

9307909

CASCHEM LABORATORIES, INC.
1712 11TH STREFT, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

08/02/93

Laboratory Analysis Report

K . FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Client ID: 2202
Sample ID: EXPRESSWAY MOBLE
Sample Description:
I-5 GRAB BELOW PUMP ISLAND

Comment:

Purchase Order No.:

Date Sampled: 7-27-93
Time Sampled: 17:07

Date Received: 07/28/93 Time Received: 15:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9307910	P. E. T. X. ANALYSIS (6020) CALIB. 7-9-93		DRY	WEIGHT	
	BENZENE	.004.17	ug/kg	2 ug/kg	07/29/93
	ETHYLBENZENE	.015.1	ug/kg	2 ug/kg	07/29/93
	TOLUENE	.007.03	ug/kg	2 ug/kg	07/29/93
	XYLENES	.037.4	ug/kg	6 ug/kg	07/29/93
	TPH-GASOLINE RANGE (5030, 6015) CAL. 7-10-93	<1	mg/kg DRY	1.0 mg/kg	07/29/93

DATE REPORTED

08/02/93

TIME REPORTED: 9:47:27

REPORTED BY



fax

mail

phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705

08/02/93

QUALITY CONTROL REPORT

R.C. FLYNN
FLYNN ENVIRONMENTAL, INC.
2207 KIMBALL RD. SE, BOX 9022
CANTON OH 44711

Client ID: 2202
Lab Number: 9307910
Sample Description:
I-S GRAB BELOW PUMP ISLAND
Comment:

Purchase Order No. :

Test	DUPLICATE ANALYSIS		MATRIX SPIKE RESULT			SURROGATE SPIKE RESULT		
	Result1 Units	Result2 Units	Average Spike Amt Units	Amt Found Units	%Rec Spike Amt Unit	Amt Found Unit	%Rec.	
PEKS	DRY	DRY	ug	ug	300.ug	213.7ug	71.23	

00 000 17 19 15



FLYNN ENVIRONMENTAL, INC.

41 CLARENDON AVENUE NW • CANTON, OH 44705 • 330-452-9496 • FAX 330-452-3508

PHASE II ENVIRONMENTAL SITE ASSESSMENT

of

John's Route 62 Auto Sales

1430 30th Street

Canton, Ohio

Stark County

PHASE II ENVIRONMENTAL SITE ASSESSMENT
of

John's Route 62 Auto Sales
1430 30th Street N.E.
Canton, Ohio
Stark County

Flynn Project #98-200
BUSTR Incident #7630958-00

Prepared for:

Mr. Don Coen
The Coen Company
1900 19th Street N.E.
Canton, Ohio 44714
Tel: (330) 452-2298
Fax: (330) 452-2398

Prepared by:

Flynn Environmental, Inc.
401 Clarendon Avenue, N.W.
Canton, Ohio 44708
Tel: (330) 452-9409
Fax: (330) 452-3508

November 12, 1998
Soil Sampling Date

TABLE OF CONTENTS

1.0 Introduction.....	1
1.1 Site Specifics.....	1
2.0 Project Background.....	1
3.0 Site Assessment Activities.....	2
3.1 Test Boring/Soil Sampling Program.....	2
4.0 Analytical Results.....	3
4.1 Soil Analytical Results.....	3
5.0 Summary.....	3
6.0 Conclusions.....	4
7.0 Recommendations.....	4

Table

Table 1 - Analytical Results - Soil

Figures

Figure 1 - Site Location Map

Figure 2 - Soil Boring Locations and Soil Concentration Map

Appendices

Appendix A - Site Feature Scoring System Chart

Appendix B - Soil Boring Logs

Appendix C - Laboratory Data Sheets

Site Assessment Checklist and Recommended Table of Contents (Page 1 of 2)

(Received by the SFM within 180 days of reporting the release)

Date: 12-9-98 Facility: FORMER EXPRESSWAY MOBIL
 Owner/Operator: THE COEN COMPANY Address: 1430 30TH STREET N.E.
 Address: 1900 19TH STREET N.E. CANTON, OHIO
CANTON OHIO 44714 County: STARKE
 Phone #: (330) 452-2298 Incident #: 7630958-00

check pg #

Each Site Assessment report must include the following:

- | | | |
|----------------|--|--|
| <u>1</u> | | A. A brief summary of the activities to date, which includes |
| <u>1</u> | | 1. The nature of the release. |
| <u>VA</u> | | 2. Immediate corrective actions taken. |
| <u>TABLE 2</u> | | 3. Free-product removal activities. |
| | | 4. The results of soil/ground-water results from a site check, closure assessment or other assessment (table of sample results and site map depicting location and depth). |
| | | B. A summary of the assessment activities, which includes |
| <u>2</u> | | 1. An explanation of how soil boring locations were chosen. |
| <u>3-5</u> | | 2. A determination of the vertical and horizontal extent of the release in soil and ground water. |
| <u>FORM 16</u> | | 3. A description of soil core drilling and monitor well installation (drilling logs and monitor well diagrams included as an appendix). |
| <u>11-3</u> | | 4. Determination of the direction and gradient of ground-water flow if ground water is encountered. |
| <u>10-1</u> | | 5. Data collection for monitoring wells, such as depth to product, product thickness, depth of water from top of casing, elevation to top of casing and location of arbitrary benchmark. |
| <u>5-2</u> | | C. A map that accurately depicts the locations of the UST system, buildings or other structures within 1,000 feet of the suspect UST system, on-site storm sewers, water lines, underground telephone lines, natural gas lines and other structures and utilities which may act as a route of migration for contaminants. In addition, the map must accurately depict the locations of the soil core borings, monitoring well locations and surface water samples. |

* Circle whenever applies.

Site Assessment Checklist and Recommended Table of Contents (Page 2 of 2)
 (Received by the SFM within 180 days of reporting the release)

check box #

- | | |
|--------------------|--|
| _____ | D. Results of sampling in table format with actual analytical results for |
| _____ <u>3</u> | 1. Results of soil samples. |
| _____ <u>114</u> | 2. Results of surface water sampling from ditches, storm sewers, streams, lakes or other surface waters affected by the release. |
| _____ <u>114</u> | 3. Results of ground-water samples from monitoring wells. |
| _____ <u>114</u> | 4. Results of water samples from private drinking-water wells |
| _____ <u>2 Feb</u> | E. Any other pertinent information such as access agreements, boring logs and lab data sheets. |

Preparer Name _____

Preparer Signature _____

Date _____

Owner/Operator Name Blue Bell Company

Owner/Operator Signature _____

Date 12-14-98

* Circle whichever applies.

9/92

1.0 Introduction

This report presents the findings of the Phase II Environmental Site Assessment conducted by Flynn Environmental, Inc., at John's Route 62 Auto Sales located at 1430 30th Street N.E., Canton, Stark County, Ohio (see Figure 1). This site had previously operated as a gasoline retail and automobile repair facility under the name of Expressway Mobile. The property is owned by the Coen Company.

The assessment was conducted in order to determine if residual petroleum hydrocarbon contamination is present in the subsurface environment at the site. The scope of the assessment included a test boring program which consisted of the collection and analysis of soil samples from six (6) soil borings, designated as SB-1 through SB-6.

1.1 Site Specifics

The site is located on the south side of 30th Street N.E. in Canton, Ohio (see Figure 1). Surrounding land use includes commercial properties to the west, and residential properties to the north, east, and south of the site. Residential properties are located to the south. The City of Canton supplies both water and sanitary sewer utilities to the site and vicinity.

The site falls into Category 3 of the Site Feature Scoring System (SFSS) Chart established by the Bureau of Underground Storage Tank Regulations (BUSTR) based on the following criteria: distance of the former underground storage tank (UST) systems from closest potable-water supply source currently in use, >1,000 feet; average depth to groundwater, unknown; predominant soil type of substratum, shale; natural and/or man-made conduits or receptors, basements or subsurface foundations within 100 feet of the former UST systems; a storm sewer main, a water line main, and a gas line main within fifty feet of the former UST systems. A completed SFSS chart is included in Appendix A.

Category 3 action levels for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) and Total Petroleum Hydrocarbon (TPH) concentrations in soil apply for this site. These action levels are compared to the analytical results in Table 1. Soil and/or groundwater containing concentrations of BTEX or TPH above these action levels will be considered to be contaminated.

2.0 Project Background

During June 1993, Flynn Environmental, Inc. prepared an underground storage tank (UST) closure assessment report for the permanent removal of two (2) 4,000 gallon gasoline tanks, one (1) 3,000 gallon gasoline tank, one (1) 3,000 gallon kerosene tank, and one (1) 550 gallon waste oil tank located from the subject site. The closure report indicated that soil samples collected from the area of the kerosene island cavity and the waste oil tank cavity contained elevated concentrations of total petroleum hydrocarbons (TPH).

3.0 Site Assessment Activities

In order to determine if petroleum hydrocarbon contamination exists in the soil and/or groundwater at the site, a site assessment was performed by Flynn Environmental.

3.1 Test Boring/Soil Sampling Program

On November 12, 1998, Flynn Environmental conducted a Phase II Environmental Site Assessment (site assessment) at the subject site. Prior to sampling activities, the Ohio Utility Protection Service was contacted to ensure that all of the underground utilities were marked. The soil boring locations were chosen based on the findings and the assumptions of the UST closure report.

Site assessment activities consisted of advancing six (6) soil borings designated as SB-1 through SB-6 into the subsurface using a Geoprobe. Geoprobe boring SB-1 was installed in the former waste oil tank cavity. SB-2 was installed northwest of the former waste oil tank cavity. SB-3 was installed southwest of the former waste oil tank cavity. SB-4 was installed next to the former kerosene island cavity. Soil boring SB-5 was installed northeast of the former kerosene island cavity, and SB-6 was installed northwest of the former kerosene island cavity. The soil boring logs for these locations are included in Appendix B. Figure 2 illustrates the boring locations at the site.

A typical section at the site, as found in the test borings, includes asphalt with a gravel base to a depth of approximately one half foot (0.5') below the surface. Below the pavement, silty shale was encountered to an approximate depth of four to ten feet (4'-10').

Soil collected from each Geoprobe sampler was divided, and placed in two (2) separate containers. One (1) portion of the sample was containerized in laboratory supplied four ounce (4 oz) jars with Teflon™ lids, and placed on ice for possible laboratory analysis. The other portion of the sample was containerized in a "zip-lock" type plastic bag for headspace screening. After all of the samples were collected from the borings, the headspace samples were allowed to equilibrate to approximately sixty five (65) degrees Fahrenheit. The probe of a photoionization detector (PID) was then inserted into each of the headspace bags in order to record relative organic vapor levels, and the highest sustained value was recorded. All of the soil samples collected were screened using the headspace sampling technique. The field screening results from the samples collected at this site are included on the soil boring logs in Appendix B.

The PID used to perform headspace screening was manufactured by Thermo Environmental Instruments, Inc., Model 580B OVM, with a 10.2 EV lamp, Serial #580B-31544-289. The PID was calibrated using Isobutylene span gas with a known concentration of 100 parts per million (ppm) on November 12, 1998. This PID has a range of 0 to 2000 ppm.

The soil samples exhibiting the highest headspace reading above the saturated zone were selected for laboratory analysis from each boring. One sample [SB-4 (2'-4')] was analyzed for BTEX by United States Environmental Protection Agency (U.S. EPA) method 8020, and all samples were analyzed for TPH by U.S. EPA method 418.1. Laboratory Chain-of-Custody sheets were maintained for all samples collected, and appear with the laboratory data sheets in Appendix C.

4.0 Analytical Results

The analytical results for the soil samples collected from the six (6) Geoprobe borings are compared to BUSTR's action levels on Table 1. Figure 2 illustrates TPH concentrations in the soil samples collected from each boring. A copy of the analytical results for the soil samples is included in Appendix C.

4.1 Soil Analytical Results

Analytical results reported BTEX concentrations in the sample collected from SB-4 below site action levels. TPH concentrations were reported above site action levels in the samples collected from SB-1 [(4'-6') and (6'-8')], and SB-3 (6'-6.5'). The analytical results for the soil samples collected from the six (6) soil borings are summarized in Table 1. A copy of the analytical results for the soil samples is included in Appendix C.

5.0 Summary

On November 12, 1998, Flynn Environmental advanced six (6) soil borings into the subsurface to determine if residual petroleum hydrocarbons are present in the subsurface environment at the site. The soil boring locations were chosen based on the findings outlined in the UST closure report dated June 1993. Geoprobe boring SB-1 was installed in the former waste oil tank cavity. SB-2 was installed northwest of the former waste oil tank cavity. GP-3 was installed southwest of the former waste oil tank cavity. SB-4 was installed next to the former kerosene island cavity. Soil boring SB-5 was installed northeast of the former kerosene island cavity, and GP-6 was installed northwest of the former kerosene island cavity. Soil samples were collected from each of the soil borings and analyzed for TPH by method 418.1. One sample collected from SB-4 was analyzed for BTEX (method 8020). The analytical results indicated that TPH concentrations in the samples collected from SB-1, in the former waste oil tank cavity, and SB-3, southwest of the former waste oil tank cavity, are above BUSTR action levels. The analytical results for the sample collected from SB-4 reported BTEX concentrations below site action levels.

6.0 Conclusions

Based on the results of this subsurface investigation, residual petroleum hydrocarbon contamination above BUSTR action levels appears to be present in the subsurface environment in the area of the former waste oil tank cavity at the site.

7.0 Recommendations

Based on the results of the site assessment, it is the recommendation of Flynn Environmental that the contaminated soil remaining at the site, in the areas surrounding the former waste oil cavity and SB-3, be excavated to a depth of ten feet below grade and /or until the lateral extent of contamination has been defined. If groundwater develops in the excavation, it will be necessary to address the possibility that it has also been negatively impacted.

TABLE

TABLE 1
ANALYTICAL RESULTS - SOIL

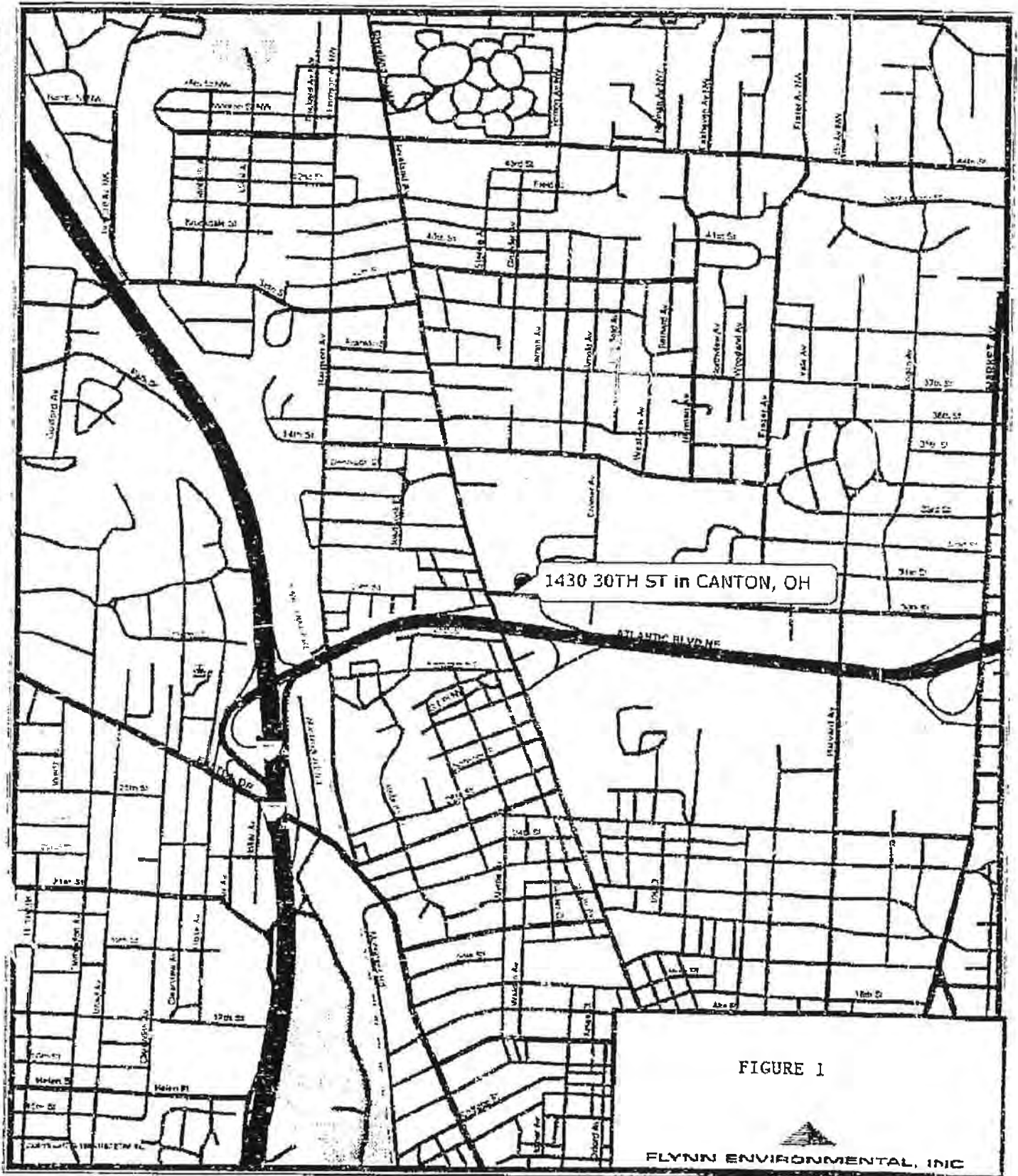
*John's Route 62 Auto Sales
1430 30th Street N. E.
Canton, Ohio*

Sample Location	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	TPH 418.1 (mg/kg)
SB-1	4'-6'	--	--	--	--	4,831
SB-1	6'-8'	--	--	--	--	5,491
SB-2	4'-4.25'	--	--	--	--	478.0
SB-3	6'-6.5'	--	--	--	--	858.0
SB-4	2'-4'	0.15	0.006	0.008	0.02	<10.0
SB-4	4'-6'	--	--	--	--	86.0
SB-5	2'-4'	--	--	--	--	26.0
SB-6	0'-2'	--	--	--	--	74.0
Category 3 Action Levels		0.335	9.0	14.0	67.0	904

- Sampling Date: November 6, 1998.
- Analytical Methodologies: BTEX by U.S. EPA method 8020. TPH by U.S. EPA method 418.1.
- Bolded numbers indicate concentrations above site action levels.
- --Not sampled.

FIGURES

Current Map



**APPENDIX A - SITE FEATURE
SCORING SYSTEM CHART**

CLOSURE FORM (PART II)

**SITE FEATURE SCORING SYSTEM (SFSS) CHART
REFER TO SFSS GUIDELINES BEFORE COMPLETING**

SITE FEATURES	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	SCORE 20	ENTER SCORE	SCORE 15	ENTER SCORE	SCORE 10	ENTER SCORE	SCORE 5	ENTER SCORE
1. DISTANCE OF UST SYSTEM FROM CLOSEST POTABLE WATER SUPPLY SOURCE CURRENTLY IN USE IS	>1000 FT	20	300-1000 FT		<300 FT		INSIDE OF DESIGNATED SENSITIVE AREA	
2. DEPTH TO GROUND WATER IS	>60 FT		31-30 FT		15-30 FT OR UNKNOWN	10	<15 FT	
3. PREDOMINANT SOIL TYPE OF SUBSTRATUM IS	CLAY OR SHALE	20	SILT OR CLAYEY SANDS OR FINE SANDSTONE		SILTY SAND OR FINE SAND, UNKNOWN, OR SANDSTONE		CLEAN SAND, GRAVEL, OR CONGLOMERATE	
4. NATURAL AND/OR MAN-MADE CONDUITS OF RECEIVERS ARE (COMPLETE WORKSHEET BELOW)	3 POINTS		8-10 POINTS		11-13 POINTS		>13 POINTS	5
ADD SUBTOTALS		40		0		10		5
							TOTAL SCORE	55

SITE FEATURE 4 WORKSHEET

BASINMENT OR SUBSURFACE FOUNDATIONS WITHIN 100 FEET OF UST SYSTEM	4 POINTS	<u>4</u>
STORM SEWER WITHIN 50 FEET OF UST SYSTEM	4 POINTS	<u>4</u>
SANITARY SEWER WITHIN 50 FEET OF UST SYSTEM	4 POINTS	<u>4</u>
SEPTIC SYSTEM LEACH FIELD WITHIN 50 FEET OF UST SYSTEM	2 POINTS	<u>2</u>
WATER LINE MAIN WITHIN 50 FEET OF UST SYSTEM	1 POINT	<u>1</u>
NATURAL GAS LINE MAIN WITHIN 50 FEET OF UST SYSTEM	1 POINT	<u>1</u>
BEDROCK AREA PRONE TO DISSOLUTION ALONG JOINTS OF FRACTURES WITHIN 100 FEET OF UST SYSTEM	1 POINT	<u>1</u>
FAULTS OR KNOWN FRACTURES WITHIN 100 FEET OF UST SYSTEM	1 POINT	<u>1</u>
URIED TELEPHONE/TELEVISION CABLE MAIN WITHIN 50 FEET OF UST SYSTEM	1 POINT	<u>1</u>
BURIED ELECTRICAL CABLE MAIN WITHIN 50 FEET OF UST SYSTEM	1 POINT	<u>1</u>
TOTAL POINTS		<u>15</u>

IF TOTAL POINTS FROM SITE FEATURE 4 WORKSHEET ARE:

- 8-9, ENTER SCORE OF 20 IN COLUMN A OF SITE FEATURE 4 IN SFSS CHART
- 8-10, ENTER SCORE OF 15 IN COLUMN B OF SITE FEATURE 4 IN SFSS CHART
- 11-13, ENTER SCORE OF 10 IN COLUMN C OF SITE FEATURE 4 IN SFSS CHART
- >13, ENTER SCORE OF 5 IN COLUMN D OF SITE FEATURE 4 IN SFSS CHART

NOTE: AFTER COMPLETING SFSS CHART (ABOVE), COMPARE THAT SCORE WITH TOTAL SCORES IN ACTION LEVEL TABLE (BELOW) TO DETERMINE ACTION LEVELS FOR UST SITE

SFSS ACTION LEVELS TABLE (PPM)

CONSTITUENT	CATEGORY 1	CATEGORY 2	*CATEGORY 3*	CATEGORY 4
TOTAL SCORE	<31	31-30	51-70	>71
SOIL BTEX	006/4/6/28	170/7/110/47	335/9/14/67	500/12/18/85
GROUNDWATER BTEX	005/1/700/10	005/1/700/10	005/1/700/10	005/1/700/10
SOIL TPH (GASOLINE)	105	300	450	600
SOIL TPH (OTHERS)	380	642	904	1156

Remedial Action Plan
John's Route 62 Auto Sales
1430 30th Street N.E.
Canton, Ohio 44701
Stark County
BUSTR Incident #7630958

Flynn Project #98-200

Prepared for:

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1906 19th Street N.E.
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Prepared by:



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December 1998

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- Appendix B - Soil Boring Logs & Monitoring Well Construction Diagrams
- Appendix C - Laboratory Data Sheets
- Appendix D - Project Cost Estimates

Remedial Action Plan (RAP) Checklist and Recommended Table of Contents (Page 1 of 2)

Date: 12-21-98 Facility: FORMER EXPRESSWAY MOBILE
 Owner/Operator: COEN COMPANY Address: 1430 30th STREET N.E.
 Address: 1900 19th STREET CANTON, OHIO
CANTON OHIO 44714 County: STARK
 Phone #: (330) 452-2298 Incident #: 7630958-00

check pg #

- | | | |
|-------|--------------|--|
| _____ | <u>2-3</u> | A. Each Remedial Action Plan report must include, at a minimum, the following: |
| _____ | <u>NA</u> | 1. A summary of the site assessment results and conclusions. |
| _____ | <u>4-6</u> | 2. If applicable, a table with a complete round of ground-water sampling results obtained within six months prior to submitting the plan. |
| _____ | <u>4-10</u> | 3. A description of remedial alternatives considered. |
| _____ | <u>7</u> | 4. A brief comparison of reliability, feasibility, effectiveness, cost and time needed for completion of the recommended program and for the identified alternatives. |
| _____ | <u>NA</u> | 5. A description of the remediation techniques to be implemented. |
| _____ | <u>7</u> | 6. A description and results of any pilot studies conducted. |
| _____ | <u>7</u> | 7. A schematic drawing of the remedial system. |
| _____ | <u>7</u> | 8. A detailed diagram of the placement of the remedial system on site, including proposed locations of equipment, pumps, recovery systems, etc. |
| _____ | <u>7</u> | 9. A description of permits or other approvals required for implementation of the plan. |
| _____ | <u>7</u> | 10. Proposed target levels to be achieved. |
| _____ | <u>Fig 4</u> | 11. A description of a monitoring/sampling plan to be used during the implementation of the RAP, including a site diagram that indicates the locations where soil and/or ground water will be sampled. |
| _____ | <u>RI 3</u> | 12. An implementation schedule and the projected completion date. |
| _____ | <u>7</u> | 13. A description of the content and frequency of progress reports (i.e. monthly or quarterly). |

* Circle whichever applies.

Remedial Action Plan (RAP) Checklist and Recommended Table of Contents (Page 2 of 2)

check pg #

- B. Upon RAP approval by the SFM and implementation, progress reports must be submitted regularly which include
1. A status report of the system's performance.
 2. A site diagram, if the placement of the remedial system is altered from that submitted in the RAP.
 3. Air, soil and/or water monitoring analysis submitted in table format.
 4. Monthly/quarterly quantity and disposition of soil treated and/or removed.
 5. Monthly/quarterly quantity and disposition of water treated and/or discharged.
 6. Depth to liquid and thickness of free product (if applicable).
 7. Quantity and disposition of free product recovered (if applicable).
 8. Sampling methodology as outlined in Appendix A.
 9. Any other additional information necessary to evaluate the effectiveness of the RAP.
- C. Once MCL target or action levels have been attained and remediation completed, a completion report must be submitted to the SFM which includes at a minimum
1. A summary of all remedial activities.
 2. Tabled or graphical results showing the effectiveness of the RAP over time.
 3. A table with a complete round of recent ground water and soil sampling in appropriate locations demonstrating that acceptable levels have been attained.
 4. A complete site map showing all sampling locations.
 5. A discussion of wastes generated during all remedial activities including cumulative totals and final disposition.
 6. Other information which demonstrates that the remedial objectives of the RAP have been met.
- D. If monitoring only is selected as a remedial option, the same sequence of reports above should be submitted with remedial systems, RAP or techniques replaced by monitoring plans or options, whichever is more appropriate.

Preparer Name _____

Preparer Signature 

Date _____

Owner/Operator Name The Wood Group

Owner/Operator Signature 

Date 12-21-96

* Circle whichever applies.

1.0 Introduction

The following Remedial Action Plan (RAP) addresses the remediation of the petroleum hydrocarbon contamination present within the subsurface environment at John's Route 62 Auto Sales, located at 1430 30th Street, Canton, Stark County, Ohio.

2.0 Site Specifics

The site is located on the south side of 30th Street N.E. in Canton, Ohio (see Figure 1). Surrounding land use includes commercial property to the west, and residential properties to the north, east, and south of the site. The City of Canton supplies both water and sanitary sewer utilities to the site and vicinity.

The site falls into Category 3 of the Site Feature Scoring System (SFSS) Chart established by the Bureau of Underground Storage Tank Regulations (BUSTR) based on the following criteria: distance of the former underground storage tank (UST) systems from closest potable-water supply source currently in use, >1,000 feet; average depth to groundwater, unknown; predominant soil type of substratum, shale; natural and/or man-made conduits or receptors, basements or subsurface foundations within 100 feet of the former UST systems, a storm sewer main, a water line main, and a gas line main within fifty feet of the former UST systems. A completed SFSS chart is included in Appendix A.

Category 3 action levels for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) and Total Petroleum Hydrocarbon (TPH) concentrations in soil apply for this site. These action levels are compared to the analytical results in Tables 1 and 2. Soil and/or groundwater containing concentrations of BTEX or TPH above these action levels will be considered to be contaminated.

3.0 Project Background

The project history discussed in the following section details the removal and permanent closure of the UST systems and the site assessment investigation which determined the extent of the petroleum hydrocarbon contamination in the subsurface environment associated with these UST systems. The UST Closure Assessment and the Environmental Site Assessment reports were prepared and previously submitted to BUSTR by Flynn Environmental, Inc.

3.1 UST Removals

Five (5) USTs were permanently removed from two (2) tank cavities at the site in June 1993. Tank cavity 1 consisted of two (2) 4,000 gallon steel gasoline USTs, one (1) 3,000 gallon steel

gasoline UST, and one (1) 3,000 gallon kerosene UST was located directly east of the existing building. Tank cavity II consisted of one (1) 550 gallon steel waste oil UST which was located directly west of the northwest corner of the existing building. One (1) gasoline dispenser island was located north-northwest of tank cavity I, and north-northeast of the existing building. One (1) kerosene dispenser island was located next to the northeast corner of the existing building and directly north of the northwest corner of tank cavity I.

The tank cavities, the area of the gasoline dispenser island and associated piping were excavated to approximately ten feet (10') deep. The excavated soils were temporarily stockpiled for on-site remediation. Clean backfill material was used to bring the excavation to grade with the ground surface.

Soil samples collected and analyzed from tank cavity I (the side walls, and from beneath tank cavity), the gasoline dispenser island, and associated piping reported BTEX and TPH concentrations below the Category Three action levels. However, one (1) soil sample collected from the kerosene island cavity, and one (1) soil sample collected from tank cavity II reported TPH concentrations above site action levels. Table 1 compares soil analytical results with Category Three action levels from the soil samples collected during the closure activities. Figure 2 compares the site configuration with the soil analytical results collected during closure activities. Groundwater was not encountered during the removal of the USTs and dispenser islands and the associated piping.

3.2 Phase II Site Assessment

Based on the findings of the UST Closure Assessment, a Phase II Environmental site assessment was conducted by Flynn Environmental on November 12, 1998. The purpose of this investigation was to determine the vertical and horizontal extent of subsurface petroleum hydrocarbon contamination in the areas of the former waste oil UST cavity and the former kerosene dispenser island at the site.

Site assessment activities consisted of advancing six (6) soil borings designated as SB-1 through SB-6 into the subsurface using a Geoprobe. The soil boring locations were chosen based on the findings of the UST closure report. Each soil boring was positioned to intercept any petroleum hydrocarbons which may have entered the subsurface environment and migrated from the immediate area where the release occurred. Geoprobe boring SB-1 was installed along the east wall of the former waste oil tank cavity. SB-2 was installed northwest of the former tank cavity. SB-3 was installed southwest of the former tank cavity. SB-4 was installed east of the former kerosene island cavity. Soil boring SB-5 was installed north of tank cavity I, and northeast of the former kerosene island cavity, and SB-6 was installed northwest of the former kerosene island cavity. Figure 3 illustrates the boring locations of SB-1 through SB-6 with the current site configuration. Groundwater was not encountered during the drilling activities. The soil boring logs for these locations are included in Appendix B.

Soil samples were collected continuously during the advancement of the soil borings, and at least one (1) soil sample from each of the six (6) soil borings was submitted to a laboratory for TPH analysis by method 418.1. One sample collected from the former kerosene dispenser island was also analyzed for BTEX by method 8020.

BTEX concentrations in the sample collected from SB-4 (2'-4') were reported below Category Three site action levels. TPH concentrations were reported to exceed Category Three action levels for the soil samples collected from soil boring SB-1 (4'-6' and 6'-8'), in the area of the former waste oil tank cavity. Table 2 compares soil analytical results with Category Three action levels from the soil samples collected during the site assessment activities. Figure 3 illustrates the TPH concentrations in the soil samples collected from each boring.

Based on the soil analytical results, contaminated soil was encountered in the area of the former waste oil tank cavity located directly west of the existing building. Petroleum hydrocarbon contamination is present from an approximate depth of four feet (4') and extends to an approximate depth of ten feet (10') upon which refusal was encountered during drilling activities.

4.0 Summary of Site Conditions

This site was formerly used as a retail gasoline and automobile service station. Currently the site is operating as an automobile sales lot. The former gasoline USTs and former kerosene dispenser island were located directly east and northeast the existing building, respectively. The former gasoline dispenser island was located north-northeast of the existing building. The former waste oil UST was located directly west of the northwest corner of the existing building.

4.1 Geologic and Physical Soil Conditions

Topography in the vicinity of the site slopes towards the east. Soils underlying the site are classified as Urban Land Complex which have been altered by grading and/or filling according to the Soil Survey of Stark County, Ohio (1971). A typical section at the site, as encountered in the soil borings, includes asphalt and subbase to a depth of approximately one foot (1') below the surface. Silt was encountered beneath the pavement to an average depth of five feet (5'). Underlying the silt, weathered Pennsylvanian-age shale was encountered to the termination depths of approximately five feet (10'). This weathered shale was encountered in all six (6) soil borings at an average depth of five feet (5'). Soil boring logs prepared for each boring are included in Appendix B.

4.2 Groundwater Conditions

Groundwater was not encountered during the UST closure or the Phase II investigation.

5.0 Target Cleanup Goals

The property is a Category Three site as determined by using BUSTR's Site Feature Scoring System (SFSS). Therefore, Category Three action levels will be used as the target levels to be achieved for soil (and groundwater if encountered during remedial activities). These levels are shown on the table below:

PARAMETER	CATEGORY THREE ACTION LEVELS (in parts per million)	
	SOIL	GROUNDWATER
Benzene	0.335	0.005
Toluene	7.0	1.0
Ethylbenzene	10.0	0.700
Total Xylenes	47.0	10.0
TPH-GRO	450.0	NA
TPH 418.1	904.0	NA

6.0 Remedial Alternatives Considered

Characteristics of unconsolidated sediments can be used to selectively eliminate various remedial technologies for vadose soils and groundwater. In order to design an effective and cost-efficient plan to remediate the soil and groundwater contamination at the site, several remedial technologies and methods were considered.

Several parameters are considered before selecting remedial alternatives. These include:

- *short- and long-term environmental impacts
- *ability to implement and effectiveness
- *operation and project management (O&M)
- *reliability and feasibility
- *estimated time to achieve cleanup
- *initial and long-term costs

Many factors are considered prior to selecting the remedial system(s) implemented for the effective cleanup of a contaminated site. These basic factors usually include:

Implementation Time

The remediation system to be used for the recovery, capture, or treatment of contaminated soil and/or groundwater must be capable of being installed and implemented quickly enough to satisfy regulatory agency demands and funding requirements.

Minimal Interference of Adjacent Sites

The installation, implementation, and long-term operation of a remedial system should cause minimal, if any, interference with adjacent properties and their operations. Excessive noise, air emissions, or operations detrimental to human health and/or the environment are factors to be considered.

Effectiveness

The proposed remedial system must accomplish either contaminant capture, or treatment of the contaminant plume in a reasonable time. Verification of the resultant goal is necessary.

Future Liability

The remediation must produce results which limit future liability regarding any additional environmental remediation or tort actions.

Cost Effectiveness

The selected remedial system should effectively accomplish the required results in the most cost-effective manner with the best available technology (BAT) for initial and continued site operation, maintenance, and environmental monitoring.

These basic criteria were used to evaluate several soil and groundwater treatment alternatives. Other factors considered in the evaluation include the horizontal and vertical extent of the contamination, the dissolved concentrations of hydrocarbons in groundwater, and any physical site constraints.

6.1 Remedial Alternatives for Soil

6.1.1 No Further Action

A No Further Action alternative is not applicable due to TPH concentrations in soil exceeding BUSTR action levels.

6.1.2 Bioremediation

Bioremediation is the breakdown of hydrocarbons by bacteria which utilize the hydrocarbons as a food source. The bacteria may be naturally-occurring or may need to be added to the soil. Bioremediation can be conducted in-situ (in ground). The effectiveness of bioremediation is limited by the bacteria's need for the proper conditions. Factors such as soil moisture content, pH, and available nutrients and oxygen must be considered and monitored. In-situ bioremediation is best suited for sandy soil types where nutrients and oxygen can permeate more rapidly throughout the soil. In-situ bioremediation was not considered since the data collected during the site assessment indicates that native soil consists of high silt and shale content, and therefore contains a low soil permeability. Bioremediation as an alternative was not selected because it is a relatively slow process and can be expensive.

6.1.3 Soil Vapor Extraction

Soil vapor extraction (SVE) is a type of in-situ remediation technique which extracts volatiles from the soil pore space above the groundwater table through a network of extraction wells. SVE is more efficient for soils that have large pore spaces and high permeability, such as sand and gravels. Due to the high silt and shale content of the native soil, this alternative was not considered.

6.1.4 Soil Excavation

Ex-situ methods require the excavation of petroleum contaminated soil (PCS). The PCS can be disposed at a licensed facility, treated on-site, or off-site. Prices for treatment of the PCS at commercial soil treatment facilities are competitive with disposal costs at landfills. Generally, disposal at a treatment facility is preferred because much of the client's future liability is removed.

6.2 Remediation Alternatives for Groundwater

Groundwater was not encountered during UST closure or site assessment activities and therefore was not considered in the preparation of the RAP.

7.0 Recommended Remedial Alternatives for Soil

7.1 Selected Soil Remedial Alternative

After considering the available technologies, the costs for implementing, and the ability of each technology to perform efficiently considering the specific site conditions, Flynn Environmental, Inc., recommends excavating and disposing of the contaminated soils at a commercial facility. The area of concern is limited to the former waste oil UST cavity. Figure 4 illustrates the excavation limits of the area of concern and the excavation sampling grid.

During the excavation, samples will be continually collected from the side walls of the former waste oil cavity and field screened using a photoionization detector (PID). The four (4) samples with the lowest PID readings obtained will be designated confirmatory samples and sent to a laboratory for analysis. The confirmatory samples will be analyzed for TPH by U.S. EPA method 418.1.

The resulting excavation would be backfilled with clean fill materials. The estimated costs for the excavation, commercial treatment and disposal of the petroleum contaminated soil, and backfilling is \$8,236.80. A cost breakdown itemizing each task is presented in Appendix D of this report.

8.0 Permits and Approvals Required

According to city officials with Stark County and the City of Canton, neither a permit nor any other approvals are needed to implement this RAP.

9.0 Implementation Schedule

Once the RAP has been approved and twenty-one (21) days after the Public Notice has been published, the remedial activities will be implemented as soon as scheduling permits. Table 3 illustrates the implementation schedule. A soil excavation report will be submitted within sixty (60) days after completing the soil excavation activities.

The remediation will be considered complete when the analytical results of the soil excavation samples are below their respective TPH Category Three action levels.

Once TPH concentrations are reported below site action levels, a final report will be prepared and a No Further Action letter from BUSTR will be requested.

TABLES

TABLES

**TABLE 1
UST CLOSURE
ANALYTICAL RESULTS - SOIL**

Former Expressway Mobile
1430 30th Street N. E.

Canton, O'ho

0.15 4.91 4.55 15.7 1000 2000

←
RE-USE
LEVELS

ISLAND
PIPE
RUN

Sample Location	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH 418.1 (mg/kg)
I-S	0.417	0.9151	0.00703	0.0374	<1	--
L-1	0.0158	0.0365	0.216	0.112	<1	<1
I-W-4	<0.002	<0.002	<0.002	<0.006	--	86
I-W-7	<0.002	<0.002	<0.002	<0.006	--	23
I-K-1	<0.002	<0.002	<0.002	0.0816	--	2270
I-W-2	--	--	--	--	--	3500
Category 3 Action Levels	0.335	9.0	14.0	67.0	450	904

- Sampling Date: July 27, 1993.
- Analytical Methodologies: BTEX by U.S. EPA method 8020. TPH by U.S. EPA method 8015, modified for Gasoline Range Organics (GRO) and by U.S. EPA method 418.1.
- Bolded numbers indicate concentrations above site action levels.
- --Not analyzed.

PHASE II
TABLE 2
SITE ASSESSMENT
ANALYTICAL RESULTS - SOIL

John's Route 62 Auto Sales
 1430 30th Street N. E.
 Canton, Ohio

0.015 4.91 4.55 15.7 1000*

Sample Location	Sample Depth (feet)	Benzene (rag/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	TPH 418.1 (rag/kg)
SB-1	4'-6'	--	--	--	--	1,831
SB-1	6'-8'	--	--	--	--	5,491
SB-2	4'-4.25'	--	--	--	--	478.0
SB-3	6'-6.5'	--	--	--	--	858.0
SB-4	2'-4'	0.15	0.006	0.008	0.02	<10.0
SB-4	4'-6'	--	--	--	--	86.0
SB-5	2'-4'	--	--	--	--	25.0
SB-6	0'-2'	--	--	--	--	74.0
Category 3 Action Levels		0.335	9.0	14.0	67.0	974

USED OIL
UST

KEROSENE

NE or K-1

NW or K-1

OVER X

- Sampling Date: November 6, 1998.
- Analytical Methodologies: BTEX by U.S. EPA method 8020. TPH by U.S. EPA method 418.1.
- Bolded numbers indicate concentrations above site action levels.
- --Not sampled.

NO PAH'S

storm drain

underground tank

water line
gas line
sidewalk

dispenser island

Building

Waste Oil
UST Cavity

C.W. 4
SOIL (in mg/kg)
TPH-218 1 3500

L-1
SOIL (in mg/kg)
benzene 0.0126
toluene 0.0369
ethylbenzene 0.216
xylene 0.112
TPH-218 1 41

L-2
SOIL (in mg/kg)
benzene 0.0126
toluene 0.0369
ethylbenzene 0.216
xylene 0.112
TPH-218 1 41

L.W. 4
SOIL (in mg/kg)
benzene <0.002
toluene <0.002
ethylbenzene <0.002
xylene <0.002
TPH-218 1 25

L.W. 7
SOIL (in mg/kg)
benzene <0.002
toluene <0.002
ethylbenzene <0.002
xylene <0.002
TPH-218 1 25

Business



FIGURE 2 - Closure Soil
Concentration Map

SCALE: 1" = 20'

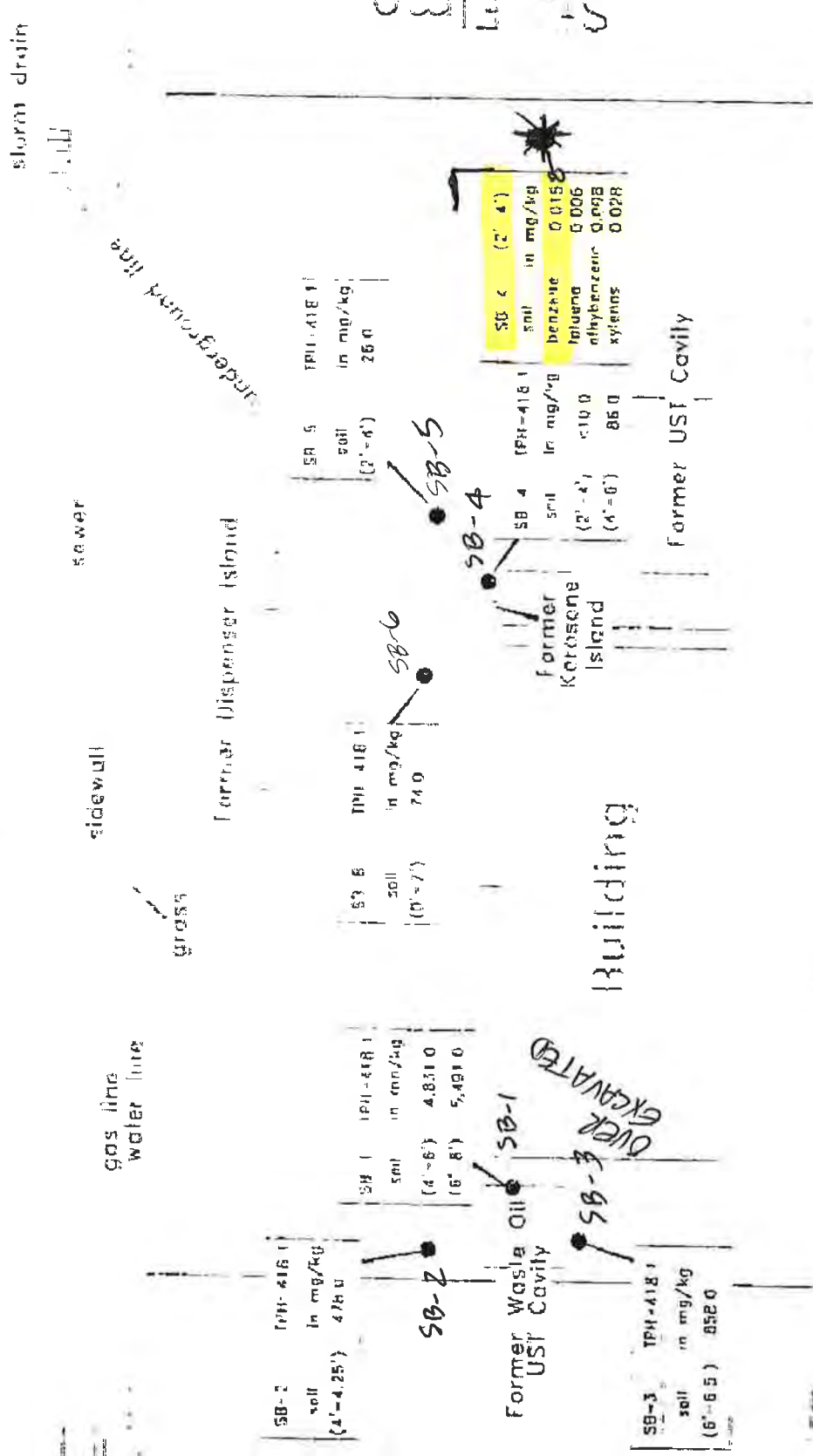
(sample locations are approximate)



FLYNN ENVIRONMENTAL, INC.
401 CLARENDON AVE., N.W.
CANTON, OHIO 44708
PHONE (330) 452-9409

Former Mobile Express
1430 30th Street N.E.
Canton, Ohio

SOIL CONCENTRATION MAP



John's Route 62 Auto sales
1430 30th Street N.E.
Canton, Ohio

PHASE II ESA
Soil Boring Locations
and Soil Concentration Map

SCALE: 1" = 20'

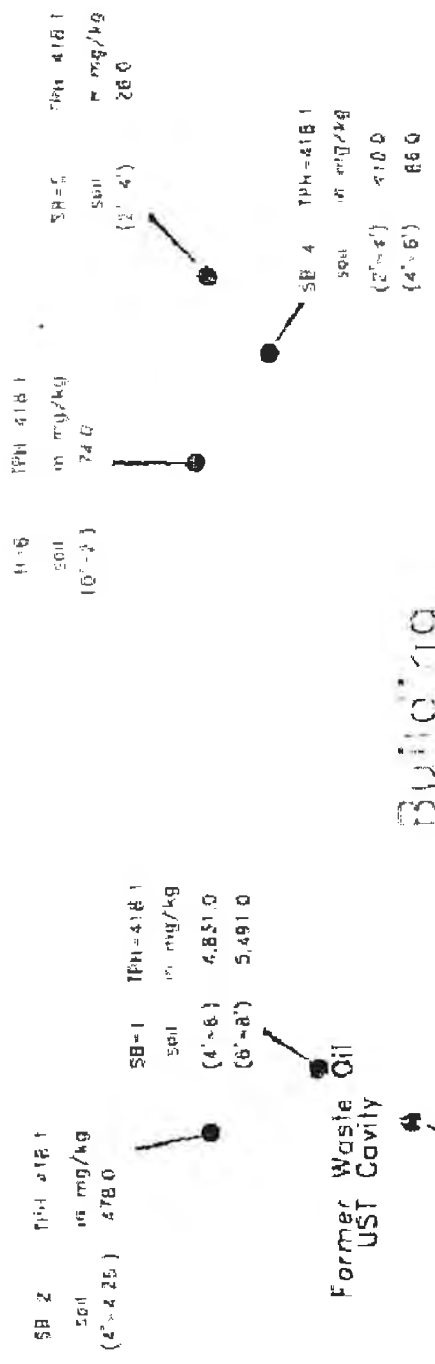
FLYNN ENVIRONMENTAL, INC.
401 CLARENDON AVE., N.W.
CANTON, OHIO 44708
PHONE (330) 452-9409

storm drain

underground gas

sidewalk
cross

gas line
water line




 FLYNN ENVIRONMENTAL, INC
 401 CLARENDON AVE., N.W.
 CANTON, OHIO 44708
 PHONE (330) 452-9409

FIGURE 2 - Soil Boring Location

and Soil Concentration Map

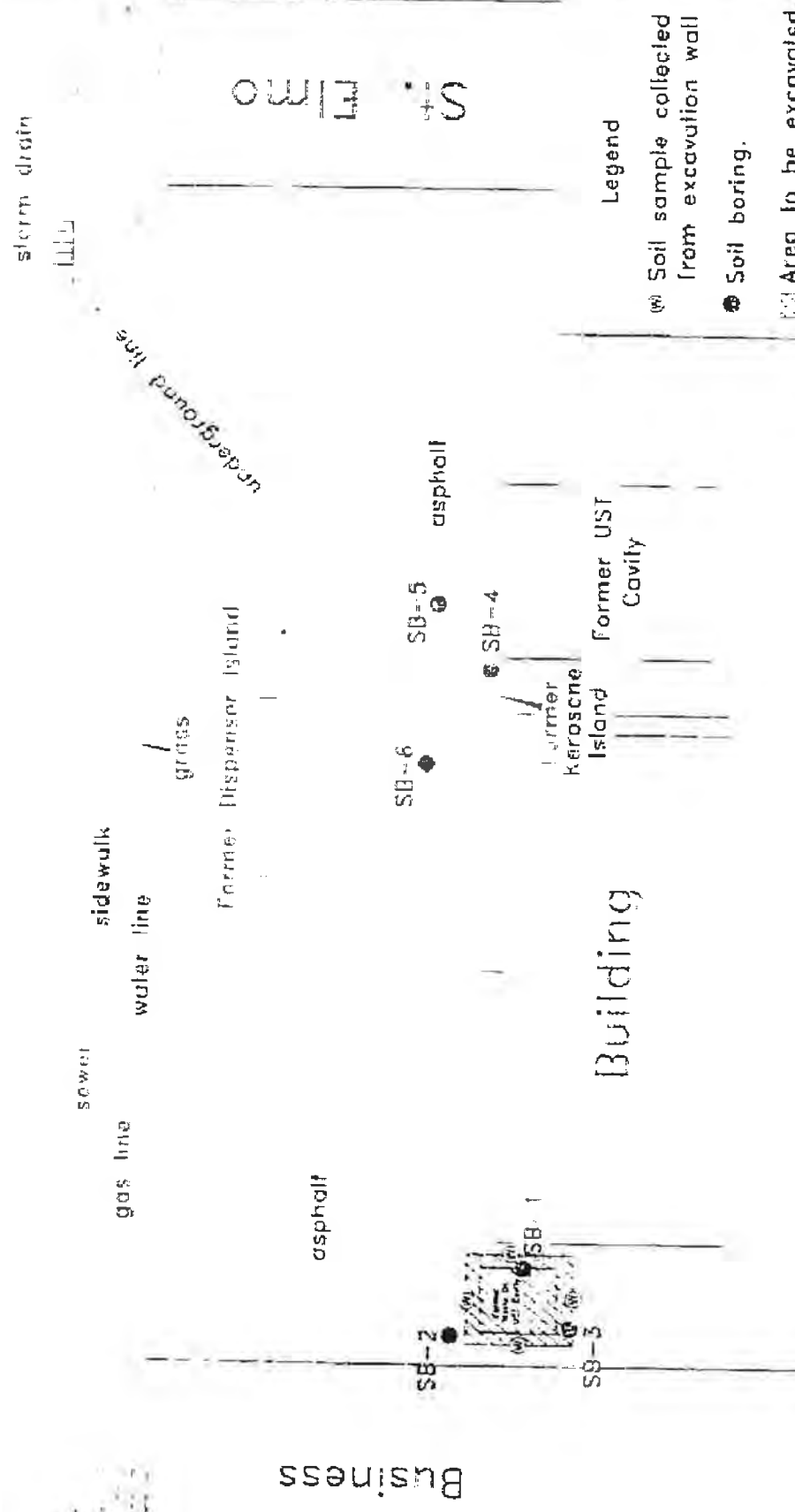
SCALE: 1" = 20'

Johr's Route 62 Auto sales

1430 30th Street N.E.

Canton, Ohio

30th Street NW



John's Route 62 Auto sales
 1430 30th Street N.E.
 Canton, Ohio



FIGURE 4 - Excavation Limits

and the Excavation Sampling Grid

SCALE: 1" = 20'



FLYNN ENVIRONMENTAL, INC.
 401 CLARENDON AVE., N.W.
 CANTON, OHIO 44708
 PHONE (330) 252-9609



FLYNN ENVIRONMENTAL, INC.

401 CLARENDON AVENUE N.W. • CANTON OH 44708 • 330-452-9409 • FAX 330-452-3508

December 28, 1998

Mr. Tim Lutz
Site Coordinator - Stark County
Bureau of Underground Storage Tanks
P.O. Box 687
Reynoldsburg, Ohio 43068-9009

COPY

**RE: Request to Over Excavate
John's Route 62 Auto Sales
Canton, Ohio
BUSTR Incident #7630958-00**

Dear Mr. Lutz:

The purpose of the following correspondence is to request approval to over excavate the former waste oil tank cavity at the site referenced above.


Upon completion of the Phase II investigation conducted by Flynn Environmental during November, 1998, it was determined that residual petroleum hydrocarbon contamination above BUSTR Category Three action levels exists within the subsurface in the area of the former waste oil tank cavity at the subject site. The former waste oil UST cavity is located directly west of the northwest corner of the existing building and consists of an area approximately 10' X 12' wide and approximately 10' deep. Figure 1 illustrates the TPH concentrations in the soil samples collected during the phase II activities with respect to the current site configuration.

As a form of remediation, Flynn Environmental proposes to over excavate the area of the former waste oil tank cavity consisting of approximately eighty-nine cubic yards (89 yd³) of contaminated soil. During the excavation, samples will be collected from the floor and side walls of the former waste oil cavity and field screened using a photoionization detector (PID). If bedrock is encountered, only wall samples will be submitted for confirmatory analysis. Figure 2 illustrates the excavation limits and the excavation sampling grid. The five (5) samples with the highest PID readings obtained will be designated confirmatory samples and sent to a laboratory for analysis. The confirmatory samples will be analyzed for VOCs by U.S. EPA method 8240 and for TPH by U.S. EPA method 418.1. The remediation will be considered complete when the analytical results of the soil excavation samples are below their Category Three action levels.

The excavated soils will be disposed of at a commercial facility. A soil excavation report will be submitted within (60) sixty days after completing the excavation activities and a No Further Action (NFA) letter will be requested.

Thank you for your consideration in this matter, Please contact me at (330) 452-9409 if you have any questions or require additional information.

Sincerely,


Carol Richardson
Environmental Technician

Mr. Don Coen
Coen Company

Figure 1 - Soil Concentration Map
Figure 2 - Excavation limits and excavation sampling grid.

30th Street NE

storm drain

sewer

sidewalk

grass

gas line
water line

underground line

Former Dispenser Island

Former Waste Oil UST Cavity

Former Kerosene Island

Former UST Cavity

Building

St. Filmo

SB-2
soil
(4'-4.25')
TPH-418.1
in mg/kg
478.0

SB-1
soil
(4'-6')
(6'-8')
TPH-418.1
in mg/kg
4,831.0
5,491.0

SB-5
soil
(0'-2')
TPH-418.1
in mg/kg
74.0

SB-5
soil
(2'-4')
TPH-418.1
in mg/kg
26.0

SB-4
soil
(2'-4')
(4'-6')
TPH-418.1
in mg/kg
<10.0
86.0

benzene	0.015
toluene	0.006
ethylbenzene	0.008
xylene	0.028

SB-3
soil
(6'-6.5')
TPH-418.1
in mg/kg
858.0



John's Route 62 Auto sales
1430 30th Street N.E.
Canton, Ohio

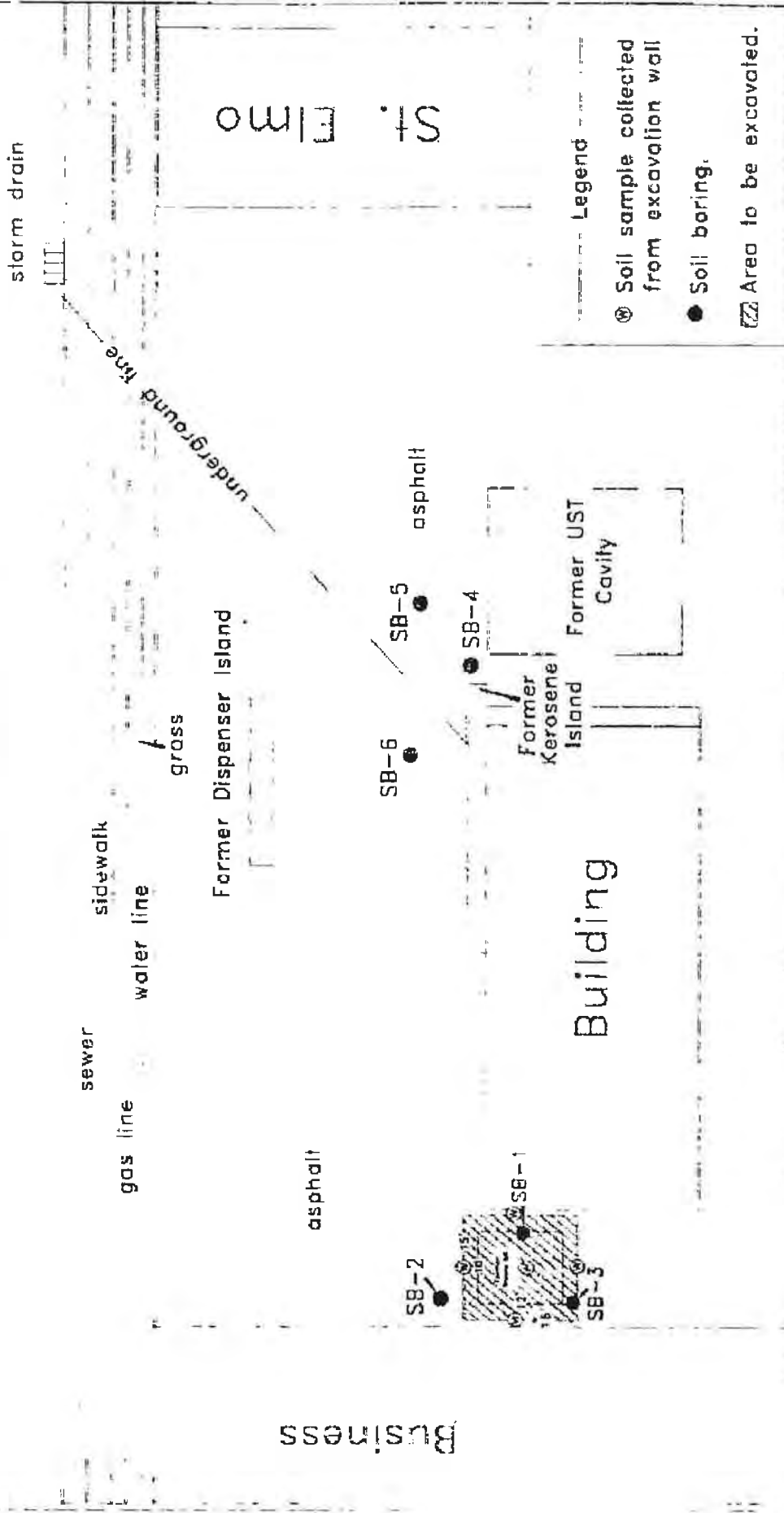
FIGURE 1 - Site Assessment
Soil Concentration Map

SCALE: 1" = 20'



FLYNN ENVIRONMENTAL, INC.
401 CLARENDON AVE., N.W.
CANTON, OHIO 44708
PHONE (330) 452-9409

30th Street NE




 FLYNN ENVIRONMENTAL, INC.
 401 CLARENDON AVE., N.W.
 CANTON, OHIO 44708
 PHONE (330) 452-9409

FIGURE 2 - Excavation Limits
 and the Excavation Sampling Grid
 SCALE: 1" = 20'

John's Route 62 Auto sales
 1430 30th Street N.E.
 Canton, Ohio



Ohio Department of Commerce

Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
P O Box 687
Reynoldsburg, OH 43068-9009
(614) 752-7938 FAX (614) 752-7942

George V. Volnovich
Governor

Donna Owens
Director

January 5, 1999

DON COEN
THE COEN COMPANY
1900 19TH STREET NW
CANTON OH 44714

SITE: FORMER EXPRESSWAY MOBIL
1430 30TH STREET NE
CANTON OH
STARK COUNTY
INCIDENT # 7630958-00

RE REQUEST FOR OVER EXCAVATION

Dear Mr. Coen

The State Fire Marshal Bureau of Underground Storage Tank Regulations, has reviewed your request dated December 28, 1998 to over excavate an additional 89 cubic yards of soil from the underground storage tank system cavity at this site.

The State Fire Marshal hereby grants approval for the over excavate of up to, but not to exceed, 89 cubic yards of soil.

All excavated soils shall be managed as petroleum contaminated soils (PCS) unless laboratory analysis indicates otherwise. Underground storage tank owners and/or operators are therefore requested to complete and submit the enclosed "Soil Disposal/Treatment Notification Form". The completion of this form, along with all applicable supporting information and documentation, will allow the BUSTR staff to verify proper PCS disposal. A separate form must be completed for each soil pile or containerized soil group.

Thank you for your cooperation. If you have any questions, please contact Tim Lutz at (614) 752-7938

Sincerely,

Donna Owens
Donna A. Ord
Acting Bureau Chief

VAO:tal

Enclosure

cc Site File

Post-It™ brand fax transmittal memo 7871

To: COEN	From: DOE COEN
Re: ROCKET	CA: ROCKET
Dept:	Phone: 614-752-7938
Fax: 432-3500	Fax:



02 11 23

FLYNN ENVIRONMENTAL, INC.

40 CLARENDON AVENUE N.W. • CANTON, OH 44708 • 330-452-9409 • FAX 330-452-3508

Over-Excavation & Sampling
of the
Former Waste Oil UST System Cavity
at
John's Route 62 Auto Sales
1430 30th Street
Canton, Ohio
Stark County

Over-Excavation & Sampling
of the
Former Waste Oil UST Cavity
at
John's Route 62 Auto Sales
1430 30th Street
Canton, Ohio
Stark County

BUSTR Incident #7630958-00

Flynn Project # 98-200

Prepared for:

Mr. Don Coen
Owner
Coen Company
1900 19th Street
Canton, Ohio 44714
Tel: (330) 452-2298
Fax: (330) 452-2398



Prepared by:



Carol Richardson
Environmental Technician
Flynn Environmental, Inc.
401 Clarendon Avenue, N.W.
Canton, Ohio 44708
TEL: (330) 452-9409
FAX: (330) 452-3508

Soil Sampling Date:
February 24, 1999

The owner is responsible for forwarding one copy of this report as soon as possible to:

The Ohio State Fire Marshal
BUSTR
ATTENTION: UST Closure Specialist
PO Box 687
Reynoldsburg, Ohio 43068-0687

The UST owner, or responsible party, as required by the Environmental Protection Agency Rule #40 CFR, Part 280-74, must keep a copy of this document and other pertinent records, such as:

- ▶ Records indicating the methods of disposal and locations of disposal for tanks, soil, liquids, sludges and other contaminated waste materials generated during closure.

Introduction

The following report documents the over-excavation, sampling and analysis of the petroleum contaminated soil (PCS) present within the former waste oil underground storage tank (UST) cavity located at John's Route 62 Auto Sales, 1430 30th Street, Canton, Stark County, Ohio. Flynn Environmental, Inc., was contracted by Mr. Don Coen of the Coen Company, to conduct the over-excavation and sampling activities.

Project Background

During June 1993, Flynn Environmental, Inc. prepared an underground storage tank (UST) closure assessment report which documents the permanent removal of one (1) 550 gallon waste oil UST from the subject site. The closure report indicated that soil samples collected from the the waste oil tank cavity contained concentrations of total petroleum hydrocarbons (TPH) above the regulatory action levels.

Upon completion of a Phase II investigation conducted in November, 1998, it was determined that residual petroleum hydrocarbon contamination above BUSTR Category 3 action levels existed in the area of the former waste oil UST cavity at the site.

During December 1998, Flynn Environmental Inc. proposed to over-excavate the area of the former waste oil tank cavity as a form of remediation. BUSTR approved the over excavation with the stipulation that no more than eighty-nine (89) cubic yards of petroleum contaminated soil (PCS) be removed from the area of the former waste oil cavity. A copy of the request to over-excavate and a copy of BUSTR's approval letter are included in Appendix A of this report.

Over-Excavating Activities

On February 24, 1999, over-excavation activities were conducted at the site. The former waste oil tank cavity was over-excavated until all noticeable PCS was removed from the excavation. Bedrock was encountered at a depth of approximately ten feet (10') below grade. Soil samples were then collected from the sidewalls of the over-excavated area. The purpose of the sampling was to confirm that all of the PCS had been removed from the area of the former waste oil tank cavity. The approximate dimensions of the excavation were 8' wide by 12' long by 10' deep. Figure 1 shows the sample locations as well as the dimensions of the over-excavated area.

All of the PCS excavated during the over-excavation activities was taken to Countywide Recycling & Disposal facility in East Sparta, Ohio. The volume of PCS generated from the over-excavation activities was approximately thirty-six cubic yards (36 yd³).

All of the soil samples were collected by Carol Richardson, Environmental Technician with Flynn Environmental, who is trained and experienced in the sampling and record keeping techniques required by the State of Ohio. Sample collection was witnessed by Mr. Don Linhart with Linder Excavating Contracting Company.

Soil samples could not be collected from the floor of the excavation due to the presence of shale bedrock. Therefore, sidewall soil samples were collected from each of the four sidewalls of the excavation. The sidewall soil samples were collected from approximately eight feet (8') below grade. Soil samples were not collected from the excavated PCS since this material had previously been analyzed for landfill acceptance. Figure 1 shows the soil sample locations. All samples were collected using a hand-held, three inch (3") AMS Core Sampler. Care was taken to decontaminate the sampling instrument prior to sample collection by washing with an Alconox/water solution and rinsing with distilled water. The soil samples were collected in such a way as not to disturb the nature of any potential petroleum products within the samples.

After collection, each sample was immediately split into two (2) parts; one (1) for screening and the other for possible laboratory analysis. The portions of the samples collected for field screening were placed into clean zip-lock plastic bags. The portions collected for possible laboratory analysis were immediately placed into two hundred fifty milliliter (250mL) glass jars provided by the analytical laboratory. The jars were capped with Teflon lids and appropriately labeled and officially sealed at the site. These samples were immediately placed in a cooler with ice packs and kept cool until laboratory analysis.

After having collected each soil sample, a photoionization detector (PID) was used to screen the soil samples within the zip-lock plastic bags. The PID used to perform headspace screening was manufactured by Thermo Environmental Instruments, Inc., Model 580B OVM, with a 10.2 EV lamp, Serial #580B-31544-289. The PID was calibrated using Isobutylene span gas with a known concentration of 100 parts per million (ppm) on February 24, 1999. This PID has a range of 0 to 2000 ppm.

Table 1 summarizes the field screening results of the soil samples collected from the excavation. All of the samples collected from the sidewalls of the excavation cavity were submitted for laboratory analysis. Based on the field screen readings, samples N-Wall, S-Wall, E-Wall, and W-Wall were submitted to the laboratory and analyzed for volatile organic compounds (VOCs) by method 8240 and for TPH by method 418.1.

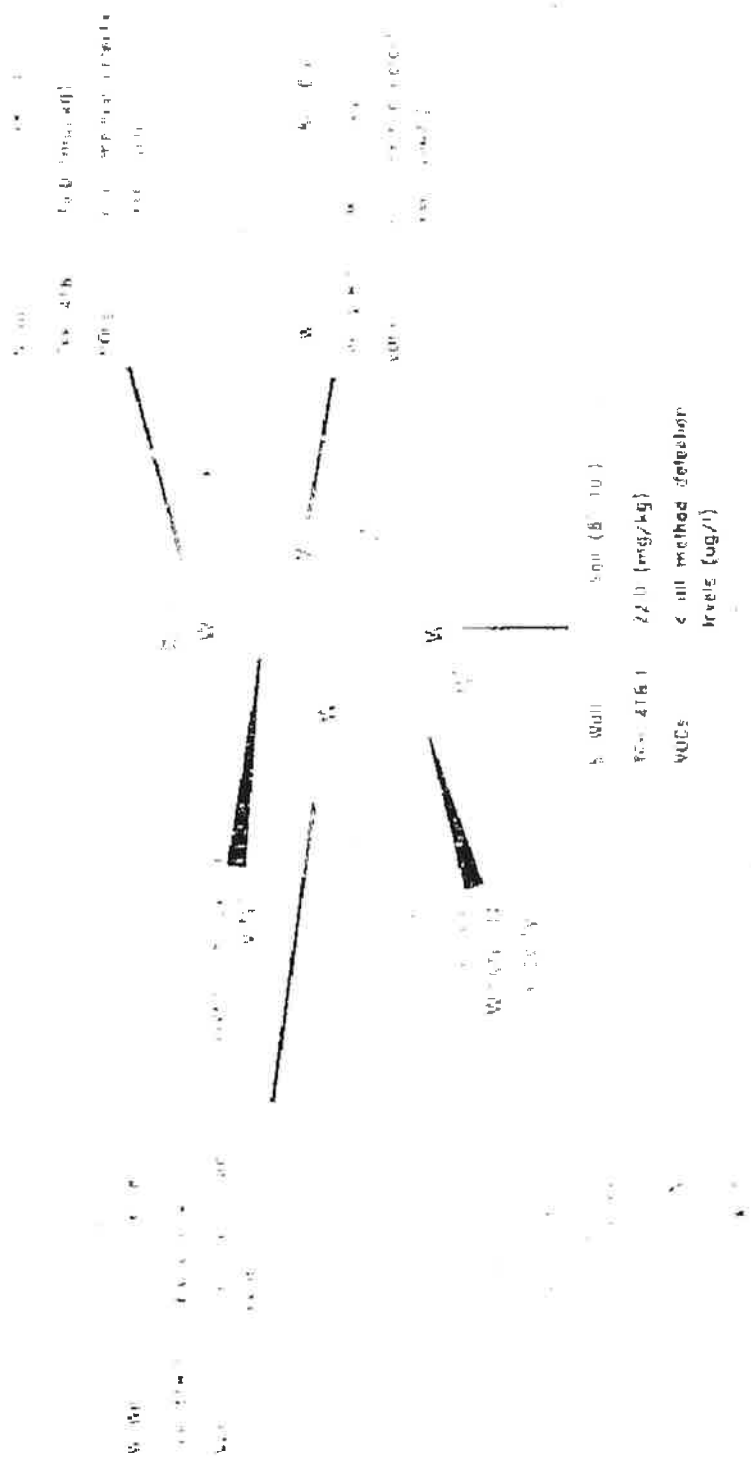
Summary of the Analytical Results

The analytical results reported that TPH concentrations in each of the samples collected were below BUSTR Category 3 action levels. The VOC analytical results were reported below the method detection levels for all VOC constituents. Table 2 compares the TPH concentrations with BUSTR action levels. A complete copy of the analytical report is included in Appendix B.

Conclusions/Recommendations

The analytical results for the soil samples analyzed from the native soil within the excavated area were below the site action levels for TPH and below the method detection limits for VOCs. The analytical results for the samples collected during the over excavation activities indicate that all of the PCS was removed from the former waste oil cavity.

0.00000000



John's Route 62 Auto sales
 1430 30th Street N.E.
 Canton, Ohio

FIGURE 1 - Excavation Limits

and the Excavation Sampling Grid

SCALE: 1" = 10'



FLYNN ENVIRONMENTAL, INC.
 401 CLARENDON AVE., N.W.
 CANTON, OHIO 44708
 PHONE (330) 452-9409

The excavated PCS generated during the over-excavation activities was disposed of at Countywide Recycling & Disposal facility (Countywide) in East Sparta, Ohio. The approximate volume of this soil is twenty (36) cubic yards. The total amount of soil taken to Countywide was 49.1 tons. A copy of the disposal tickets and the completed soil disposal/treatment notification form for the PCS generated during the over-excavation activities are located in Appendix C.

A copy of this report should be sent to BUSTR for their review. Based on the information contained within this report, BUSTR should determine that the site qualifies for a "No Further Action" in regards to the closure of the former waste oil UST system.

TABLES

**TABLE 1
FIELD SCREENING RESULTS**

John's Route 62 Auto Sales
1430 30th Street N.E.
Canton, Ohio

SAMPLE I.D.	PID RESPONSE (PPM)	SAMPLE COLLECTION TIME
N-Wall (6'-8')	1	10:15
E-Wall (8'-10')	4	10:25
S-Wall (8'-10')	3	10:30
W-Wall (8'-10')	3	10:35

Sampling date: February 24, 1999.

**TABLE 2
LABORATORY ANALYTICAL RESULTS**

John's Route 62 Auto Sales
1430 30th Street N.E.
Canton, Ohio

Sample I.D.	TPH by Method 418.1 in mg/kg	VOCs by Method 8240 in ug/kg
Action Level	904	
N-Wall (6'-8')	35.0	Below all method detection levels
E-Wall (8'-10')	29.0	Below all method detection levels
S-Wall (8'-10')	22.0	Below all method detection levels
W-Wall (8'-10')	16.0	Below all method detection levels

Sampling Date: February 24, 1999.

Analytical methodologies: TPH by U.S. EPA method 418.1. VOCs by U.S. EPA method 8240.

7600058Z

1600 30TH ST NE

SITE ZU



Certified Mail – Return Receipt Requested

SEP 27 2011

RECEIVED

SEP 29 2011

STATE FIRE MARSHAL

Ms. Christine Pyscher, Environmental Specialist
Ohio Department of Commerce/BUSTR
8895 East Main Street • P.O. Box 687
Reynoldsburg, Ohio 43068-9009

Subject: **Revised BIOSCREEN Fate & Transport Model**
Former Clark Store #1079
1600 30th Street NE
Canton, Ohio 44714
Stark County
BUSTR Release #76000582-N00001&2
BJAAM Job#: 105047

Dear Ms. Pyscher:

On behalf of The Premcor Refining Group (Premcor), provided herein are the revised BIOSCREEN fate and transport models for the above referenced releases. The BIOSCREEN models have been completed for benzene and benzo (a) pyrene via the ground water ingestion pathway. All chemicals of concern (COCs) in ground water and soil are below Tier 1 Risk-Based Action Levels (RBALs), and/or site-specific target levels (SSTLs).

