

Although the residence associated with Site 116 displays characteristics associated with German settlement in Camp Springs, such as a mortared-stone foundation and hillside construction, the building's form, fenestration, and materials have been altered to such an extent that it no longer retains integrity of design, materials, workmanship, or feeling required to convey this association. Due to lack of integrity, CRA recommends that Site 116 is not eligible for listing in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A

Site 117

KHC Survey #: CP 61

Photographs: Figures 177–184

Maps: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728376 N: 4319729

Property Address: 6745 Four Mile Road
Melbourne, KY 41059

Owner Information: Helen Reitman
2851 Fender Road
Melbourne, KY 41059

Deed Book/Page: 286/27

Construction Date: circa 1850–1874

Description: Blau's Four Mile House (Site 117 [CP 61]) (Figure 177) is an NRHP-listed property located on a .75-acre parcel on the east side of Four Mile Road approximately 315 ft north of its intersection with Gresskamp Road (see Figures 2b and 3b). Situated low on the westerly slope of a ridge spur, the building sits back less than 10 ft from the ROW along Four Mile Road and is oriented to the west.

KHC personnel documented Site 117 during the 1979 countywide survey, and the property was listed in the NRHP in 1983 as a contributing property within the German Settlement, Four Mile Creek Area TR. It was also assessed in

Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:52–53).

Blau's Four Mile House is depicted in the 1883 county atlas (see Figure 9). KHC and PVA records indicate that the building was erected during the third quarter of the nineteenth century. According to local oral history, the building was constructed by Bavarian immigrant Nicholas Reitman for the Blau family, who were natives of Prussia. Tax records and the building's floor plan are indicative of its use as a tavern and inn (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:52).

The two-and-one-half-story, three-bay (w/d/w), double-pile, side-gabled building comprises approximately 2,240 sq ft of floor space and exhibits the defining attributes of the area's stone German vernacular buildings. It is of rubble limestone composition with segmental-arched window bays and tooled corner stones, and its hillside construction allows direct access to the second level via pedestrian entries on the north and rear elevations (Figure 178).

The central, single-leaf façade entry features a multi-light wood-panel door and a wood surround emulating fluted pilasters. Secondary entries on the remaining elevations have half-light, multi-light, and unglazed wood-panel doors. Corrugated-metal awnings are located above the façade and southerly entries, and a shed-roofed porch with squared wood posts and a concrete deck shelters the rear entry. The section of wall beneath the porch roof is clad in weatherboard siding. Most of the building's windows have six-over-six-light, double-hung wood sashes. The lower sash of the leftmost lower-level face window has been replaced with a single-light sash. The central attic windows on the north and south gable ends have vinyl replacement sashes, and the smaller attic windows that flank these each have single six-light wood sashes. The roof of the building is clad in asphalt shingles. An interior brick chimney projects from the rear roof slope near the south gable end, and an exterior brick end chimney is located on the north elevation near its western edge.



Figure 177. Site 117 (CP 61): Blau's Four Mile House.



Figure 178. Site 117: rear and north elevations of Blau's Four Mile House.

A shed-roofed frame outbuilding (Figure 179) is located approximately 50 ft northeast of the primary building. It has a central pedestrian entry with a vertical-board door on its south elevation, which is accessed via wood steps. Windows flanking the entry are enclosed with chicken wire and wood planks. A window on the west elevation features a partial wood sash but is enclosed with plywood. The outbuilding is clad in asphalt siding and rests on wood piers beneath a corrugated-metal-panel roof.

Located approximately 80 ft north of Blau's Four Mile House is a frame bank barn with a mortared-fieldstone foundation (Figure 180). The barn is clad in vertical-board siding beneath a corrugated-metal-panel roof. The interior of the barn was not accessible, though its construction is similar to other barns in the area, suggesting that it has a pegged mortise-and-tenon frame. Entry and upper-level access bays on the west and south elevations have hinged vertical-board doors, and window bays on the stone foundation have been boarded over.

Two masonry retaining walls (Figure 181) are located between Blau's Four Mile House and the aforementioned barn. The lower, longer wall is of horizontally-coursed mortared-stone construction and features a cap course. The upper wall is of brick construction. A cistern is located above the brick retaining wall.

Two twentieth-century outbuildings located on a 12.5-acre parcel on the west side of Four Mile Road opposite Blau's Four Mile House were likely associated with the property, as both tracts are owned by Helen Reitman, a descendant of Nicholas Reitman. The northernmost of the two buildings, located approximately 30 ft west of the primary building, is a gable-roofed frame barn (Figure 182). The barn rests on a continuous concrete-block foundation and is clad in vertical-board siding and corrugated-metal panels beneath a corrugated-metal-panel roof. A single-leaf pedestrian entry with a vertical-board door and three window bays is located on its south gable end.



Figure 179. Site 117: shed-roofed frame outbuilding located northeast of Blau's Four Mile House.



Figure 180. Site 117: bank barn located east-northeast of Blau's Four Mile House.



Figure 181. Site 117: mortared-stone retaining walls located between Blau's Four Mile House and associated barn.



Figure 182. Site 117: gable-roofed frame barn located west of Blau's Four Mile House.

Approximately 50 ft southwest of Blau's Four Mile House is a front-gabled frame garage (Figure 183). The garage is clad in vertical-board siding beneath a corrugated-metal-panel roof. Mortared-stone and concrete-block foundation walls underlie its east and west elevations. Two double-leaf vehicular bays with hinged vertical-board doors are located on its east gable end. In the gable above the vehicular bays is a window with a six-light wood sash. Windows on the north and south elevations have been boarded over on the interior.

NRHP Evaluation: Listed. Blau's Four Mile House (Site 117) was listed in the NRHP in 1983 as one of approximately 30 properties included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 184 and includes Blau's Four Mile House and associated resources located on the east side of Four Mile Road. The twentieth-century outbuildings located on the west side of Four

Mile Road are not included within the NRHP boundary for Site 117 because they do not date to the property's period of significance.

Alterations to the residence since its listing are minimal and include the installation of replacement sashes in three windows and the removal of louvered wood shutters. These changes have not affected the aspects of the building's integrity that demonstrate its association with mid-nineteenth-century German settlement in the Camp Springs area, including its original location; rural setting in proximity to concurrent German settlement properties; the attributes of its construction that are demonstrative of its association with the local German vernacular building tradition, including its form and massing, hillside construction, rubble limestone masonry, segmental-arched window bays, and tooled cornerstones; and associations with the Blau family, natives of Prussian and Bavarian immigrant and local builder and entrepreneur Nicholas Reitman.



Figure 183. Site 117: front-gabled frame garage located southwest of Blau's Four Mile House.

Determination of Effect: No Adverse Effect. The proposed force main is to be located approximately 75 ft west of the NRHP-listed buildings associated with Site 117 at its closest point (see Figure 184) and will have no direct effects on the property. The nearest air release valve associated with the force main is to be located approximately .19 mi south of Site 117.

Potential indirect effects to be considered with regard to Site 117 include construction noise, mortar-joint damage, and force main system failure. These potential effects have been addressed by SD1 in the project design, as summarized in Section II of this report and outlined in Appendix A. With regard to mortar-joint damage specifically, no blasting will occur within 200 linear ft of the historic structures associated with Site 117. If

permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially damaging seismic levels resulting from project-related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Mechanical excavation will be utilized adjacent to the noncontributing barn and garage located on the west side of Four Mile Road so as to avoid damage to these buildings. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 117.

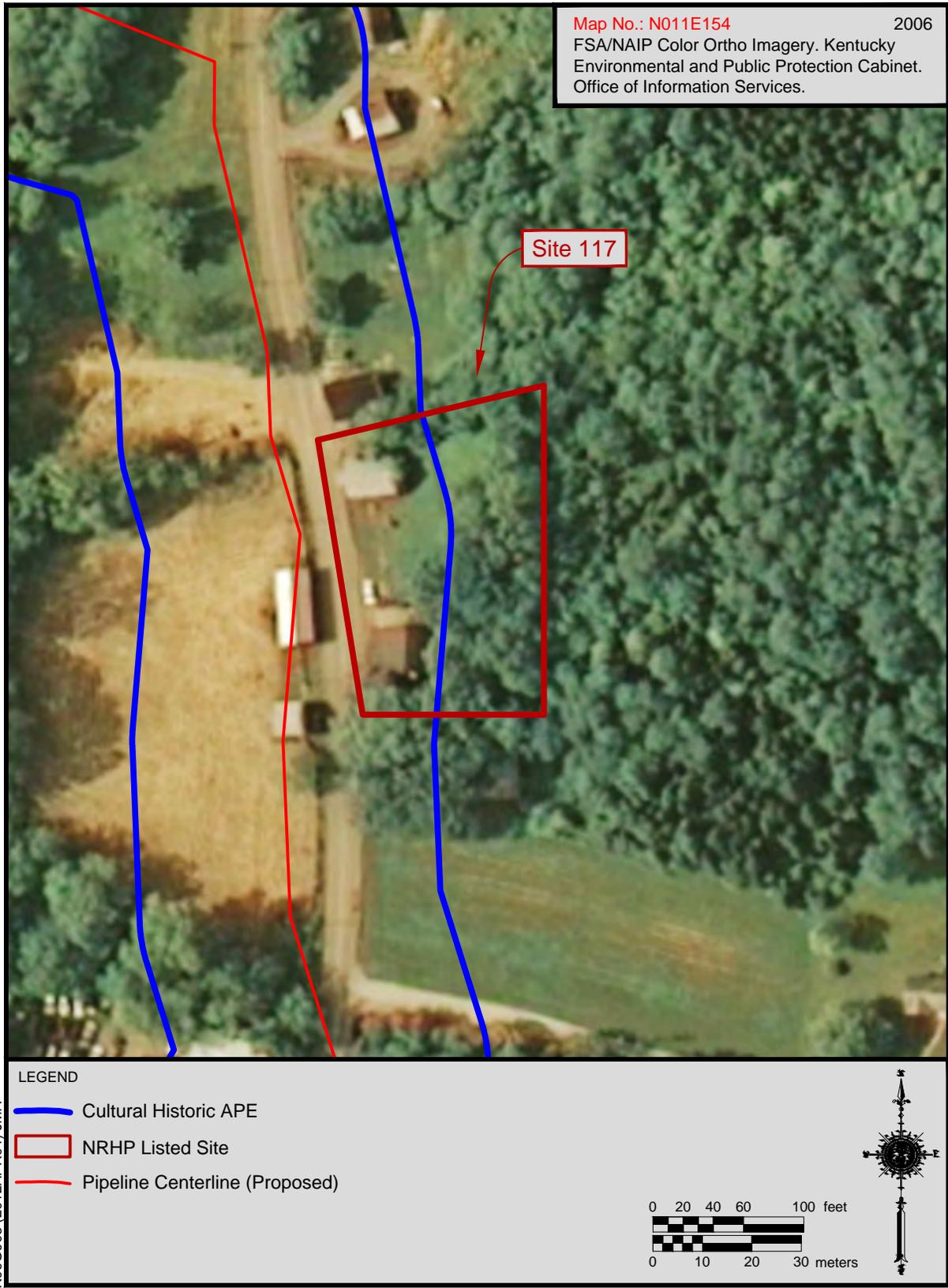


Figure 184. Site 117: aerial photograph depicting NRHP boundary in relation to APE.

Site 118

KHC Survey #: CP 318

Photographs: Figures 185 and 186

Map: Figures 2b and 3b

Zone: 16

Quad: Withamsville, OH-KY 1996

UTMs: E: 728396 N: 4319703

Property Address: 6753 Four Mile Road

Owner Information: Daniel A. Letang

8183 Tollgate Road

Alexandria, KY 41001

Deed Book/Page: 295/675

Construction Date: circa 1865

Description: Site 118 (CP 318) consists of an L-plan dwelling situated on a .284-acre residential lot on the east side of Four Mile Road north of its intersection with Leick Road in Camp Springs (see Figures 2b and 3b). A small modern shed and a concrete well are associated with the property. The house is oriented to the west and sits approximately 60 ft from the public ROW. It sits on a level, grassy lot bordered by mature trees and is accessed by a gravel driveway and a concrete sidewalk.

PVA records date the house to 1865, and the dwelling is first depicted on the 1883 map of the Alexandria Precinct where it appears to be identified with M. Spitzelberger (see Figure 9). Although archival research did not reveal any specific information about a "M. Spitzelberger," the family of Bartle and Victoria Spitzelberger, immigrants from Bavaria, are identified as residents of Newport, Kentucky, in the 1880 census. Bartle is identified as a stair builder. Several other individuals with this surname are listed in the church records of the Camp Springs community (Griffing 1883:45; USBC 1880).

The one-and-one-half-story, three-bay (w/d/w), cross-gabled, frame, L-plan residence (Figures 185 and 186) comprises

approximately 966 sq ft of living space. The dwelling rests on a mortared rock-faced stone foundation and has walls clad in aluminum siding beneath an asphalt-shingle roof. The façade features a single-bay, front-gabled projection to the south and a two-bay, side-gabled portion extending to the north. A single-bay porch is situated at the intersection of the front- and side-gabled sections, and it shelters the central front entrance into the side-gabled portion of the building and an entrance into the north elevation of the front-gable projection. The porch features a hip roof supported by square wood posts and trimmed with decorative spindlework. The wooden porch deck rests on a stone foundation and is bordered by a simple wood balustrade. Both entrances feature wooden doors set behind storm doors and topped with simple transoms. All of the building's windows contain replacement one-over-one-light, double-hung sashes, and those on the façade, north, and south elevations are flanked by fixed shutters. The building's gable ends feature cornice returns, and the roof of each section of the building is pierced by a central brick chimney. Beside the front porch, board and batten bulkhead cellar doors provide access to the basement.

NRHP Evaluation: Ineligible. Site 118 is one of many mid- to late-nineteenth-century German settlement properties located in the Camp Springs vicinity, approximately 30 of which are included as contributing properties within the NRHP-listed German Settlement, Four Mile Creek Area TR. The property was settled by a German immigrant family, but the form of the residence is typical of Kentucky's vernacular building tradition rather than that of the German settlers. As a whole, the property lacks the requisite significance and integrity for listing in the NRHP, hence the exclusion of the farmstead from the NRHP-listed German Settlement, Four Mile Creek Area TR.



Figure 185. Site 118 (CP 318): façade and north elevation of the residence.



Figure 186. Site 118: façade and south elevation of the residence.

Site 118 is a typical example of a mid- to late-nineteenth-century L-plan residence. It exhibits simple detailing, such as spindlework on the porch, which is commonly applied to this building form, but it is not a notable example of the folk Victorian style. Furthermore, the application of replacement siding and windows has compromised the building's integrity of materials and workmanship. Archival research identified no information to suggest that M. Spitzelberger was an individual of particular historical significance in the Camp Springs community, nor did it reveal any other association between Site 118 and events or persons of historical significance. Therefore, CRA recommends that Site 118 is not eligible for listing in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A

Site 119

KHC Survey #: CP 91

Photographs: Figures 187–199

Maps: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728566 N: 4319558

Property Address: 6771 Four Mile Road
Melbourne, KY 41059

Owner Information: Albert M., Iva C., Michael
A., and Julia M. Leick

6771 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 256/337

Construction Date: circa 1865

Description: The Leick House (Site 119 [CP 91]) is an NRHP-listed property located on a 42.98-acre parcel on the east side of Four Mile Road (see Figures 2b and 3b). The property is accessed via a concrete driveway that extends from the east side of Four Mile Road approximately 75 ft north of its intersection with

Gresskamp Road (Figure 187). The buildings associated with the property are situated on the northwesterly slope of a ridge spur above an unnamed tributary of Four Mile Creek. Wood and vinyl rail fences delineate the domestic yard from pastures to its northwest and southeast.

KHC personnel documented Site 119 during the 1979 countywide survey. The Leick House was listed in the NRHP in 1983 as a contributing property within the German Settlement, Four Mile Creek Area TR. It was also assessed in Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:52–33).

A residence owned by P. Leir is depicted in the approximate location of the Leick House in the 1883 county atlas (see Figure 9). The building was reportedly constructed circa 1865 as a convent to house nuns teaching at the nearby St. Joseph School (Site 122 [CP 62]) but was instead sold to Michael or Edward Leick as a residence. The property is still owned by members of the Leick Family (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:33).

The two-and-one-half-story, five-bay (w/w/d/w/w), double-pile, side-gabled residence (Figure 188) comprises approximately 3,626 sq ft of floor space. Like many of the German vernacular buildings located in the Camp Springs vicinity, it is of rubble limestone composition with segmental-arched bays, and its hillside construction allows direct access to the second level via a pedestrian entry on the rear elevation (Figure 189).

Since the Leick House was listed in the NRHP in 1983, a two-story, partial-width, vinyl-clad central pedimented porch with vinyl columns and an upper-level balustrade has been added to the façade elevation. The porch deck and surrounding stone balustrade are depicted in an early-twentieth-century photograph of the residence. A single-story, shed-roofed frame addition located on the dwelling's northeast elevation (Figure 190) was present as of 1979 but has since been reclad in vinyl siding. A shed-roofed porch with a central open-bed pediment and slender vinyl columns similar to those on the façade porch now spans the northeast elevation

of the addition, sheltering a secondary single-leaf pedestrian entry. The porch columns rest on a low stone wall similar in construction to the lower façade porch balustrade. A shed-roofed porch with similar columns and a poured-concrete deck spans the northeast half of the rear elevation, covering the aforementioned rear entry. The house's exterior doors and window sashes have been replaced throughout, and the segmental-arched upper portions of its entry and window bays, including the transom above the façade entry, have been infilled to accommodate the replacements. The roof of the residence is clad in asphalt shingles, and a shed-roofed, vinyl-clad dormer is centrally located on its rear slope. Interior brick ridge chimneys protruding from both ends of the building and an exterior brick chimney on the northeast gable end have been pargeted over.

Approximately 45 ft southeast and upslope of the residence is a shed-roofed frame outbuilding (Figure 191). It is clad in vertical-board siding and rests on a mortared-stone foundation beneath an asphalt-shingle roof. Single-leaf pedestrian entries on the outbuilding's northwest and southeast elevations

feature hinged vertical-board doors, the latter of which is a Dutch door. Windows have single six-light wood sashes.

A two-story, shed-roofed masonry outbuilding (Figure 192) is located approximately 50 ft east-southeast of the residence. KHC records indicate that the building was used as a chicken house. The upper level of the outbuilding is of running-bond brick construction, and the lower level is comprised of mortared fieldstone (Figure 193). As with the residence and other German vernacular buildings in the Camp Springs area, the outbuilding exhibits bank hillside construction. The upper and lower levels of the outbuilding are accessed via central pedestrian entries located on the southeast and northwest elevations, respectively. Both entries have unglazed wood-panel doors. Windows feature six-over-six-light, double-hung wood sashes, except for the lower-level windows on the southeast elevation, which have single three-light wood sashes. Lower level windows on both the northwest and southeast elevations have segmental-arched brick lintels (KHC survey and NRHP files).



Figure 187. Site 119 (CP 91): southeasterly overview of property.



Figure 188. Site 119: Leick House.



Figure 189. Site 119: southwest and rear elevations of residence.



Figure 190. Site 119: northeast elevation of residence.



Figure 191. Site 119: shed-roofed frame outbuilding located southeast of residence.



Figure 192. Site 119: two-story, shed-roofed masonry outbuilding located east-southeast of residence.



Figure 193. Site 119: northeast and northwest elevations of two-story, shed-roofed masonry outbuilding.

Spanning the slope between the residence and the aforementioned outbuildings are a pair of mortared-stone retaining walls (Figure 194). Both walls are of horizontally-coursed construction. Built into the lower wall is a gabled stone grotto.

Located approximately 20 ft east-northeast of the residence is a frame bank barn with extensive modifications (Figure 195). The interior of the barn was not accessible, but based on its architectural similarities with other German vernacular bank barns located in the Camp Springs vicinity, it most likely has a pegged mortise-and-tenon frame. It rests on a mortared-fieldstone foundation beneath a metal-panel roof, and its northwest gable end, most of its northeast elevation, and its southeast gable are clad in vertical-board siding. The remainder of the original portion of the barn, as well as shed-roofed additions on its southeast and southwest elevations, is clad in metal-panel siding (Figure 196). Projecting from the southwest elevation of the aforementioned southwesterly addition is a two-story, side-gabled frame garage addition (Figure 197). This addition is clad in vinyl siding and is supported by a continuous poured-concrete foundation beneath a metal-panel roof. It features three vehicular bays with segmental overhead doors on its northwest elevation. Pedestrian entries on its southeast and southwest elevations have half-light metal doors, and its windows have one-over-one-light, double-hung vinyl sashes.

A pair of mortared-stone gateposts (Figure 198) are located approximately 55 ft northeast of the residence. The gateposts exhibit horizontally-coursed construction and crenellated tops. A decorative replacement metal gate spans the void between the gateposts. The gateway provides access to the northeast pasture from the domestic cluster.

A mortared-stone culvert (Figure 199) underlies the driveway approximately 330 ft northwest of the residence. Its horizontally-coursed stonework appears to have been cut

back and infilled to accommodate a corrugated-steel culvert pipe. A poured-concrete deck spans the culvert.

NRHP Evaluation: Listed. The Leick House (Site 119) was listed in the NRHP in 1983 as one of approximately 30 properties included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 200 and includes the aforementioned residence, outbuildings, and stone retaining walls.

Modifications to the residence since it was listed in the NRHP include the addition of the two-story, vinyl-clad façade porch and the single-story porch on the northeasterly frame addition; the modification of entry and window bays; and the installation of replacement doors, window sashes, and decorative nonfunctional louvered shutters. As acknowledged by Ramler, the porch addition, in particular, has severely altered the appearance of the residence because it obscures a large portion of the façade elevation and is incompatible with the historical character of the property. The associated bank barn has also undergone extensive alterations that have compromised its historical form and appearance. As such, CRA recommends that Site 119 no longer retains sufficient integrity to convey its historical significance as a German settlement property in the Camp Springs area. Nevertheless, since Site 119 is currently listed in the NRHP, GRW and SD1 have approached the project design in relation to this property with the same care as the other listed properties.

Determination of Effect: No Adverse Effect. The proposed force main is to be located approximately .13 mi west-northwest of Site 119 at its closest point (see Figure 200) and will have no direct effects on the property. The nearest air release valve is to be located approximately .16 mi west-southwest of Site 119.



Figure 194. Site 119: mortared-stone retaining walls located southeast of residence.



Figure 195. Site 119: frame bank barn located east-northeast of residence.



Figure 196. Site 119: southwest elevation of bank barn.



Figure 197. Site 119: northwest and southwest elevations of barn and garage addition.



Figure 198. Site 119: mortared-stone gateposts located northeast of residence.



Figure 199. Site 119: mortared-stone culvert located northwest of residence.



Figure 200. Site 119: aerial photograph depicting NRHP boundary in relation to APE.

Potential construction noise, odor, mortar joint damage, and force main system failure are unlikely to indirectly affect the historical integrity of Site 119, considering the property's substantial distance from the proposed route of the force main. Nevertheless, if permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially damaging seismic levels resulting from project related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 119.

Site 120

KHC Survey #: CP 319

Photographs: Figures 201–203

Map: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH-KY 1981 (Revised 1992)

UTMs: E: 728361 N: 4319653

Property Address: Intersection of Four Mile and Leick Roads

Owner Information: n/a

Deed Book/Page: n/a

Construction Date: 1937

Description: Site 120 consists of a reinforced-concrete T-beam box culvert along Four Mile Road at its intersection with Leick Road that spans an unnamed tributary of Four Mile Creek (Figures 201–203). The east side is flanked by reinforced-concrete wing walls. The west side of the culvert is flanked by deteriorated mortared-stone wing walls. The date of construction is engraved at the top of the east side of the culvert. Site 120 does not appear on any map.



Figure 201. Site 120 (CP 319): westerly view of culvert.



Figure 202. Site 120: northeasterly view of culvert.



Figure 203. Site 120: underside of culvert.

NRHP Evaluation: Ineligible. According to the Kentucky Bridge Inventory, 1,845 concrete culverts were constructed within the commonwealth before 1960, 94 of which were constructed within District 6, which encompasses Campbell County (Abner 2010: 62, 67). Because the Kentucky Transportation Cabinet only documents culverts with a total length of 20 ft or greater, the actual number of these structures is unknown. Since concrete box culverts are an extremely common roadside engineering structure, they must maintain a high degree of physical integrity or retain unique characteristics to be eligible for listing in the NRHP (Abner 2010:116–117). They also may be considered significant if they display exceptional integrity or can be identified as having been built according to the standard plans of the transportation departments during the early twentieth century. There is no evidence that this culvert is an early or important example of this common type. Research also indicated no association between Site 120 and events or persons of historical significance. Consequently, CRA recommends that Site 120 is not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.

Site 121

KHC Survey #: CP 60

Photographs: Figures 204–212

Maps: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728343 N: 4319585

Property Address: 6810 Four Mile Road

Melbourne, KY 41059

Owner Information: Helen Reitman

2851 Fender Road

Melbourne, KY 41059

Deed Book/Page: 217/30

Construction Date: circa 1868

Description: Reitman’s St. Joseph House (Site 121 [CP 60]) (Figure 204) is an NRHP-listed property located on a 16-acre parcel on the east side of Four Mile Road immediately south of the road’s northernmost intersection with Gresskamp Road (see Figures 2a–2b and 3a–3b). The parcel extends to the west across Four Mile Road to include a round stone smokehouse, an extensively modified timber-frame barn, and three mid- to late-twentieth-century buildings associated with Reitman Auto Parts, an auto salvage yard. The residence is sited low on the westerly slope of a ridge spur at the eastern edge of the Four Mile Creek Valley. The buildings associated with Site 121 are located immediately adjacent to the ROW along Four Mile Creek Road. The property was surveyed from the ROW along Four Mile Creek and Gresskamp Roads.

Site 121 was recorded during the 1979 countywide survey, and in 1983 it was listed in the NRHP as a contributing property within the German Settlement, Four Mile Creek Area TR. Reitman’s St. Joseph House was also assessed in Ramler’s 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:40–41).

Reitman’s St. Joseph House is depicted in the 1883 county atlas (see Figure 9). It was constructed circa 1868 as a tavern and inn by Bavarian immigrant Nicholas Reitman, who was also instrumental in the construction of Blau’s Four Mile House (Site 117 [CP 61]). It now serves as a private residence. KHC records indicate that the stone smokehouse located north-northwest of the residence on the west side of Four Mile Road was likely associated with a farmhouse that is no longer extant (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:40).

The two-and-one-half-story, five-bay (w/w/w/d/w), double-pile, side-gabled building comprises approximately 1,864 sq ft of floor space and is indicative of the area’s German vernacular building tradition. It is of rubble limestone composition with segmental-arched bays, and its hillside construction allows direct access to the second level via pedestrian entries

on the rear elevation (Figure 205). A vaulted cellar located in the hillside to the rear of the dwelling was used to store wine and beer (KHC survey and NRHP files; Ramler 2010:40).

Single-leaf entries on the façade and both gable ends access the lower level of the building, which held the tavern historically. Entries have half- or multi-light wood-panel doors, with the exception of the easternmost entry on the north gable end, which has a replacement door. The westernmost entry on the north gable end retains its two-light transom. Windows have replacement sashes with false divisions, and louvered shutters depicted in photographs of the building taken in 1982 have since been removed. A historical photograph of the building indicates that the central lower-level façade window was previously an entry, as implied by discrepancies in the masonry below the window bay. A brick chimney projects from the rear slope of the building's asphalt-shingle roof (KHC survey and NRHP files; Ramler 2010:41).

Mortared-stone retaining walls (Figures 206 and 207) are located north and south of the residence along the west side of the house lot

parallel to Four Mile Road. Both retaining walls are of horizontally-coursed construction, and the southernmost example exhibits an undulating curvilinear form.

The round stone smokehouse (Figure 208) located approximately 50 ft north-northwest of the residence is one of three such German vernacular structures located in the Camp Springs area. It features a single-leaf pedestrian entry with a vertical-board door on its southeast side and small vertical wall vents. A conical asphalt-shingle roof shelters the smokehouse.

Opposite Reitman's St. Joseph House on the west side of Four Mile Road is a timber-frame bank barn (Figure 209) that has been extensively modified for commercial use associated with Reitman Auto Parts. The barn features a large gable-roofed concrete-block northerly extension and is clad in metal panels beneath a corrugated-metal-panel roof. Pedestrian and vehicular bays on its east and south elevations have mid- to late-twentieth-century metal doors, and windows on the north gable end of the addition feature four-light metal sashes.



Figure 204. Site 121 (CP 60): Reitman's St. Joseph House.



Figure 205. Site 121: rear elevation of residence.



Figure 206. Site 121: southerly overview of house lot depicting mortared-stone retaining wall located north of residence.



Figure 207. Site 121: mortared-stone retaining wall located south of residence.



Figure 208. Site 121: round stone smokehouse located north-northwest of residence.



Figure 209. Site 121: extensively modified timber-frame barn located west of residence.

Located north and south of the smokehouse and barn are three mid- to late-twentieth-century commercial buildings associated with Reitman Auto Parts (Figures 210 and 211). All three buildings are clad in metal-panel siding similar to that of the barn. A salvage yard (Figure 212) comprises the western portion of the property but is largely obscured from view along Four Mile Road by the aforementioned commercial buildings, which are located at a slightly higher elevation than the salvage yard.

NRHP Evaluation: Listed. Retiman's St. Joseph House (Site 121) and the round stone smokehouse located to the north-northeast were listed in the NRHP in 1983 as contributing resources included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 213 and includes the residence, smokehouse, and the two aforementioned

stone retaining walls. The modified barn and twentieth-century commercial buildings are excluded.

Modifications to Reitman's St. Joseph House since it was listed in the NRHP include the installation of replacement window sashes, installation of a replacement door on the north gable end, removal of louvered wood shutters from the window bays, and application of asphalt shingles to the roof. The stone smokehouse has also been reroofed with asphalt shingles but appears to be otherwise unchanged. These changes have not affected the aspects of integrity that demonstrate these buildings' significance with regard to mid-nineteenth-century German settlement in the Camp Springs area, including their original location; rural setting in proximity to other German settlement properties in the area; the attributes of their construction that are demonstrative of their association with the

local German vernacular building tradition, including their form and massing and rubble limestone masonry, and with regard to Reitman's St. Joseph House specifically, its hillside construction, segmental-arched window bays, and vaulted cellar; and affiliation with Bavarian immigrant and local builder and entrepreneur Nicholas Reitman. The commercial buildings located opposite Reitman's St. Joseph House on the west side of Four Mile Road have diminished the rural setting of the property but were already in place at the time of its nomination to the NRHP.

Determination of Effect: No Adverse Effect. As depicted in Figure 213, a portion of the proposed force main measuring approximately 20 ft in length is to be located within the NRHP boundary for Site 121 between Reitman's St. Joseph House and the round stone smokehouse. The nearest air release valve is to be located approximately 400 ft south of Site 121.

Mortar-joint damage is of special concern with regard to the stone buildings associated with Site 121 due to their proximity to the route of the proposed force main. As described

in Appendix A, SD1 will utilize directional drilling in the vicinity of these buildings in order to minimize the potential for mortar-joint damage. Additionally, no blasting will be conducted within 200 linear ft of these buildings and no rock hammering will occur within 75 ft. If permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially damaging seismic levels resulting from project related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Other potential effects include construction noise and force main system failure, which have been addressed by SD1 in the project design, as summarized in Section II of this report and outlined in Appendix A. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 121.



Figure 210. Site 121: commercial building located south of barn and smokehouse.



Figure 211. Site 121: commercial buildings located north of barn and smokehouse.



Figure 212. Site 121: salvage yard comprising western portion of property.

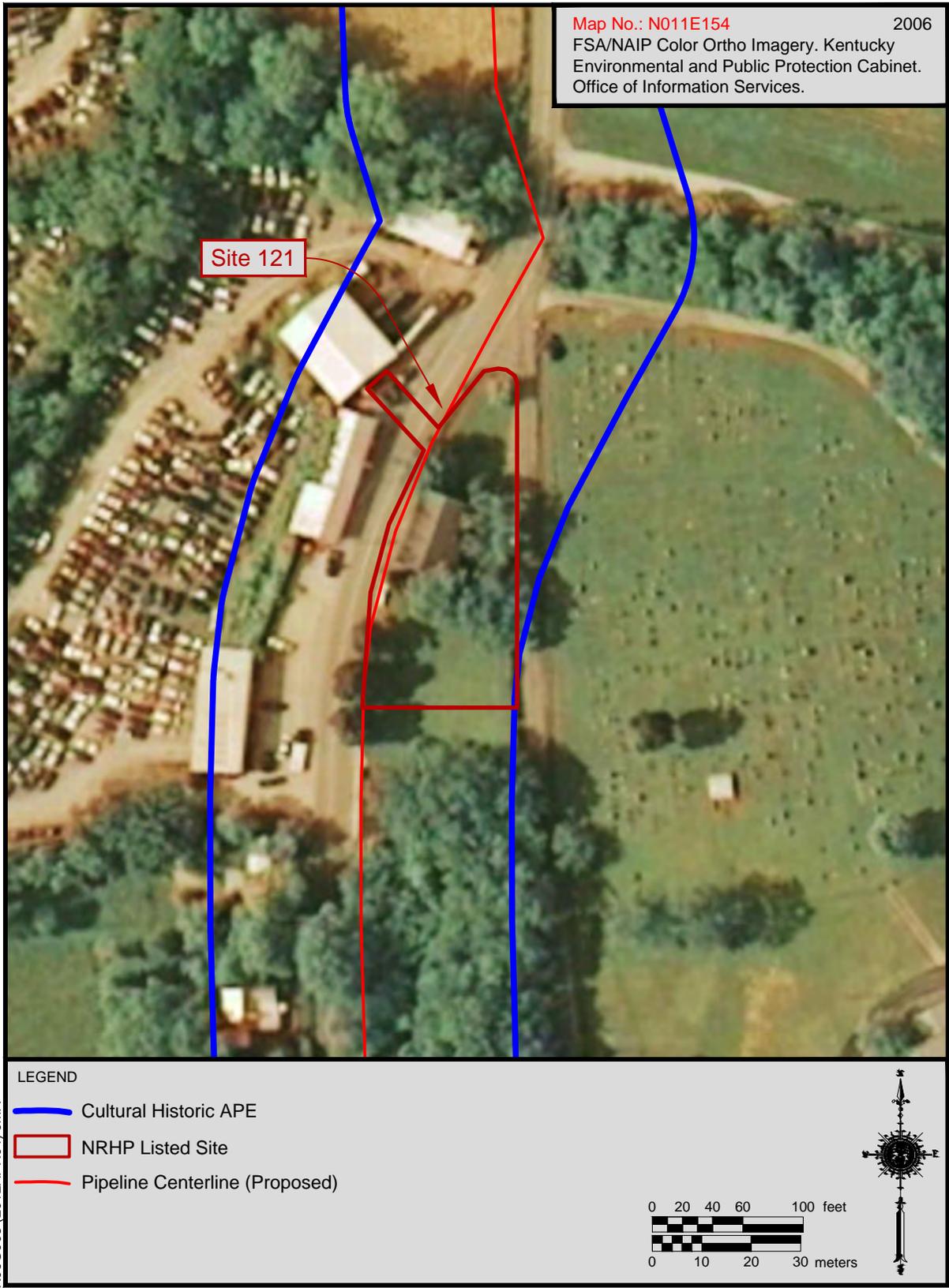


Figure 213. Site 121: aerial photograph depicting NRHP boundary in relation to APE.

Site 122

KHC Survey #: CP 62

Photographs: Figures 214–229

Maps: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728501 N: 4319429

Property Address: 6829 Four Mile Road
Melbourne, KY 41059

Owner Information: Diocese of Covington
6829 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 83/446; 112/161; 141/190;
242/576

Construction Date: 1864

Description: St. Joseph Catholic Church and Cemetery (Site 122 [CP 62]) is an NRHP-listed property located on an 18.9-acre parcel on the east side of Gresskamp Road between the road's northern and southern intersections with Four Mile Road (see Figures 2b and 3b). The church building (Figure 214) is situated atop a northwesterly ridge spur along with two associated twentieth-century buildings—the parish office and an elementary school. On the slope northwest of the church is the cemetery (Figure 215). An asphalt drive extends east-southeastward from Gresskamp Road and circumscribes the church, office, and school buildings. The cemetery is accessed via a concrete driveway that connects its northwestern corner with Gresskamp Road at the road's northernmost intersection with Four Mile Road.

Site 122 was recorded by KHC staff during the 1979 countywide survey. In 1983, St. Joseph Roman Catholic Church and St. Joseph's Cemetery were listed together in the NRHP as a contributing property within the German Settlement, Four Mile Creek Area TR. The property was also described in Ramler's 2010 suggested preservation and

design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:49).

The church, school, and cemetery are depicted in the 1883 county atlas (see Figure 9). Campbell County's first rural catholic church, St. Joseph Parish, was established in 1854 in a log building that was located within the area that now comprises the cemetery. The current church building was constructed 10 years later. St. Joseph School, established in 1868, is the oldest elementary school in the Diocese of Covington. In the 1920s, the current school building was constructed to replace an original stone building (Griffing 1883:45, 49; KHC survey and NRHP files; Ramler 2010:49).

The front-gabled church building is of 7:1 common-bond brick construction and includes approximately 3,772 sq ft of floor space within its rectangular plan. Oriented to the northwest, much of the original façade, including a Rosetta window, is hidden behind a circa-1970s gable-roofed brick vestibule that features a central, double-leaf entry with plate glass and metal doors (Figure 216). Above the vestibule on the façade gable is a datestone that reads "St. Joseph's Kirche/Erbant im Jahre/1864." Situated atop the gable is a belfry steeple. The belfry is of brick construction and features arched louvers. Arched windows on the northeast and southwest elevations carry ornate stained-glass sashes donated by members of the congregation between 1910 and 1912 (Figure 217). Secondary single-leaf entries with replacement doors are located on the northeast elevation, the southeasternmost of which features a segmental-arched brick lintel (Figure 218). Located between the northwesternmost two windows on this elevation is an exterior brick chimney. The building's rough-cut stone foundation is exposed beneath the sanctuary, and formed-concrete buttresses are located at its east and south corners. The low-pitched standing-seam metal roof features a docked rear gable (KHC survey and NRHP files; Ramler 2010:49).



Figure 214. Site 122 (CP 62): St. Joseph Roman Catholic Church.

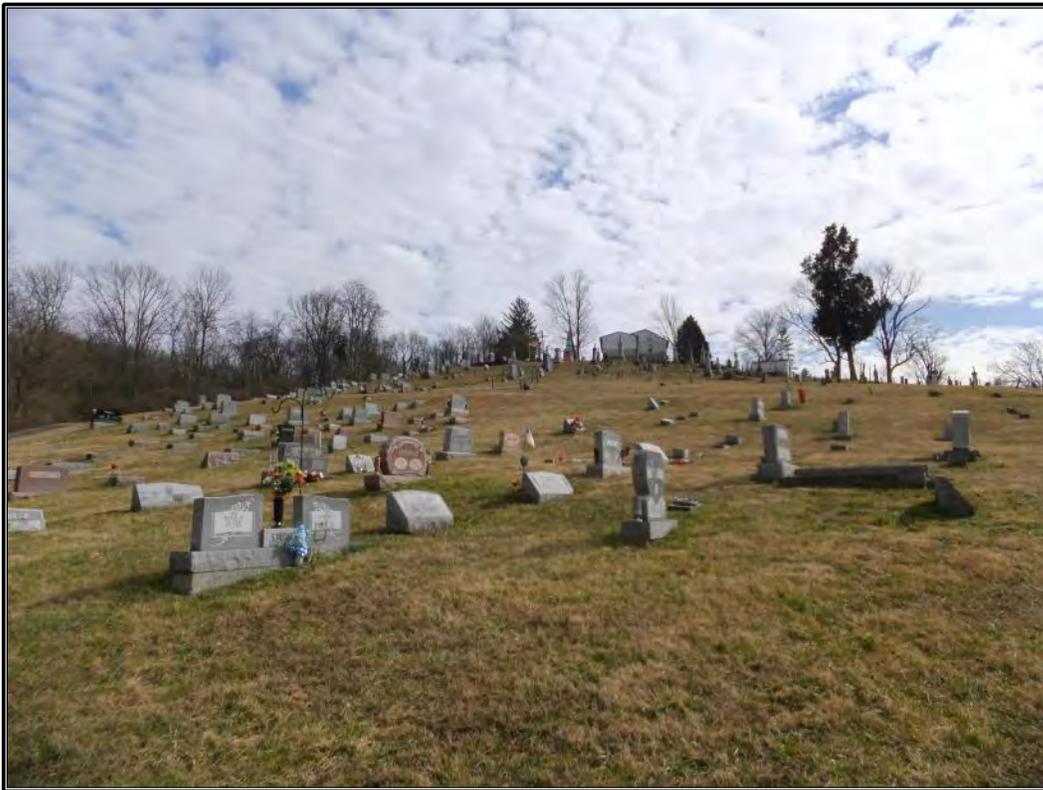


Figure 215. Site 122: south-southeasterly overview of St. Joseph's Cemetery.



Figure 216. Site 122: façade elevation of church building.



Figure 217. Site 122: arched window detail, southwest elevation of church building.



Figure 218. Site 122: northeast elevation of church building.

Approximately 25 ft west of the church building is a circa 1970s Ranch house (Figure 219). Built to replace the original priest's house—a two-and-one-half-story residence built in the Second Empire style—it now serves as the parish office.

Located approximately 25 ft north-northwest of the church building opposite the Ranch house is a mortared-stone Marian grotto (Figure 220). Effigies of Saints Bernadette of Lourdes and Mary are positioned at the northern and southern ends of the grotto, respectively. At its center is an altar-like structure into which a multi-colored Craftsman-style window has been set. Its date of construction is unknown, though it is depicted in a photograph that was taken in the 1940s (Ramler 2010:49).

Immediately north of the grotto, approximately 70 ft north-northwest of the church building, is a frame picnic shelter (Figure 221). Aerial photographs indicate that the shelter was erected sometime after July 1, 2010.

The circa 1920s two-story, side-gabled frame elementary school building (Figure 222) is located approximately 85 ft northwest of the church building. It is clad in vinyl replacement siding and rests on a continuous parge-ted brick

and concrete-block foundation beneath an asphalt-shingle roof. The building exhibits an asymmetrical form that is indicative of multiple phases of construction. The façade elevation is comprised of three sections, the central and northwesternmost of which are staggered in their northeasterly projection, and single-story gable- and hip-roofed concrete-block additions project from the rear elevation (Figure 223). A lower-level double-leaf entry with single-light metal doors is located on the central portion of the façade beneath a cantilevered, hipped-roof porch. Near the northwestern end of the façade is a secondary single-leaf entry with a similar door. A shed-roofed porch shelters a single-leaf entry with a multi-light wood-panel door on the southeast gable end. Secondary entries located on the north and rear elevations of the main block and on the rear additions have unglazed metal doors (Figure 224). On the main block, windows occur singly and in ribbons and exhibit both wood and replacement double-hung sashes of various light configurations, except for two basement windows located on the southeast elevation, which have metal casement sashes. Windows on the gable-roofed rear addition have metal awning sashes. An exterior brick chimney is located on the rear elevation to the northwest of the hip-roofed addition.



Figure 219. Site 122: Ranch house located west of church building.



Figure 220. Site 122: mortared-stone grotto located north-northwest of church building.



Figure 221. Site 122: picnic shelter located north-northwest of church building.



Figure 222. Site 122: two-story, side-gabled frame elementary school building located northwest of church building.