On June 22, 2011, Premcor submitted the 3rd quarterly *Ground Water Sampling Report (BJAAM, 2011)* and a *Revised BIOSCREEN Fate and Transport Model Report (BJAAM, 2011)*. The *Ground Water Sampling Report (BJAAM, 2011)* detailed the 3rd sampling event and the *Revised BIOSCREEN Fate and Transport Model Report (BJAAM, 2011)* detailed the revised modeling effort. The revised modeling effort utilized the onsite potable well as the POE, the average hydraulic conductivity (2.6E-04 cm/sec) and the current hydraulic gradient. In addition to the aforementioned parameters, the revised models also used ground water concentrations from the 3rd sampling event. The revised models were completed for benzene and benzo (a) pyrene, the only COCs in excess of RBALs. A No Further Action (NFA) status was recommended based on the fact that all COCs in soil and ground water were below the applicable action levels.

Based on a review of the submitted reports, BUSTR issued a *NFA Request Letter* on June 27, 2011. The BUSTR letter requested 1) the completion of the 4th quarter of ground water sampling, 2) the abandonment of the onsite potable well OR 3) the recalculation of the fate and transport model and SSTLs using the onsite potable well as the POE and demonstrating that COCs in ground water and soil leaching will not reach the POE above the SSTLs. As per the BUSTR letter, Premcor is submitting a second revised BIOSCREEN model and updated SSTLs. This revised model will utilize the onsite potable well as the POE and the average hydraulic conductivity (2.6E-04 cm/sec). Ground water concentrations from the 4th ground water sampling event will be used to complete the model.

Prior to completing the revised model, BJAAM visited the site to complete the 4th ground water sampling event on August 2, 2011. As per the approved monitoring plan, the plume geometry monitoring wells were gauged, purged, and sampled. Ground water samples collected were submitted to Pace Analytical (Pace) Laboratory in Green Bay, Wisconsin for analysis of BUSTR Group 1 COCs by USEPA Method 8021 and BUSTR Group 2 COCs by Method 8310.

To date, concentrations of COCs in ground water (more specifically benzene and benzo (a) pyrene) have been decreasing. As per BUSTR's request in the June 27, 2011 correspondence, the BIOSCREEN models have been re-evaluated based on current ground water concentrations and the actual POE (the onsite potable well). The BIOSCREEN models will be re-evaluated using the onsite potable well as the POE. The distance from the source area (MW-3) to the onsite potable well is 80 ft.

The BIOSCREEN models for benzene and benzo (a) pyrene were revised with a POE of 80 ft, the most recent ground water analytical concentrations, an updated hydraulic gradient from April 29, 2011, and BUSTR default values for solute half-lives. In addition to revising the BIOSCREEN models with the aforementioned data, an average hydraulic conductivity value was utilized as completed in the previous *Revised BIOSCREEN Fate and Transport Model Report (BJAAM, 2011)*. The BIOSCREEN models were completed using the average hydraulic conductivity value (2.6E-04 cm/sec) for comparison to actual site data, verification of POD concentrations, and SSTL development. Table 1 summarizes the BIOSCREEN fate and transport model results.

COC	Maximum Allowable Source Area Concentration (mg/L)	Concentration at the POE after 40 Years Assuming Current Source Area Concentration (mg/L)	Current Maximum Site-Wide Concentration (mg/L)
Benzene	0.840	0.005	0.092
Benzo (a) Pyrene	100.0	0.000	0.00011

Results of this modeling effort have demonstrated that current concentrations benzene and benzo (a) pyrene will not reach the POE above drinking water standards. The maximum allowable source area concentrations for benzene and benzo (a) pyrene in ground water (SSTLs) are in excess of current ground water concentrations. All other COCs in soil and ground water are below RBALs.

The site location is provided within Attachment A as Figure A-1 on a USGS Topographic Map. A Site Map with the monitoring well and soil boring locations is provided within Attachment A as Figure A-2. Soil analytical data, in map view is provided within Attachment A as Figure A-3. Soil analytical data, in tabular form is provided within Attachment B as Tables B-1 through B-4. Ground water analytical data, in map view is provided within Attachment A as Figure A-4. Ground water analytical data, in tabular form is provided within Attachment B as Tables B-5 through B-6. The potentiometric surface flow is provided within Attachment A as Figure A-5. Historical ground water gauging data is provided within Attachment B as Table B-7. The revised BIOSCREEN fate and transport models and plume geometry maps are provided within Attachment C. SSTL calculations are provided within Attachment D. Slug test data and hydraulic conductivity calculations are provided within Attachment E. Geotechnical data is provided within Attachment F.

The compilation of the ground water SSTLs calculated for all applicable COCs completed to date are included in Table 2. For each COC, the lowest concentration is selected as the applicable action level for the site.

COC	Ground Water Ingestion (mg/L)	Ground Water to Indoor Air (mg/L)	Ground Water Action Level (mg/L)
Benzene	0.840 ^a	3.98 ^b	0.840
Toluene	1.00 ^b	NA ^c	1.00
Ethylbenzene	0.70 ^b	NA	0.70
Xylenes	10.00 ^b	NA	10.00
MTBE	0.040 ^b	NA	0.040
Benzo (a) Pyrene	100.00 ^a	NA	100.00

- a. SSTL was developed during this modeling effort
- b. RBAL
- c. Not Applicable based on the 1999 BUSTR TGM.

The current site maximum concentrations in ground water for all applicable COCs are listed in Table 3. Each concentration is compared to the applicable action level. Concentrations of all COCs in ground water are below the applicable action levels.

COC	Action Levels (mg/L)	Site Maximum Concentration (mg/L)
Benzene	0.840	0.092
Toluene	1.00	0.0042
Ethylbenzene	0.70	0.013
Xylenes	10.00	0.055
MTBE	0.040	0.004
Benzo (a) Pyrene	100.00	0.00011

The compilation of the soil RBALs for all applicable COCs completed to date are included in Table 4 on the ensuing page. The pathway-specific action levels values are listed. The soil action level is the lowest of these values.

COC	Soil to Drinking Water Leaching (mg/Kg)	Soil to Indoor Air (mg/Kg)	Soil Saturation (mg/Kg)	Direct Contact (mg/Kg)	Soil Action Level (mg/Kg)
Benzene	0.682 ^a	0.950	444.5	8.20	0.682
Toluene	58.7	NA	268.2	520.0	58.7
Ethylbenzene	71.1	NA	149.3	230.0	71.1
Xylenes	NA ^b	NA	124.7	1,500	124.7
MTBE	0.530	NA	5,483	130.0	0.530
Benzo (a) Pyrene	NA	NA	NA	0.550	0.550
Naphthalene	NA	NA	NA	1,800	1,800
TPH C ₆ -C ₁₂	NA	NA	1,000	NA	1,000
TPH C ₁₀ -C ₂₀	NA	NA	2,000	NA	2,000

- a. Calculated using the ground water ingestion SSTL from the benzene BIOSCREEN model
- b. Not Applicable based on the 1999 BUSTR TGM.

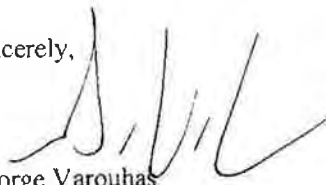
The site maximum concentrations in soil for all COCs are listed in Table 5. Each concentration is compared to the applicable action level.

COC	Action Levels (mg/Kg)	Site Maximum Concentration (mg/Kg)
Benzene	0.682	<0.310
Toluene	58.7	<0.630
Ethylbenzene	71.1	2.100
Xylenes	124.7	6.90
MTBE	0.530	<0.630
Benzo (a) Pyrene	0.550	0.330
Naphthalene	1,800	3.380
TPH C ₆ -C ₁₂	1,000	346.0
TPH C ₁₀ -C ₂₀	2,000	1.990

Based on the results of this modeling effort, ground water monitoring data and all tier evaluations completed to date; concentrations of all COCs in soil and ground water are below their applicable action levels. As such, Premcor is respectfully requesting a No Further Action (NFA) status for the 76000582-N00001 and N00002 releases.

Please feel free to contact me at any time with any questions or concerns you may have at (330) 854-5300 extension 104. Thank you.

Sincerely,



George Varouhas
Senior Project Manager/Risk Assessor

CC: Tim Mauntel, Premcor
Brent McPherson, BJAAM
Starr Richmond, PUSTRCB
File Copy

This report has been prepared for the exclusive use of The Premcor Refining Group (Premcor). The information presented in this document is proprietary and confidential information which is a trade secret of BJAAM Environmental, Inc. BJAAM Environmental, Inc. asserts a business confidentiality claim covering all information and all data contained on each page of this document. Any unauthorized dissemination or reuse of this document will be at the user's sole risk and with the condition that BJAAM Environmental, Inc. will be held harmless from any and all claims for losses or damages and expenses arising out of or resulting from such unauthorized disclosure or reuse.

Premcor acknowledges that subsurface conditions may vary from those encountered at the locations where borings, surveys, samples, or explorations are made. The data, interpretations, and recommendations of BJAAM may be based solely on the information available to us. BJAAM assumes that the data that has been obtained and/or provided through previous investigations represents the true conditions of the site. It is understood by Premcor that some of the information in this report may be second hand. It will be the responsibility of the Premcor to review the report for accuracy. BJAAM will be responsible for its data, interpretations, and representations, but will not be responsible for the data provided to us or for the interpretation of the information by others.

Petroleum products regulated under Ohio Administrative Code 1301:7-9-13 were assumed to be the only contaminants on this site. If an active UST system exists on site, then a currently on-going and/or future release may change subsurface data which may invalidate the conclusions of this report. BJAAM makes no claims or warranties regarding BUSTR or Ohio EPA action levels or standards and their respective or cumulative effects on the human body. Nothing in this document should be interpreted as an expert opinion regarding human health or degree of safety due to the presence of contaminants at and/or emanating from the site. Moreover, this report does not include an ecological risk assessment.

Attachment A - Figures

Figure A-1: USGS Topographic Map

Figure A-2: Site Map

Figure A-3: Soil Map

Figure A-4: Ground Water Analytical Map

Figure A-5: Potentiometric Surface Map

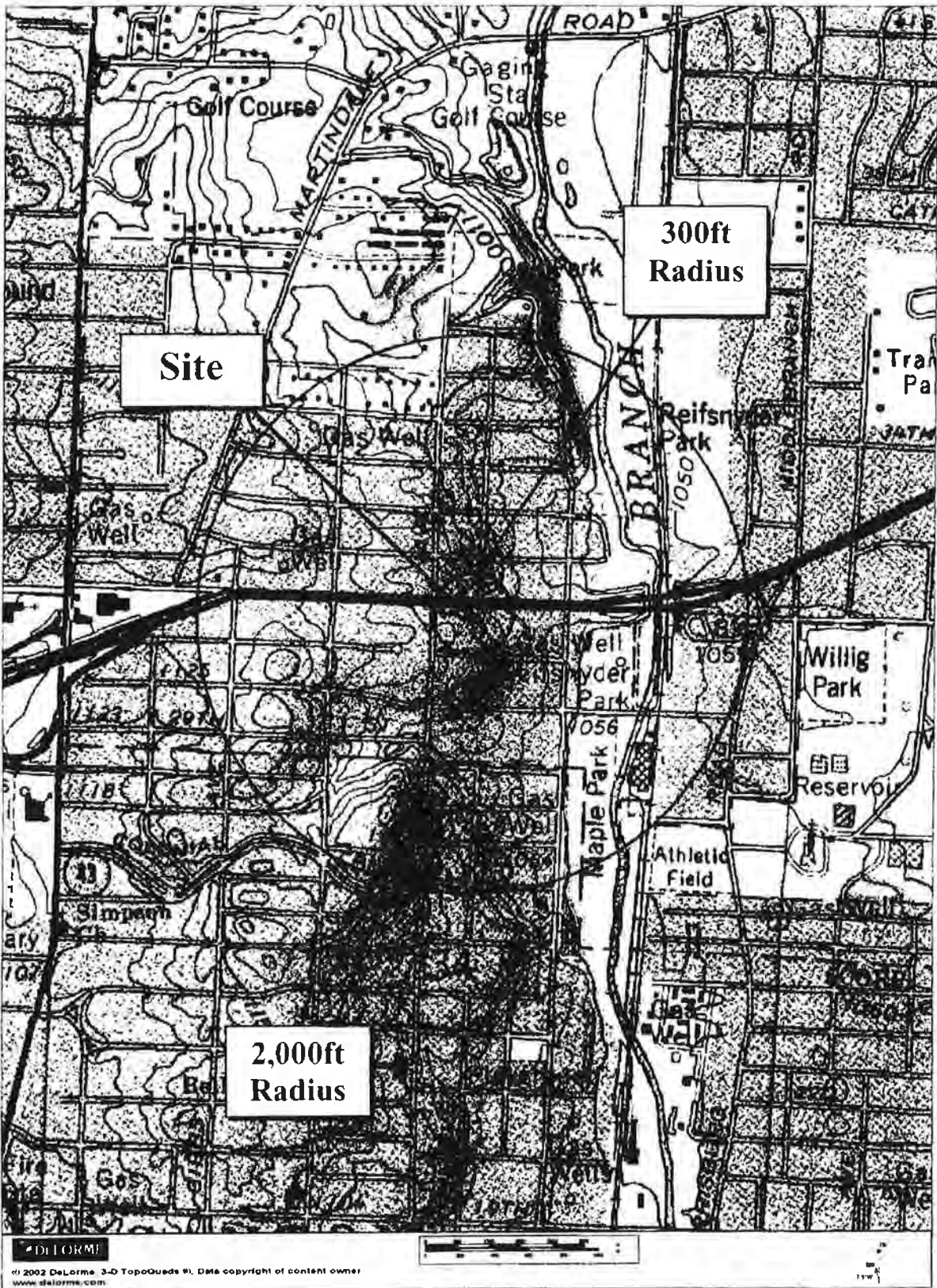
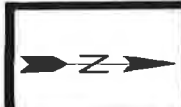


Figure A-1: USGS Topographic Map

NOTE: PRIVATE UTILITY LOCATE PERFORMED ON 05/23/06. NOT KNOWN IF PROPERTY HAS CITY WATER SERVICE.



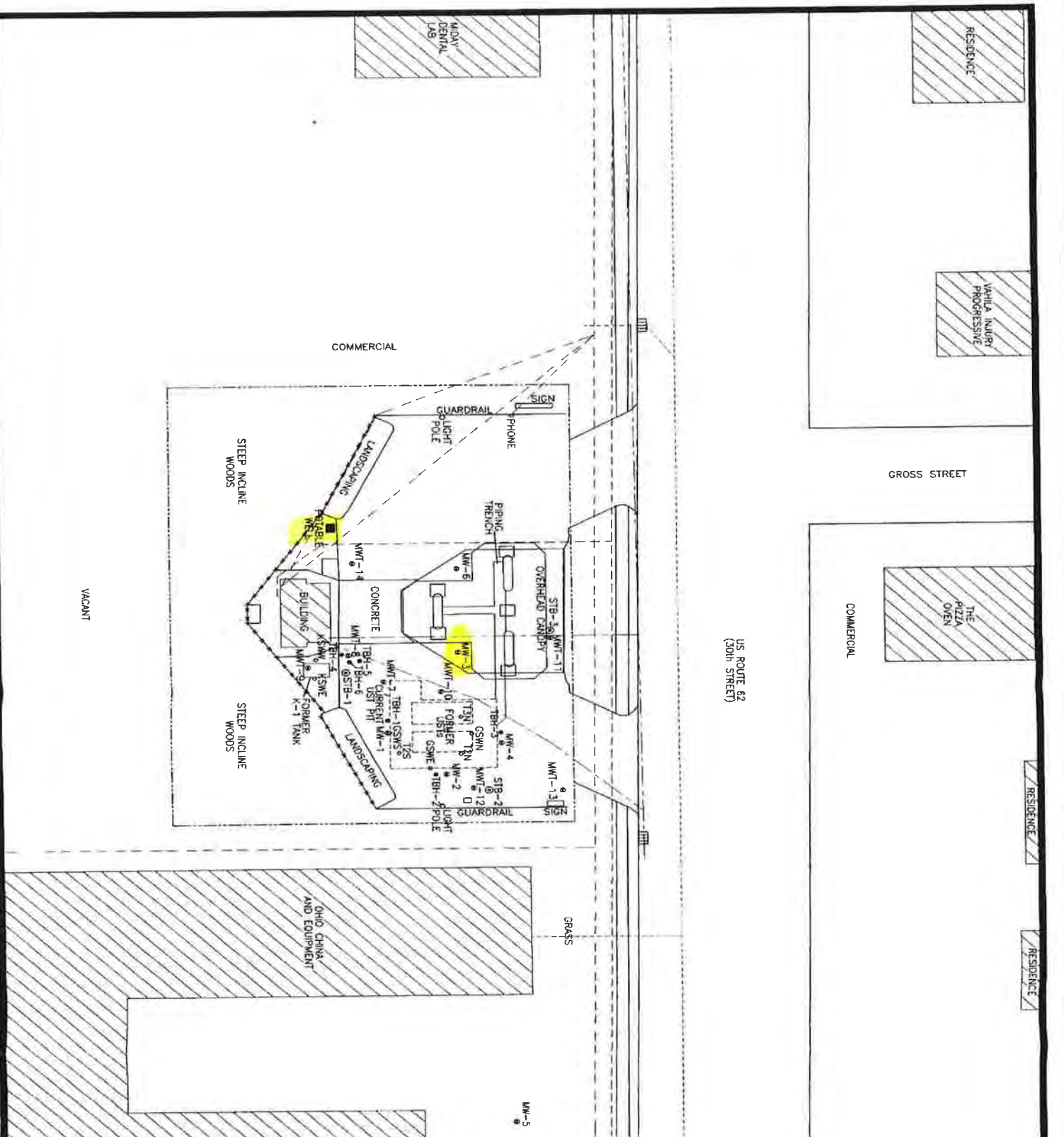
LEGEND

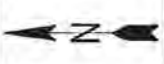
- ▣ = BUILDING
- ⊙ = MONITORING WELL
- ⊕ = FORMER WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- - - = STORM SEWER
- · - · = SANITARY SEWER
- x - x - = OVERHEAD UTILITIES
- = PROPERTY LINE
- * - * - = FENCE



FIGURE A-2:

SITE MAP	
105047	
CLARK STORE #1079	
1600 30th STREET NE	
CANTON, OHIO 44714	
FILE NAME = 105047-CLARK-1079	-SITE-2
DATE: FEBRUARY 16, 2011	
APPRX. SCALE: 1"=40'	
DRAWN BY: J.P.BREEN	





B	0.005
T	1.0
E	0.7
X	10
MTE	0.001
NAPH	0.001
BEN-PH	0.0002

LEGEND

- ▣ = BUILDING
- = MONITORING WELL
- = FORMER WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- = STORM SEWER
- = SANITARY SEWER
- = OVERHEAD UTILITIES
- - - = FENCE
- - - - - = PROPERTY LINE

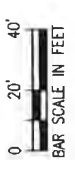


FIGURE A-4

GROUND WATER ANALYTICAL MAP

105047

CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714

FILE NAME = 105047-CLARK-1079
-BTW-3

DATE: AUGUST 24, 2011

APPRX. SCALE: 1"=40'

DRAWN BY: J.P.GREEN



GROSS STREET

VAHIA INJURY PROGRESSIVE

RESIDENCE

US ROUTE 62
(30th STREET)

CONCRETE

BUILDING

FORMER K-1 TANK

STEEP INCLINE WOODS

VACANT

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

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RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

THE PIZZA OVEN

STB-3A

STB-3B

STB-3C

STB-3D

STB-3E

STB-3F

STB-3G

STB-3H

STB-3I

STB-3J

STB-3K

STB-3L

STB-3M

STB-3N

STB-3O

STB-3P

STB-3Q

STB-3R

STB-3S

STB-3T

STB-3U

STB-3V

STB-3W

STB-3X

STB-3Y

STB-3Z

STB-3AA

MW-1

MW-2

MW-3

MW-4

MW-5

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MW-7

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MW-1

MW-2

MW-3

MW-4

MW-5

MW-6

MW-7

MW-8

MW-9

MW-10

MW-11

MW-12

MW-13

MW-14

MW-15

MW-1

MW-2

MW-3



DRAWN BY: SURFERTM
 DATE MEASURED: 4/29/11
 CONTOUR INTERVAL= 0.5 FOOT

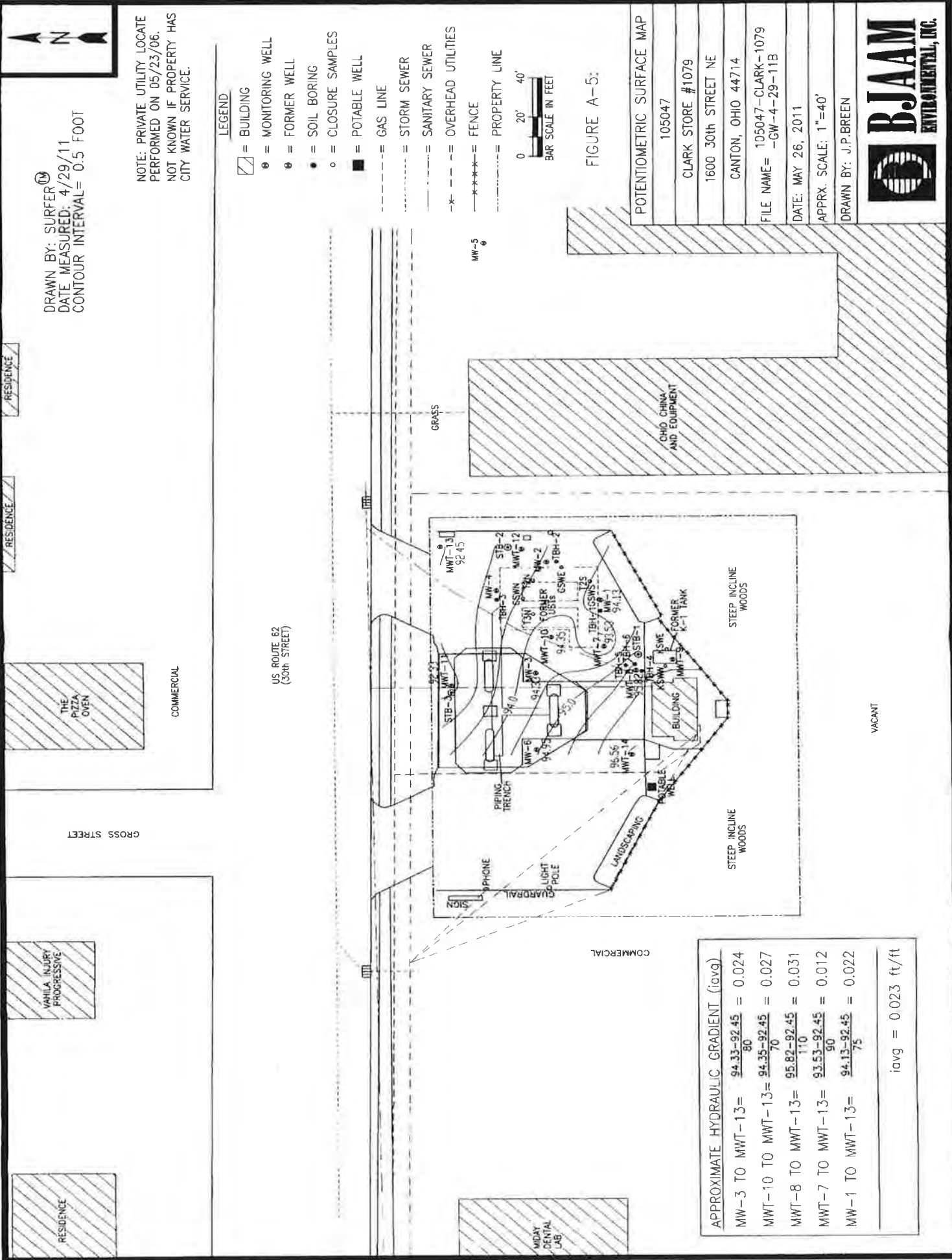
NOTE: PRIVATE UTILITY LOCATE
 PERFORMED ON 05/23/06.
 NOT KNOWN IF PROPERTY HAS
 CITY WATER SERVICE.

LEGEND

- = BUILDING
- = MONITORING WELL
- = FORMER WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- = STORM SEWER
- = SANITARY SEWER
- = OVERHEAD UTILITIES
- = FENCE
- = PROPERTY LINE



FIGURE A-5:



POTENTIOMETRIC SURFACE MAP
105047
CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714
FILE NAME= 105047-CLARK-1079
-GW-4-29-11B
DATE: MAY 26, 2011
APPRX. SCALE: 1"=40'
DRAWN BY: J.P.BREEN



APPROXIMATE HYDRAULIC GRADIENT (avg)	
MW-3 TO MW-13 =	$\frac{94.33-92.45}{80} = 0.024$
MW-10 TO MW-13 =	$\frac{94.35-92.45}{70} = 0.027$
MW-8 TO MW-13 =	$\frac{95.82-92.45}{110} = 0.031$
MW-7 TO MW-13 =	$\frac{93.53-92.45}{90} = 0.012$
MW-1 TO MW-13 =	$\frac{94.13-92.45}{75} = 0.022$
avg = 0.023 ft/ft	

Attachment B - Tables

Table B-1: Historical Summary of BTEX and MTBE in Soil

Table B-2: Historical Summary of PAHs in Soil

Table B-3: Historical Summary of TPH (GRO) in Soil

Table B-4: Historical Summary of TPH (DRO) in Soil

Table B-5: Historical Summary of BTEX and MTBE Ground Water Analytical

Table B-6: Historical Summary of PAH Ground Water Analytical

Table B-7: Historical Ground Water Gauging Data

Table 1. Historical Summary of BTEX and MTBE in Soil

Sample ID	Date	Depth (feet bsg ^a)	BENZENE (ppm)	TOLUENE (ppm)	ETHYLBENZENE (ppm)	XYLENES (ppm)	MTBE (ppm)
KSWE	10/29/1996	Unknown	<0.002	0.020	0.010	0.078	Not Tested
KSWW	10/29/1996	Unknown	<0.002	0.065	0.104	0.405	Not Tested
KB	10/29/1996	K-1 Pit Bottom	0.013	0.020	<0.002	<0.002	Not Tested
GSWE ^b	10/29/1996	Unknown	0.597	1.180	7.600	6.880	Not Tested
GSWW	10/29/1996	Unknown	0.081	0.304	0.244	1.290	Not Tested
GSWN ^b	10/29/1996	Unknown	2.860	0.023	0.061	0.054	Not Tested
GWS ^b	10/29/1996	Unknown	1.480	0.706	1.820	1.600	Not Tested
T2N ^b	10/29/1996	Gas Pit Bottom	0.433	0.978	0.468	4.750	Not Tested
T2S ^b	10/29/1996	Gas Pit Bottom	0.362	0.044	0.035	0.067	Not Tested
T3N ^b	10/29/1996	Gas Pit Bottom	0.471	0.599	0.306	4.300	Not Tested
T3S	10/29/1996	Gas Pit Bottom	0.005	0.006	0.003	0.007	Not Tested
KSP2 ^c	10/29/1996	Stockpile	<0.002	<0.002	<0.002	0.189	Not Tested
GSP1 ^c	10/29/1996	Stockpile	1.060	3.110	1.610	35.100	Not Tested
GSP3 ^c	10/29/1996	Stockpile	0.493	1.280	1.910	25.600	Not Tested
GSP4 ^c	10/29/1996	Stockpile	0.579	6.720	30.000	90.000	Not Tested
MW-1	2/17/1998	4-6	<0.005	<0.010	<0.010	<0.030	Not Tested
MW-2	2/17/1998	10-12	<0.005	<0.010	<0.010	<0.030	Not Tested
MW-3	2/18/1998	4-6	0.070	0.100	<0.010	0.098	Not Tested
MW-4	2/18/1998	6-8	<0.005	<0.010	<0.010	<0.030	Not Tested
MW-5	9/21/1998	5-10	<0.001	<0.001	<0.001	<0.006	Not Tested
MW-6	9/21/1998	10-15	<0.005	<0.005	<0.005	<0.030	Not Tested
Below surface grade			0.082	58.70	7.00	1.24	0.530

a. Below surface grade
 b. Gasoline UST closure locations re-sampled by TBH-1 through TBH-3, MWT-7, MWT-10 & MWT-12. Not evaluated as site maximum concentration for soil.
 c. According to the Closure Report (Secor, 1996), stockpile from the UST closure was disposed of at landfill

Table B-1: Historical Summary of BTEX and MTBE in Soil (continued)

Sample ID	Date	Depth (feet bsg ^a)	BENZENE (ppm)	TOLUENE (ppm)	ETHYLBENZENE (ppm)	XYLENES (ppm)	MTBE (ppm)
TBH-1	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005
		10-12	<0.005	<0.005	0.0088	<0.015	<0.005
TBH-2	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	0.100	0.120	0.710	3.580	<0.050
TBH-3	7/31/2002	10-12	0.054	<0.005	<0.005	<0.015	0.015
		16-18	<0.005	<0.005	<0.005	<0.015	0.0079
MWT-7	7/30/2002	2-4	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	<0.005	<0.005	<0.005	<0.015	<0.005
MWT-8	7/30/2002	0-2	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	<0.005	0.0084	<0.005	<0.015	<0.005
MWT-9 ^b	7/30/2002	2-4	<0.200	<0.400	<0.400	<1.200	<0.400
		6-8	<0.005	<0.005	<0.005	<0.015	<0.005
MWT-10 ^b	7/30/2002	4-6	<0.310	<0.630	2.100	6.900	<0.630
		10-12	<0.005	<0.005	0.014	0.037	<0.005
			0.052	56.70	1.10	2.70	0.530

^a Below surface grade
^b One-half (1/2) detection laboratory limit assumed

Table B-1: Historical Summary of BTEX and MTBE in Soil (continued)

Sample ID	Date	Depth (feet bsg ¹)	BENZENE (ppm)	TOLUENE (ppm)	ETHYLBENZENE (ppm)	XYLENES (ppm)	MTBE (ppm)	
MWT-11	7/30/2002	6-2	<0.005	<0.005	<0.005	<0.015	<0.005	
		4-6	<0.005	<0.005	<0.005	<0.015	<0.005	
MWT-12	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005	
		10-12	0.0067	<0.005	<0.005	<0.015	0.0087	
MWT-13	3/7/2003	2-4	<0.005	<0.005	<0.005	<0.015	<0.005	
		10-12	<0.005	<0.005	<0.005	<0.015	0.014	
MWT-14	3/7/2003	2-4	<0.005	<0.005	<0.005	<0.015	<0.005	
		4-6	<0.005	<0.005	<0.005	0.007	<0.005	
TBH-4	5/24/2006	6-8	<0.005	<0.005	<0.005	<0.015	<0.005	
		Soil boring installed to re-sample MWT-8 for BUSTR Group 2 COCs or PAHs only.						
TBH-5	5/24/2006	Soil boring installed to re-sample MWT-8 for BUSTR Group 2 COCs or PAHs only.						
TBH-6	5/24/2006	Soil boring installed to re-sample MWT-8 for BUSTR Group 2 COCs or PAHs only.						
							0.530	

^a Below surface grade

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 Revised BIOSCREEN Fate & Transport Model

BUSTR Release #76000582-N00001&2

Historical Summary of PAHs in Soil

Sample ID	KSWE	KSWW	KB	KSP2	Residuals Action Levels (RSLs)
Sample Date	10/29/1996	10/29/1996	10/29/1996	10/29/1996	
Depth (feet bsg ^a)	Unknown	Unknown	Unknown	Stockpile	
Benzo(a)Anthracene	<0.330	<0.330	<0.330	<0.330	
Benzo(a)Pyrene	<0.330	<0.330	<0.330	<0.330	
Benzo(b)Fluoranthene	<0.330	<0.330	<0.330	<0.330	
Benzo(k)Fluoranthene	<0.330	<0.330	<0.330	<0.330	
Chrysene	<0.330	<0.330	<0.330	<0.330	
Dibenz(a,h)Anthracene	<0.330	<0.330	<0.330	<0.330	
Indeno(1,2,3-c,d)Pyrene	<0.330	<0.330	<0.330	<0.330	
Naphthalene	<0.330	3.380	<0.330	1.040	

^a Below surface grade

* All results are reported in parts per million (ppm)

Former Clark Facility #1079
 1600 30th Street NE, Canton, Ohio 44714
 Revised BIOSCREEN Fate & Transport Model

BUSTR Release #76000582-N000001&2

Table 2 - Historical Summary of PAHs in Soil (continued)

Sample ID	MWT-7		MWT-8 ^b		Risk-Based Action Levels (RBAL)
	7/30/2002	6-8	7/30/2002	6-8	
Depth (feet bsg ^a)	2-4	6-8	0-2	6-8	
Benzo(a)Anthracene	<0.025	<0.025	0.890	<0.025	
Benzo(a)Pyrene	<0.025	<0.025	0.910	<0.025	
Benzo(b)Fluoranthene	<0.025	<0.025	1.000	<0.025	
Benzo(k)Fluoranthene	<0.025	<0.025	0.900	<0.025	
Chrysene	<0.025	<0.025	1.200	<0.025	
Dibenz(a,h)Anthracene	<0.025	<0.025	0.230	<0.025	
Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	1.100	<0.025	
Naphthalene	<0.025	<0.025	<0.100	<0.025	

^a Below surface grade

^b MWT-8 was re-sampled by TBH-4, TBH-5, and TBH-6

* All results are reported in parts per million (ppm)

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BUSTR Release #76000582-N000001&2

Table 2 - Analytical Summary of PAHs in Soil

Sample ID	MWT-9		MWT-13	
	7/30/2002	3/7/2003	2-4	10-12
Sample Date	2-4	6-8	2-4	10-12
Depth (feet bsg ^a)	<0.025	<0.025	<0.025	0.130
Benzo(a)Anthracene	<0.025	<0.025	<0.025	0.250
Benzo(a)Pyrene	<0.025	<0.025	<0.025	0.340
Benzo(b)Fluoranthene	<0.025	<0.025	<0.025	0.300
Benzo(k)Fluoranthene	<0.025	<0.025	<0.025	0.180
Chrysene	<0.025	<0.025	<0.025	0.027
Dibenz(a,h)Anthracene	<0.025	<0.025	<0.025	0.110
Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	<0.025	<0.025
Naphthalene	1.100	<0.025	<0.025	<0.025

a. Below surface grade

* All results are reported in parts per million (ppm)

Former Clark Facility #1079
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BUSTR Release #76000582-N000001&2

Historical Summary of PAHs in Soil (continued)

Sample ID	MWT-14			TBH-4		
	Sample Date	3/7/2003	5/24/2006	Sample Date	3/7/2003	5/24/2006
Depth (feet bsg ^a)	2-4	4-6	6-8	0-2	2-4	2-4
Benzo(a)Anthracene	0.026	<0.025	0.026	0.035	<0.110	<0.110
Benzo(a)Pyrene	0.028	<0.025	0.026	0.036	<0.110	<0.110
Benzo(b)Fluoranthene	0.076	0.072	0.092	0.051	<0.110	<0.110
Benzo(k)Fluoranthene	0.050	<0.025	0.049	0.035	<0.110	<0.110
Chrysene	0.072	0.064	0.081	0.053	<0.110	<0.110
Dibenz(a,h)Anthracene	<0.025	<0.025	<0.025	<0.028	<0.110	<0.110
Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	<0.025	<0.028	<0.110	<0.110
Naphthalene	<0.025	<0.025	<0.025	0.230	1.200	1.200

^a Below surface grade
 * All results are reported in parts per million (ppm)

RECEIVED
 SEP 29 2011
 STATE FIRE MARSHAL

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 1600 30th Street NE, Canton, Ohio 44714
 Revised BIOSCREEN Fate & Transport Model

BUSTR Release #76000582-N00001&2

Table B-1 Historical Summary of PAHs in Soil (continued)

Sample ID	TBH-5		TBH-6		Relative Standard Deviation (RSD-PLS)
	5/24/2006	2-4	5/24/2006	2-4	
Sample Date					
Depth (feet bsg ^a)	0-2	2-4	0-2	2-4	
Benzo(a)Anthracene	<0.230	<0.180	<0.130	<0.180	
Benzo(a)Pyrene	<0.230	<0.180	<0.130	<0.180	
Benzo(b)Fluoranthene	<0.230	<0.180	0.150	<0.180	
Benzo(k)Fluoranthene	<0.230	<0.180	<0.130	<0.180	
Chrysene	<0.230	<0.180	0.200	<0.180	
Dibenz(a,h)Anthracene	<0.230	<0.180	<0.130	<0.180	
Indeno(1,2,3-c,d)Pyrene	<0.230	<0.180	<0.130	<0.180	
Naphthalene	1.700	1.400	1.900	1.600	

^a Below surface grade
 * All results are reported in parts per million (ppm)

Fonner Clark Facility #1079
 1600 30th Street NE, Canton, Ohio 44714
 Revised BIOSCREEN Fate & Transport Model

BUSTR Release #76000582-N00001&2

Sample ID	Date	Depth (feet hsg ^a)	TPH by Method 8015 (MG/KG ^b)
G5WE	10/29/1996	Unknown	346
G5WW	10/29/1996	Unknown	293
G5WN	10/29/1996	Unknown	7.2
G5WS	10/29/1996	Unknown	179
T2N	10/29/1996	Gas Pit Bottom	47.2
T2S	10/29/1996	Gas Pit Bottom	9.7
T3N	10/29/1996	Gas Pit Bottom	37.2
T3S	10/29/1996	Gas Pit Bottom	<4.0
GSP1	10/29/1996	Stockpile	738
GSP3	10/29/1996	Stockpile	403
GSP4	10/29/1996	Stockpile	971
MW-1	2/17/1998	4-6	<5.7
MW-2	2/17/1998	10-12	<5.6
MW-3	2/18/1998	4-6	50.00
MW-4	2/18/1998	6-8	<5.6
MW-5	9/21/1998	5-10	<2.5
MW-6	9/21/1998	10-15	14

a. Below Surface Grade

b. Parts per million (ppm)

Former Clark Facility #1079
 1600 30th Street NE, Canton, Ohio 44714
 Revised BIOSCREEN Fate & Transport Model

BUSTR Release #76000582-N00001&2

Table 1 - Historical Summary of TPH (DRO) in Soil

Sample ID	Date	Depth (feet bsg ^a)	TPH by Method 418.1 (MG/KG ^b)
KSWE	10/29/1996	Unknown	760
KSWW	10/29/1996	Unknown	1,990
KB	10/29/1996	K-1 Pit Bottom	94.1
KSP2 ^c	10/29/1996	Stockpile	2,580

Risk-Based Action Levels (RBALs)

a. Below Surface Grade

b. Parts per million (ppm)

c. According to the *Closure Report (Secor, 1996)*, stockpile from the UST closure was disposed of at landfill.

Table D-5: Historical Summary of BTEX and MTBE in Ground Water

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-1	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.022
	3/8/2000	0.011	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	0.0047	<0.003	NT
	3/1/2001	0.24	0.1	0.02	0.058	NT
	6/14/2001	0.18	<0.001	0.0043	<0.003	NT
	9/13/2001	0.012	<0.001	<0.001	<0.002	NT
	12/3/2001	0.006	<0.001	0.001	<0.002	NT
	3/27/2002	0.042	0.026	<0.001	0.005	NT
	9/12/2002	0.0022	<0.001	<0.001	<0.003	0.026
	4/25/2003	0.035	0.0036	<0.001	0.0036	0.0039
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0012	
Parts per million						0.04
Not tested						

a.

b.

Table B-5: Bioscreen Summary of BTEX and MTBE in Ground Water (continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-2	9/29/1998	0.0067	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	0.0012	<0.001	<0.002	0.2
	3/8/2000	<0.004	<0.004	<0.004	<0.008	NT
	6/13/2000	0.0058	<0.0025	<0.0025	<0.005	NT
	9/14/2000	0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.11	0.065	0.0024	0.0089	NT
	6/14/2001	0.2	0.0014	0.013	<0.0047	NT
	9/13/2001	0.13	<0.001	0.0038	<0.002	NT
	12/3/2001	0.032	<0.001	<0.001	<0.002	NT
	3/27/2002	0.041	<0.001	0.0023	<0.002	NT
	9/12/2002	0.12	0.0038	0.0068	0.016	0.068
	4/25/2003	0.42	0.041	0.012	0.0234	0.082
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.016	
11/20/2010						
Monitoring Well Destroyed						
		0.003	1	0.7	10	0.04

a. Parts per million

b. Not tested

Table B-5. Historical Summary of BTEX and MTBE in Ground Water (continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-3	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.66	0.052	0.36	0.24	0.064
	3/8/2000	0.49	0.044	0.26	0.173	NT
	6/13/2000	0.34	0.0094	0.18	0.086	NT
	9/14/2000	0.3	0.004	0.03	0.023	NT
	12/11/2000	0.7	0.026	0.095	0.099	NT
	3/1/2001	0.65	0.0073	0.085	0.037	NT
	6/14/2001	1.6	0.033	0.49	0.431	NT
	9/13/2001	0.68	0.0067	0.1	<0.010	NT
	12/3/2001	0.84	<0.010	0.041	<0.020	NT
	3/27/2002	0.93	0.022	0.23	0.069	NT
	9/12/2002	0.021	<0.001	<0.001	<0.003	0.025
	4/25/2003	0.71	0.016	0.36	0.143	0.024
	7/21/2005	0.53	0.0068	0.017	0.036	0.015
	5/22/2006	0.82	0.048	0.3	0.46	0.011
	9/13/2006	0.34	0.0093	0.016	0.033	0.0079
	12/15/2006	0.37	0.017	0.087	0.081	0.018
5/18/2007	0.46	0.02	0.18	0.17	0.0073	
2/24/2010	0.0561	0.0025	0.0176	0.0131	0.0021	
11/20/2010	0.0068	<0.001	<0.001	<0.003	0.0027	
2/7/2011	0.0226	<0.001	0.0012	<0.003	0.0029	
4/29/2011	0.182	0.01	0.203	0.117	0.0065	
8/2/2011	0.0918	0.0042	0.0129	0.0547	0.0037	
Ground Water						0.04

a. Parts per million
 b. Not tested

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-4	9/29/1998	0.0017	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.2
	3/8/2000	0.0065	<0.0025	<0.0025	<0.005	NT
	6/13/2000	0.0057	<0.0025	<0.0025	<0.005	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.9	1.5	0.13	0.79	NT
	6/14/2001	0.43	0.068	0.24	0.494	NT
	9/13/2001	0.093	0.0014	0.033	0.0135	NT
	12/3/2001	0.4	0.009	0.059	0.129	NT
	3/27/2002	0.83	1.6	0.62	2.58	NT
	9/12/2002	0.15	0.0093	0.031	0.164	0.033
	4/25/2003	0.15	0.039	0.046	0.099	0.12
	7/21/2005	0.073	<0.001	<0.001	0.0069	0.0017
	5/22/2006	0.0024	<0.001	<0.001	<0.003	<0.001
	9/13/2006	0.0032	<0.001	<0.001	<0.003	<0.001
12/15/2006	0.0071	<0.001	<0.001	<0.003	<0.001	
5/18/2007	0.0088	<0.001	0.0012	<0.003	<0.001	
3/5/2010	<0.001	<0.001	<0.001	<0.003	<0.001	
11/20/2010	<0.001	<0.001	<0.001	<0.003	<0.001	
2/7/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
4/29/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
8/2/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
				0.7		6.04

a. Parts per million

b. Not tested

Table 3-5. Summary of BTEX and MTBE in Ground Water (continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-5	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	<0.001
	3/8/2000	<0.001	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	<0.001	<0.001	<0.001	<0.003	NT
	6/14/2001	<0.001	<0.001	<0.001	<0.003	NT
	9/13/2001	<0.001	<0.001	<0.001	<0.002	NT
	12/3/2001	<0.001	<0.001	<0.001	<0.002	NT
3/27/2002	<0.001	<0.001	<0.001	<0.002	NT	
7/21/2005	Monitoring Well Destroyed					
MW-6	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.0015	<0.001	<0.001	<0.002	0.0026
	3/8/2000	0.0092	<0.001	<0.001	<0.002	NT
	6/13/2000	0.01	0.0017	0.0039	0.0124	NT
	9/14/2000	0.002	<0.001	<0.0019	<0.003	NT
	12/11/2000	0.011	<0.001	<0.001	<0.003	NT
	3/1/2001	0.028	0.001	0.011	<0.0061	NT
	6/14/2001	0.0021	<0.001	0.0011	<0.003	NT
	9/13/2001	0.011	<0.001	<0.001	<0.002	NT
	12/3/2001	0.0025	<0.001	<0.001	<0.002	NT
3/27/2002	<0.001	<0.001	<0.001	<0.002	NT	
9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0024	
4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001	
7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001	
Ground Water						0.04

a. Parts per million
 b. Not tested

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MWT-7	9/12/2002	0.14	0.019	0.0053	0.0067	0.01
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	5/22/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	12/15/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	5/18/2007	<0.001	<0.001	<0.001	<0.003	<0.001
	2/24/2010	<0.001	<0.001	<0.001	<0.003	<0.001
	11/20/2010	<0.001	<0.001	<0.001	<0.003	<0.001
	2/7/2011	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-8	4/29/2011	<0.001	<0.001	<0.001	<0.003	<0.001
	8/2/2011	<0.001	<0.001	<0.005	<0.003	<0.001
	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	12/15/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	5/18/2007	<0.001	<0.001	<0.001	<0.003	<0.001
	2/24/2010	<0.001	<0.001	<0.001	<0.003	<0.001
	11/20/2010	<0.001	<0.001	<0.001	<0.003	<0.001
2/7/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
4/29/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
8/2/2011	<0.001	<0.001	<0.001	<0.003	<0.001	
Ground Water Action Levels						
		0.004	1	0.7	10	0.04

a. Parts per million
 b. Not tested

Table B-5: Historical Summary of BTEX and MTBE in Ground Water (contingency)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MWT-9	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	11/20/2010	Monitoring Well Destroyed				
MWT-10	9/12/2002	0.0011	<0.001	<0.001	<0.003	0.013
	4/25/2003	0.19	0.049	0.035	0.129	0.022
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0098
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0074
	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.012
	12/15/2006	<0.001	<0.001	<0.001	<0.003	0.0042
	5/18/2007	<0.001	<0.001	<0.001	<0.003	0.0035
	2/24/2010	<0.001	<0.001	<0.001	<0.003	0.0044
	11/20/2010	<0.001	<0.001	<0.001	<0.003	0.0055
	2/7/2011	<0.001	<0.001	<0.001	<0.003	0.0038
4/29/2011	<0.001	<0.001	<0.001	<0.003	0.005	
8/2/2011	<0.001	<0.001	<0.001	<0.003	0.003	
a. Parts per million b. Not tested						

Table 1: Summary of Concentrations of BTEX and MTBE in Ground Water (continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MWT-11 NEAR 5262	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0018
	4/25/2003	<0.001	<0.001	<0.001	<0.003	0.0037
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0074
MWT-12	9/12/2002	0.19	0.015	0.081	0.195	0.065
	4/25/2003	0.6	0.12	0.081	0.126	0.057
	7/21/2005	0.0018	<0.001	<0.001	<0.003	0.0029
MWT-13 NEAR 5262	4/25/2003	1	0.6	0.14	0.5	0.067
	7/21/2005	0.085	0.0015	<0.001	0.0094	0.0072
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0042
	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.0047
	12/15/2006	<0.001	<0.001	<0.001	<0.003	0.0052
	5/18/2007	0.0011	<0.001	<0.001	<0.003	0.0015
	2/24/2010	<0.001	<0.001	<0.001	<0.003	0.0014
	11/20/2010	<0.001	<0.001	<0.001	<0.003	0.0024
	2/7/2011	<0.001	<0.001	<0.001	<0.003	0.0014
	4/29/2011	<0.001	<0.001	<0.001	<0.003	0.0015
8/2/2011	<0.001	<0.001	<0.001	<0.003	0.0012	
MWT-14	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
PW-1	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	5/10/2011	<0.0005	<0.0005	<0.0005	<0.002	<0.0005

a. Parts per million
 b. Not tested

Table 2: Analytical Summary of PAHs in Ground Water

Sample ID	Date	Benzol[a]-anthracene (mg/L) ^a	Benzol[a]-pyrene (mg/L)	Benzo[b]-fluoranthene (mg/L)	Benzo[k]-fluoranthene (mg/L)	Chrysene (mg/L)	Dibenz[a,h]-anthracene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Naphthalene (mg/L)
MW-1	7/21/2005	0.000060	0.000074	0.000081	0.000070	0.000078	<0.000051	0.000057	<0.000051
MW-2	7/21/2005	<0.000050	0.000061	0.000065	0.000051	0.000058	<0.000050	<0.000050	0.000050
MW-3	7/21/2005	<0.000034	<0.000034	<0.000034	<0.000034	<0.000034	<0.000034	<0.000034	0.029
	5/22/2006	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	0.160
	9/13/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	0.0094
	12/15/2006	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	0.140
	5/18/2007	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	0.130
	2/24/2010	0.000073	0.00012	0.00014	0.00013	0.00014	0.00014	<0.00005	0.0073
MW-4	11/20/2010	<0.000047	<0.000047	0.000051	0.000049	<0.000047	<0.000047	<0.000047	0.00074
	2/7/2011	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094	<0.000094
	7/21/2005	<0.000045	0.00050	<0.000045	0.00056	0.00066	<0.000045	<0.000045	0.001
	5/22/2006	0.0021	0.0026	0.0025	0.0026	0.03	<0.001	0.0016	<0.001
	9/20/2006	0.004	0.0066	0.0061	0.0057	0.0055	0.0011	0.0044	<0.001
	12/15/2006	0.000062	0.000092	0.00011	0.00008	0.000076	<0.000047	0.000057	<0.000047
	5/18/2007	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	0.000081
	3/5/2010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	11/20/2010	0.0001	0.00013	0.00015	0.00012	0.00014	<0.000047	0.000098	<0.000047
	2/7/2011	0.00021	0.00041	0.0005	0.00034	0.00025	0.000084	0.00035	<0.000047
Ground Water									0.57

^a Concentrations represented in parts per million (ppm)

^b Not Applicable

Table B-1: Analytical Summary of PAHs in Ground Water (continued)

Sample ID	Date	Benzo[a]-anthracene (mg/L) ^a	Benzo[a]-pyrene (mg/L)	Benzo[b]-fluoranthene (mg/L)	Benzo[k]-fluoranthene (mg/L)	Chrysene (mg/L)	Dibenz[a,h]-anthracene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Naphthalene (mg/L)
MW-5	7/21/2005	Well Destroyed, No Sample Collected							
MW-6	7/21/2005	<0.000055	0.000059	0.000062	<0.000055	<0.000055	<0.000055	0.000058	<0.000055
	7/21/2005	<0.0056	0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
	5/22/2006	0.0031	0.0058	0.0051	0.0044	0.0041	0.0011	0.0041	<0.00099
	9/13/2006	0.0027	0.0044	0.0036	0.0037	0.0033	<0.00094	0.0028	<0.00094
	12/15/2006	0.00074	0.0013	0.0013	0.00095	0.00091	<0.00024	0.00087	<0.00024
	5/18/2007	0.00013	0.00025	0.00025	0.00018	0.00016	0.000061	0.00020	<0.000051
	2/24/2010	0.0038	0.0051	0.0041	0.0053	0.005	0.00099	0.0036	<0.00005
	11/20/2010	0.00049	0.00083	0.00085	0.00061	0.00061	0.0002	0.00068	<0.000047
	2/7/2011	0.00037	0.0005	0.00057	0.00039	0.00042	0.00098	0.00041	<0.000047
	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
	9/20/2006	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	5/18/2007	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	11/20/2010	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	0.000053
	2/7/2011	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
MWT-9	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
		NA	NA	NA	NA	NA	NA	NA	0.57

a. Concentrations represented in parts per million (ppm)

b. Not Applicable

Table B-6: Historical Summary of PAHs in Ground Water (continued)

Sample ID	Date	Benz[a]-anthracene (mg/L) ^a	Benz[a]pyrene (mg/L)	Benz[b]fluoranthene (mg/L)	Benz[k]fluoranthene (mg/L)	Chrysene (mg/L)	Dibenz[a,h]anthracene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Naphthalene (mg/L)
MWT-10	7/21/2005	0.000084	0.000097	0.000097	0.000091	0.00011	<0.000054	0.000070	0.000068
	5/22/2006	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	9/20/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	5/18/2007	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	2/24/2010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	11/20/2010	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	2/7/2011	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	4/29/2011	<0.000048	<0.000048	0.000073	0.000053	0.000056	<0.000048	<0.000048	0.000051
	8/2/2011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
MWT-11	7/21/2005	<0.00010	0.00022	0.00024	0.00019	0.00015	0.000057	0.00021	<0.000054
MWT-12	7/21/2005	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
MWT-13	7/21/2005	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	0.0017
	5/22/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	0.000076
	9/13/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	2/24/2010	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	0.000051
MWT-14	11/20/2010	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047
	2/7/2011	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047
	4/29/2011	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	0.000060
	8/2/2011	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	0.00026
	7/21/2005	0.00046	0.00087	0.00085	0.00065	0.00061	<0.00020	0.00059	<0.00020
PW-1	7/21/2005	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057
5/10/2011	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested
Ground Water, Average		100.00	100.00	NA	NA	NA	NA	NA	0.57

a. Concentrations represented in parts per million (ppm)

b. Not Applicable

Figure 5-7: Historical Ground Water Gauging Data

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MW-1	2/25/1998	99.40	18.00	NMI ^g	7.69	NA ^h	91.71	NA	NA
	9/29/1998	99.40	18.00	NMI	8.53	NA	90.87	NA	NA
	9/12/2002	98.78	18.00	NMI	7.02	NA	91.76	2.96	-42
	4/25/2003	98.82	18.00	NMI	5.26	NA	93.56	1.64	91
	7/21/2005	98.69	18.00	NMI	5.95	NA	92.74	1.41	-159
MW-2	4/29/2011	98.99	18.00	NMI	4.86	NA	94.13	1.41	-159
	2/25/1998	98.54	20.00	NMI	8.50	NA	90.04	NA	NA
	9/29/1998	98.54	20.00	NMI	8.90	NA	89.64	NA	NA
	9/12/2002	97.90	20.00	NMI	8.15	NA	89.75	3.70	-65
	4/25/2003	97.90	20.00	NMI	7.19	NA	90.71	2.91	107
MW-3	7/21/2005	97.74	20.00	NMI	7.38	NA	90.36	1.54	-168
	4/29/2011				Monitoring well destroyed.				
	2/25/1998	97.84	12.00	NMI	6.55	NA	91.29	NA	NA
	9/29/1998	97.84	12.00	NMI	7.65	NA	90.19	NA	NA
	9/12/2002	99.10	12.00	NMI	5.98	NA	93.12	1.99	-43
	4/25/2003	99.06	12.00	NMI	3.80	NA	95.26	2.20	83
	7/21/2005	98.93	12.00	NMI	4.56	NA	94.37	2.30	-197
	5/22/2006	98.93	12.00	NMI	3.04	NA	95.89	NA	NA
	9/13/2006	99.07	12.00	NMI	3.70	NA	95.37	NA	NA
	12/15/2006	99.07	12.00	NMI	2.99	NA	96.08	NA	NA
MW-3	5/18/2007	99.07	14.80	NMI	3.39	NA	95.68	NA	NA
	2/24/2010	99.07	15.00	NMI	3.95	NA	95.12	NA	NA
	11/20/2010	99.07	14.55	NMI	4.89	NA	94.18	NA	NA
	2/7/2011	99.07	14.80	NMI	4.85	NA	94.22	NA	NA
	4/29/2011	99.18	14.80	NMI	4.85	NA	94.33	NA	NA
	8/2/2011	99.18	15.00	NMI	4.02	NA	95.16	NA	NA

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable
- i. Not measured

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MW-4	2/25/1998	99.84	16.00	NMI	6.10	NA	93.74	NA	NA
	9/29/1998	99.84	16.00	NMI	7.15	NA	92.69	NA	NA
	9/12/2002	97.28	16.00	NMI	5.48	NA	91.80	2.30	-92
	4/25/2003	97.25	16.00	NMI	3.62	NA	93.63	2.16	23
	7/21/2005	97.18	16.00	NMI	3.96	NA	93.22	1.37	-203
	5/22/2006	97.18	16.00	NMI	0.24	NA	96.94	NA	NA
	9/13/2006	97.33	16.00	NMI	3.00	NA	94.33	NA	NA
	12/15/2006	97.33	16.00	NMI	1.79	NA	95.54	NA	NA
	5/18/2007	97.33	14.60	NMI	2.46	NA	94.87	NA	NA
	3/5/2010	97.33	15.00	NMI	1.72	NA	95.61	NA	NA
	11/20/2010	97.33	14.62	NMI	3.63	NA	93.70	NA	NA
	2/7/2011	97.33	14.74	NMI	3.52	NA	93.81	NA	NA
	4/29/2011	97.41	14.74	NMI	5.80	NA	91.61	NA	NA
8/2/2011	97.41	15.00	NMI	2.89	NA	94.52	NA	NA	
MW-5	9/29/1998	93.05	15.00	NMI ^g	7.01	NA ^b	86.04	NA	NA
	7/21/2005				Monitoring well destroyed.				
MW-6	9/29/1998	98.32	14.50	NMI	7.72	NA	90.60	NA	NA
	9/12/2002	99.61	14.50	NMI	5.67	NA	93.94	2.47	-29
	4/25/2003	99.56	14.50	NMI	2.49	NA	97.07	4.82	126
	7/21/2005	99.42	14.50	NMI	2.69	NA	96.73	1.25	-94
	4/19/2011	99.64	14.50	NMI	4.69	NA	94.95	1.25	-94

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable
- i. Not measured

Monitoring Well	Date	TOC* Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MWT-7	9/12/2002	98.62	18.00	NMI	6.78	NA	91.84	1.87	-72
	4/25/2003	98.56	18.00	NMI	4.85	NA	93.71	1.61	150
	7/21/2005	98.35	18.00	NMI	5.14	NA	93.21	1.60	-113
	5/22/2006	98.35	18.00	NMI	1.74	NA	96.61	NA	NA
	9/13/2006	98.41	18.00	NMI	4.04	NA	94.37	NA	NA
	12/15/2006	98.41	18.00	NMI	2.96	NA	95.45	NA	NA
	5/18/2007	98.41	12.70	NMI	3.60	NA	94.81	NA	NA
	2/24/2010	98.41	13.00	NMI	4.00	NA	94.41	NA	NA
	11/20/2011	98.41	12.42	NMI	4.70	NA	93.71	NA	NA
	2/7/2011	98.41	12.32	NMI	4.60	NA	93.81	NA	NA
MWT-8	4/29/2011	98.51	12.32	NMI	4.98	NA	93.53	NA	NA
	8/2/2011	98.51	13.00	NMI	3.98	NA	94.53	NA	NA
	9/12/2002	99.26	18.00	NMI	6.11	NA	93.15	2.54	-42
	4/25/2003	99.22	18.00	NMI	4.18	NA	95.04	1.80	123
	7/21/2005	99.06	18.00	NMI	4.55	NA	94.51	1.27	-84
	9/13/2006	99.22	18.00	NMI	4.25	NA	94.97	NA	NA
	12/15/2006	99.22	18.00	NMI	3.43	NA	95.79	NA	NA
	5/18/2007	99.22	17.70	NMI	2.73	NA	96.49	NA	NA
	2/24/2010	99.22	17.60	NMI	4.00	NA	95.22	NA	NA
	11/20/2010	99.22	17.64	NMI	4.75	NA	94.47	NA	NA
MWT-8	2/7/2011	99.22	17.90	NMI	4.45	NA	94.77	NA	NA
	4/29/2011	99.35	17.90	NMI	3.53	NA	95.82	NA	NA
MWT-8	8/2/2011	99.35	18.00	NMI	4.05	NA	95.30	NA	NA

a. Top of casing
 b. LNAPL - Light non-aqueous phase liquid
 c. Dissolved oxygen
 d. Parts per million
 e. Oxidation-reduction potential
 f. Millivolts
 g. No measurable interface
 h. Not applicable
 i. Not measured

Figure 3-1 Historical Ground Water Gauging Data (continued)

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MWT-9	9/12/2002	99.42	18.00	NMI ^g	4.64	NA ^h	94.78	3.27	-29
	4/25/2003	99.33	18.00	NMI	1.96	NA	97.37	3.48	171
	7/21/2005	99.19	18.00	NMI	2.30	NA	96.89	2.67	-74
	4/29/2011				Monitoring well destroyed.				
MWT-10	9/12/2002	98.34	18.00	NMI	6.71	NA	91.63	3.70	-5
	4/25/2003	98.31	18.00	NMI	4.28	NA	94.03	2.39	32
	7/21/2005	98.10	18.00	NMI	5.15	NA	92.95	1.98	-146
	5/22/2006	98.10	18.00	NMI	2.02	NA	96.08	NA	NA
	9/13/2006	98.26	18.00	NMI	4.23	NA	94.03	NA	NA
	12/15/2006	98.26	18.00	NMI	3.00	NA	95.26	NA	NA
	5/18/2007	98.26	17.70	NMI	3.41	NA	94.85	NA	NA
	2/24/2010	98.26	17.60	NMI	3.90	NA	94.36	NA	NA
	11/20/2010	98.26	17.62	NMI	4.49	NA	93.77	NA	NA
	2/7/2011	98.26	17.70	NMI	4.40	NA	93.86	NA	NA
	4/29/2011	98.30	17.70	NMI	3.95	NA	94.35	NA	NA
MWT-11	8/2/2011	98.30	18.00	NMI	3.78	NA	94.52	NA	NA
	9/12/2002	98.78	18.00	NMI	9.25	NA	89.53	4.16	-5
	4/25/2003	98.76	18.00	NMI	8.45	NA	90.31	3.25	58
	7/21/2005	98.57	18.00	NMI	7.96	NA	90.61	1.13	-58
	4/29/2011	98.75	18.00	NMI	6.42	NA	92.33	1.13	-58

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable
- i. Not measured

Figure 6-7: Historical Ground Water Clogging Data (continued)

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MWT-12	9/12/2002	97.38	18.00	NMI	6.80	NA	90.58	3.72	-14
	4/25/2003	97.36	18.00	NMI	4.65	NA	92.71	1.73	-12
	7/21/2005	97.15	18.00	NMI	4.64	NA	92.51	0.42	-205
	4/29/2011	97.95	18.00	NMI	7.00	NA	90.95	0.42	-205
MWT-13	4/25/2003	96.92	18.00	NMI	4.81	NA	92.11	2.90	55
	7/21/2005	96.71	18.00	NMI	5.42	NA	91.29	0.17	-215
	5/22/2006	96.71	18.00	NMI	3.33	NA	93.38	NA	NA
	9/13/2006	96.91	18.00	NMI	4.80	NA	92.11	NA	NA
	12/15/2006	96.91	18.00	NMI	5.35	NA	91.56	NA	NA
	5/18/2007	96.91	17.40	NMI	3.73	NA	93.18	NA	NA
	2/24/2010	96.91	16.60	NMI	4.90	NA	92.01	NA	NA
	11/20/2010	96.91	16.12	NMI	5.41	NA	91.50	NA	NA
	2/7/2011	96.91	16.08	NMI	5.20	NA	91.71	NA	NA
	4/29/2011	97.36	16.08	NMI	4.91	NA	92.45	NA	NA
MWT-14	8/2/2011	97.36	16.00	NMI	6.74	NA	90.62	NA	NA
	4/25/2003	99.49	18.00	NMI	3.53	NA	95.96	2.58	164
	7/21/2005	99.49	18.00	NMI	3.90	NA	95.59	1.05	-49
	4/29/2011	99.68	18.00	NMI	3.12	NA	96.56	1.05	-49

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable
- i. Not measured

GROUND WATER SAMPLING REPORT

Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714
Stark County *D. L. 2007*

Release Number: 76000582-N00001&2

JUN 27 2007

OWNER	OPERATOR
The Premcor Refining Group 201 East Hawthorne Street Hartford, Illinois 62048 Contact: Mr. Timothy Mauntel Phone: (618) 255-5122	The Premcor Refining Group 201 East Hawthorne Street Hartford, Illinois 62048 Contact: Mr. Timothy Mauntel Phone: (618) 255-5122

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Table B-2: Historical Summary of PAH Ground Water Analytical
Table B-3: Ground Water Monitoring Well Development Records (5/18/2007)

1.0 Executive Summary

A petroleum release, (#76000582-N00001) was discovered at the Former Clark Store #1079 (site) located on 1600 30th Street, Canton, Stark County, Ohio on October 30, 1996 and the second release (#76000582-N00002) was reported on October 2, 2002 to the State Fire Marshal (SFM)/Bureau of Underground Storage Tank Regulations (BUSTR) by Clark Retail Enterprises (CRE).

Former Clark Store #1079 is an American Petroleum gasoline, kerosene, and convenience store retail station. The station is not currently marketing petroleum products or convenience store retail sales to the general public. During the removal and upgrade of two (2) gasoline underground storage tanks (USTs) and one (1) kerosene UST in October of 1996, Clark Retail Enterprise, Inc. (CRE) reported a release to the BUSTR. The release was confirmed in November of 1997 (SECOR, Site Assessment Report, March 30, 1998).

At the time of the release, Former Clark Store #1079 provided gasoline and kerosene retail sales to the general public. The corrective actions process was initiated in November of 1997 upon discovery of elevated levels of benzene and toluene during site assessment activities.

On February 17th and 18th, 1998 SECOR supervised the installation of four (4) soil borings which were converted to monitoring wells by H.A.D., Inc. SECOR designated these wells as MW-1 through MW-4. The Tier drilling activities included the advancement of nine (9) boreholes; six (6) were converted into ground water monitoring wells and three (3) Shelby tubes were advanced in the remaining three (3) boreholes. Drilling activities were completed on July 31, 2002 (*Tier Evaluation Notification*, April 8, 2003). During Tier Evaluation activities include the advancement of two (2) soil borings that were converted to monitoring wells on March 7, 2003.

A Tier 2 Evaluation Report was submitted to BUSTR on February 24, 2006 along with an Interim Response Action (IRA) Notification. The Point of Exposure (POE) used in the Tier 2 Bioscreen Model was 300 feet down gradient from the source area. BIOSCREEN modeling in the Tier 2 Evaluation Report indicated that current levels of benzene and benzo (a) pyrene will not reach the POE in concentrations above Tier 1 Risk Based Action Levels (RBALs). The IRA Notification attached to the Tier 2 Report proposed the abandonment of a potable well that exists onsite at Former Clark #1079. The site will be connected to the city water main that is located on 31st Street to the north of the site. This will make the abandonment of the onsite potable well possible, and in turn validate the 300 foot POE.

In a letter dated May 2, 2006, BUSTR approved the Tier 2 assumptions, and IRA Notification with the stipulation that four (4) quarterly ground water monitoring events be carried out in order to verify BIOSCREEN model predictions. BUSTR also requested that soil at MWT-8 be re-sampled for benzo (a) pyrene.

As per BUSTR's request, on May 24, 2006 three (3) soil borings were advanced around MWT-8 to re-sample historical points above the BUSTR risk based action levels (RBALs).

On May 18, 2007 the fourth of four ground water sampling events was conducted. The six (6) site monitoring wells were gauged, developed, and sampled. The six (6) monitoring wells are located within the plume centerline and/or the plume area. The ground water samples collected were submitted to Pace Analytical (Pace) Laboratory in Green Bay, Wisconsin for analysis of BUSTR Group 2 Analytes, which include; benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tertiary-butyl-ether (MTBE) using USEPA Method 8021 and poly aromatic hydrocarbons (PAHs) using USEPA Method 8310. The laboratory analytical results show a stable to decreasing trend in chemicals of concern (COCs). The analytical results are presented in tabular form in Appendix B. A copy of the laboratory analytical reports is provided in Appendix D. The average depth of ground water, from the top of casing, is 3.22 feet below surface grade (bsg)(Table B-2, Appendix B), and the ground water flow through the site is generally northeasterly with a hydraulic gradient of 0.024 ft/ft (see Figure A-4, Appendix A).

2.0 Assessment Methodology

2.1 Ground Water Sample Collection

On May 18, 2007, BJAAM sampled six (6) site-monitoring wells. The monitoring wells were purged by withdrawing the equivalent of three (3) calculated well volumes or all of the water in the well, whichever occurred first. Purged water was placed in a 55-gallon steel drum, labeled and transported to BJAAM's equipment yard for classification and disposal. After allowing sufficient time for recharge, ground water samples were collected using clean 1.66-inch disposable bailers.

Ground water samples submitted for BTEX and MTBE analyses were placed in clean 40ml VOA glass vials preserved with HCl and tightly sealed with Teflon-lined lids. No air bubbles were present in the VOA vials. Ground water samples submitted for PAH analyses were placed in clean 1-liter amber glass bottles and tightly sealed with Teflon-lined lids.

2.2 Ground Water Sample Analysis and Quality Control

BJAAM submitted the ground water samples under proper chain-of-custody to Pace Analytical of Green Bay, Wisconsin for analysis of BTEX and MTBE using USEPA Method 8021 and PAHs using USEPA Method 8310 or equivalent in accordance with Table 1 of the Ohio Administrative Code (OAC) rule §1301:7-9-13(D)(4). Ground water samples were stored in an ice chest cooler and maintained at a temperature of 40° Fahrenheit (F) until delivery to the laboratory for analysis. All ground water sample containers were individually marked with the date and time of collection, sample location, site name, and a sample number assigned in the field. A laboratory chain-of-custody was maintained for all water samples submitted to the laboratory. Laboratory analytical reports and chain of custody documentation are provided as Appendix D.

3.0 Data Presentation and Documentation

3.1 Analytical Results – Ground Water Samples

Copies of the laboratory analytical results are provided as Appendix D. Historical BTEX, MTBE, and PAH concentrations are shown on Figure A-3, Appendix A and Table B-1, Appendix B. The results indicate that all concentrations of COCs show a stable to decreasing trend.

3.2 Ground Water Elevations and Flow

Monitoring wells were gauged using an interface probe to measure the depth to ground water from the top of casing. The gauging data obtained from each monitoring well coupled with the relative elevation was used in preparation of the ground water potentiometric surface map included as Figure A-4, Appendix A. Locally, the potentiometric surface appears to dip northeasterly at an approximate gradient of 0.024 ft/ft. The ground water potentiometric surface map is provided in Figure A-4, Appendix A.

4.0 Recommendations

4.1 Corrective Actions Process

On behalf of The Premcor Refining Group, this report is published as the fourth quarterly ground water monitoring report. Current ground water analytical results indicate that COCs in ground water are showing an overall decreasing to stable trend, and are below calculated SSTLs and/or RBALs.

4.2 Future Monitoring Recommendations

Future activities include the abandonment of the onsite potable well once the site has been connected to the city water main, as per the IRA notification. A preliminary water main extension blue prints and plans have been included with this report. The blue prints and plans have been submitted to the City of Canton for review and approval. Once the blue prints and plans have been approved, Premcor will commence with water main extension and potable well abandonment. Upon approval of the plans, BUSTR will be notified within 30 days. Once the site has been connected to the city water main, and the onsite potable well has been abandoned, Premcor will request that the site be moved to No Further Action (NFA) status.

This report has been prepared for the exclusive use of The Premcor Refining Group. The information presented in this document is proprietary and confidential information, which is a trade secret of BJAAM Environmental, Inc. BJAAM Environmental, Inc. asserts a business confidentiality claim covering all information and all data contained on each page of this document. Any unauthorized dissemination or reuse of this document will be at the user's sole risk and with the condition that BJAAM Environmental, Inc. be held harmless from any and all claims for losses or damages and expenses arising out of or resulting from such unauthorized disclosure or reuse.

Premcor acknowledges that subsurface conditions may vary from those encountered at the locations where borings, surveys, samples, or explorations are made. The data, interpretations, and recommendations of BJAAM may be based solely on the information available to us. BJAAM assumes that the data that has been obtained and/or provided through previous investigations represents the true conditions of the site. It is understood by Premcor that some of the information in this report may be second hand. It will be the responsibility of Premcor to review the report for accuracy. BJAAM will be responsible for its data, interpretations, and representations, but will not be responsible for the data provided to us or for the interpretation of the information by others.

Petroleum products regulated under Ohio Administrative Code rule 1301:7-9-12 was assumed to be the only contaminants on this site. If an active UST system exists on site, then a currently on-going and/or future release may change subsurface data that may invalidate the conclusions of this report. BJAAM makes no claims or warranties regarding BUSTR or Ohio EPA action levels or standards and their respective or cumulative effects on the human body. Nothing in this document should be interpreted as an expert opinion regarding human health or degree of safety due to the presence of contaminants at and/or emanating from the site. Moreover, this report does not include an ecological risk assessment.

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BJAAM Environmental, Inc.

Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714

Release Number: 76000582-N00001&2

Appendix A - Figures

Figure A-1: USGS Topographic Site Location Map

Figure A-2: Site Map

Figure A-3: Historical Ground Water Analytical Results Map

Figure A-4: Ground Water Potentiometric Surface Map

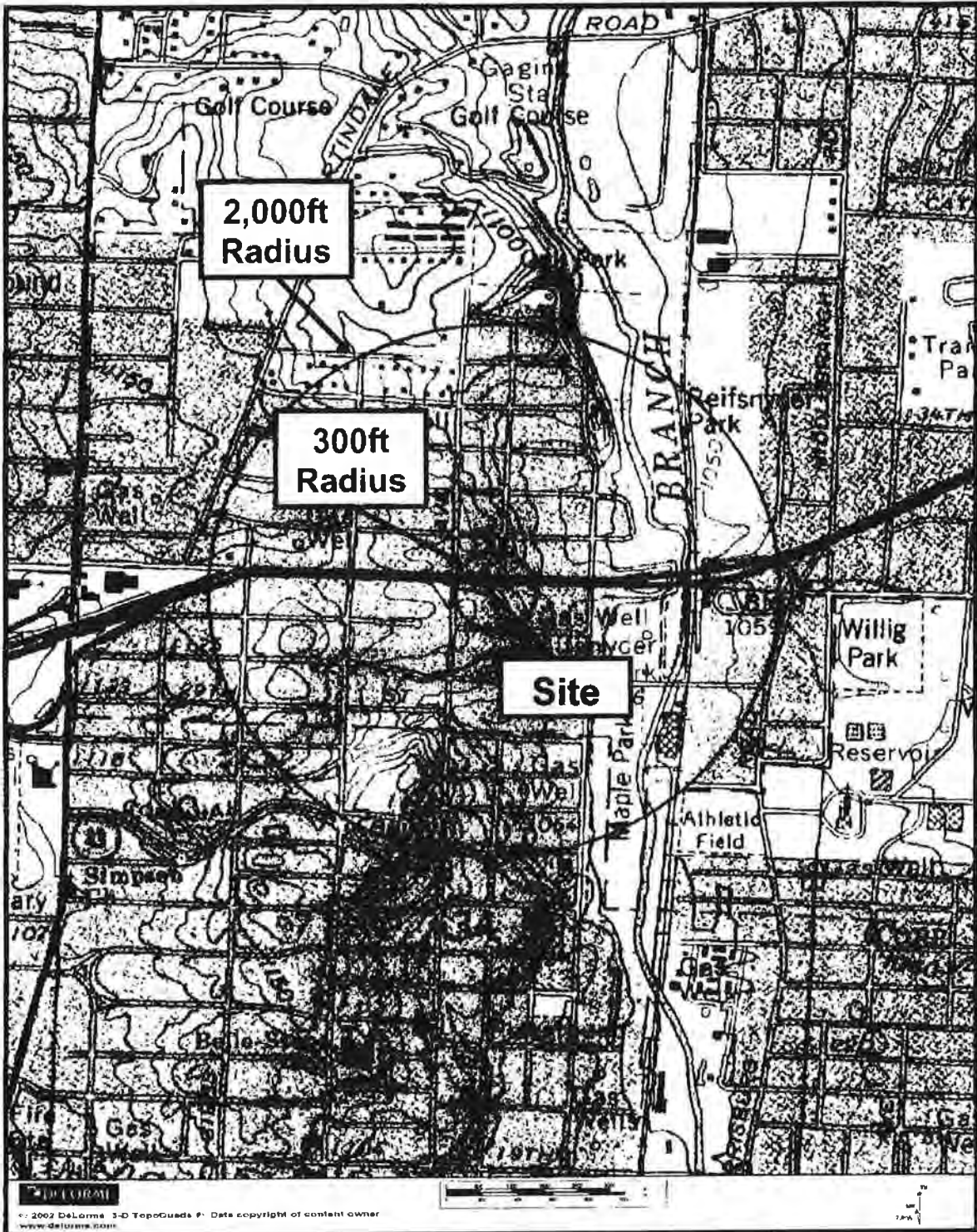
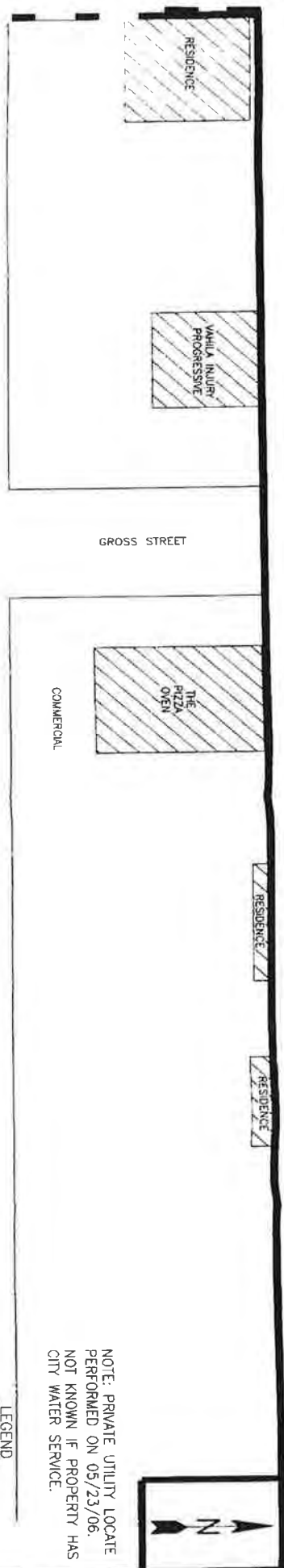
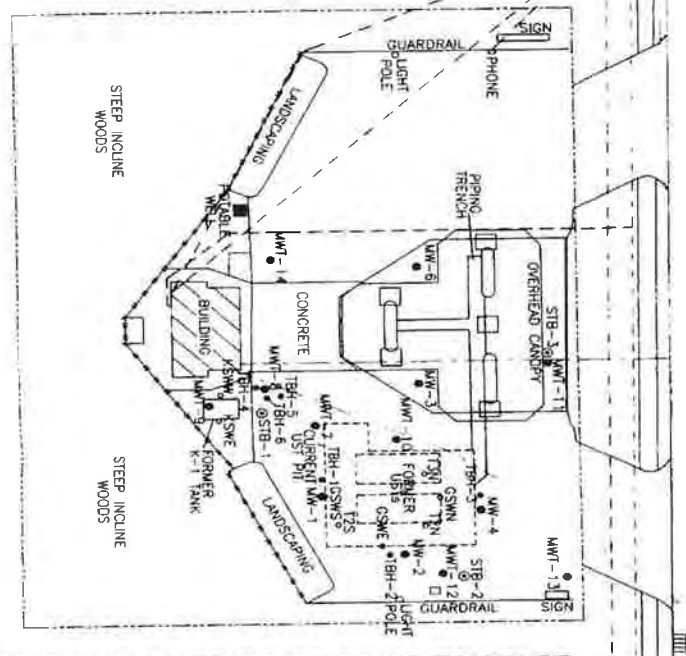


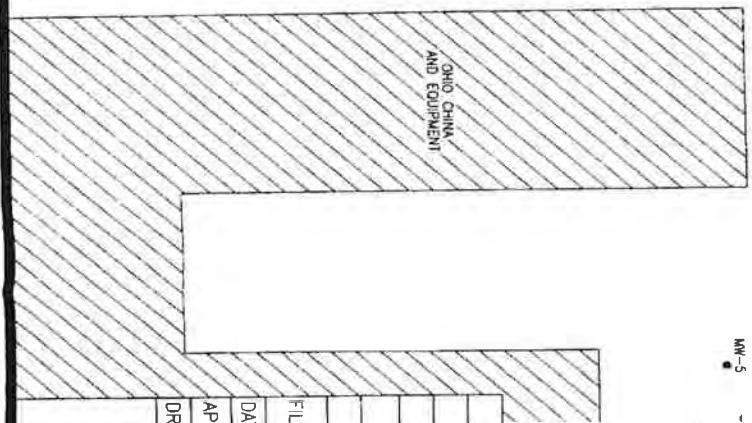
Figure A-1: USGS Topographic Site Location Map



US ROUTE 62
(30th STREET)



VACANT



NOTE: PRIVATE UTILITY LOCATE PERFORMED ON 05/23/06. NOT KNOWN IF PROPERTY HAS CITY WATER SERVICE.

LEGEND

- ▣ = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- - - = GAS LINE
- - - = STORM SEWER
- - - = SANITARY SEWER
- - - = OVERHEAD UTILITIES
- ***** = FENCE
- = PROPERTY LINE



FIGURE A-2:

SITE MAP	105047
CLARK STORE #1079	1600 30th STREET NE
CANTON, OHIO 44714	FILE NAME = 105047-CLARK-1079
	-SITE-2
	DATE: JUNE 7, 2006
	APPRX. SCALE: 1"=40'
	DRAWN BY: J.P. BREEN



RESIDENCE

VANILLA NUBBY PROGRESSIVE

THE PIZZA OVEN

COMMERCIAL

GROSS STREET

US ROUTE 62 (30th STREET)

RESIDENCE

RESIDENCE

NOTE: BTEX AND MTBE RESULTS ARE IN PARTS PER MILLION
B = BENZENE
T = TOLUENE
E = ETHYLENE
X = ETHYL BENZENE
M = METHYL TERT-BUTYL ETHER
NAP = NITROBENZENE
BTX = BTEX
BEN-FI = BENZENE/FI
MTBE = METHYL TERT-BUTYL ETHER

DATE	TIME	DEPTH	MTBE	BTEX
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001
5/1/01	10:00	10'	<0.001	<0.001

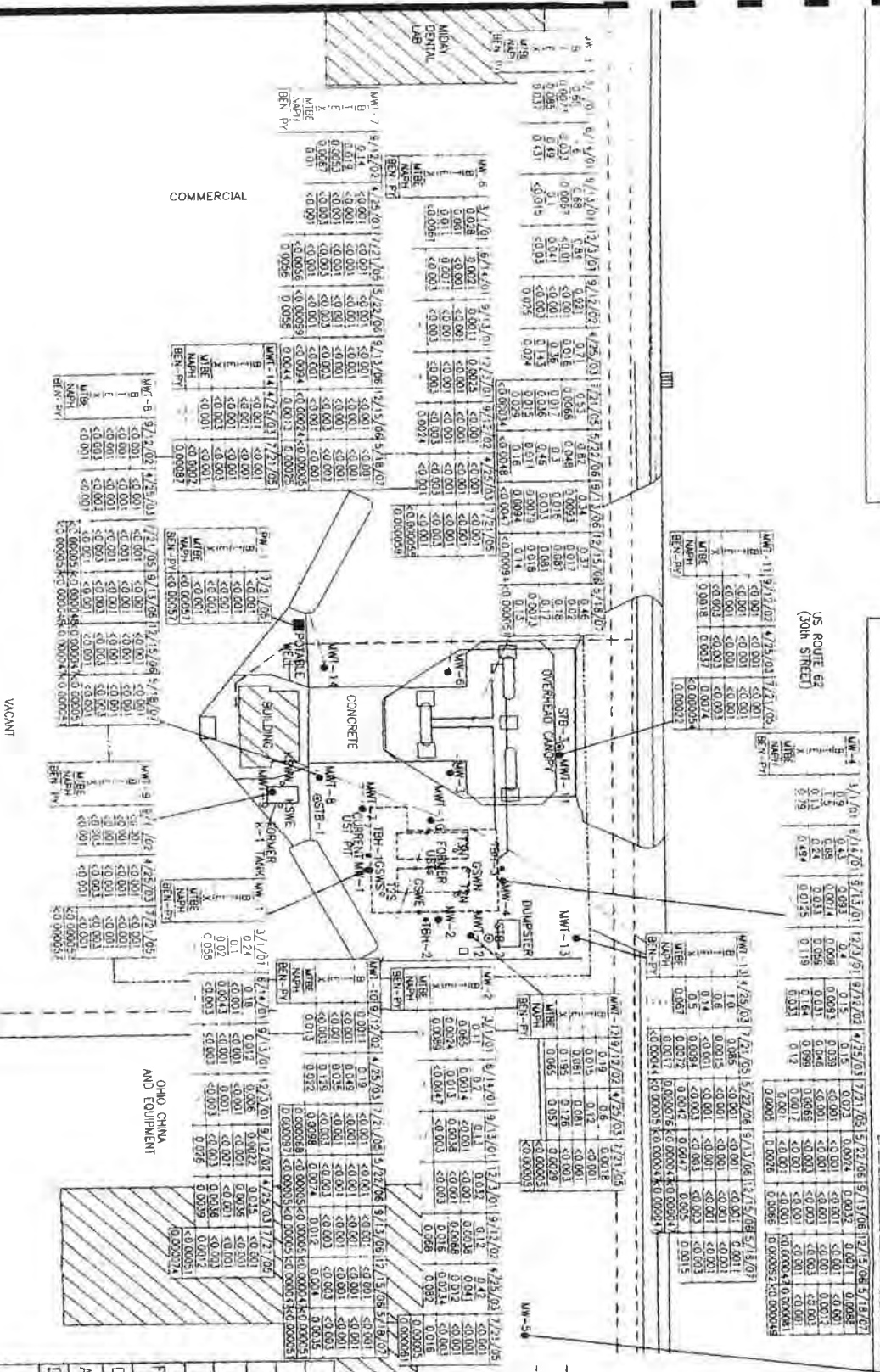


FIGURE A-3



- ☐ = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- = STORM SEWER
- = SANITARY SEWER
- = OVERHEAD ELECTRIC
- = PROPERTY LINE

GROUNDWATER ANALYTICAL

105047

CLARK STORE #1079

1600 30th STREET NE

CANTON, OHIO 44714

FILE NAME= 105047-CLARK-1079
BTW

DATE: MAY 31, 2007

APPRX. SCALE: 1"=40'

DRAWN BY: J.P. BREEN





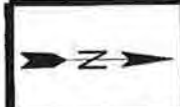
GROSS STREET



COMMERCIAL



DRAWN BY: SUPREP[®]
 DATE MEASURED: 9/13/06
 CONTOUR INTERVAL= 0.5 FOOT



NOTE: PRIVATE UTILITY LOCATE PERFORMED ON 05/23/06. NOT KNOWN IF PROPERTY HAS CITY WATER SERVICE.

LEGEND

- = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- = STORM SEWER
- = SANITARY SEWER
- = OVERHEAD UTILITIES
- ***** = FENCE
- = PROPERTY LINE

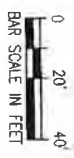
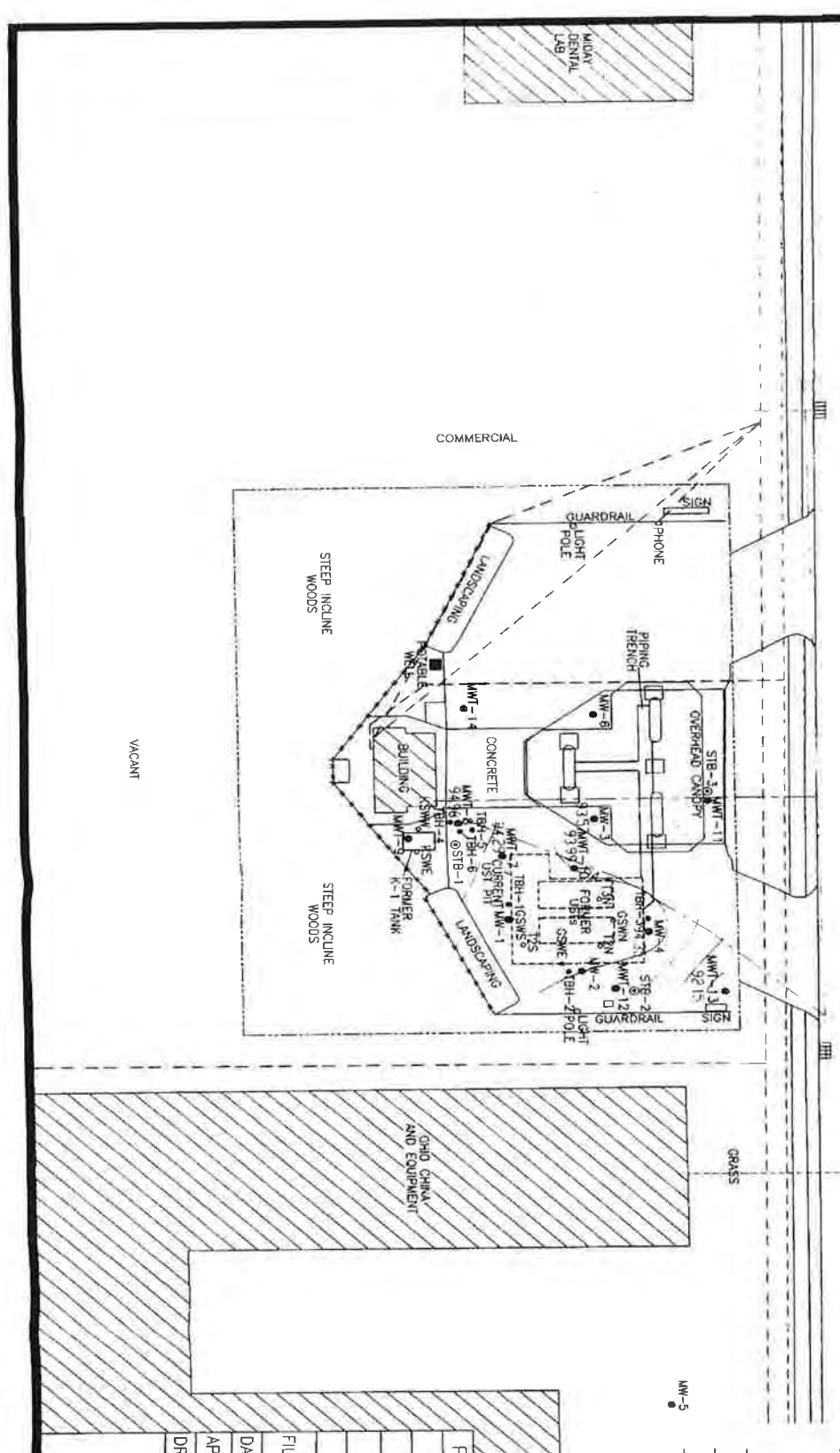


FIGURE A-4:

POTENTIOMETRIC SURFACE MAP	105047
CLARK STORE #1079	1600 30th STREET NE
CANTON, OHIO 44714	
FILE NAME=	105047-CLARK-1079
	-GW-9-13-06
DATE:	JUNE 7, 2006
APPRX. SCALE:	1"=40'
DRAWN BY:	J.P.BREEN



VACANT

US ROUTE 62
 (30th STREET)

Appendix B - Tables

Table B-1: Historical Summary of BTEX and MTBE Ground Water Analytical

Table B-2: Historical Summary of PAH Ground Water Analytical

Table B-3: Ground Water Monitoring Well Development Records (5/18/2007)

Table B-1: Historical BTEX and MTBE Ground Water Analytical

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-1	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.022
	3/8/2000	0.011	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	0.0047	<0.003	NT
	3/1/2001	0.240	0.100	0.020	0.058	NT
	6/14/2001	0.180	<0.001	0.0043	<0.003	NT
	9/13/2001	0.012	<0.001	<0.001	<0.002	NT
	12/3/2001	0.006	<0.001	0.001	<0.002	NT
	3/27/2002	0.042	0.026	<0.001	0.005	NT
	9/12/2002	0.0022	<0.001	<0.001	<0.003	0.026
	4/25/2003	0.035	0.0036	<0.001	0.0036	0.0039
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0012	
SFM/BUSTER RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSILs		1.650	NC^c	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L) ^a	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MTW-2	9/29/1998	0.0067	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	0.0012	<0.001	<0.002	0.200
	3/8/2000	<0.004	<0.004	<0.004	<0.008	NT
	6/13/2000	0.0058	<0.0025	<0.0025	<0.005	NT
	9/14/2000	0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.110	0.065	0.0024	0.0089	NT
	6/14/2001	0.200	0.0014	0.013	<0.0047	NT
	9/13/2001	0.130	<0.001	0.0038	<0.002	NT
	12/3/2001	0.032	<0.001	<0.001	<0.002	NT
	3/27/2002	0.041	<0.001	0.0023	<0.002	NT
	9/12/2002	0.120	0.0038	0.0068	0.016	0.068
	4/25/2003	0.420	0.041	0.012	0.0234	0.082
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.016
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^c	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. Not Calculated
 Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-3	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.660	0.052	0.360	0.240	0.064
	3/8/2000	0.490	0.044	0.260	0.173	NT
	6/13/2000	0.340	0.0094	0.180	0.0860	NT
	9/14/2000	0.300	0.004	0.030	0.023	NT
	12/11/2000	0.700	0.026	0.095	0.099	NT
	3/1/2001	0.650	0.0073	0.085	0.037	NT
	6/14/2001	1.600	0.033	0.490	0.431	NT
	9/13/2001	0.680	0.0067	0.100	<0.010	NT
	12/3/2001	0.840	<0.010	0.041	<0.020	NT
	3/27/2002	0.930	0.022	0.230	0.069	NT
	9/12/2002	0.021	<0.001	<0.001	<0.003	0.025
	4/25/2003	0.710	0.016	0.360	0.143	0.024
	7/21/2005	0.530	0.0068	0.017	0.036	0.015
	5/22/2006	0.820	0.0480	0.300	0.460	0.011
	9/13/2006	0.340	0.0093	0.016	0.033	0.0079
12/15/2006	0.370	0.0170	0.087	0.081	0.0180	
5/18/2007	0.460	0.0200	0.180	0.170	0.0073	
SFM/BUSTR RBAL's		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTL's		1.650	NC^c	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-4	9/29/1998	0.0017	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.200
	3/8/2000	0.0065	<0.0025	<0.0025	<0.005	NT
	6/13/2000	0.0057	<0.0025	<0.0025	<0.005	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.900	1.500	0.130	0.790	NT
	6/14/2001	0.430	0.068	0.240	0.494	NT
	9/13/2001	0.093	0.0014	0.033	0.0135	NT
	12/3/2001	0.400	0.009	0.059	0.129	NT
	3/27/2002	0.830	1.600	0.620	2.580	NT
	9/12/2002	0.150	0.0093	0.031	0.164	0.033
	4/25/2003	0.150	0.039	0.046	0.099	0.120
	7/21/2005	0.073	<0.001	<0.001	0.0069	0.0017
	5/22/2006	0.0024	<0.001	<0.001	<0.003	<0.001
9/13/2006	0.0032	<0.001	<0.001	<0.003	<0.001	
12/15/2006	0.0071	<0.001	<0.001	<0.003	<0.001	
5/18/2007	0.0088	<0.001	0.0012	<0.003	<0.001	
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^c	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-5	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	<0.001
	3/8/2000	<0.001	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	<0.001	<0.001	<0.001	<0.003	NT
	6/14/2001	<0.001	<0.001	<0.001	<0.003	NT
	9/13/2001	<0.001	<0.001	<0.001	<0.002	NT
	12/3/2001	<0.001	<0.001	<0.001	<0.002	NT
	3/27/2002	<0.001	<0.001	<0.001	<0.002	NT
WELL DESTROYED						
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^c	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. Not Calculated
- d. Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MW-6	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.0015	<0.001	<0.001	<0.002	0.0026
	3/8/2000	0.0092	<0.001	<0.001	<0.002	NT
	6/13/2000	0.010	0.0017	0.0039	0.0124	NT
	9/14/2000	0.002	<0.001	<0.0019	<0.003	NT
	12/11/2000	0.011	<0.001	<0.001	<0.003	NT
	3/1/2001	0.028	0.001	0.011	<0.0061	NT
	6/14/2001	0.0021	<0.001	0.0011	<0.003	NT
	9/13/2001	0.011	<0.001	<0.001	<0.002	NT
	12/3/2001	0.0025	<0.001	<0.001	<0.002	NT
3/27/2002	<0.001	<0.001	<0.001	<0.002	NT	
9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0024	
4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001	
7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001	
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^c	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. Not Calculated
 Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (mg/L ^a)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	XYLENES (mg/L)	MTBE (mg/L)
MWT-7	9/12/2002	0.140	0.019	0.0053	0.0067	0.010
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	5/22/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-8	12/15/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	5/18/2007	<0.001	<0.001	<0.001	<0.003	<0.001
	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-9	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	12/15/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	5/18/2007	<0.001	<0.001	<0.001	<0.003	<0.001
	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-10	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	9/12/2002	0.0011	<0.001	<0.001	<0.003	0.013
	4/25/2003	0.190	0.049	0.035	0.129	0.022
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0098
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0074
SEM/BUSTR RBALs	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.012
	12/15/2006	<0.001	<0.001	<0.001	<0.003	0.004
GW INGESTION SSTLs	5/18/2007	<0.001	<0.001	<0.001	<0.003	0.0035
		0.005	1.000	0.700	10.000	0.040
		1.650	NC^c	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MWT-11	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0018
	4/25/2003	<0.001	<0.001	<0.001	<0.003	0.0037
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0074
MWT-12	9/12/2002	0.190	0.015	0.081	0.195	0.065
	4/25/2003	0.600	0.120	0.081	0.126	0.057
	7/21/2005	0.0018	<0.001	<0.001	<0.003	0.0029
MWT-13	4/25/2003	1.000	0.600	0.140	0.500	0.067
	7/21/2005	0.085	0.0015	<0.001	0.0094	0.0072
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0042
	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.0047
	12/15/2006	<0.001	<0.001	<0.001	<0.003	0.005
	5/18/2007	0.0011	<0.001	<0.001	<0.003	0.0015
MWT-14	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
PW-1	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^d	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. one half the value of the laboratory detection limit is assumed
- d. Not Calculated
Most recent sampling event

Table B-2: Historical Summary of PAHs in Ground Water

Well	Date	Benzo[a]-anthracene (mg/L)*	Benzo[a]-pyrene (mg/L)	Benzo[b]-fluoranthene (mg/L)	Benzo[k]-fluoranthene (mg/L)	Chrysene (mg/L)	Dibenz[a,h]-anthracene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Naphthalene (mg/L)
MW-1	7/21/2005	0.00060	0.00074	0.00081	0.00070	0.00078	<0.00051	0.00057	<0.00051
MW-2	7/21/2005	<0.00050	0.00061	0.00065	0.00051	0.00058	<0.00050	<0.00050	0.00050
	7/21/2005	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	0.029
MW-3	5/22/2006	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	0.160
	9/13/2006	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.0094
	12/15/2006	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	0.140
	5/18/2007	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	0.130
	7/21/2005	<0.00045	0.00050	<0.00045	0.00056	0.00066	<0.00045	<0.00045	0.001
	5/22/2006	0.0021	0.0026	0.0025	0.0026	0.03	<0.001	0.0016	<0.001
MW-4	9/20/2006	0.004	0.0066	0.0061	0.0057	0.0055	0.0011	0.0044	<0.001
	12/15/2006	0.00062	0.00092	0.0011	0.0008	0.00076	<0.00047	0.00057	<0.00047
	5/18/2007	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	0.00081
MW-5	7/21/2005	Well Destroyed, No Sample Collected							
MW-6	7/21/2005	<0.00055	0.00059	0.00062	<0.00055	<0.00055	<0.00055	0.00058	<0.00055
	7/21/2005	<0.0056	0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
	5/22/2006	0.0031	0.0058	0.0051	0.0044	0.0041	0.0011	0.0041	<0.00099
MWT-7	9/13/2006	0.0027	0.0044	0.0036	0.0037	0.0033	<0.0094	0.0028	<0.0094
	12/15/2006	0.0074	0.0013	0.0013	0.0095	0.00091	<0.00024	0.00087	<0.00024
	5/18/2007	0.0013	0.0025	0.0025	0.0018	0.00016	0.00061	0.00020	<0.00051
SFM/BUSTR RBALS^b		NA^c	0.0002	NA	NA	NA	NA	NA	0.570
GW INGESTION SSSL		NC^c	100.00	NC	NC	NC	NC	NC	NC

* Concentrations represented in parts per million (ppm)

- a. Not Available
- b. Risk Based Action Level
- c. Not Calculated

Table B-2: Historical Summary of PAHs in Ground Water (Continued)

Well	Date	Benzo[a]-anthracene (mg/L)*	Benzo[a]-pyrene (mg/L)	Benzo[b]-fluoranthene (mg/L)	Benzo[k]-fluoranthene (mg/L)	Chrysene (mg/L)	Dibenz[a,h]-anthracene (mg/L)	Indeno[1,2,3-cd]pyrene (mg/L)	Naphthalene (mg/L)
MWT-8	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
	9/20/2006	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
MWT-9	5/18/2007	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
MWT-10	7/21/2005	0.000084	0.000097	0.000097	0.000091	0.00011	<0.000054	0.000070	0.000068
	5/22/2006	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	9/20/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
MWT-11	5/18/2007	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	7/21/2005	<0.00010	0.00022	0.00024	0.00019	0.00015	0.000057	0.00021	<0.000054
MWT-12	7/21/2005	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	7/21/2005	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	0.0017
MWT-13 ^d	5/22/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	0.000076
	9/13/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
	12/15/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
MWT-14	7/21/2005	0.00046	0.00087	0.00085	0.00065	0.00061	<0.00020	0.00059	<0.00020
PW-1	7/21/2005	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057
SFM/BUSTR RBALS ^e		NA ^a	0.0002	NA	NA	NA	NA	NA	0.570
GW INGESTION SSTL		NC ^c	100.00	NC	NC	NC	NC	NC	NC

* Concentrations represented in parts per million (ppm)

- a. Not Available
- b. Risk Based Action Level
- c. Not Calculated
- d. PAH sample for MWT-13 broke en route to lab

Table B-3: Ground Water Monitoring Development Records

Sample ID	T.D.	Surveys				Relative Elevations				Well Development			Gallons		Date / Time	
		Ground Level		Water Level		Ground Level		Water Level		Temp.	Cond.	pH	Purge	to		Actual
		T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.							
MW-3	14.8	4.76	4.56	3.39	3.55	99.07	99.27	95.68	95.72	15.7	1439	7.26	2.00	2.00	5-18-07 / 1202	
MW-4	14.6	6.50	6.03	2.46	2.90	97.33	97.80	94.87	94.90	16.0	1051	7.06	2.00	2.00	5-18-07 / 1206	
MWT-7	12.7	5.36	4.81	3.60	4.10	98.41	99.02	94.81	94.92	16.3	1122	6.90	1.50	1.50	5-18-07 / 1211	
MWT-8	17.7	4.61	4.32	2.73	2.95	99.22	99.51	96.49	96.56	16.3	1125	6.94	1.50	1.50	5-18-07 / 1214	
MWT-10	17.7	5.57	5.14	3.41	3.88	98.26	98.69	94.85	94.81	15.6	1010	6.64	2.50	2.50	5-18-07 / 1217	
MWT-13	17.4	6.92	6.46	3.73	4.12	96.91	97.37	93.18	93.25	13.8	1042	6.76	2.50	2.50	5-18-07 / 1220	
										13.2	1051	6.78	2.50	2.50		
										15.4	1061	6.83	2.50	2.50		
										14.0	1207	6.77	2.50	2.50		
										13.3	1160	6.84	2.50	2.50		
										13.0	1161	6.84	2.50	1.25BD		
										14.0	1080	6.59	2.25	2.25		
										11.9	1123	6.66	2.25	2.25		
										11.9	1120	6.70	2.25	1.25BD		

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STATE FILE

GROUND WATER SAMPLING REPORT

Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714
Stark County

Release Number: 76000582-N00001&2

NOV 07 2006

OWNER	OPERATOR
The Premcor Refining Group 201 East Hawthorne Street Hartford, Illinois 62048 Contact: Mr. Timothy Mauntel Phone: (618) 255-5122	The Premcor Refining Group 201 East Hawthorne Street Hartford, Illinois 62048 Contact: Mr. Timothy Mauntel Phone: (618) 255-5122

PREPARED BY:
BJAAM Environmental, Inc. 472 Elm Ridge Ave. Canal Fulton, Ohio 44614 Technical Contact: Ian K. Anderson, Project Manager/Risk Assessor Phone #: 330-854-5300 ext. 112 Fax #: 330-854-5340 BJAAM Job #: 105047

BJAAM

Environmental • Inc.

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Table B-3: Ground Water Monitoring Well Development Records (9/13/2006)

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1.0 Executive Summary

A petroleum release, (#76000582-N00001) was discovered at the Former Clark Store #1079 (site) located on 1600 30th Street, Canton, Stark County, Ohio on October 30, 1996 and the second release (#76000582-N00002) was report on October 2, 2002 and reported to the State Fire Marshal (SFM)/Bureau of Underground Storage Tank Regulations (BUSTR) by Clark Retail Enterprises (CRE).

Former Clark Store #1079 is an American Petroleum gasoline, kerosene, and convenience store retail station. The station is not currently marketing petroleum products or convenience store retail sales to the general public. During the removal and upgrade of two (2) gasoline underground storage tanks (USTs) and one (1) kerosene UST in October of 1996, Clark Retail Enterprise, Inc. (CRE) reported a release to the BUSTR in November of 1997 (SECOR, Site Assessment Report, March 30, 1998).

At the time of the release, Former Clark Store #1079 provided gasoline and kerosene retail sales to the general public. The corrective actions process was initiated in November of 1997 upon discovery of elevated levels of benzene and toluene during site assessment activities.

On February 17th and 18th, 1998 SECOR supervised the installation of four (4) soil borings which were converted to monitoring wells by H.A.D., Inc. SECOR designated these wells as MW-1 through MW-4. The Tier drilling activities included the advancement of nine (9) boreholes; six (6) were converted into round water monitoring wells and three (3) Shelby tubes were advanced in the remaining three (3) boreholes, drilling activities were completed on July 31, 2002 (*Tier Evaluation Notification*, April 8, 2003). During Tier Evaluation activities include the advancement of two (2) soil borings that were converted to monitoring wells on March 7, 2003.

A Tier 2 Evaluation Report was submitted to BUSTR on February 24, 2006 along with an Interim Response Action (IRA) Notification. The Point of Exposure (POE) used in the Tier 2 Bioscreen Model was 300 feet down gradient from the source area. BIOSCREEN modeling in the Tier 2 Evaluation Report indicated that current levels of benzene and benzo (a) pyrene will not reach the POE in concentrations above Tier 1 Risk Based Action Levels (RBALs). The IRA Notification attached to the Tier 2 Report proposed the abandonment of a potable well that exists onsite at Former Clark #1079. The site will be connected to the city water main that is located on 31st Street to the north of the site. This will make the abandonment of the onsite potable well possible, and in turn validate the 300 foot POE.

In a letter dated May 2, 2006, BUSTR approved the Tier 2 assumptions, and IRA Notification with the stipulation that four (4) quarterly ground water monitoring events be carried out in order to verify BIOSCREEN model predictions. BUSTR also requested that soil at MWT-8 be re-sampled for benzo (a) pyrene.

As per BUSTR's request, on May 24, 2006 three (3) soil borings were advanced around MWT-8 to re-sample historical points above the BUSTR risk based action levels (RBALs).

On September 13, 2006 the second of four ground water sampling events was conducted. The six (6) site monitoring wells were gauged, developed, and sampled. The six (6) monitoring wells are located within the plume centerline and/or the plume area. The ground water samples collected were submitted to Pace Analytical (Pace) Laboratory in Green Bay, Wisconsin for analysis of BUSTR Group 2 Analytes, which include; benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tertiary-butyl-ether (MTBE) using USEPA Method 8021 and poly aromatic hydrocarbons (PAHs) using USEPA Method 8310. The laboratory analytical results show a stable to decreasing trend in chemicals of concern (COCs). The analytical results are presented in tabular form in Appendix B. A copy of the laboratory analytical reports is provided in Appendix D. The average depth of ground water, from the top of casing, is 4.00feet below surface grade (bsg)(Table B-2, Appendix B), and the ground water flow through the site is generally northeasterly with a hydraulic gradient of 0.024 ft/ft (see Figure A-4, Appendix A).

2.0 Assessment Methodology

2.1 Ground Water Sample Collection

On September 13, 2006, BJAAM sampled six (6) site-monitoring wells. The monitoring wells were purged by withdrawing the equivalent of three (3) calculated well volumes or all of the water in the well, whichever occurred first. Purged water was placed in a 55-gallon steel drum, labeled and transported to BJAAM's equipment yard for classification and disposal. After allowing sufficient time for recharge, ground water samples were collected using clean 1.66-inch disposable bailers.

Ground water samples submitted for BTEX and MTBE analyses were placed in clean 40ml VOA glass vials preserved with HCl and tightly sealed with Teflon-lined lids. No air bubbles were present in the VOA vials. Ground water samples submitted for PAH analyses were placed in clean 1-liter amber glass bottles and tightly sealed with Teflon-lined lids.

2.2 Ground Water Sample Analysis and Quality Control

BJAAM submitted the ground water samples under proper chain-of-custody to Pace Analytical of Green Bay, Wisconsin for analysis of BTEX and MTBE using USEPA Method 8021 and PAHs using USEPA Method 8310 or equivalent in accordance with Table 1 of the Ohio Administrative Code (OAC) rule §1301:7-9-13(D)(4). Ground water samples were stored in an ice chest cooler and maintained at a temperature of 40° Fahrenheit (F) until delivery to the laboratory for analysis. All ground water sample containers were individually marked with the date and time of collection, sample location, site name, and a sample number assigned in the field. A laboratory chain-of-custody was maintained for all water samples submitted to the laboratory. Laboratory analytical reports and chain of custody documentation are provided as Appendix D.

3.0 Data Presentation and Documentation

3.1 Analytical Results – Ground Water Samples

Copies of the laboratory analytical results are provided as Appendix D. Historical BTEX, MTBE, and PAH concentrations are shown on Figure A-3, Appendix A and Table B-1, Appendix B. The results indicate that all concentrations of COCs show a stable to decreasing trend.

3.2 Ground Water Elevations and Flow

Monitoring wells were gauged using an interface probe to measure the depth to ground water from the top of casing. The gauging data obtained from each monitoring well coupled with the relative elevation was used in preparation of the ground water potentiometric surface map included as Figure A-4, Appendix A. Locally, the potentiometric surface appears to dip northeasterly at an approximate gradient of 0.024 ft/ft. The ground water potentiometric surface map is provided in Figure A-4, Appendix A.

4.0 Recommendations

4.1 Corrective Actions Process

On behalf of The Premcor Refining Group, this report is published as the second quarterly ground water monitoring report. Current ground water analytical results indicate that COCs in ground water are showing an overall decreasing to stable trend.

4.2 Future Monitoring Recommendations

Future activities include two (2) more rounds of quarterly ground water monitoring, as well as the abandonment of the onsite potable well once the site has been connected to the city water main, as per the IRA notification.

This report has been prepared for the exclusive use of The Premcor Refining Group. The information presented in this document is proprietary and confidential information, which is a trade secret of BJAAM Environmental, Inc. BJAAM Environmental, Inc. asserts a business confidentiality claim covering all information and all data contained on each page of this document. Any unauthorized dissemination or reuse of this document will be at the user's sole risk and with the condition that BJAAM Environmental, Inc. be held harmless from any and all claims for losses or damages and expenses arising out of or resulting from such unauthorized disclosure or reuse.

The owner/operator acknowledges that subsurface conditions may vary from those encountered at the locations where borings, surveys, samples, or explorations are made. The data, interpretations, and recommendations of BJAAM may be based solely on the information available to us. BJAAM assumes that the data that has been obtained and/or provided through previous investigations represents the true conditions of the site. It is understood by the owner/operator that some of the information in this report may be second hand. It will be the responsibility of the owner/operator to review the report for accuracy. BJAAM will be responsible for its data, interpretations, and representations, but will not be responsible for the data provided to us or for the interpretation of the information by others.

Petroleum products regulated under Ohio Administrative Code rule 1301:7-9-12 was assumed to be the only contaminants on this site. If an active UST system exists on site, then a currently on-going and/or future release may change subsurface data that may invalidate the conclusions of this report. BJAAM makes no claims or warranties regarding BUSTR or Ohio EPA action levels or standards and their respective or cumulative effects on the human body. Nothing in this document should be interpreted as an expert opinion regarding human health or degree of safety due to the presence of contaminants at and/or emanating from the site. Moreover, this report does not include an ecological risk assessment.

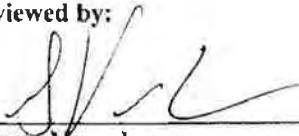
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George Varouhas

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BJAAM

Environmental • Inc.

Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714

Release Number 76000582-N00001&2

Appendix A - Figures

Figure A-1: USGS Topographic Site Location Map

Figure A-2: Site Map

Figure A-3: Historical Ground Water Analytical Results Map

Figure A-4: Ground Water Potentiometric Surface Map

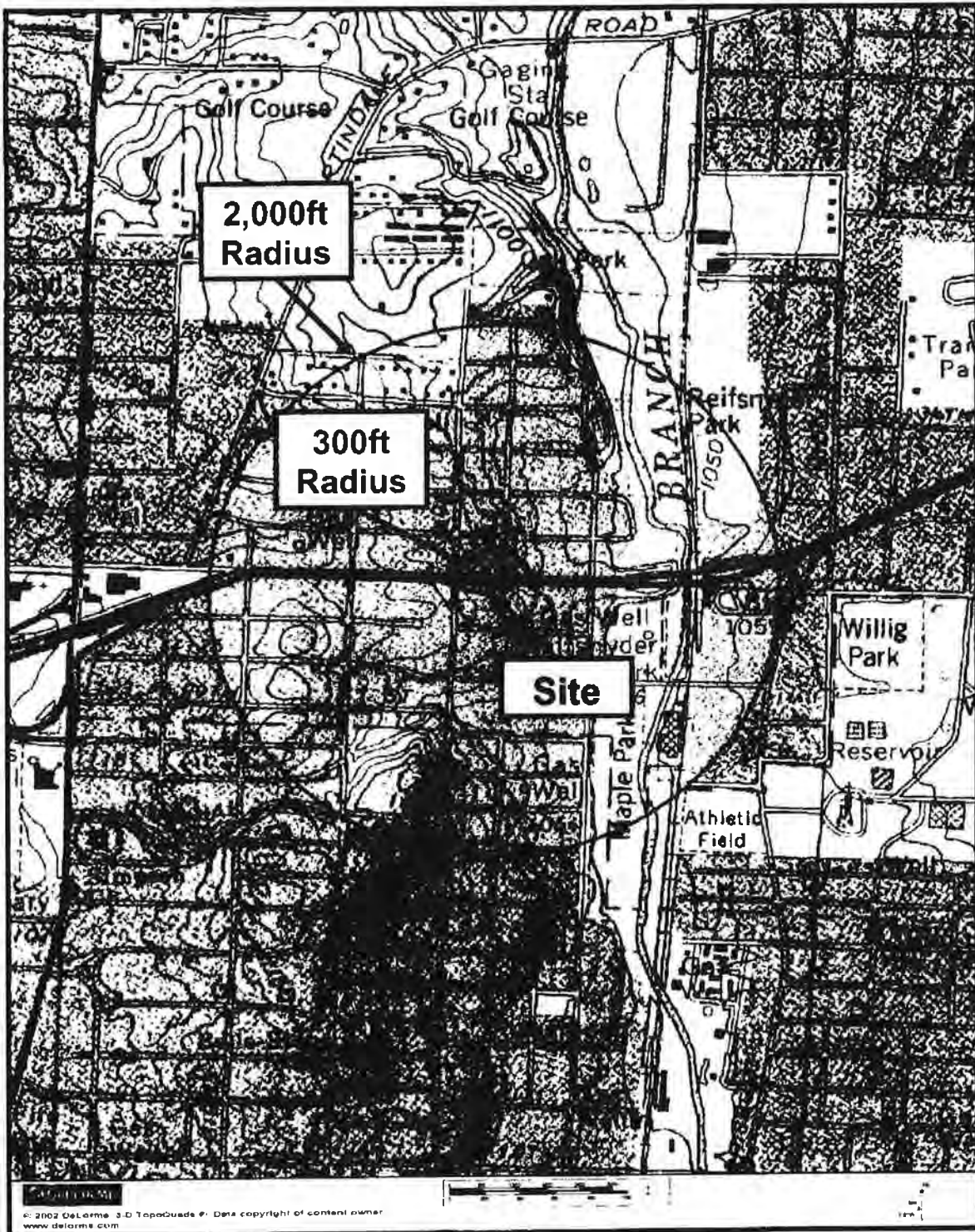
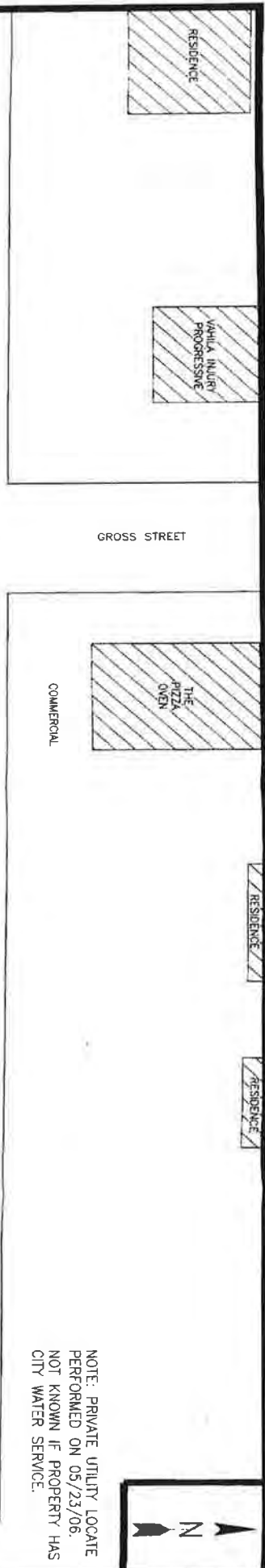
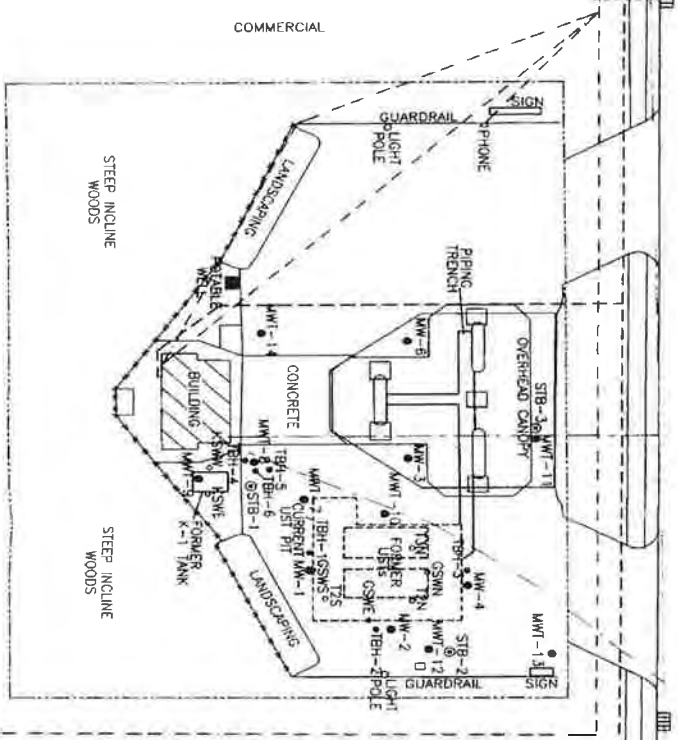
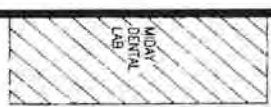


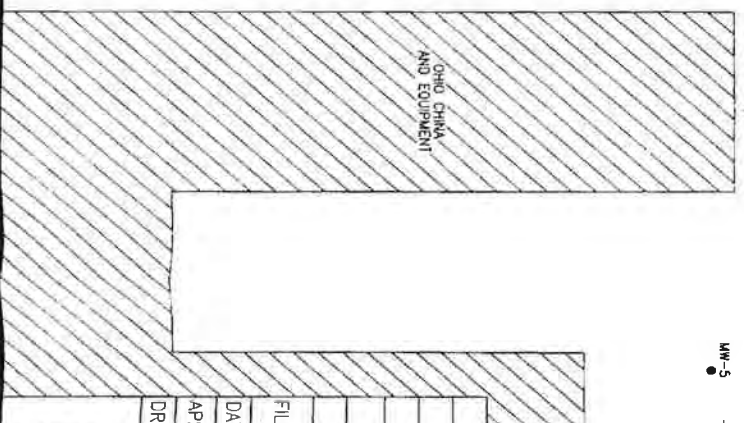
Figure A-1: USGS Topographic Site Location Map



US ROUTE 62
(30th STREET)



VACANT



NOTE: PRIVATE UTILITY LOCATE PERFORMED ON 05/23/06. NOT KNOWN IF PROPERTY HAS CITY WATER SERVICE.

LEGEND

- ▣ = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- == = STORM SEWER
- ≡ = SANITARY SEWER
- - - = OVERHEAD UTILITIES
- ***** = FENCE
- = PROPERTY LINE



FIGURE A-2:

SITE MAP
105047
CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714
FILE NAME = 105047-CLARK-1079
-SITE-2
DATE: JUNE 7, 2006
APPRX. SCALE: 1"=40'
DRAWN BY: J.P.BREEN



NOTE: BTEX AND MIRE RESULTS ARE IN PARTS PER MILLION

B = BENZENE
 T = TOLUENE
 X = XYLENES
 MIRE = METHYL TERT-BUTYL ETHER
 NAPH = NAPHTHALENE
 BEN-PY = BENZONAPHTHENE

DATE	B	T	X	MIRE	NAPH	BEN-PY
9/13/06	0.00	0.00	0.00	0.00	0.00	0.00
5/22/06	0.00	0.00	0.00	0.00	0.00	0.00
9/13/05	0.00	0.00	0.00	0.00	0.00	0.00
12/21/05	0.00	0.00	0.00	0.00	0.00	0.00
7/21/05	0.00	0.00	0.00	0.00	0.00	0.00
12/21/02	0.00	0.00	0.00	0.00	0.00	0.00
7/21/02	0.00	0.00	0.00	0.00	0.00	0.00

DATE	B	T	X	MIRE	NAPH	BEN-PY
9/13/06	0.00	0.00	0.00	0.00	0.00	0.00
5/22/06	0.00	0.00	0.00	0.00	0.00	0.00
9/13/05	0.00	0.00	0.00	0.00	0.00	0.00
12/21/05	0.00	0.00	0.00	0.00	0.00	0.00
9/13/05	0.00	0.00	0.00	0.00	0.00	0.00
12/21/05	0.00	0.00	0.00	0.00	0.00	0.00

- LEGEND
- ☐ = BUILDING
 - = MONITORING WELL
 - = SOIL BORING
 - = CLOSURE SAMPLES
 - = POTABLE WELL
 - = GAS LINE
 - = STORM SEWER
 - = SANITARY SEWER
 - = OVERHEAD ELECTRIC
 - = PROPERTY LINE

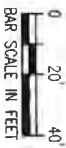


FIGURE A-3

GROUNDWATER ANALYTICAL

105047

CLARK STORE #1079

1600 30th STREET NE

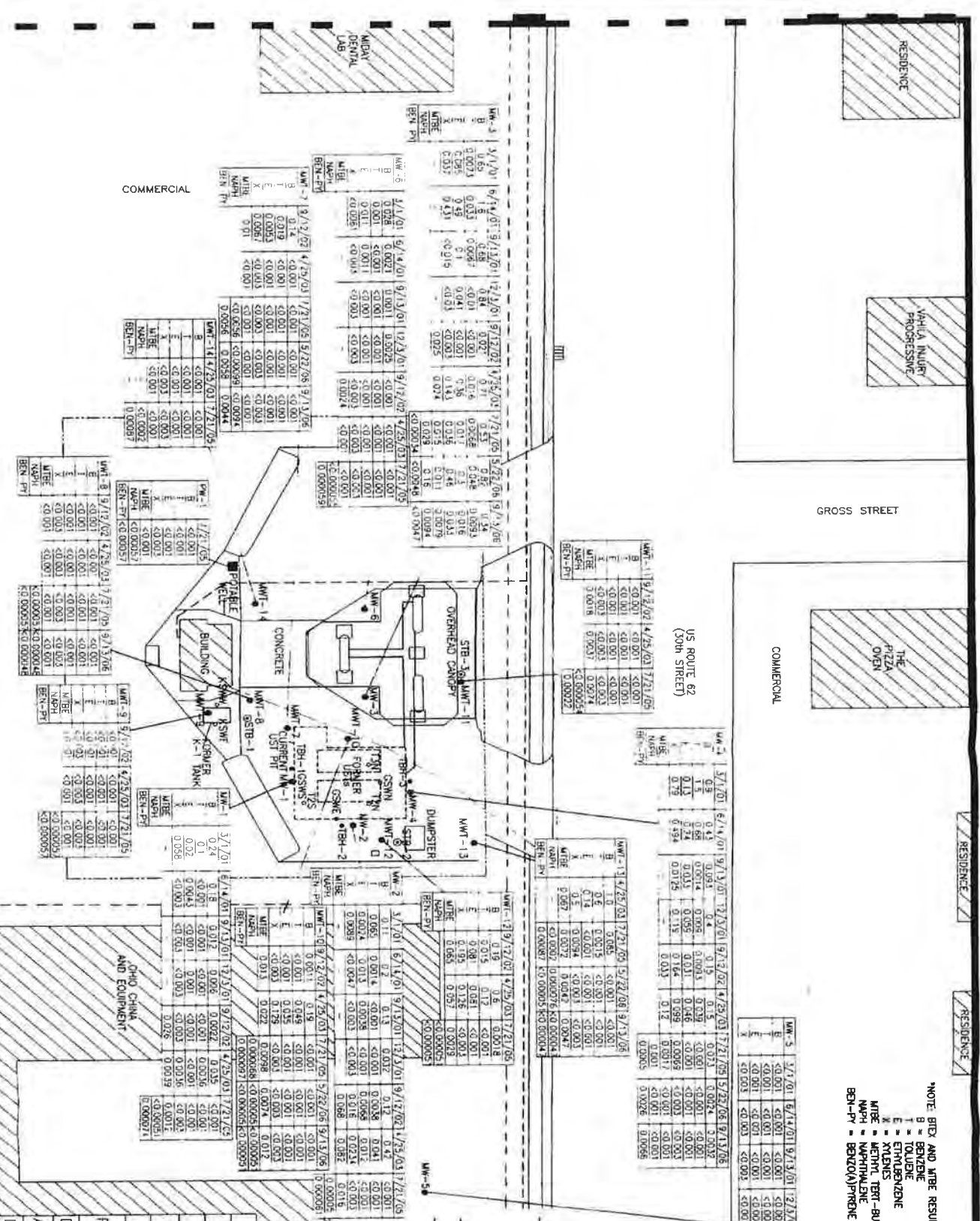
CANTON, OHIO 44714

FILE NAME = 105047-CLARK-1079

DATE: AUGUST 25, 2005

APPRX. SCALE: 1"=40'

DRAWN BY: J.P. BRENN



VACANT

COMMERCIAL

GROSS STREET

US ROUTE 62
(30th STREET)

COMMERCIAL

HAIRY MAINT
PROFESSIONAL

THE
PIZZA
OVEN

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

VANILLA INLAIR
PROGRESSIVE

GROSS STREET

THE
PIZZA
OVEN

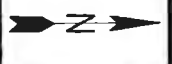
COMMERCIAL

RESIDENCE

RESIDENCE

DRAWN BY: SURFER
DATE MEASURED: 9/13/06
CONTOUR INTERVAL = 0.5' FOOT

NOTE: PRIVATE UTILITY LOCATE
PERFORMED ON 05/23/06.
NOT KNOWN IF PROPERTY HAS
CITY WATER SERVICE.



LEGEND

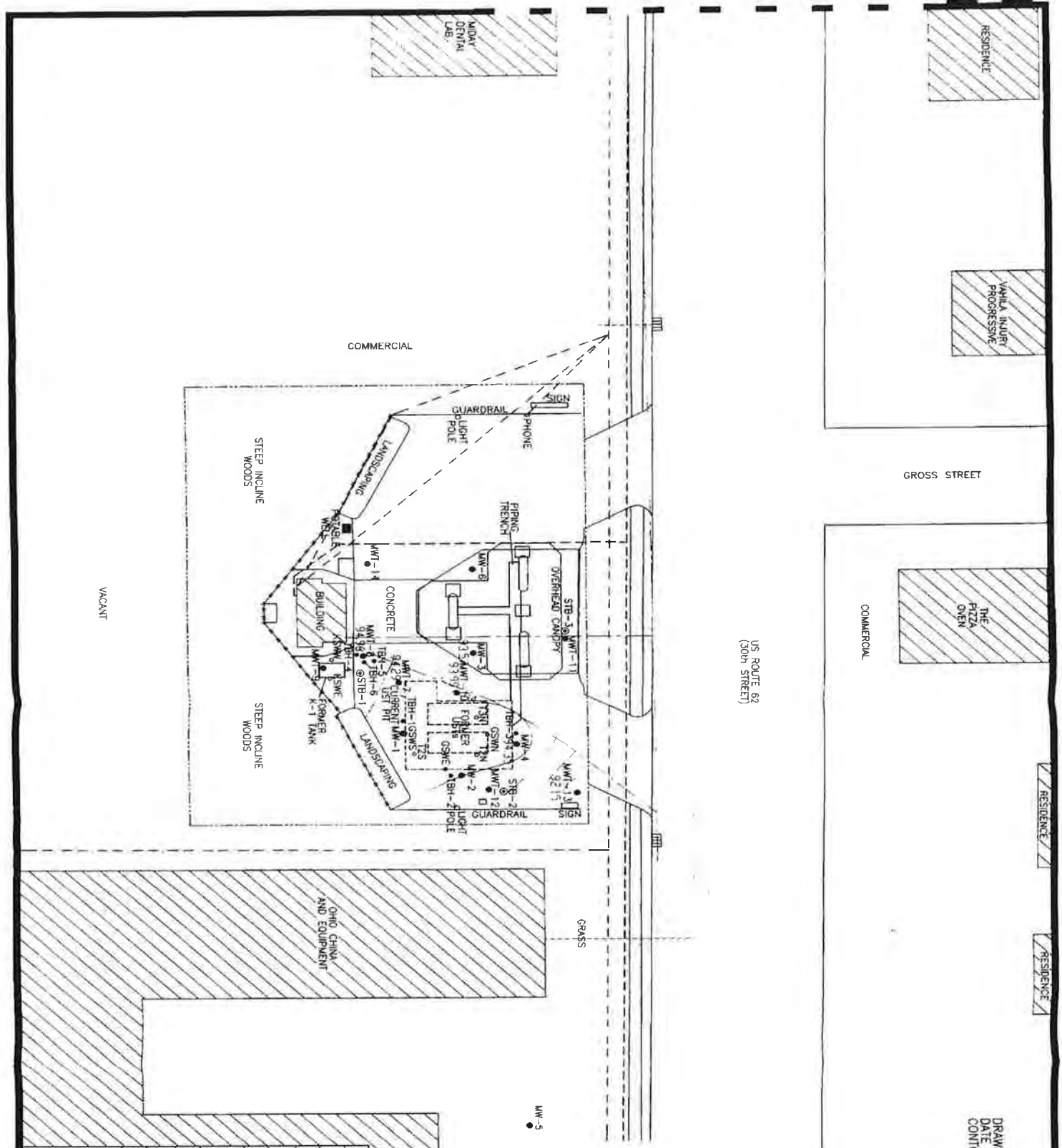
- ▣ = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL

- - - - - GAS LINE
- - - - - STORM SEWER
- - - - - SANITARY SEWER
- - - - - OVERHEAD UTILITIES
- ***** FENCE
- PROPERTY LINE



FIGURE A-4:

POTENTIOMETRIC SURFACE MAP
105047
CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714
FILE NAME = 105047-CLARK-1079
-GW-9-13-06
DATE: JUNE 7, 2006
APPRX. SCALE: 1"=40'
DRAWN BY: J.P. BREEN



Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714

Release Number: 76000582-N00001&2

Appendix B - Tables

Table B-1: Historical Summary of BTEX and MTBE Ground Water Analytical

Table B-2: Historical Summary of PAH Ground Water Analytical

Table B-3: Ground Water Monitoring Well Development Records (9/13/2006)

Table B-1: Historical BTEX and MTBE Ground Water Analytical

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-1	9/29/1998	<0.001 ^c	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.022
	3/8/2000	0.011	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT ^c
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	0.0047	<0.003	NT
	3/1/2001	0.240	0.100	0.020	0.058	NT
	6/14/2001	0.180	<0.001	0.0043	<0.003	NT
	9/13/2001	0.012	<0.001	<0.001	<0.002	NT
	12/3/2001	0.006	<0.001	0.001	<0.002	NT
	3/27/2002	0.042	0.026	<0.001	0.005	NT
	9/12/2002	0.0022	<0.001	<0.001	<0.003	0.026
	4/25/2003	0.035	0.0036	<0.001	0.0036	0.0039
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0012	
SFM/BUSTR REALS₁		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLS₁		1.650	NC^d	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

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Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-2	9/29/1998	0.0067	<0.001 ^c	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	0.0012	<0.001	<0.002	0.200
	3/8/2000	<0.004	<0.004	<0.004	<0.008	NT
	6/13/2000	0.0058	<0.0025	<0.0025	<0.005	NT
	9/14/2000	0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.110	0.065	0.0024	0.0089	NT
	6/14/2001	0.200	0.0014	0.013	<0.0047	NT
	9/13/2001	0.130	<0.001	0.0038	<0.002	NT
	12/3/2001	0.032	<0.001	<0.001	<0.002	NT
	3/27/2002	0.041	<0.001	0.0023	<0.002	NT
	9/12/2002	0.120	0.0038	0.0068	0.016	0.068
	4/25/2003	0.420	0.041	0.012	0.0234	0.082
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.016
	SFM/BUSTR RBAL^s		0.005	1.000	0.700	10.800
GW INGESTION SSIL^s		1.650	NC^d	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. one half the value of the laboratory detection limit is assumed
- d. Not Calculated
Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-3	9/29/1998	<0.001 ^c	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.660	0.052	0.360	0.240	0.064
	3/8/2000	0.490	0.044	0.260	0.173	NT
	6/13/2000	0.340	0.0094	0.180	0.0860	NT
	9/14/2000	0.300	0.004	0.030	0.023	NT
	12/11/2000	0.700	0.026	0.095	0.099	NT
	3/1/2001	0.650	0.0073	0.085	0.037	NT
	6/14/2001	1.600	0.033	0.490	0.431	NT
	9/13/2001	0.680	0.0067	0.100	<0.010	NT
	12/3/2001	0.840	<0.010	0.041	<0.020	NT
	3/27/2002	0.930	0.022	0.230	0.069	NT
	9/12/2002	0.021	<0.001	<0.001	<0.003	0.025
	4/25/2003	0.710	0.016	0.360	0.143	0.024
	7/21/2005	0.530	0.0068	0.017	0.036	0.015
	5/22/2006	0.820	0.0480	0.300	0.460	0.011
9/13/2006	0.340	0.0093	0.016	0.033	0.0079	
SFM/BUSTKRBALS		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLS		1.650	NC^d	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-4	9/29/1998	0.0017	<0.001 ^c	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.200
	3/8/2000	0.0065	<0.0025	<0.0025	<0.005	NT
	6/13/2000	0.0057	<0.0025	<0.0025	<0.005	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.900	1.500	0.130	0.790	NT
	6/14/2001	0.430	0.068	0.240	0.494	NT
	9/13/2001	0.093	0.0014	0.033	0.0135	NT
	12/3/2001	0.400	0.009	0.059	0.129	NT
	3/27/2002	0.830	1.600	0.620	2.580	NT
	9/12/2002	0.150	0.0093	0.031	0.164	0.033
	4/25/2003	0.150	0.039	0.046	0.099	0.120
	7/21/2005	0.073	<0.001	<0.001	0.0069	0.0017
5/22/2006	0.0024	<0.001	<0.001	<0.003	<0.001	
9/13/2006	0.0032	<0.001	<0.001	<0.003	<0.001	
STM/BUSIR RBALS		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSILs		1.650	NC^d	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)	
MW-5	9/29/1998	<0.001 ^c	<0.001	<0.001	<0.002	NT ^b	
	9/9/1999	<0.001	<0.001	<0.001	<0.002	<0.001	
	3/8/2000	<0.001	<0.001	<0.001	<0.002	NT	
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT	
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT	
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT	
	3/1/2001	<0.001	<0.001	<0.001	<0.003	NT	
	6/14/2001	<0.001	<0.001	<0.001	<0.003	NT	
	9/13/2001	<0.001	<0.001	<0.001	<0.002	NT	
	12/3/2001	<0.001	<0.001	<0.001	<0.002	NT	
	3/27/2002	<0.001	<0.001	<0.001	<0.002	NT	
	7/21/2005	WELL DESTROYED					
	SFMBUSIR RBALS		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSELs		1.650	NC^d	NC	NC	NC	

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-6	9/29/1998	<0.001 ^c	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.0015	<0.001	<0.001	<0.002	0.0026
	3/8/2000	0.0092	<0.001	<0.001	<0.002	NT
	6/13/2000	0.010	0.0017	0.0039	0.0124	NT
	9/14/2000	0.002	<0.001	<0.0019	<0.003	NT
	12/11/2000	0.011	<0.001	<0.001	<0.003	NT
	3/1/2001	0.028	0.001	0.011	<0.0061	NT
	6/14/2001	0.0021	<0.001	0.0011	<0.003	NT
	9/13/2001	0.011	<0.001	<0.001	<0.002	NT
	12/3/2001	0.0025	<0.001	<0.001	<0.002	NT
	3/27/2002	<0.001	<0.001	<0.001	<0.002	NT
	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0024
4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001	
7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001	
SFMBUSTER RBAL_s		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTL_s		1.650	NC^d	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L) ^a	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MWT-7	9/12/2002	0.140	0.019	0.0053	0.0067	0.010
	4/25/2003	<0.001 ^c	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	5/22/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-8	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	9/13/2006	<0.001	<0.001	<0.001	<0.003	<0.001
	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-9	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-10	4/25/2003	0.190	0.049	0.035	0.129	0.022
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0098
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0074
	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.012
	9/12/2002	0.0011	<0.001	<0.001	<0.003	0.013
SFM/BUSTR RBALs		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLS		1.650	NC^d	NC	NC	NC

- a. Parts per million
- b. Not tested
- c. one half the value of the laboratory detection limit is assumed
- d. Not Calculated
Most recent sampling event

Table B-1: Historical BTEX and MTBE Ground Water Analytical (Continued)

Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MWT-11	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0018
	4/25/2003	<0.001	<0.001	<0.001	<0.003	0.0037
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0074
MWT-12	9/12/2002	0.190	0.015	0.081	0.195	0.065
	4/25/2003	0.600	0.120	0.081	0.126	0.057
	7/21/2005	0.0018	<0.001	<0.001	<0.003	0.0029
MWT-13	4/25/2003	1.000	0.600	0.140	0.500	0.067
	7/21/2005	0.085	0.0015	<0.001	0.0094	0.0072
	5/22/2006	<0.001	<0.001	<0.001	<0.003	0.0042
	9/13/2006	<0.001	<0.001	<0.001	<0.003	0.0047
MWT-14	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
PW-1	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
SFM/BUSTR RBAL^b		0.005	1.000	0.700	10.000	0.040
GW INGESTION SSTLs		1.650	NC^d	NC	NC	NC

- a. Parts per million
 - b. Not tested
 - c. one half the value of the laboratory detection limit is assumed
 - d. Not Calculated
- Most recent sampling event

Table B-2: Historical PAH Ground Water Analytical

Well	Date	Benz[a]- anthracene (MG/KG)*	Benz[a]- pyrene (MG/KG)	Benz[b]- fluoranthene (MG/KG)	Benz[k]- fluoranthene (MG/KG)	Chrysene (MG/KG)	Dibenz[a,h]- anthracene (MG/KG)	Indeno[1,2,3- cd]pyrene (MG/KG)	Naphthalene (MG/KG)
MW-1	7/21/2005	0.000060	0.000074	0.000081	0.000070	0.000078	<0.000051	0.000057	<0.000051
MW-2	7/21/2005	<0.000050	0.000061	0.000065	0.000051	0.000058	<0.000050	<0.000050	0.000050
MW-3	7/21/2005	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	<0.00034	0.029
	5/22/2006	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	0.160
MW-4	9/13/2006	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	0.0094
	7/21/2005	<0.00045	0.00050	<0.00045	0.00056	0.00066	<0.00045	<0.00045	0.001
	5/22/2006	0.0021	0.0026	0.0025	0.0026	0.03	<0.001	0.0016	<0.001
MW-5	9/20/2006	0.004	0.0066	0.0061	0.0057	0.0055	0.0011	0.0044	<0.001
	7/21/2005	Well Destroyed, No Sample Collected							
MW-6	7/21/2005	<0.000055	0.000059	0.000062	<0.000055	<0.000055	<0.000055	0.000058	<0.000055
MWT-7	7/21/2005	<0.0056	0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
	5/22/2006	0.0031	0.0058	0.0051	0.0044	0.0041	0.0011	0.0041	<0.00099
SFM/BUSTR RBALS ^b	9/13/2006	0.0027	0.0044	0.0036	0.0037	0.0033	<0.0094	0.0028	<0.00094
		NA ^c	0.0002	NA	NA	NA	NA	NA	0.570
GW INGESTION SSTL		NC ^c	100.00	NC	NC	NC	NC	NC	NC

* Concentrations represented in parts per million (ppm)

- a. Not Available
- b. Risk Based Action Level
- c. Not Calculated

Table B-2: Historical PAH Ground Water Analytical (Continued)

Well	Date	Benzo[a]-anthracene (MG/KG)*	Benzo[a]-pyrene (MG/KG)	Benzo[b]-fluoranthene (MG/KG)	Benzo[k]-fluoranthene (MG/KG)	Chrysene (MG/KG)	Dibenzo[a,h]-anthracene (MG/KG)	Indeno[1,2,3-cd]pyrene (MG/KG)	Naphthalene (MG/KG)
MWT-8	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
	9/20/2006	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048	<0.000048
MWT-9	7/21/2005	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057	<0.000057
	7/21/2005	0.000084	0.000097	0.000097	0.000091	0.00011	<0.000054	0.000070	0.000068
MWT-10	5/22/2006	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	9/20/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
MWT-11	7/21/2005	<0.00010	0.00022	0.00024	0.00019	0.00015	0.000057	0.00021	<0.000054
MWT-12	7/21/2005	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	7/21/2005	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	0.0017
MWT-13	5/22/2006	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	0.000076
	9/13/2006	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
MWT-14	7/21/2005	0.00046	0.00087	0.00085	0.00065	0.00061	<0.00020	0.00059	<0.00020
PW-1	7/21/2005	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057	<0.00057
SFM/BUSTR RBAL ^a		NA ^b	0.0002	NA	NA	NA	NA	NA	0.570
GW INGESTION SSTL		NC ^c	100.00	NC	NC	NC	NC	NC	NC

* Concentrations represented in parts per million (ppm)

- a. Not Available
- b. Risk Based Action Level
- c. Not Calculated

Former Clark Store #1079
1600 30th Street
Canton, Ohio 44714

Release Number: 76000582-N00001&2

Sample ID	T.D.	Surveys				Relative Elevations				Well Development			Gallons		Time
		Ground Level		Water Level		Ground Level		Water Level		Temp.	Cond.	pH	to Purge	Actual Purged	
		T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.						
MW-3	12.0	4.76	4.56	3.70	3.90	99.07	99.27	95.37	95.37	21.9	1686	7.07	1.50	1.50	9/13/06 12:30
MW-4	16.0	6.50	6.03	3.00	3.45	97.33	97.80	94.33	94.35	21.7	1737	7.10	1.50	1.50	
MWT-7	18.0	5.36	4.81	4.04	4.73	98.41	99.02	94.37	94.29	21.2	1742	7.13	1.50	1.50	
MWT-8	18.0	4.61	4.32	4.25	4.55	99.22	99.51	94.97	94.96	21.3	1162	7.04	2.25	2.25	9/13/06 12:36
MWT-10	18.0	5.57	5.14	4.23	4.70	98.26	98.69	94.03	93.99	21.6	1120	7.08	2.25	2.25	
MWT-13	18.0	6.92	6.46	4.80	5.22	96.91	97.37	92.11	92.15	21.1	1168	7.10	2.25	2.25	
										22.1	1292	6.88	2.25	2.25	9/13/06 12:45
										22.3	1304	6.89	2.25	2.25	
										22.5	1277	6.90	2.25	2.25	
										20.7	1216	6.65	2.25	2.25	9/13/06 12:52
										19.4	1215	6.65	2.25	2.25	
										17.6	1224	6.77	2.25	2.25	
										21.4	1569	6.81	2.25	2.25	9/13/06 12:56
										20.5	1593	6.75	2.25	2.25	
										20.0	1657	6.74	2.25	1.75BD	
										20.8	1195	6.88	2.25	2.25	9/13/06 13:00
										19.6	1315	6.95	2.25	2.25	
										18.4	1324	6.98	2.25	2.25	

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TIER II EVALUATION REPORT

The Premcor Refining Group
Former Clark Store #1079
1600 30th Street NE
Canton, OH 44714
Stark County

BUSTR Release #: 76000582-N00001&2

2006

CLIENT INFORMATION	
Client Contact:	Tim Mauntel
Client Phone:	(618) 255-5122
Client Name:	The Premcor Refining Group
Client Address:	201 East Hawthorne Street Hartford, Illinois 62048
Facility County:	Stark County
Facility ID Number:	76000582
Site Longitude/Latitude:	N40°49.828'/W81°21.269'



CONSULTANT INFORMATION	
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Consultant Job Number:	105047




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1.0 UST Site Description, Characterization

Mr. Tim Mauntel of The Premcor Refining Group (Premcor), has contracted BJAAM Environmental, Inc. (BJAAM) to perform a Tier II Evaluation for BUSTR Release # 76000582-N00001&2.

1.1 Site Description

The subject site is located at 1600 30th Street in Canton, Stark County, Ohio 44714. A United States Geological Survey (USGS) Topographic Map illustrating the site location, local topography and surficial drainage is presented as Figure A-1 in Appendix A.

The surrounding area (within 2,000 ft) of the site consists of residential and non-residential properties. Ohio China and Equipment resides to the east of the site. Across 30th Street to the north is a Pizza Oven. MiDay Dental Lab is located to the west of the aforementioned site, and a vacant lot is located directly south of the site. The residential properties are located to the north of the site. A surrounding land use map is included to elucidate the previously mentioned locations Figure A-2, Appendix A.

1.2 Site History

Former Clark Store #1079 is currently an American Petroleum gasoline, kerosene, and convenience store retail station. The station is not currently selling gasoline and/or kerosene products, however the convenience store is still open to the general public. During the removal and upgrade of two (2) gasoline USTs and one (1) kerosene UST in October of 1996, Clark Retail Enterprises, Inc. (CRE) reported a release to BUSTR in November of 1997 (SECOR, Site Assessment Report, March 30, 1998). On February 17th and 18th, 1998 SECOR supervised the installation of four (4) soil borings which were converted to monitoring wells by H.A.D., Inc. SECOR designated the borings/monitoring wells MW-1 through MW-4. The Tier drilling activities included the advancement of nine (9) boreholes; six (6) were converted into ground water monitoring wells and three (3) Shelby tubes were advanced in the remaining three (3) boreholes, drilling activities were completed on July 31, 2002 (*Tier Evaluation Notification*, April 8, 2003). During Tier Evaluation activities include the advancement of two (2) soil borings and converted into ground water monitoring wells on March 7, 2003.

At the time of the release, Former Clark Store #1079 provided gasoline and kerosene retail sales to the general public. The corrective actions process was initiated in November of 1997 upon discovery of elevated concentrations of benzene and toluene during site assessment activities. The confirmed releases are from the gasoline and kerosene UST systems.

1.3 Immediate Response Actions

During this site investigation, there have been no immediate response actions performed at the subject site. No immediate threats of fire, explosion, or vapor hazards have existed.

1.4 Regional and Site Geology

Geologically, the local area is part of the Allegheny Plateau physiographic province in the glaciated northeastern portion of the state of Ohio. The underlying bedrock is composed of the Sharon Conglomerate of the Pennsylvanian-aged Pottsville formation. The predominant soil type encountered during the excavation of the UST pits was sand and shale with some clay (*Tier Evaluation Notification, April 8, 2003*).

Based on the soil boring logs presented in Appendix D, two (2) cross-sections were constructed to better understand the soil characteristics and relationships between the source area(s), the transport mechanisms, and all the potential receptors and exposure routes for both current and potential future activity and land uses. As part of this investigation, Premcor has presented the BUSTR with a soil classification form in Table 1-1 on page 1-5. Each soil type encountered at the site is classified and the corresponding pathway is specified.

1.5 Regional and Site Hydrogeology

On a regional basis, the topography is gently rolling with the surface gradient dipping to the east. According to the ODNR ground water resource map of Stark County, some areas are capable of yielding twenty-five (25) to fifty (50) gallons per minute (GPM) (*ODNR Ground Water Resource Map of Stark County, 1988*) (Figure A-12 & A-13, Appendix A). The local potentiometric surface dips in the northeasterly direction at an approximate gradient of 0.041 ft/ft.

Major Divisions			Letter Symbol	Typical Description	BUSTR Class
Coarse Grained Soils (More than 50% of material is greater than #200 sieve)	Gravel and Gravelly Soils (More than 50% of coarse fraction retained on #4 sieve)	Clean Gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Sand/Gravel
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines	
		Gravels With Fines (Appreciable amount of fines)		Silty gravels, gravel-sand-silt mixtures	
			GC	Clayey gravels, gravel-sand-clay mixtures	
	Sand and Sandy Soils (More than 50% of coarse fraction passing on #4 sieve)	Clean Sand (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	
			SP	Poorly-graded sands, gravelly sands, little or no fines	
		Sands with Fines (Appreciable amount of fines)	SM	Silty-sands, sand-silt mixtures	
			SC	Clayey sands, sand-clay mixtures	
Fine Grained Soils (More than 50% of material is smaller than #200 sieve)	Silts and Clays Liquid limit <50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Silty/Clayey Sands	
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
		OL	Organic silts and organic silty clays of low plasticity		
	Silts and Clays Liquid limit >50	MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils	Clay/Silt	
		CH	Inorganic clays of high plasticity, fat clays		
		OH	Organic clays of medium to high plasticity, organic silts		
Highly Organic Soils			PT	Peat, humus, swamp soils with high organic contents	

Pathway	Symbol	Pathway	Symbol
Direct contact with soil	GM	GW to indoor air	GM
Soil to DW leaching	GM	GW ingestion	GM
Soil to indoor air	GM	Soil to non-DW leaching	GM

Site Location: 1600 30 Street NE, Canton, Ohio 44714

Name, Title: William R. Dash, P.E. Firm Name: Solar Testing Laboratories

Signature: Appendix E Date: 8/29/02

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2.0 Soil Data Collection

2.1 Rationale for Sampling and Testing Activities

The initial data collection performed during this investigation indicates a distribution of COCs exceeding RBALs that indicates the source area of the release is the former underground storage tank (UST) system. The USTs were located on the east side of the dispenser isles in the middle of the site. BUSTR established these action levels as a preliminary screening tool to determine if human health and/or the environment may be negatively affected or altered. These screening levels are based on a generic site conceptual model that assumes chemical exposure over the impacted areas in a residential setting.

Premcor re-sampled areas of previously impacted ground water encountered during previous site investigations. The impacted area has been defined during the subsequent site investigation, as set forth under the guidelines and regulations of the Ohio Administrative Code (OAC) prior to March 1999 and adopted in 1992. Several soil borings were installed, as depicted as Figure A-3, surrounding the former UST system where soil impact was encountered during historical closure activities.

2.2 Soil Data

Fieldwork for this Tier Evaluation consisted of the installation of two (2), 7.25-inch diameter soil borings. Soil samples were collected in continuous two (2) foot intervals and field screened. The field screening results are recorded in Table B-1, Appendix B. Two (2) soil borings were completed as a two (2) inch diameter ground water monitoring wells. A detailed methodology of the fieldwork performed is presented in Appendix C. Soil boring logs for this investigation may be found in Appendix D.

2.2.1 COCs Identified by Field Readings, Visual Observations

All soil samples were field screened using a Photovac Model 2020 PID. The PID does not have the ability to identify specific constituents found in petroleum products. However, the instrument is ideal for field screening of volatile organic compounds (VOCs). The PID is capable of analyzing compounds with vapor pressures of at least 1mm Hg at 25°C. BJAAM's field screening procedures are presented in Appendix C.

During this Tier Evaluation, petroleum staining was not observed in any of the soil samples collected.

2.2.2 Saturation Soil Zones

During Tier Evaluation drilling activities, the upper ground water table aquifer was typically encountered around 4.89 feet below surface grade (bsg). The monitoring wells were constructed in such a way that the wells terminated at least five (5) feet into the water table (as encountered during drilling) and at a minimum, screened across the soil/ground water interface in a fashion that will accommodate seasonal fluctuations.

2.2.3 Soil Classification and Description

The soil classification is based on site-specific field data collected in and around the source area. In this case, the field data was collected around the UST system.

The soils have been classified in accordance with the Unified Soil Classification System (USCS), more specifically ASTM method D2487-92. Solar Testing Laboratories, Inc. has performed the quantitative analyses and a registered engineer has assigned the appropriate USCS symbols to each respective sample. A copy of these analyses is presented in Appendix E and the professional signatures are enclosed therein. From this, a BJAAM geologist has assigned each potentially complete BUSTR prescribed pathway a USCS classification symbol. This is presented in BUSTR's soil classification form, hereby represented as Table 1-1 on page 1-5. BJAAM's environmental professional signatures are contained therein.

2.2.4 Sample Selection

For the site, BJAAM submitted soil samples in accordance with OAC rule §1301:7-9-13(H)(2)(c)(vi). On average across the site, ground water was encountered 4.89 feet bsg. For the specific depths and/or lithologic descriptions associated with each sample submitted to the laboratory, refer to Table B-1 in Appendix B or the soil boring/monitoring well construction logs presented in Appendix D.

2.2.5 Laboratory Analysis of Soil Samples

A portion of the appropriate sample intervals was submitted to En-Chem, Inc. (En-Chem) located at 1241 Bellevue Street, Green Bay, Wisconsin. This release is a gasoline and kerosene or BUSTR Analytical Group 1 and Group 2 release. The BUSTR prescribed COCs and analytical methods are presented in Table 2-1 on Page 2-3.

Selected Chemicals of Concern					Analytical Methods	
Materials Stored or Handled					Soil	Ground water
Analytical Group	1	2	***3			
	Chemical	Gasoline	Middle Distillates	Heavy Products & Unknowns		
Volatile Organic Compounds	Benzene	X	X	X	*8020, 8021, *8240, 8260	*8020, 8021,* 8240, 8260
	Toluene	X	X	X		
	Ethyl benzene	X	X	X		
	Xylenes	X	X	X		
	Other VOCs			As appropriate		
	Chlorinated organics			As appropriate		
Additives	MTBE	X		X		
Semi-Volatile Organic Compounds	Benzo(a)anthracene		X	X	8310, 8270	8310, 8270
	Benzo(a)pyrene		X	X		
	Benzo(b)fluoranthene		X	X		
	Benzo(k)fluoranthene		X	X		
	Chrysene		X	X		
	Dibenz(a,h)anthracene		X	X		
	Ideno(1,2,3-cd)pyrene		X	X		
	Naphthalene		X	X		
	Other Semi-VOCs			X		
**TPH	TPH		X	X	8015	NA

2.3 Ground Water Data

Thirteen (13) of the fourteen (14) on-site monitoring wells were gauged, developed, sampled, and surveyed on July 21, 2005. After well development, a ground water sample was procured from each. MW-5 has been destroyed therefore no sample was collected. BJAAM's development procedures are detailed in Appendix C. A copy of development records for each monitoring well is contained as Table B-7, Appendix B.

2.3.1 Ground Water Elevations and Free Product Thickness

The thirteen (13) site-monitoring wells were surveyed and then gauged using an interface probe to measure the depth to ground water. The gauging data obtained from each monitoring well coupled with the relative elevation was used in the preparation of the potentiometric surface map included as Figure A-7, Appendix A. The local potentiometric surface appears to dip in the northeasterly direction at an approximate gradient of 0.041 ft/ft. A historical summary of ground water gauging information is presented as Table B-6.

Free product was not observed as a separate liquid hydrocarbon phase during this Tier Evaluation.

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2.3.2 Laboratory Analysis of Ground Water Samples

The ground water samples collected from the thirteen (13) monitoring wells were forwarded to En-Chem under proper chain of custody protocol. The final laboratory analytical data reports are presented in Appendix E. A historical summary in tabular form indicating sample collection dates and reference source(s) of all data points is presented as Table B-4 and Table B-5 in Appendix B.

2.4 Concentrations of Chemicals of Concern

Concentration maps for soil and ground water are presented as Figure A-8 and Figure A-9, respectively. Sample interval depth(s) and date(s) of sample collection are contained therein. The source area(s) locations are defined in these concentration maps and are discussed in section 4.4.1. The point(s) of exposure (POE) are discussed in section 4.4.4 of this report. The spatial distributions of COCs are defined in the concentration maps and are also discussed in section 4.4.1.

For each BUSTR prescribed COC, the site maximum concentration is presented in Table 2-2 on page 2-5. The corresponding RBALs are presented in section 3.1. The associated pathways that are deemed complete at the Tier 1 Evaluation are outlined in section 3.2.

Medium	Chemical	Site Maximum Concentration (PPM)	BUSTR RBAL (PPM)
Soil	Benzene	0.100	0.150 ^a
	Toluene	0.120	58.700 ^a
	Ethylbenzene	2.100	71.100 ^a
	Xylenes	6.900	124.700 ^b
	MTBE	0.015	0.530 ^a
	Naphthalene	1.100	1800.00 ^a
	Benzo (a) Pyrene	0.910	0.550 ^a
Ground Water	Benzene	0.530	0.005 ^c
	Toluene	0.0068	1.000 ^c
	Ethylbenzene	0.017	0.700 ^c
	Xylenes	0.036	10.000 ^c
	MTBE	0.016	0.040 ^c
	Naphthalene	0.029	0.570 ^c
	Benzo (a) Pyrene	0.0056	0.0002 ^c

- a. Soil to drinking water leaching
- b. Soil Saturation
- c. Ground water ingestion

2.5 Current and Future Ground Water Use Determination

For purposes outlined in the ensuing subheadings of this section, Premcor has determined that current and future usage of drinking water should be evaluated as ground water is drinking water. A detailed discussion of each criterion that contributed to this determination is provided in the ensuing subsections.

2.5.1 Well Head Protection

Environmental Protection Agency (EPA) has listed the site as a Wellhead Protection (WHP) area based on the potable well located onsite. A detailed WHP map is presented as Figure A-10, Appendix A.

2.5.2 ODNR Water Well Search

A search for drinking water sources (well logs) was conducted both via standard method, which involved direct interaction with the Ohio Department of Natural Resources (ODNR), and an online search via the Internet. These inquiries revealed four (4) un-located drinking water wells in the surrounding area of the site.

2.5.3 Surface Body Of Water

Within a 300' radius of the site, there is not a lake or pond greater than 1 acre or a continuously running river, creek or stream. This radius has been superimposed on Figure A-1 for visual confirmation.

2.5.4 Sensitive Area(s)

The UST site or surrounding area is not located in a "sensitive area" per OAC rule §1301:7-9-09.

2.5.5 Sole Source Aquifer

The UST site or surrounding area does not overlay a sole-source aquifer, as listed by the United States Environmental Protection Agency (USEPA). Ohio's sole source aquifers are presented in Figure A-11.

2.5.6 Door to Door Survey

A door-to-door survey of all properties within 300 feet of the site property boundaries was conducted on August 1, 2005. Personal interviews were conducted at each individual property and in cases where properties were vacant or unattended, the owners were sought out via the county auditors office. Personal interviews were memorialized, and paper correspondence was mailed to the remaining property owners that were unavailable. Documentation of all correspondences from the door-to-door and surrounding land use survey forms are enclosed in Appendix G. A map depicting the site property and the surrounding area is presented as Figure A-2. The 300' survey area is displayed in this map. No wells were discovered during the course of the 300ft door-to-door survey, however there is a potable well located on the site in question. During the proposed Interim Response Action (IRA) the potable water well on-site will be abandoned and the station will be connected to the Canton City water supply, thereby eliminating the ground water ingestion pathway along with the ground water is drinking water scenario. Upon completion of the IRA, Premcor will work with Stark County to remove the WHP designation.

2.5.7 Potable Water Source(s)

The local municipal water provider has indicated that potable water for the surrounding properties is provided by the Canton City Water Department. The water is obtained from the Stark County water field on Harrisburg road, which is located approximately one and a half miles to the southeast of the aforementioned site. The Canton City Water Department does not currently supply water to 1600 30th Street, Canton, Ohio 44714.

2.6 Geotechnical Tests

Site soil was evaluated to secure site-specific data that will be utilized in fate and transport models conducted in the Tier 2 Evaluation risk assessment. This involved collecting soil samples via Shelby tubes, which were biased to soil intervals and locations that are pathway-driven in the risk assessment. Table 2-3 below presents the types of parameters measured via Shelby tube analysis with their respective analytical methods and units of measurement. The final laboratory report is presented in Appendix E.

Zone	Soil Type	Parameters and Methods		Units
		Parameter	Method	
Vadose Zone	Cohesive Soil	Moisture Content	ASTMD2216	%
		Fraction of Organic Carbon	Walkley-Black	%
		Dry Bulk Density	COE 1110-2-1906	g/c ³
		Flexible Wall Permeability	ASTM D5084	cm/sec
		Atterberg Limits	ASTM D4318	N/A
		Grain Size Distribution	ASTM D4318	N/A
		USCS Classification	ASTM D4318	N/A
	Noncohesive Soil	Moisture Content	ASTMD2216	%
		Fraction of Organic Carbon	Walkley-Black	%
		Dry Bulk Density	COE 1110-2-1906	g/c ³
		Rigid Wall Permeability	ASTM D2434	cm/sec
		Grain Size Distribution	ASTM D422	N/A
		USCS Classification	ASTM D422	N/A
		Saturated Zone	Cohesive Soil	Dry Bulk Density
Flexible Wall Permeability	ASTM D5084			cm/sec
Atterberg Limits	ASTM D4318			N/A
Grain Size Distribution	ASTM D4318			N/A
USCS Classification	ASTM D4318			N/A
Noncohesive Soil	Dry Bulk Density		COE 1110-2-1906	g/c ³
	Rigid Wall Permeability		ASTM D2434	cm/sec
	Grain Size Distribution		ASTM D422	N/A
	USCS Classification		ASTM D422	N/A

3.0 Tier 1 Evaluation Results

3.1 Risk Based Action Level (RBAL) Determination

The appropriate action level for each media and exposure pathway has been determined according to the information collected during the initial data collection and the preliminary site assessment. Since ground water is determined to be ground water is drinking water at the site, the pathways that may be considered potentially complete, depending on the site maximum concentrations of COCs, are: ground water ingestion; direct contact with soil.

For each pathway that is evaluated, the average depth to ground water and the soil type will determine the corresponding RBAL. For this site in particular, the average depth to ground water is 4.89 feet and the soil type is sand/gravel.

3.2 Pathways that Require Further Tier Evaluation

In the Tier 1 Evaluation, by using the potentially complete exposure pathways to determine the appropriate action level table and using the preliminary site assessment data to determine the appropriate action level within each table, the ground water ingestion and direct contact with soil pathways require further Tier Evaluation. In Table 2-2 on page 2-5, a comparison is made between the current site maximum concentration of each respective COC and its corresponding RBAL.

3.2.1 Free Product as Soil Saturation

The 1999 RBCA rule includes the concept of "soil saturation" in the definition of "free product". Saturation limits are based on the physical properties of soil and the COCs present therein. If, on the basis of soil saturation limits, Premcor determines that free product is present in the Tier 1 Evaluation, it may be addressed as part of the Tier 2 Evaluation where site-specific data or site-specific geotechnical parameters demonstrate that the soil is not saturated. In some cases, the saturation limit for a particular COC may be numerically less than the corresponding RBAL. By default, the RBAL then becomes the saturation limit.

Premcor has not observed soil concentrations that exceed Tier 1 saturation limits, and therefore soil saturation is not a concern that will be presented as part of the Tier 2 Evaluation. BUSTR's Tier 1 soil saturation values are presented in Table 3-1 on page 3-2.

Analytical Group	COC	Soil Classification Group		
		Sand/Gravel	Silty/Clayey Sands	Silt/Clay
Analytical Group 1	Benzene	444.500	491.600	592.200
	Toluene	268.200	313.700	374.600
	Ethylbenzene	149.300	178.800	213.000
	Total Xylenes	124.700	147.400	175.800
	MTBE	5,483.000	6,111.000	8,493.000
Analytical Group 2	TPH (C10-C-20)	2,000.000	10,000.000	20,000.000
Analytical Group 3	TPH (C20-C34)	5,000.000	20,000.000	40,000.000

* All results are presented in parts per million (PPM).

4.0 Tier 2 Refined Site-Conceptual Exposure Model

4.1 Current and Future Land Use Scenarios

The current and reasonably anticipated future use for the UST site is based on: the historical land use of the site; the current land use of the site; the current land use of the properties immediately adjacent and across the streets from the site; the current zoning or planning designation for the site; and the current zoning or planning designation for the site and the properties immediately adjacent and across the streets from site, including zoning restrictions.

The land use scenario used to determine the reasonable maximum exposure (RME) for this site is residential. This determination is made since 49% of the area within 300 feet of the property boundaries are currently used for commercial purposes. Since residential properties are greater than 25% of the properties within 300ft of the site, the residential land use scenario must be applied to the site. Currently the gasoline and/or kerosene pumps are shutdown. The site currently is zoned non-residential (commercial) and the current zoning designation for properties immediately adjacent from the site are non-residential in nature (see Figure A-2, Appendix A).

4.2 Land, Ground Water and Surface Water Use Determinations

Examples of residential land uses include, but are not limited to: family residences; day care facilities and schools with open-air facilities and exposed soil; and nursing homes and other long-term health care facilities.

Examples of non-residential land uses include, but are not limited to: facilities that supply goods and/or services, and are open to the public, such as warehouses, retail gasoline stations and automobile service facilities, office buildings, retail businesses, hospitals, religious institutions, hotels, and parking facilities.

The environmental media that are likely to contain COC concentrations identified for this evaluation include surface soil, subsurface soil, and ground water. For the Tier 2 Evaluation, ground water is determined to be drinking water.

4.3 Identification of Complete Exposure Pathways

Each complete or potentially complete exposure pathway identified by the generic site conceptual model in Tier 1 Evaluation is evaluated in the Tier 2 Evaluation. The complete pathways are outlined in section 3.2 and displayed in Table 2-2. A copy of the refined site-conceptual model that is evaluated in this Tier 2 Evaluation is presented in Figure 4-1, which is presented in page 4-2.

Figure 4-1: Refined Site-Conceptual Exposure Model

Source Areas		Transport Mechanisms		Exposure Routes		Potential Receptors					
Current & Potential Future Land Use						On Property			Off Property		
				Potentially Complete		Residents	Commercial Workers	Industrial	Residents	Commercial Workers	Industrial
Surficial Soil	→	Direct Contact	→	✓	→	Inhalation/Dermal Contact/ Ingestion/Particulate Inhalation	✓				
Surficial Soil	→	Volatilization	→		→	Inhalation (Ambient Air)					
Surficial Soil	→	Volatilization	→		→	Inhalation (Enclosed Spaces)					
Surficial Soil	→	Leaching	→		→						
Subsurface Soil	→	Direct Contact	→	✓	→	Inhalation/Dermal Contact/ Ingestion/Particulate Inhalation					
Subsurface Soil	→	Volatilization	→		→	Inhalation (Ambient Air)					
Subsurface Soil	→	Volatilization	→		→	Inhalation (Enclosed Spaces)					
Subsurface Soil	→	Leaching	→		→						
Ground Water	→	Transport	→	✓	→	Ingestion (Potable Water)		✓		✓	✓
Ground Water	→	Volatilization	→		→	Inhalation (Ambient Air)					
Ground Water	→	Volatilization	→		→	Inhalation (Enclosed Spaces)					
Surface Water	→	Direct Contact	→		→	Inhalation/Dermal Contact					
Surface Water	→	Volatilization	→		→	Inhalation (Ambient Air)					

4.4 Results of Exposure Pathway Evaluation

An exposure pathway may be considered "incomplete" if sufficient documentation and data collected during the Tier 2 Evaluation demonstrate that one (1) of the following exist: all concentrations for a COC in the identified environmental media are at or below Tier 1 RBALs for the site; no transport mechanisms will cause COC concentrations to be above the action levels identified for the UST site at the point of exposure (POE); no POEs are identified; there is no transport mechanism in the identified environmental media to move the COCs from the source area(s) to the POE; and/or an existing resource use or land restriction enforceable, by local government or regulatory agencies will eliminate a POE. If an exposure pathway is determined to be incomplete, there is no further evaluation required for that exposure pathway.

4.4.1 Source Area(s)

BUSTR defines the source area(s) as the area(s) of highest COC concentrations in soil and ground water, and/or any area containing free product. Based on Premcor's knowledge of this release provided during the initial data collection, the source of this release is the gasoline and kerosene UST systems, respectively. The source has been confirmed through the preliminary site assessment and interpretation of the spatial distribution of COCs in soil and ground water. The area around MW-3 and MW-4 near the former UST is considered the source area for COCs in ground water since it contains the current site maximum concentrations. The area surrounding MW-3 is considered the soil source area for benzene since it contains the site maximum concentrations for this COC.

4.4.2 Transport Mechanisms

The potential migration pathways identified at the site are: a storm sewer; a sanitary sewer; a water line main; a cable main; a fiber optic telephone line; and a gas line main. With the aid of a private utility locator, these utilities are located and marked on Figure A-1. When applicable, the corresponding depths bsg are correctly depicted in Cross-Section A-A' (Figure A-5) and Cross-Section B-B' (Figure A-6).

4.4.3 Routes of Exposure

There are three (3) principal routes of exposure: penetration through the skin (dermal), absorption through the lungs (inhalation), and absorption from the digestive tract (ingestion).

4.4.4 Point(s) of Exposure

The point(s) of exposure (POE) at the site has been identified based on the current and future land use at the site and in the surrounding area of the site. The potable well located on site is up gradient of the source area(s) and has been historically below laboratory detection limits for all COCs. In addition MWT-14, MW-6, MWT-7, and MWT-8, which are between the potable well and the source area have been below detection limits for 3 to 4 years. The COCs are migrating in the opposite direction. Therefore, since ground water is considered drinking water and no potable wells exist within 300' down gradient of the source area(s), the POE is assumed to be located at a point 300' down gradient of the source area(s). The potable well that exists on-site will be abandoned when the IRA is performed and the station will be connected to the Canton City water

supply. The POE was forecast to be 300 feet to determine if current site concentrations will migrate to this point after completion of the IRA.

The POE for the soil to indoor pathway is assumed to be a hypothetical residential structure located directly above the soil source area(s).

4.4.5 Current and Potential Receptors

For non-residential land use, adult workers are assumed to spend a typical workweek on the property. For purposes related to ground water ingestion, the exposure considerations are treated the same as residential land use. Other receptors such as construction workers, trespassers on vacant property, customers of the business, including adults and children, are exposed for short and infrequent durations of time.

4.5 Incomplete Pathways

Based on information and data collected during the Tier 1 preliminary site assessment and Tier 2 site assessment, Premcor has deemed the following pathways incomplete based on site concentrations: soil to drinking water leaching, soil to indoor air, and ground water to indoor air. Since these pathways are not complete, no further tier evaluation is required during the Tier 2 Evaluation. As a direct result, SSTLs are not established for COCs in any of these pathways.

5.0 Tier Evaluation Activities & Results

5.1 Site Assessment

The Tier 2 assessment is a continuation of the Tier 1 Evaluation and has provided information to: evaluate exposure pathways; determine the likely distribution of COCs; determine geological, hydrogeological, and physical characteristics necessary to evaluate exposure pathways and to develop SSTLs; evaluate concentrations at the POE; determine the appropriate point(s) of demonstration; and evaluate the fate and transport of COCs.

5.2 Site-Specific Target Level Calculations

SSTLs were calculated by replacing the default geological, hydrogeological and physical parameters used in the Tier 1 RBAL calculations with site-specific geological, hydrogeological and physical parameters.

SSTLs were developed for COCs in each pathway that were deemed "complete" in the original Tier 1 site-conceptual model. The exposure pathways and the scenario used in these calculations have been defined in the refined site-conceptual model described in section 4.3 and presented in Figure 4-1.

5.2.1 Partitioning and Transport Models

The soil direct contact pathway is evaluated using the Ohio Voluntary Action Program (VAP) generic standard. The model and input parameters for developing this standard are described in the *VAP Support Document for the Development of Generic Numeric Standards and Risk Assessment Procedures* (Ohio EPA 1996). Additionally, the ground water ingestion pathway is addressed using BIOSCREEN for distribution modeling.

5.2.2 Toxicity Factors

Reference doses (RfD) and slope factors (SF) for determining noncarcinogenic and carcinogenic risk are documented in BUSTR's Technical Guidance Manual (BUSTR 2001). These values were obtained in preferential order from the Integrated Risk Information System (USEPA 2002c), the Health Effects Assessment Summary Table (USEPA 1997), USEPA Region 9 Preliminary Remediation Goal (PRG) Table (USEPA 2002 a) or the USEPA Region 3 Risk-Based Concentration (RBC) Table (USEPA 2002b). The detailed toxicity information for each COC is provided in Table M-1, Appendix M.

In cases when oral or inhalation reference doses are not available, the extrapolation method is used. The methodology is applied by USEPA and Ohio EPA when developing various reference doses and generic standards for chemicals elsewhere (USEPA 1996; Ohio EPA 1996; USEPA 1997; and USEPA 2002a).

5.3 BIOSCREEN Transport Model

BIOSCREEN is a natural attenuation decision support system, which simulates transport and natural attenuation of dissolved chemicals of concern, including petroleum hydrocarbons. The software is based on the Domenico analytical solute transport model. A series of simulations were performed in accordance to the BUSTR Fact Sheet entitled, *Using the BIOSCREEN Fate and Transport Model for BUSTR Corrective Action Sites, 2003* (BIOSCREEN Fact Sheet). This modeling effort was conducted to estimate the level of impact of ground water at the site at the POE. Analytical data indicated that the concentrations of benzene and benzo (a) pyrene in ground water are above RBALs.

5.3.1 Objectives

The objectives of the model are:

- Predict the concentrations of COCs at the point of exposure (POE) under Tier 2 modeling protocol;
- Calculate Tier 2 SSTLs for the ground water ingestion pathways.

Maximum source area ground water concentrations were calculated based on projected acceptable concentrations (RBALs) at the POE. These calculated concentrations will be used in the risk assessment to evaluate the potential for carcinogenic and non-carcinogenic risk.

5.3.2 Methodology

The solute transport with the first-order decay model was used in the model set-up for benzene and benzo (a) pyrene. All simulations included the infinite source assumption. This is a very conservative approach as opposed to performing a back calculation of a finite source mass. This assumes that the specified concentration for the COC is available for transport throughout the life of the simulation and that the source area does not decrease over time.

The BIOSCREEN input data was collected by a combination of direct field measurements (site-specific information), and the BIOSCREEN Fact Sheet. The BIOSCREEN input data is summarized for all COCs in Table 5-1.

5.3.3 Source Areas, Point of Exposure & Point of Demonstration (POD)

The area surrounding MW-3 was considered as the source area for benzene, MWT-7 is considered the source area for benzo (a) pyrene since these monitoring wells contain the site maximum concentrations of the COCs in ground water. The POE is defined as the point 300 feet down gradient of the assumed source area. The POE is assumed to be located at a point 300' down gradient of the source area(s). The potable well that exists on-site will be abandoned during the IRA and the station will be connected to the Canton City water supply effectively moving the POE 300 ft down gradient of the site. The POE was set at 300 feet during this Tier 2 Evaluation to determine if the IRA would effectively address all potential POEs.

Monitoring well MW-4 and MWT-13 are located within the assumed plume centerline and will serve as the POD for benzene, while MW-4 and MWT-10 are located within the assumed plume centerline for benzo (a) pyrene and will serve as PODs. These monitoring wells meet the criteria for the POD according to the BIOSCREEN Fact Sheet and contain current and/or historical impact. BIOSCREEN model plume dimension figures are located in Appendix I.

PARAMETER	INPUT	UNIT	REFERENCE
SEEPAGE VELOCITY	100.7	ft/yr	Calculated by BIOSCREEN
HYDRAULIC CONDUCTIVITY	6.2E-04	cm/sec	Site-specific MW-3 slug test, Appendix J.
HYDRAULIC GRADIENT	0.041	ft/ft	7/21/05 Gauging Event Fig. A-7
POROSITY	0.26	cm ³ /cm ³	Calculated from saturated zone geotechnical data, Appendix E
ESTIMATED PLUME LENGTH	200	ft	Based on spatial distribution of COCs, Appendix I.
RETARDATION FACTOR		(-)	Calculated by BIOSCREEN based on bulk density, partition coefficient, and fraction organic carbon.
Benzene	5.5		
Benzo (a) Pyrene	76527.9		
SOIL BULK DENSITY	1.97	kg/L	Saturated zone geotechnical data, Appendix E
PARTITION COEFFICIENT		L/kg	BIOSCREEN Fact Sheet defaults
Benzene	58.9		
Benzo (a) Pyrene	1.06E+06		
FRACTION ORGANIC CARBON	1.0E-02	(-)	Saturated zone geotechnical data, Appendix E
1 ST ORDER DECAY COEFFICIENT		per year	Calculated using BIOSCREEN Fact Sheet defaults
Benzene	3.5E-01		
Benzo (a) Pyrene	2.4E-01		
SOLUTE HALF LIFE		years	BIOSCREEN Fact Sheet defaults
Benzene	1.97		
Benzo (a) Pyrene	2.90		
MODELED LENGTH	300	ft	Based on POE information
MODELED AREA WIDTH		ft	Estimation based on analytical data, Appendix I
Benzene	60		
Benzo (a) Pyrene	60		
SIMULATION TIME	40	years	Model input time to ensure steady state conditions
SOURCE THICKNESS IN SATURATED ZONE	10	ft	BIOSCREEN default
SOURCE HALF-LIFE	Infinite	years	Infinite source assumption
SOLUBLE MASS	Infinite	kg	Infinite source assumption

5.3.4 Results

Analysis of the potential migrations of benzene and benzo (a) pyrene in ground water at the site was conducted using the BIOSCREEN transport model. The model was conducted under the assumption of first-order decay with an infinite source over 40 years, which allows for the model to reach steady state conditions and COC concentrations to be available for transport throughout the life of the simulation. Results of the benzene and benzo (a) pyrene simulations indicate that current levels of benzene and benzo (a) pyrene in ground water will not reach the POE above RBALs. Results of the BIOSCREEN model are presented in Table 5-2.

COC	Source Area Concentration (MG/L)	Predicted Concentration at POE after 40 years (MG/L)	Maximum Allowable Source Area Concentration (MG/L)	Concentration at POE after 40 years assuming Maximum Source Area Concentration (MG/L)	RBAL (MG/L)
Benzene	0.530	0.002	1.650	0.005	0.005
Ben (a) Pyr.	0.0056	0.000	100	0.000	0.0002

5.4 Saturation Limits

The chemical-specific water solubility is used to determine the saturation limits for each COC in ground water. These measurements are referenced values and can be found in the chemical profiles for each COC in Appendix K.

5.5 Ground Water Site-Specific Target Levels

The BIOSCREEN spreadsheets and printouts are available in Appendix I. The referenced water saturation limits are provided in Appendix K.

The compilations of these results are presented in Table 5-2 below. For each COC, the lowest concentration, either the Tier 2 calculated action level, The BIOSCREEN maximum allowable source area concentration, or the water solubility is selected as the final SSTL for the site.

COC	Ground Water Ingestion (PPM)	Ground Water to Indoor Air (PPM)	Water Solubility (PPM)	Ground Water SSTL (PPM)
Benzene	1.650	3.980 ^a	1,750.000	1.650
Toluene	1.000 ^a	NA ^b	526.000	1.000
Ethylbenzene	0.700 ^a	NA	169.000	0.700
Xylenes	10.000 ^a	NA	190.000	10.000
MTBE	0.040 ^a	NA	48,000.000	0.040
Naphthalene	0.570 ^a	NA	31.000	0.570
Ben (a) Pyrene	100.00	NA	0.00162	100

a. This value is the RBAL. SSTLs were not developed since site maximum concentrations are below RBALs.

b. Pathway is not applicable for particular COC.

COC	Ground Water SSTL (PPM)	Current Site Maximum (PPM)
Benzene	1.650	0.530
Toluene	1.000	0.0068
Ethylbenzene	0.700	0.017
Xylenes	10.000	0.036
MTBE	0.040	0.016
Naphthalene	0.570	0.029
Ben (a) Pyrene	100.00	0.0056

5.6 Soil Site-Specific Target Levels

Soil concentrations for all COCs are below RBALs with the exception of benzo (a) pyrene. Direct contact with soil is exceeded for benzo (a) pyrene for the residential scenario. Benzo (a) pyrene RBAL is 0.550 ppm and the site maximum is 0.910 ppm. Only MWT-8 exceeds the RBAL. The subsequent source area is small and located on a commercial property and has been delineated. There is no threat of benzo (a) pyrene migrating to any nearby residential properties or threat of exposure to benzo (a) pyrene under the residential scenario. The re-sampling of this area will be addressed in the attached IRA plan.

6.0 Tier 2 Evaluation Conclusions & Recommendations

6.1 Interim Response Action

The IRA Notification Plan is attached to this Tier 2 Evaluation. The IRA activities include the abandonment of the potable well and connection of the site to city water. This will ensure that the POE for the site will be the point 300 feet down gradient.

6.2 Remedial Action Plan

Upon completion of this Tier Evaluation, Premcor has determined that implementing a remedial action plan (RAP) is unnecessary at this time

6.3 Discussion of Further Tier Evaluation and Recommendations

The results of the Tier 2 BIOSCREEN model indicate that the concentrations of benzene will not reach the POE above RBALs. As a result, four (4) quarters of ground water monitoring is purposed to validate the model. Monitoring well selection will be discussed in the attached monitoring plan.

7.0 References

- American Society for Testing and Materials (ASTM). 1995. *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites. Designation: E1739-95. Annual Book of ASTM Standards.* West Conshohocken, PA.
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- USEPA. 1991. *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, (Part B, Development of Risk-based Preliminary Remediation Goals).* Publication 9285.7-01B. Office of Emergency and Remedial Response. Washington, D.C.
- USEPA. 1992. *Supplemental Guidance to RAGS: Calculating the Concentration Term.* Publication 9285.7-081. Office of Solid Waste and Emergency Response. Washington, D.C.
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- USEPA. 1998. *Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual, (Part D, Standardized Planning, Reporting and Review of Superfund Risk Assessments).* Interim. Office of Emergency and Remedial Response. Washington, D.C.

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The owner/operator acknowledges that subsurface conditions may vary from those encountered at the locations where borings, surveys, samples, or explorations are made. The data, interpretations, and recommendations of BJAAM may be based solely on the information available to us. BJAAM assumes that the data that has been obtained and/or provided through previous investigations represents the true conditions of the site. It is understood by the owner/operator that some of the information in this report may be second hand. It will be the responsibility of the owner/operator to review the report for accuracy. BJAAM will be responsible for its data, interpretations, and representations, but will not be responsible for the data provided to us or for the interpretation of the information by others.

Petroleum products regulated under Ohio Administrative Code 1301:7-9-13 were assumed to be the only contaminants on this site. If an active UST system exists on site, then a currently ongoing and/or future release may change subsurface data, which may invalidate the conclusions of this report. BJAAM makes no claims or warranties regarding BUSTR or Ohio EPA action levels or standards and their respective or cumulative effects on the human body. Nothing in this document should be interpreted as an expert opinion regarding human health or degree of safety due to the presence of contaminants at and/or emanating from the site. Moreover, this report does not include an ecological risk assessment.

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Appendix A - Figures

- Figure A-1: USGS Topographic Site Location Map
- Figure A-2: Surrounding Land Use
- Figure A-3: Site Map
- Figure A-4: Cross-Section Route Map
- Figure A-5: Cross-Section Map A-A'
- Figure A-6: Cross-Section Map B-B'
- Figure A-7: Potentiometric Surface Map
- Figure A-8: Soil Analytical Map
- Figure A-9: Ground Water Analytical Map
- Figure A-10: Well Head Protection Plan Map
- Figure A-11: Ohio Sole Source Aquifer Map
- Figure A-12: Partial ODNR Ground Water Resource Map
- Figure A-13: ODNR Ground Water Resource Map Legend

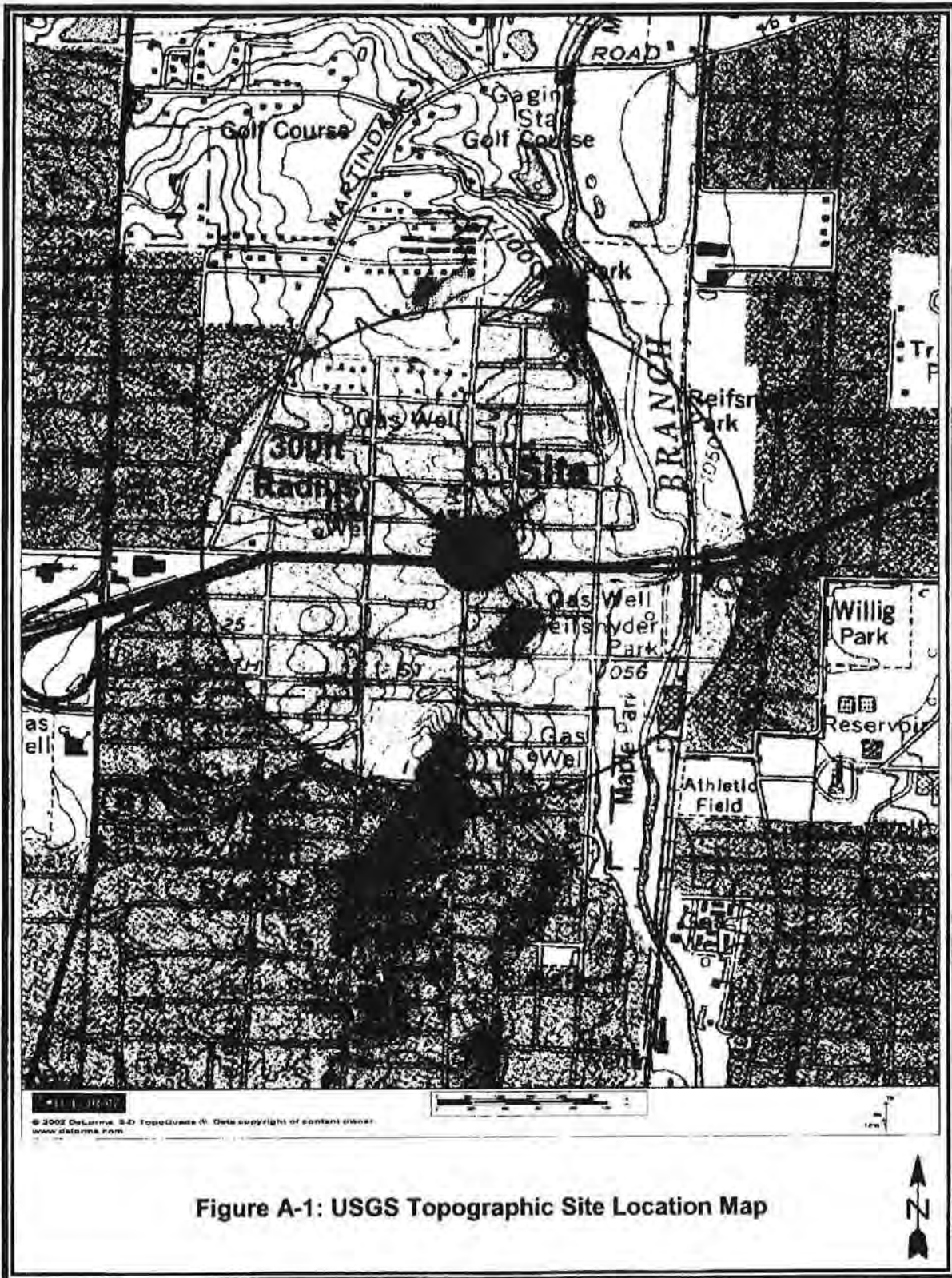


Figure A-1: USGS Topographic Site Location Map



466,367 = TOTAL SQ. FEET
 237,694 = NON-RESIDENTIAL SQ. FEET
 228,693 = RESIDENTIAL SQ. FEET
 49% = PERCENTAGE RESIDENTIAL




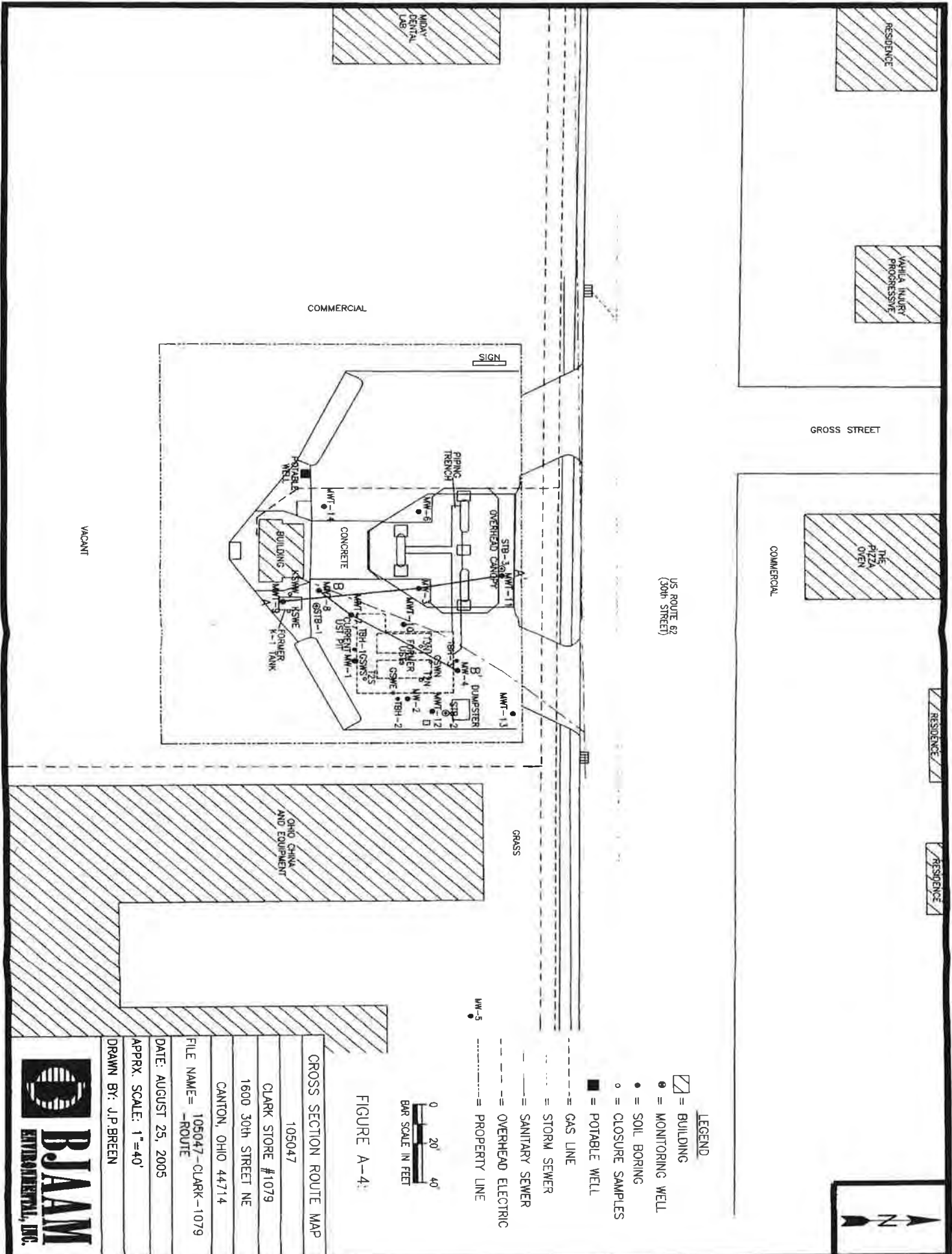
- LEGEND**
-  = SITE/BOUNDARY
 -  = NON-RESIDENTIAL
 -  = RESIDENTIAL



FIGURE A-2:

SURROUNDING LAND USE MAP
105047
CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714
FILE NAME= 105047-CLARK-1079
-AERIAL
DATE: AUGUST 5, 2005
APPRX. SCALE: 1"=150'
DRAWN BY: J.P. BREEN





US ROUTE 69
(30th STREET)

GROSS STREET

COMMERCIAL

VACANT

OHIO CHINA
AND EQUIPMENT

GRASS

COMMERCIAL

YAKIMA INQUIRY
PROGRESSIVE

RESIDENCE

THE
PIZZA
OVEN

RESIDENCE

RESIDENCE



- LEGEND**
- ▣ = BUILDING
 - = MONITORING WELL
 - = SOIL BORING
 - = CLOSURE SAMPLES
 - = POTABLE WELL
 - = GAS LINE
 - = STORM SEWER
 - = SANITARY SEWER
 - = OVERHEAD ELECTRIC
 - = PROPERTY LINE

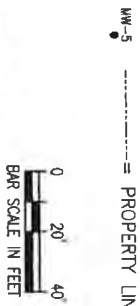
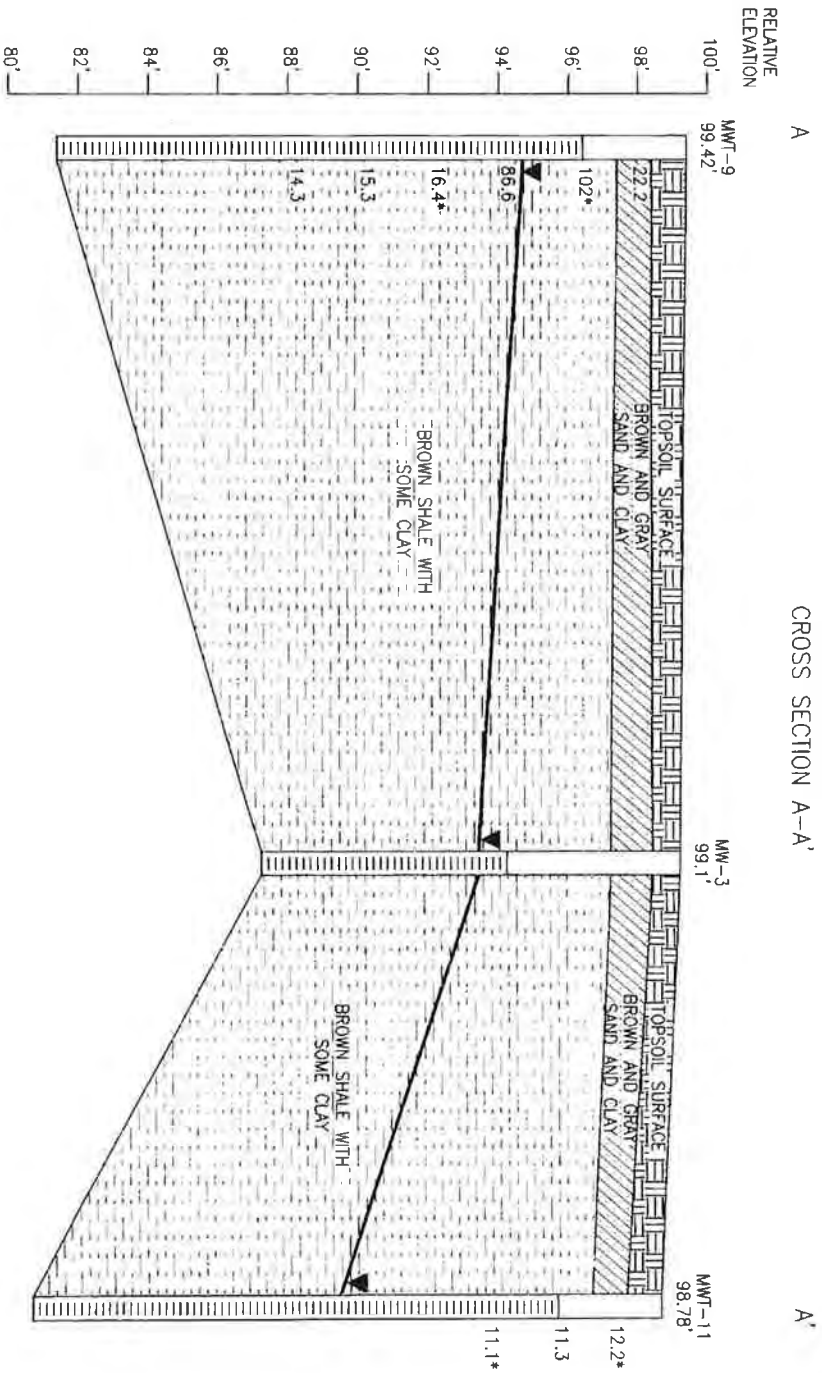


FIGURE A-4:

CROSS SECTION ROUTE MAP	
105047	
CLARK STORE #1079	
1600 30th STREET NE	
CANTON, OHIO 44714	
FILE NAME = 105047-CLARK-1079	-ROUTE
DATE: AUGUST 25, 2005	
APPRX. SCALE: 1"=40'	
DRAWN BY: J.P. BREEN	





CROSS SECTION A-A'

LEGEND

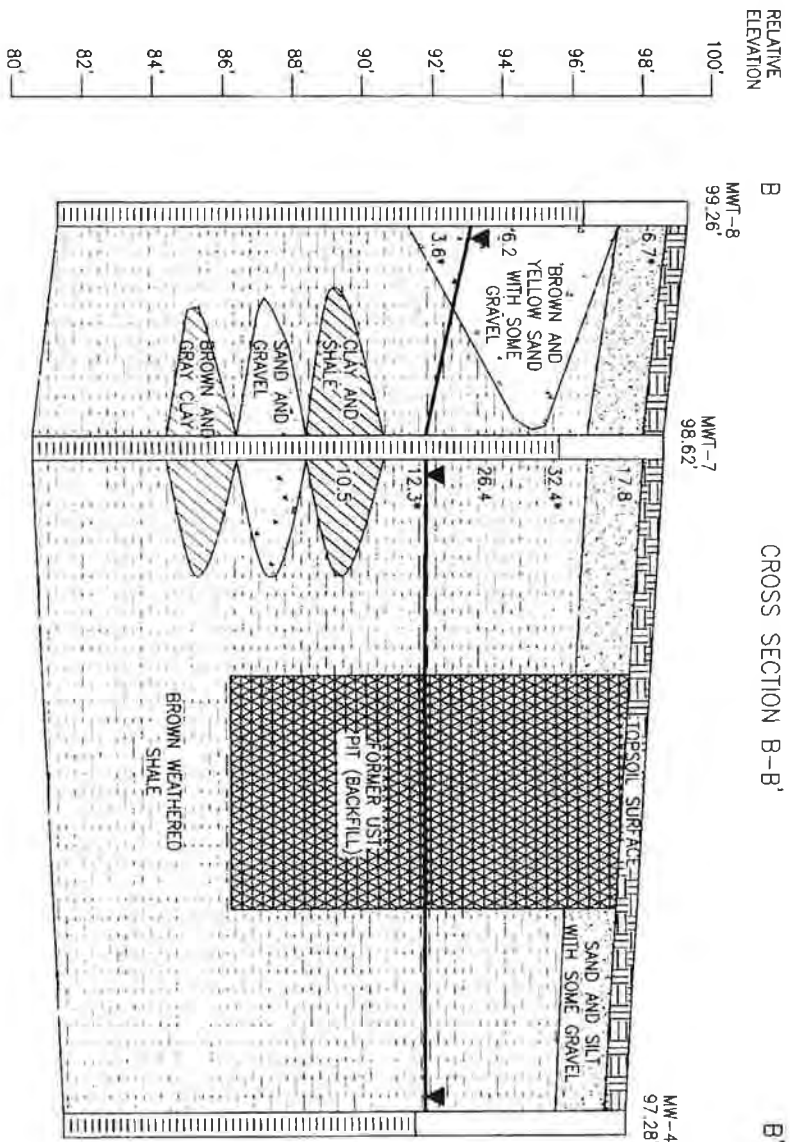
- = SCREENED INTERVAL
- = WATER LEVEL
- * = SUBMITTED TO LAB



FIGURE A-5:

CROSS SECTION A-A'
105047
CLARK STORE #1079
1600 30th STREET NE
CANTON, OHIO 44714
FILE NAME= 105047-CLARK-1079
-X-SECTION-A-A
DATE: MARCH 13, 2003
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=4'
DRAWN BY: J.P.BREEN





CROSS SECTION B-B'

LEGEND

- = SCREENED INTERVAL
- = WATER LEVEL
- * = SUBMITTED TO LAB



FIGURE A-6:

CROSS SECTION B-B'	
105047	
CLARK STORE #1079	
1600 30th STREET NE	
CANTON, OHIO 44714	
FILE NAME = 105047-CLARK-1079	
-X-SECTION-B-B	
DATE: MARCH 14, 2003	
HORIZONTAL SCALE: 1"=10'	
VERTICAL SCALE: 1"=4'	
DRAWN BY: J.P. BREEN	



RESIDENCE

VACUA INQUIRY PROGRESSIVE

THE PIZZA OVEN

RESIDENCE

RESIDENCE

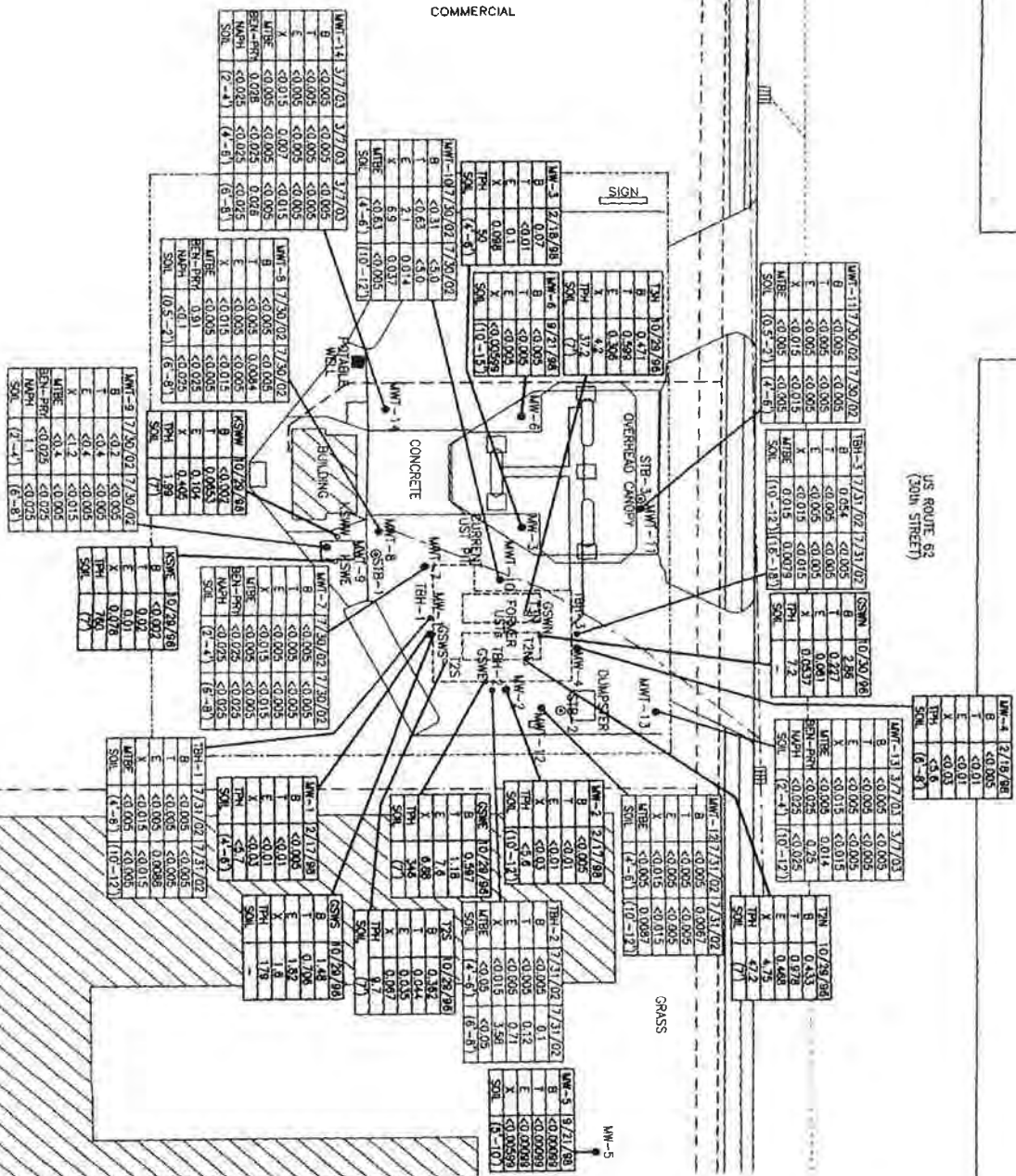
GROSS STREET

COMMERCIAL

US ROUTE 62 (30th STREET)

COMMERCIAL

MOVA DENTAL LAB



*NOTE: BTEX, MTBE, AND TPH RESULTS ARE IN PARTS PER MILLION.

B = BENZENE
 T = TOLUENE
 E = ETHYLBENZENE
 X = XYLENES
 MTBE = METHYL TERT-BUTYL ETHER
 TPH = TOTAL PETROLEUM HYDROCARBONS

NOTE: NEWER (TIER EVALUATION) ANALYTICAL DATA IS IN BLUE.

REAL'S FOR SOIL	CONCENTRATION
B	0.15
T	58.7
E	21.1
X	124.7
MTBE	0.53

LEGEND

- ☐ = BUILDING
- = MONITORING WELL
- = SOIL BORING
- = CLOSURE SAMPLES
- = POTABLE WELL
- = GAS LINE
- = STORM SEWER
- = SANITARY SEWER
- = OVERHEAD ELECTRIC
- = PROPERTY LINE



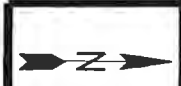
FIGURE A-8:

SOIL ANALYTICAL RESULTS

105047
 CLARK STORE #1079
 1600 30th STREET NE
 CANTON, OHIO 44714
 FILE NAME = 105047-CLARK-1079
 -BITS
 DATE: NOVEMBER 6, 2005
 APPRX. SCALE: 1"=40'
 DRAWN BY: J.P. BREEN



NOTE: BTEX AND MTBE RESULTS ARE IN PARTS PER MILLION
 B = BENZENE
 T = TOLUENE
 E = ETHYLBENZENE
 X = XYLENES
 MTH = METHYL TERT-BUTYL ETHER
 NAPH = NAPHTHALENE
 BEN-PY = BENZOPHENANTHRENE



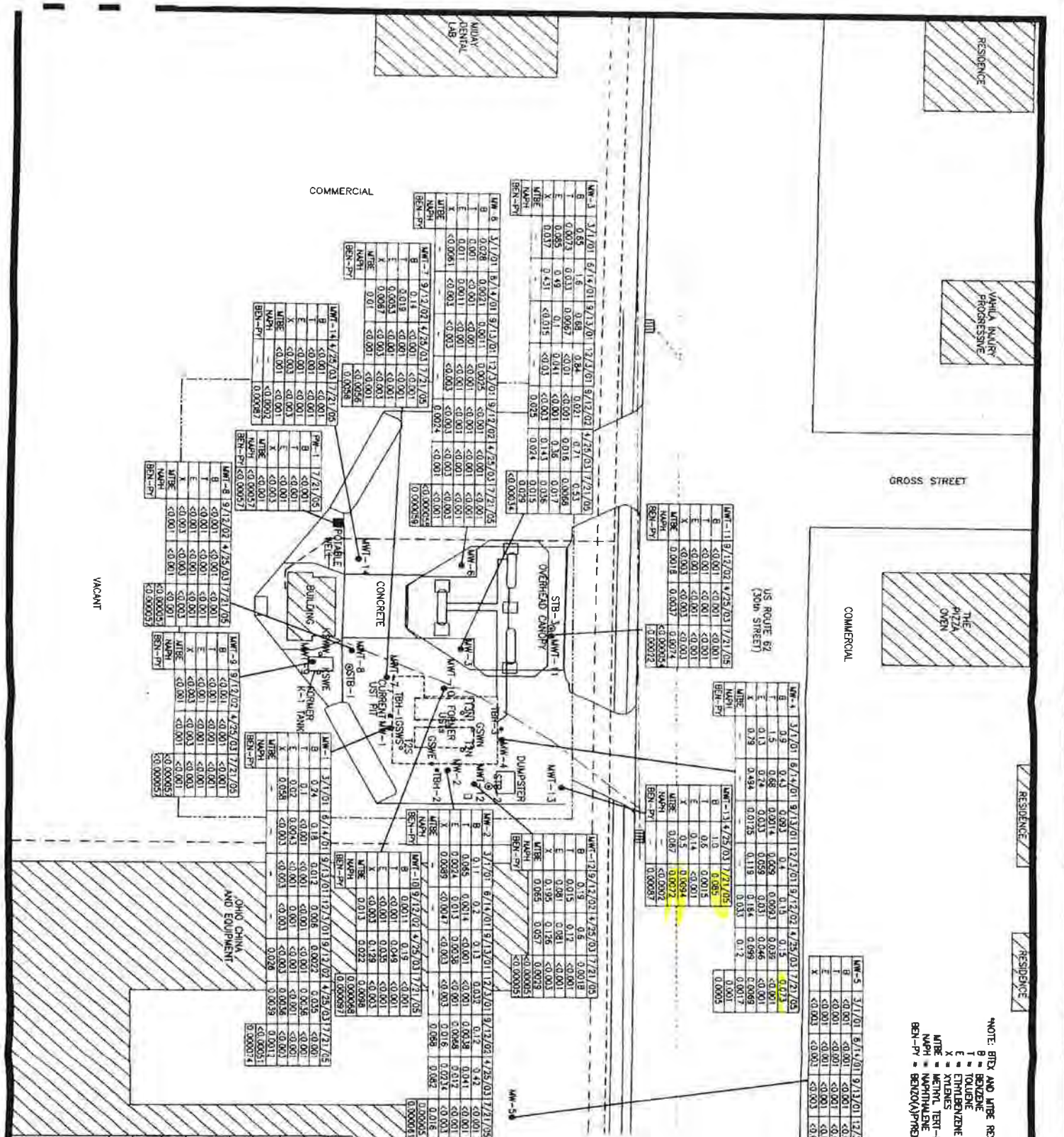
WELL	B	T	E	X	MTH	NAPH	BEN-PY
W-1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-2	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-3	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-4	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-5	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-6	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-10	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-11	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-12	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-13	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-14	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-15	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-16	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-18	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-19	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-20	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-21	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-22	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-23	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-24	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-25	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-26	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-27	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-28	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-29	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-30	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-31	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-32	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-33	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-34	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-35	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-36	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-37	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-38	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-39	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-40	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-41	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-42	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-43	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-44	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-45	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-46	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-47	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-48	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-49	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
W-50	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

LEGEND
 [Symbol] = BUILDING
 [Symbol] = MONITORING WELL
 [Symbol] = SOIL BORING
 [Symbol] = CLOSURE SAMPLES
 [Symbol] = POTABLE WELL
 [Symbol] = GAS LINE
 [Symbol] = STORM SEWER
 [Symbol] = SANITARY SEWER
 [Symbol] = OVERHEAD ELECTRIC
 [Symbol] = PROPERTY LINE



FIGURE A-9

GROUNDWATER ANALYTICAL
 105047
 CLARK STORE #1079
 1600 30th STREET NE
 CANTON, OHIO 44714
 FILE NAME = 105047-CLARK-1079
 BTW
 DATE: AUGUST 25, 2005
 APPRX. SCALE: 1"=40'
 DRAWN BY: J.P. GREEN



Drinking Water Source Protection Areas Near BUSTR Evaluation 1600 30th Street, Canton, Ohio

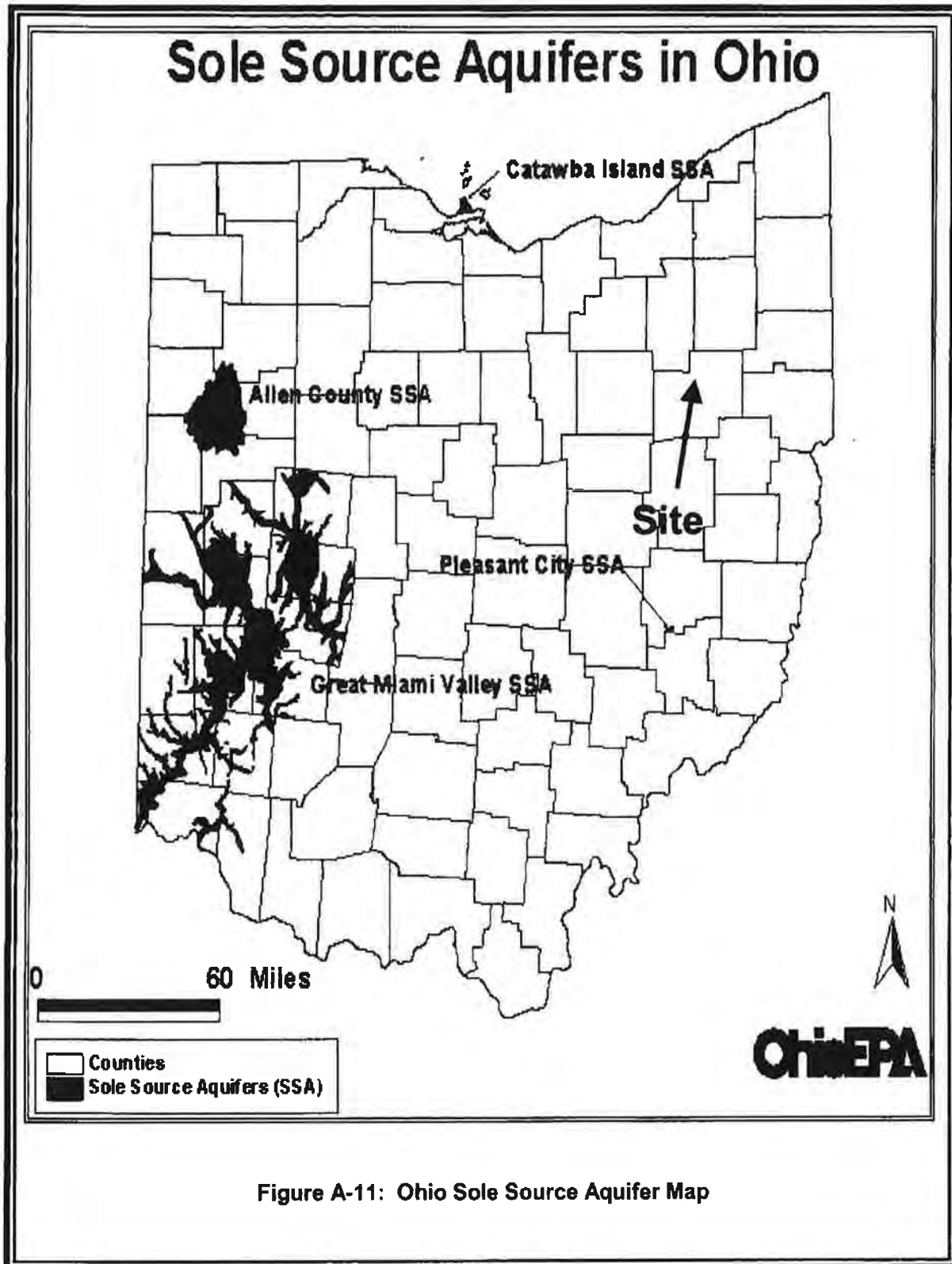


August 19, 2005

Figure A-10: Well Head Protection Plan Map

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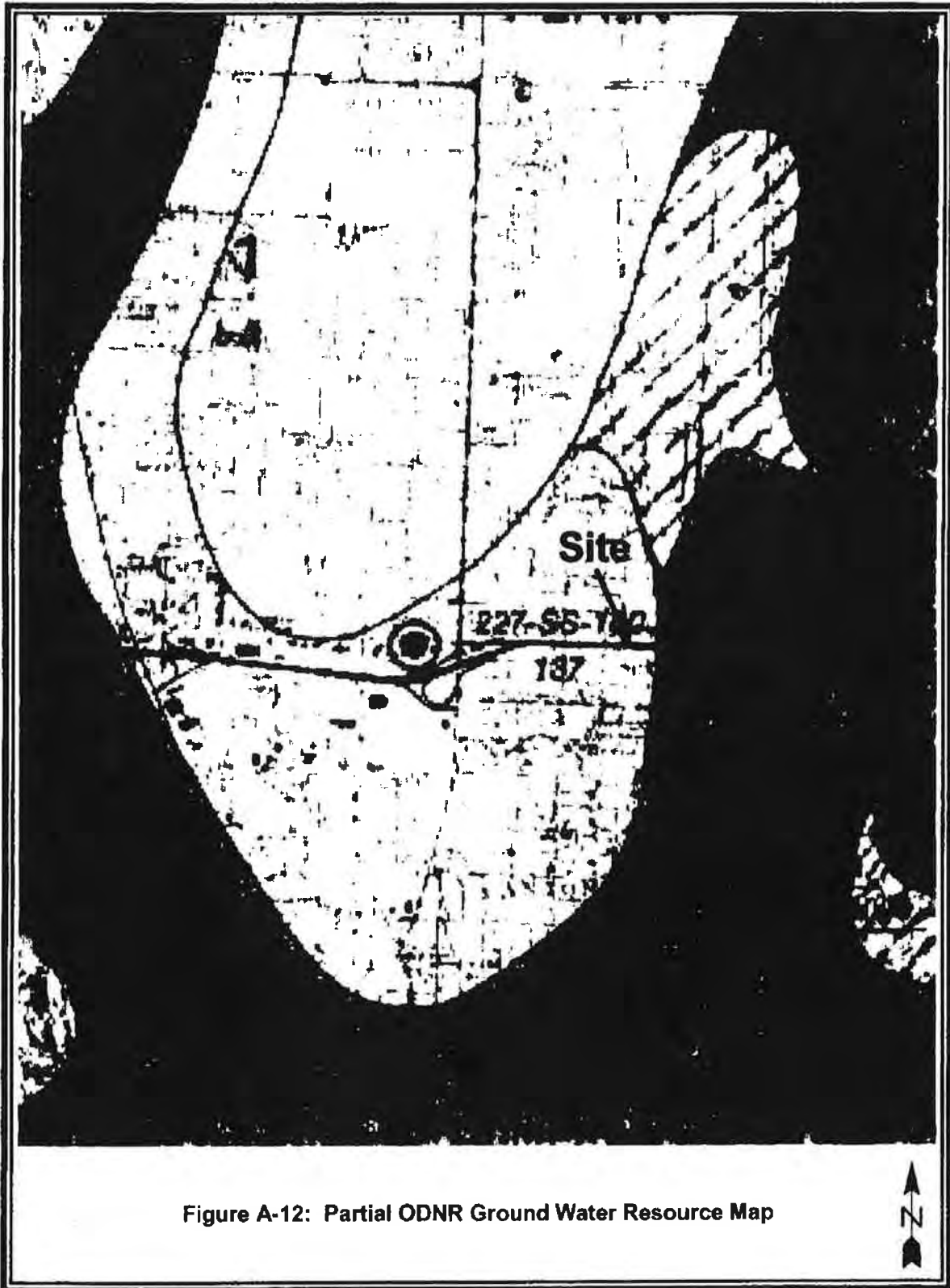


Figure A-12: Partial ODNR Ground Water Resource Map

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AREAS IN WHICH YIELDS OF MORE THAN 500 GALLONS PER MINUTE CAN BE DEVELOPED.



Best ground-water areas in Stark County. Permeable sand and gravel deposits in deep buried valleys.



Areas of permeable sand and gravel, very favorable for large ground-water yields but susceptible to infiltration of chlorides from the Tucarawas River. Spacing of wells and rates of pumping should be carefully controlled to avoid induction of chloride into the aquifer.

AREAS IN WHICH YIELDS OF 100 TO 500 GALLONS PER MINUTE CAN BE DEVELOPED



Good ground-water areas. Permeable sand and gravel deposits not traversed by major streams. May supply sustained yields of several hundred gallons per minute. Suitable for industrial and municipal well field development.

AREAS IN WHICH YIELDS OF 25 TO 100 GALLONS PER MINUTE CAN BE DEVELOPED



Interbedded and interlensing sand, gravel, silt and clay. Farm and small industrial supplies available from wells ranging to 150 feet deep. Wells may yield 100 gallons or more, per minute. Yields from underlying sandstones are described below.



Ground water obtained from sandstones of the Pottsville group. Principal aquifers are the Massillon sandstone (upper) and Sharon conglomerate (below). Wells will produce sustained yields of as much as 50 gallons per minute. Up to 100 gallons per minute may be available for short periods of intermittent pumping. Sharon may be from 150 feet to 300 feet below land surface. With few exceptions, the bedrock is covered with less than 75 feet of glacial material.