Figure 223. Site 122: rear and southeast elevations of school building.



Figure 224. Site 122: northeast and rear elevations of school building.

Southeast of the church building is an asphalt and gravel parking lot. A late-twentieth- or early-twenty-first-century prefabricated metal-clad storage building is located approximately 380 ft east of the church building to the north of the lot.

St. Joseph's Cemetery is a settlement-era Catholic cemetery associated with St. Joseph Parish. More than 800 marked graves dating from the 1850s into the 1990s are located within the cemetery, including the graves of many of the valley's mid-nineteenth-century German settlers. Surnames observed include Blenke, Betsch, Braun, Bree, Enzweiler, Faha, Fassler, Futscher, Gunkel, Heeb, Kort, Kremer, Leick, Lutz, Martz, Nöltner, Reitman, Ritter, Tischner, Vogel, Walters, and Weyer. Earlier burials are clustered near the center of the cemetery (Figure 225) and exhibit typical nineteenth-century grave marker iconography, including crosses (Figure 226), crowns, hands pointing down (Figure 227), lambs, and roses. Some family plots are circumscribed by mortared-stone and cast-concrete retaining walls. A number are inscribed in German.

Later graves are located around the periphery of the cemetery. Landscaping is limited to a few ornamental trees scattered about the well kept lawn. A chain-link fence encircles the cemetery, and a cast-concrete retaining wall is located along its western boundary. Cast-concrete and mortared-stone piers flank the concrete driveway at the cemetery's northwestern corner and a pedestrian entrance at its southern boundary, respectively (Figures 228 and 229).

NRHP Evaluation: Listed. In 1983, St. Joseph Catholic Church and Cemetery (Site 122) were listed in the NRHP as contributing resources included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 230 and includes the church building, grotto, and cemetery. The Ranch house and extensively modified circa-1920s school building are excluded. The picnic shelter and prefabricated storage building were erected well after the property's nomination for inclusion in the NRHP.

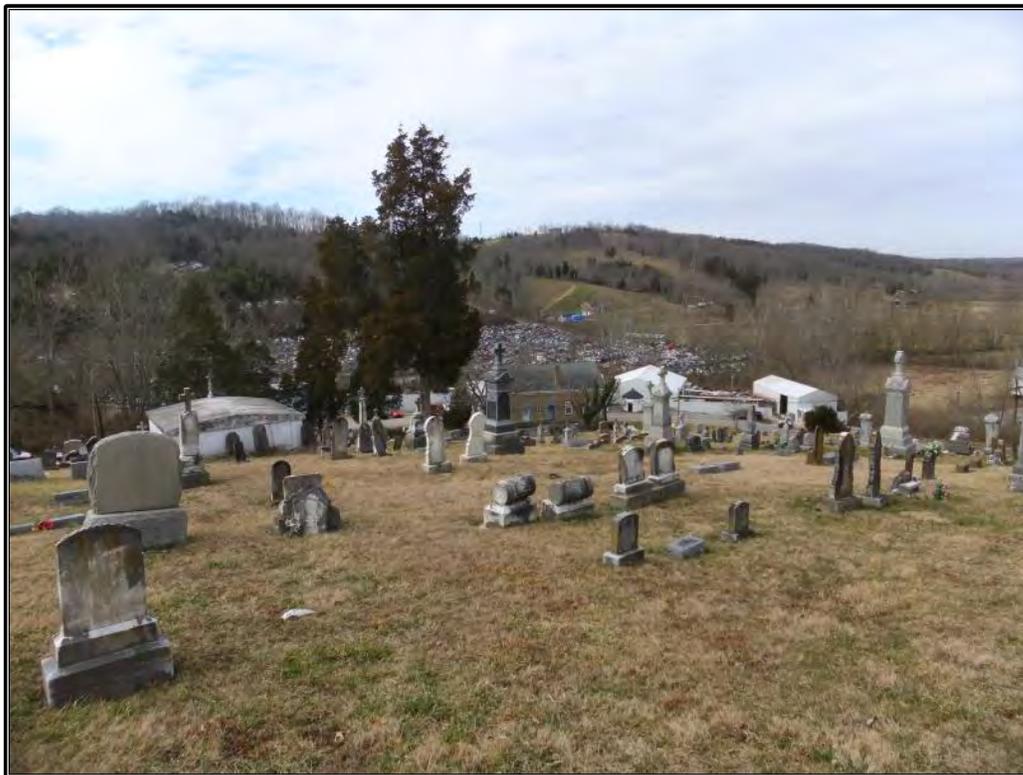


Figure 225. Site 122: northwesterly overview of central grave cluster.



Figure 226. Site 122: 1850 grave marker inscribed with cross iconography.

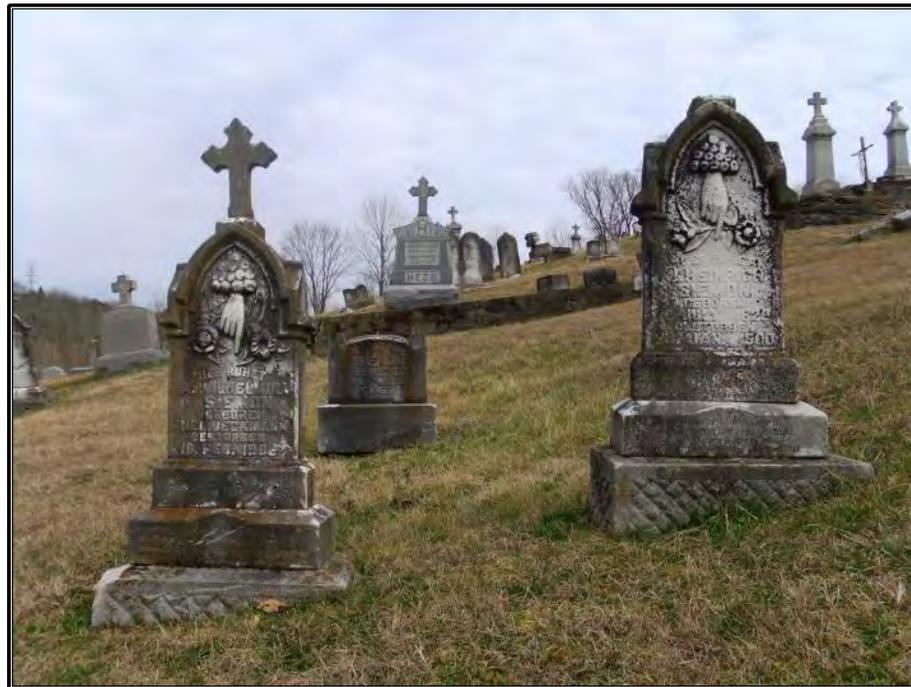


Figure 227. Site 122: 1900 and 1905 grave markers inscribed with hands-pointing-down iconography.



Figure 228. Site 122: cast-concrete piers and retaining wall flanking northwestern cemetery entrance.



Figure 229. Site 122: mortared-stone piers flanking southern cemetery entrance.

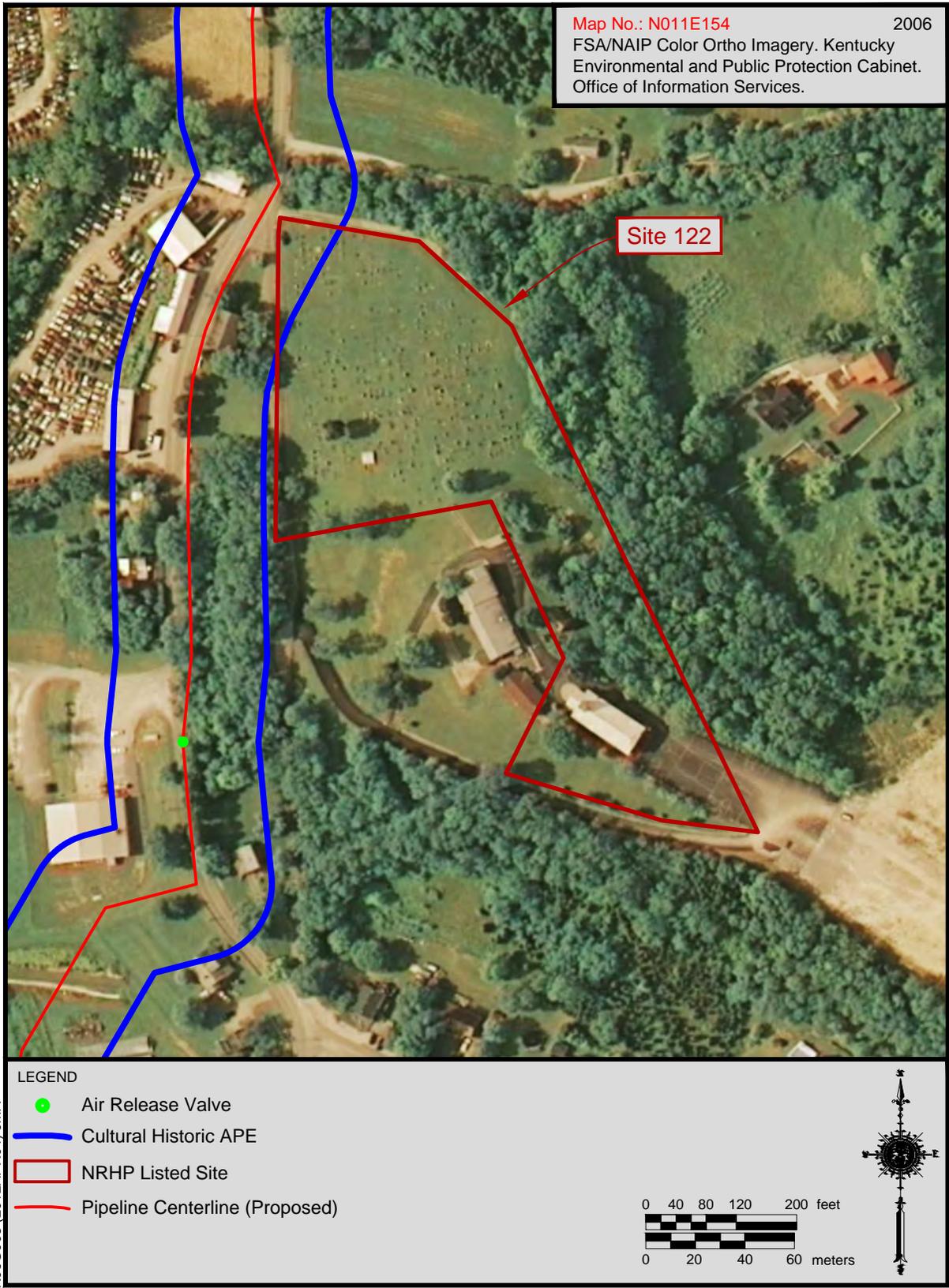


Figure 230. Site 122: aerial photograph depicting NRHP boundary in relation to APE.

No apparent alterations have been made to the church building and grotto since the property was nominated for listing in the NRHP, and aside from a few late-twentieth-century burials, the cemetery retains its historical character. The salvage yard associated with Site 121 (CP 60), which was in place at the time of the German Settlement, Four Mile Creek Area TR nomination's submittal, is visible from the higher elevations of Site 122 (see Figure 225, background) and has diminished the church property's integrity of setting. However, Site 122 retains the aspects of its integrity that demonstrate its significance as a German settlement property in the Camp Springs area, including its original location, rural setting in proximity to other German settlement properties in the area, and associations with the German families that settled the valley in the mid-nineteenth century and their cultural traditions (Daniels 2007:7-3–7-4).

Determination of Effect: No Adverse Effect. The proposed force main is to be located approximately 40 ft north-northwest of Site 122 at its closest point (see Figure 230), approximately 70 ft north-northwest of the nearest grave in St. Joseph's Cemetery, and approximately 530 ft from the circa 1864 church building. As such, implementation of the proposed project will have no direct effects on the property. The nearest air release valve associated with the force main is to be located approximately 240 ft west-southwest of Site 122.

Potential indirect effects to be considered with regard to Site 122 include construction noise, odors associated with the aforementioned air release valve, and force main system failure. These potential effects have been addressed by SD1 in the project design, as summarized in Section II of this report and outlined in Appendix A.

Measures have been taken in designing the proposed force main to mitigate the potential for odors, including minimizing the potential for air accumulation in the line; venting released air through the ground, where it is scrubbed, rather than directly into the

atmosphere; and installing and routinely maintaining chemical-impregnated carbon canisters at all entries. Also, if permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially-damaging seismic levels resulting from project-related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 122.

Site 123

KHC Survey #: CP 320

Photographs: Figure 231

Map: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH-KY 1981 (Revised 1992)

UTMs: E: 728331 N: 4319531

Property Address: n/a

Owner Information: n/a

Deed Book/Page: n/a

Construction Date: circa 1960

Description: Site 123 consists of a garage located along the east side of Four Mile Road approximately .1 mi south of its intersection with Gresskamp Road. It is situated on a heavily wooded lot that rises sharply from the road. Site 123 is first depicted on the 1972 New Richmond, OH-KY topographic quadrangle.

The garage is a one-story, four-bay (d/d/d/d), side-gabled concrete-block structure oriented to the west (Figure 231). It is constructed into the hillside so that portions of the north, south, and rear elevations are below grade. It is situated beneath an asphalt-shingle



Figure 231. Site 123 (CP 320): northeasterly view of garage.

roof. The area beneath the gable ends is clad with vinyl siding. The three garage bays are fronted by sectional garage doors. A pedestrian entry consisting of a door with a single light is located within the second northernmost bay. A small, shed-roof addition is attached to the center of the south elevation. It is constructed of the same wall and roof material.

NRHP Evaluation: Ineligible. The garage located at Site 123 is an undistinguished building form that lacks the architectural significance or integrity necessary to warrant NRHP eligibility under Criterion C. It is not of a significant style or early construction method. Research indicated no association between Site 123 and events or persons of historical significance. Consequently, CRA recommends that Site 123 is not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.

Site 126

KHC Survey #: CP 323

Photographs: Figures 232–235

Map: Figures 2b and 3b

Zone: 16

Quad: New Richmond, OH-KY 1981 (Revised 1992)

UTMs: E: 728341 N: 4319327

Property Address: 6886 Four Mile Rd.

Melbourne, KY 41059

Owner Information: Arlin and Mary Ann

Neltner

6886 Four Mile Rd.

Melbourne, KY 41059

Deed Book/Page: 174/194

Construction Date: 1924

Description: Site 126 is located at 6886 Four Mile Road along the west side of the intersection of Four Mile and Stonehouse Roads. The property consists of a residence, outbuilding, two garages, and several non-historic greenhouses constructed in 1980. The

structures are situated on a primarily grassy, .75-acre lot amidst rolling hills. A concrete driveway runs from the road to the garages and residence. The property is owned by the Neltner family, owners of the adjacent Neltner Farm (Site 127). Site 126 is first depicted on the 1953 New Richmond, OH-KY topographic quadrangle. However, based on its structure and form, the current residence dates to the mid-1920s.

The residence is a one-and-one-half-story, five-bay (w/w/d/w/w) frame Bungalow oriented to the northeast (Figure 232). It is situated on a pressed-concrete-block foundation beneath an asphalt-shingle roof. The house is constructed into the hillside so that the basement is exposed. It is clad with weatherboard. The area beneath the gable is clad with vinyl siding. The front-gabled dormer is clad with stucco. The residence comprises approximately 1,360 sq ft of living space.

The central façade entry consists of a paneled wood door set behind a storm door. It opens onto a concrete-block porch. The

porch's shed roof is supported by wood posts. A spindled wood railing runs the perimeter of the porch. Windows consist of single and paired three-over-one and four-over-one, double-hung wood sashes. A box bay window is located at the eastern corner of the southeast (side) elevation. An interior brick chimney extends from the slope of the roof on the rear elevation.

A one-story, front-gabled addition is attached to the southern half of the southeast (side) elevation (Figure 233). It is clad with aluminum siding. The area beneath the gable is clad with vinyl siding. An entry is located at the northern corner of the northeast elevation of the addition. It consists of a paneled door set behind an aluminum storm door. It opens onto cast-concrete steps. A metal railing lines the southern side of the steps. A bank of one-over-one, double-hung aluminum sash windows runs the length of the southeast elevation of the addition. A garage bay is located at the center of the exposed southeast foundation wall beneath the addition. It consists of a sectional garage door.



Figure 232. Site 126 (CP 323): southwesterly view of residence.



Figure 233. Site 126: westerly view of residence.

The outbuilding is located approximately 2 ft southwest of the residence. It is a one-story, front-gabled poured-concrete structure oriented to the northeast (Figure 234). It is situated beneath a standing-seam metal roof. An entry consisting of a wood-paneled door is located at the center of the front elevation. A hopper window is located at the center of the southeast (side) elevation directly beneath the roof. A brick chimney extends above the slope of the roof.

The garages are located approximately 59 ft southeast of the residence (Figure 235). They are spaced approximately 5 ft apart. The easternmost garage is a one-story, two-bay (d/d), front-gabled frame structure oriented to the northwest. It is situated on a poured-concrete foundation beneath an asphalt-shingle roof. It is clad with vinyl siding. The two garage bays are fronted by sectional garage doors. A pedestrian entry is located at the northern corner of the northeast (side) elevation. It consists of a paneled door with a single light. A fixed window is located at the southern corner of the northeast (side) elevation.

The westernmost garage is a one-story, one-bay (d), front-gabled frame structure also oriented to the northwest. It is situated beneath an asphalt-shingle roof. It is clad with vinyl siding. The foundation material is not visible. The garage bay is fronted by a sectional garage door. A pedestrian entry is located at the northern corner of the northeast (side) elevation. It consists of a door.

NRHP Evaluation: Ineligible. The American Bungalow, with its broad gables, dormers, and front porch, is a common house type built throughout Kentucky and the United States dating to the early twentieth century. As such, examples of this type must demonstrate exceptional architectural significance and integrity to be considered eligible for inclusion in the NRHP under Criterion C. Site 126 is not an outstanding example. While the residence retains several original elements, such as its weatherboard siding and Craftsman windows, overall it does not display an outstanding execution of the Craftsman style or Bungalow form necessary for inclusion in the NRHP. The outbuildings are also not of a significant style or early construction method.



Figure 234. Site 126: northwesterly view of outbuilding.



Figure 235. Site 126: southerly view of garages.

Research also indicated no association between Site 126 and events or persons of historical significance. Consequently, CRA recommends that Site 126 is not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.

Site 127

KHC Survey #: CP 324

Photographs: Figures 236–257

Map: Figures 2b and 3c

Zone: 16

Quad: Withamsville, OH–KY 1996

UTMs: E: 728354 N: 4319163

Property Address: 6922 Four Mile Road
Melbourne, KY 41059

Owner Information: Neltner Farm, LLC
6922 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 292/735

Construction Date: circa 1925

Description: Neltner Farm (Site 127 [CP 324]) (Figure 236) is located on a 49-acre parcel on the west side of Four Mile Road approximately 300 ft south of the road's intersection with Stonehouse Road (see Figures 2b and 3c). The farm complex, comprised of 18 buildings and structures, is sited on the Four Mile Creek floodplain. The residence sits back approximately 15 ft from the road and is oriented to the east. A poured-concrete drive with a westerly gravel extension connects the property with Four Mile Road. Marking the eastern boundary of the domestic yard along Four Mile Road is a two-rail vinyl fence. Post-and-wire fences delineate the farm's various pastures and fields.

The nineteenth-century origins of the property are unclear. The residence of a J. Schuchter is depicted in the approximate location of Site 127 in the 1883 county atlas

(see Figure 9). Census records indicate that Joseph and Annie Schuchter and their five Ohio-born children were residing in the Alexandria precinct of Campbell County in 1870. Joseph and Annie Schuchter are listed as French immigrants in the 1870 census, an apparent error reconciled in the 1900 census in which they are listed as natives of Germany. However, according to a warranty deed held by the Neltner family, Joseph Neltner acquired property from James and Susan Taylor in 1857, although the deed does not specify the nature of the property. German immigrants Joseph and Kate Neltner were residing in the Eight Mile precinct of Campbell County in 1870, and the 1883 county atlas depicts the residence of a J. Neltner on Twelve Mile Pike in the vicinity of Eight Mile Road. The KHC and Kentucky Department of Agriculture have recognized the Neltner Farm as a Centennial Farm (Griffing 1883:45, 49; USBC 1870, 1900).

The residence currently associated with Site 127 is a three-bay (w/d/w) frame American Bungalow (Figure 237). According to PVA records, the house was built circa 1925 and comprises approximately 1,579 sq ft. It is clad in vinyl replacement siding and rests on a continuous mortared-stone foundation beneath an asphalt-shingle roof. A single-story, shed-roofed frame addition projecting from the rear elevation shelters a basement-level carport (Figure 238).

An incised porch with vinyl-clad supports and a poured-concrete deck spans the façade elevation and shelters a central, single-leaf entry with a replacement three-quarter-light door and matching sidelights. Secondary single-leaf entries with nine-light replacement doors are located on the south gable end of the main block and on the north and south ends of the rear addition. A cantilevered awning shelters the entry on the south gable end. Windows feature one-over-one-light, double-hung replacement sashes with metal grids, and those located on the lower level of the main block are flanked by decorative louvered shutters. Projecting from the roof slope above the porch is a gable-roofed dormer, and a shed-roofed dormer is located on the rear roof

slope. An interior brick chimney protrudes from the roof ridge near the north gable end. The starburst detail in the gable of the façade dormer and the fishscale imbrication in the side gables are more often associated with earlier Queen Anne and Folk Victorian architectural trends than with Bungalows, which typically exhibit Craftsman-influenced details.

A single-story, front-gabled frame outbuilding (Figure 239) is located approximately 20 ft south of the residence. It is clad in aluminum replacement siding and rests on a continuous mortared-stone foundation beneath a standing-seam metal roof. The outbuilding features a central single-leaf entry with an aluminum storm door on its north gable end. Windows on its east, south, and west elevations have one-over-one-light, double-hung replacement sashes. An interior brick chimney protrudes from the east roof slope.

Approximately 15 ft southwest of the residence is a mortared-stone smokehouse with a pyramidal roof (Figure 240). A single-leaf pedestrian entry on its east elevation is offset to the right and has a replacement metal door. The roof of the smokehouse has been reclad in asphalt shingles and features a louvered cupola.

A two-story, gable-roofed frame outbuilding (Figure 241) is located approximately 90 ft south-southwest of the residence. According to property owner Kevin Neltner, the building was constructed in the 1980s (personal communication 2012). It is clad in board-and-batten, vertical-board, and metal-panel siding and rests on a concrete-block foundation beneath an asphalt-shingle roof. The outbuilding's banked construction is borrowed from the area's German vernacular building tradition. Three greenhouses (Figure 242), also built during the 1980s, are located west of the outbuilding, approximately 70 ft west-southwest of the residence.



Figure 236. Site 127 (CP 324): Neltner Farm.



Figure 237. Site 127: three-bay frame American Bungalow.



Figure 238. Site 127: north and rear elevations of residence.



Figure 239. Site 127: single-story, front-gabled frame outbuilding located south of residence.



Figure 240. Site 127: mortared-stone smokehouse located southwest of residence.



Figure 241. Site 127: two-story, gable-roofed frame outbuilding located south-southwest of residence.



Figure 242. Site 127: greenhouses located west-southwest of residence.

Located approximately 15 ft west of the residence is another two-story, gable-roofed frame outbuilding exhibiting banked construction (Figure 243). Its exterior walls and roof are clad in metal panels. Twin pedestrian entries with three-light wood-panel doors on the east elevation access the upper level of the outbuilding. The continuous mortared-stone foundation supporting the outbuilding's eastern half dates to the nineteenth century (Kevin Neltner, personal communication 2012). The western half of the building is supported by a continuous concrete-block foundation, which features lower-level vehicular bays with three-light segmented overhead wood doors located on its north and south ends (Figure 244). A shed-roofed carport with squared wood supports spans the lower portion of the west elevation, sheltering a single-leaf pedestrian entry with an unglazed replacement door. Projecting from the south gable end is a shed-roofed frame addition featuring a single-leaf entry with an unglazed replacement door on its south elevation. The outbuilding's windows have various sash types, including six-light fixed wood sashes, nine-light metal casement sashes, single-light wood sashes, and replacement metal awning and jalousie sashes. A well or cistern with a hand pump and a modern wood furnace are situated north and west of the outbuilding, respectively.

Approximately 125 ft west of the residence is a circa 1980s single-story, gable-roofed frame outbuilding (Figure 245). It is clad in aluminum replacement siding and rests on a foundation of heavy timbers beneath an asphalt-shingle roof.

A front-gabled frame garage (Figure 246) is located approximately 55 ft northwest of the residence. It is clad in vinyl replacement siding and rests on a continuous stone foundation beneath an asphalt-shingle roof. On its east gable end are twin vehicular bays with four-light segmented overhead doors, and a pedestrian entry with a replacement full-light door is located on its south elevation. A shed-roofed porch with

squared wood posts and a wood balustrade spans the north elevation, sheltering a second single-leaf pedestrian entry. Windows on the garage's north, west, and south elevations have one-over-one-light, double-hung sashes.

Approximately 90 ft north-northwest of the residence is a gable-roofed, timber-frame bank barn (Figure 247). Its pegged mortise-and-tenon frame is clad in replacement metal-panel siding and rests on a continuous mortared-stone foundation beneath a metal-panel roof. A central vehicular bay with suspended sliding metal doors on the east elevation accesses the upper level of the barn. Its lower level is accessed via a vehicular bay with a suspended sliding multi-light wood door and a single-leaf pedestrian entry with an unglazed wood door on the north elevation of the mortared-stone foundation. A shed-roofed addition located on the south gable end of the barn features a single-leaf pedestrian entry with a multi-light replacement door on its east end (Figure 248). Projecting from the north are two gable-roofed equipment-shed additions, both of which are open on their east elevations. A vehicular bay with a suspended sliding metal-panel door is located on the west elevation of the southernmost equipment-shed addition, and a second shed-roofed addition spans the west elevation of the barn's main block (Figure 249).

A gable-roofed frame barn (Figure 250) is located approximately 275 ft north-northwest of the residence on the north side of the westerly gravel branch of the driveway. It is clad in vertical-board siding and rests on a continuous fieldstone foundation beneath a metal-panel roof. On its east elevation is a central vehicular bay with suspended sliding vertical-board doors. To the left of the vehicular bay is a single-leaf pedestrian entry with a vertical-board door. Shed-roofed equipment-shelter additions span the north gable end and west elevation (Figure 251).



Figure 243. Site 127: two-story, gable-roofed frame outbuilding located west of residence.



Figure 244. Site 127: south and west elevations of two-story, gable-roofed frame outbuilding located west of residence.



Figure 245. Site 127: front-gabled frame garage located northwest of residence.



Figure 246. Site 127: single-story, gable-roofed frame outbuilding located west of residence.



Figure 247. Site 127: timber-frame bank barn located north-northwest of residence.



Figure 248. Site 127: east and south elevations of bank barn.



Figure 249. Site 127: north and west elevations of bank barn.



Figure 250. Site 127: gable-roofed frame barn located north-northwest of residence.



Figure 251. Site 127: south and west elevations of gable-roofed frame barn located north-northwest of residence.

Several circa-1980s outbuildings are located on the northern portion of the property. A pair of greenhouses (Figure 252) are located approximately 400 ft north of the residence. Approximately 225 ft northwest of the residence on the south side of the aforementioned gravel drive is a shed-roofed frame poultry coop (Figure 253). A side-gabled metal-clad pole barn (Figure 254) is located opposite the poultry coop approximately 275 ft northwest of the residence. A shed-roofed utility building and a gable-roofed equipment shelter (Figure 255)—two outbuildings of late-twentieth-century construction—are located in a pasture on the west side of Four Mile Creek approximately 310 ft northwest and .12 mi west of the residence, respectively.

Also associated with Site 127 are a number of stone retaining walls. Mortared, horizontally-coursed retaining walls are located north of the residence and the two-story outbuilding to its west (Figure 256) and to the east of the bank barn (Figure 257). A

dry-laid, horizontally-coursed retaining wall is located along the north bank of a small westerly tributary of Four Mile Creek on the northern portion of the property (see Figure 252, foreground).

NRHP Evaluation: Ineligible. Site 127 is one of several mid- to late-nineteenth-century German settlement properties located in the Camp Springs vicinity, approximately 30 of which are included as contributing properties within the NRHP-listed German Settlement, Four Mile Creek Area TR. Archival data indicate that the farmstead was settled by German immigrants, and the stone smokehouse and bank barn associated with Site 127 are both representative of German vernacular buildings associated with settlement-era farmsteads in the Four Mile Creek vicinity. However, these buildings and the farmstead as a whole lack the requisite integrity for inclusion in the NRHP, hence the exclusion of Site 127 from the NRHP-listed German Settlement, Four Mile Creek Area TR.



Figure 252. Site 127: greenhouses located north of residence.



Figure 253. Site 127: shed-roofed frame poultry coop located northwest of residence.



Figure 254. Site 127: side-gabled metal-clad pole barn located northwest of residence.



Figure 255. Site 127: westerly overview depicting circa-1980s outbuildings located west and northwest of residence.



Figure 256. Site 127: mortared-stone retaining walls located north of residence and the two-story outbuilding to its west.



Figure 257. Site 127: mortared-stone retaining walls located east of bank barn.

The American Bungalow associated with Site 127 is an unremarkable example of a ubiquitous early-twentieth-century house form that lacks the distinctive Craftsman-inspired details often applied to dwellings of its type and era. Rather, the decorative imbrication in its gables, which was likely added when the house was re-sided, is indicative of pre-Craftsman trends in domestic architecture. Alterations to the residence, including replacement of the façade porch supports, construction of the rear addition and shed-roofed dormer, application of replacement siding, and installation of replacement doors and windows, have compromised its integrity of design, materials, and workmanship. The dwelling is not representative of German vernacular residences in the Four Mile Creek area, which are typically two-story, double-pile, side-gabled buildings of rubble limestone construction.

As stated, the stone smokehouse and bank barn associated with Site 127 are both indicative of the local German vernacular building tradition. The smokehouse features a replacement door and asphalt-shingle roof, which have diminished its architectural integrity. The bank barn has been subjected to extensive alterations, including the construction of additions on three of its four elevations, application of replacement siding, and installation of replacement doors, which have compromised its integrity of design, materials, and workmanship. Other outbuildings associated with the property exhibit stone foundations and hillside construction but are not representative of German vernacular building types and lack physical integrity. Furthermore, many outbuildings are less than 50 years old, impacting one's understanding of the farmstead's historical nature.

The buildings comprising Site 127 retain their location and setting among the other German settlement properties in the Four Mile Creek Valley but otherwise lack the historical significance and integrity exhibited by neighboring NRHP-listed properties included in the German Settlement, Four Mile Creek Area TR. Furthermore, archival research indicated no association between the property and other events or persons of historical significance,

including the Schuchter and Neltner families. None of the buildings associated with the farmstead is an outstanding example of a particular architectural type, period, or method. As a result, CRA recommends that Site 127 is not eligible for listing in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.

Site 128

KHC Survey #: CP 52

Photographs: Figures 258–263

Maps: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728359 N: 4318855

Property Address: 7056 Four Mile Road
Melbourne, KY 41059

Owner Information: Keith E. Neltner
7056 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 235/475

Construction Date: circa 1852

Description: The Baumann House (Site 128 [CP 52]) (Figure 258) is an NRHP-listed property located on a 2.6-acre parcel on the west side of Four Mile Creek Road approximately 600 ft north of the road's intersection with Poplar Ridge Road (see Figures 2b and 3c). The house is sited on the Four Mile Creek floodplain and is accessed via a concrete driveway that extends northward from the west side of Four Mile Creek Road.

Site 128 was documented during the 1979 countywide survey, and in 1983 it was listed in the NRHP as a contributing property within the German Settlement, Four Mile Creek Area TR. The residence was subsequently evaluated in Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:14–15).

Depicted in the 1883 county atlas (see Figure 9), the Baumann House is an early example of the mid-nineteenth-century German vernacular architecture that defines the historical built environment of the Camp Springs area. The residence was constructed circa 1852 by Prussian immigrant and farmer Isador(e) Baumann, who occupied the property into the late nineteenth century (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:14).

The two-story, three-bay (w/d/w), side-gabled residence comprises approximately 2,912 sq ft of floor space. It is of rubble limestone construction and exhibits the flat wood and sandstone lintels associated with earlier German vernacular stone residences in the Camp Springs area. Like many such homes, the Baumann House is sited on a hillside, affording direct access at multiple levels. A two-story, gable-roofed frame ell extends from the rear elevation of the main block, and a later single-story, gable-roofed frame kitchen addition projects from the gable end of the ell (Figure 259) (KHC survey and NRHP files; Ramler 2010:14).

The central, single-leaf façade entry has a half-light replacement door and a simple enframing comprised of a plain entablature and pilasters (Figure 260). A shed-roofed porch with squared wood supports and a wood balustrade spans the south elevation of the two-story ell, sheltering a secondary single-leaf entry with a multi-light replacement door. Basement-level entries on the gable ends of the ell and kitchen addition have replacement and vertical-board doors, respectively. A bulkhead basement entry with metal doors is located at the base of the south gable end of the main block. To its left is an exterior brick end chimney. Windows feature one-over-one-light, double-hung replacement sashes—some of which have false divisions—and decorative plastic louvered shutters. The roofs of the main block and additions are covered in asphalt shingles, and the southerly porch has a standing-seam metal roof. Both the ell and the kitchen addition are clad in vinyl siding and have continuous mortared-fieldstone foundations.

Approximately 15 ft southwest of the residence is a front-gabled brick smokehouse with a continuous mortared-stone foundation and a metal-panel roof (Figure 261). The central, single-leaf entry on its east gable end features a half-light wood-panel door. Windows on the north and south elevations have one-over-one-light, double-hung replacement sashes with false divisions, and a third window on the rear elevation has been covered over with metal panels. An interior brick chimney projects from the southerly roof slope near the outbuilding's southwest corner. A cistern with a cast-concrete pad is located between the smokehouse and the residence.

A one-and-one-half-story, gambrel-roofed frame garage (Figure 262) is located approximately 50 ft south of the residence. Aerial photographs indicate that it was constructed after July 1, 2010.

According to KHC records, a bank barn with a stone foundation was previously sited in the current location of the garage, and a frame shed was located approximately 100 ft south-southwest of the residence. Aerial photographs taken in 2010 depict the shed.

A pair of mortared-stone piers (Figure 263) flanks the driveway at its intersection with Four Mile Road. Both piers exhibit horizontally-coursed construction and capstones with pineapple finials.

NRHP Evaluation: Listed. The Baumann House (Site 128) was listed in the NRHP in 1983 as a contributing resource included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 264 and includes the residence, smokehouse, cistern, and the nonextant bank barn and frame shed documented in 1979. CRA recommends that this boundary be amended to exclude the twenty-first-century garage now sited in the former location of the bank barn so as to exclude this non-contributing resource.



Figure 258. Site 128 (CP 52): Baumann House.



Figure 259. Site 128: south and rear elevations of residence.



Figure 260. Site 128: façade elevation of residence.



Figure 261. Site 128: front-gabled brick smokehouse located southwest of residence.



Figure 262. Site 128: gambrel-roofed frame garage located south of residence.



Figure 263. Site 128: mortared-stone piers flanking driveway.



Figure 264. Site 128: aerial photograph depicting NRHP boundary in relation to APE.

Alterations to the Baumann House since its listing in the NRHP include the installation of replacement doors, window sashes, and decorative louvered sashes; the application of vinyl siding to the rear ell and kitchen addition; the removal of a screened enclosure from the shed-roofed porch; and the removal of an interior brick chimney from the gable end of the kitchen addition. The door and side windows of the smokehouse have also been replaced. Nonetheless, these changes have not affected the aspects of the property's integrity that demonstrate its significance as a mid-nineteenth-century German settlement in the Camp Springs area, including its original location; rural setting in proximity to other German settlement properties in the area; the attributes of its construction that are demonstrative of its association with the local German vernacular building tradition, including its form and massing, rubble limestone masonry, and hillside construction and its association with Prussian native Isador(e) Baumann.

Determination of Effect: No Adverse Effect. As depicted in Figure 264, a portion of the proposed force main measuring approximately 140 ft in length is to traverse the western portion of the 2.6-acre tract upon which Site 128 is located. The force main is to be located approximately 315 ft west of Site 128 at its closest point and approximately 400 ft west of the masonry buildings associated with the property. Therefore, implementation of the proposed project will have no direct effects on the property. The nearest air release valve associated with the force main is to be located approximately .34 mi north of Site 128.

Potential indirect effects to be considered with regard to Site 128 include construction noise, mortar-joint damage, and force main system failure. These potential effects have been addressed by SD1 in the project design, as summarized in Section II of this report and outlined in Appendix A. If permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in

blasting and construction vibrations. If potentially damaging seismic levels resulting from project related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues.

Based on project mapping provided by GRW Engineers, Inc., it appears that installation of the force main may require removal of a tree located on the western portion of the 2.6-acre tract. This young tree is located outside the NRHP boundary for Site 128 and does not contribute to its NRHP eligibility. SD1 plans to replace the tree as outlined in Appendix A, which will result in no lasting impact to the setting of the property. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 128.

Site 129

KHC Survey #: CP 325

Photographs: Figures 265–267

Map: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH-KY 1981 (Revised 1992)

UTMs: E: 728323 N: 4318675

Property Address: 1986 Poplar Ridge Rd.

Melbourne, KY 41059

Owner Information: Northern KY Saddle

Club

1986 Poplar Ridge Rd.

Melbourne, KY 41059

Deed Book/Page: 135/7

Construction Date: circa 1940

Description: Site 129 consists of the Northern Kentucky Saddle Club located at 1986 Poplar Ridge Road along the north side of its intersection with Four Mile Road. The club consists of a recreation hall, garage, and

prefabricated shed. Several non-historic structures, including a picnic shelter and show ring, are also associated with the site. The structures are situated on an approximately 7.509-acre lot. The landscape rises to the west of the structures along Four Mile Creek. According to a Saddle Club employee, the recreation hall was constructed in 1940. Site 129 is first depicted on the 1981 New Richmond, OH-KY topographic quadrangle.

The recreation hall is a one-story, two-bay (ww/dd), front-gabled frame and concrete-block structure oriented to the west (Figures 265 and 266). The façade and northern elevation appear to be concrete-block additions to an earlier structure. The remainder of the structure appears to be of frame construction. The structure is situated beneath a ribbed-metal roof. The original portion of the structure is clad with board and batten. The central façade entry is enclosed within a front-gabled extension and consists of paired casement doors. Windows consist of metal, fixed-sash windows. Another entry is located at the center of the south elevation. It consists of a casement door. An exterior brick chimney is attached to the center of the rear elevation. It extends above the roof peak.

The garage is located approximately 29 ft north of the recreation hall. It is a one-story, two-bay (d/d), front-gabled frame structure oriented to the south (Figure 267). It is situated on a concrete-block foundation beneath a ribbed-metal roof. It is clad with ribbed metal. The easternmost garage bay is fronted by a sectional garage door. The westernmost bay consists of a metal door.

The prefabricated shed is located approximately 10 ft west of the garage. It is a shallow, front-gabled, ribbed-metal structure (see Figure 267). It is situated on a poured-concrete pad.

NRHP Evaluation: Ineligible. The structures located at Site 129 are undistinguished building forms that lack the architectural significance or integrity necessary to warrant NRHP eligibility under Criterion C. They are not of a significant style or early construction method. Research also indicated no association between Site 129 and events or persons of historical significance. Consequently, CRA recommends that Site 129 is not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.



Figure 265. Site 129 (CP 325): northeasterly view of recreation hall.



Figure 266. Site 129: rear elevation of recreation hall.



Figure 267. Site 129: garage and prefabricated shed.

Site 130

KHC Survey #: CP 81

Photographs: Figures 268–277

Maps: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728380 N: 4318258

Property Address: 7251 Four Mile Road
Melbourne, KY 41059

Owner Information: Michael A. and Kathleen
Haas

7251 Four Mile Road

Melbourne, KY 41059

Deed Book/Page: 295/695

Construction Date: circa 1850

Description: The Gubser-Schuchter Farm (Site 130 [CP 81]) is an NRHP-listed property located on a 3.85-acre parcel on the east side of Four Mile Creek Road approximately .27 mi south of the road's intersection with Poplar Ridge Road (see Figures 2b and 3c). The farm is situated low on the southwesterly slope of a ridge spur above the Four Mile Creek Valley. The house and ancillary buildings are accessed via a gravel drive extending eastward from Four Mile Road.

Site 130 was recorded during the 1979 countywide survey and listed in the NRHP in 1983 as a contributing property within the German Settlement, Four Mile Creek Area TR. The property was also evaluated in Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:26).

The residence associated with the property is depicted in the 1883 county atlas as that of A. Kupser (elsewhere spelled Gubser) (see Figure 9). According to KHC records, Andrew Gubser, a Swiss immigrant and farmer, built the house circa 1850. In 1883, Gubser sold his

30-acre farm to wine producers Frank and Katherine Schuchter. Census records indicate that the Schuchters immigrated to the United States from Germany in 1861 (Griffing 1883:45, 49; KHC survey and NRHP files; Ramler 2010:26; USBC 1900).

The two-story, three-bay (w/d/w), double-pen, side-gabled log dwelling (Figure 268) comprises approximately 1,920 sq ft of living space and is one of the earlier residences included in the German Settlement, Four Mile Creek Area TR. The house shares architectural characteristics with neighboring German vernacular stone dwellings, including its bank construction and rubble limestone foundation and rear addition (Figure 269).

The main block of the residence is clad in weatherboard siding beneath an asphalt-shingle roof and features a single-story, full-width, shed-roofed façade porch with replacement decorative metal supports and a balustrade (Figure 270). The single-leaf façade entry is offset to the left and has a half-light wood-panel door. Located on the mortared-fieldstone foundation beneath the porch is a single-leaf basement entry with a replacement metal door. This entry is offset to the right and flanked by mortared-stone retaining walls that project from the foundation. The aforementioned rubble limestone addition spanning the rear addition is one and one-half stories in height and features a secondary single-leaf entry with a replacement door on its south elevation. A shed-roofed porch with beveled wood supports shelters the entry and a window to its right. The upper level of the addition has been enlarged, resulting in an increase in the height of its roof. This newer frame portion of the addition is clad in aluminum siding. Windows on the façade and north elevations of the main block have vertically-oriented two-over-two-light, double-hung wood sashes, and those located on the south gable end have replacement jalousie sashes. Attic windows in both gables have two-light wood sashes. Windows on the rear addition feature both wood and replacement sashes. An exterior brick end chimney is located on the north elevation to the right of the windows.

Located just a few feet east of the northeast corner of the residence is a front-gabled mortared-stone smokehouse with a standing-seam metal roof (Figure 271). It features a central, single-leaf pedestrian entry with a vertical-board door on its east gable end, which is sheltered beneath a projecting gable. Beneath the smokehouse is a vaulted cellar, which the Schucter family purportedly used for wine storage (KHC survey and NRHP files; Ramler 2010:26).

Approximately 10 ft east-southeast of the residence is a front-gabled frame summer kitchen (Figure 272). It is clad in vertical-board siding and rests on a continuous mortared-stone foundation beneath a corrugated-metal-panel roof. The single-leaf pedestrian entry on its west gable end is offset to the left and has an unglazed wood-panel door. Windows to the right of the entry and on the north and south elevations have single two-light wood sashes. Atop the rear gable is an interior brick end chimney. A small shed-roofed frame addition with a doorless entry projects from the north elevation into a frame and wire pen attached to the outbuilding.