Figure A-13: ODNR Ground Water Resource Map Legend

Appendix B - Tables

Table B-1: Historical Summary of BTEX & MTBE in Soil

Table B-2: Historical Summary of PAHs in Soil

Table B-3: Historical Summary of TPH in Soil

Table B-4: Historical Summary of BTEX & MTBE in Ground Water

Table B-5: Historical Summary of PAHs in Ground Water

Table B-6: Historical Ground Water Gauging Information

Table B-7: Monitoring Well Development Records

Sample ID	Depth (feet bsg ¹)	PID (ppm)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL BENZENE (ppm)	XYLENES (ppm)
KSWE	7	42.0	<0.002	0.020	0.010	0.078
KSWW	7	56.0	<0.002	0.065	0.104	0.405
KB	7	50.0	0.013	0.020	<0.002	<0.002
GSWE	7	62.0	0.597	1.180	7.600	6.880
GSWW	7	30.0	0.081	0.304	0.244	1.290
GSWN	7	57.0	2.860	0.023	0.061	0.054
GSWS	7	75.0	1.480	0.706	1.820	1.600
T2N	7	100.0	0.433	0.978	0.468	4.750
T2S	7	86.0	0.362	0.044	0.035	0.067
T3N	7	94.0	0.471	0.599	0.306	4.200
T3S	7	72.0	0.005	0.006	0.003	0.007
KSP2	Stockpile	135.0	<0.002	<0.002	<0.002	0.189
GSP1	Stockpile	300.0	1.060	3.110	1.610	35.100
GSP3	Stockpile	280.0	0.493	1.280	1.910	25.600
GSP4	Stockpile	400.0	0.579	6.720	30.000	90.000
MW-1	4-6	13.3	<0.005	<0.010	<0.010	<0.030
MW-2	10-12	10.0	<0.005	<0.010	<0.010	<0.030
MW-3	4-6	1150.0	0.070	0.100	<0.010	0.098
MW-4	6-8	73.8	<0.005	<0.010	<0.010	<0.030
MW-5	5-10	8.6	<0.001	<0.001	<0.001	<0.006
MW-6	10-15	19.4	<0.005	<0.005	<0.005	<0.030

a. Below surface grade
 c. Risk based action levels
 NA Not Applicable

Sample ID	Date	Depth (feet bsg ³)	BENZENE (ppm)	TOLUENE (ppm)	ETHYLBENZENE (ppm)	XYLENES (ppm)	MTBE (ppm)
TBH-1	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005
		10-12	<0.005	<0.005	0.0088	<0.015	<0.005
TBH-2	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	0.100	0.120	0.710	3.580	<0.050
TBH-3	7/31/2002	10-12	0.054	<0.005	<0.005	<0.015	0.015
		16-18	<0.005	<0.005	<0.005	<0.015	0.0079
MWT-7	7/30/2002	2-4	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	<0.005	<0.005	<0.005	<0.015	<0.005
MWT-8	7/30/2002	6in-2	<0.005	<0.005	<0.005	<0.015	<0.005
		6-8	<0.005	0.0084	<0.005	<0.015	<0.005
MWT-9	7/30/2002	2-4	<0.200	<0.400	<0.400	<1.200	<0.400
		6-8	<0.005	<0.005	<0.005	<0.015	<0.005
MWT-10	7/30/2002	4-6	<0.310	<0.630	2.100	6.900	<0.630
		10-12	<0.005	<0.005	0.014	0.037	<0.005
MWT-11	7/30/2002	6-2	<0.005	<0.005	<0.005	<0.015	<0.005
		4-6	<0.005	<0.005	<0.005	<0.015	<0.005
MWT-12	7/31/2002	4-6	<0.005	<0.005	<0.005	<0.015	<0.005
		10-12	0.0067	<0.005	<0.005	<0.015	0.0087
MWT-13	3/7/2003	2-4	<0.005	<0.005	<0.005	<0.015	<0.005
		10-12	<0.005	<0.005	<0.005	<0.015	0.014
MWT-14	3/7/2003	2-4	<0.005	<0.005	<0.005	<0.015	<0.005
		4-6	<0.005	<0.005	<0.005	0.007	<0.005
		6-8	<0.005	<0.005	<0.005	<0.015	<0.005

- a. Below surface grade
- c. Risk based action levels
- NA Not Applicable

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Sample ID	MWT-7		MWT-8		RBALs ^b
	07/30/02	07/30/02	07/30/02	07/30/02	
Sample Date	2-4	6-8	0-2	6-8	
Depth (feet bsg [†])					
Benzo(a)Anthracene	<0.025	<0.025	0.890	<0.025	5.500
Benzo(a)Pyrene	<0.025	<0.025	0.910	<0.025	0.550
Benzo(b)Fluoranthene	<0.025	<0.025	1.000	<0.025	5.500
Benzo(k)Fluoranthene	<0.025	<0.025	0.900	<0.025	55.000
Chrysene	<0.025	<0.025	1.200	<0.025	550.000
Dibenz(a,h)Anthracene	<0.025	<0.025	0.230	<0.025	0.550
Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	1.100	<0.025	5.500
Naphthalene	<0.025	<0.025	<0.100	<0.025	1,800.00

Chemicals of Concern

- a. Below surface grade
- b. Risk based action levels
- c. Not analyzed
- * All results are reported in PPM

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BUSTR Release #: 76000582-N00001&2

Sample ID	MWT-9		MWT-13		RBALS ^b	
	Sample Date	Depth (feet bsg ^a)	Sample Date	Depth (feet bsg ^a)		
Chemicals of Concern		2-4	6-8	2-4	10-12	
	Benzo(a)Anthracene	<0.025	<0.025	<0.025	0.130	5.500
	Benzo(a)Pyrene	<0.025	<0.025	<0.025	0.250	0.550
	Benzo(b)Fluoranthene	<0.025	<0.025	<0.025	0.340	5.500
	Benzo(k)Fluoranthene	<0.025	<0.025	<0.025	0.300	55.000
	Chrysene	<0.025	<0.025	<0.025	0.180	550.000
	Dibenz(a,h)Anthracene	<0.025	<0.025	<0.025	0.027	0.550
	Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	<0.025	0.110	5.500
	Naphthalene	1.100	<0.025	<0.025	<0.025	1,800.00

- a. Below surface grade
- b. Risk based action levels
- c. Not analyzed
- * All results are reported in PPM

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Sample ID	MWT-14			RBALS ^b
	03/07/03			
	2-4	4-6	6-8	
Depth (feet bsg ^a)				
Benzo(a)Anthracene	0.026	<0.025	0.026	5.500
Benzo(a)Pyrene	0.028	<0.025	0.026	0.550
Benzo(b)Fluoranthene	0.076	0.072	0.092	5.500
Benzo(k)Fluoranthene	0.050	<0.025	0.049	55.000
Chrysene	0.072	0.064	0.081	550.000
Dibenz(a,h)Anthracene	<0.025	<0.025	<0.025	0.550
Indeno(1,2,3-c,d)Pyrene	<0.025	<0.025	<0.025	5.500
Naphthalene	<0.025	<0.025	<0.025	1,800.00

Chemicals of Concern

- a. Below surface grade
- b. Risk based action levels
- c. Not analyzed
- * All results are reported in PPM

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Sample ID	Depth (feet bsg ¹)	TPH GRO (MG/KG ^b)
KSWE	7	760
KSWW	7	1990
KB	7	94.1
GSWE	7	346
GSWW	7	293
GSWN	7	7.2
GSWS	7	179
T2N	7	47.2
T2S	7	9.7
T3N	7	37.2
T3S	7	<4.0
GSP1	Stockpile	738
GSP3	Stockpile	403
GSP4	Stockpile	971
MW-1	4-6	<5.7
MW-2	10-12	<5.6
MW-3	4-6	50.00
MW-4	6-8	<5.6
MW-5	5-10	<2.5
MW-6	10-15	14

Parts per million
 Not Tested
 Not Applicable

NT
 NA

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Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-1	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.022
	3/8/2000	0.011	<0.001	<0.001	<0.002	NT
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	0.0047	<0.003	NT
	3/1/2001	0.240	0.100	0.020	0.058	NT
	6/14/2001	0.180	<0.001	0.0043	<0.003	NT
	9/13/2001	0.012	<0.001	<0.001	<0.002	NT
	12/3/2001	0.006	<0.001	0.001	<0.002	NT
	3/27/2002	0.042	0.026	<0.001	0.005	NT
	9/12/2002	0.0022	<0.001	<0.001	<0.003	0.026
	4/25/2003	0.035	0.0036	<0.001	0.0036	0.0039
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0012	

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALs**

Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-2	9/29/1998	0.0067	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	0.0012	<0.001	<0.002	0.200
	3/8/2000	<0.004	<0.004	<0.004	<0.008	NT
	6/13/2000	0.0058	<0.0025	<0.0025	<0.005	NT
	9/14/2000	0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.110	0.065	0.0024	0.0089	NT
	6/14/2001	0.200	0.0014	0.013	<0.0047	NT
	9/13/2001	0.130	<0.001	0.0038	<0.002	NT
	12/3/2001	0.032	<0.001	<0.001	<0.002	NT
	3/27/2002	0.041	<0.001	0.0023	<0.002	NT
	9/12/2002	0.120	0.0038	0.0068	0.016	0.068
	4/25/2003	0.420	0.041	0.012	0.0234	0.082
7/21/2005	<0.001	<0.001	<0.001	<0.003	0.016	

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALS**

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Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-3	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.660	0.052	0.360	0.240	0.064
	3/8/2000	0.490	0.044	0.260	0.173	NT
	6/13/2000	0.340	0.0094	0.180	0.0860	NT
	9/14/2000	0.300	0.004	0.030	0.023	NT
	12/11/2000	0.700	0.026	0.095	0.099	NT
	3/1/2001	0.650	0.0073	0.085	0.037	NT
	6/14/2001	1.600	0.033	0.490	0.431	NT
	9/13/2001	0.680	0.0067	0.100	<0.010	NT
	12/3/2001	0.840	<0.010	0.041	<0.020	NT
	3/27/2002	0.930	0.022	0.230	0.069	NT
	9/12/2002	0.021	<0.001	<0.001	<0.003	0.025
	4/25/2003	0.710	0.016	0.360	0.143	0.024
7/21/2005	0.530	0.0068	0.017	0.036	0.015	

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALs**

Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-4	9/29/1998	0.0017	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	<0.001	<0.001	<0.001	<0.002	0.200
	3/8/2000	0.0065	<0.0025	<0.0025	<0.005	NT
	6/13/2000	0.0057	<0.0025	<0.0025	<0.005	NT
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT
	3/1/2001	0.900	1.500	0.130	0.790	NT
	6/14/2001	0.430	0.068	0.240	0.494	NT
	9/13/2001	0.093	0.0014	0.033	0.0135	NT
	12/3/2001	0.400	0.009	0.059	0.129	NT
	3/27/2002	0.830	1.600	0.620	2.580	NT
	9/12/2002	0.150	0.0093	0.031	0.164	0.033
	4/25/2003	0.150	0.039	0.046	0.099	0.120
7/21/2005	0.073	<0.001	<0.001	0.0069	0.0017	

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALs**

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Sample ID	Date	BENZENE (MG/L ³)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)	
MW-5	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b	
	9/9/1999	<0.001	<0.001	<0.001	<0.002	<0.001	
	3/8/2000	<0.001	<0.001	<0.001	<0.002	NT	
	6/13/2000	<0.001	<0.001	<0.001	<0.002	NT	
	9/14/2000	<0.001	<0.001	<0.001	<0.003	NT	
	12/11/2000	<0.001	<0.001	<0.001	<0.003	NT	
	3/1/2001	<0.001	<0.001	<0.001	<0.003	NT	
	6/14/2001	<0.001	<0.001	<0.001	<0.003	NT	
	9/13/2001	<0.001	<0.001	<0.001	<0.002	NT	
	12/3/2001	<0.001	<0.001	<0.001	<0.002	NT	
	3/27/2002	<0.001	<0.001	<0.001	<0.002	NT	
	7/21/2005	WELL DESTROYED					

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALS**

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 Former Clark Store #1079
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Sample ID	Date	BENZENE (MG/L ^a)	TOLUENE (MG/L)	ETHYLBENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MW-6	9/29/1998	<0.001	<0.001	<0.001	<0.002	NT ^b
	9/9/1999	0.0015	<0.001	<0.001	<0.002	0.0026
	3/8/2000	0.0092	<0.001	<0.001	<0.002	NT
	6/13/2000	0.010	0.0017	0.0039	0.0124	NT
	9/14/2000	0.002	<0.001	<0.0019	<0.003	NT
	12/11/2000	0.011	<0.001	<0.001	<0.003	NT
	3/1/2001	0.028	0.001	0.011	<0.0061	NT
	6/14/2001	0.0021	<0.001	0.0011	<0.003	NT
	9/13/2001	0.011	<0.001	<0.001	<0.002	NT
	12/3/2001	0.0025	<0.001	<0.001	<0.002	NT
	3/27/2002	<0.001	<0.001	<0.001	<0.002	NT
	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0024
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001	

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALs**

Sample ID	Date	BENZENE (MG/L ³)	TOLUENE (MG/L)	ETHYL BENZENE (MG/L)	XYLENES (MG/L)	MTBE (MG/L)
MWT-7	9/12/2002	0.140	0.019	0.0053	0.0067	0.010
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-8	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-9	9/12/2002	<0.001	<0.001	<0.001	<0.003	<0.001
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-10	9/12/2002	0.0011	<0.001	<0.001	<0.003	0.013
	4/25/2003	0.190	0.049	0.035	0.129	0.022
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0098
MWT-11	9/12/2002	<0.001	<0.001	<0.001	<0.003	0.0018
	4/25/2003	<0.001	<0.001	<0.001	<0.003	0.0037
	7/21/2005	<0.001	<0.001	<0.001	<0.003	0.0074
MWT-12	9/12/2002	0.190	0.015	0.081	0.195	0.065
	4/25/2003	0.600	0.120	0.081	0.126	0.057
	7/21/2005	0.0018	<0.001	<0.001	<0.003	0.0029
MWT-13	4/25/2003	1.000	0.600	0.140	0.500	0.067
	7/21/2005	0.085	0.0015	<0.001	0.0094	0.0072
	4/25/2003	<0.001	<0.001	<0.001	<0.003	<0.001
MWT-14	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001
PW-1	7/21/2005	<0.001	<0.001	<0.001	<0.003	<0.001

- a. Parts per million
 - b. Not tested
 - c. Not Calculated
- Exceeds current RBALS**

Sample ID	MW-1			MW-2			MW-3			RBALS ^b	GW INGESTION SSTL
	7/21/2005	7/21/2005	7/21/2005	7/21/2005	7/21/2005	7/21/2005	7/21/2005	7/21/2005			
Naphthalene	<0.00051	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.570	NC ^c	
Acenaphthylene	<0.00051	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA ^e	NC	
Acenaphthylene	<0.00051	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Fluorene	<0.00051	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Phenanthrene	0.000062	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Anthracene	0.000056	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Fluoranthene	0.00017	0.000092	0.000092	0.000092	0.000092	0.000092	0.000092	0.000092	NA	NC	
Pyrene	0.00012	0.000069	0.000069	0.000069	0.000069	0.000069	0.000069	0.000069	NA	NC	
Chrysene	0.000078	0.000058	0.000058	0.000058	0.000058	0.000058	0.000058	0.000058	NA	NC	
Benzo (a) Anthracene	0.000060	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Benzo (b) fluoranthene	0.000081	0.000065	0.000065	0.000065	0.000065	0.000065	0.000065	0.000065	NA	NC	
Benzo (k) fluoranthene	0.000070	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	NA	NC	
Benzo (a) Pyrene	0.000074	0.000061	0.000061	0.000061	0.000061	0.000061	0.000061	0.000061	0.0002	100.00	
Dibenzo (a,h) anthracene	<0.000051	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	
Benzo (g,h,i) Perylene	0.000066	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	NA	NC	
Indeno (1,2,3-cd) pnyene	0.000057	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	NC	

Chemicals of Concern

- a. Not Applicable
- b. Risked based action levels
- c. Not Calculated
- * All results are reported in MG/KG or PPM

Sample ID	MW-4	MW-5	MW-6	RBALs ^b	GW INGESTION SSTL
Sample Date	7/21/2005	7/21/2005	7/21/2005		
Naphthalene	0.001	WELL DESTROYED	<0.000055	0.570	NC ^c
Acenaphthylene	<0.00045		<0.000055	NA ^a	NC
Acenaphthylene	0.00059		<0.000055	NA	NC
Fluorene	0.00075		<0.000055	NA	NC
Phenanthrene	0.0023		<0.000055	NA	NC
Anthracene	<0.00045		<0.000055	NA	NC
Fluoranthene	0.002		<0.000055	NA	NC
Pyrene	0.0013		<0.000055	NA	NC
Chrysene	0.00066		<0.000055	NA	NC
Benzo (a) Anthracene	<0.00045		<0.000055	NA	NC
Benzo (b) fluoranthene	<0.00045		<0.000055	NA	NC
Benzo (k) fluoranthene	0.00056		0.000062	NA	NC
Benzo (a) Pyrene	0.00050		<0.000055	NA	NC
Dibenzo (a,h) anthracene	<0.00045		0.000059	0.0002	100.00
Benzo (g,h,i) Perylene	<0.00045		<0.000055	NA	NC
Indeno (1,2,3-cd) perylene	<0.00045	0.000069	NA	NC	
		0.000058	NA	NC	

Chemicals of Concern

- a. Not Applicable
- b. Risked based action levels
- c. Not Calculated
- * All results are reported in MG/KG or PPM

Sample ID	MWT-7	MWT-8	MWT-9	RBALs ^b	GW INGESTION SSTL
Sample Date	7/21/2005	7/21/2005	7/21/2005		
Naphthalene	<0.0056	<0.000057	<0.000057	0.570	NC ^c
Acenaphthylene	<0.0056	<0.000057	<0.000057	NA ^a	NC
Acenaphthylene	<0.0056	<0.000057	<0.000057	NA	NC
Fluorene	<0.0056	<0.000057	<0.000057	NA	NC
Phenanthrene	<0.0056	<0.000057	<0.000057	NA	NC
Anthracene	<0.0056	<0.000057	<0.000057	NA	NC
Fluoranthene	0.020	<0.000057	<0.000057	NA	NC
Pyrene	0.0082	<0.000057	<0.000057	NA	NC
Chrysene	<0.0056	<0.000057	<0.000057	NA	NC
Benzo (a) Anthracene	<0.0056	<0.000057	<0.000057	NA	NC
Benzo (b) fluoranthene	<0.0056	<0.000057	<0.000057	NA	NC
Benzo (k) fluoranthene	<0.0056	<0.000057	<0.000057	NA	NC
Benzo (a) Pyrene	0.0056	<0.000057	<0.000057	0.0002	100.00
Dibenzo (a,h) anthracene	<0.0056	<0.000057	<0.000057	NA	NC
Benzo (g,h,i) Perylene	<0.0056	<0.000057	<0.000057	NA	NC
Indeno (1,2,3-cd) perylene	<0.0056	<0.000057	<0.000057	NA	NC

Chemicals of Concern

- a. Not Applicable
- b. Risked based action levels
- c. Not Calculated
- * All results are reported in MG/KG or PPM

Sample ID	MWT-10		MWT-11		MWT-12		RBALs ^b	GW INGESTION SSTL
	Sample Date	7/21/2005	7/21/2005	7/21/2005	7/21/2005	7/21/2005		
Naphthalene		0.000068	<0.000054	<0.000054	<0.000051	0.570	NC ^c	
Acenaphthylene		<0.000054	<0.000054	<0.000054	<0.000051	NA ^a	NC	
Acenaphthlene		<0.000054	<0.000054	<0.000054	<0.000051	NA	NC	
Fluorene		<0.000054	<0.000054	<0.000054	<0.000051	NA	NC	
Phenanthrene		0.000055	<0.000054	<0.000054	<0.000051	NA	NC	
Anthracene		<0.000054	<0.000054	<0.000054	<0.000051	NA	NC	
Fluoranthene		0.00023	0.00029	0.00029	<0.000051	NA	NC	
Pyrene		0.00017	0.00020	0.00020	<0.000051	NA	NC	
Chrysene		0.00011	0.00015	0.00015	<0.000051	NA	NC	
Benzo (a) Anthracene		0.000084	<0.00010	<0.00010	<0.000051	NA	NC	
Benzo (b) fluoranthene		0.000097	0.00024	0.00024	<0.000051	NA	NC	
Benzo (k) fluoranthene		0.000091	0.00019	0.00019	<0.000051	NA	NC	
Benzo (a) Pyrene		0.000097	0.00022	0.00022	<0.000051	0.0002	100.00	
Dibenzo (a,h) anthracene		<0.000054	0.00057	0.00057	<0.000051	NA	NC	
Benzo (g,h,i) Perylene		0.000080	0.00024	0.00024	<0.000051	NA	NC	
Indeno (1,2,3-cd) pyrene		0.000070	0.00021	0.00021	<0.000051	NA	NC	

Chemicals of Concern

- a. Not Applicable
- b. Risked based action levels
- c. Not Calculated
- . All results are reported in MG/KG or PPM

The Premcor Refining Group
 Former Clark Store #1079
 1600 30th Street NE, Canton, OH 44714
 Tier Evaluation Report

BUSTR Release #: 76000582-N00001&2

Sample ID	Sample Date	MWT-13	MWT-14	PW-1	RBALS ^b	GW INGESTION SSSL
		7/21/2005	7/21/2005	7/21/2005		
Naphthalene		0.0017	<0.00020	<0.00057	0.570	NC ^c
Acenaphthylene		<0.00044	<0.00020	<0.00057	NA ^a	NC
Acenaphthylene		<0.00044	<0.00020	<0.00057	NA	NC
Fluorene		<0.00044	<0.00020	<0.00057	NA	NC
Phenanthrene		<0.00044	<0.00020	<0.00057	NA	NC
Anthracene		<0.00044	<0.00020	<0.00057	NA	NC
Fluoranthene		<0.00044	0.00077	<0.00057	NA	NC
Pyrene		<0.00044	0.00094	<0.00057	NA	NC
Chrysene		<0.00044	0.00061	<0.00057	NA	NC
Benzo (a) Anthracene		<0.00044	0.00046	<0.00057	NA	NC
Benzo (b) fluoranthene		<0.00044	0.00085	<0.00057	NA	NC
Benzo (k) fluoranthene		<0.00044	0.00065	<0.00057	NA	NC
Benzo (a) Pyrene		<0.00044	0.00087	<0.00057	0.0002	100.00
Dibenzo (a,h) anthracene		<0.00044	<0.00020	<0.00057	NA	NC
Benzo (g,h,i) Perylene		<0.00044	0.00069	<0.00057	NA	NC
Indeno (1,2,3-cd) peryene		<0.00044	0.00059	<0.00057	NA	NC

Chemicals of Concern

- a. Not Applicable
- b. Risked based action levels
- c. Not Calculated
- * All results are reported in MG/KG or PPM

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Tier Evaluation Report.doc

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Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MW-1	2/25/1998	99.40	18.00	NMI ^g	7.69	NA ^h	91.71	NM ⁱ	NM
	9/29/1998	99.40	18.00	NMI	8.53	NA	90.87	NM	NM
	9/12/2002	98.78	18.00	NMI	7.02	NA	91.76	2.96	-42
	4/25/2003	98.82	18.00	NMI	5.26	NA	93.56	1.64	91
	7/21/2005	98.69	18.00	NMI	5.95	NA	92.74	1.41	-159
MW-2	2/25/1998	98.54	20.00	NMI	8.50	NA	90.04	NM	NM
	9/29/1998	98.54	20.00	NMI	8.90	NA	89.64	NM	NM
	9/12/2002	97.90	20.00	NMI	8.15	NA	89.75	3.70	-65
	4/25/2003	97.90	20.00	NMI	7.19	NA	90.71	2.91	107
	7/21/2005	97.74	20.00	NMI	7.38	NA	90.36	1.54	-168
MW-3	2/25/1998	97.84	12.00	NMI	6.55	NA	91.29	NM	NM
	9/29/1998	97.84	12.00	NMI	7.65	NA	90.19	NM	NM
	9/12/2002	99.10	12.00	NMI	5.98	NA	93.12	1.99	-43
	4/25/2003	99.06	12.00	NMI	3.80	NA	95.26	2.20	83
	7/21/2005	98.93	12.00	NMI	4.56	NA	94.37	2.30	-197
MW-4	2/25/1998	99.84	16.00	NMI	6.10	NA	93.74	NM	NM
	9/29/1998	99.84	16.00	NMI	7.15	NA	92.69	NM	NM
	9/12/2002	97.28	16.00	NMI	5.48	NA	91.80	2.30	-92
	4/25/2003	97.25	16.00	NMI	3.62	NA	93.63	2.16	23
	7/21/2005	97.18	16.00	NMI	3.96	NA	93.22	1.37	-203

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable
- i. Not measured

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MW-5	9/29/1998	93.05	15.00	NMI ^g	7.01	NA ^h	86.04	NM ⁱ	NM
	7/21/2005				Well Destroyed				
MW-6	9/29/1998	98.32	14.50	NMI	7.72	NA	90.60	NM	NM
	9/12/2002	99.61	14.50	NMI	5.67	NA	93.94	2.47	-29
	4/25/2003	99.56	14.50	NMI	2.49	NA	97.07	4.82	126
	7/21/2005	99.42	14.50	NMI	2.69	NA	96.73	1.25	-94
MWT-7	9/12/2002	98.62	18.00	NMI	6.78	NA	91.84	1.87	-72
	4/25/2003	98.56	18.00	NMI	4.85	NA	93.71	1.61	150
	7/21/2005	98.35	18.00	NMI	5.14	NA	93.21	1.60	-113
	9/12/2002	99.26	18.00	NMI	6.11	NA	93.15	2.54	-42
MWT-8	4/25/2003	99.22	18.00	NMI	4.18	NA	95.04	1.80	123
	7/21/2005	99.06	18.00	NMI	4.55	NA	94.51	1.27	-84

a. Top of casing

b. LNAPL - Light non-aqueous phase liquid

c. Dissolved oxygen

d. Parts per million

e. Oxidation-reduction potential

f. Millivolts

g. No measurable interface

h. Not applicable

i. Not measured

Monitoring Well	Date	TOC ^a Elevation (relative)	Total Depth (feet TOC)	Depth to LNAPL ^b (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Water Elevation (relative)	DO ^c (mg/l ^d)	ORP ^e (mV ^f)
MWT-9	9/12/2002	99.42	18.00	NMI ^g	4.64	NA ^h	94.78	3.27	-29
	4/25/2003	99.33	18.00	NMI	1.96	NA	97.37	3.48	171
	7/21/2005	99.19	18.00	NMI	2.30	NA	96.89	2.67	-74
MWT-10	9/12/2002	98.34	18.00	NMI	6.71	NA	91.63	3.70	-5
	4/25/2003	98.31	18.00	NMI	4.28	NA	94.03	2.39	32
	7/21/2005	98.10	18.00	NMI	5.15	NA	92.95	1.98	-146
MWT-11	9/12/2002	98.78	18.00	NMI	9.25	NA	89.53	4.16	-5
	4/25/2003	98.76	18.00	NMI	8.45	NA	90.31	3.25	58
	7/21/2005	98.57	18.00	NMI	7.96	NA	90.61	1.13	-58
MWT-12	9/12/2002	97.38	18.00	NMI	6.80	NA	90.58	3.72	-14
	4/25/2003	97.36	18.00	NMI	4.65	NA	92.71	1.73	-12
	7/21/2005	97.15	18.00	NMI	4.64	NA	92.51	0.42	-205
MWT-13	4/25/2003	96.92	18.00	NMI	4.81	NA	92.11	2.90	55
	7/21/2005	96.71	18.00	NMI	5.42	NA	91.29	0.17	-215
MWT-14	4/25/2003	99.49	18.00	NMI	3.53	NA	95.96	2.58	164
	7/21/2005	99.49	18.00	NMI	3.90	NA	95.59	1.05	-49

- a. Top of casing
- b. LNAPL - Light non-aqueous phase liquid
- c. Dissolved oxygen
- d. Parts per million
- e. Oxidation-reduction potential
- f. Millivolts
- g. No measurable interface
- h. Not applicable

Well ID	T.D.	Surveys				Relative Elevations				Well Development			Attenuation		Gallons To Purge	Actual Gallons Purged	Time
		Ground Level		Water Levels		Ground Level		Water Level		Temp.	Cond.	pH	ORP	DO			
		T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.								
MW-1	18	3.15	3.12	5.95	6.08	98.69	98.72	92.74	92.64	18.9	1108	6.71	-159	1.41	2.00	2.00	7/21/05 16:10
										20.3	1104	6.75			2.00	2.00	
										17.0	1150	6.77			2.00	2.00	
MW-2	20	4.10	4.07	7.38	7.53	97.74	97.77	90.36	90.24	19.6	1369	6.74	-168	1.54	2.25	2.25	7/21/05 16:00
										18.2	1561	6.77			2.25	2.25	
										16.4	1583	6.78			2.25	2.25	
MW-3	12	2.91	2.75	4.56	4.84	98.93	99.09	94.37	94.25	22.5	2.56ms	6.74	-197	2.30	1.25	1.25	7/21/05 15:50
										22.6	2.53ms	6.83			1.25	1.25	
										21.3	2.59ms	6.83			1.25	0.25BD	
MW-4	16	4.66	4.29	3.96	4.46	97.18	97.55	93.22	93.09	21.8	1155	6.80	-203	1.37	2.00	2.00	7/21/05 15:40
										21.0	1133	6.82			2.00	2.00	
										21.6	1160	6.84			2.00	2.00	
MW-5		No Sample Well Was Destroyed															
MW-6	14.5	2.42	2.36	2.69	2.97	99.42	99.48	96.73	96.51	23.1	1095	6.35	-94	1.25	2.00	2.00	7/21/05 15:30
										22.6	1083	6.37			2.00	2.00	
										22.5	1087	6.34			2.00	2.00	
MWT-7	18	3.49	3.01	5.14	5.73	98.35	98.83	93.21	93.10	21.3	991	6.63	-113	1.60	2.25	2.25	7/21/05 15:20
										22.4	1026	6.73			2.25	2.25	
										22.4	1041	6.75			2.25	2.25	
MWT-8	18	2.78	2.56	4.55	4.86	99.06	99.28	94.51	94.42	18.9	988	6.59	-84	1.27	2.25	2.25	7/21/05 15:10
										21.7	946	6.52			2.25	2.25	
										19.2	955	6.56			2.25	2.25	

Well ID	T.D.	Surveys				Relative Elevations				Well Development			Attenuation		Gallons		Time
		Ground Level	Water Levels	Ground Level	Water Level	Temp.	Cond.	pH	ORP	DO	To Purge	Actual Gallons Purged					
		T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.	T.O.C.	G.L.								
MWT-9	18	2.65	2.29	2.30	2.75	99.19	99.55	96.89	96.80	21.3	1147	6.70	-74	2.67	2.75	2.75	7/21/05 15:00
MWT-10	18	3.74	3.35	5.15	5.56	98.10	98.49	92.95	92.93	22.2	1580	6.63	-146	1.98	2.25	2.25	7/21/05 14:50
MWT-11	18	3.27	2.93	7.96	8.38	98.57	98.91	90.61	90.53	17.8	1487	6.08	-58	1.13	1.75	1.75	7/21/05 14:40
MWT-12	18	4.69	4.38	4.64	4.98	97.15	97.46	92.51	92.48	23.1	1198	6.85	-205	0.42	2.25	2.25	7/21/05 14:30
MWT-13	18	5.13	4.72	5.42	5.81	96.71	97.12	91.29	91.31	22.1	1171	6.91	-215	0.17	2.25	2.25	7/21/05 14:20
MWT-14	18	2.35	2.24	3.90	4.00	99.49	99.60	95.59	95.60	19.1	1192	6.92	-49	1.05	2.50	2.50	7/21/05 14:10
PW-1										20.7	990	6.58			2.50	2.50	7/21/05 14:00

Potable Well

TANK CLOSURE REPORT

**Clark 1079
1600 30th Street NE
Canton, Ohio 44714
Stark County**

SECOR Project Number 6D-777-027-03

Prepared on behalf of:

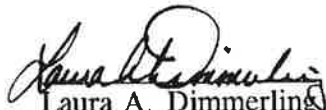
Clark Refining & Marketing, Inc.
8000 S. Beech Daly Rd
Taylor, Mi 48180

Prepared by:

SECOR International Incorporated
3580 Executive Drive, Suite 201B
Uniontown, Ohio 44685

December 18, 1996

Prepared by:


Laura A. Dimmerling
Assistant Geologist

Reviewed by:

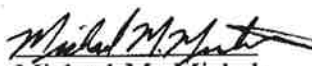

Michael M. Michels
Associate Scientist

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2.0	SITE INFORMATION/BACKGROUND	1
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FIGURES

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APPENDIX B	DISPOSAL DOCUMENTATION
APPENDIX C	ANALYTICAL LAB TEST RESULTS
APPENDIX D	PERMIT AND 30 DAY NOTIFICATION

OWNER:
Clark Refining & Marketing, Inc.
8000 S. Beech Daly Rd
Taylor, Mi 48180
Eric Larson
(313) 291-2840

SITE:
Clark 1079
1600 30th Street NE
Canton, Ohio 44714
Stark County

1.0 INTRODUCTION

Clark Refining & Marketing, Inc. (Clark) contracted SECOR International Incorporated (SECOR) to conduct environmental oversight activities associated with the permanent underground storage tank closure activities for Clark 1079, located at 1600 30th Street NE, Canton, Ohio. The property houses a gasoline service station. Background uses, regional and area geology, hydrogeology, field data, analytical data, and conclusions are summarized as follows.

1.1 UST Removal

On October 21, 1996 two (2) 8,000 gallon steel underground storage tanks (UST's) with associated piping, were permanently closed by removal from tank pit one (1). A 1000 gallon steel kerosene UST was also permanently closed by removal from tank pit two (2). The details of the tank closure are provided in later sections of this submittal. Ms. Laura A. Dimmerling supervised the removal conducted by Hal Jones Construction (HJC).

2.0 SITE INFORMATION/BACKGROUND

2.1 Location

The site is Clark 1079, located at 1600 30th Street NE in Canton, Ohio. The site is located between a food distributing business to the east and residential properties to the north, south and west of the site, within the city limits of Canton, Ohio. The

surrounding land use is mixed commercial and residential properties. Figure 1 depicts the site location.

2.2 Visual Site Evaluation

A visual site evaluation was conducted by SECOR International Inc. personnel prior to excavation and removal of the tanks. The UST system was observed to be located beneath concrete in the northeast parking area of the facility. Three petroleum dispensers are located approximately 50 feet west of the UST. Figure 2 shows the site layout and location of the UST system. No evidence of staining was observed on the concrete covering the UST as well as other surrounding surfaces. No evidence of distressed vegetation or soil staining was on or immediately surrounding the site. There was also no evidence of patched or repaired concrete or asphalt at the UST system that would indicate historical replacement or repair of the UST system.

2.3 UST System Data

The UST system removed consisted of two (2) 8000 gallon steel tanks used solely for the storage and distribution of unleaded gasoline, and one (1) 1000 gallon steel tank used solely for the storage of kerosene. The UST system age is unknown. The system was used by Clark until 1996 according to site personnel. Hal Jones Construction removed the UST's on October 29, 1996. Closure samples were also collected on October 29, 1996.

2.4 Site Feature Scoring System

A completed Site Feature Scoring System form (SFSS) and supporting SFSS Checklist is included for review in Appendix A. These SFSS forms incorporate much of the information presented in Section 2.2, along with other data included within this report. The latter form identifies where the information is located/referenced in this report. The completed SFSS identifies the site specific Action Levels pertaining to benzene, toluene,

ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH) established by the Bureau of Underground Storage Tank Regulations (BUSTR). The site scored a total of 55 points on the SFSS form which designates it as a Category 3 site.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 Regional and Local Geology

The site is located within the Central portion of Stark County. The entire county and the majority of the surface features in the county are a result of Illinoian Age glaciation. This glaciation occurred between about 302,000 and 132,000 years ago, blanketing the region with variable thicknesses of unconsolidated sediments termed glacial drift.

According to the *Soil Survey of Stark County (1971)*, the site is located on the Chili-Urban land complex. This soil unit consists of well drained, steep sloping silty loams that are moderately deep over a loamy subsoil. Permeability is relatively moderate. The Chili-Urban land complex soil unit is part of Chili-Wheeling Shoaks Association. The Chili-Wheeling Shoaks Association consists of deep, nearly level to moderately steep, well drained soils formed mainly in glacial outwash.

The underlying bedrock geology of the site and site vicinity consists of the Sharon conglomerate according to the *Soil Survey of Stark County (1971)*. The Sharon conglomerate is Pennsylvanian in age.

3.2 Regional and Local Hydrogeology

The City of Canton uses Water Well fields as the source for its municipal drinking water supply. Potable and usable supplies of water within Canton are supplied by the Canton Water Works Division.

4.0 SOIL SCREENING & SAMPLING

The objectives of this investigation were to assess the potential presence of BTEX and TPH constituents in the shallow soil beneath the product UST system. This section describes the procedures and methods of soil sampling and screening. SECOR dispatched Ms. Laura A. Dimmerling on October 29, 1996 to collect samples for closure documentation. A visual inspection of the site revealed that three (3) UST's, and dispenser lines would require sampling according to BUSTR guidelines. Following excavation of the UST's, Ms. Dimmerling inspected the excavation and noted that the native soils showed no staining indicative of hydrocarbon impact. Eleven (11) locations were selected for UST closure sampling (designated GSWE, GSWW, GSWN, GSWS, KSWE, KSWW, KB, T2N, T2S, T3N, and T3S). GSWE, GSWW, GSWN and GSWS were collected from the sidewalls of tank pit one (1), and KSWE and KSWW were collected from the sidewalls of tank pit two (2). Groundwater was encountered during the excavation, therefore water samples were collected and designated GW and KW. Stockpile volume calculation required the collection of six (6) soil samples from the 8000 gallon UST excavation and two (2) soil samples from the 1000 gallon UST excavation according to BUSTR guidelines. Stockpile samples are denoted by samples GSP1 through GSP6 and KSP1 and KSP2 respectively. Figure 3 is a site map depicting the excavation limits and sample locations.

At each sampling location, a six (6) inch solid core sample was collected using a two (2) inch inside diameter AMS™ hand driven solid core sampler. The sampler then

decontaminated the sampling equipment using an Alconox™ and distilled water wash solution and distilled water triple rinse. The AMS™ core sampler collects a minimally disturbed soil core sample. The sample collection permitted a review of subsurface lithology and vertical correlation of soil horizons.

Each sample core was split into two (2) portions, and placed in two (2) precleaned four (4) ounce jars with Teflon™ lined lids. The first jar was filled half way with a representative portion of the sample core. The jar was then covered with aluminum foil, secured with the lid, and allowed to warm at approximately 70°F for 10 minutes. The remaining jar was completely filled and placed on ice for possible laboratory analysis.

A total of nineteen (19) soil samples were collected and screened. An Hnu™ model No. PI 101 photoionization detector (Hnu) was utilized to field screen the samples. The Hnu was calibrated, prior to use, according to manufacturers instructions, using a 100 parts per million (ppm) isobutylene-in-air commercial gas standard. SECOR's sampler collected and handled all soil samples in accordance with the "State Fire Marshal Corrective Action Sampling Guidelines" and OAC 1301:7-7-36. The samples were labeled, logged on the chain of custody form, placed on ice packs, and shipped to Bio Chem Laboratory (Bio Chem) for laboratory Analysis in Grand Rapids, MI. Bio Chem analyzed the samples for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA Method 8020, Polynuclear Aromatic Hydrocarbons (PAH)s by EPA Method 8100 and Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M-D.

5.0 RESULTS

5.1 Site Geology

The geologic profile of native soils at the site was found to consist of a gray friable shale from six inches below grade to the bottom of the tank pit at all observed locations.

5.2 Soil Screening/Analytical Results

SECOR collected a total of 19 soil samples for field screening with an Hnu. Hnu readings ranged from 30.0 parts per million (ppm) at four locations, to 400.0 ppm at GSP4. Complete Hnu field screening results are summarized in table 1.

A total of 15 soil samples were submitted for laboratory analysis. Laboratory analysis results indicated that BTEX constituents were present above the method detection limits in all samples. TPH was also detected in 14 of the 15 samples analyzed. Analytical results of the soil analyses are summarized in Table 2. Copies of the laboratory analytical results and the chain-of-custody form are included in Appendix C.

TABLE 1
FIELD SCREENING RESULTS

SAMPLE NUMBER	SAMPLE DATE	PID (PPM)
KSWE*	10/29/96	42.0
KSWW*	10/29/96	56.0
KB*	10/29/96	50.0
GSWE*	10/29/96	62.0
GSWW*	10/29/96	30.0
GSWN*	10/29/96	57.0
GWS*	10/29/96	75.0
T2N*	10/29/96	100.0
T2S*	10/29/96	86.0
T3N*	10/29/96	94.0
T3S*	10/29/96	72.0
KSP1*	10/29/96	160.0
KSP2*	10/29/96	135.0
GSP1*	10/29/96	300.0
GSP2	10/29/96	240
GSP3*	10/29/96	280.0
GSP4*	10/29/96	400.0
GSP5	10/29/96	94.0
GSP6	10/29/96	150.0

*denotes sample selected for analysis

TABLE 2
ANALYTICAL RESULTS

SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	XYLENES (mg/Kg)	TPH (mg/Kg)	PAH
KSWE	<0.002	0.020	0.010	0.078	760	ND
KSWW	<0.002	0.065	0.104	0.405	1990	*
KB	0.013	0.020	<0.002	<0.002	94.1	ND
GSWE	0.597	1.180	7.600	6.880	346	NA
GSWW	0.081	0.304	0.244	1.290	293	NA
GSWN	2.860	0.023	0.061	0.054	7.2	NA
GSWS	1.480	0.706	1.820	1.600	179	NA
T2N	0.433	0.978	0.468	4.750	47.2	NA
T2S	0.362	0.044	0.035	0.067	9.7	NA
T3N	0.471	0.599	0.306	4.200	37.2	NA
T3S	0.005	0.006	0.003	0.007	<4	NA
KSP2	<0.002	<0.002	<0.002	0.189	2580	*
GSP1	1.060	3.110	1.610	35.100	738	NA
GSP3	0.493	1.280	1.910	25.600	403	NA
GSP4	0.579	6.720	30.000	90.000	971	NA
ACTION LEVELS	0.335	9	14	67	450	

Bold entries are in excess of BUSTR Category 3 Action Levels

ND - non detectable results for PAH

* - explanation below

*Out of 15
 Soil samples analyzed
 12 out of 15 > Als*

AP

Polynuclear Aromatic Hydrocarbons (PAH) analyte Naphthalene was detectable in sample KSWW and KSP2, and analyte Flourene in sample KSWW, for all other analyte the respective samples were not detected in chemical analysis. Copies of the laboratory analytical results and chain-of-custody form are included in Appendix C.

5.3 Site Hydrogeology

Groundwater was encountered at approximately 7 feet below ground surface during the UST system removal. Water samples were collected October 29, 1996 for closure documentation. Analytical results of the water samples are summarized in Table 3. Copies of the laboratory results and the chain-of-custody form are included in Appendix C.

GW
 Sample
 2/12
 ALS

TABLE 3
ANALYTICAL RESULTS

SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	XYLENES (mg/Kg)	TPH (mg/Kg)	PAH
KW	0.014	0.003	<0.002	0.021	<4	ND
GW	6.800	1.130	8.770	34.100	253	NA
Action Levels	.005	1	.700	10		

Bold entries are in excess of BUSTR Category 3 action levels

All analytes associated with Polynuclear Aromatic Hydrocarbons (PAH) for sample KW were not detected in chemical analysis. Copies of the laboratory analytical results and chain-of-custody form are included in Appendix C.

6.0 MISCELLANEOUS DATA

6.1 Disposal

Hal Jones Constrution disposed of the old piping and tank through Slesnicks of Canton, Ohio. The UST's were cleaned, opened and taken to Slesnicks. All excavated material was taken to Countywide RFD in East Sparta, Ohio. Disposal documentation can be found in Appendix B.

6.2 Inspection & Permitting

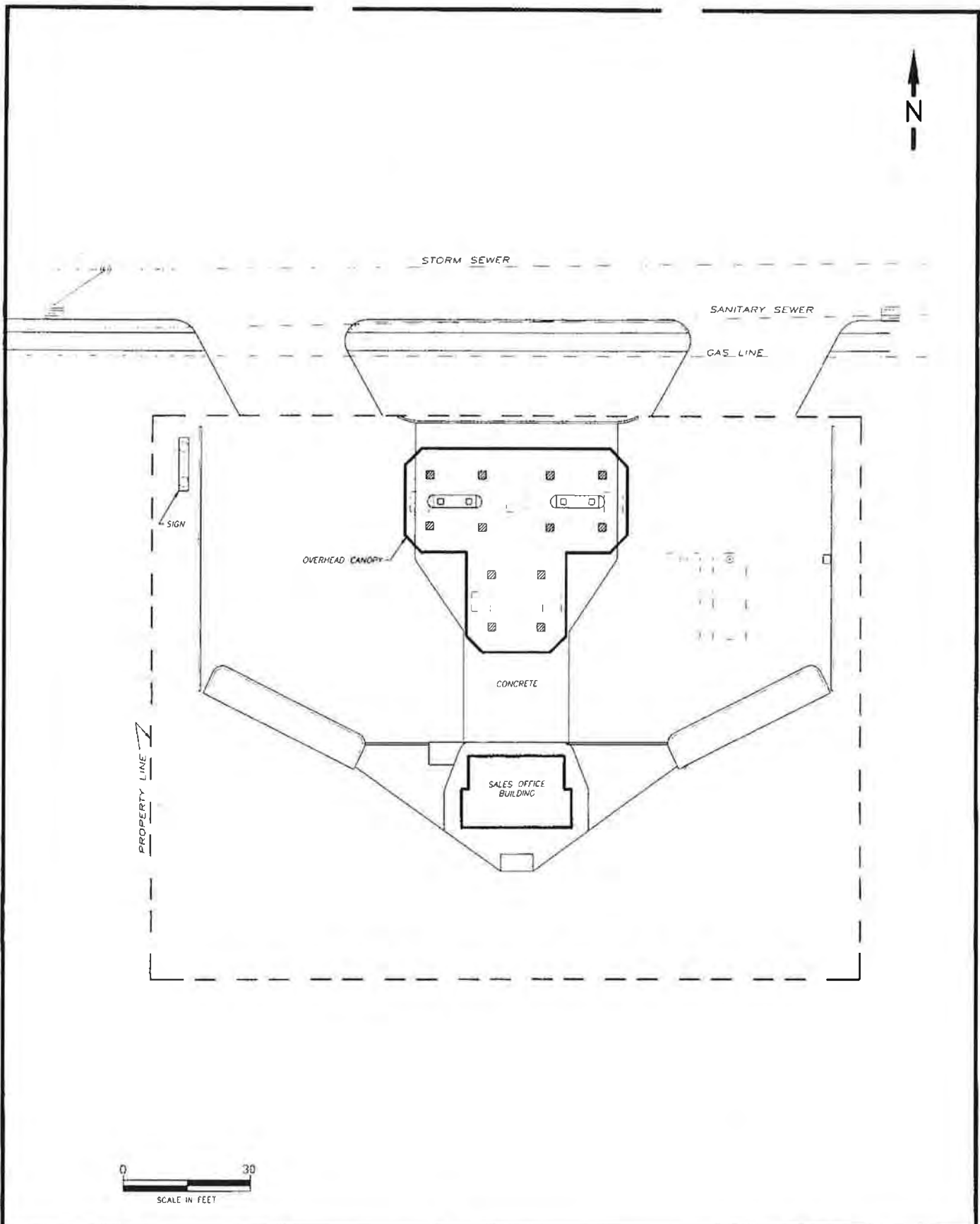
Thomas McCallin an inspector with the Plain Township Fire Department, oversaw the closure activities. A fire prevention application-permit is included in Appendix D. A copy of the permit as well as the 30 day notification can also be found in Appendix D.



SECOR
INTERNATIONAL INCORPORATED

CLARK OIL
1600 30th STREET NE, CANTON, OHIO
SITE LOCATION

1

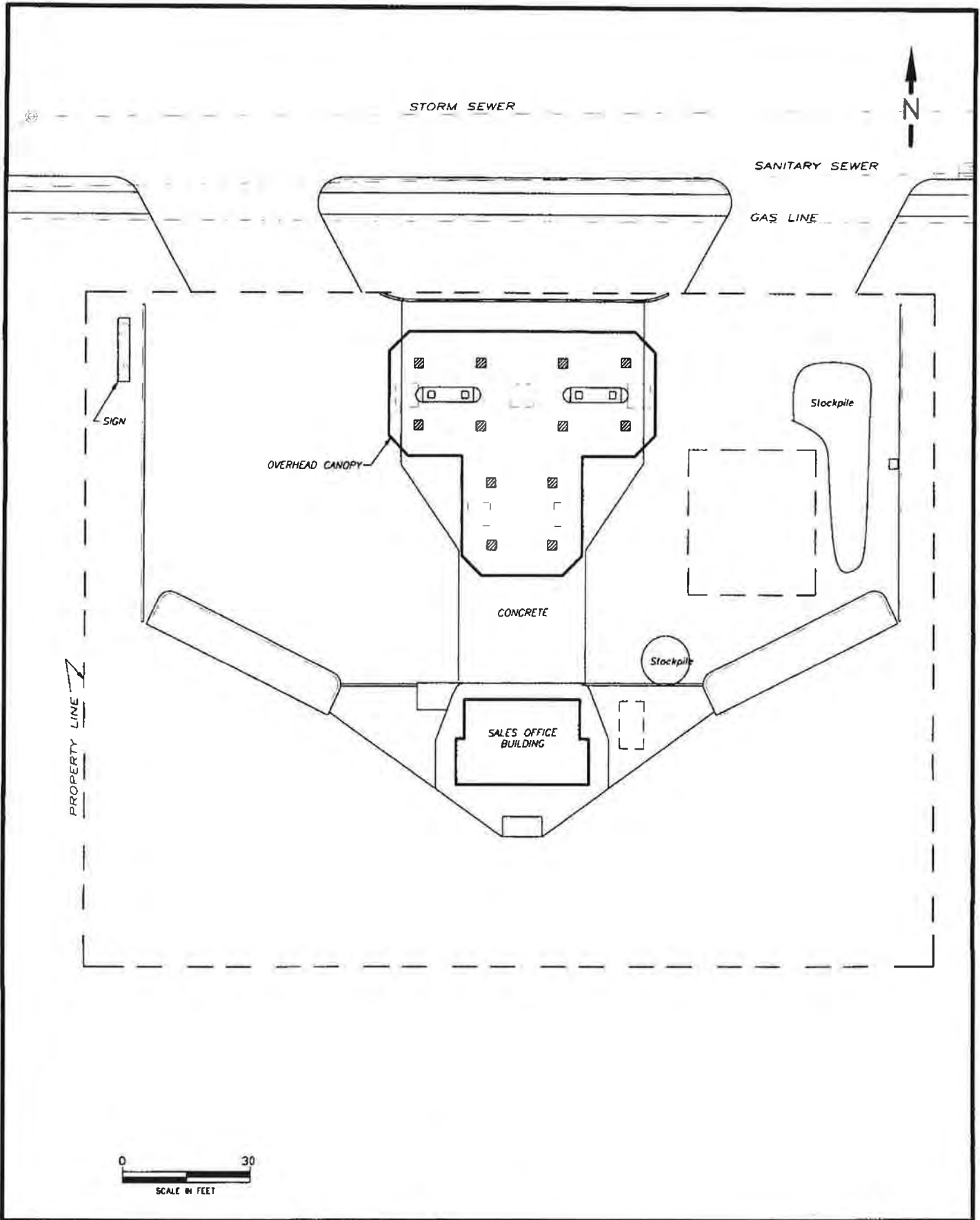


SECOR
INTERNATIONAL INCORPORATED

CLARK OIL
1600 30th STREET NE., CANTON, OHIO

SITE PLAN

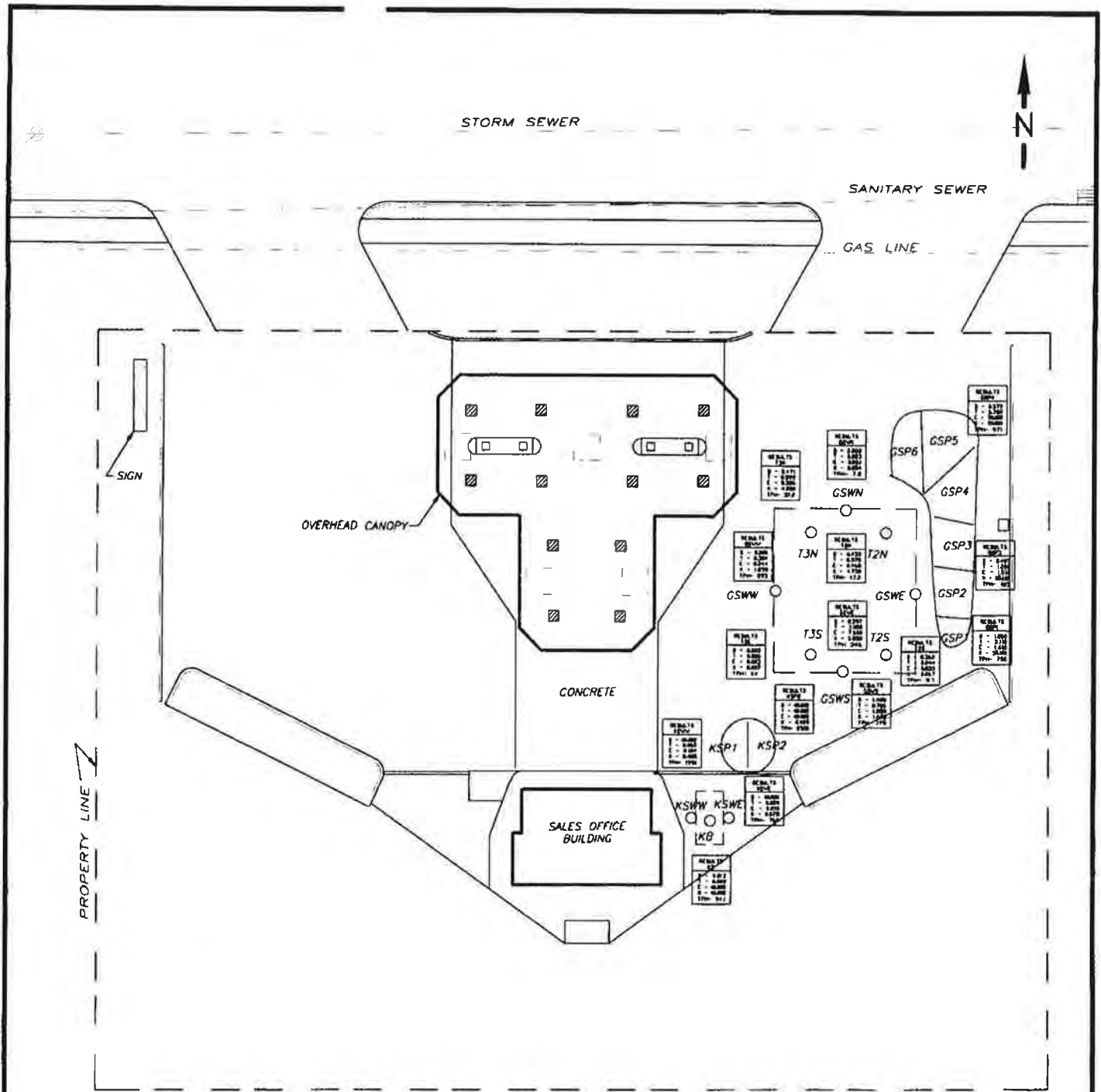
2



SECOR
INTERNATIONAL INCORPORATED

CLARK OIL
1600 30th STREET NE, CANTON, OHIO
EXCAVATION LIMITS

3



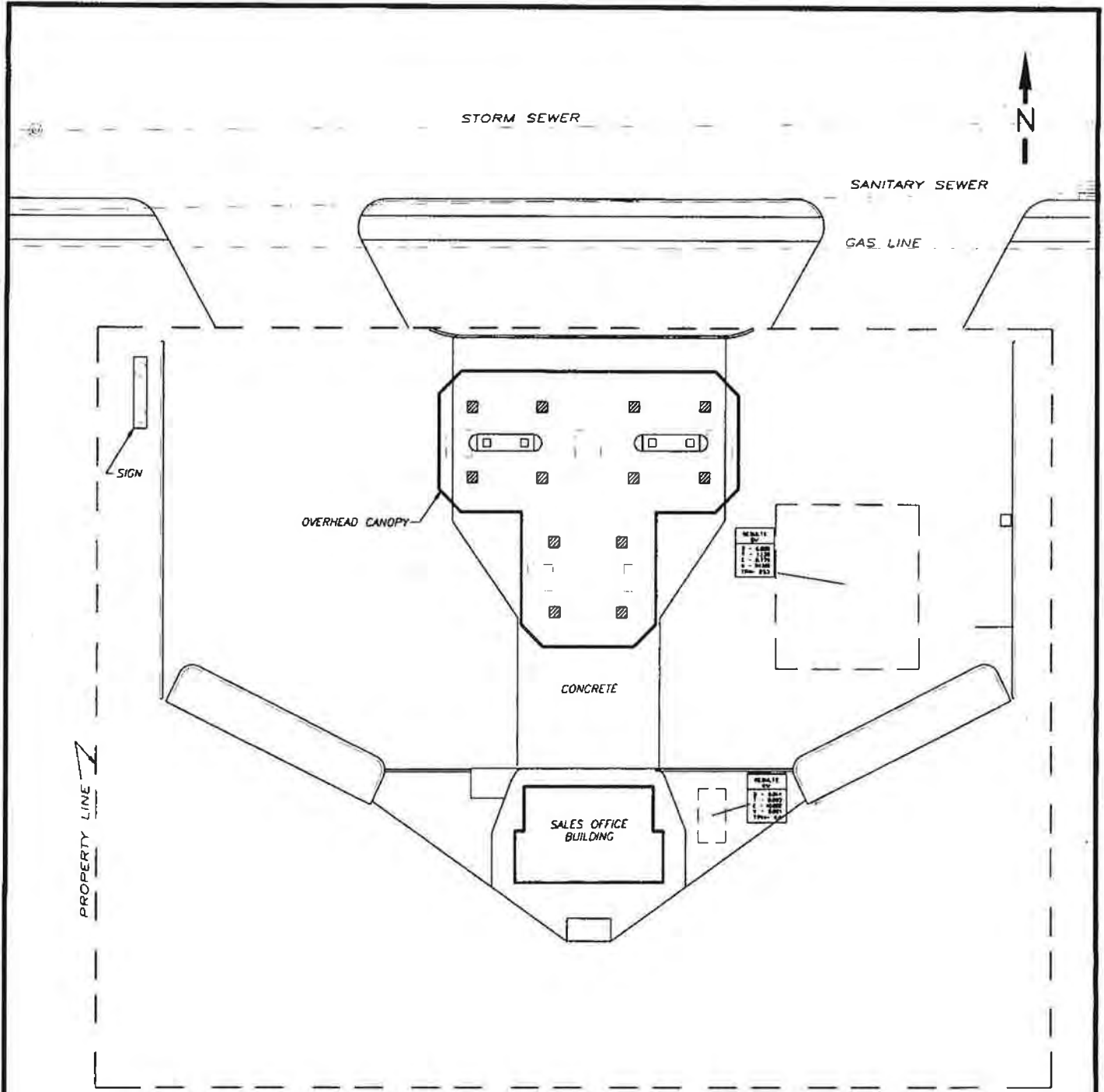
SAMPLE	DEPTH	TPH
B	<0.002	
T	<0.002	
E	<0.002	
X	<0.002	
TPH	<4	

SECOR
INTERNATIONAL INCORPORATED

CLARK OIL
1600 30th STREET NE, CANTON, OHIO

BTEX IN SOIL

SECOR PROJECT #: 6D777-027-01 FILENAME: 6D777027.DWG DATE: 11/07/96



SAMPLE	m\X\I
B	<0.002
T	<0.002
E	<0.002
X	<0.002
TPH	<4

SECOR
INTERNATIONAL INCORPORATED

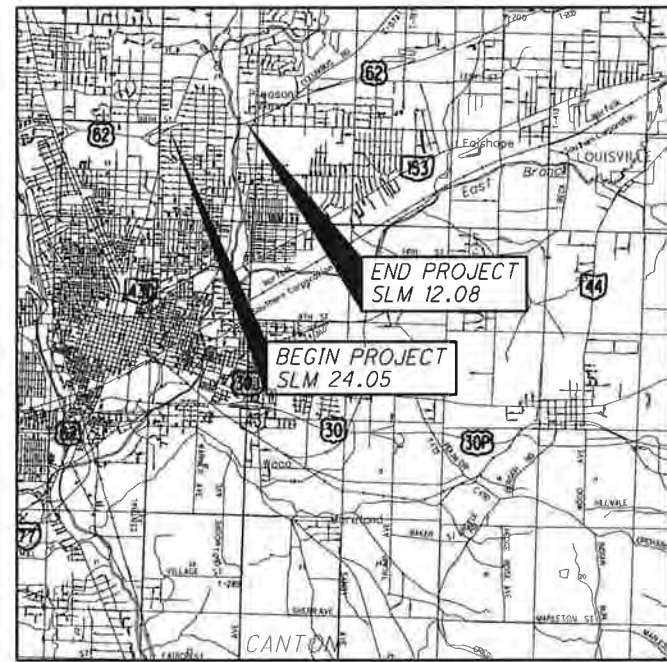
CLARK OIL
1600 30th STREET NE., CANTON, OHIO

BTEX IN GROUNDWATER

SECOR PROJECT #: 60777-027-01 | FILENAME: 60777027.DWG | DATE: 11/07/96

5

APPENDIX E



LOCATION MAP
 LATITUDE: 40°49'50" LONGITUDE: -81°21'23"



RIGHT OF WAY LEGEND SHEET STA - 062 - 24.05

STARK COUNTY, PLAIN TOWNSHIP,
 SECTIONS 27 AND 34,
 TOWNSHIP 11, RANGE 8

INDEX OF SHEETS:

TITLE SHEET	1
SUMMARY SHEETS	2-7
DETAIL SHEETS	8-12

PROJECT DESCRIPTION

PROJECT CONTROL

STATE PLANE GRID OHIO NORTH, (3401), NAD 83 (2011)
 PROJECT ADJUSTMENT FACTOR

PLANS PREPARED BY:

FIRM NAME : THE MANNIK & SMITH GROUP
 R/W DESIGNER: ION BRUNER
 R/W REVIEWER: MARK SWAILE
 FIELD REVIEWER: JIM WILSON
 PRELIMINARY FIELD REVIEW DATE: _____
 TRACINGS FIELD REVIEW DATE: _____
 OWNERSHIP UPDATED BY: _____
 DATE COMPLETED: _____
 PLAN COMPLETION DATE: _____

CONVENTIONAL SYMBOLS

County Line	-----	Ditch / Creek (Ex)	-----
Township Line	-----	Ditch / Creek (Pr)	-----
Section Line	-----	Tree Line (Ex)	~~~~~
Corporation Line	----- or -----	Ownership Hook Symbol	∟, Example
Fence Line (Ex)	-x-x-(Pr)	Property Line Symbol	∟, Example
Center Line	-----	Break Line Symbol	∟, Example
Right of Way (Ex)	----- Ex R/W	Tree (Pr)	☼, Tree (Ex) ☼, Shrub (Ex) ☼
Right of Way (Pr)	----- R/W	Tree (Remove)	☼, Shrub (Remove) ☼
Standard Highway Ease.(Ex)	----- Ex SH	Evergreen (Ex)	☼, Stump ☼
Temporary Right of Way	----- TMP	Evergreen (Remove)	☼, Stump (Remove) ☼
Channel Ease. (Pr)	----- CH	Wetland (Pr)	☼, Grass (Pr) ☼, Aerial Target ☼
Utility Ease. (Ex)	----- Ex U	Post (Ex)	○, Mailbox (Ex) ☼, Mailbox (Pr) ☼
Railroad	or -----	Light (Ex)	☼, Telephone Marker (Ex) TEL
Guardrail (Ex)	☼☼☼☼☼☼ (Pr)	Fire Hydrant (Ex)	☼, Water Meter (Ex) ☼
Construction Limits	-----	Water Valve (Ex)	☼, Utility Valve Unknown (Ex) ☼
Edge of Pavement (Ex)	-----	Telephone Pole (Ex)	☼, Power Pole (Ex) ☼
Edge of Pavement (Pr)	-----	Light Pole (Ex)	☼
Edge of Shoulder (Ex)	-----		
Edge of Shoulder (Pr)	-----		

STRUCTURE KEY

	RESIDENTIAL
	COMMERCIAL
	OUT-BUILDING

W:\Projects\Projects P-T\1066003\00824\Design\RW\Sheets\00824RL\01.dwg Sheet 9/1/2017 11:54:02 AM jbruner

FEDERAL PROJECT NO. E160 (860)
 PID NO. 100824
 CALCULATED JOB CHECKED MAS
CONCEPTUAL RIGHT OF WAY FOR TOTAL TAKES
STA - 062 - 24.05
 1 / 12

TOTAL NUMBER OF :

? OWNERSHIPS 43 TOTAL TAKES
 ? PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

GROSS TAKE - PRO IN TAKE = NET TAKE

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION
 UNLESS OTHERWISE SHOWN.