Spanning the rear yard between the smokehouse and summer kitchen is a mortared-stone retaining wall (Figure 273). It is of horizontally-coursed construction and features integrated steps at its south end.

A front-gabled frame shed (Figure 274) is located approximately 70 ft east-southeast of the residence. It is clad in rolled-asphalt siding and rests on a continuous mortared-stone foundation beneath a corrugated-metal-panel roof. A double-leaf entry bay on its west gable end has hinged vertical-board doors. In the gable above the entry is a small window with a single-light wood sash. Windows on the north and south elevations have one-over-one-light, double-hung and side-by-side sliding metal sashes. Projecting from the rear gable end is a shed-roofed frame and mortared-stone addition. On its south elevation is a single-leaf pedestrian entry with a vertical-board door. To the right of the entry is a window with a single three-light wood sash. Above the addition on the east gable end of the outbuilding is a single-leaf pedestrian entry with an unglazed wood-panel door.



Figure 268. Site 130 (CP 81): Gubser-Schuchter House.



Figure 269. Site 130: south and rear elevations of residence.



Figure 270. Site 130: façade elevation of residence.



Figure 271. Site 130: front-gabled stone smokehouse located east of residence.



Figure 272. Site 130: front-gabled frame summer kitchen located east-southeast of residence.



Figure 273. Site 130: mortared-stone retaining wall located east of residence.



Figure 274. Site 130: front-gabled frame shed located east-southeast of residence.

Approximately 85 ft southeast of the residence is a dilapidated mortared-stone outbuilding with a gabled corrugated-metal-panel roof (Figure 275). According to KHC records, it was used as a chicken coop. The rubble limestone walls of the outbuilding have collapsed at its southeastern corner and to the right of an entry bay on its west elevation (KHC survey and NRHP files).

East of the aforementioned mortared-stone outbuilding is a continuous mortared-stone foundation. Its location corresponds with a structure depicted on the site map attached to the 1979 KHC inventory form, though no description of the structure was provided (KHC survey and NRHP files).

A gable-roofed frame bank barn with a continuous mortared-stone foundation (Figures 276 and 277) is located approximately 100 ft south of the residence. The barn has a pegged mortise-and-tenon frame and is clad in vertical-board siding beneath a corrugated-metal-panel roof. The upper level of the barn is accessed via a central double-leaf vehicular bay with suspended sliding vertical-board doors located on the north elevation. An inaccessible

threshing bay with a suspended sliding vertical-board door is centrally located on the upper level of the south elevation. The lower level of the barn is accessed through single-leaf pedestrian entries with vertical-board Dutch and ledged-and-braced doors on its east, south, and west elevations. Lower-level windows on these same elevations have vertically-oriented four-over-four-light, double-hung wood sashes.

Located approximately 50 ft north of the residence is a twenty-first-century greenhouse. Aerial photographs indicate that the greenhouse was erected sometime between 2008 and 2010. A prefabricated shed is situated immediately east of the bank barn.

NRHP Evaluation: Listed. The Gubser-Schuchter Farm (Site 130) was listed in the NRHP in 1983 as a contributing resource included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 278 and includes all of the aforementioned buildings except for the greenhouse, which is a non-contributing resource that was constructed after the property's listing in the NRHP.



Figure 275. Site 130: mortared-stone outbuilding located southeast of residence.



Figure 276. Site 130: gable-roofed frame bank barn located south of residence.



Figure 277. Site 130: west and south elevations of bank barn.



Figure 278. Site 130: aerial photograph depicting NRHP boundary in relation to APE.

Alterations to the residence include the expansion of the rear addition, installation of replacement window sashes on the south gable end of the main block and on the rear addition, and application of an asphalt-shingle roof. Of the outbuildings associated with the property, only the summer kitchen appears to have been altered since 1979. These modifications are minor and include possible recladding and the small frame addition projecting from its north addition. The aforementioned alterations to the residence and summer kitchen have not affected the aspects of the property's integrity that demonstrate its significance as a mid-nineteenth-century German settlement in the Camp Springs area, including its original location; rural setting in proximity to other German settlement properties in the area; attributes of building construction that are demonstrative of the local German vernacular building tradition, including the form and massing of buildings, rubble limestone masonry, hillside construction, and the vaulted cellar beneath the smokehouse; and association with Swiss and German immigrants.

Determination of Effect: No Adverse Effect. The proposed force main is to be located across the street from Site 130. It will come within approximately 55 ft of Site 130 at its closest point (see Figure 278) and will have no direct effects on the property. The nearest air release valve associated with the force main is to be located .7 mi north of Site 130.

Potential indirect effects to be considered with regard to Site 130 include construction noise, mortar-joint damage, and force main system failure. These potential effects have been addressed by SD1 in the project design, as summarized in Section II of this report and outlined in Appendix A. With regard to mortar-joint damage specifically, no blasting will occur within 200 linear ft of Site 130. If permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in

blasting and construction vibrations. If potentially damaging seismic levels resulting from project related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 130.

Site 131

KHC Survey #: CP 92

Photographs: N/A

Maps: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH-KY 1981
(Photorevised 1992)

UTMs: E: 728855 N: 4318276

Property Address: 7257 Four Mile Road
Melbourne, KY 41059

Owner Information: Edwin M. and Vera Ritter

7257 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 118/581

Construction Date: circa 1875–1899

Description: The Andrew Ritter Farm (Site 131 [CP 92]) is an NRHP-listed property located on a 58.5-acre parcel on the east side of Four Mile Creek Road (see Figures 2b and 3c). The buildings comprising the farm complex are located approximately .25 mi east of Four Mile Road and are accessed via a gravel driveway that intersects Four Mile Road approximately .4 mi north of Nelson Road. The farm complex is sited in a small valley formed by an ephemeral tributary of Four Mile Creek. CRA personnel were denied permission to document the property by its owners.

KHC staff recorded Site 131 during the 1979 countywide survey, and the farm was listed in the NRHP in 1983 as a contributing property within the German Settlement, Four Mile Creek Area TR. The buildings associated with the property were also evaluated in Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:42–43).

The residence of Andrew Ritter is depicted in the 1883 county atlas (see Figure 9). KHC records indicate that Ritter, a stonemason and Bavarian immigrant, purchased the 52.5-acre farm circa 1880. The log portion of the residence was purportedly already located on the property at the time of its conveyance to Ritter, who subsequently erected the stone additions to the house and the associated stone outbuildings. The Ritter family retains ownership and occupancy of the farm to this day (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:42).

The farm complex is comprised of a mid-century single-pen log house with multiple rubble limestone additions, a stone smokehouse, a stone chicken house, a stone bank barn, and several frame outbuildings, including two additional barns. CRA personnel observed all of the aforementioned buildings while attempting to acquire permission to document the property.

According to KHC records, a formerly detached two-story stone building now connected to the east end of the residence was constructed to house a wine press and has a vaulted cellar. Built circa 1891 by Ritter and Joseph Blenke, a carpenter of Austrian extraction, the stone bank barn is the only example of its kind among the frame bank barns of the Camp Springs area (KHC survey and NRHP files; Ramler 2010:42; USBC 1880).

NRHP Evaluation: Listed. The Andrew Ritter Farm (Site 131) was listed in the NRHP in 1983 as a contributing resource included in

the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 279 and includes all of the extant buildings associated with the farm.

Because Site 131 could not be documented at the time of the field survey, it must be assumed that the property retains the requisite integrity for inclusion in the NRHP. A brief observation of the property made by CRA personnel while attempting to secure permitted access yielded no evidence to the contrary.

Determination of Effect: No Adverse Effect. The proposed force main is to be located approximately .26 mi west of Site 131 at its closest point (see Figure 279) and will have no direct effects on the property. The nearest air release valve associated with the force main is to be located approximately .8 mi north-northwest of Site 131.

Potential construction noise, odor, mortar-joint damage, and force main system failure are unlikely to indirectly affect the historical integrity of Site 131, considering the property's substantial distance from the proposed route of the force main. Nevertheless, if permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially-damaging seismic levels resulting from project-related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 131.



Figure 279. Site 131: aerial photograph depicting NRHP boundary in relation to APE.

Site 132

KHC Survey #: CP 51

Photographs: Figures 280–292

Maps: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH–KY 1981
(Photorevised 1992)

UTMs: E: 728072 N: 4317863

Property Address: 7342 Four Mile Road
Melbourne, KY 41059

Owner Information: Robert and Karen Johnson
7342 Four Mile Road
Melbourne, KY 41059

Deed Book/Page: 236/76

Construction Date: 1885

Description: The Ort-Heeb Farm (Site 132 [CP 51]) is an NRHP-listed property located on a 12.91-acre parcel on the west side of Four Mile Creek Road (see Figures 2b and 3c). The buildings comprising the farm complex are located approximately .17 mi west of Four Mile Road and are accessed via a gravel driveway that intersects Four Mile Road approximately .24 mi north of Nelson Road. The farm complex is situated on the easterly slope of a ridge above the Four Mile Creek floodplain.

KHC personnel documented Site 132 during the 1979 countywide survey. In 1983, the farm was listed in the NRHP as a contributing property within the German Settlement, Four Mile Creek Area TR. The buildings associated with the property were subsequently evaluated in Ramler's 2010 suggested preservation and design guidelines for the Camp Springs area (Gordon 1982; KHC survey and NRHP files; Ramler 2010:42–38–39).

The residence is depicted as that of Joseph Orth (elsewhere spelled Ort) in the 1883 county atlas (see Figure 9). Ort, a Camp Springs-born farmer whose parents were Prussian immigrants, built the house in 1885 with the help of local carpenter Peter Ensweiler. John Heeb, also a

Camp Springs native and the son of Swiss immigrants, purchased the farm in 1901 (Griffing 1883:45; KHC survey and NRHP files; Ramler 2010:38).

The two-story, three-bay (w/w/d), double-pile, side-gabled residence (Figure 280) comprises approximately 2,013 sq ft of living space and is a later example of the German vernacular stone houses built in the Camp Springs vicinity. Like other such houses, the Ort-Heeb residence features segmental-arched lintels above its entry and window bays and tooled cornerstones. Its cut-stone façade masonry, bracketed cornice, and louvered attic vents, however, represent late-nineteenth-century deviations from established building traditions (KHC survey and NRHP files; Ramler 2010:14).

The single-leaf façade entry features a multi-light wood-panel door and a single-light transom (Figure 281). It is accessed via a poured-concrete stoop. A shed-roofed porch with squared wood supports and a wood balustrade shelters a secondary single-leaf entry on the north gable end. Photographs taken during the 1979 countywide survey indicate that this porch was built to replace an earlier porch of similar scale with Craftsman-inspired details (KHC survey and NRHP files). Located immediately to the left of the porch is a bulkhead basement entry with vertical-board doors. The house's window bays have been resized to accommodate replacement windows with one-over-one-light, double-hung sashes and feature replacement wood shutters. Interior brick chimneys are centrally located near the top and bottom of the rear roof slope.

Approximately 25 ft west-northwest of the residence is a gable-roofed mortared-stone springhouse and smokehouse (Figure 282). The lower springhouse level of the outbuilding is accessed through a partially below-grade entry with a detached ledged-and-braced door on the east gable end, and the upper smokehouse level is accessed via a single-leaf pedestrian entry with a vertical-board door on the north elevation (Figure 283). Small vents are located high on the east and west gable ends, and a wood chimney projects from the northerly slope of the

corrugated-metal-panel roof above the west gable end.

A gable-roofed frame summer kitchen (Figure 284) is located approximately 20 ft northwest of the residence. It is clad in vertical-board siding and rests on a continuous mortared-stone foundation beneath a standing-seam metal roof. Single-leaf pedestrian entries with vertical-board doors are centrally located on the south and east elevations. Windows on the east and west elevations have replacement sashes. An interior brick ridge chimney is located above the north gable end.

Located approximately 50 ft northeast of the residence is a gable-roofed frame bank barn with a continuous mortared-stone foundation (Figure 285). It has a pegged mortise-and-tenon frame and is clad in vertical-board siding beneath a standing-seam metal roof. The upper level of the barn is accessed via a central vehicular bay with suspended sliding vertical-board doors on the west elevation, and the lower level is accessed through pedestrian bays on the north, east, and south elevations. A shed-roofed frame addition projects from the east elevation of the barn (Figure 286).

A gable-roofed frame garage (Figure 287) is located approximately 125 ft north-northeast of the residence. It is clad in vertical-board siding and rests on a fieldstone foundation beneath a standing-seam metal roof. Vehicular bays are located on the north and south gable ends of the garage.

Attached to the northeast corner of the garage is a frame shed with a continuous mortared-stone lower level (Figure 288). It is clad in vertical-board siding and has a standing-seam metal roof. The upper level has a single-leaf pedestrian entry with a vertical-board door on its west elevation and appears to have been used as a poultry coop.

Approximately 135 ft north of the residence is a shed-roofed frame chicken coop (Figure 289), which has been repurposed as a storage shed. Its rear wall is clad in vertical-board siding, and it rests on concrete-block piers beneath a corrugated-metal-panel roof.

Dry-laid stone retaining walls are located north of the residence along the west side of the driveway (Figure 290) and east of the barn and garage (Figure 291). The former features an integrated loading dock near its south end, and the latter is collapsing at its southern end.



Figure 280. Site 132 (CP 51): Ort-Heeb House.



Figure 281. Site 132: façade elevation of residence.



Figure 282. Site 132: gable-roofed stone springhouse and smokehouse located west-northwest of residence.



Figure 283. Site 132: north and west elevations of stone springhouse and smokehouse.



Figure 284. Site 132: gable-roofed frame summer kitchen located northwest of residence.



Figure 285. Site 132: gable-roofed frame bark barn located northeast of residence.



Figure 286. Site 132: east and south elevations of bank barn.



Figure 287. Site 132: gable-roofed frame garage and shed located north-northeast of residence.



Figure 288. Site 132: north and east elevations of garage and shed.



Figure 289. Site 132: shed-roofed frame chicken coop located north of residence.



Figure 290. Site 132: dry-laid stone retaining wall located north of residence along west side of driveway.



Figure 291. Site 132: dry-laid stone retaining wall located east of barn and garage.

A reinforced-concrete slab bridge (Figure 292) spans Four Mile Creek on the driveway approximately 225 ft west of its intersection with Four Mile Road. It is supported by mortared-stone abutments and features a cast-concrete balustrade. According to KHC records, the bridge is of twentieth-century construction (KHC survey and NRHP files).

NRHP Evaluation: Listed. The Ort-Heeb Farm (Site 132) was listed in the NRHP in 1983 as a contributing resource included in the German Settlement, Four Mile Creek Area TR. The NRHP boundary for the property is depicted in Figure 293 and includes all of the extant buildings associated with the farm.

Alterations to the residence since its listing in the NRHP include the resizing of its window bays to accommodate replacement windows; installation of shutters, which were fabricated to emulate their original antecedents; and replacement of the porch on the north gable end. Replacement windows have been installed in the summer kitchen, and two additional outbuildings depicted north of the residence on the 1979 site plan are no longer extant (Karen Johnson, personal communication 2012; KHC survey and NRHP files). These changes have not affected the aspects of the property's integrity that demonstrate its significance as a late-

nineteenth-century German settlement property, including its original location; rural setting in proximity to other German settlement properties in the area; attributes of building construction that are demonstrative of the local German vernacular building tradition, including the form and massing of buildings, rubble limestone masonry, hillside construction, and the segmental-arched bays and tooled cornerstones of the residence; and association with first-generation German- and Swiss-American residents of the Camp Springs area.

Determination of Effect: No Adverse Effect.
The proposed force main is to be located approximately .14 mi east of Site 132 at its closest point (see Figure 293) and will have no direct effects on the property. The nearest air release valve associated with the force main is to be located approximately .94 mi north-northeast of Site 132.

Potential construction noise, odor, mortar joint damage, and force main system failure are unlikely to indirectly affect the historical integrity of Site 132, considering the property's substantial distance from the proposed route of the force main. Nevertheless, if permission is granted by the property owner, pre-blast inspections and seismographic monitoring will be conducted in conjunction with construction activities. Such monitoring will be conducted by a pre-approved consultant specializing in blasting and construction vibrations. If potentially-damaging seismic levels resulting from project-related construction are detected, or if damage to NRHP-listed resources is noted, blasting will cease immediately, and the KHC will be notified and engaged in consultation to address said issues. Thus, assuming that the steps outlined are implemented to minimize effects to this historic property, CRA recommends a No Adverse Effect determination for Site 132.



Figure 292. Site 132: reinforced-concrete slab bridge spanning Four Mile Creek.

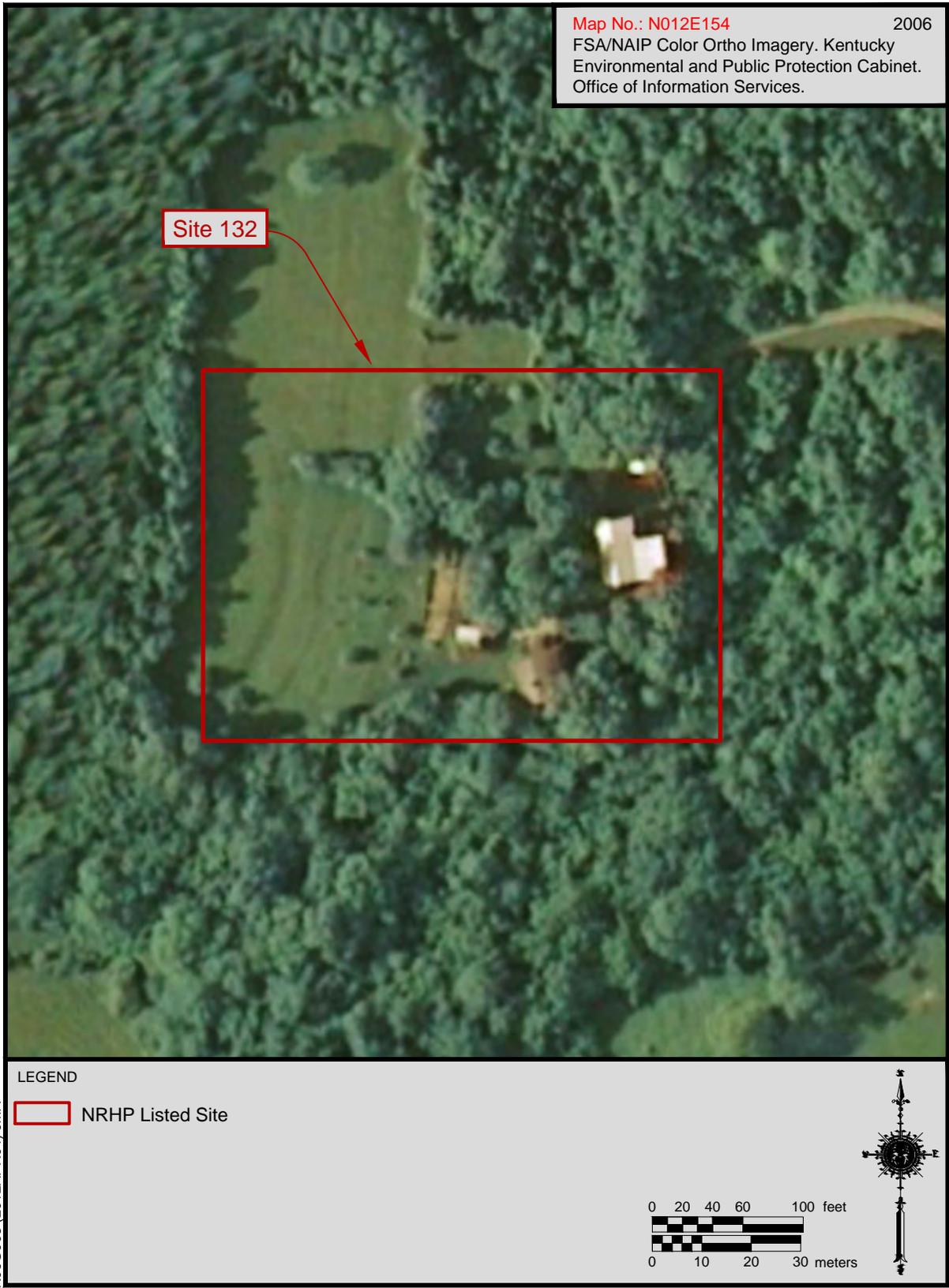


Figure 293. Site 132: aerial photograph depicting NRHP boundary in relation to APE.

Site 133

KHC Survey #: CP 326

Photographs: Figures 294–307

Map: Figures 2b and 3c

Zone: 16

Quad: New Richmond, OH-KY 1981
(Revised 1992)

UTMs: E: 728232 N: 4317703

Property Address: 7428 Four Mile Road

Owner Information: Daniel Heeb

7428 Four Mile Road

Camp Springs, KY 41059

Deed Book/Page: 215/596

Construction Date: circa 1890

Description: Site 133 (CP 326) is a nineteenth-century farmstead (Figure 294) located on a 13.6775-acre parcel on the west side of Four Mile Road approximately 415 mi north-northwest of the road's intersection with Nelson Road (see Figures 2b and 3c). The farm complex sits approximately 510 ft west of Four Mile Road and is situated at the northeastern base of a ridge spur that is traversed by the AA Highway.

Although the PVA records date the residence to 1890, the “J. Haipe” property is depicted in the vicinity of Site 133 in the 1883 county atlas (see Figure 9). “Haipe” is likely a misspelling of “Heeb,” the family long associated with this property, although research could not identify a J. Haipe or J. Heeb in the 1870, 1880, 1890, or 1900 census records for Campbell County. Jacob Heeb (1833–1917) and John A. Heeb (1868–1933), along with several other members of the Heeb family, are known residents of the area who are buried in the St. Joseph's Roman Catholic Church Cemetery. John Heeb, a Camp Springs native and the son of Swiss immigrants, purchased the adjacent farm in 1901 (see Site 132) (Griffing 1883:45; Jensen and Moore 2012).