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
1-8	NOT USED																
9	MCKINNEY ENTERPRISES OF OHIO LIMITED CO.		19980219	0009676	52-11304	2.111	0.390										
10WL	SHELIA M. LEHIGH		20080515	0021910	52-00739	0.320	0.097								TOTAL TAKE		
11WL	MICHAEL H. BEALL		20030312	0022615	52-01306	0.300	0.021								TOTAL TAKE		
12WL	THERESA A. BENDER		20030324	0025998	52-01165	0.223	0.017								TOTAL TAKE		
13WL	ANDY CILONA AND DENCY S. CILONA		20100402	0011786	52-01784	0.233	0.017								TOTAL TAKE		
14WL	INFINITY REPRESENTATIVES LLC		20070821	0046050	52-01039	0.167	0.012								TOTAL TAKE		
15WL	EQUITY TRUST COMPANY CUSTODIAN FBO 19931 IRA		20111012	0040651	52-01579	0.154	0.000								TOTAL TAKE		
	TOTAL					0.308	0.000										
16WL	MICHAEL D. KLEIN, JR. AND JILL E. KLEIN		20030714	0066594	52-00839	0.154	0.000								TOTAL TAKE		
17WL	JOSEPH A. NARDIS AND SHARON L. NARDIS		20160115	0001713	52-01289	0.167	0.012								TOTAL TAKE		
18WL	LINDA MYERS		1375	298	52-01891	0.167	0.012								TOTAL TAKE		
19WL	RC TAYLOR ENTERPRISES, INC.		20031030	0104972	52-01561	0.165	0.012								TOTAL TAKE		
20 - 24	NOT USED																
25WL	JENNIE L. ESSIG, TRUSTEE		20110803	0030455	52-01867	0.143	0.000								TOTAL TAKE		
26WL	FINDERS, LLC		20070427	0022950	52-00539	0.140	0.000								TOTAL TAKE		

SDATES \$ TIME\$

SFILES\$

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

* DENOTES RIGHT OF WAY ENCROACHMENT

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

LEGEND:
 WL = LIMITED ACCESS WARRANTY DEED
 WD = WARRANTY DEED
 T = TEMPORARY EASEMENT

+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY:	DATE:	
OWNERSHIP VERIFIED BY:	DATE:	
DATE COMPLETED		

FEDERAL PROJECT NO. E160 (860)
 PID NO. 100824
 STATE JOB NO. 441596
 R/W DESIGNER JDB
 R/W REVIEWER MAS
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 STA - 062 - 24.05
 2 / 12

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

GROSS TAKE - PRO IN TAKE = NET TAKE

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION
 UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
27WL	IRENE KOINOLOU, DESPINA KOINOLOU, KONSTANTINA KOINOLOU AND NICK G. KOINOLOU		19980501	0027789	52-01984	0.140	0.000								TOTAL TAKE		
28WL	JERRY G. WALDREN AND JOYCE A. WALDREN		19970303	0010212	52-00314	0.140	0.000								TOTAL TAKE		
29WL	JOYCE L. LOUCKS		20040303	0013874	52-02016	0.140	0.000								TOTAL TAKE		
30WL	RAYMOND W. RADCLIFT AND RETHA S. RADCLIFT		20160801	0029739	52-00414	0.140	0.000								TOTAL TAKE		
31WL	FRANCIS D. HAMILTON		20060210	0008041	52-00753	0.140	0.000								TOTAL TAKE		
32WL	BYRON A. HALL AND DEBORAH J. HALL		20060414	0022307	52-01649	0.140	0.000								TOTAL TAKE		
33WL	FAME CITY PROPERTIES LLC.		20170509	0019118	52-00732	0.140	0.000								TOTAL TAKE		
34WL	SCHECKS PROPERTIES, LLC		20170103	0000037	52-00977	0.140	0.000								TOTAL TAKE		
35WL	CORINA M. WHITLATCH		19961223	0069521	52-01886	0.140	0.000								TOTAL TAKE		
36WL	IRENE KOINOLOU		1715	987	52-01147	0.150	0.000								TOTAL TAKE		
37WL	SCHEKS PROPERTIES, LLC		20070711	0037913	52-00341	0.147	0.000								TOTAL TAKE		
38WL	STEVE A. LOPRESTI AND ANNA R. LOPRESTI		1130	237	52-00563	0.200	0.075								TOTAL TAKE		
39	DAVID P. JOHNSON		20061220	0077144	52-01674	0.150	0.000										
40	NOT USED																
41WL	ERIC LEE SIMON		20071015	0055548	52-06523	0.152	0.011								TOTAL TAKE		

\$DATES \$TIMES

\$FILES

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

LEGEND:
 WL = LIMITED ACCESS WARRANTY DEED
 WD = WARRANTY DEED
 T = TEMPORARY EASEMENT

* DENOTES RIGHT OF WAY ENCROACHMENT

+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY:	DATE:	
OWNERSHIP VERIFIED BY:	DATE:	
DATE COMPLETED		

FEDERAL PROJECT NO. E160 (860)
 PID NO. 100824
 STATE JOB NO. 441596
 R/W DESIGNER JDB
 R/W REVIEWER MAS
SUMMARY OF ADDITIONAL RIGHT OF WAY
 STA - 062 - 24.05
 3 / 12

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

GROSS TAKE - PRO IN TAKE = NET TAKE

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
59 - 60	NOT USED																
61	A. JAMES TSANGEOS, 1/2 INTEREST		20160415	0013980	52-08737	0.093	0.076										
	JOHN N. TSANGEOS II, 1/2 INTEREST				52-08738	0.077	0.067										
					52-08739	0.067	0.078										
	TOTAL					0.237	0.221										
62	DARLENE MILLER		19981113	0082727	52-02274	0.234	0.089										
					52-02275	0.204	0.099										
	TOTAL					0.438	0.188										
63	WILLIAM C. CORN		20090901	0035671	52-16793	0.314	0.111										
64	CITY OF CANTON				38-0368	2.920											
					38-0358	6.000											
	TOTAL					8.920											
65 - 69	NOT USED																
70	ROBERT J. VUKELIC		987	977	52-16433	0.236	0.000										
71	JEANNIE R. STARCHER		20130122	0003612	52-05026	0.107	0.000										
72WD	CHRISTINA M. WELLS		20010419	0025229	52-07263	0.230	0.041								TOTAL TAKE		
73WD	IRENE KOINOGLU		1627	145	52-08057	0.167	0.012								TOTAL TAKE		
74	AKP PROPERTIES, LLC		20080829	0039107	52-02742	0.167	0.012										
75	MICHAEL R. SKELLEY		19961028	0058686	52-09282	0.167	0.012										
76	DENNIS F. SZITTAI AND DIANE SZITTAI		19971003	0067322	52-15967	0.501	0.036										
			1616	67	52-11788	0.334	0.024										
			19960710	0036683	52-11787	0.501	0.036										
	TOTAL					1.336	0.096										

\$ DATES \$ TIMES

\$ FEELS

FEDERAL PROJECT NO. E160 (860)
 PID NO. 100824
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 R/W REVIEWER MAS
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 STA - 062 - 24.05
 5 / 12

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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REV. BY	DATE	DESCRIPTION

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
77 - 79	NOT USED																
80	KSH PROPERTIES, LLC		20160629	0024920	52-10282	0.154	0.012										
81	MARILYN ANN CLEMONS		19980929	0068721	52-08426	0.154	0.011										
82	MICHELLE PAINTER		20000629	0038295	52-09353	0.154	0.011										
83	SFRS, LLC LAND CONTRACT TO CHRISTOPHER LEE HOWELL AND BRENDA ANN PANTELIS		20090826	0034757	52-02325	0.154	0.011										
			20170329	0013026													
84	JAMES BOWMAN		20140312	0008595	52-10518	0.157	0.011										
85	LOREN J. HAMILTON		20050826	0057419	52-00678	0.248	0.055										
86	PROPERTY ALLIANCE GROUP, LLC		20120130	0003815	52-01965	0.248	0.055										
87WD	RICHARD P. GALLAGHER, TRUSTEE		20070208	0007055	52-00254	0.248	0.055								TOTAL TAKE		
88	PAUL DAVID MEYER AND JOANNA MEYER		1334	487	52-00174	0.386	0.093										
	TOTAL				52-12155	0.187	0.000										
	LAND CONTRACT TO STARCO PROPERTIES, LLC		20160525	0020141		0.573	0.093										
89WD	DAVID AND SHERRY CREWS		20170428	0017565	52-01188	0.500	0.239								TOTAL TAKE		
90 - 92	NOT USED																
93WD	KIMBERLY J. JONES		20170831	0036587	52-08460	0.155	0.085								TOTAL TAKE		
94WD	KIMBERLY J. JONES		20121004	0045452	52-04093	0.155	0.043								TOTAL TAKE		

\$ DATES \$ TIMES \$

\$ FILES \$

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FEDERAL PROJECT NO. E160 (860)
 PID NO. 100824
 STATE JOB NO. 441596
 R/W DESIGNER JDB
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 SUMMARY OF ADDITIONAL RIGHT OF WAY
 STA - 062 - 24.05
 6 / 12

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ALL AREAS IN ACRES

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
95	PAUL J. MIDAY		20170310	0010417	52-13157	0.173	0.036										
					52-07677	0.183	0.000										
					52-13155	0.031	0.000										
	TOTAL					0.387	0.036										
96	SIPASAK PROPERTIES, LLC		20100208	0004447	10-000303	0.699	0.060										
97	GURMAN INVESTMENTS, LLC		20110911	0036250	52-19055	0.655	0.093										
98	WAREHOUSE, LLC		20140218	0005627	52-17658	1.020	0.093										
					10-000302	0.470	0.000										
	TOTAL					1.490	0.093										
99	JAMES E. FERGUSON AND REBECCA M. FERGUSON		20140130	0003448	52-19659	0.852	0.066										
100	WILLIAM J. FERGUSON AND GENI SUE FERGUSON		20150825	0033598	52-08344	0.128	0.035										
101	ALLEN R. BORDINE AND JANICE E. BORDINE		677	92	52-04775	0.078	0.043										
					52-04774	0.164	0.000										
					52-04773	0.151	0.000										
	TOTAL					0.393	0.043										
102	DONNA J. WOODFORD		20170306	0009555	52-10750	0.164	0.094										
103 - 104	NOT USED																
105	LARRY A. TOTH		20060425	0024504	52-17675	1.082	0.045										
					52-11710	0.435	0.179										
					52-11711	0.200	0.011										
	TOTAL					1.717	0.235										
106	CITY OF CANTON		????	????	38-0357	2.120											
					38-0366	0.240											
	TOTAL					2.360											

\$DATES \$TIMES \$FILES

FEDERAL PROJECT NO. E160 (860)

PID NO. 100824

STATE JOB NO. 441596

R/W DESIGNER JDB
R/W REVIEWER MAS

SUMMARY OF ADDITIONAL RIGHT OF WAY

STA - 062 - 24.05

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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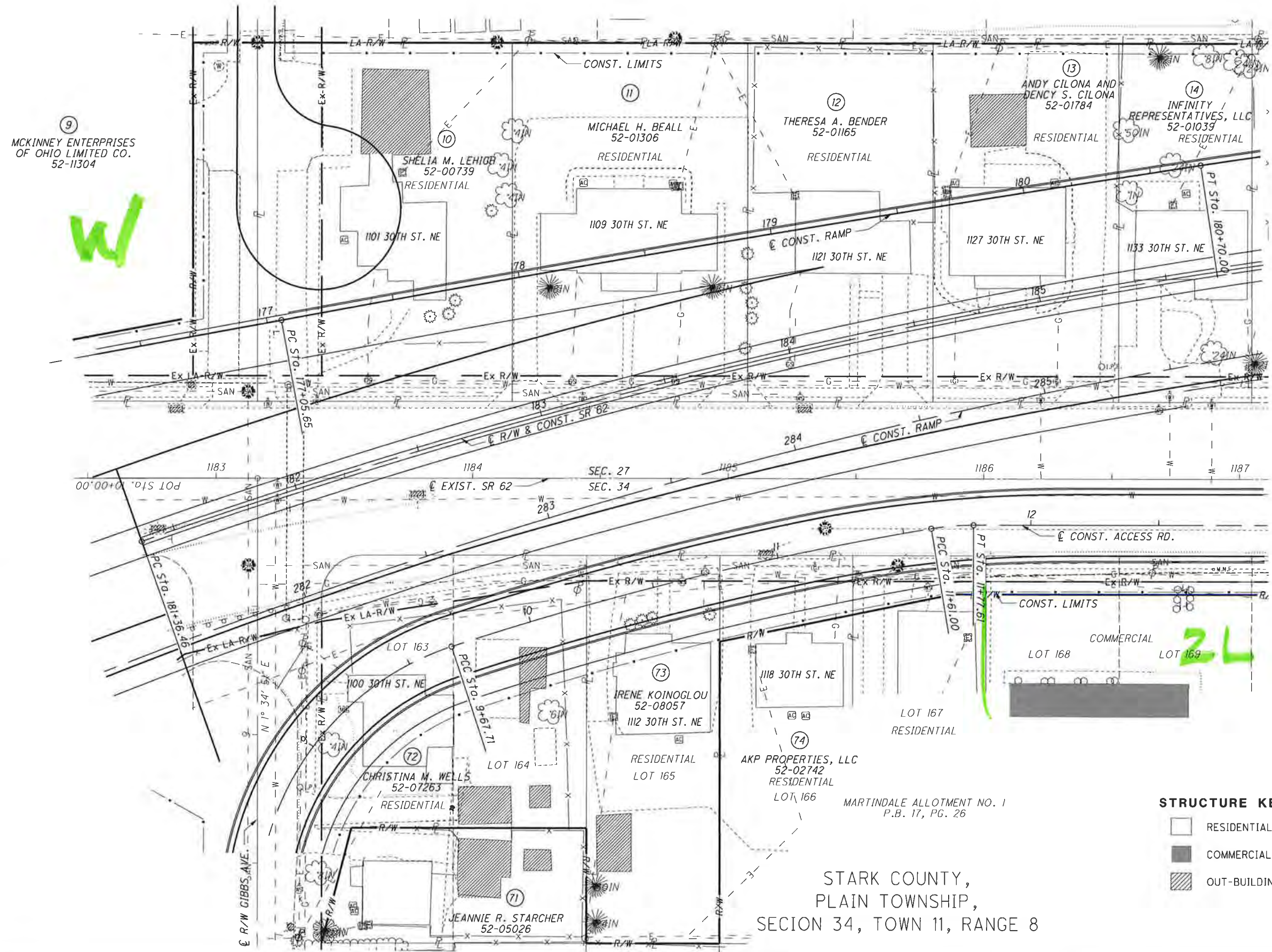
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FIELD REVIEW BY:	DATE:	
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DATE COMPLETED		



STARK COUNTY,
PLAIN TOWNSHIP,
SECION 27, TOWN 11, RANGE 8



9
MCKINNEY ENTERPRISES
OF OHIO LIMITED CO.
52-11304

W

2L

STRUCTURE KEY
 □ RESIDENTIAL
 ■ COMMERCIAL
 ▨ OUT-BUILDING

STARK COUNTY,
PLAIN TOWNSHIP,
SECION 34, TOWN 11, RANGE 8

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 0 20' 40' HORIZONTAL SCALE IN FEET
PID NO. 100824
R/W DESIGNER JDB R/W REVIEWER MSL
CONCEPTUAL RIGHT OF WAY PLAN STA. 181+00 TO STA. 186+00
STA-062-24.05
8 / 12

STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 27, TOWN 11, RANGE 8



0 20' 40'
HORIZONTAL
SCALE IN FEET

PID NO. 1605

R/W DESIGNER JDB
R/W REVIEWER MAS

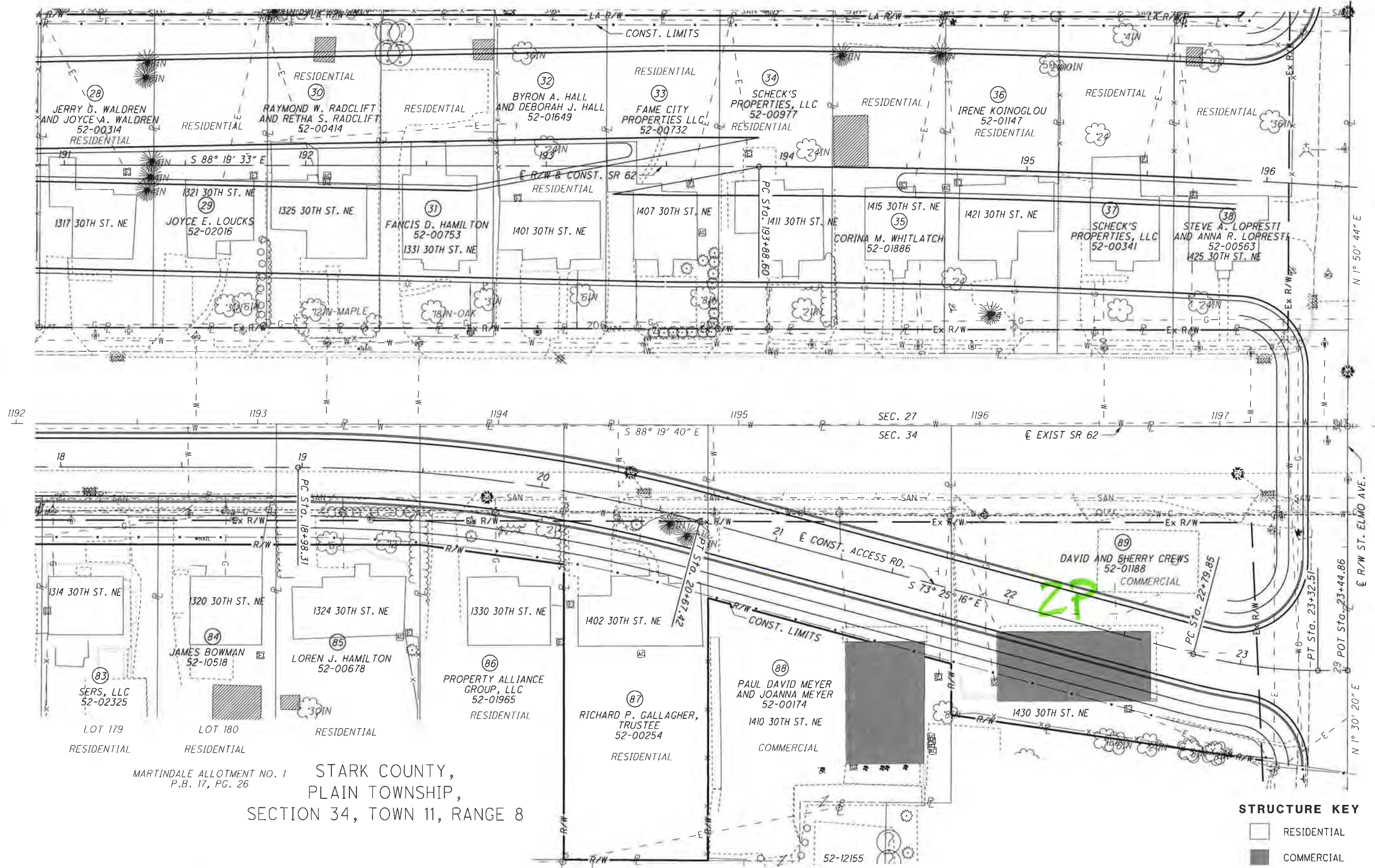
CONCEPTUAL RIGHT OF WAY PLAN
STA. 191+00 TO STA. 196+00

STA-062-24.05

10/12



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MARTINDALE ALLOTMENT NO. 1
P.B. 17, PG. 26

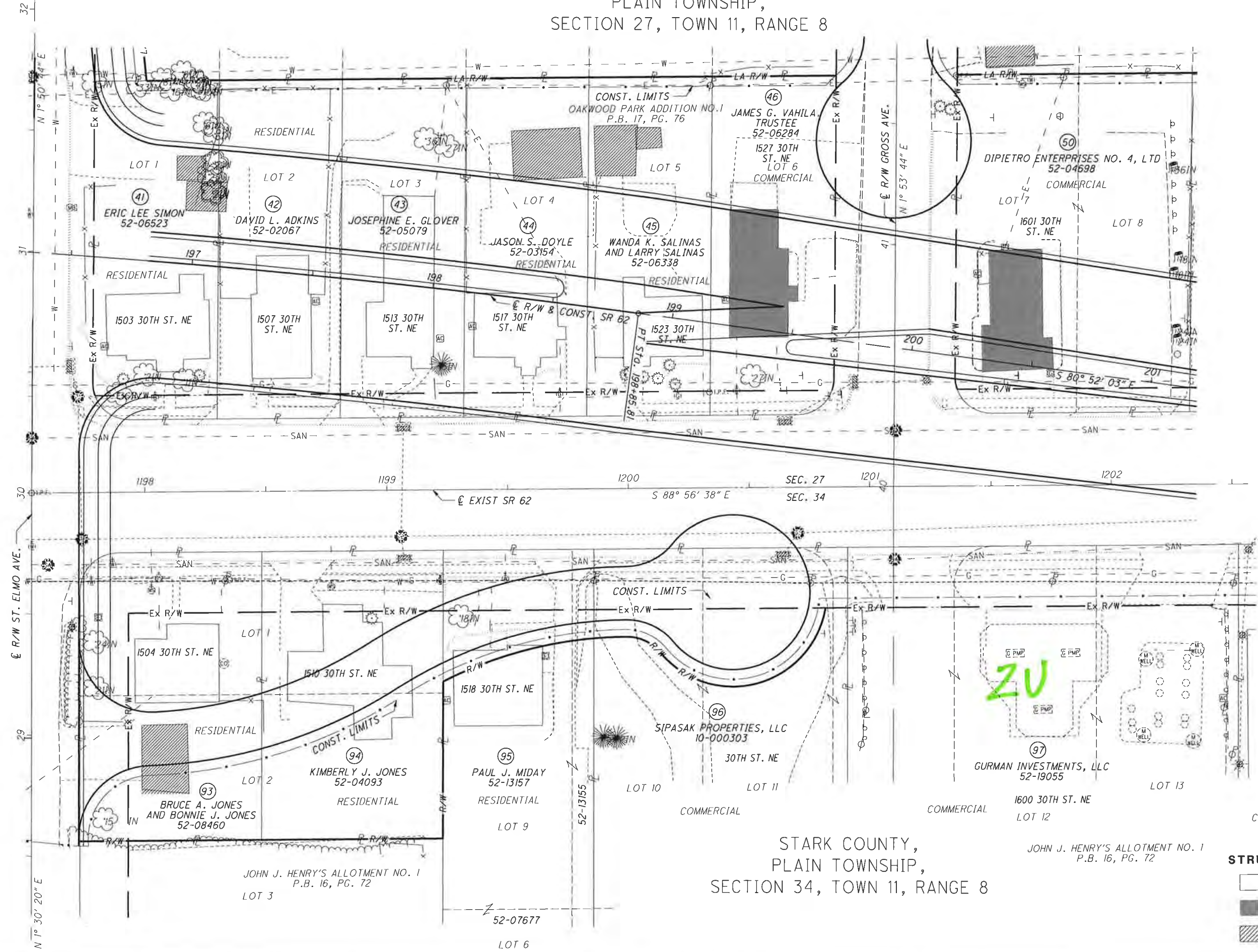
STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 34, TOWN 11, RANGE 8

STRUCTURE KEY

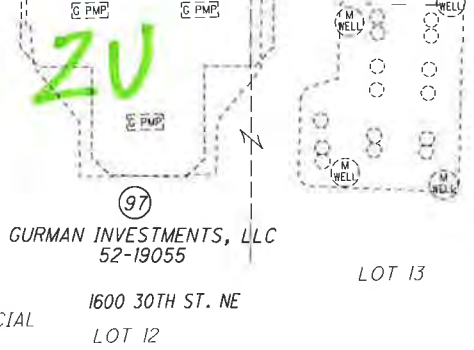
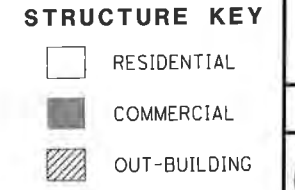
	RESIDENTIAL
	COMMERCIAL
	OUT-BUILDING

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STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 27, TOWN 11, RANGE 8



STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 34, TOWN 11, RANGE 8



11 / 12

STA-062-24.05

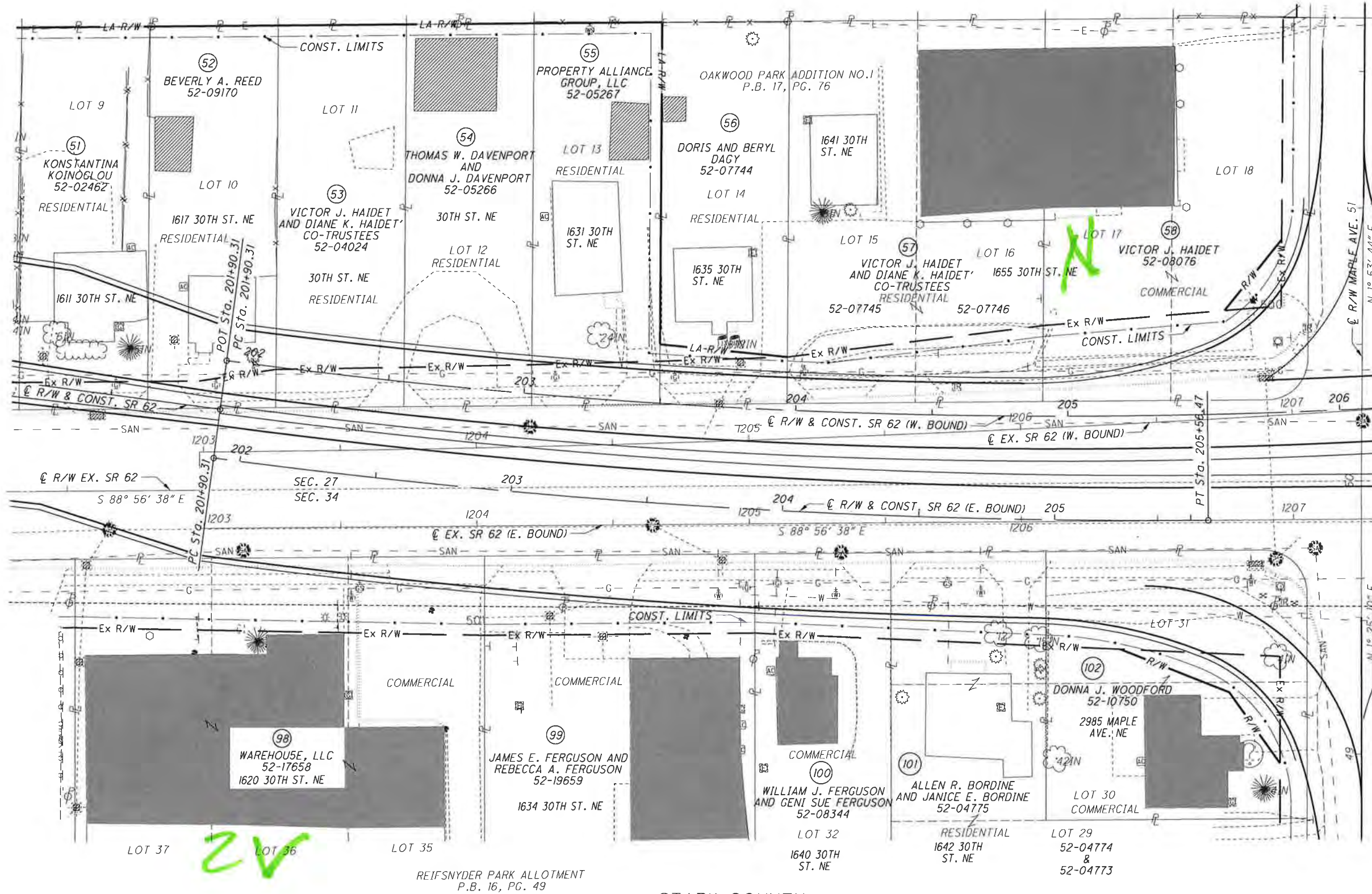
CONCEPTUAL RIGHT OF WAY PLAN
STA. 196+00 TO STA. 201+00

R/W DESIGNER JDB
R/W REVIEWER MAS

PID NO. 100824

HORIZONTAL SCALE IN FEET

STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 27, TOWN 11, RANGE 8



STARK COUNTY,
PLAIN TOWNSHIP,
SECTION 34, TOWN 11, RANGE 8

STRUCTURE KEY

	RESIDENTIAL
	COMMERCIAL
	OUT-BUILDING

0 20' 40'
 HORIZONTAL SCALE - IN FEET

PID NO. **100824**
 R/W DESIGNER JDB
 R/W REVIEWER MAS

CONCEPTUAL RIGHT OF WAY PLAN
STA. 201+00 TO STA. 206+00

STA-062-24.05
 12/12

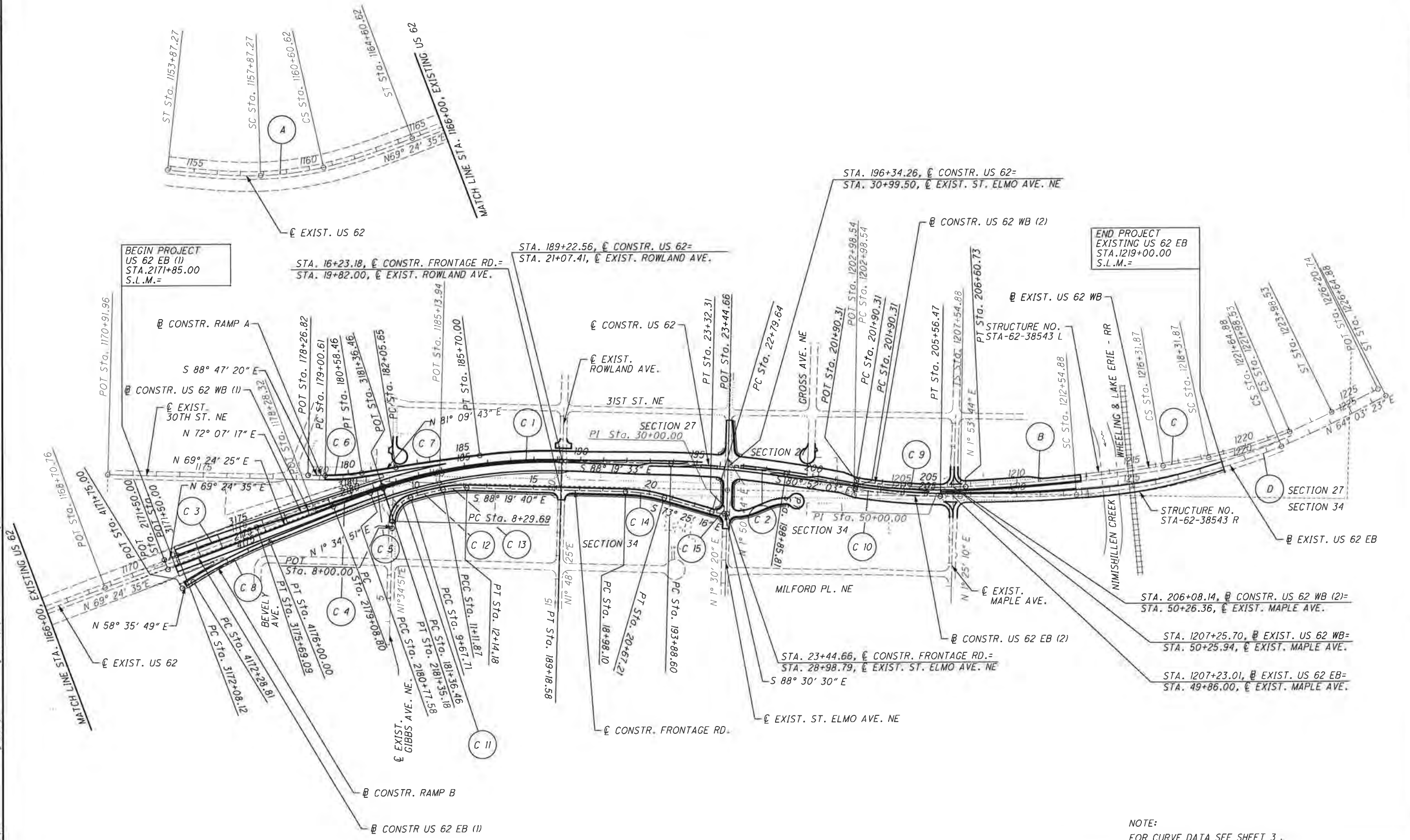
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SCHEMATIC PLAN

STA-62-24.05



BEGIN PROJECT
US 62 EB (1)
STA. 2171+85.00
S.L.M.=

STA. 16+23.18, @ CONSTR. FRONTAGE RD.=
STA. 19+82.00, @ EXIST. ROWLAND AVE.

STA. 189+22.56, @ CONSTR. US 62=
STA. 21+07.41, @ EXIST. ROWLAND AVE.

STA. 196+34.26, @ CONSTR. US 62=
STA. 30+99.50, @ EXIST. ST. ELMO AVE. NE

END PROJECT
EXISTING US 62 EB
STA. 1219+00.00
S.L.M.=

NOTE:
FOR CURVE DATA SEE SHEET 3.

PROPOSED CURVE DATA

<p>C 1 <u>CONSTR. US 62</u> P.I. Sta. 185+31.36 $\Delta = 19^\circ 33' 11''$ (RT) $Dc = 2^\circ 30' 00''$ $R = 2,291.83'$ $T = 394.90'$ $L = 782.12'$ $E = 33.77'$ $C = 778.33'$ C.B. = N $81^\circ 53' 52''$ E</p>	<p>C 3 <u>CONSTR. US 62 WB (1)</u> P.I. Sta. 3173+88.64 $\Delta = 2^\circ 42' 41''$ (RT) $Dc = 0^\circ 45' 04''$ $R = 7,627.44'$ $T = 180.52'$ $L = 360.97'$ $E = 2.14'$ $C = 360.93'$ C.B. = N $70^\circ 45' 56''$ E</p>	<p>C 4 <u>CONSTR. US 62 EB (1)</u> P.I. Sta. 2179+93.19 $\Delta = 1^\circ 16' 04''$ (RT) $Dc = 0^\circ 45' 04''$ $R = 7,627.44'$ $T = 84.40'$ $L = 168.79'$ $E = 0.47'$ $C = 168.78'$ C.B. = N $70^\circ 02' 38''$ E</p>	<p>C 6 <u>CONSTR. RAMP A</u> P.I. Sta. 183+87.84 $\Delta = 1^\circ 48' 55''$ (RT) $Dc = 0^\circ 29' 54''$ $R = 11,500.00'$ $T = 182.19'$ $L = 364.36'$ $E = 1.44'$ $C = 364.34'$ C.B. = N $82^\circ 04' 10''$ E</p>	<p>C 8 <u>CONSTR. RAMP B</u> P.I. Sta. 4174+14.85 $\Delta = 9^\circ 40' 01''$ (RT) $Dc = 2^\circ 36' 16''$ $R = 2,200.00'$ $T = 186.03'$ $L = 371.19'$ $E = 7.85'$ $C = 370.75'$ C.B. = N $63^\circ 25' 50''$ E</p>	<p>C 9 <u>CONSTR. US 62 WB (2)</u> P.I. Sta. 204+26.34 $\Delta = 11^\circ 40' 29''$ (LT) $Dc = 2^\circ 28' 54''$ $R = 2,308.67'$ $T = 236.03'$ $L = 470.42'$ $E = 12.03'$ $C = 469.61'$ C.B. = S $86^\circ 42' 18''$ E</p>	<p>C 10 <u>CONSTR. US 62 EB (2)</u> P.I. Sta. 203+73.70 $\Delta = 8^\circ 04' 35''$ (LT) $Dc = 2^\circ 12' 20''$ $R = 2,597.66'$ $T = 183.39'$ $L = 366.16'$ $E = 6.47'$ $C = 365.86'$ C.B. = S $84^\circ 54' 21''$ E</p>	<p>C 11 <u>CONSTR. FRONT RD.</u> P.I. Sta. 9+09.45 $\Delta = 71^\circ 53' 22''$ (RT) $Dc = 52^\circ 05' 13''$ $R = 110.00'$ $T = 79.76'$ $L = 138.02'$ $E = 25.87'$ $C = 129.14'$ C.B. = N $37^\circ 31' 32''$ E</p>
<p>C 2 P.I. Sta. 196+37.55 $\Delta = 7^\circ 27' 29''$ (RT) $Dc = 1^\circ 30' 00''$ $R = 3,819.72'$ $T = 248.96'$ $L = 497.21'$ $E = 8.10'$ $C = 496.86'$ C.B. = S $84^\circ 35' 48''$ E</p>	<p>C 5 P.I. Sta. 2181+06.38 $\Delta = 1^\circ 26' 37''$ (RT) $Dc = 2^\circ 30' 24''$ $R = 2,285.83'$ $T = 28.80'$ $L = 57.59'$ $E = 0.18'$ $C = 57.59'$ C.B. = N $71^\circ 23' 58''$ E</p>	<p>C 7 P.I. Sta. 179+79.73 $\Delta = 10^\circ 02' 57''$ (LT) $Dc = 6^\circ 21' 58''$ $R = 900.00'$ $T = 79.13'$ $L = 157.85'$ $E = 3.47'$ $C = 157.65'$ C.B. = N $86^\circ 11' 11''$ E</p>	<p>C 12 P.I. Sta. 10+64.54 $\Delta = 8^\circ 41' 11''$ (RT) $Dc = 4^\circ 29' 38''$ $R = 1,275.00'$ $T = 96.83'$ $L = 193.30'$ $E = 3.67'$ $C = 193.11'$ C.B. = N $77^\circ 48' 48''$ E</p>	<p>C 13 P.I. Sta. 11+63.21 $\Delta = 11^\circ 43' 26''$ (RT) $Dc = 11^\circ 27' 33''$ $R = 500.00'$ $T = 51.33'$ $L = 102.31'$ $E = 2.63'$ $C = 102.13'$ C.B. = N $85^\circ 48' 37''$ E</p>	<p>C 14 P.I. Sta. 19+83.34 $\Delta = 14^\circ 54' 24''$ (RT) $Dc = 8^\circ 48' 53''$ $R = 650.00'$ $T = 85.04'$ $L = 169.11'$ $E = 5.54'$ $C = 168.63'$ C.B. = S $80^\circ 52' 28''$ E</p>	<p>C 15 P.I. Sta. 23+06.34 $\Delta = 15^\circ 05' 14''$ (LT) $Dc = 28^\circ 38' 52''$ $R = 200.00'$ $T = 26.49'$ $L = 52.66'$ $E = 1.75'$ $C = 52.51'$ C.B. = S $80^\circ 57' 53''$ E</p>	

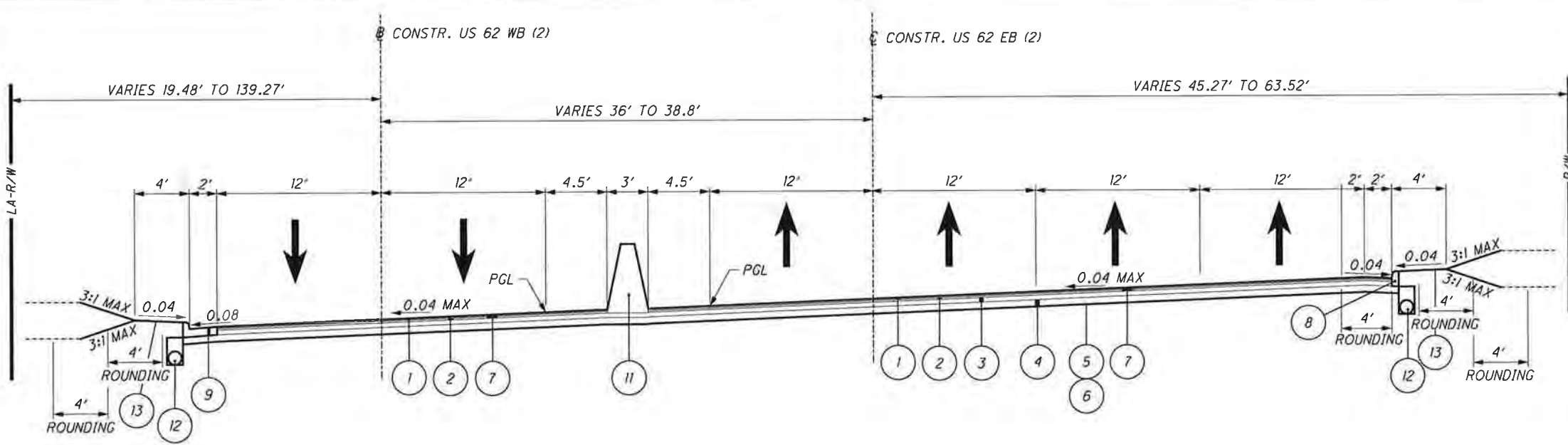
EXISTING CURVE DATA

<p>A <u>EXIST. US 62</u> P.I. Sta. 1159+31.27 $\Delta = 26^\circ 56' 03''$ (LT) $Dc = 4^\circ 00' 00''$ $R = 1,432.39'$ $Ls = 400.00'$ $\theta s = 8^\circ 00' 00''$ $LT = 266.94'$ $ST = 133.58'$ $x = 399.22'$ $y = 18.59'$ $k = 199.87'$ $p = 4.65'$ $Dc = 10^\circ 56' 03''$ (LT) $Lc = 273.35'$ $Ts = 544.00'$ $Es = 45.28'$ $C = 272.94'$ $Cl = C2 = 399.65'$ C.B. 1 = S $86^\circ 19' 20''$ E C.B. = N $82^\circ 52' 37''$ E C.B. 2 = S $72^\circ 04' 34''$ W</p>	<p>B <u>EXIST. US 62 WB</u> P.I. Sta. 1209+66.90 $\Delta = 10^\circ 00' 00''$ (LT) $Dc = 0^\circ 45' 00''$ $R = 7,639.39'$ $T = 668.36'$ $L = 1,333.33'$ $E = 29.18'$ $C = 1,331.63'$ C.B. = N $86^\circ 03' 22''$ E</p>	<p>D <u>EXIST. US 62 EB</u> P.I. Sta. 1217+25.32 $\Delta = 28^\circ 12' 00''$ (LT) $Dc = 2^\circ 00' 00''$ $R = 2,864.79'$ $Ls = 500.00'$ $\theta s = 5^\circ 00' 00''$ $LT = 333.47'$ $ST = 166.79'$ $x = 499.62'$ $y = 14.54'$ $k = 249.94'$ $p = 3.64'$ $Dc = 18^\circ 12' 00''$ (LT) $Lc = 910.00'$ $Ts = 970.44'$ $Es = 92.74'$ $C = 906.18'$ $Cl = C2 = 499.83'$ C.B. 1 = N $89^\circ 23' 22''$ E C.B. = N $76^\circ 57' 22''$ E C.B. 2 = S $64^\circ 31' 21''$ W</p>	<p>C P.I. Sta. 1220+15.76 $\Delta = 10^\circ 59' 59''$ (LT) $Dc = 3^\circ 00' 00''$ $R = 1,909.88'$ $T = 183.90'$ $L = 366.66'$ $E = 8.83'$ $C = 366.10'$ C.B. = N $72^\circ 33' 22''$ E</p>
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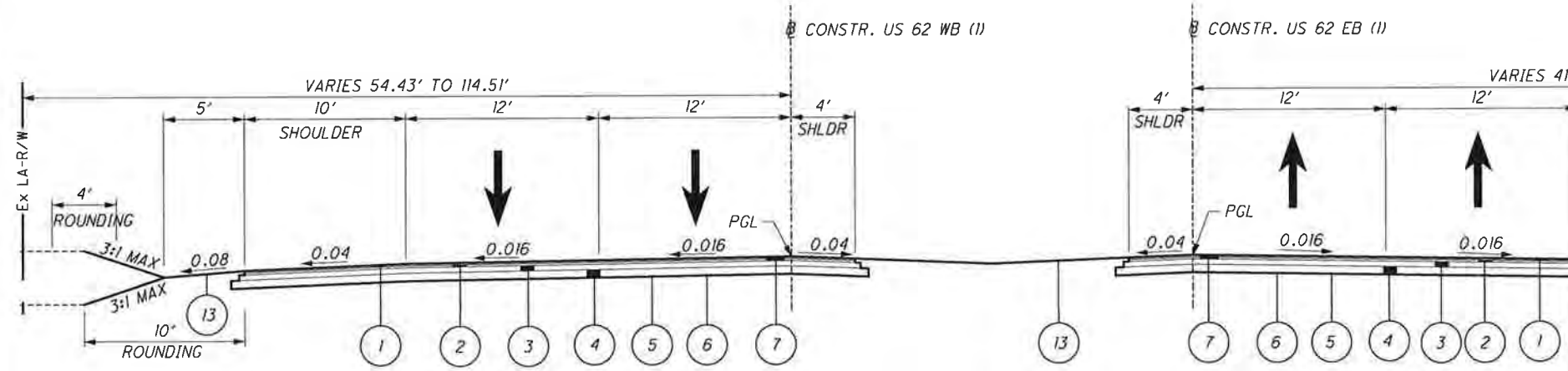
SCHEMATIC PLAN

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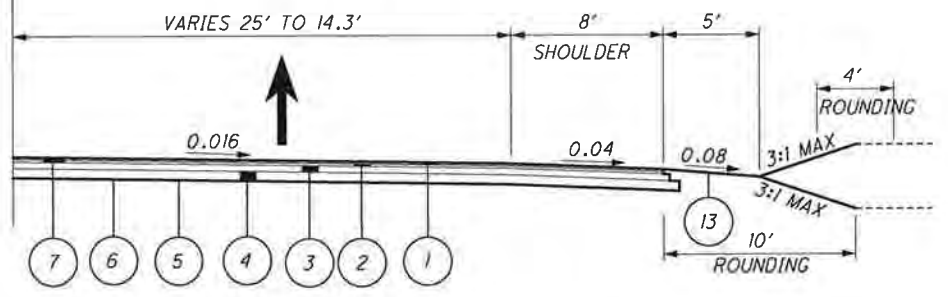


SUPERELEVATED SECTION - US 62 WB (2) & US 62 EB (2)
 STA. 201+90.31 TO STA 206+60.73 US 62 WB (2) STA. 201+90.31 TO STA 205+56.47 US 62 EB (2)

- LEGEND**
- 1 ITEM 441 - 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG70-22M
 - 2 ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 12, (446), PG70-22M
 - 3 ITEM 302 - 4" ASPHALT CONCRETE BASE, PG64-22
 - 4 ITEM 304 - 6" AGGREGATE BASE
 - 5 ITEM 204 - PROOF ROLLING
 - 6 ITEM 204 - SUBGRADE COMPACTION
 - 7 ITEM 407 - TACK COAT
 - 8 ITEM 609 - CURB, TYPE 6
 - 9 ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2
 - 10 ITEM 608 - CONCRETE WALK
 - 11 ITEM 611 - CONCRETE BARRIER, TYPE C1
 - 12 ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
 - 13 ITEM 659 - SEEDING AND MULCHING



NORMAL SECTION - US 62 WB (1) & US 62 EB (1)
 STA. 3172+08.20 TO STA. 3181+36.46 US 62 WB (1) STA. 2171+85.00 TO STA. 2181+35.18 US 62 EB (1)

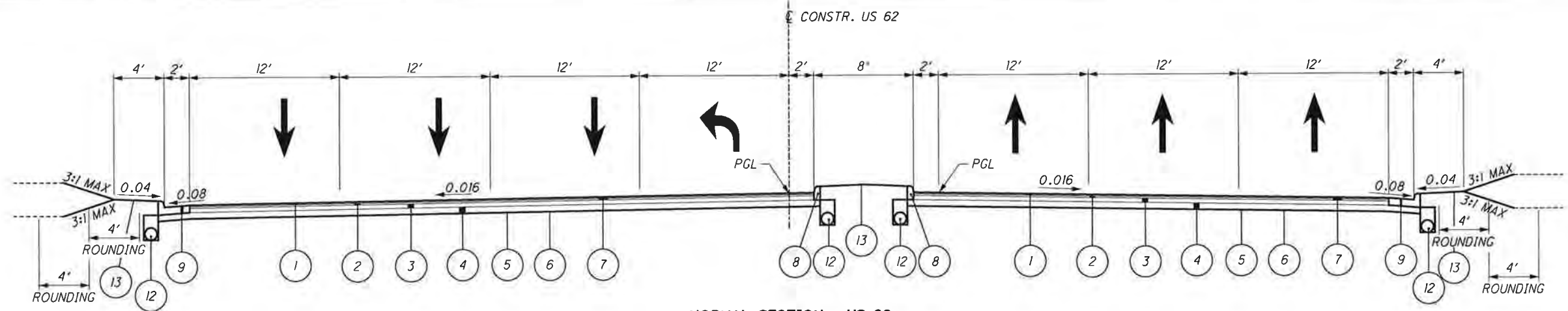


STA. 2176+00.00 TO STA. 2181+35.18 US 62 EB (1)

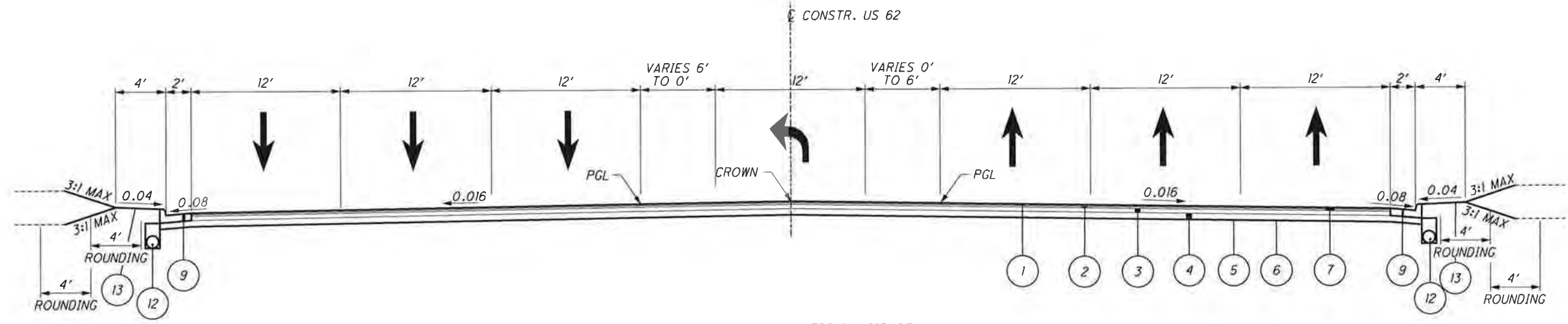
TYPICAL SECTIONS - US 62 WB (1) & EB (1)

STA-62-24.05

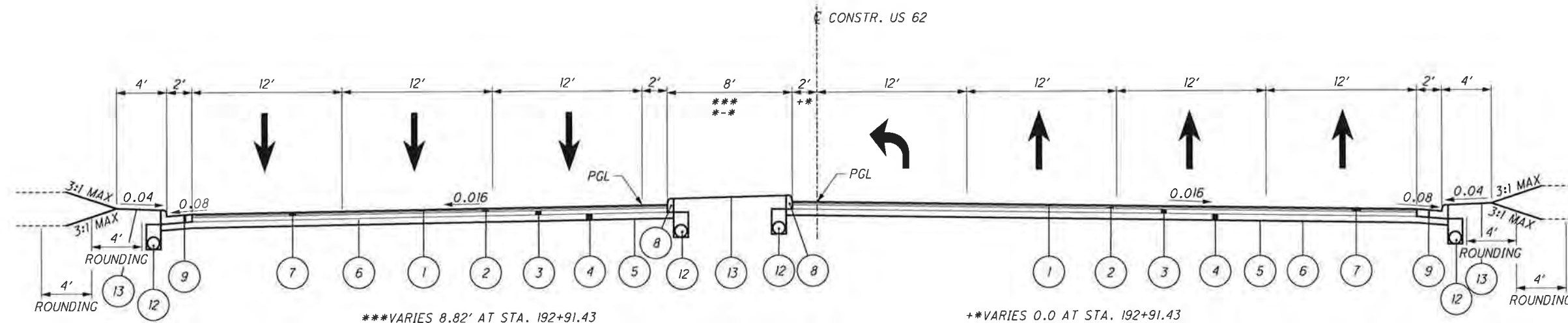
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NORMAL SECTION - US 62
STA 195+17.00 TO STA. 196+34.26



NORMAL SECTION - US 62
STA 194+61.01 TO STA. 195+17.00



***VARIES 8.82' AT STA. 192+91.43
TO 2.00' AT STA. 193+02.13
*-VARIES 8.00' AT STA. 194+23.78
TO 4.00' AT STA. 194+61.01

NORMAL SECTION - US 62
STA 192+91.43 TO STA. 194+61.01

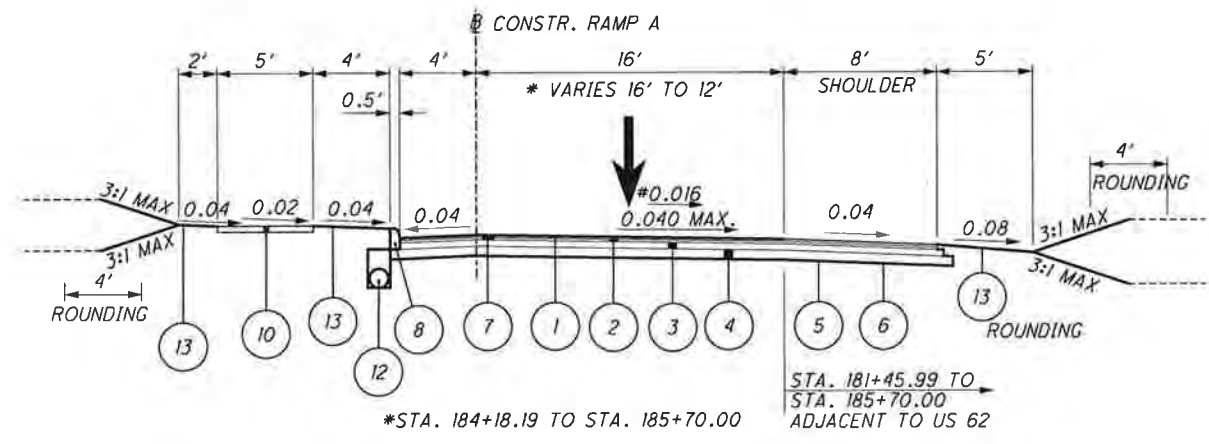
**VARIES 0.0 AT STA. 192+91.43
TO 2.00' AT STA. 193+02.13

FOR LEGEND SEE SHEET 4

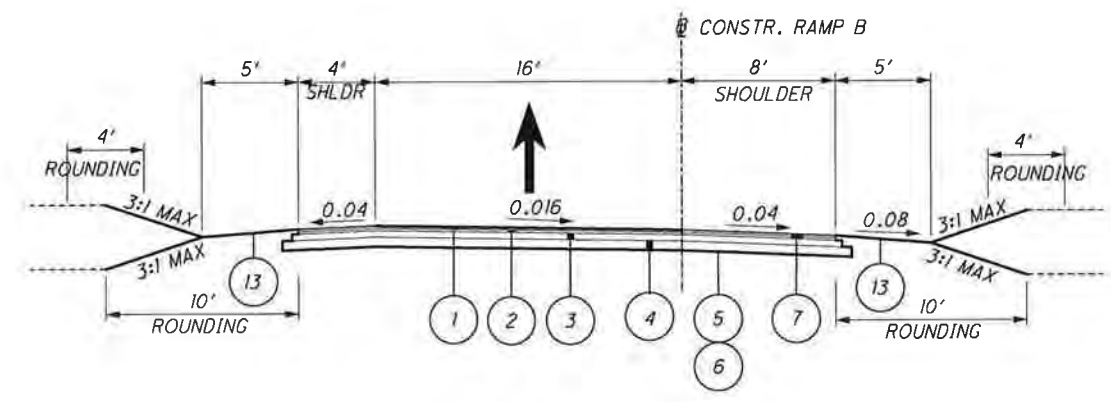
TYPICAL SECTIONS - US 62

STA-62-24.05

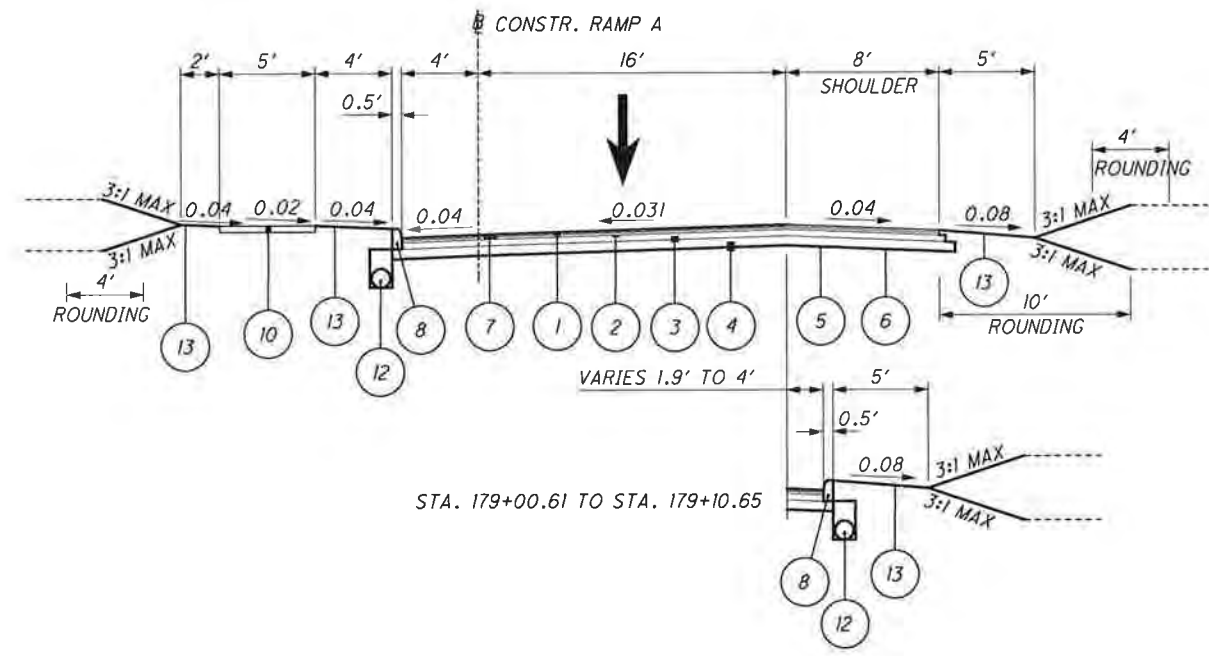
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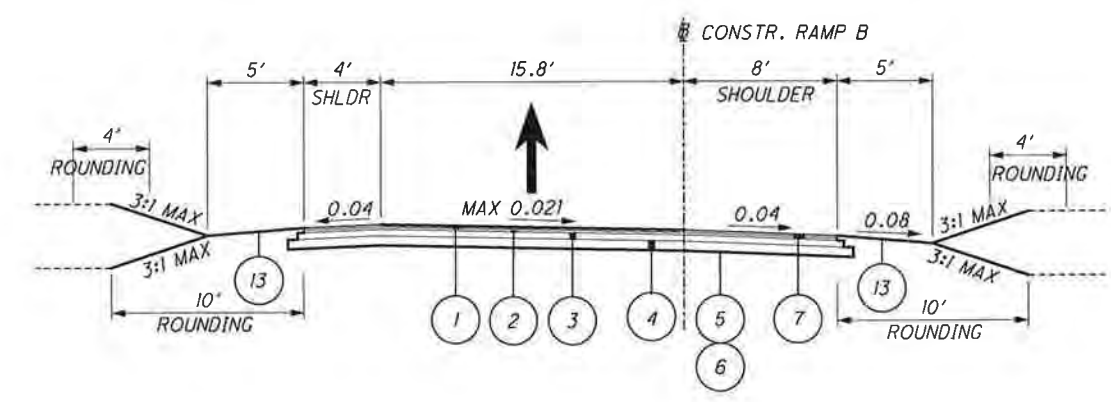
SUPERELEVATED SECTION - RAMP A
 #STA. 181+21.79 TO STA. 181+32.05
 STA. 181+32.05 TO STA. 185+70.00



NORMAL SECTION - RAMP B
 STA. 4175+96.39 TO STA. 4176+00.00



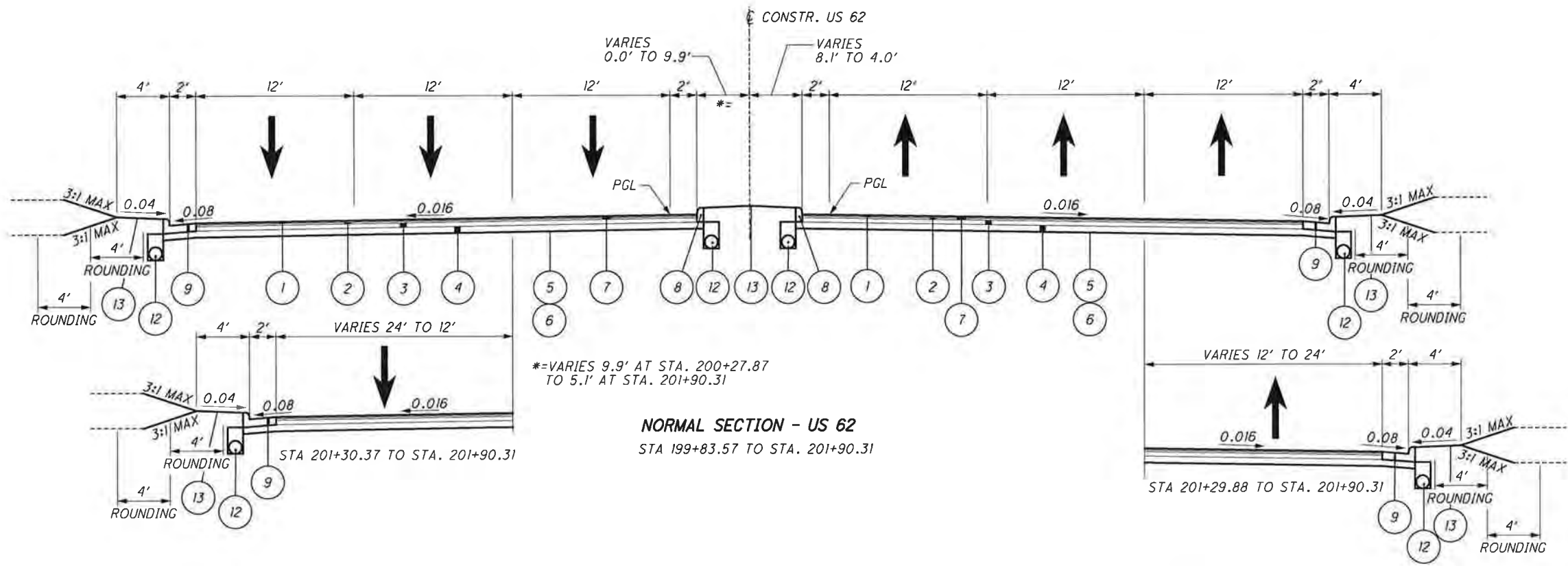
SUPERELEVATED SECTION - RAMP A
 STA. 179+00.61 TO STA. 181+21.79



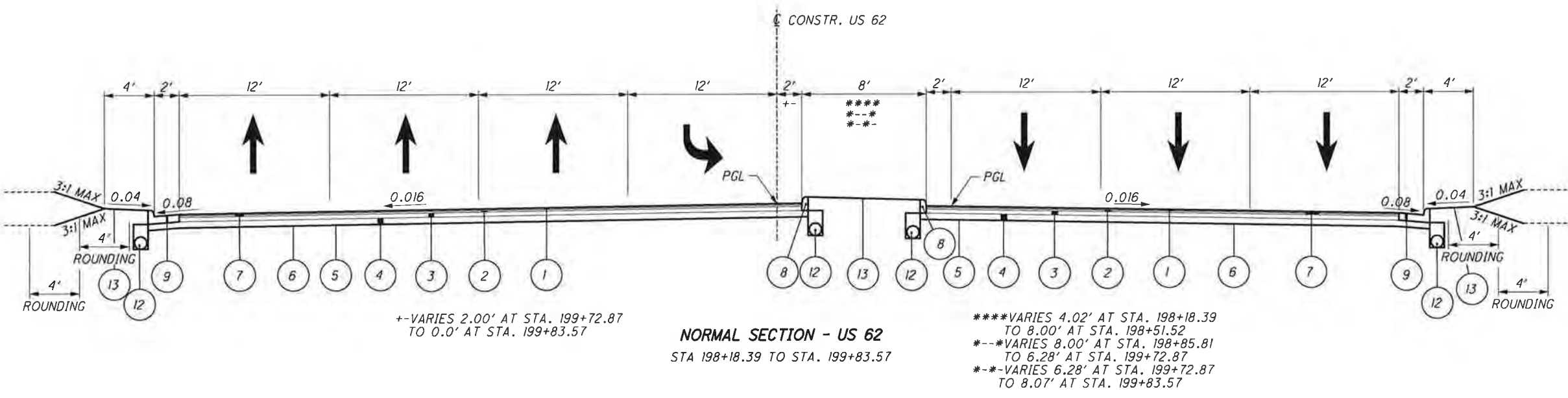
SUPERELEVATED SECTION - RAMP B
 STA. 4171+75.00 TO STA. 4175+96.39

FOR LEGEND SEE SHEET 4

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NORMAL SECTION - US 62
 STA 199+83.57 TO STA. 201+90.31

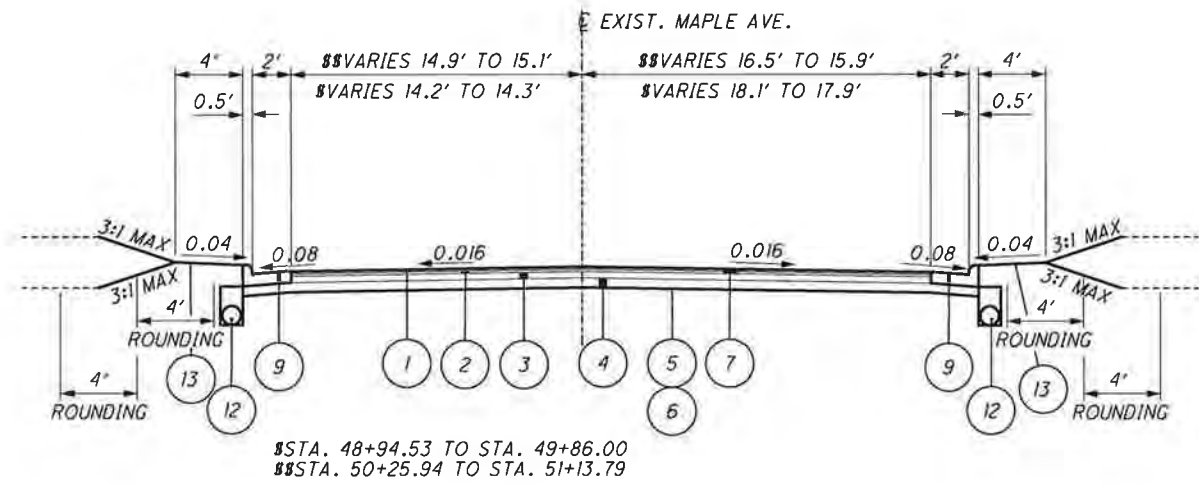


NORMAL SECTION - US 62
 STA 198+18.39 TO STA. 199+83.57

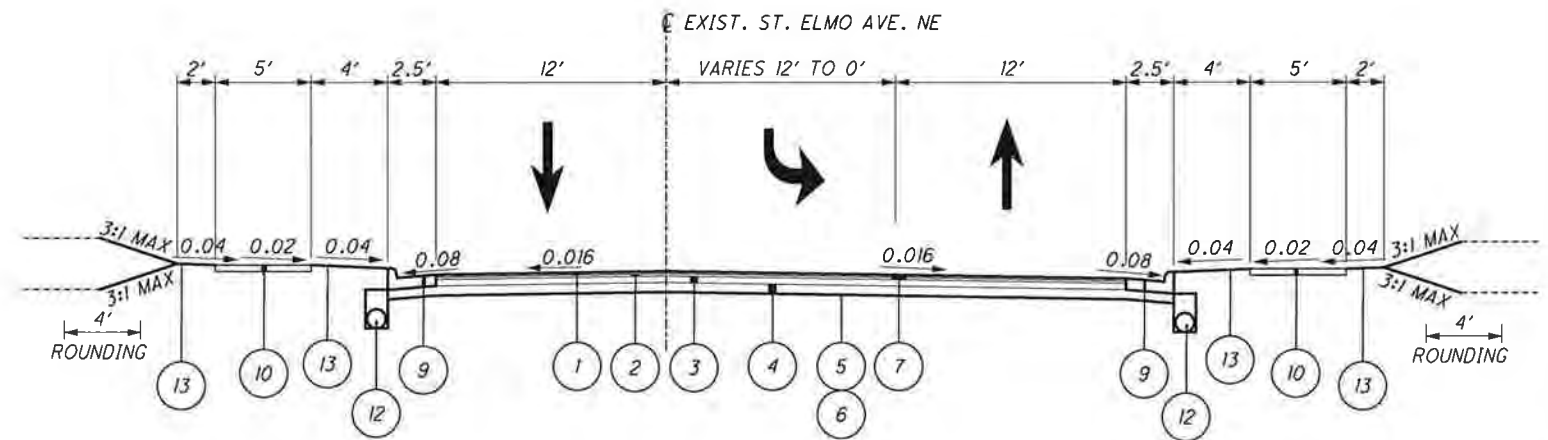
TYPICAL SECTIONS - US 62

STA-62-24.05

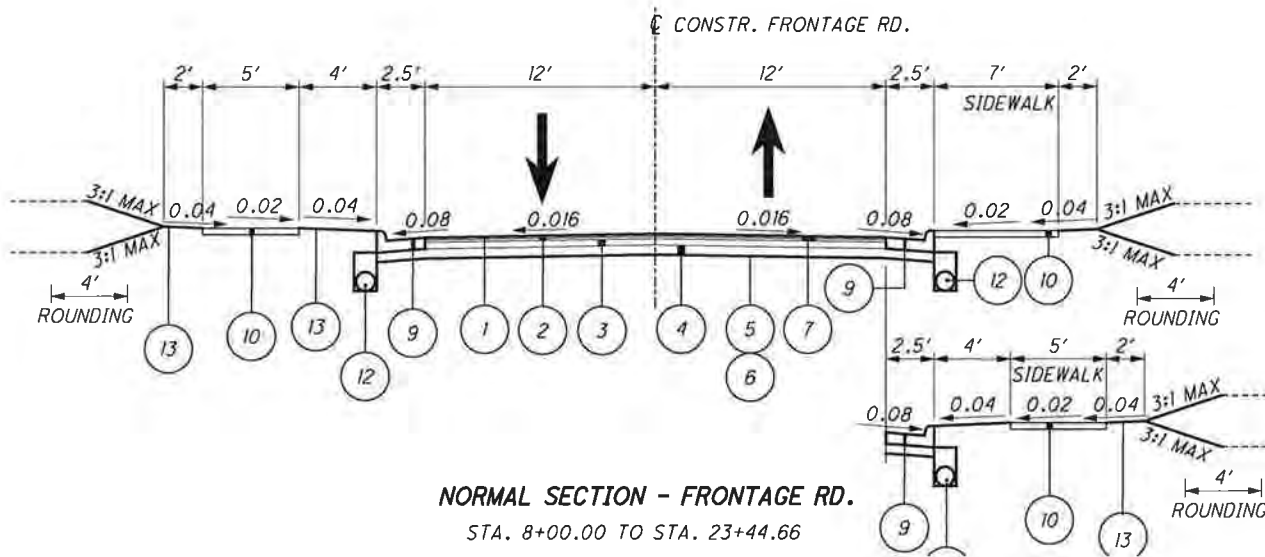
FOR LEGEND SEE SHEET 4



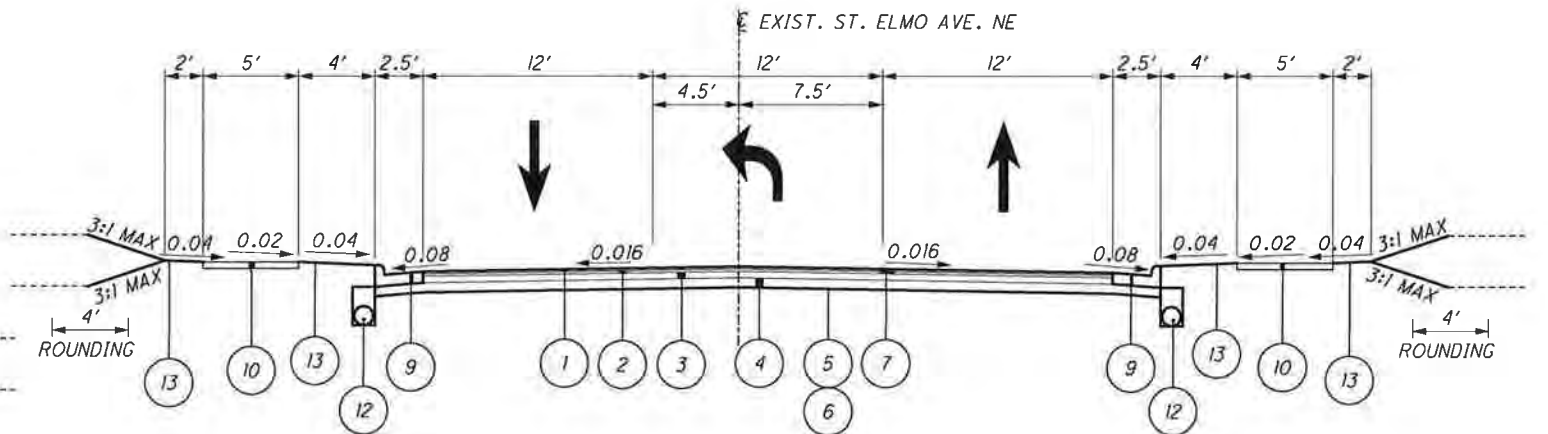
NORMAL SECTION - MAPLE AVE.
 STA. 48+94.53 TO STA. 51+13.79



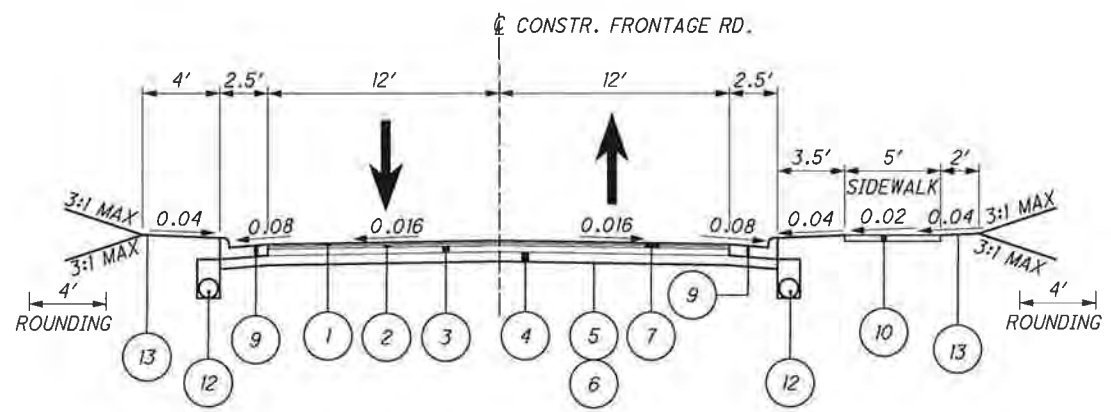
NORMAL SECTION - ST. ELMO AVE. NE
 STA. 30+99.50 TO STA. 33+00.00



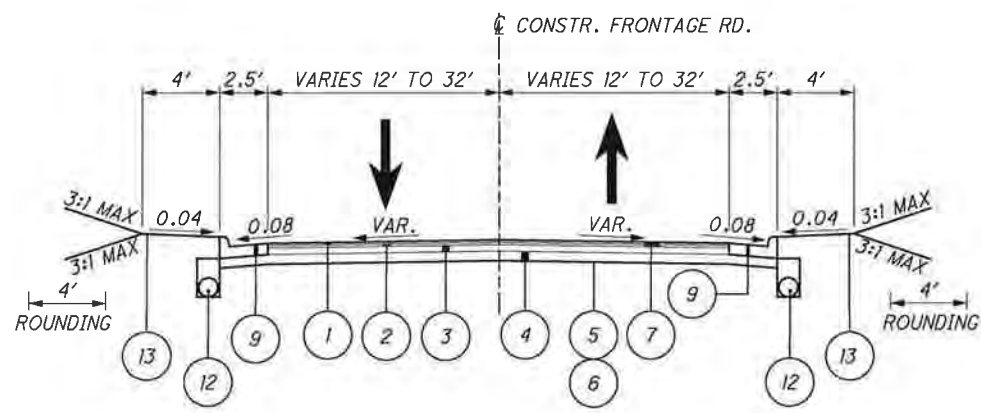
NORMAL SECTION - FRONTAGE RD.
 STA. 8+00.00 TO STA. 23+44.66



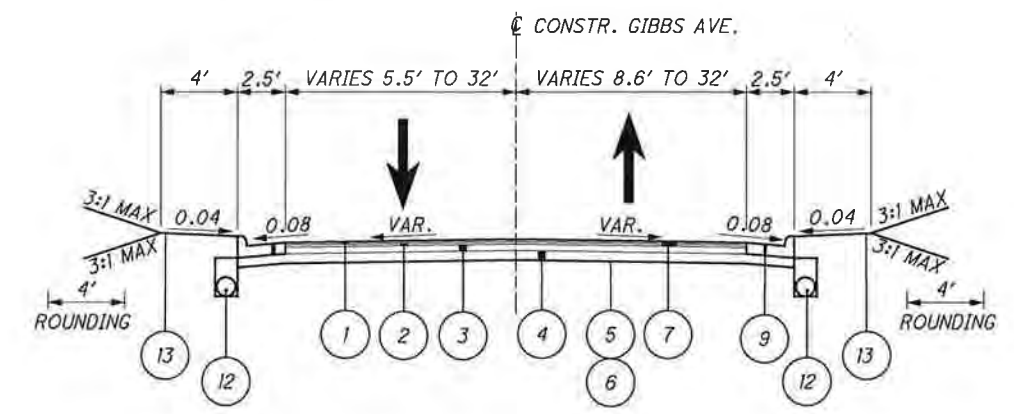
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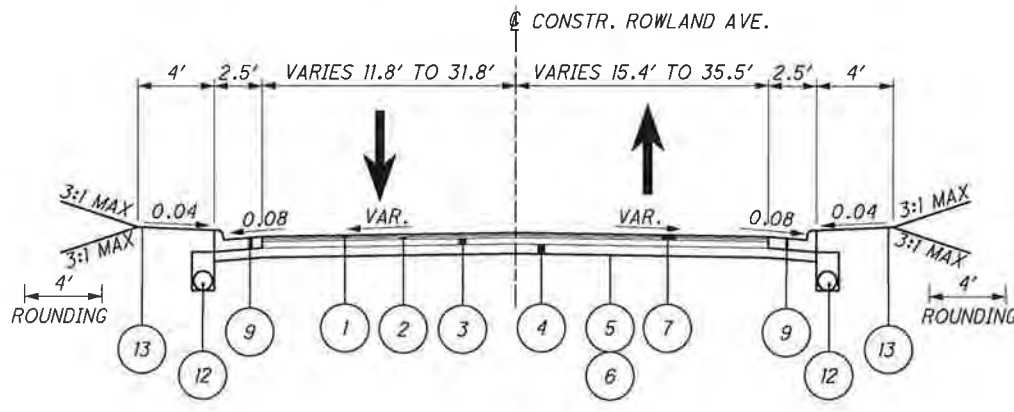
FRONTAGE RD.
STA. 23+44.66 TO STA. 26+10.22 FRONTAGE RD.



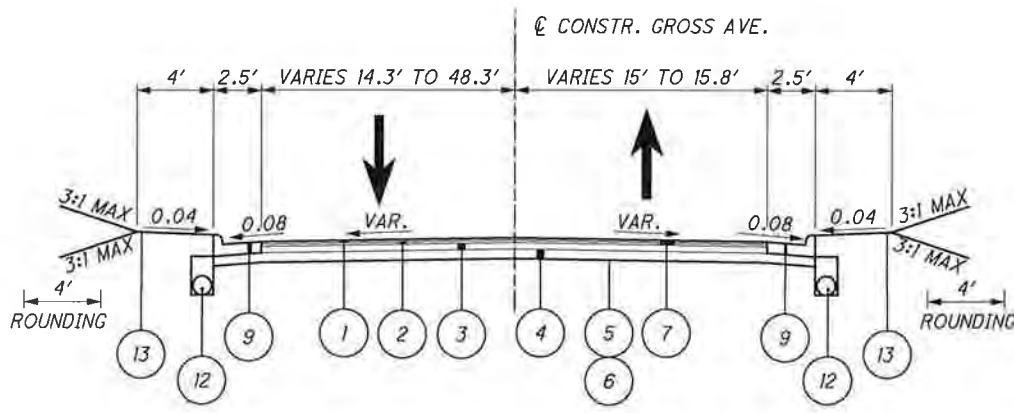
FRONTAGE RD.
STA. 26+10.22 TO STA. 26+53.62 FRONTAGE RD.



GIBBS AVE.
STA. 11+09.29 TO STA. 12+00.11 GIBBS AVE.



ROWLAND AVE.
STA. 21+62.78 TO STA. 22+02.90 ROWLAND AVE.



GROSS AVE.
STA. 41+50.88 TO STA. 42+04.20 GROSS AVE.

FOR LEGEND SEE SHEET 4 .