Oriented to the southeast, the two-story, three-bay (w/d/w), single-pile, side-gable frame residence features hillside construction characteristic of other German settlement era residences in the area, but the building exhibits a façade addition and a rear shed-roof extension that make it an atypical example of the form (Figure 295). It is clad in vinyl replacement siding and rests on a continuous stone foundation beneath a standing-seam metal roof. The foundation of the façade addition appears to be constructed of pre-cast concrete panels. The building features replacement doors and replacement one-over-one-light, double-hung windows flanked by fixed shutters. Exterior brick chimneys rise along the northeast elevations of the main block and the shed roof extension.

The front elevation of the residence originally featured a fully exposed basement level beneath a three- or five-bay façade, but a single-bay garage, accessed from the southwest, has been attached to the front of the exposed foundation. Above the garage, an off-center, three-bay extension, possibly an enclosure of the original porch, has been added to the façade. This addition is surrounded on two sides by an integral porch, and both the addition and porch are contained under a large hip roof covered with asphalt shingles. The center of the porch rises almost to the level of the eaves of the main roof of the house. A single window is located to either side of the porch roof within the second story of the façade. The house also features a basement-level, single-leaf entrance into the southwest elevation; a main-level, single-leaf entrance sheltered by a hip-roof awning on the northeast elevation of the rear shed-roof extension; and a main-level, single-leaf entrance into the rear of the shed-roof extension (Figure 296).



Figure 294. Site 133 (CP 326): overview of the property from Four Mile Creek, facing west.



Figure 295. Site 133: façade and southwest elevations of the residence.



Figure 296. Site 133: rear and northeast elevations of the residence.

This rear addition is sheltered by the extended hip roof of an outbuilding, likely a summer kitchen, constructed into the hillside directly behind the house (Resource A, Figure 297). The lower portion of the building is constructed of rubble limestone, while the portion rising above the grade of the hill is clad in vinyl siding. The roof is clad in standing-seam metal and is pierced by a brick chimney. Six-light wood windows occupy the northeast and southwest elevations, and a paneled wood door is located on the southeast elevation directly opposite the rear entrance into the house. A mortared-stone retaining wall supports the hillside to the west of the summer kitchen.

A frame garage is situated approximately 35 ft southwest of the residence (Resource B, Figure 298). Oriented to the northeast, the one-story, two-bay garage is composed of a front-gable section with a garage bay enclosed

with suspended, sliding, vertical-board doors and a shed-roof section with an open garage bay. The building rests on a stone foundation that has been covered with concrete in sections, is clad in vertical board, and is sheltered by a standing-seam metal roof. A shed-roof addition extends along the rear of the building, and a wooden carport, currently serving as a picnic shelter, sits to its southeast.

A shed-roof outbuilding sits on a hillside approximately 75 ft west-northwest of the residence (Resource C, Figure 299). The building rests on concrete and stone piers, is covered with metal panels, and is protected by a corrugated-metal roof. Two elevations feature single windows, and one elevation features a single-leaf entrance with a vertical-board door. The original function of the building is not clear.



Figure 297. Site 133: façade and southwest elevations of the summer kitchen (Resource A).



Figure 298. Site 133: façade and northwest elevations of the garage (Resource B).



Figure 299. Site 133: Resource C (foreground) and the eastern elevation of the bank barn (Resource D, background).

A large bank barn (Resource D) is built into the hillside approximately 145 ft west-northwest of the residence. The building features hillside construction, a rubble limestone foundation, and mortise-and-tenon joinery typical of the other bank barns observed in the area, but its overall form, with a central gable-roof section flanked by shed-roof aisles, is somewhat less typical of the region. The eastern gable-oriented elevation (d/w/w/w/w/d) features a fully-exposed basement level with two pedestrian doorways and four windows, each displaying a different configuration (see Figure 299). A clear seam in the stonework between the first and second windows suggests that the building may have been constructed in multiple phases. A one-story, shed-roof frame addition extends from the basement level north of the northernmost doorway. The addition is clad in spaced horizontal boards and a metal panel roof.

The east end of the south elevation features a basement-level pedestrian entrance

with a wood-panel door beside a window filled with paired sashes that most likely are not original to the building. The western two-thirds of the south elevation features entrances into the main framed level of the barn accessed via a gravel driveway supported on its eastern edge by a stone retaining wall. The majority of this elevation has been re-clad with ribbed metal panels, including the central entrance, which features suspended sliding metal doors. A secondary entrance with vertical board doors is located at the western end of the east elevation (Figure 300).

The west elevation of the barn features only one level rising above-grade (Figure 301). It exhibits hinged vertical-board doors located above-grade that lead into the front-gable and shed-roof portions of the building. A one-story, metal-clad equipment shed has been constructed at the center of this elevation. The northern elevation also features a small addition at its eastern end.



Figure 300. Site 133: south and east elevations of the bank barn (Resource D).



Figure 301. Site 133: west and north elevations of the bank barn (Resource D).

Four other small outbuildings are located on the property to the north and west of the residence and barn. A shed-roof building, perhaps a chicken coop, sits approximately 85 ft north of the barn along a fence line (Resource E, Figure 302). The building is clad in vertical board and has a central pedestrian entrance featuring a hinged, vertical-board door located on its east elevation.

Another shed-roof building is situated approximately 95 ft north-northeast of the barn, also along a fence line (Resource F, Figure 303). The building is constructed into a hillside. Its walls are clad in vertical board and corrugated metal panels, and its roof is covered with corrugated metal panels. Its southern elevation features a vertical-board door and a six-light window, while its east elevation features a large, horizontally-oriented window into the lower level and a six-light window into the upper level. The function of the building is not clear.

A small, shed-roof privy sits approximately 150 ft north-northwest of the residence (Resource G, Figure 304). Clad in

vertical board, the privy features a vertical-board door on its southern elevation.

A final shed-roof outbuilding sits approximately 75 ft north-northwest of the residence between the residence and the privy (Resource H, Figure 305). The building rests on a pier foundation, is covered with vertical-board siding, and is sheltered by a standing-seam metal roof. Its western elevation features a window filled with a single light and a pedestrian entrance lacking a door.

Also associated with the property is a small shed-roof outbuilding located approximately 525 ft southeast of the residence, approximately 100 ft west of Four Mile Road (Resource I, Figure 306). The building rests on concrete-block piers, is clad in a combination of particle board and metal panels, and is covered with a ribbed-metal-panel roof. Its western elevation features an off-center pedestrian entrance with a mid-century, three-light door, and its northern elevation features a window with replacement six-over-six-light, double-hung sashes.



Figure 302. Site 133: east elevation of the chicken coop (Resource E).



Figure 303. Site 133: east elevation of Resource F.



Figure 304. Site 133: west and south elevations of the privy (Resource G).



Figure 305. Site 133: north and west elevations of Resource H.



Figure 306. Site 133: north and west elevations of Resource I.

The last outbuilding is located above the western banks of Four Mile Creek, which runs through the eastern part of the property, separating the buildings from Four Mile Road. The driveway crosses the creek via a simple concrete slab bridge with low concrete rails (Resource J, Figure 307). The ends of the bridge sit upon a dry-laid stone retaining wall that supports both sides of the creek bank. Some portions of this wall are in excellent condition, while other portions have been altered through the mortaring of the stone, the addition of large concrete blocks, and the integration of used tires. A small opening in the wall, possibly indicating the location of a spring, is located in the western bank of the creek north of the bridge. Other sections of dry-laid stone retaining wall are found throughout the property and support the property's sloping hillsides rising behind the rear of the residence.

NRHP Evaluation: Ineligible. Site 133 is one of many mid- to late-nineteenth-century German settlement properties located in the Camp Springs vicinity, approximately 30 of which are included as contributing properties within the NRHP-listed German Settlement, Four Mile Creek Area TR. Although the records are not entirely clear, it appears that the property was settled by a family of Swiss immigrants, and several of its buildings, including the residence, summer kitchen, and bank barn, are to varying degrees indicative of the local German vernacular building tradition. All of the buildings associated with the property have undergone unsympathetic alterations, and as a whole, the property lacks the requisite integrity for listing in the NRHP, hence the exclusion of the farmstead from the NRHP-listed German Settlement, Four Mile Creek Area TR.

Although the farmhouse associated with Site 133 displays some characteristics associated with the German vernacular building tradition, such as a rubble limestone foundation and hillside construction, it does not display the double-pile massing and full rubble limestone construction seen in the finest houses in Camp Springs. Furthermore, the construction of a major front addition and

the application of replacement siding and windows have severely compromised the building's integrity of design, materials, and workmanship, obscuring its association with the region's early German and Swiss settlers.

Likewise, the outbuildings associated with Site 133 have experienced alterations that have compromised their integrity. Although the bank barn is characteristic in form and construction of German vernacular barns associated with mid- to late-nineteenth-century farmsteads throughout the area, the barn has been significantly altered by the addition of three single-story, shed-roof additions and the application of ribbed-metal-panel cladding. The material integrity of the summer kitchen also has been compromised by the application of vinyl siding. All of the other small outbuildings associated with the property are unexceptional examples of common building types that have all been altered to varying degrees and do not contribute to the property's significance. Finally, the bridge is a common example of simple slab-driveway-bridge construction, and the integrity of its associated retaining walls has been compromised by the integration of mortar, concrete blocks, and used tires.

The buildings comprising Site 133 retain their location and setting among the other German settlement properties in the Four Mile Creek Valley but otherwise lack the historical significance and integrity exhibited by neighboring NRHP-listed properties included in the German Settlement, Four Mile Creek Area TR. Furthermore, archival research revealed no information to suggest that J. Heeb was particularly significant within the founding and growth of Camp Springs, nor did it indicate any other association between the property and other events or persons of historical significance. None of the buildings associated with the farmstead is an outstanding example of a particular architectural type, period, or method. Therefore, CRA recommends that Site 133 is not eligible for listing in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A.



Figure 307. Site 133: overview of the bridge and retaining walls (Resource J), facing northwest.

Group A: Silver Grove

Sites 18–32, 34, 36–42, 44–52,
56–62, 64

KHC Survey #s: CP 221–235, 237, 239–245,
247–255, 259–265, 267

Photographs: Figures 308–347

Map: Figures 2a and 3a

Zone: 16

Quad: Newport KY-OH 1983 (Photorevised
1987)

UTMs: multiple (see individual survey forms)

Property Addresses: multiple (see Table 2)

Construction Dates: circa 1900–1926

Description: Forty resources dating to the first quarter of the twentieth century (Figures 308–347) were recorded within the community of Silver Grove (see Table 2). Fifteen of these are located along Mary Ingles Highway, 17 are located along W. Second Street, and 8 are

located along W. Fourth Street on the west side of town (see Figures 2a and 2b). The resources along Mary Ingles Highway and W. Second Street are within the indirect APE for the proposed pump station, while those along W. Fourth Street are within the direct APE for a portion of the sewer line that extends to the south of town.

The 15 resources along Mary Ingles Highway (CP 18–32) are common residential structures representing Silver Grove’s early-twentieth-century growth and development and do not appear to be individually significant. The typical resource in this grouping is a circa 1920 two-and-one-half-story frame structure set on a concrete-block foundation beneath a front- or side-gabled roof and with walls clad in vinyl siding. Approximately 53 percent of resources (n = 8) are single-family residential structures, while 27 percent (n = 4) are duplexes and 20 percent (n = 3) are residential structures that have been converted for commercial purposes. According to Campbell County assessment records, the majority of resources (60 percent;

n = 9) date to 1920. One resource (approximately 7 percent) dates to 1900; two resources (approximately 13 percent) date to 1905; one resource (approximately 7 percent) dates to 1923; and two resources (approximately 13 percent) date to 1925. Two-and-one-half-story buildings are the most commonly represented form (approximately 53 percent; n = 8). One-and-one-half-story buildings represent approximately 26 percent (n = 4), and one-story resources account for 20 percent (n = 3) of resources. Eighty percent (n = 12) of all resources exhibit concrete-block foundations. One resource (approximately 7 percent) has a brick foundation; the foundations of two resources (approximately 13 percent) are pargeted or unknown. Both front-gabled and side-gabled roofs make up approximately 47 percent (n = 7) of all resources. One resource (approximately 7 percent) exhibits a gambrel roof. All resources exhibit asphalt-shingle-clad roofs. Wall cladding materials within the area consist primarily of vinyl replacement siding (approximately 53 percent; n = 8). Other cladding materials include brick (approximately 7 percent; n = 1), aluminum siding (approximately 6 percent; n = 1), and wood or composite siding (approximately 7 percent; n = 1). One resource (approximately 7 percent) exhibits a combination of vinyl siding and vertical board, and three resources (20 percent) exhibit a combination of brick and vinyl siding.

Seventeen resources (CP 237, CP 239–245, and CP 247–255) are located along W. Second Street. Like those resources along Mary Ingles Highway, these resources are representative of Silver Grove's early development but are not individually significant. The typical resource in this grouping is a circa 1922 one-story bungalow set on a concrete-block foundation beneath a side-gabled roof that exhibits walls clad in a combination of brick and vinyl siding. All resources are single-family residential structures. According to Campbell County assessment records, the majority of resources (47 percent; n = 8) date to 1922. One resource (approximately 6 percent) dates to 1911; five

resources (approximately 29 percent) date to 1920; two resources (approximately 11 percent) date to 1925; and one resource (approximately 6 percent) dates to 1926. One-story resources (approximately 47 percent; n = 8) are the most abundant, while one-and-one-half-story (approximately 29 percent; n = 5) and two-story (approximately 23 percent; n = 4) resources comprise the remainder. Approximately 82 percent (n = 14) of all resources exhibit concrete-block foundations, while brick and poured-concrete foundations each account for approximately 6 percent of resources (n = 1); the foundation of one resource (approximately 6 percent) is unknown. Front-gabled roofs (approximately 23 percent; n = 4) are the most numerous, while side-gabled roofs, hipped roofs, and gambrel roofs each number three (approximately 17 percent). Two resources (approximately 12 percent) have cross-gabled roofs. All roofs are clad in asphalt shingles. Wall cladding materials within the area include a combination of brick and vinyl siding (approximately 47 percent; n = 8), a combination of brick and aluminum siding (approximately 23 percent; n = 4), brick (approximately 17 percent; n = 3), a combination of brick and composite siding (approximately 6 percent; n = 1), and a combination of brick and wood shingles (approximately 6 percent; n = 1).

Eight single-family residential resources (CP 259–265 and CP 267) are located along W. Fourth Street. The typical resource in this grouping is a circa 1925 one-story bungalow set on a concrete-block foundation beneath a front-gabled roof and with walls clad in a combination of brick and vinyl siding. According to Campbell County assessment records, the majority of resources (approximately 87 percent; n = 7) date to 1925; one resource (approximately 13 percent) dates to 1926. One-story dwellings are the most common (approximately 62 percent; n = 5), with the remainder being one-and-one-half-story dwellings (approximately 38 percent; n = 3). Seven resources (approximately 87 percent) exhibit concrete-block foundations, while one resource

(approximately 13 percent) has a poured-concrete foundation. Front-gabled roofs are the most numerous (50 percent; n =4). One additional front-gabled house (approximately 13 percent) exhibits clipped gables. Three resources (approximately 38 percent) have side-gabled roofs. All are clad in asphalt shingles. Most resources exhibit a combination of wall claddings. Brick and vinyl siding are the most common (approximately 38 percent; n = 3), while brick- and aluminum-siding-clad resources account for approximately 25 percent (n = 2) of the dwellings. One resource (approximately 13 percent) is clad in a combination of brick and composite siding. Two resources (25 percent) are clad solely in vinyl siding.

NRHP Evaluation: Ineligible. Sites 18–32, 34, 36–42, 44–52, 56–62, and 64, which comprise a large portion of the early-twentieth-century core of Silver Grove, do not appear to be individually or collectively eligible for inclusion in the NRHP. Residential in character, the resources date to the early years of Silver Grove, which was established as a planned railroad town in the 1910s. The town was established by the Chesapeake and Ohio Railway Company (C&O), which made plans to establish a rail yard and terminal. On October 18, 1911, the Silver Grove Land and Building Company was incorporated in order to buy, sell, trade, and rent land, as well as to build and sell residences and associated buildings. The C&O purchased all the stock in this company for the cost of \$919,373, offering lots to railroad employees and, later, the public (Chesapeake and Ohio Historical Society 1992:10). By 1914, Silver Grove was noted as the “most modern city in Northern Kentucky,” based largely on the availability of electric lights, city water, and a dedicated sewage plant. The buildings along the surveyed portions of Mary Ingles Highway, W. Second Street, and W. Fourth Street followed as part of the early growth that characterized the burgeoning town, and as such, they are representative of the early land development and community growth patterns of Silver Grove.

However, although the buildings are locally important as part of the story of Silver Grove’s history, they do not rise to the level of significance warranting inclusion in the NRHP under Criterion A. The area is not reflective of development patterns that make a significant contribution to the understanding of the region’s early-twentieth-century development. The area in and of itself is not reflective of significant trends in land use planning, economics, cultural and social trends, or other such considerations that drove the development of early-twentieth-century Silver Grove. It was the railroad and its associated railyard and terminal that served as the long-standing spur in the development of the community, not the residential sectors themselves, which were a byproduct of the railroad’s placement of infrastructure in the area. The continued association of the community with the rail industry is paramount to understanding its context. As such, with the removal of the railyard and the terminal in years subsequent to the community’s founding, the associative significance of the community as a planned railroad community was greatly diminished. In the present setting, without the rail infrastructure, the community is reflective only of a typical early-twentieth-century residential community similar to other such communities throughout northern Kentucky. Its associative significance has been severed (and furthermore, intruded upon by a modern industrial development [see Figure 4]). Thus, these resources are not eligible for listing in the NHRP under Criterion A.

These resources are likewise not eligible for listing in the NHRP under Criterion B. Archival research indicated no association with individuals of historical significance, including planners, developers, or agents of the C&O Railroad.



Figure 308. Site 18 (CP 221): Southern Bungalow.



Figure 309. Site 19 (CP 222): one-and-one-half-story, side-gabled residence.



Figure 310. Site 20 (CP 223): one-and-one-half-story, side-gabled residence.



Figure 311. Site 21 (CP 224): one-and-one-half-story, side-gabled residence.



Figure 312. Site 22 (CP 225): two-and-one-half-story, front-gabled duplex.



Figure 313. Site 23 (CP 226): two-and-one-half-story, front-gabled duplex.



Figure 314. Site 24 (CP 227): two-and-one-half-story, front-gabled duplex.



Figure 315. Site 25 (CP 228): two-and-one-half-story, front-gabled duplex.



Figure 316. Site 26 (CP 229): two-and-one-half-story, front-gabled duplex.



Figure 317. Site 27 (CP 230): two-and-one-half-story, front-gabled duplex.



Figure 318. Site 28 (CP 231): two-and-one-half-story, front-gabled duplex.



Figure 319. Site 29 (CP 232): American Bungalow.



Figure 320. Site 30 (CP 233): American Bungalow.



Figure 321. Site 31 (CP 234): single-story, side-gabled residence.



Figure 322. Site 32 (CP 235): single-story, side-gabled residence.



Figure 323. Site 34 (CP 237): one-and-one-half-story, cross-gabled residence.



Figure 324. Site 36 (CP 239): Southern Bungalow.



Figure 325. Site 37 (CP 240): two-story, cross-gambrel residence.



Figure 326. Site 38 (CP 241): single-story, hip-roofed cottage.



Figure 327. Site 39 (CP 242): Southern Bungalow.



Figure 328. Site 40 (CP 243): one-and-one-half-story, cross-gabled residence.



Figure 329. Site 41 (CP 244): side-gabled bungalow.



Figure 330. Site 42 (CP 245): two-story, side-gambrel residence.



Figure 331. Site 44 (CP 247): side-gabled bungalow.



Figure 332. Site 45 (CP 248): California Bungalow.



Figure 333. Site 46 (CP 249): two-story, front-gabled residence.



Figure 334. Site 47 (CP 250): two-story, front-gambrel residence.



Figure 335. Site 48 (CP 251): single-story, hip-roofed cottage.



Figure 336. Site 49 (CP 252): side-gabled bungalow.



Figure 337. Site 50 (CP 253): single-story, hip-roofed cottage.



Figure 338. Site 51 (CP 254): side-gabled bungalow.



Figure 339. Site 52 (CP 255): side-gabled bungalow.



Figure 340. Site 56 (CP 259): side-gabled bungalow.



Figure 341. Site 57 (CP 260): Southern Bungalow.



Figure 342. Site 58 (CP 261): Southern Bungalow.



Figure 343. Site 59 (CP 262): Southern Bungalow.



Figure 344. Site 60 (CP 263): side-gabled bungalow.



Figure 345. Site 61 (CP 264): side-gabled bungalow.



Figure 346. Site 62 (CP 265): Southern Bungalow.



Figure 347. Site 64 (CP 267): Southern Bungalow.

Architecturally, the resources do not warrant inclusion under Criterion C. The residential resources are collectively common forms that are not representative of a distinctive or noteworthy collection of architectural forms, and they are not representative of a significant trend in design or construction. The area is characterized by a large number of vernacular bungalows and non-descript dwellings, property types that have been well documented throughout the region. Only those resources that collectively possess distinctive architectural qualities that might separate them from similar collections of resources can be considered eligible for inclusion in the NHRP. Here, however, the resources do not possess such distinction since they are void of denotative details. In addition, the integrity of the resources has been collectively diminished. Nearly all of the houses exhibit replacement windows, and nearly all of the resources are clad in replacement siding, at least in part. Sporadic additions and enclosures further compromise the integrity of individual resources, which when combined with the common replacement of materials throughout the neighborhood breaks the cohesiveness of the subdivision character. Additionally, the area does not represent a significant example of early-twentieth-century planning or design within the region. The general layout is typical, not noteworthy, with no characteristic deviations in lot division, in landscaping, or in the physical relationship between the individual residential components and the area at-large. The area possesses no distinctive features that distinguish it from similar neighborhoods developed in association with rail activity during the early twentieth century when populations shifted from city to city as dictated by available work. In addition, the area does not represent the work of a prominent site planner, architect, or landscape architect.