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UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AEP
GREG KING
120 JOHN SCOTT HIGHWAY
STEUBENVILLE, OHIO 43952
PHONE: (740) 266-3025
CELL: (740) 381-4393
E-MAIL: gaking@aep.com

AT&T
HAROLD MAYNARD
50 WEST BOWERY STREET
AKRON, OHIO 44308
PHONE: (330) 384-8974
CELL: (216) 548-1674
E-MAIL: hm2147@att.com

CITY OF EAST LIVERPOOL
PLANNING/ENGINEERING
WILLIAM L. COWAN
126 WEST SIXTH STREET
EAST LIVERPOOL, OHIO 43920
PHONE: (330) 385-5394

COLUMBIA GAS
CHRISTIAN RILEY
1020 WEST STATE STREET
SALEM, OHIO 44460
PHONE: (724) 454-0256
E-MAIL: cjriley@nisource.com

TRANSCANADA
(COLUMBIA GAS TRANSMISSION)
SAM SCRIVA
4115 CORK BOCKTOWN ROAD
CLINTON, PENNSYLVANIA 15026
PHONE: (724) 250-0786
E-MAIL: samuel.scriva@transcanada.com

COMCAST
DAVE TATAREK
2810 DARLINGTON ROAD
BEAVER FALLS, PENNSYLVANIA 15010
PHONE: (724) 384-2416
CELL: (412) 897-8202
E-MAIL: dave_tatarek@cable.comcast.com

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CALCULATED
XXX
CHECKED
XXX

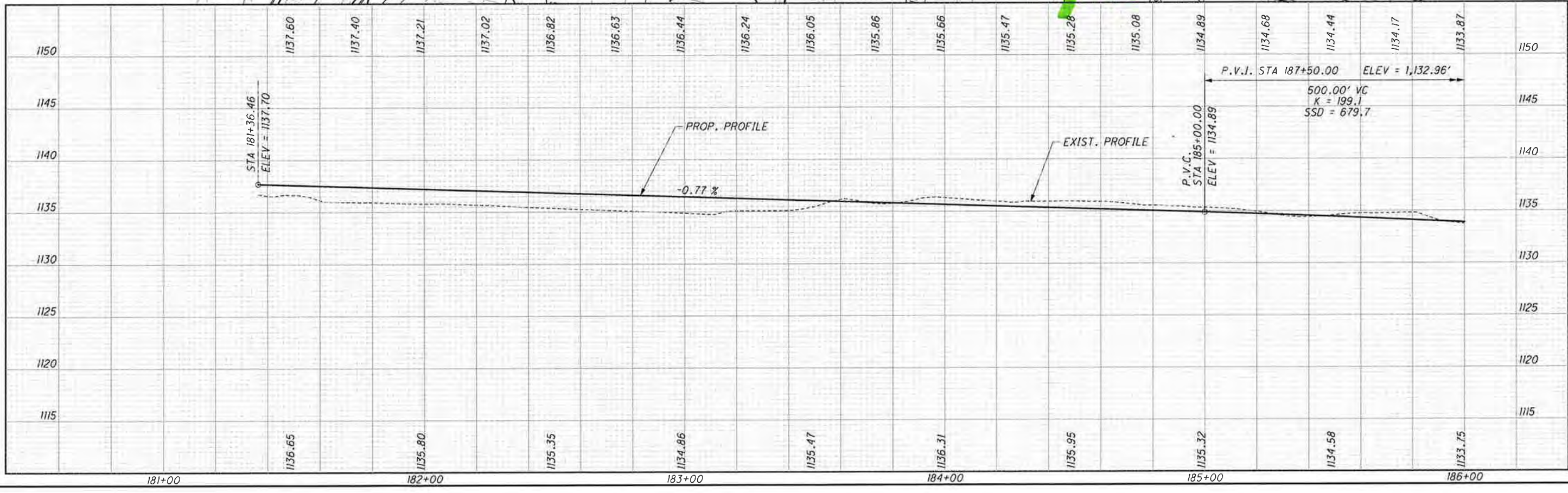
GENERAL NOTES

STA - 62 - 24.05

13
119



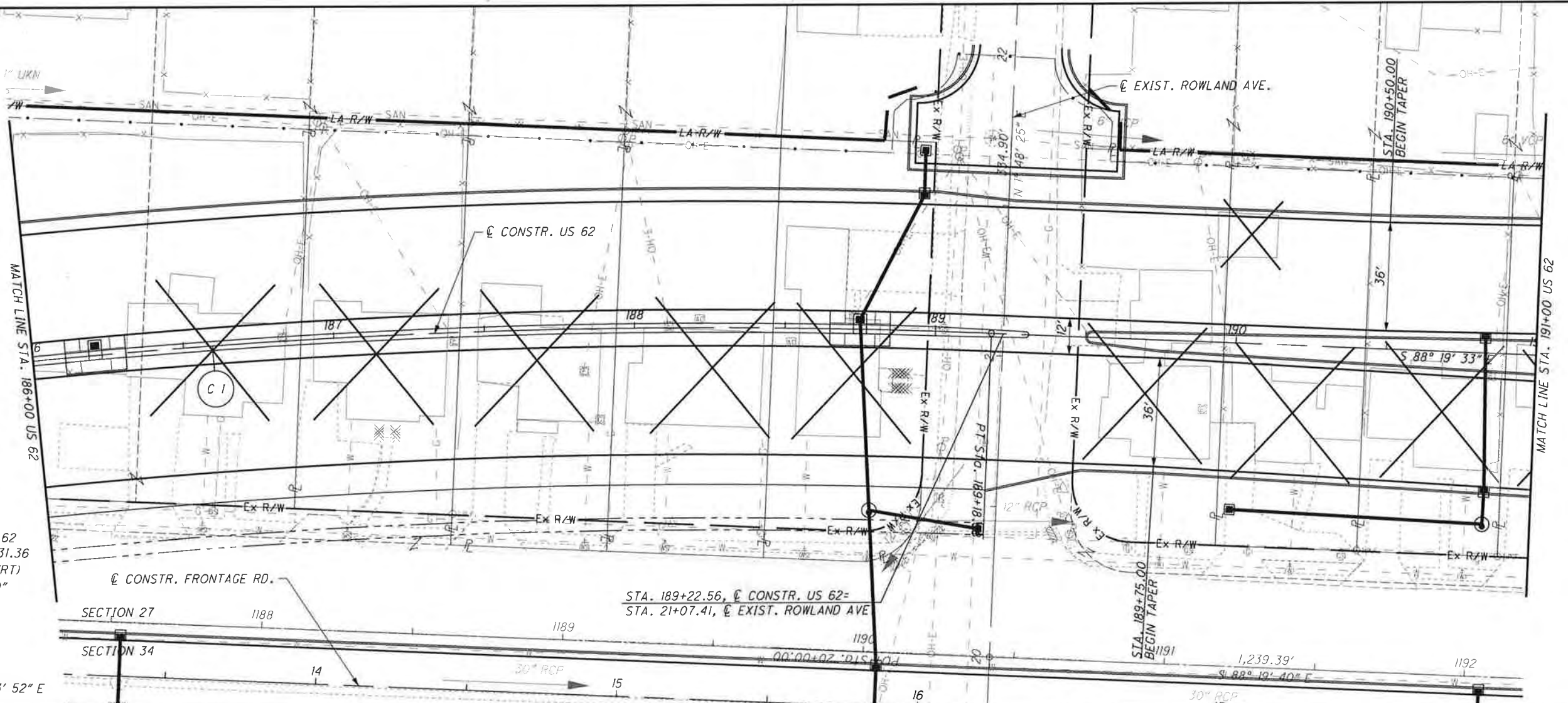
CURVE DATA
 C1
 C CONSTR. US 62
 P.I. Sta. 185+31.36
 $\Delta = 19^\circ 33' 11''$ (RT)
 $D_c = 2^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 394.90'$
 $L = 782.12'$
 $E = 33.77'$
 $C = 778.33'$
 C.B. = $N 81^\circ 53' 52'' E$



CALCULATED XXX
 CHECKED XXX
PLAN AND PROFILE - US 62
STA 181+36.46 TO STA 186+00

STA-62-24.05
 14
 119

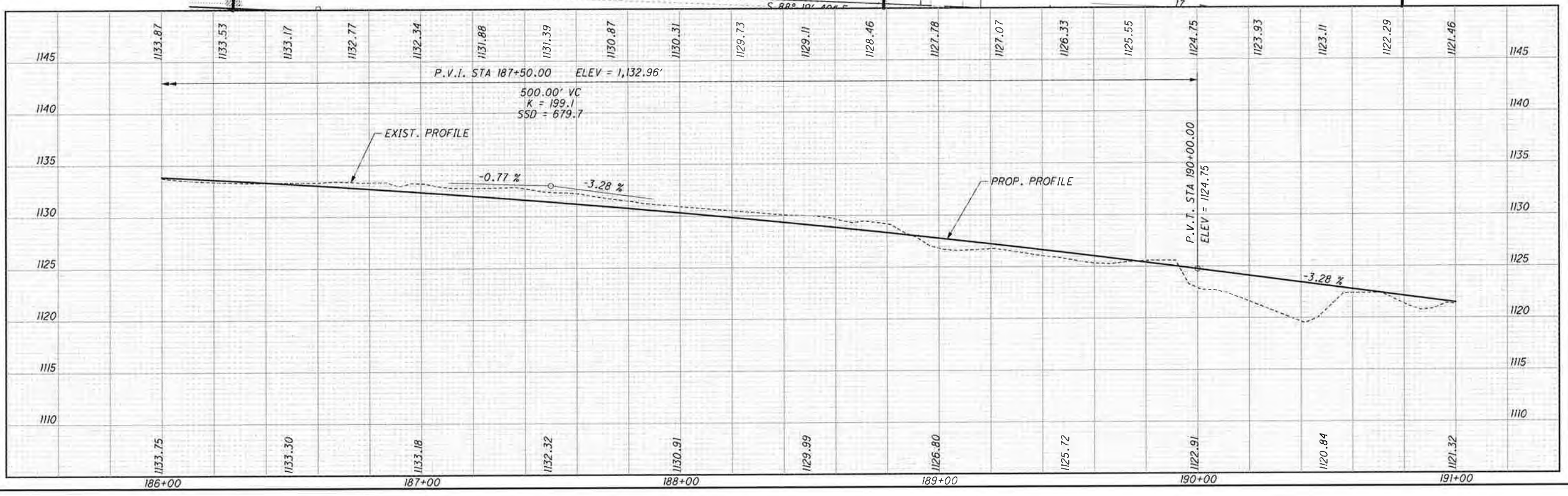
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CURVE DATA

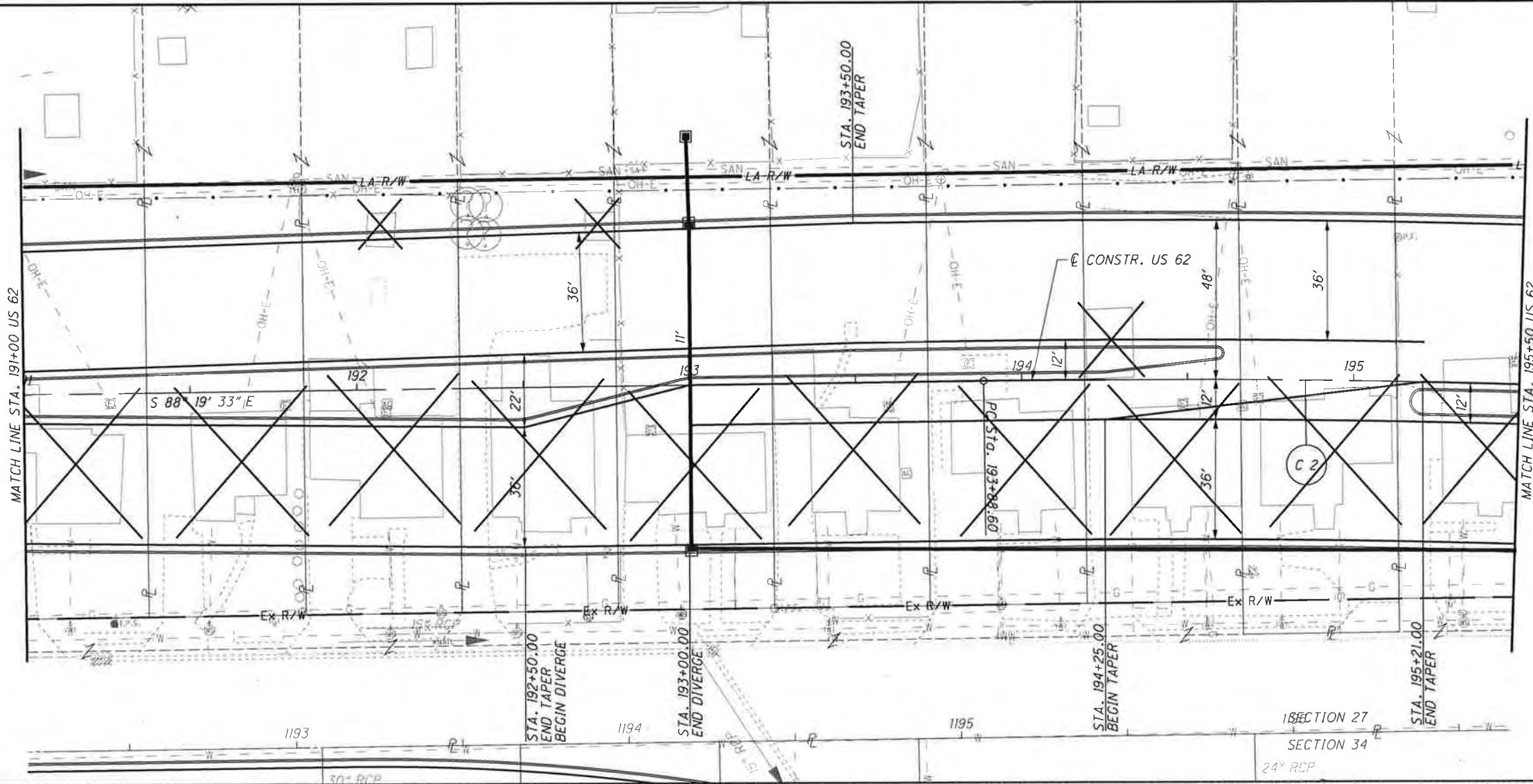
C1

- CL CONSTR. US 62
- P.I. Sta. 185+31.36
- $\Delta = 19^\circ 33' 11''$ (RT)
- $D_c = 2^\circ 30' 00''$
- $R = 2,291.83'$
- $T = 394.90'$
- $L = 782.12'$
- $E = 33.77'$
- $C = 778.33'$
- C.B. = $N 81^\circ 53' 52'' E$

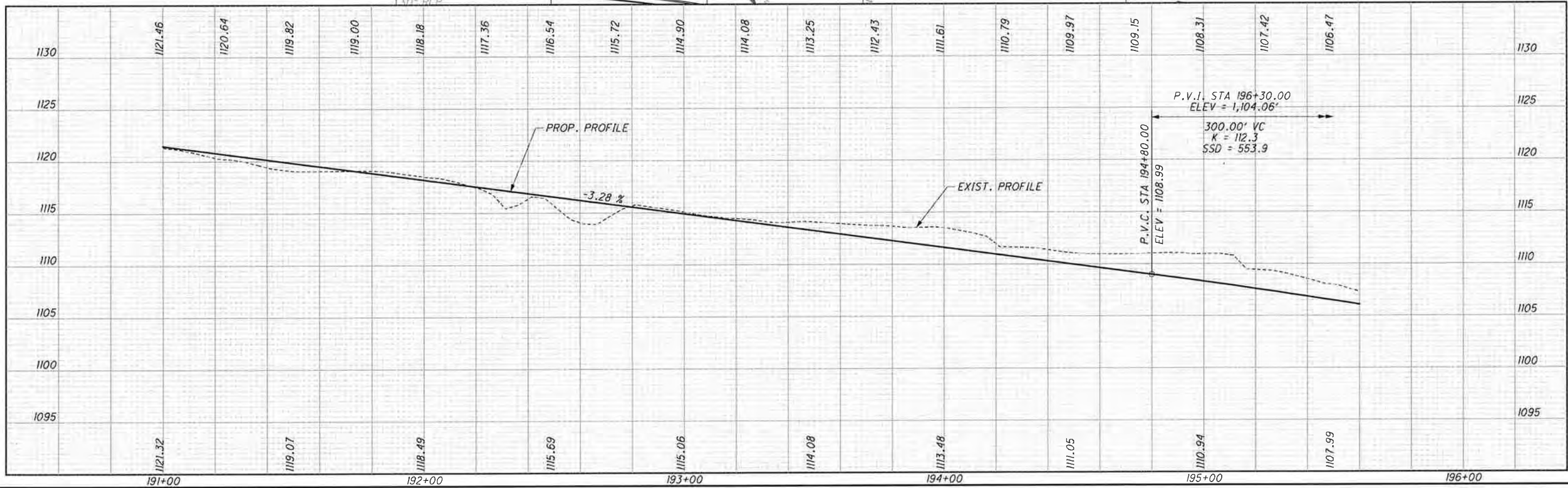


PLAN AND PROFILE - US 62
STA 186+00 TO STA 191+00

STA-62-24.05



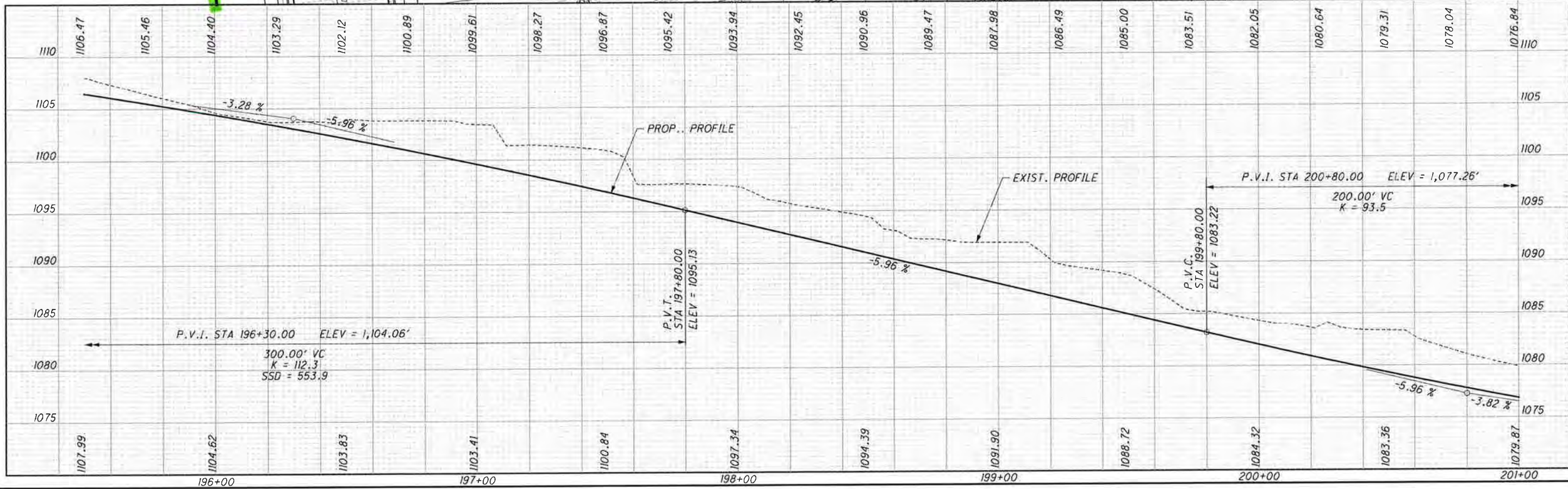
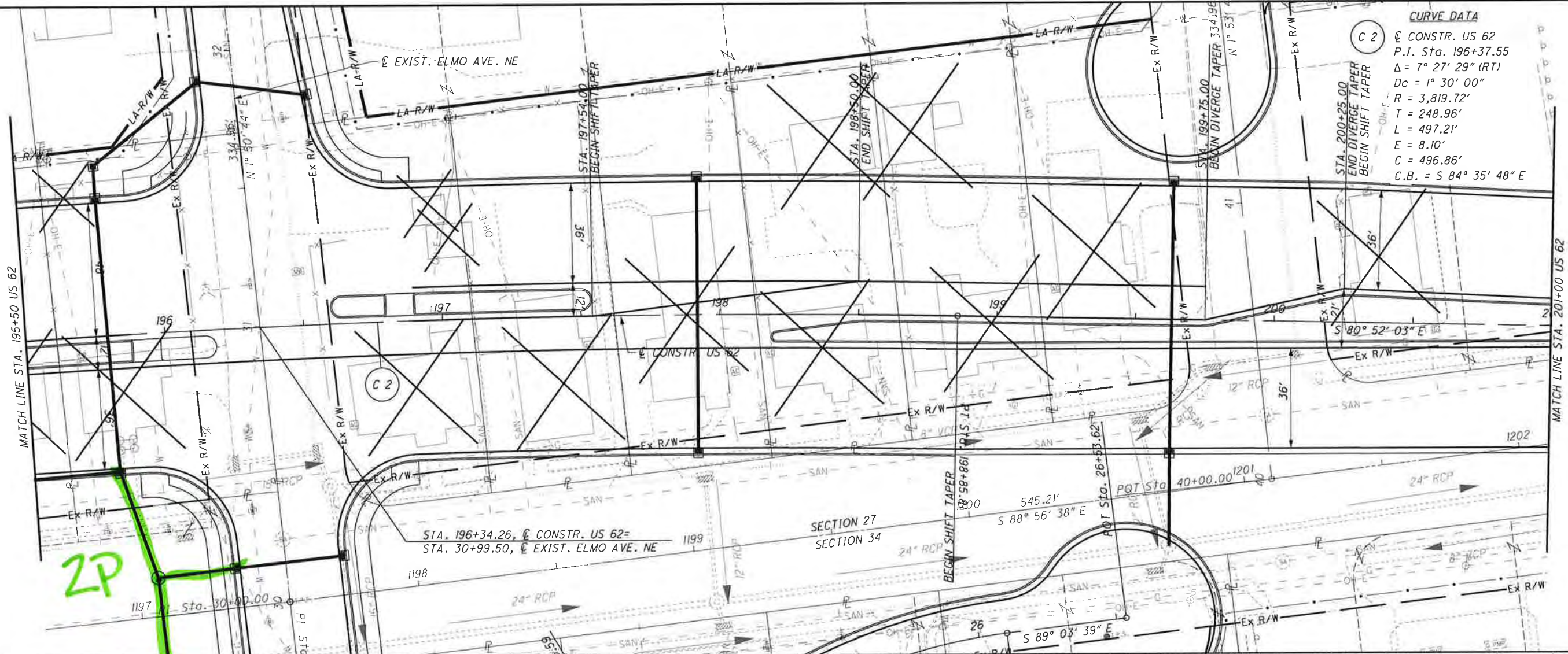
C 2 CURVE DATA
 P.I. Sta. 196+37.55
 $\Delta = 7^\circ 27' 29''$ (RT)
 $D_c = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 248.96'$
 $L = 497.21'$
 $E = 8.10'$
 $C = 496.86'$
 $C.B. = S 84^\circ 35' 48'' E$



CALCULATED XXX
 CHECKED XXX

**PLAN AND PROFILE - US 62
 STA 191+00 TO STA 195+50**

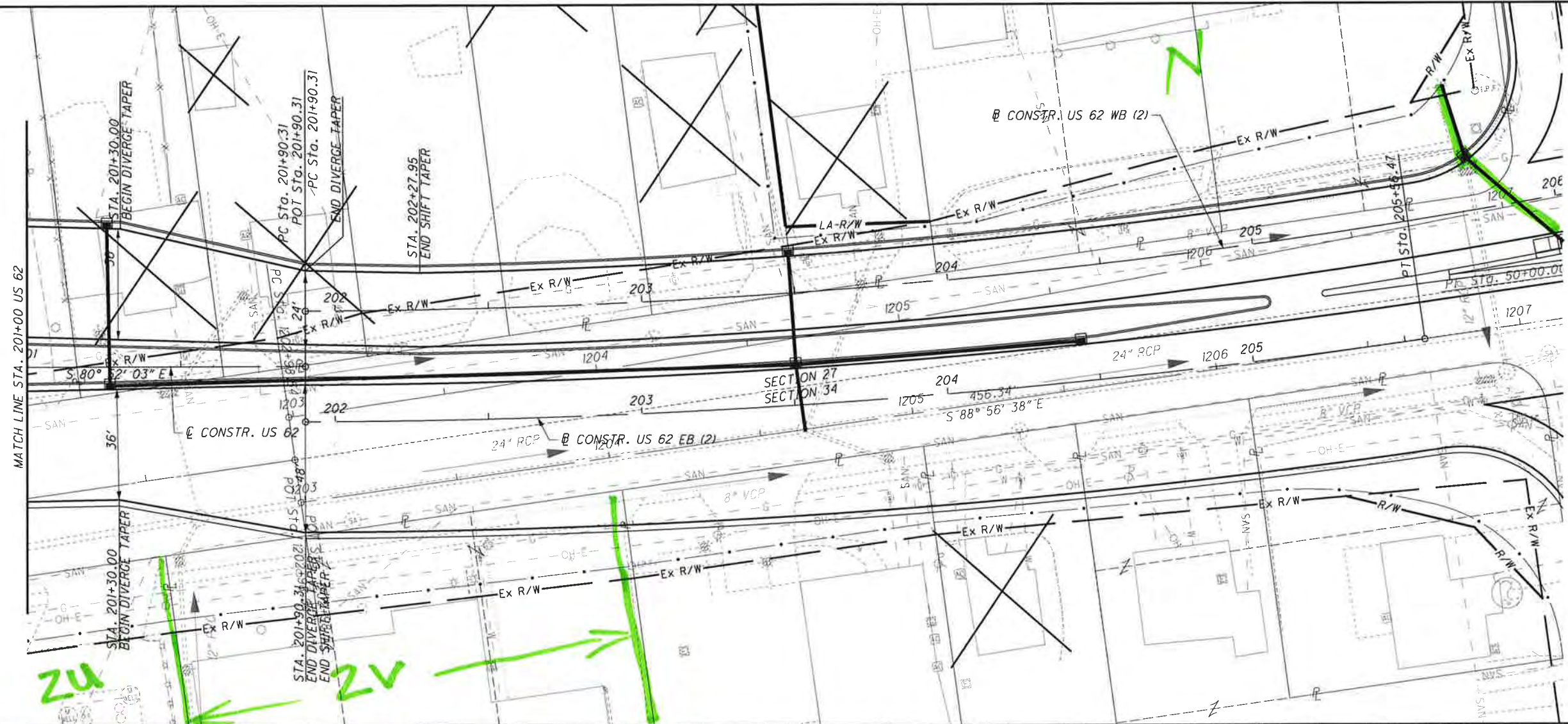
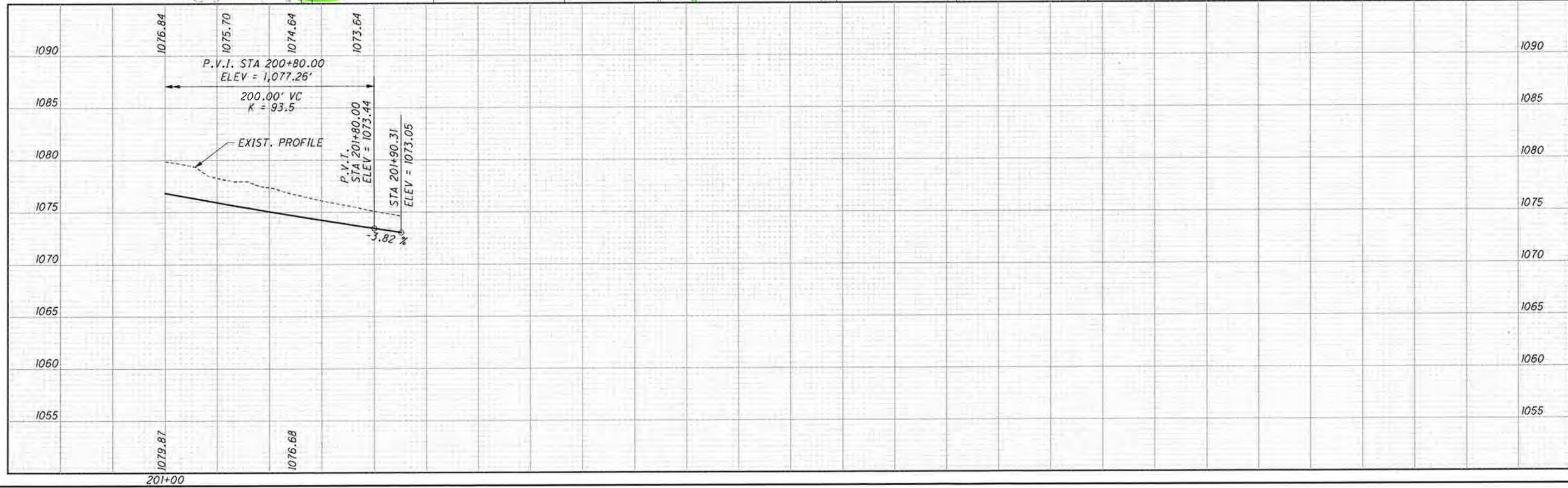
STA-62-24.05



PLAN AND PROFILE - US 62
STA 195+50 TO STA 201+00

STA-62-24.05

CALCULATED 0
XXX
CHECKED
XXX



STA-62-24.05

PLAN AND PROFILE - US 62
STA 201+00 TO STA 201+90.31

18
119

CALCULATED 0
XXX
CHECKED XXX

0 20 40
HORIZONTAL
SCALE IN FEET

ZU

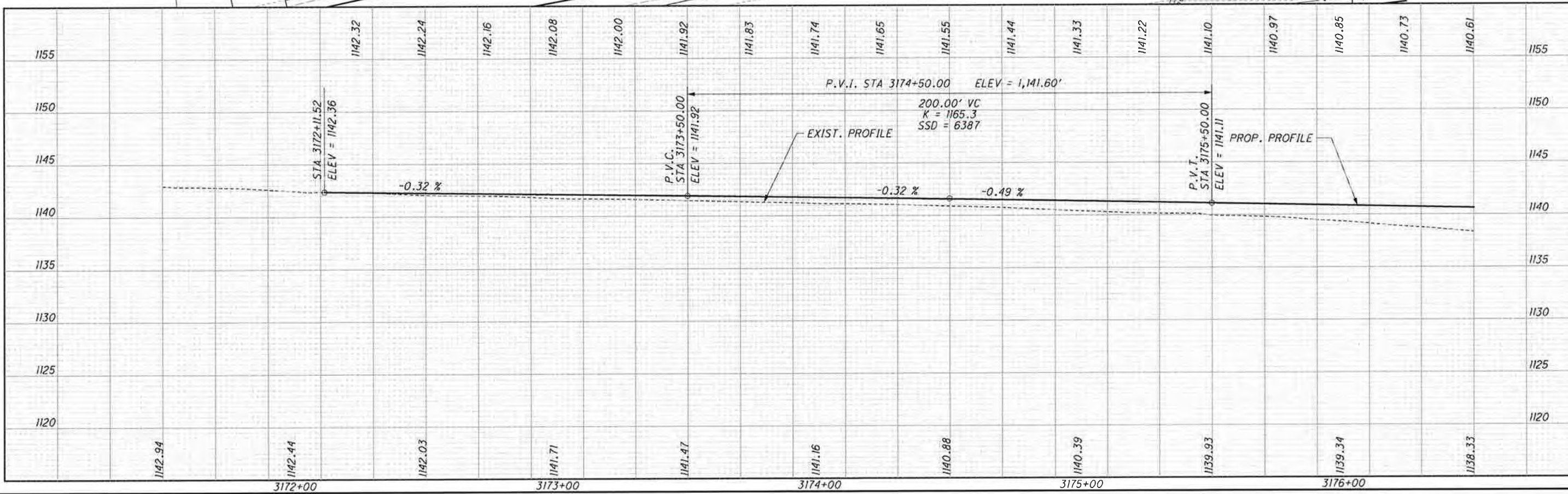
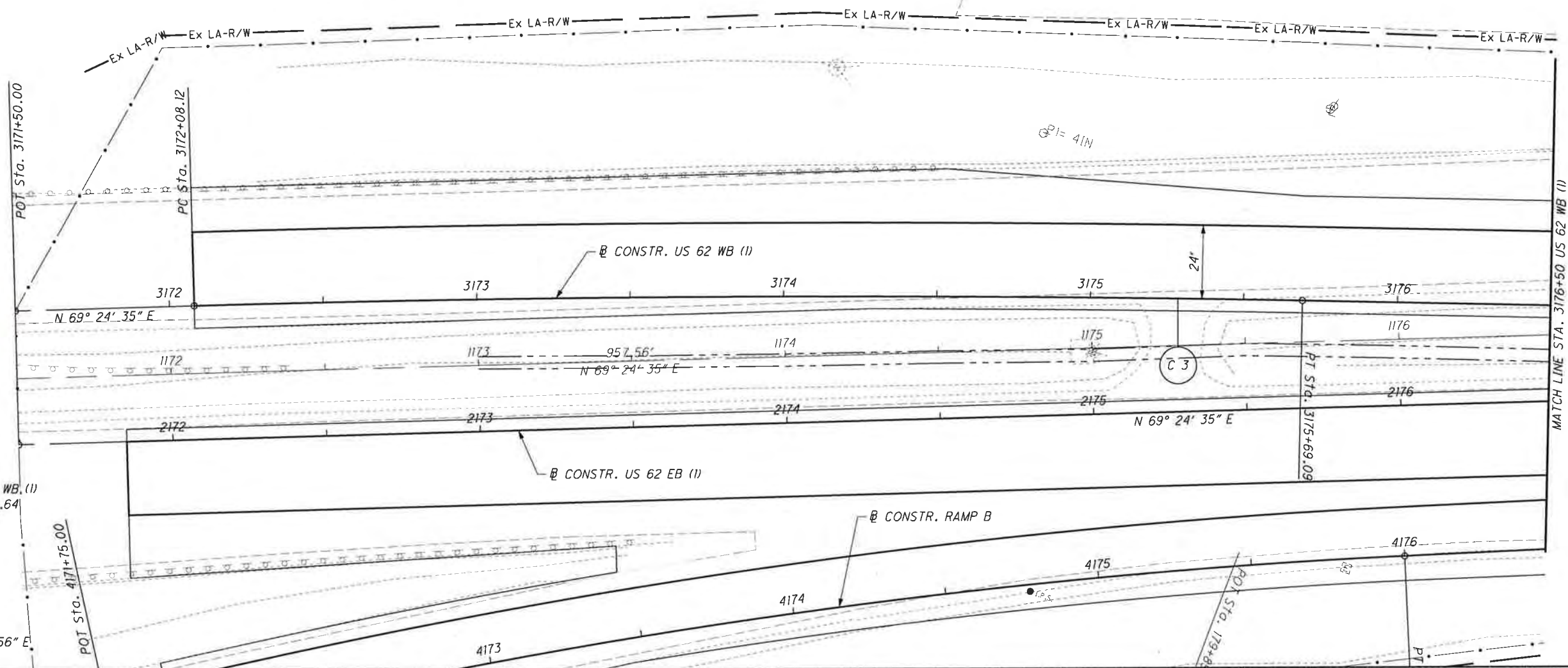
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M

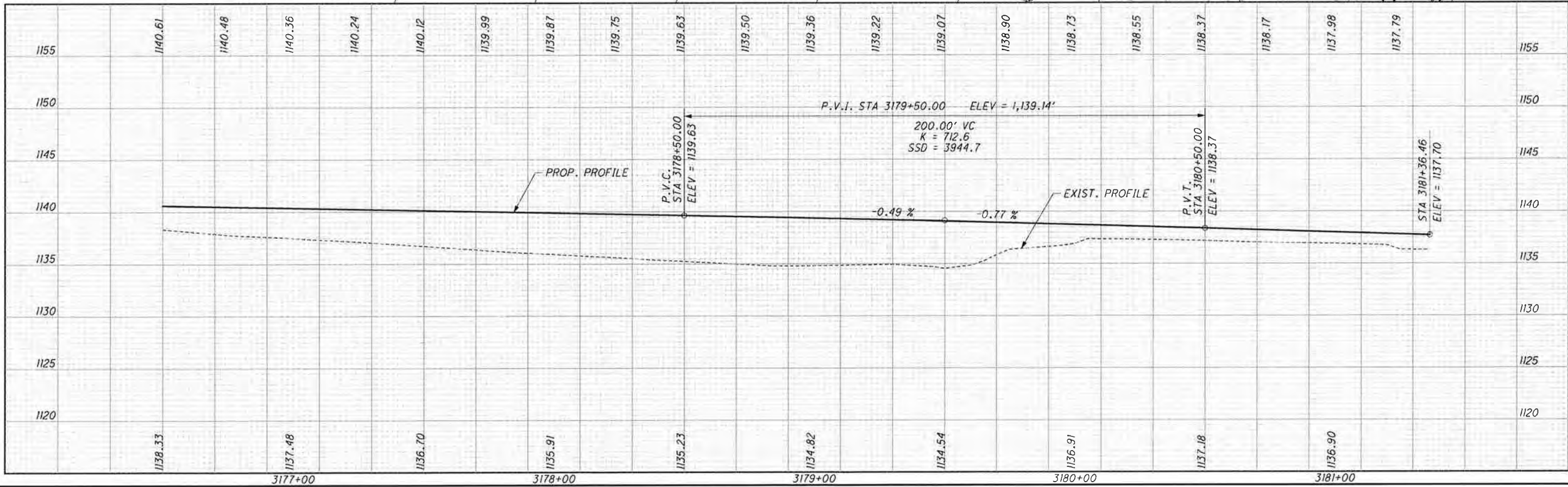
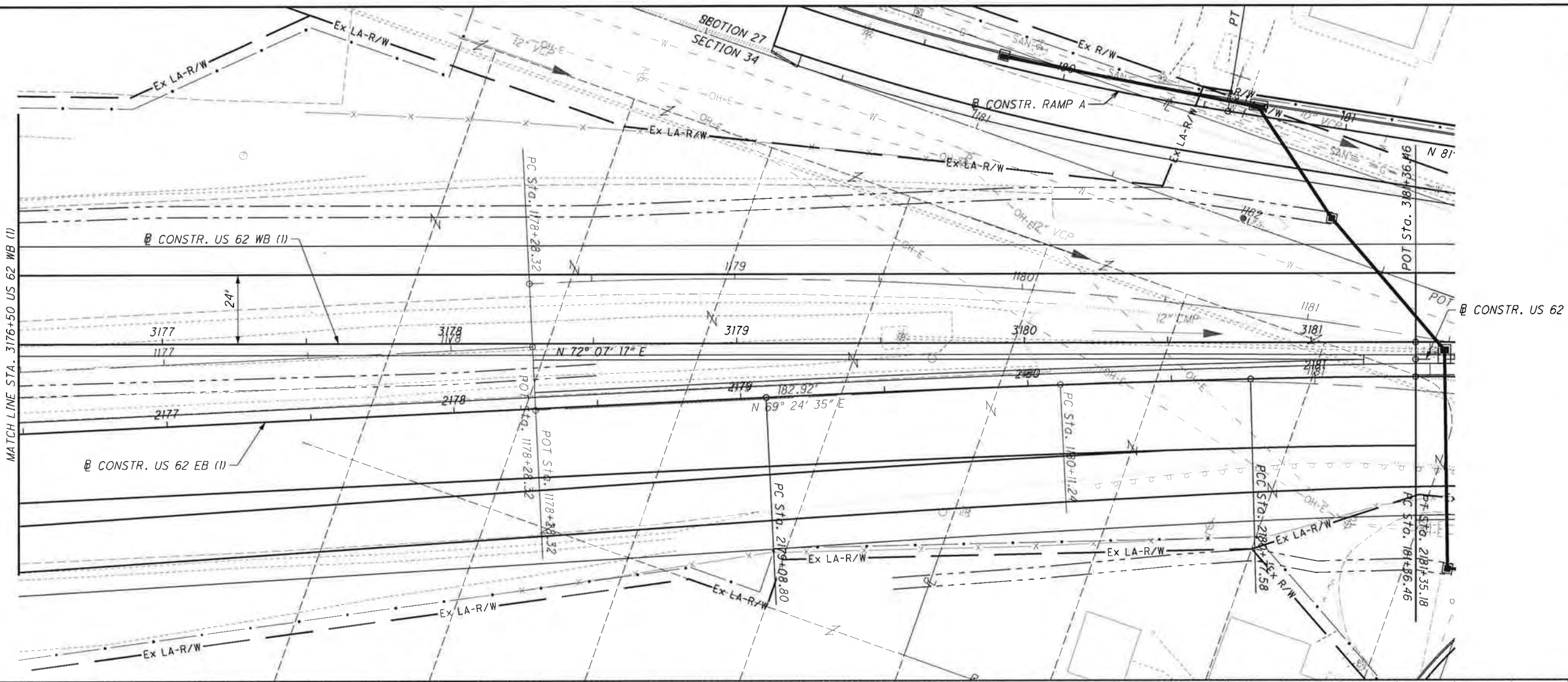
WEST END

C 3 @ CONSTR. US 62 WB (1)
 P.I. Sta. 3173+88.64
 $\Delta = 2^\circ 42' 41''$ (RT)
 $D_c = 0^\circ 45' 04''$
 $R = 7,627.44'$
 $T = 180.52'$
 $L = 360.97'$
 $E = 2.14'$
 $C = 360.93'$
 $C.B. = N 70^\circ 45' 56'' E$



PLAN AND PROFILE - US 62 WB (1)
 STA 3171+50 TO STA 3176+50

STA-62-24.05



STA -62-24.05

PLAN AND PROFILE - US 62 WB (1)

STA 3176+50 TO STA 3181+36.46

20

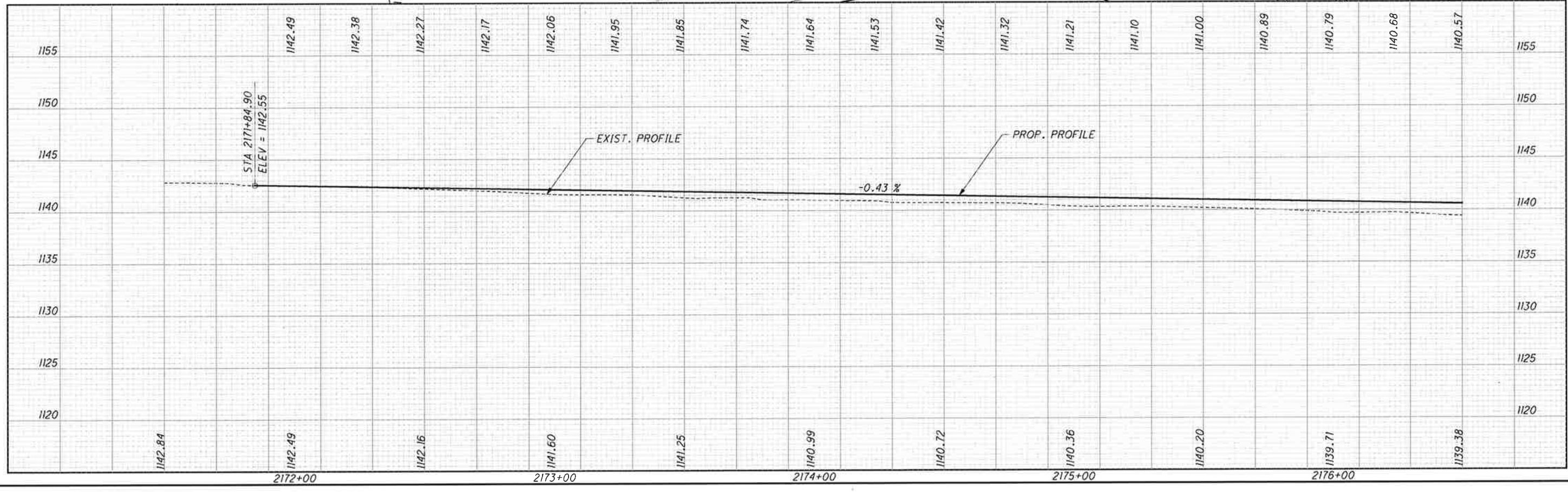
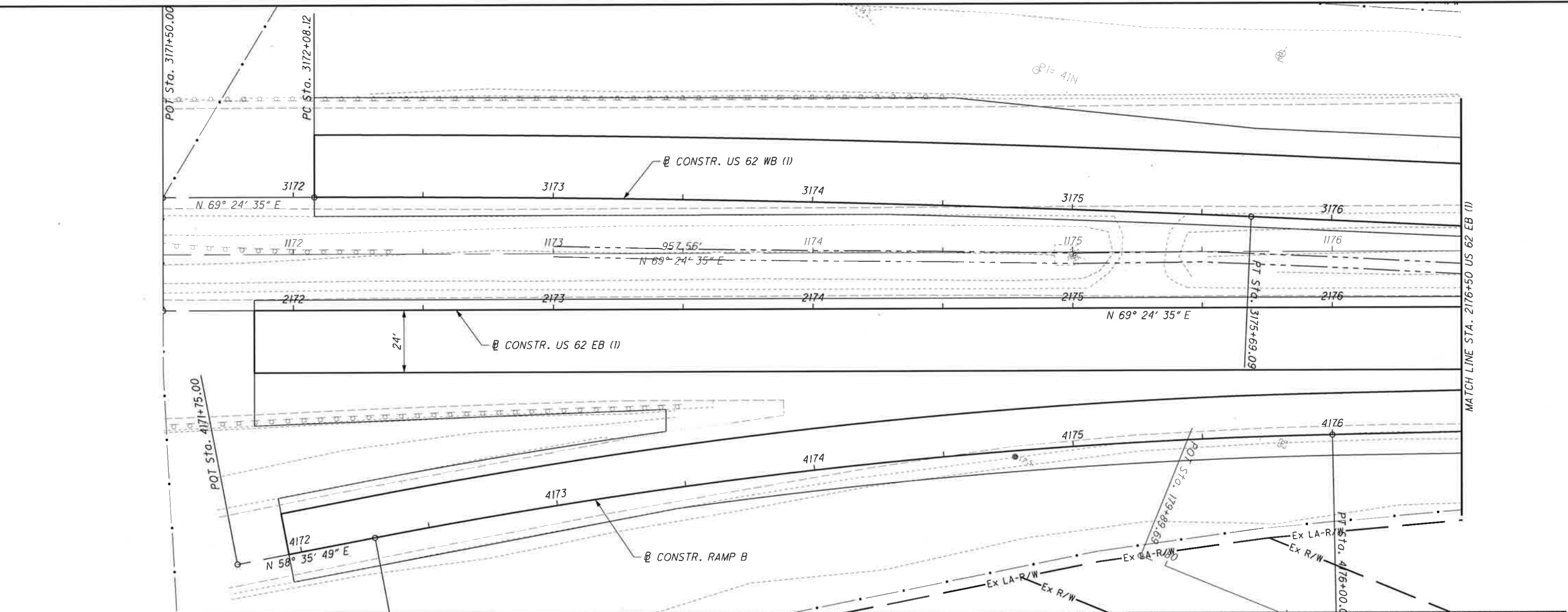
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CALCULATED XXX

CHECKED XXX

HORIZONTAL SCALE IN FEET

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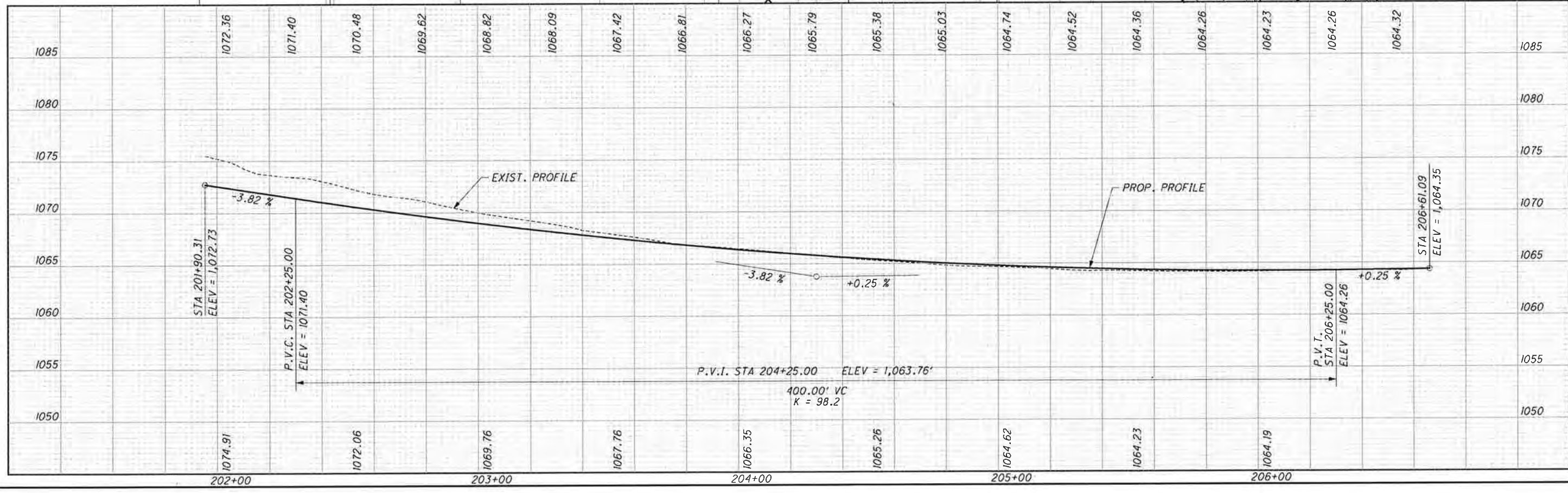
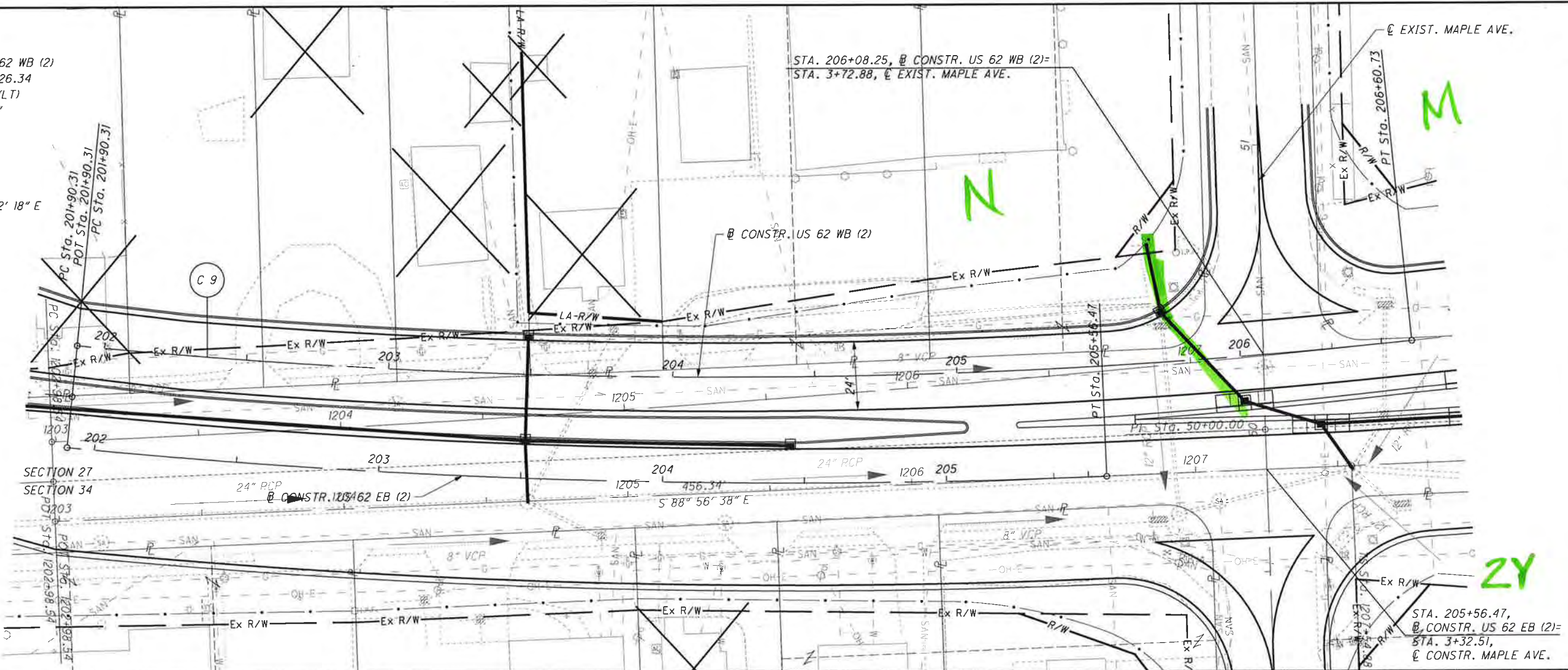
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HORIZONTAL
SCALE IN FEET

PLAN AND PROFILE - US 62 EB (1)
STA 2171+85 TO STA 2176+50

STA - 62 - 24.05

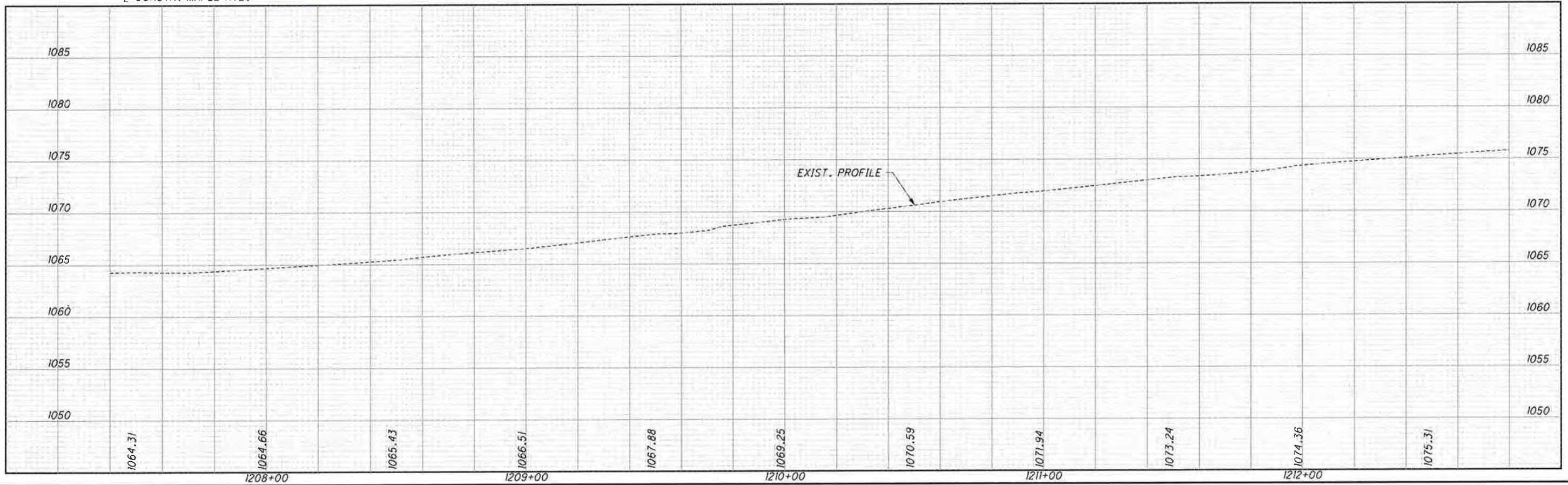
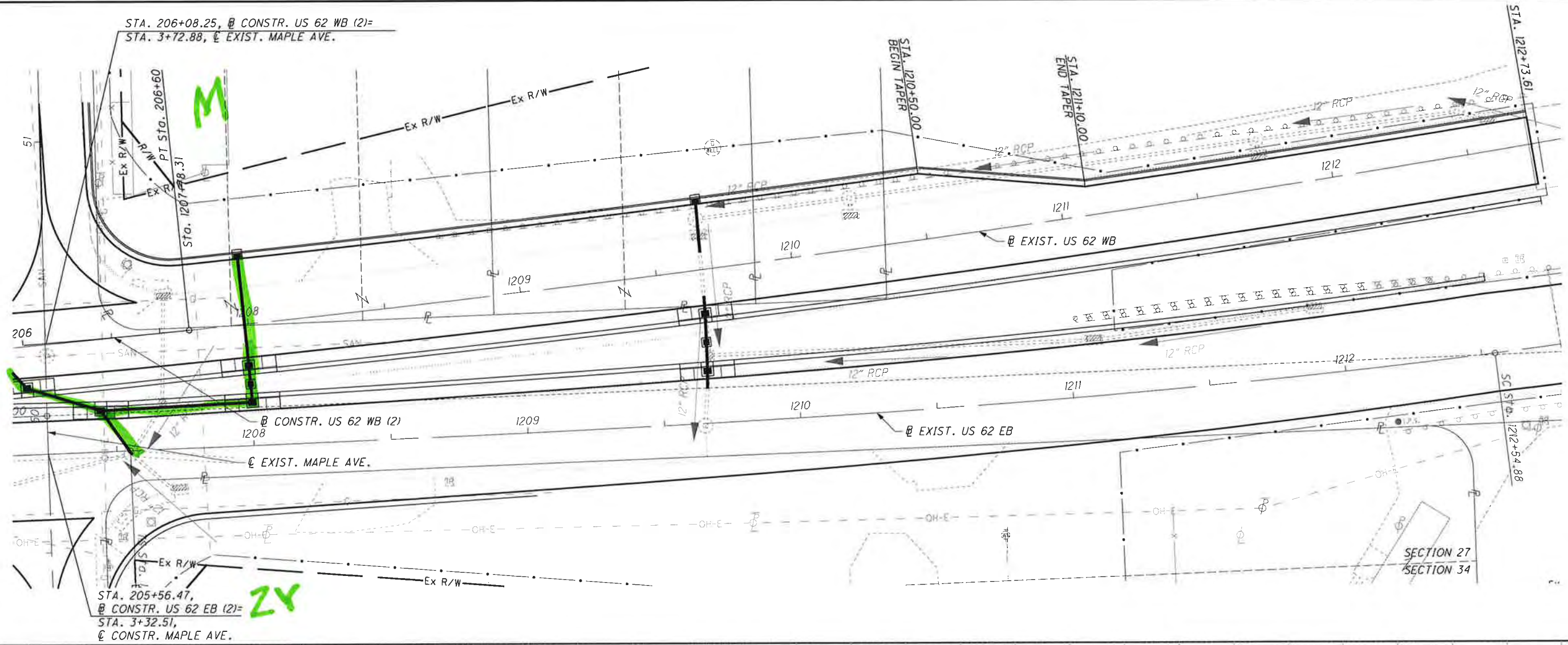
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C 9
 CURVE DATA
 @ CONSTR. US 62 WB (2)
 P.I. Sta. 204+26.34
 $\Delta = 11^\circ 40' 29''$ (LT)
 $D_c = 2^\circ 28' 54''$
 $R = 2,308.67'$
 $T = 236.03'$
 $L = 470.42'$
 $E = 12.03'$
 $C = 469.61'$
 $C.B. = S 86^\circ 42' 18'' E$



PLAN AND PROFILE - US 62 WB (2)
STA 201+90.31 TO STA 206+60.73

STA-62-24.05



STA-62-24.05

PLAN AND PROFILE - EXISTING US 62 WB
STA 1207+78.31 TO STA 1212+73.61

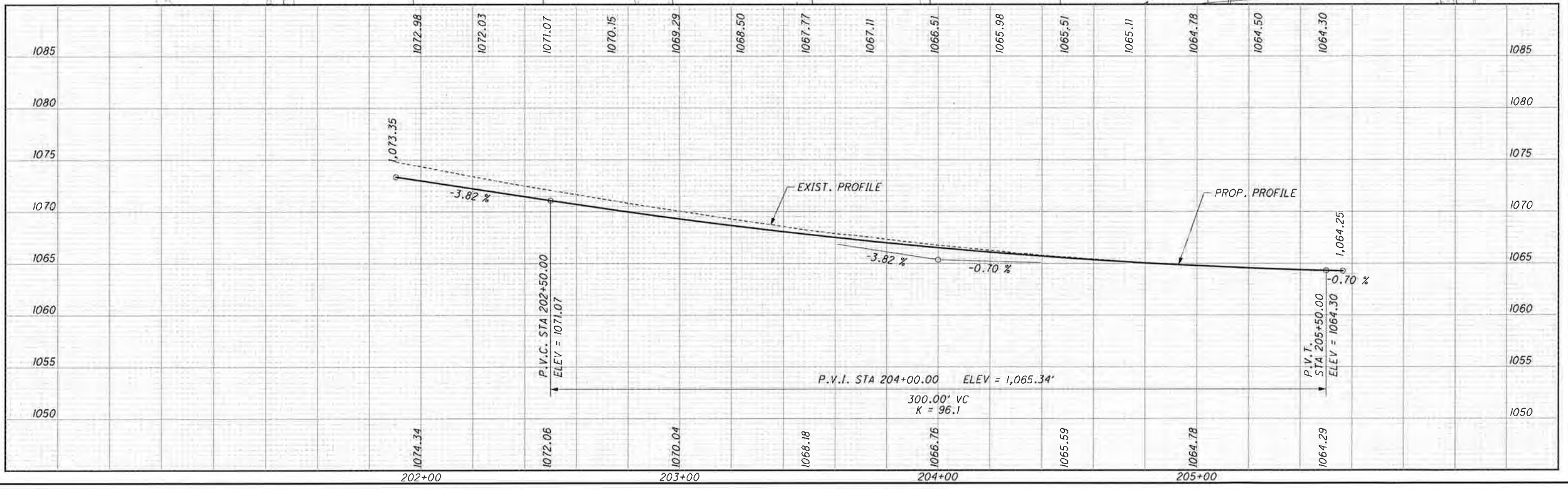
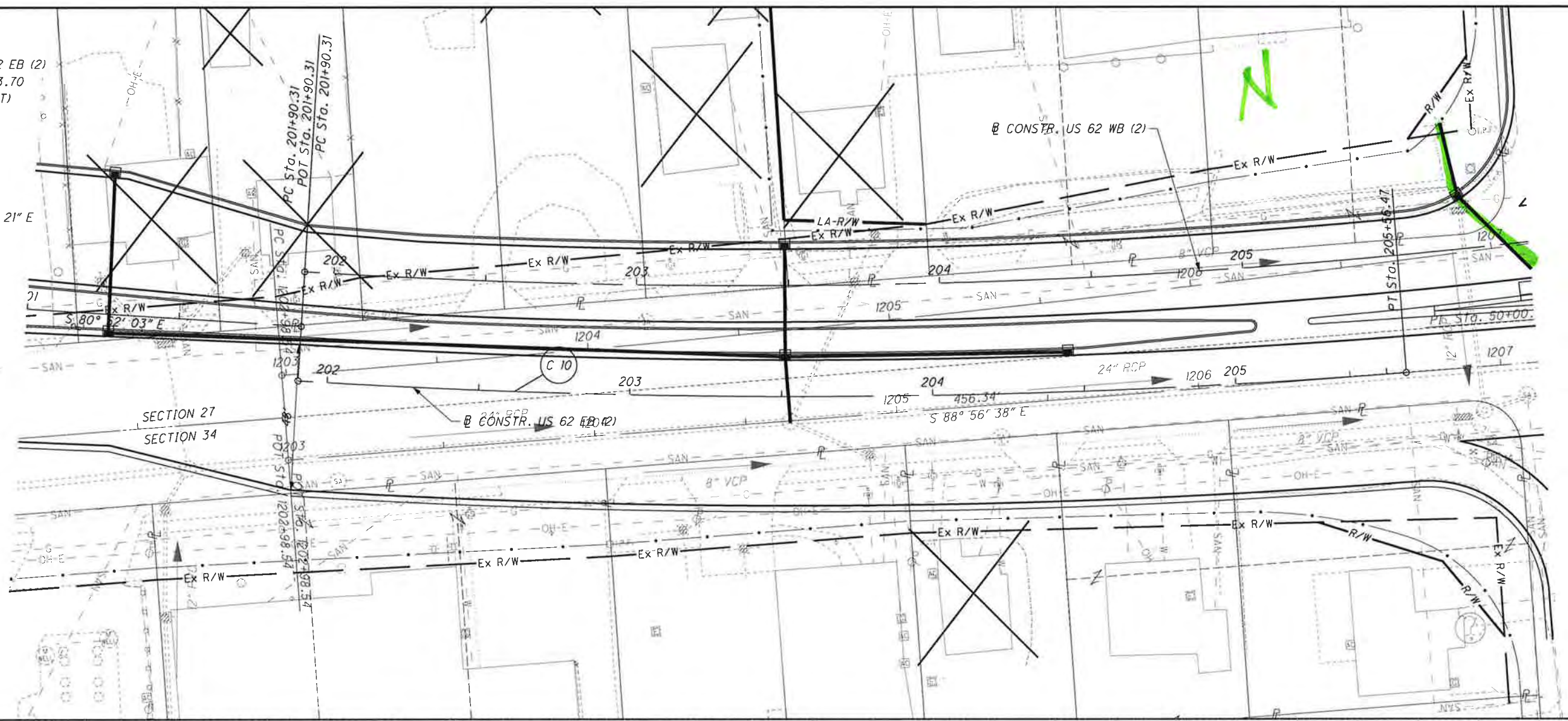
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CALCULATED XXX
CHECKED XXX

0 20 40
HORIZONTAL SCALE IN FEET

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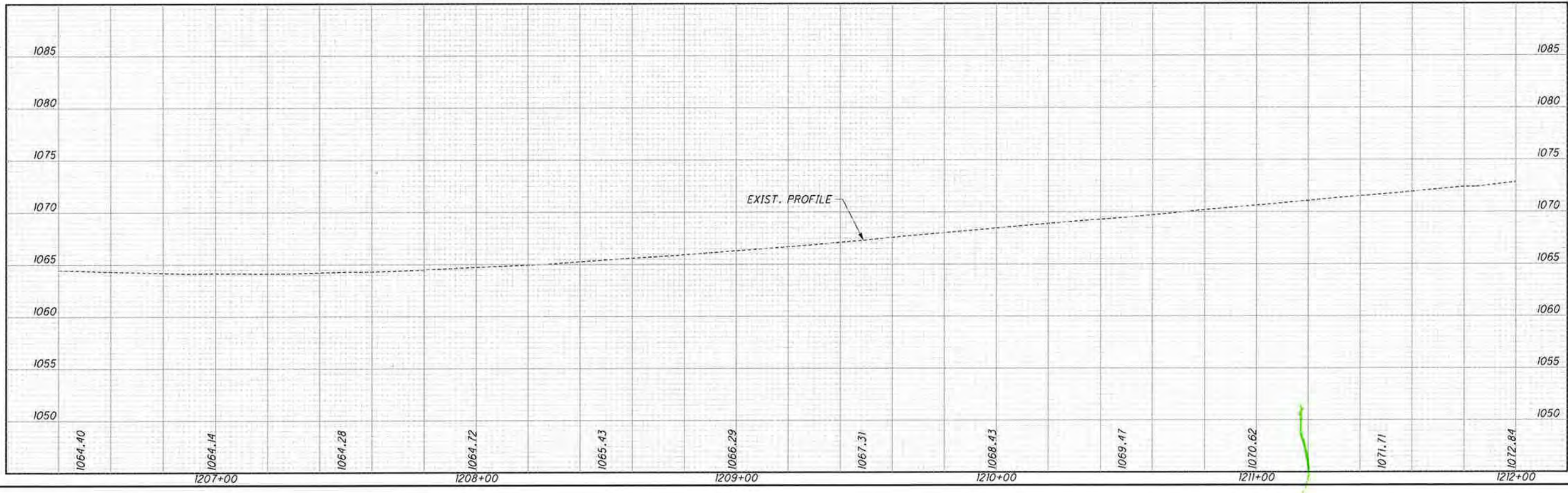
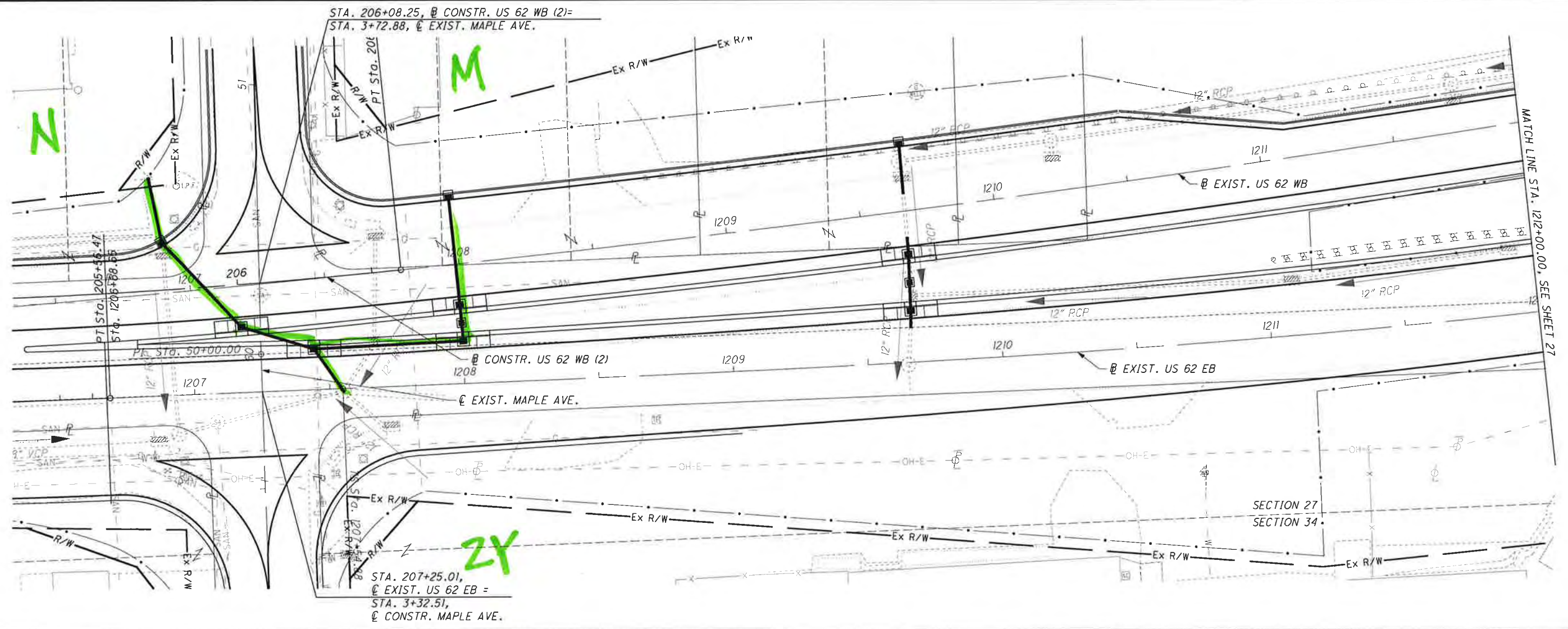
CURVE DATA
 C 10 @ CONSTR. US 62 EB (2)
 P.I. Sta. 203+73.70
 $\Delta = 8^\circ 04' 35''$ (LT)
 $Dc = 2^\circ 12' 20''$
 $R = 2,597.66'$
 $T = 183.39'$
 $L = 366.16'$
 $E = 6.47'$
 $C = 365.86'$
 $C.B. = S 84^\circ 54' 21'' E$



PLAN AND PROFILE - US 62 EB (2)
STA 201+90.31 TO STA 205+56.47

STA -62-24.05

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STA-62-24.05
PLAN AND PROFILE - EXISTING US 62 EB
STA 1206+68.65 TO STA 1212+00.00

CALCULATED XXX
 CHECKED XXX

HORIZONTAL SCALE IN FEET
 0 10 20 40

26
 119

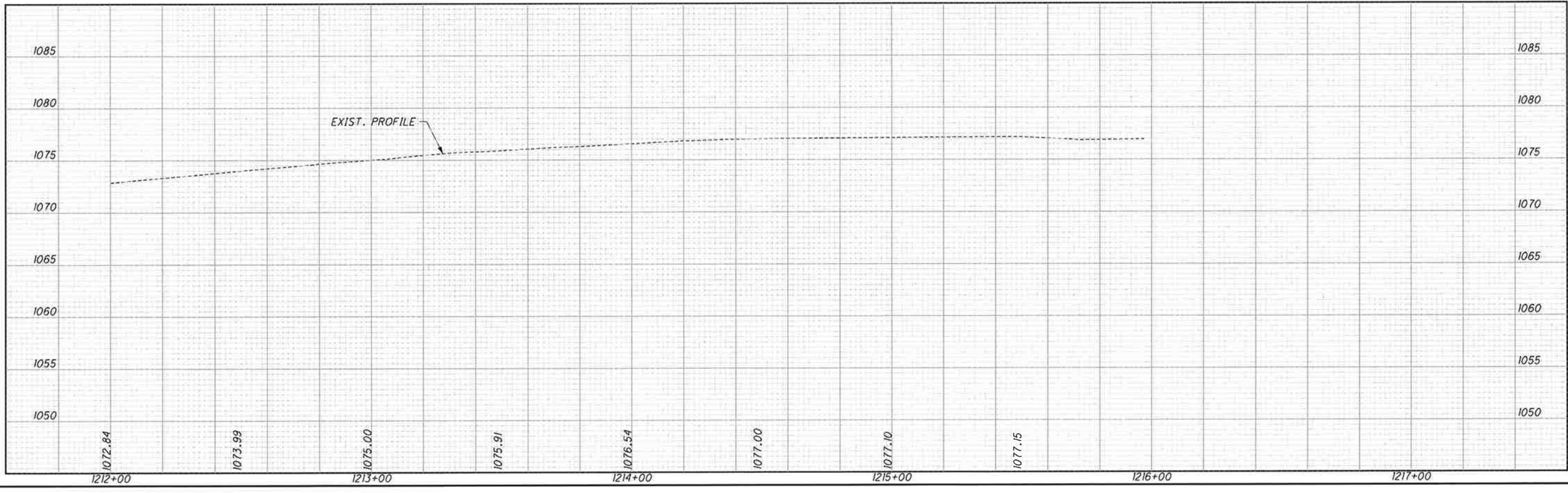
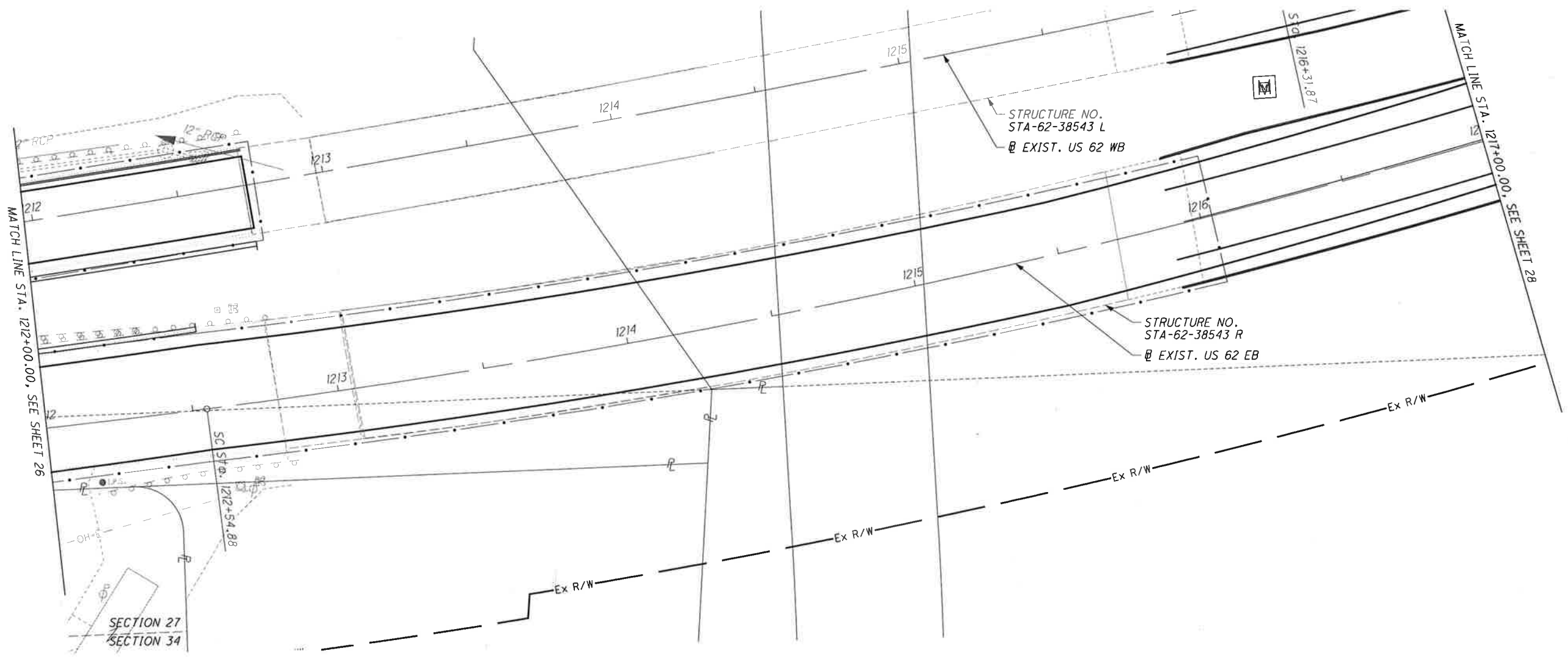
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CALCULATED
 XXX
 CHECKED
 XXX

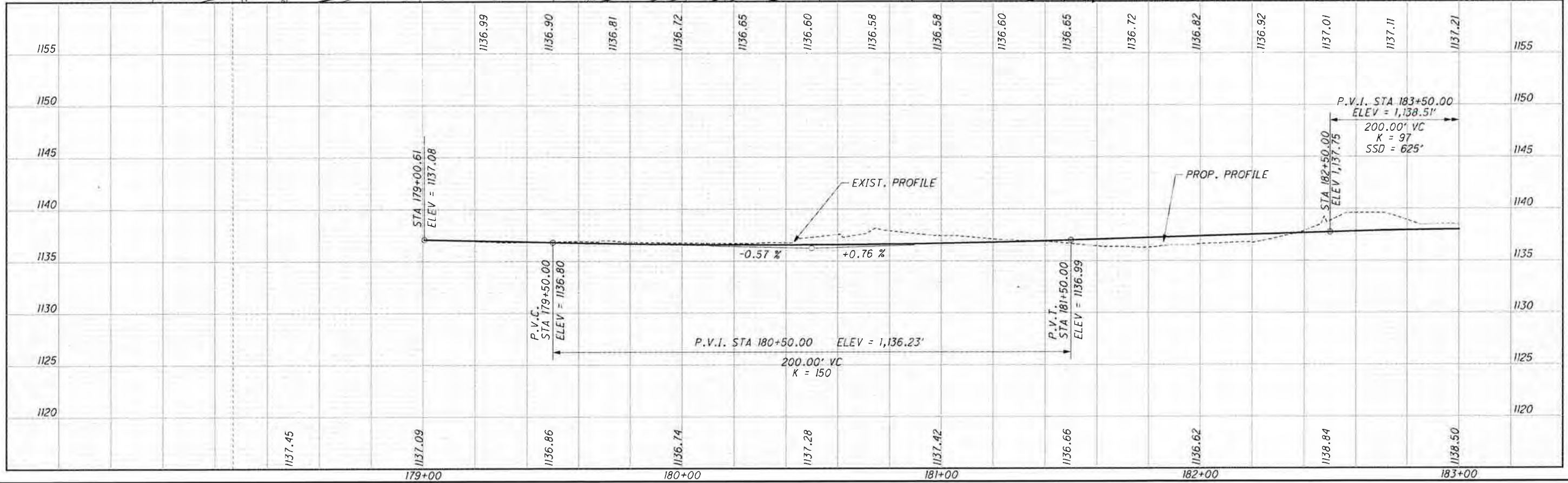
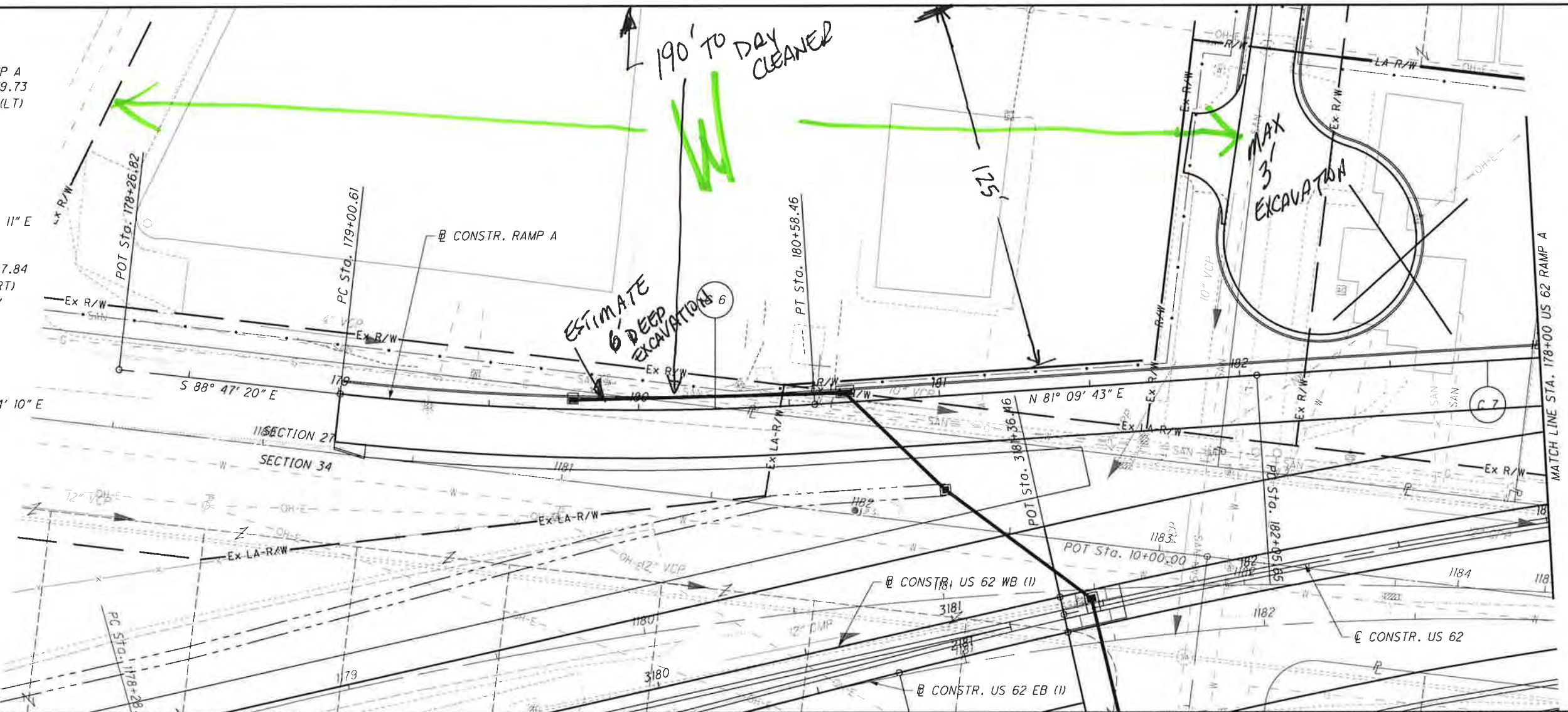
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 HORIZONTAL
 SCALE IN FEET

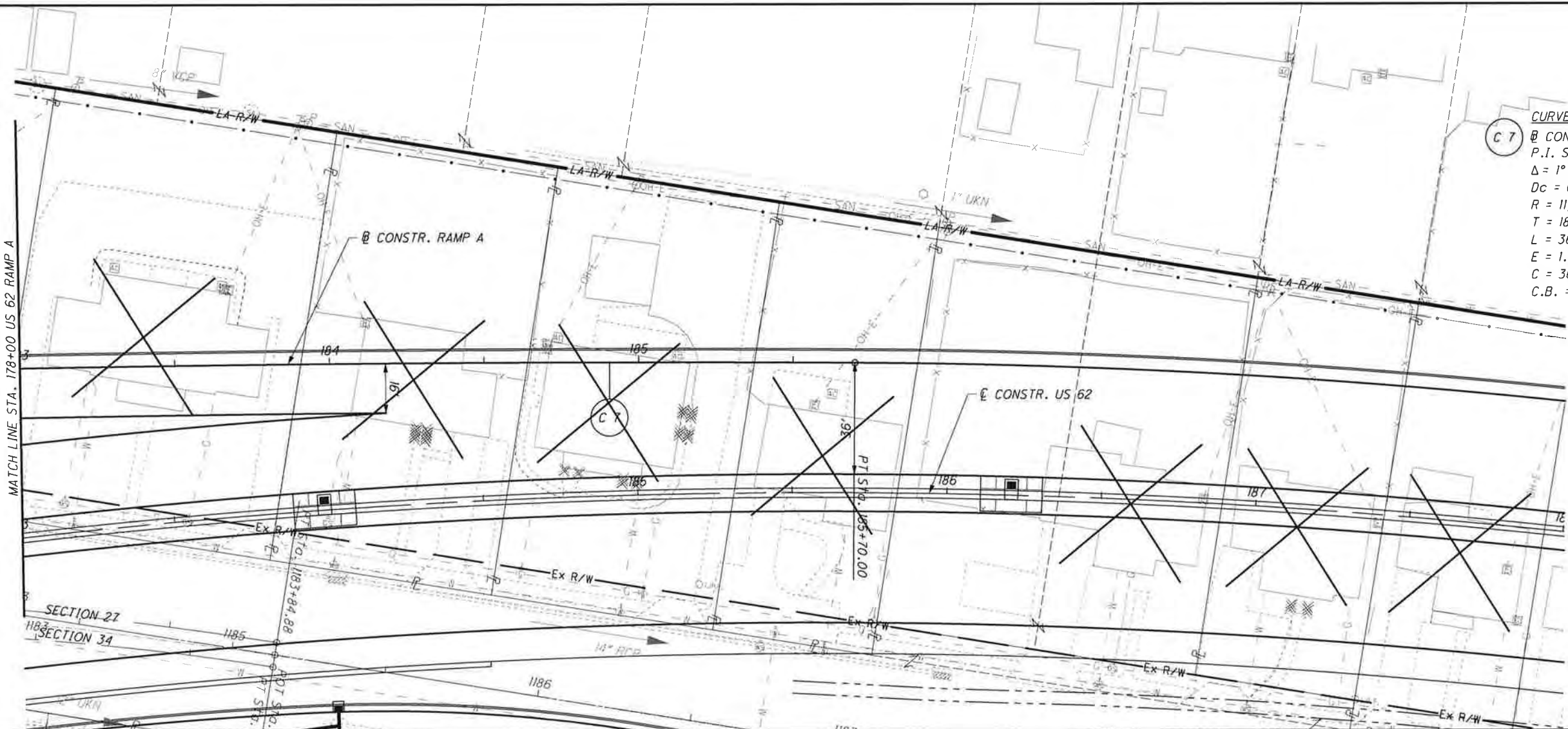
PLAN AND PROFILE - EXISTING US 62 EB
STA 1212+00.00 TO STA 1217+00.00

STA-62-24.05



- C 6** CURVE DATA
 @ CONSTR. RAMP A
 P.I. Sta. 179+79.73
 $\Delta = 10^\circ 02' 57''$ (LT)
 $D_c = 6^\circ 21' 58''$
 $R = 900.00'$
 $T = 79.13'$
 $L = 157.85'$
 $E = 3.47'$
 $C = 157.65'$
 C.B. = N 86° 11' 11" E
- C 7**
 P.I. Sta. 183+87.84
 $\Delta = 1^\circ 48' 55''$ (RT)
 $D_c = 0^\circ 29' 54''$
 $R = 11,500.00'$
 $T = 182.19'$
 $L = 364.36'$
 $E = 1.44'$
 $C = 364.34'$
 C.B. = N 82° 04' 10" E

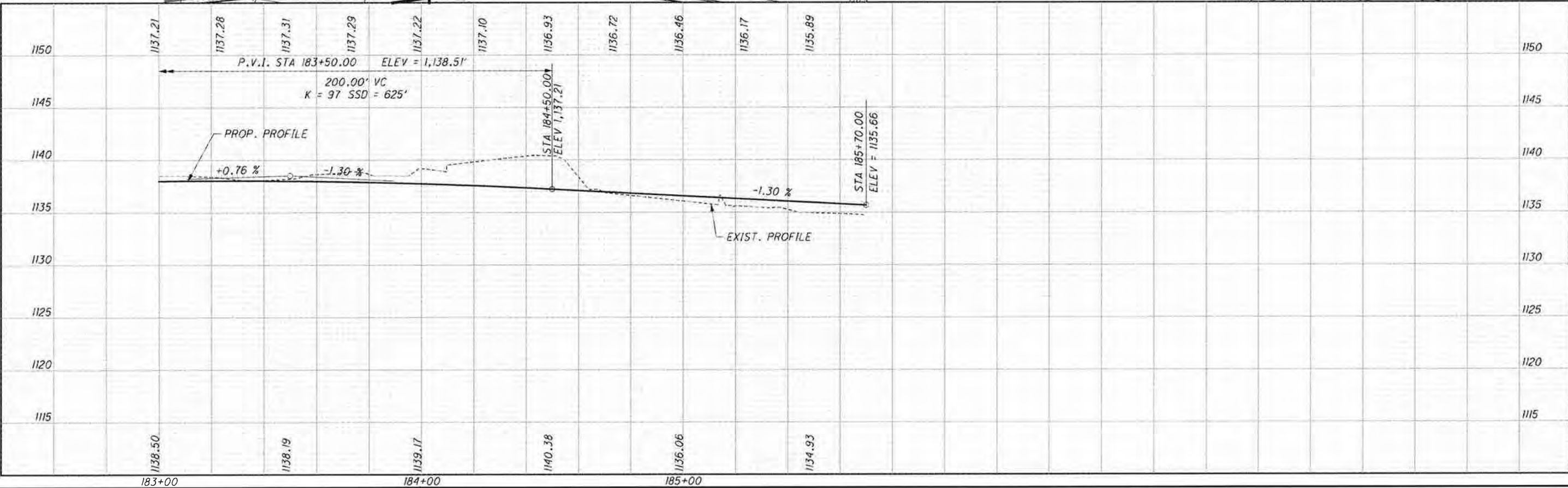


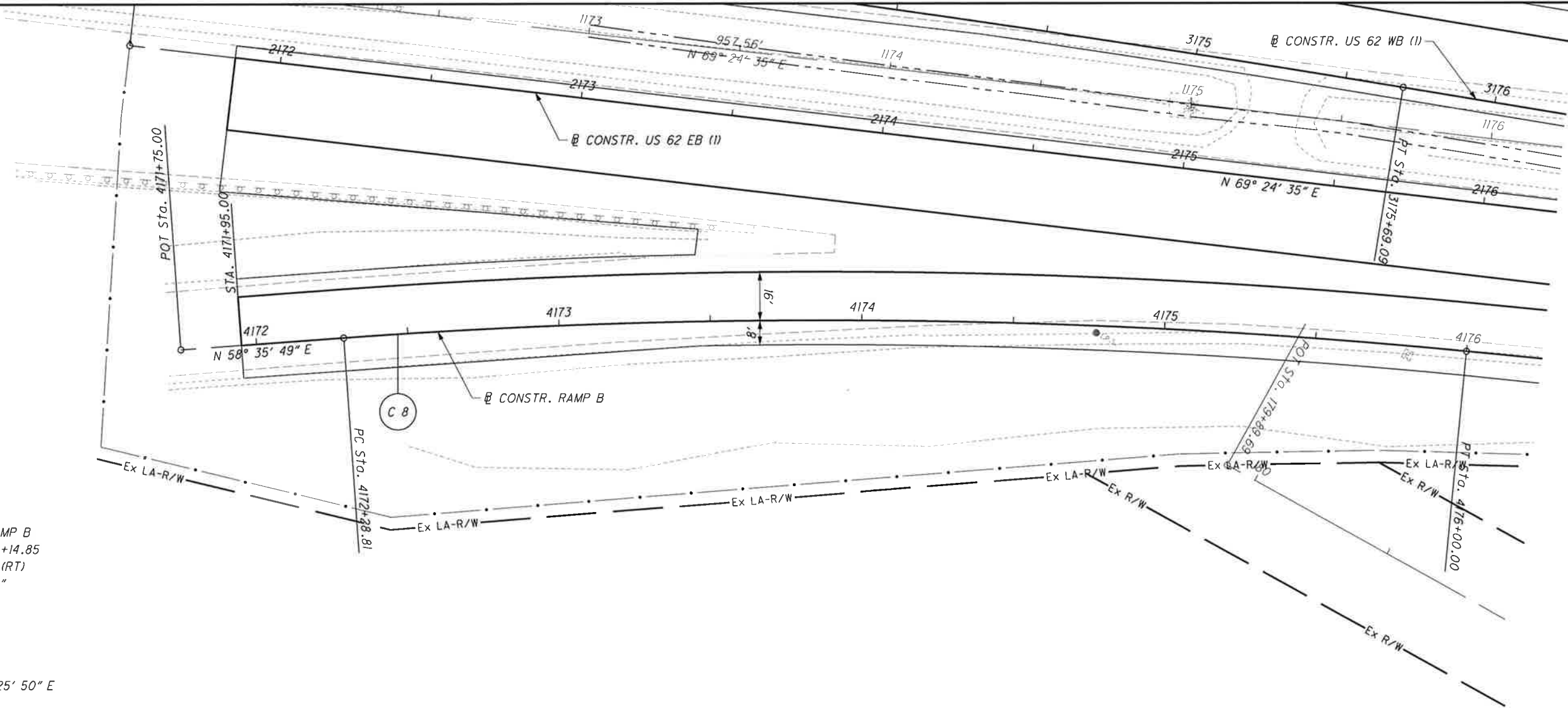


C 7
 CURVE DATA
 @ CONSTR. US 62 RAMP A
 P.I. Sta. 183+87.84
 $\Delta = 1^\circ 48' 55''$ (RT)
 $D_c = 0^\circ 29' 54''$
 $R = 11,500.00'$
 $T = 182.19'$
 $L = 364.36'$
 $E = 1.44'$
 $C = 364.84'$
 $C.B. = N 82^\circ 04' 10'' E$



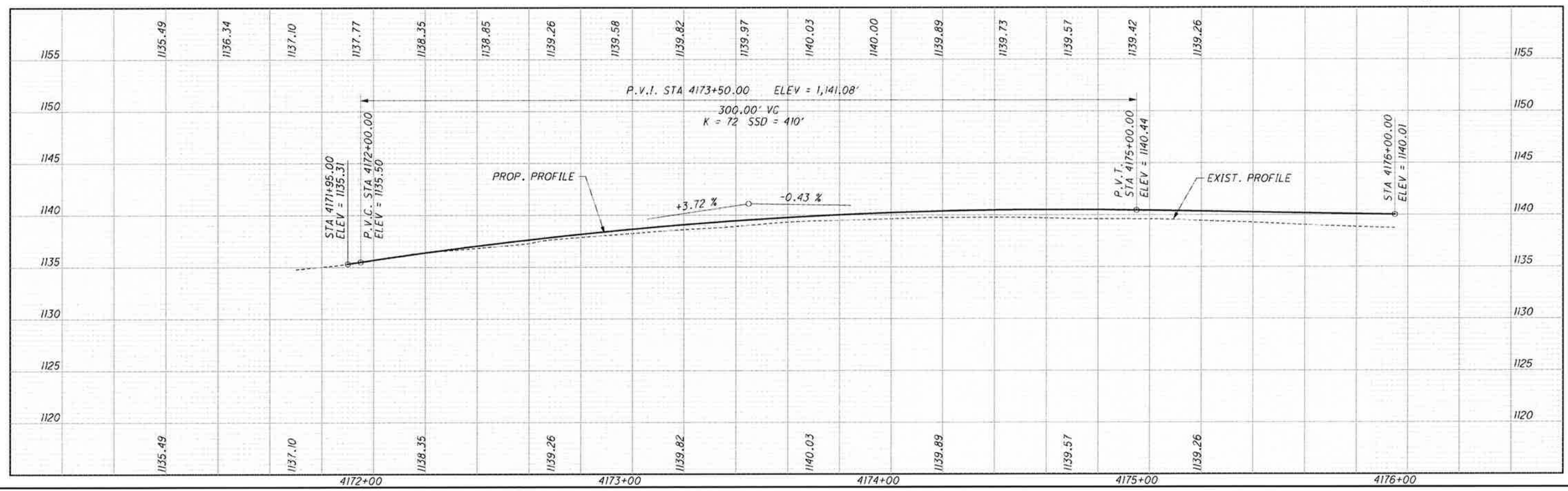
PLAN AND PROFILE - RAMP A
STA 178+00 TO STA 180+70

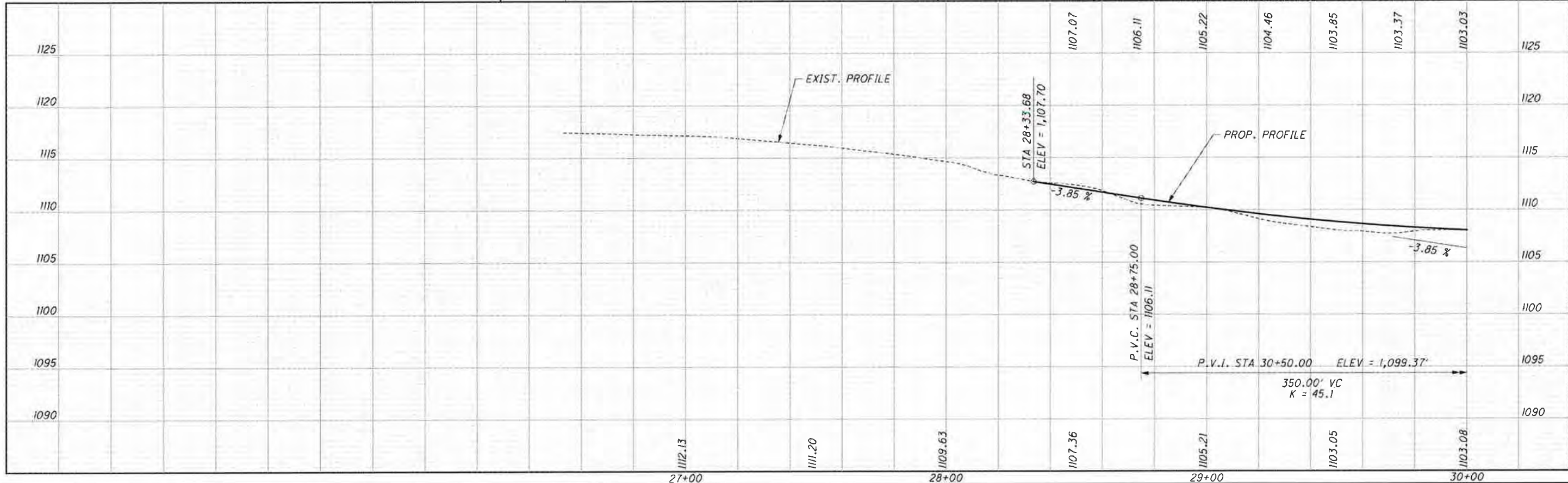
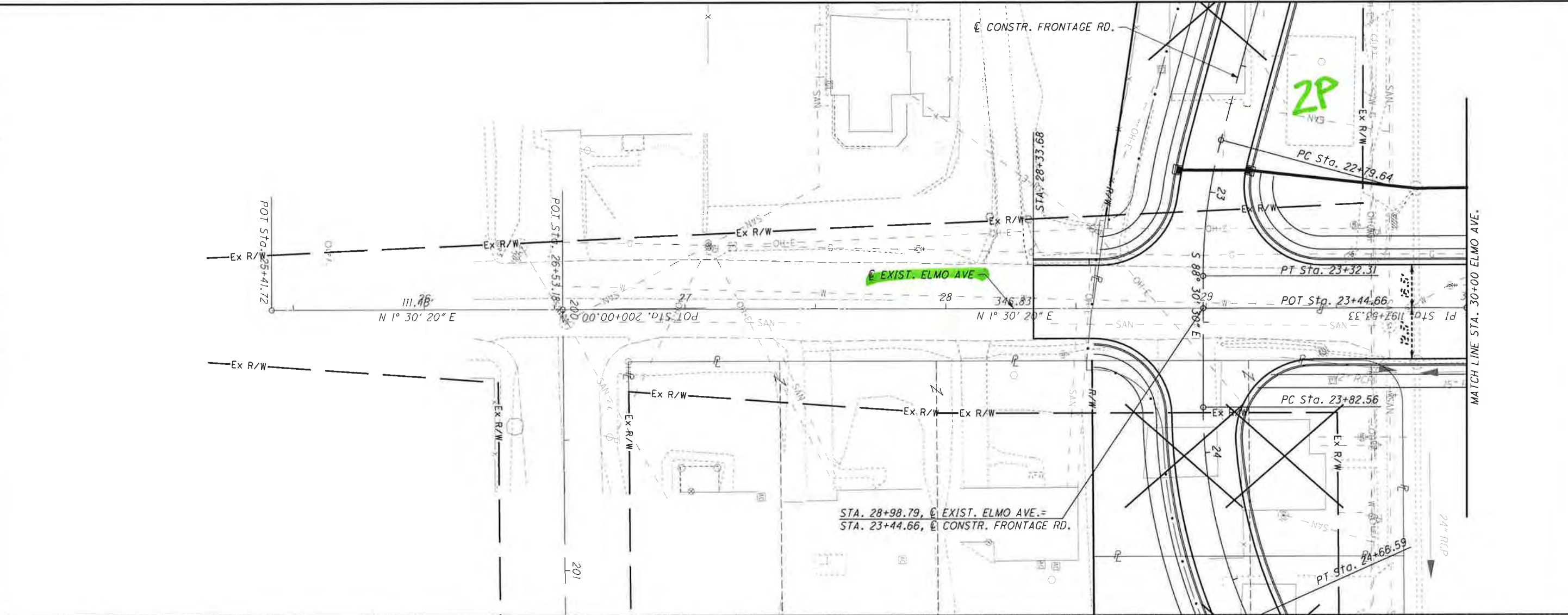




C B

CURVE DATA
 @ CONSTR. RAMP B
 P.I. Sta. 4174+14.85
 $\Delta = 9^\circ 40' 01''$ (RT)
 $D_c = 2^\circ 36' 16''$
 $R = 2,200.00'$
 $T = 186.03'$
 $L = 371.19'$
 $E = 7.85'$
 $C = 370.75'$
 C.B. = $N 63^\circ 25' 50'' E$





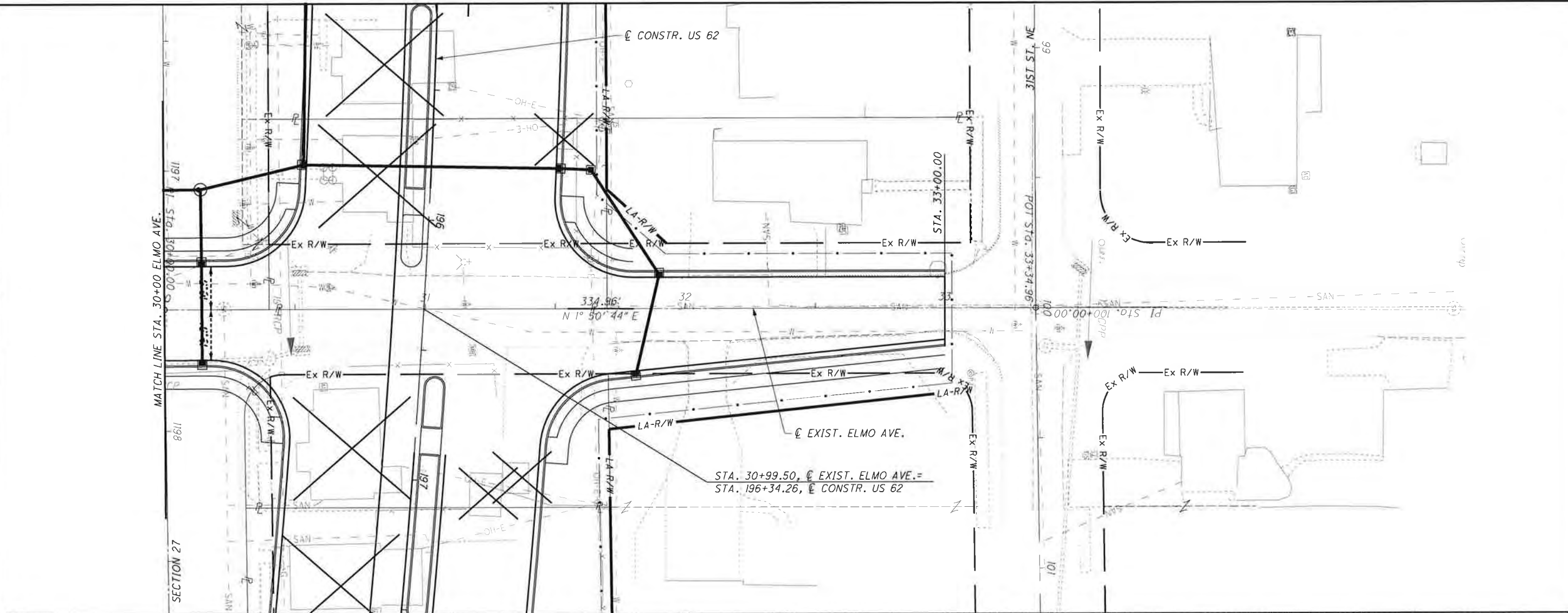
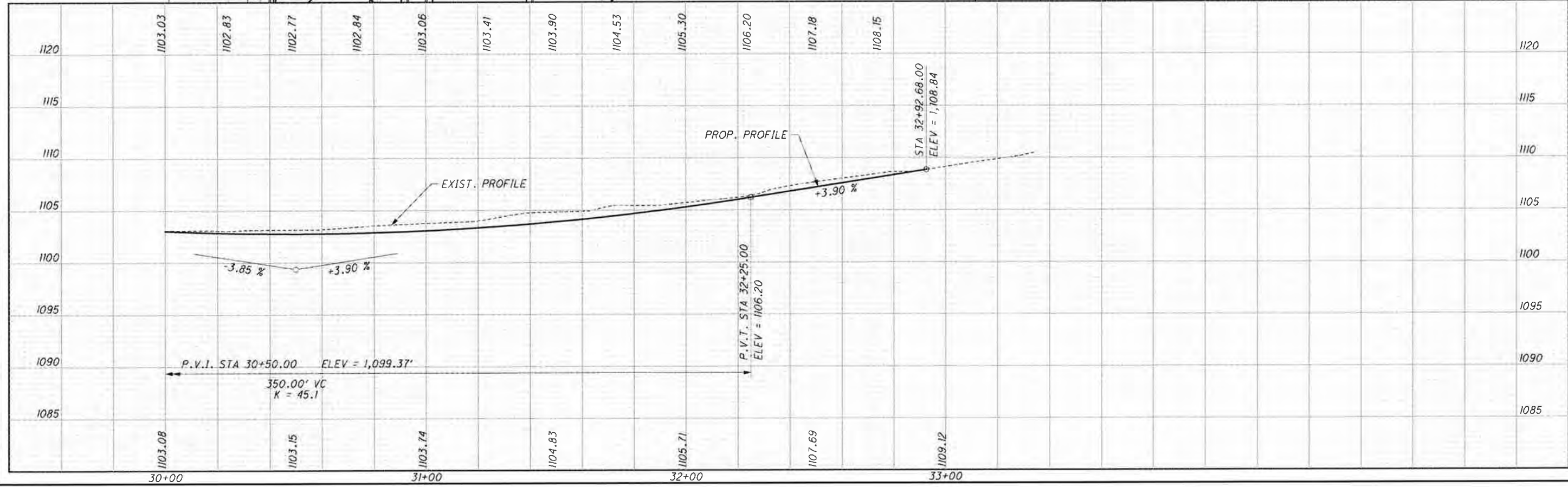
CALCULATED
XXX
CHECKED
XXX

HORIZONTAL SCALE IN FEET
0 20 40

PLAN AND PROFILE - ELMO AVE.
STA 28+33.68 TO STA 30+00

STA-62-24.05

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STA - 62 - 24.05

PLAN AND PROFILE - ELMO AVE.

STA 30+00 TO STA 33+50

CALCULATED XXX
CHECKED XXX

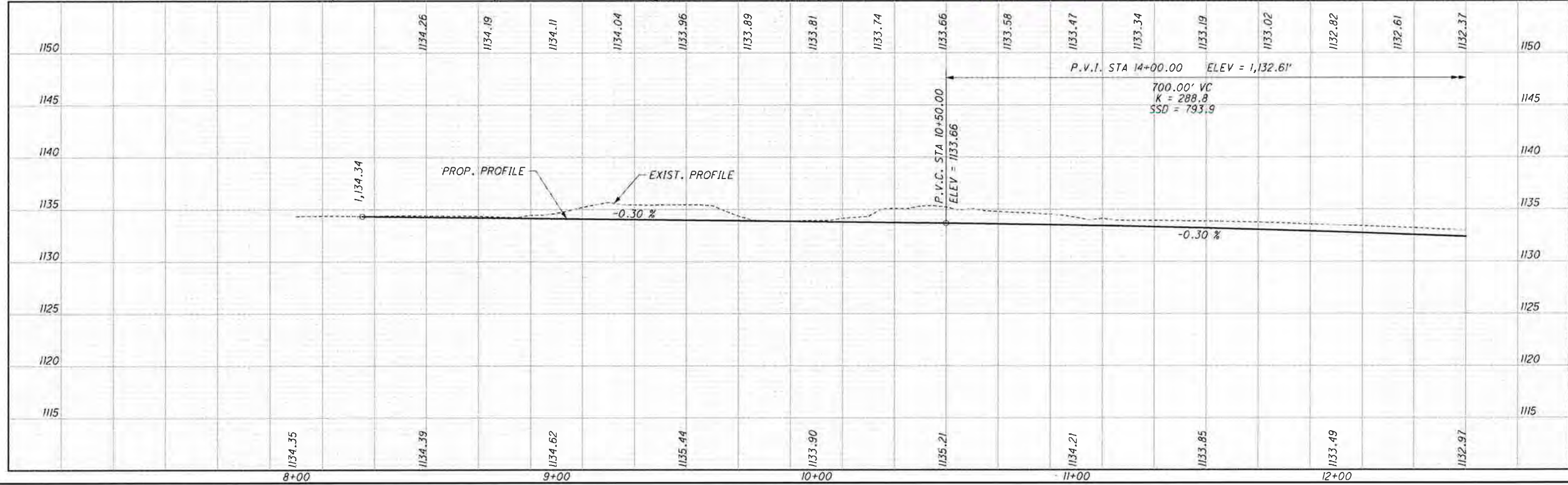
33
119

0 10 20 40
HORIZONTAL SCALE IN FEET



CURVE DATA

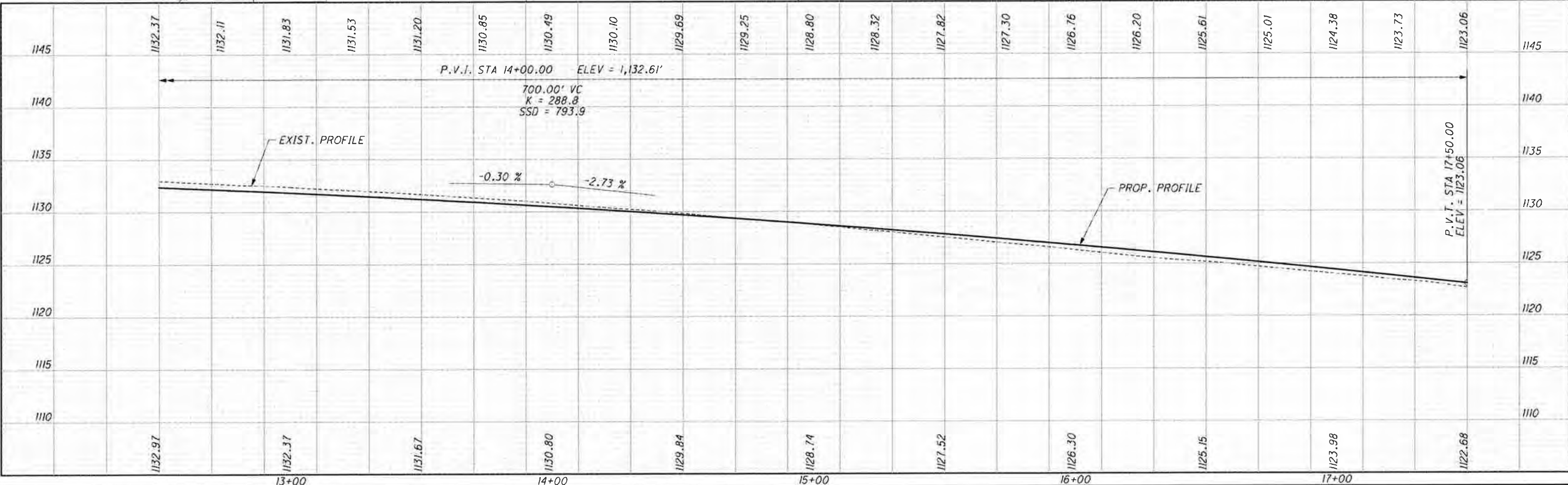
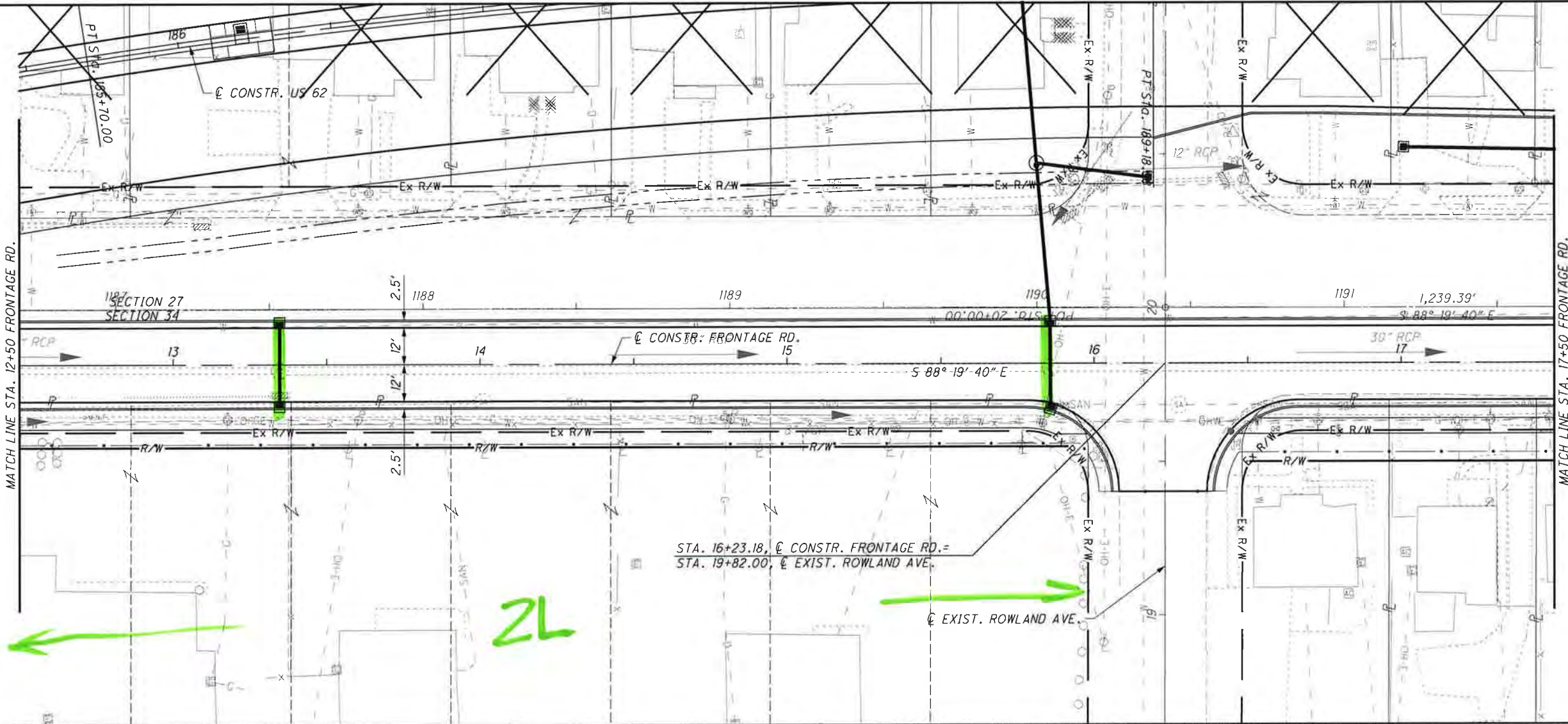
Curve Label	P.I. Sta.	Δ	Dc	R	T	L	E	C	C.B.
C 11	9+09.45	71° 53' 22" (RT)	52° 05' 13"	110.00'	79.76'	138.02'	25.87'	129.14'	N 37° 31' 32" E
C 12	10+64.54	8° 41' 11" (RT)	4° 29' 38"	1,275.00'	96.83'	193.30'	3.67'	193.11'	N 77° 48' 48" E
C 13	11+63.21	11° 43' 26" (RT)	11° 27' 33"	500.00'	51.33'	102.31'	2.63'	102.13'	N 85° 48' 37" E



CALCULATED XXX
CHECKED XXX

PLAN AND PROFILE - FRONTAGE RD.
 STA 8+00 TO STA 12+50

35
119



PLAN AND PROFILE - FRONTAGE RD.

STA 12+50 TO STA 17+50

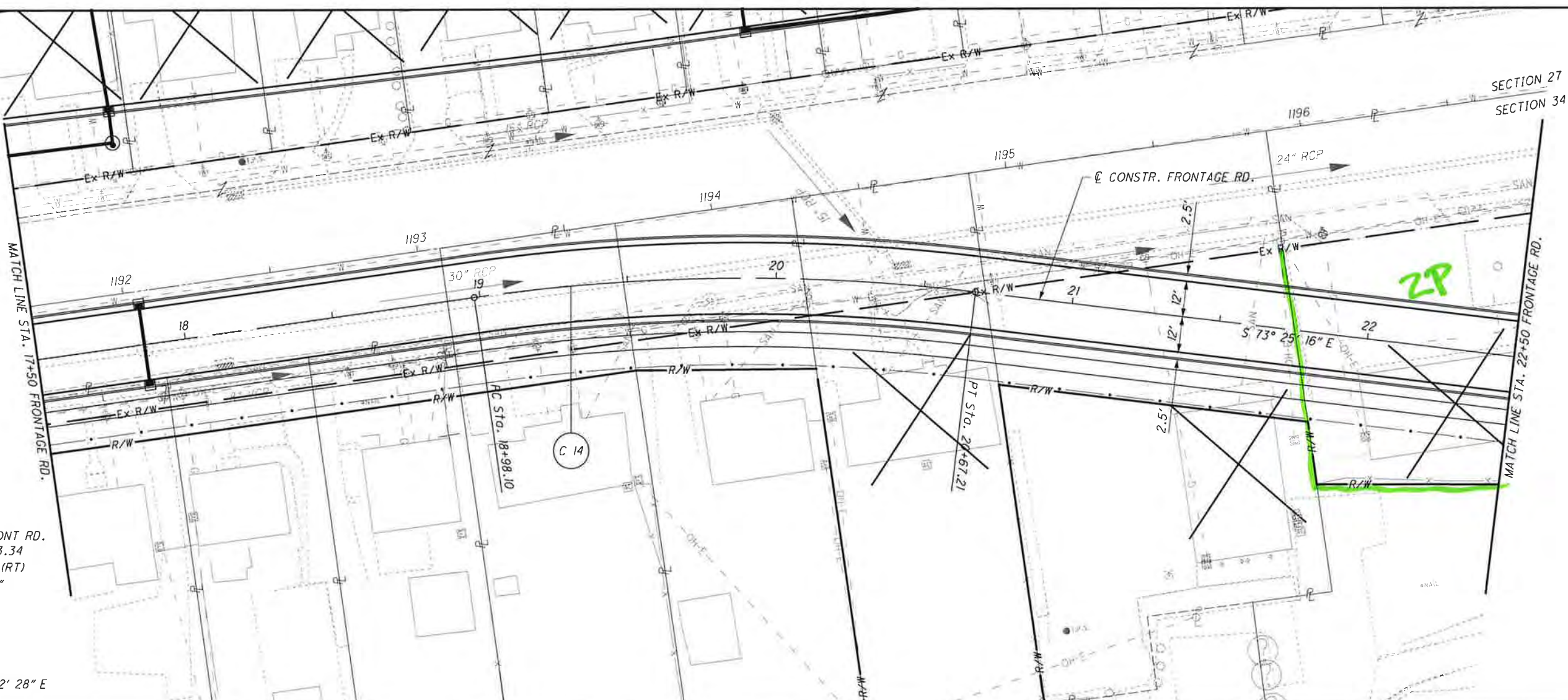
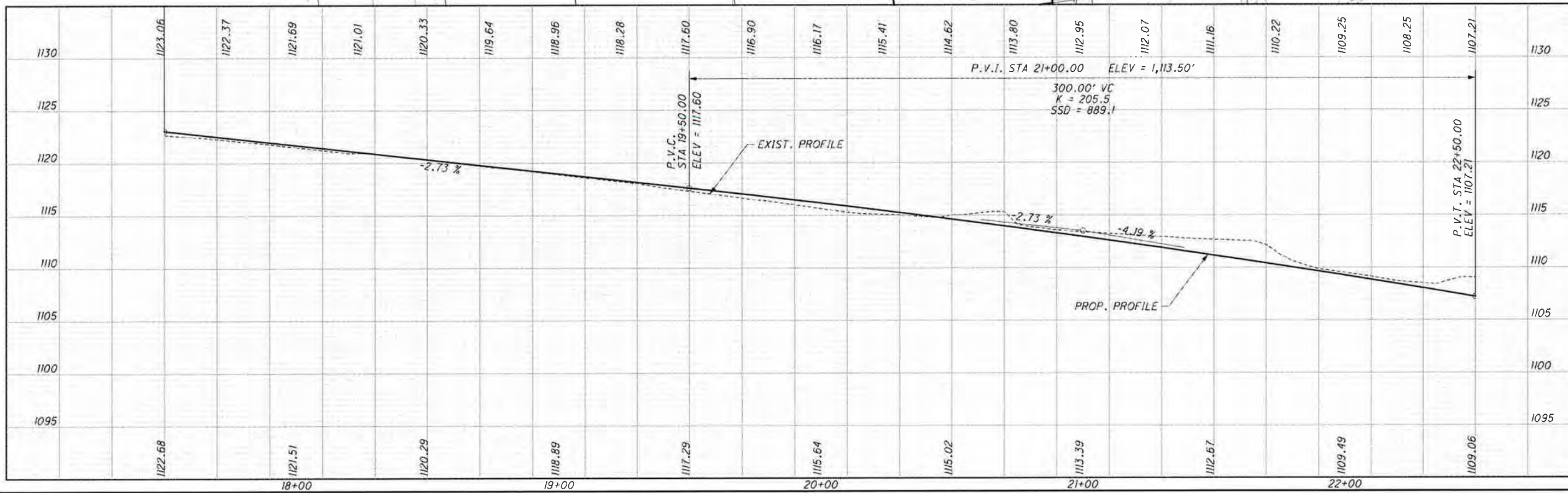
STA-62-24.05

36
119

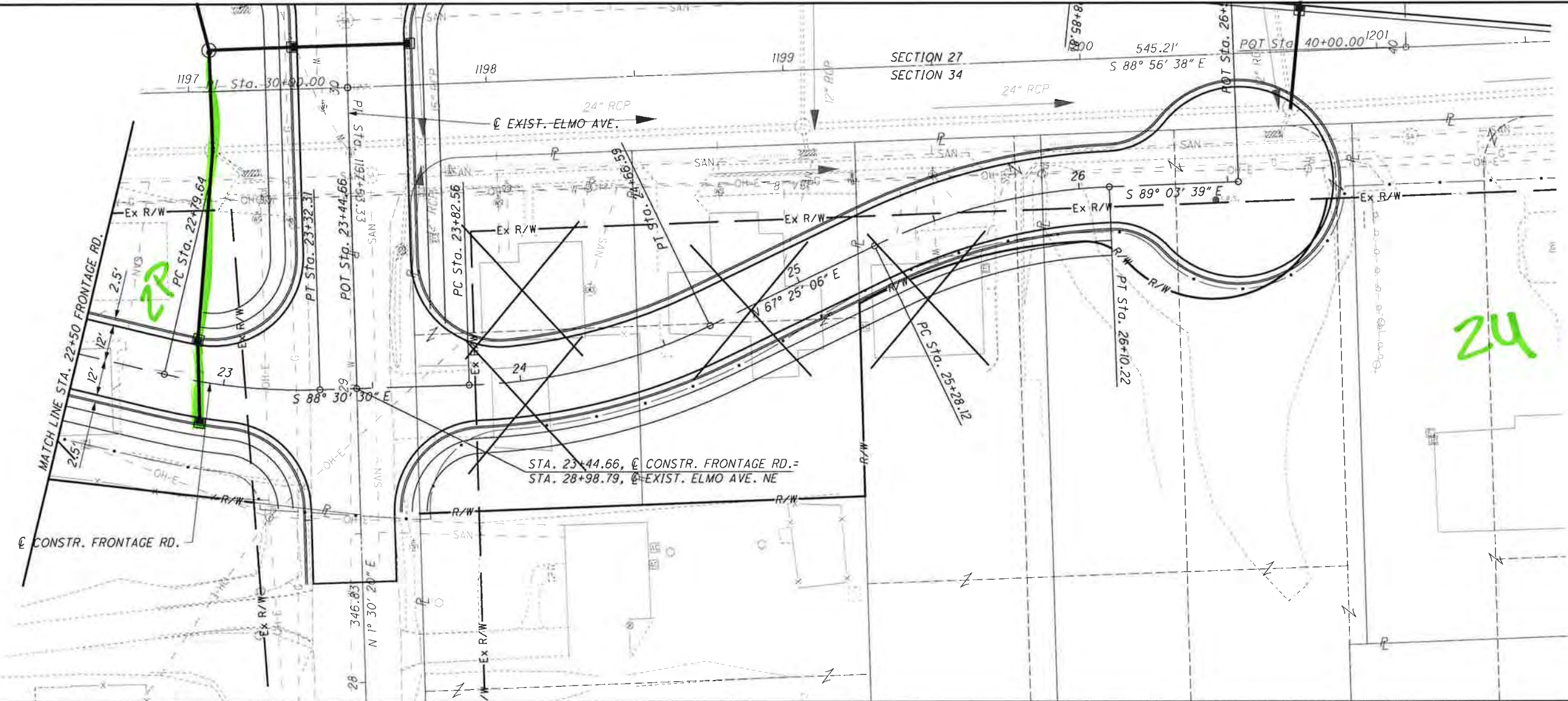
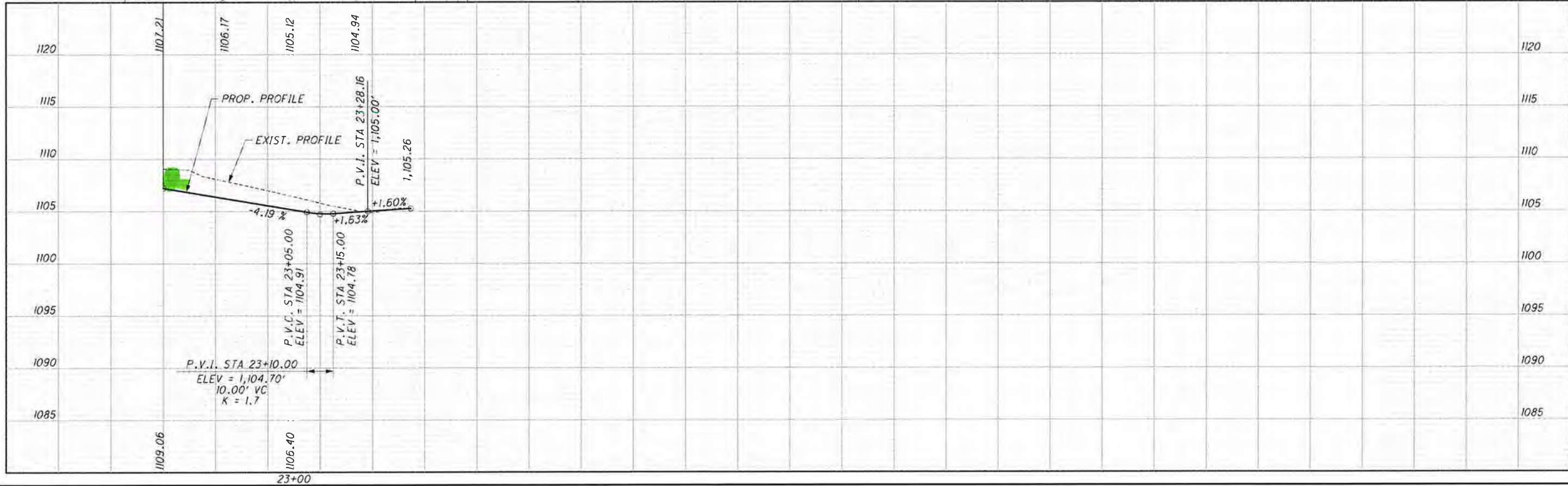
CALCULATED XXX
CHECKED XXX

HORIZONTAL SCALE IN FEET

C 14 CURVE DATA
 @ CONSTR. FRONT RD.
 P.I. Sta. 19+83.34
 $\Delta = 14^\circ 54' 24''$ (RT)
 $D_c = 8^\circ 48' 53''$
 $R = 650.00'$
 $T = 85.04'$
 $L = 169.11'$
 $E = 5.54'$
 $C = 168.63'$
 $C.B. = S 80^\circ 52' 28'' E$



PLAN AND PROFILE - FRONTAGE RD.
STA 17+50 TO STA 22+50



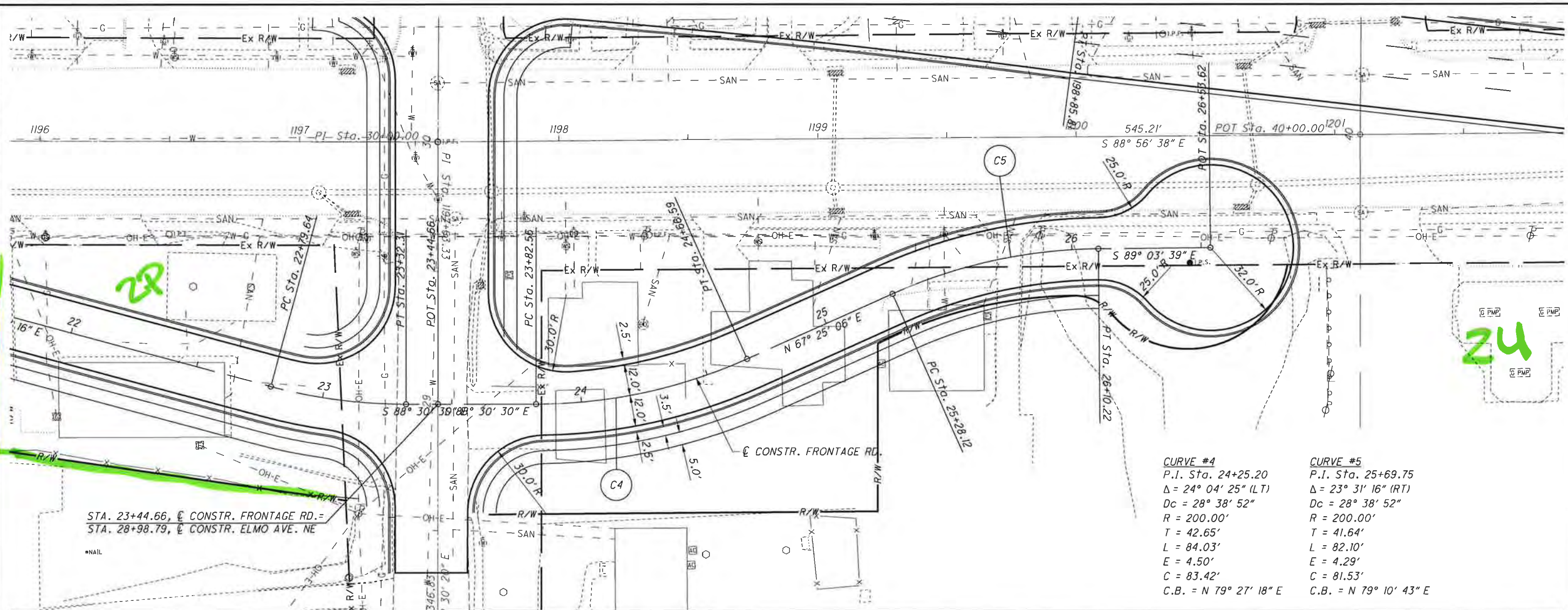
STA-62-24.05

PLAN AND PROFILE - FRONTAGE RD.
STA 22+50 TO STA 23+44.66

CALCULATED XXX
CHECKED XXX

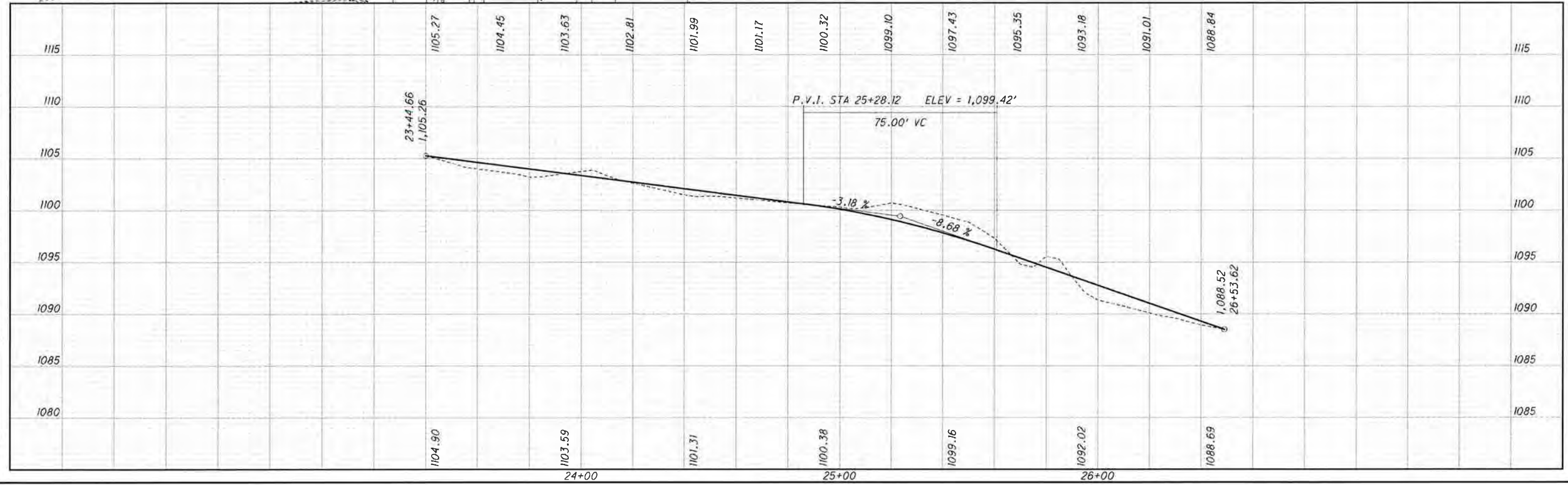
38
119

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STA. 23+44.66, $\text{\textcircled{C}}$ CONSTR. FRONTAGE RD. =
 STA. 28+98.79, $\text{\textcircled{C}}$ CONSTR. ELMO AVE. NE

CURVE #4	CURVE #5
P.I. Sta. 24+25.20	P.I. Sta. 25+69.75
$\Delta = 24^\circ 04' 25''$ (LT)	$\Delta = 23^\circ 31' 16''$ (RT)
$D_c = 28^\circ 38' 52''$	$D_c = 28^\circ 38' 52''$
$R = 200.00'$	$R = 200.00'$
$T = 42.65'$	$T = 41.64'$
$L = 84.03'$	$L = 82.10'$
$E = 4.50'$	$E = 4.29'$
$C = 83.42'$	$C = 81.53'$
$C.B. = N 79^\circ 27' 18'' E$	$C.B. = N 79^\circ 10' 43'' E$



CALCULATED XXX
 CHECKED XXX

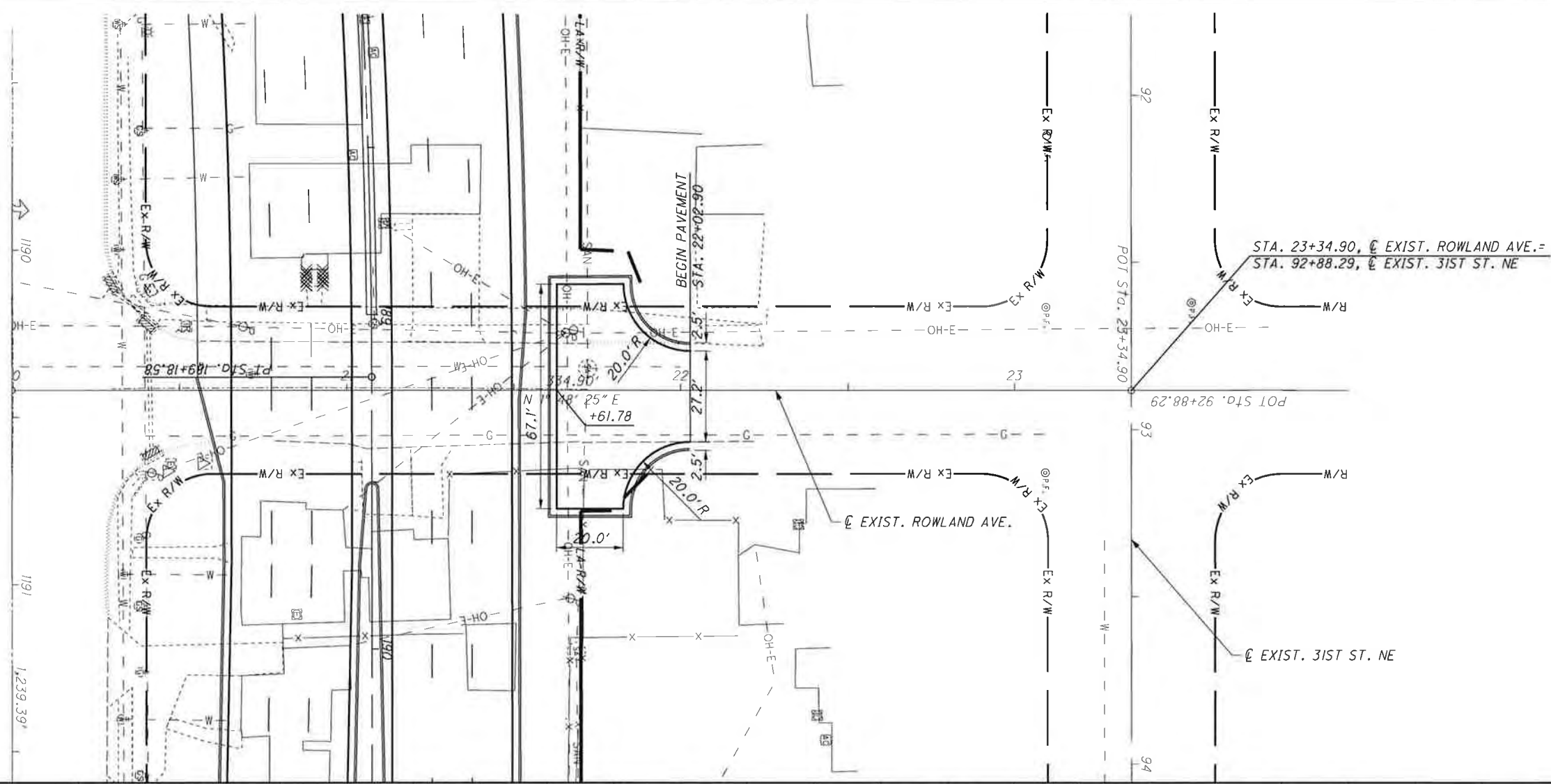
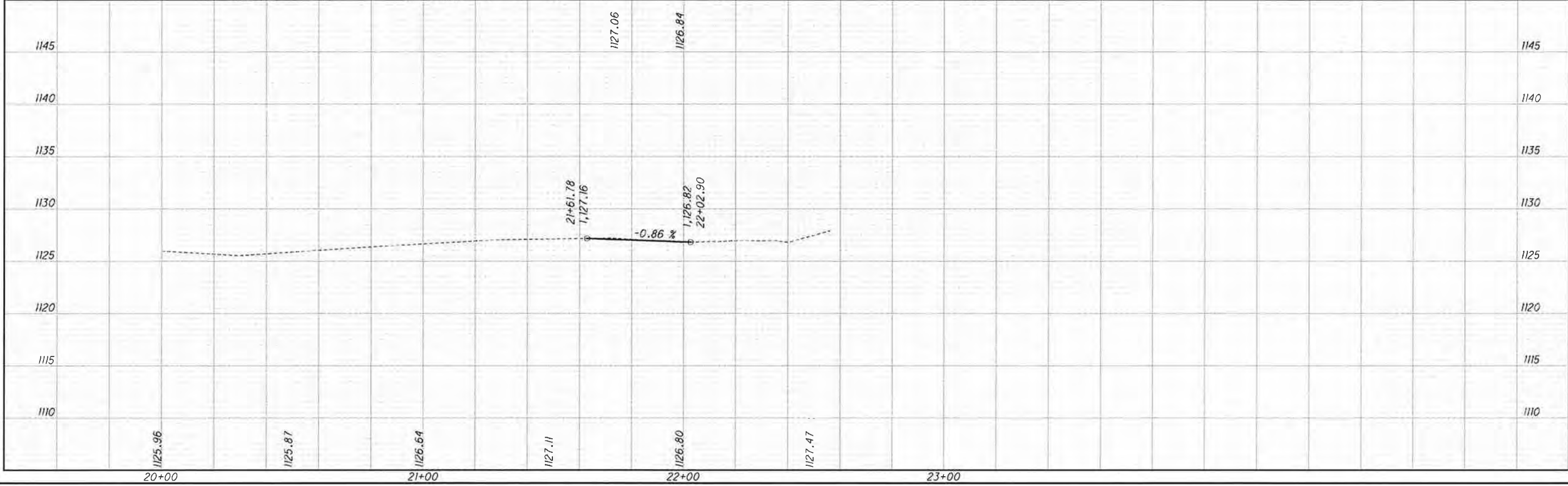
HORIZONTAL SCALE IN FEET

PLAN AND PROFILE - FRONTAGE RD.

STA 23+44.66 TO END

STA-62-24.05

39
119



PLAN AND PROFILE - ROWLAND AVE.

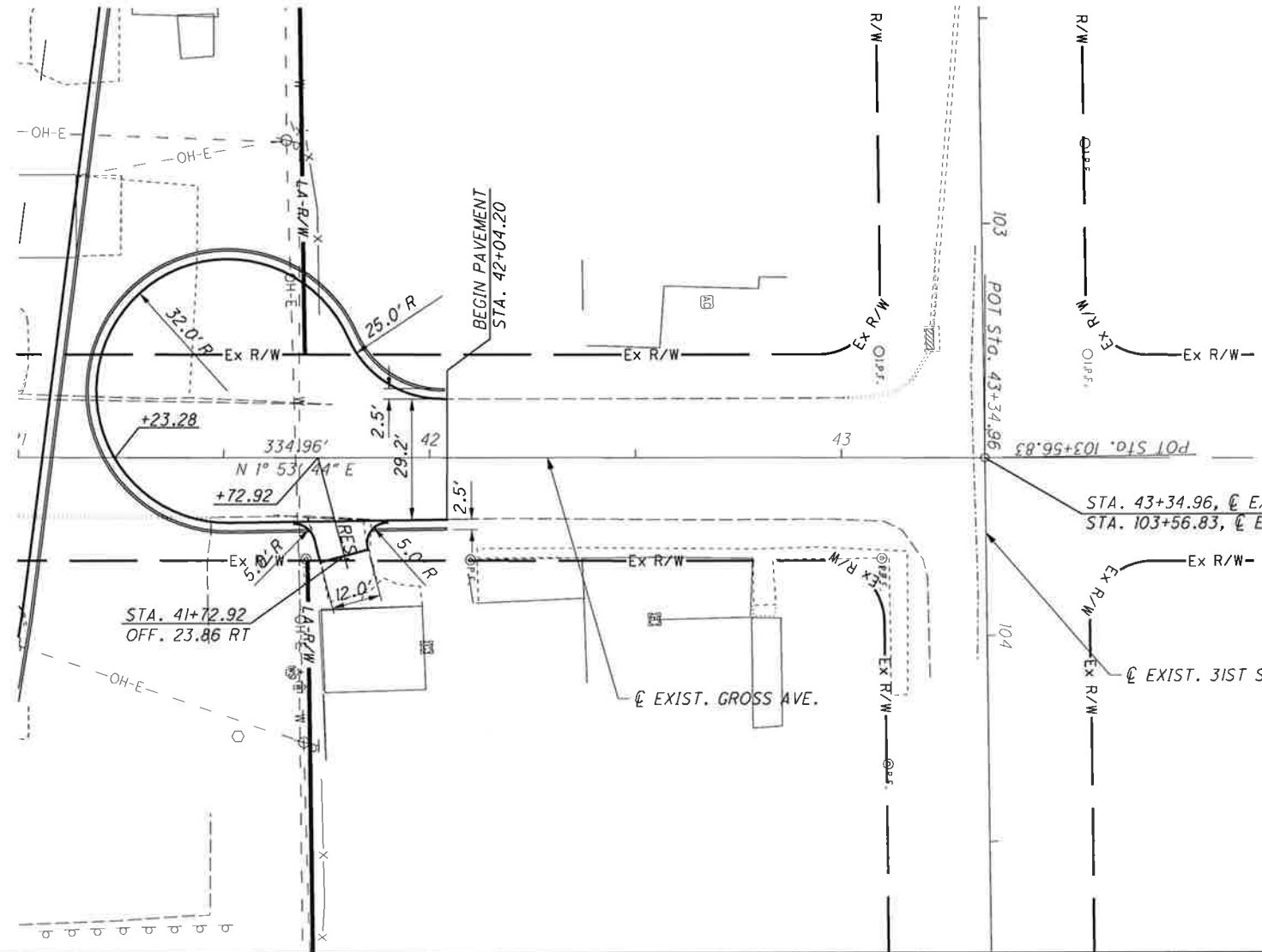
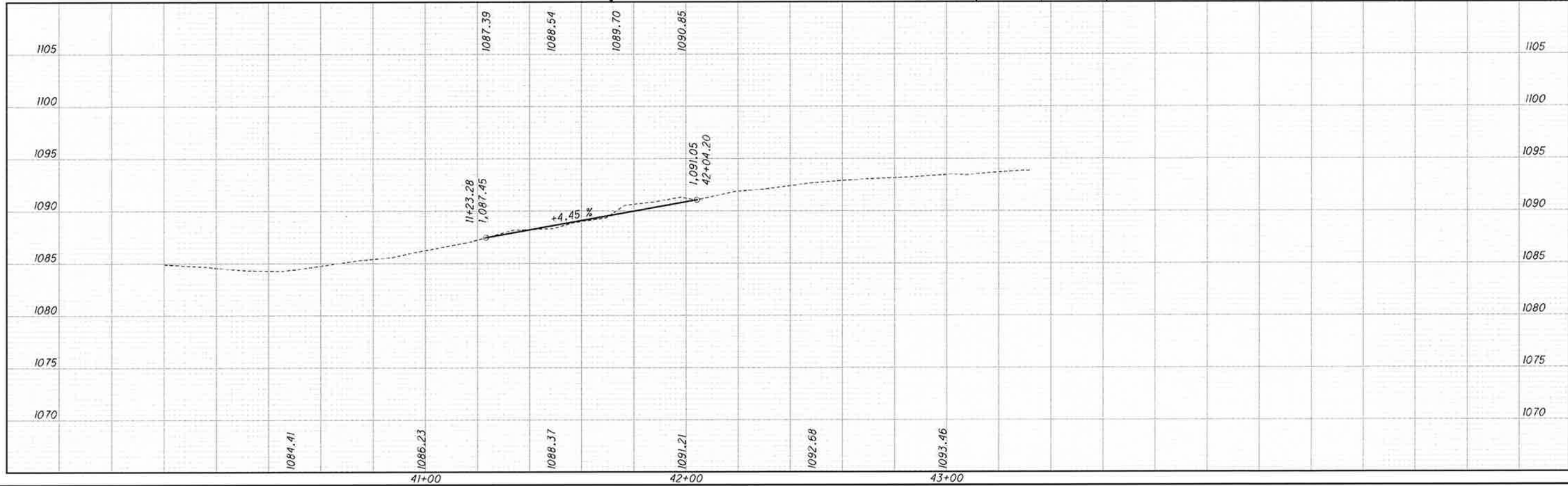
STA 20+00.00 TO STA 24+00.00

CALCULATED XXX
 CHECKED XXX

HORIZONTAL SCALE IN FEET

41

119



**PLAN AND PROFILE - GROSS AVE.
STA 41+00.00 TO STA 44+00.00**

STA -62-24.05

CALCULATED XXX
CHECKED XXX

0 20 40
HORIZONTAL SCALE IN FEET

N



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