As such, while the area is reflective of general patterns of early-twentieth-century development, the application of principles

from this era are without distinction at the local, regional, or national levels. In addition, the neighborhood no longer retains its associative significance, having had its ties with the railroad infrastructure—the reason for the neighborhood’s existence—severed by subsequent development. Therefore, CRA recommends that the area is not eligible for listing in the NHRP as a historic district under Criterion A, B, or C.

Determination of Effect: N/A

Group B: American Small Houses on Four Mile Road

Sites 68, 77, 79, 85, 86, 94, 102, 105, 124, 125

KHC Survey #s: CP 271, 280, 282, 288, 289, 297, 303, 306, 321, 322

Photographs: Figures 348–357

Map: Figures 2a–2b and 3a–3b

Zone: 16

Quad: Withamsville, OH-KY 1996 and New Richmond, OH-KY 1981 (Revised 1992)

UTMs: multiple (see individual survey forms)

Property Addresses: multiple (see Table 3)

Construction Dates: circa 1940–1954

Description: Ten American Small Houses constructed in the 1940s and 1950s (Figures 348–357) are located on Four Mile Road south of Silver Grove within the project APE (see Figures 2a–2b and 3a–3b). Half of these (n = 5) are located between Lower Tug Fork Road and Eight Mile Road among a number of small subdivisions featuring mid-twentieth-century development. One is located north of Lower Tug Fork Road outside of Silver Grove, and four consist of scattered infill development in the Camp Springs area. The Campbell County PVA dates eight of the American Small Houses between 1940 and 1954. PVA records do not include dates for the two other properties, but both appear to date circa 1940s.

The American Small Houses along Four Mile Road exhibit variations on the small, compact form identified with the type. Three of the houses (30 percent) are a single story, while seven (70 percent) are one-and-one-half stories with dormers and/or gable-end windows lighting the usable space beneath the pitch of the roof. Seven houses (70 percent) feature side-gable roofs, two (29 percent) feature side-gable roofs with small front-gable projections, and one (10 percent) features a front-gable roof. Seven (70 percent) of the side-gabled examples are three bays wide, while one side-gabled house is five bays wide, one side-gabled house is severely altered to display only a single bay, and the front-gabled example is two bays wide. Six of the dwellings (60 percent) feature moderately sized side or rear additions, while one (10 percent) features prominent additions and other unsympathetic alterations that obscure the building's original appearance. Three houses (30 percent) retain their original footprints. All but the severely altered house (90 percent) feature some type of front porch. Several of the houses are built on hillsides, providing access to a basement level, including four (40 percent) with basement-level garages. One dwelling featured a garage addition connected by a hyphen, two have detached garages, one has a detached carport, and two properties lack any sort of garage structure. Square footage was provided for eight of the residences; the smallest of these is 1,040 sq ft and the largest is 1,954 sq ft, including additions. The average house has 1,430 sq ft of living space.

Five (50 percent) of the houses are clad in replacement vinyl siding, two (20 percent) are clad in brick veneer, one (10 percent) is clad in asbestos shingles, and one (10 percent) has exposed concrete-block walls. The remaining house exhibits a variety of cladding materials, including vinyl siding and asbestos shingles. Four houses (40 percent) are set on concrete-block foundations, three (30 percent) feature poured-concrete foundations, and the

foundations of three buildings were not visible. The roofs of all of the houses are clad in asphalt shingles.

NRHP Evaluation: Ineligible. As described by the Georgia Historic Preservation Division, the American Small House is a house type constructed from the 1930s to 1950s to address the increased demand for housing during this period and to meet FHA minimum standards for single family housing. The type is defined by a compact, tightly massed, simply detailed form, typically contained under a gable roof and featuring at minimum three rooms. Features typical of different popular styles, such as the Cape Cod and the English Vernacular Revival, were applied to the basic form. The American Small House represents the predominant house type constructed in the United States in the mid-twentieth century. As such, examples must demonstrate exceptional significance and integrity in order to be recommended as eligible for listing in the NRHP (Georgia Historic Preservation Division 2008).

Individually and as a group, the American Small Houses recorded along Four Mile Road lack architectural detailing or other features that would elevate their significance under NRHP Criterion C. Furthermore, various alterations, including additions, the application of replacement siding, and the installation of replacement window sashes and doors, have diminished to varying degrees the integrity of materials, design, and workmanship of these buildings. Research indicated no association between these sites and events or persons of historical significance. The houses are not tightly grouped to merit consideration as a historic district. Therefore, CRA recommends that Sites 68, 77, 79, 85, 86, 94, 102, 105, 124, and 125 are not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A



Figure 348. Site 68 (CP 271): American Small House.



Figure 349. Site 77 (CP 280): American Small House.



Figure 350. Site 79 (CP 282): American Small House.



Figure 351. Site 85 (CP 288): American Small House.



Figure 352. Site 86 (CP 289): American Small House.



Figure 353. Site 94 (CP 297): American Small House.



Figure 354. Site 102 (CP 303): American Small House.



Figure 355. Site 105 (CP 306): American Small House.



Figure 356. Site 124 (CP 321): American Small House.



Figure 357. Site 125 (CP 322): American Small House.

Group C: Ranch Houses on Four Mile Road

Sites 80, 81, 87–93, 97, 99, 108

KHC Survey #s: CP 283, 284, 290–296, 299, 300, 309

Photographs: Figures 358–369

Map: Figures 2a–2b and 3b

Zone: 16

Quad: Withamsville, OH-KY 1996

UTMs: multiple (see individual survey forms)

Property Addresses: multiple (see Table 4)

Construction Dates: circa 1956–1961

Description: Twelve Ranch houses constructed prior to 1962 (Figures 358–369) are located on Four Mile Road south of Silver Grove within the project APE (see Figures 2a–2b and 3b). The majority of these (n = 9) are located between Lower Tug Fork Road and Eight Mile Road within the Saverbeck and Happy Dale Subdivisions, both of which are small, linear, mid-century subdivisions lining Four Mile Road. The remaining three sites are located further south in the Camp Springs area. One of these (Site 99) is located in the Cozatschy Subdivision, a small group of lots encircling Site 98. The other two sites represent scattered infill development in Camp Springs. The Campbell County PVA dates all of the Ranch houses between 1956 and 1961.

The Ranch houses along Four Mile Road exhibit four variations on the Ranch house form. Seven (58 percent) are of the linear variety, the most common Ranch house form represented by a traditional, long hipped or side-gabled plan, most often with an integral garage. Two (17 percent) are of the compact variety, similar to the linear form but with a small, more condensed footprint. Two (17 percent) are of the linear with clusters variety, exhibiting a long plan with a cluster of rooms projecting to the front and/or back of one end. And one (8 percent) is of the half-courtyard variety, exhibiting an L-shaped plan. Six (50 percent) of the houses are clad in brick veneer, the building material most commonly associated with mid-century Ranch

houses. Other materials evident in the subdivision include vinyl siding (n = 3; 25 percent), board-and-batten (n = 1; 8 percent), and aluminum siding (n = 1; 8 percent). One house exhibits a combination of vinyl siding and stone veneer (n = 1; 8 percent). Seven houses (58 percent) are set on poured-concrete foundations, while the foundations of the other five houses were obscured from view. Five houses (42 percent) exhibit a side-gable roof plan, three feature hip roofs (25 percent), three feature cross-gable roofs (25 percent), and one features a Dutch hip roof (8 percent).

Asphalt-shingle roofs are the most common, applied to 11 houses (92 percent), while 1 house (8 percent) has a roof clad in v-crimp metal panels. The smallest documented house in the neighborhood comprises 832 sq ft; the largest has 2,044 sq ft of space, including additions. The average house has 1,357 sq ft of living space. Eight houses (67 percent) have an attached garage—including two houses with garages contained in the basement level—and three (25 percent) have a detached garage. The one house lacking a garage features an attached carport (8 percent).

NRHP Evaluation: Ineligible. Ranch houses occur ubiquitously throughout the American landscape and represent the predominant house type of the 1950s and 1960s (Sullivan et al. 2010:40). Due to the frequency with which Ranch houses occur in both suburban and rural areas, NRHP-eligible examples must exhibit exceptional architectural attributes and maintain a high level of integrity. In all instances, the Ranch houses found along Four Mile Road are not outstanding examples of the Ranch house form and lack extraordinary architectural details, such as those indicative of a particular architectural style, which might elevate their significance under Criterion C. Furthermore, various alterations, including additions, the application of replacement siding, and the installation of replacement window sashes and doors, have diminished to varying degrees the integrity of materials, design, and workmanship of the houses. Research indicated no association between any of these properties with events or persons of historical significance; thus, none are individually eligible for listing in the NRHP under Criterion A or B.



Figure 358. Site 80 (CP 283): Linear Ranch.



Figure 359. Site 81 (CP 284): Linear Ranch.



Figure 360. Site 87 (CP 290): Linear Ranch.



Figure 361. Site 88 (CP 291): Linear Ranch with Clusters.



Figure 362. Site 89 (CP 292): Linear Ranch with Clusters.



Figure 363. Site 90 (CP 293): Linear Ranch.



Figure 364. Site 91 (CP 294): Linear Ranch.



Figure 365. Site 92 (CP 295): Compact Ranch.



Figure 366. Site 93 (CP 296): Compact Ranch.



Figure 367. Site 97 (CP 299): Linear Ranch.



Figure 368. Site 99 (CP 300): Linear Ranch.



Figure 369. Site 108 (CP 309): Half-Courtyard Ranch ("L").

As a district, these properties likewise do not warrant inclusion in the NRHP under Criterion C. Examples are of common forms that do not represent a significant architectural variation warranting consideration. They also do not appear to be collectively representative of a significant trend in design or construction. Similar Ranch houses are found throughout Kentucky and the country as a whole in groupings ranging from small clusters to hundreds of properties. Research indicated no association between this group of properties and events or persons of historical significance that would qualify the group for listing in the NRHP under Criterion A or B. The small subdivisions containing these Ranch houses represent the common trend of subdividing larger rural properties on the outskirts of suburban areas into smaller residential lots. The subdivisions do not stand out as particularly noteworthy examples of community planning and expansion within Campbell County and do not hold particular significance to the community's evolution but rather exist as commonplace tract developments, undistinguished from the thousands constructed throughout Kentucky and the United States. Therefore, CRA recommends that Sites 80, 81, 87–93, 97, 99, and 108 are not eligible for inclusion in the NRHP under Criterion A, B, or C.

Determination of Effect: N/A

VII. CONCLUSIONS

In February and March of 2012, CRA personnel completed a cultural historic baseline survey for the proposed Ash Street pump station and force main project in Campbell County, Kentucky. The survey was conducted at the request of Joe Henry of GRW Engineers, Inc., on behalf of SD1.

Prior to initiating fieldwork, CRA initiated a review of records maintained by the KHC in order to identify previously recorded cultural historic resources within the APE. GIS data provided by the KHC indicated that 11 such resources were located within the APE, including 1 previously surveyed property in

Silver Grove (Site 16 [CP 94, the Dutle Inn]) and 10 properties in Camp Springs that are listed in the NRHP as part of the German Settlement, Four Mile Creek Area TR Nomination (Site 95 [CP 72, John Weber Farm], Site 98 [CP 71, Camp Springs House], Site 117 [CP 61, Blau's Four Mile House], Site 119 [CP 91, Leick House], Site 121 [CP 60, Reitman's St. Joseph House], Site 122 [CP 62, St. Joseph's Catholic Church and Cemetery], Site 128 [CP 52, Baumann House], Site 130 [CP 81, Gubser-Schuchter Farm], Site 131 [CP 92, Andrew Ritter Farm], and Site 132 [CP 51, Ort-Heeb Farm]).

During the field survey, CRA personnel identified a total of 133 cultural historic sites within the area of potential effect, including the 11 previously surveyed properties listed above and 122 previously undocumented properties (Sites 1–15 [CP 204–218], Sites 17–94 [CP 220–297], Sites 96–97 [CP 298–299], Sites 99–116 [CP 300–317], Site 118 [CP 318], Site 120 [CP 319], Sites 123–127 [CP 320–324], Site 129 [CP 325], and Site 133 [CP 326]). To facilitate efficient assessment of common property types and potential historic districts, several of the previously undocumented properties were documented and evaluated as groups, including 41 resources in Silver Grove (Sites 18–32, 34, 36–42, 44–53, 56–62, and 64), 10 American Small Houses on Four Mile Road (Sites 68, 77, 79, 85, 86, 94, 102, 105, 124, and 125), and 12 Ranch houses on Four Mile Road (Sites 80, 81, 87–93, 97, 99, and 108).

CRA recommends that the Dutle Inn (Site 16 [CP 94]) and all of the previously undocumented properties (Sites 1–15 [CP 204–218], Sites 17–94 [CP 220–297], Sites 96–97 [CP 298–299], Sites 99–116 [CP 300–317], Site 118 [CP 318], Site 120 [CP 319], Sites 123–127 [CP 320–324], Site 129 [CP 325], and Site 133 [CP 326]) are ineligible for listing in the NRHP under Criterion A, B, or C, both individually and as part of a potential historic district. In addition, Site 119 (CP 91) has undergone major unsympathetic alterations since the time of its listing in the NRHP and no longer retains sufficient integrity to convey its historical significance

as a German settlement property in the Camp Springs area. The nine other NRHP-listed properties (Site 95 [CP 72], Site 98 [CP 71], Site 117 [CP 61], Site 121 [CP 60], Site 122 [CP 62], Site 128 [CP 52], Site 130 [CP 81], Site 131 [CP 92], and Site 132 [CP 51]) remain eligible for listing as part of the German Settlement, Four Mile Creek Area TR.

The proposed project will not directly impact any of the contributing features associated with these National Register-listed sites, and it appears that GRW Engineers, Inc., and Sanitation District No. 1 have taken sufficient measures to minimize the project's potential effects to these historic properties, including those effects related to construction noise, odor caused by air release valves, damage to fragile mortar joints caused by construction activities, tree removal, and potential system failure. Also, in addition to prohibiting blasting within 200 ft of listed structures, Sanitation District No. 1 has committed to seismographic monitoring at the National Register-listed sites when blasting or mechanical rock excavation occurs near the site to ensure that there are no construction-related damages to the historic buildings. Assuming that the steps outlined are implemented to minimize effects on historic properties, CRA recommends a No Adverse Effect determination for this project.

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APPENDIX A. ASSESSMENT OF ADVERSE EFFECTS

Portions of the following appendix are property of Siemens Water Technologies Corp. and Enduro Composites, Inc., and are reproduced here for informational purposes only. This information can be also be accessed via the web at

“http://www.water.siemens.com/SiteCollectionDocuments/Product_Lines/Davis_Products/Brochures/MS-BIOXIDE-BR-0309.pdf” and at “<http://www.endurocomposites.com/products/odor-control-process-systems/absorbers/manhole-odor-control-unit/overview>.”

Assessment of Adverse Effects
Response to the Kentucky State Historic Preservation Office Comments
Ash St. Pump Station and Force Main
Sanitation District No. 1 of Northern Kentucky
April 2012

Introduction

The Sanitation District No. 1 of Northern Kentucky (SD1) and their consultants have approached the Ash St. Pump Station and Force Main project responsively since its inception. After concept planning was completed, SD1 met with Camp Springs representatives in Summer 2010 to discuss their intentions and purpose of the project. Several follow up meetings were also conducted. The stated purpose of the project is to eliminate up to 25.6 million gallons per year of sewage from spilling to the Ohio River, as a result of a combined sewer overflows in the City of Silver Grove, KY. Wastewater flows will ultimately be diverted from the Highland Heights, Silver Grove, and the Melborne regions to the existing Silver Grove Pump Station and the proposed Ash St. Pump Station, then pumped to the existing Riley Road Pump Station located at the intersection of KY 547 (Four Mile Road) and KY 9 (AA Highway), and finally pumped to the Eastern Regional Water Reclamation Facility located in Alexandria, KY. The SD1 is under Federal Consent Decree to comply with mitigation requirements related to sanitary and combined sewer overflows in their wastewater collection system. These improvements are related to compliance with the Federal order.

In a December 8, 2011 letter from the Kentucky State Historic Preservation Office (SHPO) concerning the Ash St. Pump Station and Force Main project, several potential adverse effects were identified for the pump station and the force main project. These effects are discussed in detail in this response.

Pump Station Potential Adverse Effects

SHPO has previously identified possible adverse effects at the selected pump station site of avoidance of the WPA sewage pumping station and minimization of noise, odor, and use of lighting. For the purpose of this evaluation, a 500' radius buffer surrounding the site has been utilized to address adverse effects. Five (5) pump station sites have been identified for possible location of the Ash St. Pump Station and three (3) sites have been authorized for further study concerning archeological and historical features. The existing pump station site contains an abandoned WPA pumping station. The WPA pumping station is proposed to be demolished as a part of the Ash St. Pump Station project. The WPA structure is a large concrete structure that was raised above the Ohio River flood levels. The building superstructure on top of the concrete structure is in disrepair. The City of Silver Grove deeded the property to SD1 with the agreement the structure would be demolished. Cultural Resource Analysts, Inc. has recommended this structure not be included on the National Register of Historic Places. Several

alternative pump stations sites were also considered and summarized in Exhibit A, located in Tab 1. Alternate sites 1 and 2 were eliminated due to additional costs. Sites 3 and 4 were evaluated for endangered species, wetlands, cultural/historic properties, and archeological findings. The selected site was the most economical, accessible, and no structures eligible for listing were located within 300' of the site.

The indirect effects of odor, noise, and lighting have been identified as a possible adverse effect and each of these effects are addressed in the design and summarized below.

Odor

Odor control systems are installed inside the pump station to prevent odor from the pump station and the force main pipeline. Two systems are provided. The modular carbon adsorber system utilizes activated carbon to adsorb odor from the sewage source. The system media is sized to operate at least one year prior to replacement. The equipment has sample ports for odor testing to routinely determine the condition of the odor adsorbing media. The system consists of an exhaust fan that pulls air from the incoming sewer, the screenings area, and the pump station wetwell through the system. The treated air is then exhausted to the atmosphere and directed to the wooded area behind the building. The second system is a liquid phase system that injects chemical into the sewage to prevent the wastewater from turning septic in nature and resulting in foul odors. The chemical injection eliminates the odor, prevents corrosion, and overcomes safety concerns associated with atmospheric hydrogen sulfide. These systems will be operated continuously. Informational data sheets are attached in Tab 2 concerning the odor control systems.

Noise

The associated noise from the pump station is associated with the sewage pumps, the odor control system exhaust fan, and HVAC units. The pumps are located in the exterior concrete wetwell, 25' below the ground level and submerged below sewage at all times. The pumps are mechanical equipment, therefore, some noise may be heard in the form of a slight "buzz", however, the decibel level will be well below that of a typical street light. The odor control systems utilizes a mechanical blower to pull air through the wetwell and through the odor control system to maintain a slight negative pressure in the sewage areas, which will prevent odors from escaping to the atmosphere. All odor control equipment is contained inside the building to prevent noise. The odor control exhaust piping is directed toward the wooded area of the project, behind the pump station and no noise will be apparent to adjacent homes/business. The HVAC units are typical of residential air conditioning units.

Lighting

Site lighting of the pump station will not be a nuisance to the surrounding area. Exit lighting at each doorway will exist, as required by the Kentucky Building Code. These lights will be low level lighting and very similar to a residential porch light. One light will be located on the street side (east) of the facility. No lights will exist on the north side and one light will exist on the south side of the facility. One light will also exist at the top of the stairs on the west side of the facility. Site flood lighting will exist, however, it will be manually activated from the interior of the pump station and will only be used during emergency or extreme maintenance situations.

Force Main Potential Adverse Effects

Potential adverse effects identified for the force main are construction noise, odor caused by the air release valves, damage to fragile mortar joints to structures from construction activities, alteration of the community due to tree removal, and potential system failure. Each of these effects are addressed in the design and summarized below.

Construction Noise

All construction will be conducted in accordance with the Campbell County, KY ordinances, including any noise ordinance that may exist. Work hours would be limited to not before 7 AM and typically be completed by 6 PM. The force main project is near eight (8) miles in length and only short portions of the project will have active construction activities occurring at the same time. SD1 and their contractors will abide by all rules and laws associated with construction noise.

Odor Caused by the Air Release Valves

Air release valves are required to eliminate "air binding" in the pipeline, which can prevent the pump station from performing as-designed. Air release valves are installed at "high points" of a pipeline to enable the release of air trapped in the pipeline. Most all wastewater force mains, of significant length, have air release valves associated. Most of the time, no odor potential exists and most air release valves go unnoticed. However, some potential of odor does exist in a sewage force main that must be mitigated. SD1 has mitigated this concern by reducing the number of air valves associated with the Ash St. Force Main project with the substantial extra expense during to construct the force main deeper than normal to prevent these high points in the force main from occurring. Current design has six anticipated air release valves associated with the project. These air valves have been intentionally located away from residence/business should an odor upset occur.

The potential for odor in the Ash St. Force Main is minimal due to the end point of the force main being higher than any point along the entire length of the force main. As a

result, the force main remains full at all times. The only air that will exhaust from the force main is the slight amount of entrained air in the pump station wetwell sewage. In other circumstances, potential for odor from air release valves occurs when the discharge point of the force main is substantially lower than the remainder for the force main. In this event, every time the pump starts and stops, the force main fills and drains and air is exhausted from the air release valves in large quantities. This is not the case of the Ash St. force main.

Further odor mitigation measures are also incorporated into the design. The air release vault is not vented to the atmosphere. Any vented air escapes through the ground, where it is scrubbed or around the manhole covers in the structure. SD1 has also provided a contingency for any air release that could result in odor. A carbon canister that can be impregnated with additional odor control chemicals will be installed at each entry. These carbon canisters are routinely maintained to ensure no objectionable odors exist from the force main. A typical air release valve vault diagram and carbon canister product data sheet are attached in Tab 3.

Damage To Fragile Mortar Joints To Structures From Construction Activities

SD1 is very aware of the historic structures associated with this project and possible damage from construction activities. The route of the force main has been planned to avoid the vicinity of most historic structures and substantially lessen the risk of damage from construction activities. SD1 has identified structures of concern and has even widened the "Area of Potential Effect" (APE) to include all parcels within 100' of the pipeline. By including all parcels, all structures on these parcels have been included in the Cultural Resource survey.

Damage to structures is typically a result of vibration from rock removal operations during construction, both blasting and rock hammering. SD1 will require all blasting be conducted in accordance with Kentucky law. Furthermore, to avoid the possibility of adverse effects to these identified historic properties caused by construction activities, no blasting will occur within 200 LF of structures listed in the National Register of Historic Places without written permission of the property owner. Twelve (12) listed structures have been identified in the APE or adjacent to the APE. The following due diligence will be required on all construction activities near historic structures:

1. Pre-Construction Surveys of each historic structure to document existing conditions, provided the property owners will allow access to the structure.
2. Continuous seismograph monitoring on each structure when blasting or mechanical rock excavation occurs near the site.

3. Peak particle velocities (PPV), which are the vibrations that result from construction, will be limited to 0.25 inches per second, as recommended for historic structures. Kentucky law allows a maximum PPV of 2.0 inches per second. The PPV's shall be measured by the seismograph.
4. An SD1 pre-approved consultant specializing in blasting and construction vibrations shall be hired by the Contractor and will provide third party approval of all blasting plans within 1,000 feet of historical structures. The blast consultant shall also be responsible for the maintenance, reading, and reporting of all seismograph results to the SD1.

The results of the study indicate that the proposed line comes within 200 LF of structures associated with the National Register-listed properties identified as Sites 95, Site 98, 117, 121, and 130 (CP 72, 71, 61, 60, and 81), thus the following construction alternatives are being specified for each of these areas:

Site 95 John Webber Farm

The pipeline will be located in the pavement of State Road 547 (Four Mile Road), in front of the residence. No blasting activities are allowed within 200 LF of the structure without written property owner permission. All PPV's from construction operations shall be maintained below 0.25 inches per second and verified by onsite seismograph testing by a pre-approved third party consultant.

Site 98 Camp Springs House

The pipeline will be located on the Firth property, across the road and creek from the site. No blasting activities are allowed within 200 LF of the structure without written property owner permission. All PPV's from construction operations shall be maintained below 0.25 inches per second and verified by onsite seismograph testing by a pre-approved third party consultant.

Site 117 Blau's Four Mile House

The pipeline will be located on the Reitman property, across the road from the site. No blasting activities are allowed within 200 LF of the structure without written property owner permission. All PPV's from construction operations shall be maintained below 0.25 inches per second and verified by onsite seismograph testing of a third party blasting consultant.

Site 121 Reitman St. Joseph House

The pipeline will be located in the street in Camp Springs, KY. The house and smokehouse structures will be within 50' of the pipeline location. No blasting activities are allowed within 200 LF of the structure without written property

owner permission and no rock hammering will be allowed within 75'. Directional drilling of the pipeline will be conducted until 75' of clearance is obtained from the listed structures. All PPV's from construction operations shall be maintained below 0.25 inches per second and verified by onsite seismograph testing by a pre-approved third party consultant.

Site 130 Gubser-Schuchter Farm

The pipeline will be located on the Smith property, across the road from the site. No blasting activities are allowed within 200 LF of the structure without written property owner permission. All PPV's from construction operations shall be maintained below 0.25 inches per second and verified by onsite seismograph testing by a pre-approved third party consultant.

Due diligence is being performed to ensure no damage to fragile mortar joints or historic structures from construction activities will occur. No adverse effects from construction is anticipated.

Tree Removal

Concern has been voiced to SD1 concerning the appearance of the pipeline route through these wooded areas and the community's setting through the removal of trees. SD1 is very aware of this concern. The force main route is largely in open area and adjacent to Four Mile Creek or adjacent to Four Mile Road. Some pipeline construction through wooded areas is required, however, most large diameter trees have been avoided where possible, but not all trees can be saved. The entire easement will not be cleared and the through wooded areas, the easement width can be limited. During the easement negotiation process, specific trees may be avoided and SD1 will work with the property owner to identify these trees. Where tree removal occurs, the easement area, not over the pipeline, will be replanted with native trees of significant size. A landscaping allowance will be provided in the construction contract to reforest these areas. A listing of native tree species available for reforestation is attached in Tab 4.

Potential Force Main System Failure

The SD1 Ash Street Force Main is a utility and like all utilities, a chance of failure does exist. The SD1 goes to great length to ensure the facility is constructed in accordance with the construction specifications and the standards of the industry. Most force main sewer leaks are associated with construction accidents long after being placed into service, for example a housing contractor, unrelated to this project, breaking the force main. As a standard of installation, the pipeline is bedded in 12" of crushed stone above the pipe and a warning tape is installed at the top of the crushed stone to indicate a pipeline below. Signs will also be placed at locations, as-permitted by land owners,

warning others of the force main below. In addition, the “Kentucky Call Before You Dig Law” (KRS 367.4901 – 367.4917) aids in prevention of these construction accidents.

Restrained joint installation for the pipeline will also be utilized in areas where pipeline separation is possible, such as changes in direction of the pipe, creek crossings, etc. Restrained joints hold the pipe together and do not allow separation, therefore, maintaining greater integrity against pipeline leaks.

Prior to being placed into service, the force main is tested to a minimum pressure of 150 psi for a minimum of four hours at the lowest elevation of the force main with no pressure loss to ensure against leaks. The pipeline material has a pressure rating of 350 psi minimum pressure rating. The maximum operating pressure of the Ash Street force main is approximately 90 psi.

Should a leak occur, the SD1 will be immediately responsive. Crews are on call 24 hours per day to respond. The SD1 maintains in-stock all repair clamps, couplings, and spare pipeline to immediately respond to an emergency situation. Should a break or leak occur, the SD1 will be responsible for all repairs, including restoration of yards/fields, driveways, sidewalks, etc. They will also ensure all the spilled materials are appropriately removed, contamination cleaned up and treated, and the area returned to its original condition. They will also communicate appropriately with all affected property owners concerning status of the repair operations.

Summary

The SD1 understands the effect of a pump station and force main on the encroached property owners and those in the vicinity of the project. SD1 has expended great effort to mitigate these concerns and address issues associated with the construction of this project. Cost estimates have also been prepared for alternate pump station locations and force main routes. The alternate routes and locations result in several million dollars more expense than the selected route associated with this study. These alternate routes, which are considerably longer, will also result in similar adverse effect concerns.

The stated purpose of the project is to eliminate up to 25.6 million gallons per year of sewage from spilling to the Ohio River, as a result of a combined sewer overflows in the City of Silver Grove, KY. The SD1 is under Federal Consent Decree to comply with mitigation requirements related to sanitary and combined sewer overflows in their wastewater collection system. These improvements are related to compliance with the Federal order. SD1 is committed to mitigation of sewer overflows and also to working closely with those affected by this project to insure all construction disturbance is returned to its existing or better condition.

Tab 1



Tab 2

RJMC Series Modular Carbon Adsorber Odor Control Systems

Siemens Water Technologies offers a full range of activated carbon systems for municipal and industrial odor control.

Modular Skid Mounted Systems

Skid-mounted activated carbon odor control systems are offered to treat up to 1,400 cfm (2400 m³/h) of odorous air. The carbon media is loaded prior to shipment, and the carbon vessel and fan are factory installed on a steel skid.

A local control panel mounted on the side of the vessel contains the power disconnect and motor starter for fan. The fan is mounted at the inlet, with air flow vertically upwards through the media bed. A damper is provided to regulate airflow through the vessel and isolate the system during media replacement. The bed is equipped with carbon sample ports, grounding rod and differential pressure gauge.

Optional Features

An acoustic enclosure is offered as an option to reduce noise levels in residential locations. The Siemens RJMC Series Adsorbers are offered in premium vinyl ester FRP or polypropylene for optimum corrosion resistance. Systems are designed to hold a wide range of activated carbon media. Systems are normally sized to provide a minimum of one year media life.

Special Features

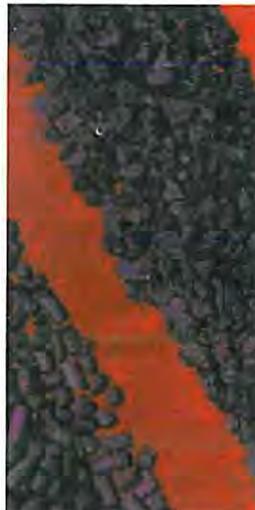
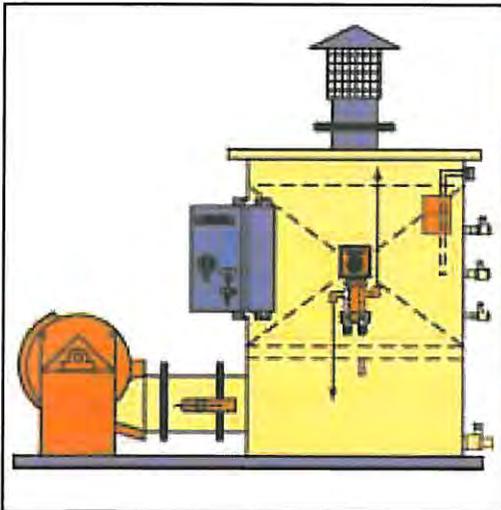
- Factory assembled and skid mounted
- FRP or Polypropylene construction
- Siemens service and support



Technical Information

Model	Air Flow Rate	Diameter	Footprint	Height	Carbon Weight	Gross Weight	Inlet & Outlet Diameter	Estimated System Power
	cfm	ft	ft x ft	ft	lbs	lbs	inch	hp
	m^3/h	mm	mm x mm	mm	kg	kg	mm	kw
RJMC-0150	Up to 130	1.5	4.3 x 3.2	5.00	130 - 200	940-1010	4	1.0
	220	460	1300 x 975	1500	60 - 90	426-458	100	.75
RJMC-0200	105-235	2.0	5.3 x 3.5	5.00	235 - 360	1225-1350	6	1.0
	175-400	680	1600 x 1000	1500	105-160	555-612	150	.75
RJMC-0250	185-365	2.5	5.8 x 3.8	5.00	370 - 570	1570-1770	6	1.5
	315-620	770	1700 x 1100	1500	170-260	710-805	150	1.1
RJMC-0300	290-530	3.0	6.3 x 4.1	5.00	530 - 820	1940-2230	8	2.0
	490-1290	900	1900 x 1200	1500	340-370	880-1012	200	1.5
RJMC-0350	420-720	3.5	7.7 x 4.9	5.50	720 - 1120	2525-2925	8	2.0
	715-1225	1000	2300 x 1500	1700	325-510	1145-1327	200	1.5
RJMC-0400	575-940	4.0	8.3 x 4.9	5.50	940 - 1450	3095-3605	10	3.0
	980-1600	1200	2500 x 1500	1700	425-665	1405-1635	250	2.2
RJMC-0450	750-1190	4.5	8.8 x 5.2	5.50	1190 - 1850	3835-4495	10	3.0
	1275-2025	1400	2600 x 1500	1700	540-840	1740-2040	250	2.2
RJMC-0500	950-1400	5.0	9.1 x 5.6	5.50	1470 - 2300	4455-5285	12	3.0
	1615-2380	1500	2700 x 1700	1700	670-1045	2020-2397	300	2.2

Isometric Drawing



Media

Siemens carbon odor control systems are designed to work with a wide range of media.

Midas[®] OCM

For H₂S odor removal we recommend Midas[®] Odor Control Media. Midas[®] OCM has the highest odor removal capacity of any media on the market (0.30 g H₂S/cc carbon).

Other Media offered:

- UOCH-KP Caustic impregnated odor control media
- P60 palletized, virgin activated VOC carbon
- 48C granular, coconut shell activated carbon

Siemens
Water Technologies
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San Diego, California 92128
Phone: 858-487-2200
E-Mail: odorcontrol.water@siemens.com

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The United States and Trademark office has recognized the novelty of design of Midas OCM with the award of (U.S. Patent Nos. 7,101,417; 7,022,269; and 6,858,192).

The information provided in this literature contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of the contract.



BIOXIDE®
Solution for Odor Control

Water Technologies

SIEMENS



BIOXIDE® solution is a safe, easy to handle method of odor control

To meet the needs of the industry, Siemens Water Technologies offers our BIOXIDE® solution for the elimination of odor, corrosion and safety problems associated with hydrogen sulfide in wastewater collection systems and treatment plants. BIOXIDE® solution is a unique, proven product because it achieves sewage odor control naturally, rather than chemically. This process eliminates the odor, prevents corrosion and overcomes safety concerns associated with atmospheric hydrogen sulfide.

How BIOXIDE® solution works

BIOXIDE® solution is a process which controls hydrogen sulfide odors and corrosion biologically. Introduction of nitrate oxygen via addition of BIOXIDE® solution into a waste stream creates an environment in which certain naturally occurring bacteria thrive. These bacteria utilize the dissolved hydrogen sulfide which is present as a part of their metabolism, thereby cost effectively removing any dissolved hydrogen sulfide from the wastewater. As a result, BIOXIDE® solution both removes dissolved hydrogen sulfide and prevents its formation.

In addition to hydrogen sulfide, BIOXIDE® also combats most other odors commonly found in wastewater treatment systems.

BIOXIDE® solution has a proven track record for controlling hydrogen sulfide in a variety of collection system applications, with hundreds of installations throughout the U.S. Dissolved hydrogen sulfide concentrations of over 50 ppm are reduced to <0.1 ppm in the most severe applications.

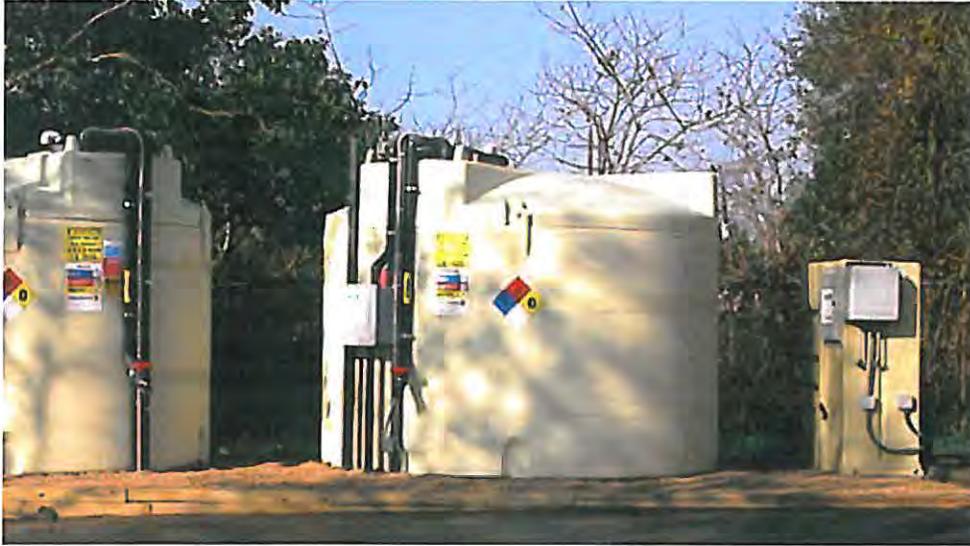
Why treat hydrogen sulfide?

The human nose is extremely sensitive to the presence of hydrogen sulfide (H₂S) and detects it "as the smell of rotten eggs" in concentrations as low as 0.0001 parts per million (ppm). Hydrogen sulfide is often an indicator of the presence of other odors as well as a potential corrosion problem. Corrosion is caused due to the acidic nature of hydrogen sulfide.

In underground sewers or other wastewater collection systems where visual inspection is not easily accessible, the development and concentration of hydrogen sulfide causes offensive odors and corrosion can often go undetected until significant damage or failure occurs.

Benefits of partnering with Siemens include:

- Wide range of odor control technologies; Siemens can provide a single product or combinations of products and treatment methods to provide the most cost effective solution available.
- Unmatched level of experience developed through decades of service, successfully solving thousands of odor problems.
- Regional service branch locations offer rapid response to your needs.
- Advanced technologies for controlling dose-to-demand at previously unattainable efficiencies.



Advantages of choosing BIOXIDE® solution

Contains no hazardous substances

One of the primary factors which should be taken into consideration when selecting any process for use in wastewater treatment systems, is the safety of those who will be handling the materials. Many options to control or eliminate odor compromise safety by reaction and flammability. Their storage and handling is often hazardous and costs are high, making them economically impracticable. BIOXIDE® solution is the only leading method of treatment for dissolved hydrogen sulfide which is not on the EPA CERCLA list of hazardous substances. This means that BIOXIDE® solution is safe for underground storage and is well suited to provide effective and affordable odor control throughout the entire collection system.

The use of BIOXIDE® solution releases no hazardous substances to the environment, nor does it expose workers or the public to potentially dangerous situations.

Reduces Biological Oxygen Demand (BOD)

BIOXIDE® solution achieves odor control biologically and therefore, an additional benefit of its use is sewage BOD reduction. Benefits of reduced BOD include increased treatment capacity in plants otherwise limited by BOD loading.

Treats other common sewage odors

Hydrogen sulfide is normally the predominant sewage odor problem. However, other odorous sulfur compounds such as mercaptans and organic sulfides can also contribute to odor problems. The biological environment created by BIOXIDE® solution will effectively remove these problem compounds as well.

Arrests corrosion

Collection system and treatment plant equipment and structures of concrete or metal are severely corroded by atmospheric hydrogen sulfide. While no product can reverse the damage already caused by existing corrosion, BIOXIDE® solution reduces further corrosion by effectively eliminating dissolved hydrogen sulfide, the source of atmospheric hydrogen sulfide.

Family of BIOXIDE® solutions

BIOXIDE® AE solution

BIOXIDE® AE solution is a patented product developed to take advantage of the benefits of our BIOXIDE® solution along with the addition of extra alkalinity into the process to increase the benefits of using one or the other chemical solution alone.

Ideal applications for BIOXIDE® AE solution include:

- Treatment systems where additional alkalinity is beneficial
- Low-velocity collection lines
- Biosolids storage

BIOXIDE - AQ® solution

BIOXIDE - AQ® solution is a patented product which combines our BIOXIDE® solution with the addition of AQUIT® solution to form a powerful hydrogen sulfide removal and prevention system. BIOXIDE - AQ® solution partially blocks the ability of anaerobes to utilize sulfate as an oxygen source and slows biological generation.

Ideal applications for BIOXIDE - AQ® solution include:

- Collection systems with long detention times
- Low-velocity collection lines
- Biosolids storage



When compared to alternative methods, BIOXIDE® solution excels in efficiency, safety and cost effectiveness

There are many different technologies that can be applied to control odors from wastewater collection and treatment systems. These technologies can be split into two main groups; vapor phase technologies, used to control odorous compounds in the air or gas and liquid phase technologies, used to control odorous compounds in the liquid wastewater itself.

BIOXIDE® solution vs. chemical oxidizers

Chemical oxidizers such as chlorine, hydrogen peroxide and potassium Permanganate are commonly used to control hydrogen sulfide odor. When compared to BIOXIDE® solution, these chemicals pose high reactivity and flammability risks, thus requiring expensive storage and handling techniques and equipment to overcome safety hazards.

In addition, chemical oxidizers trigger a chemical, rather than a biological, reaction within the system. The oxidizing mechanism of these products is not specific to hydrogen sulfide and therefore, excess dosage (compared to theoretical) is typical. This contributes to the relatively higher cost.

BIOXIDE® solution vs. pH adjustment

If using sodium hydroxide to adjust the pH level and the level becomes greatly elevated, this method may kill many helpful organisms present in the sewage and detriment plant operations.

Furthermore, caustic treatment used for pH adjustment cannot be sustained on a continuous basis. In contrast, BIOXIDE® solution is suited for continuous treatment making it a much more effective, and consistent method of odor control.

BIOXIDE® solution vs. metal salts

Metal salts are typically an economical treatment method for dissolved hydrogen sulfide control, however, in being specific to the removal of hydrogen sulfide only, they commonly leave other odor compounds untreated. BIOXIDE® solution provides equivalent treatment and cost effectiveness, but does so in a natural manner which also affects additional odor causing compounds. BIOXIDE® solution also provides BOD reduction.

BIOXIDE® solution vs. vapor phase treatment

Vapor phase technologies, such as adsorption systems or air scrubbers, control odors by ventilating and treating the atmosphere in one geographic area. BIOXIDE® solution controls odor compounds within the sewage, thereby preventing their release to the atmosphere. BIOXIDE® solution prevents the odor problem at its source, while vapor phase technologies treat the problem after it already exists. BIOXIDE® solution also eliminates the severe corrosion caused by atmospheric hydrogen sulfide, making it a significantly more effective means of reducing corrosion than vapor phase treatment.

BIOXIDE® solution vs. bacteria addition

The addition of volumes of "new" bacteria is not effective in controlling hydrogen sulfide because the sewage is not conducive to their growth. The difficulty in achieving consistent dosage and lack of stability contribute to the ineffectiveness and high cost of bacteria addition. The BIOXIDE® solution process provides the nutrients via a stable, easily metered aqueous solution, which promotes the growth of naturally occurring bacteria within the sewage collection system.



Full Service Odor Control

Siemens Water Technologies is a recognized leader in the development of innovative products for the control of odors in wastewater collection and treatment systems. We offer a full range of treatment options, including our proprietary BIOXIDE®, AQUIT® and ODOPHOS® solutions, as well as other proven technologies for addressing odor. Due to site variation, there is no single best solution, nor is there a “one size fits all” approach to solving every odor and corrosion control application. Siemens' treatment recommendations are based on data collected at your site and may include one or more odor control products to achieve the best results and in a cost effective manner. With a complete selection of odor control products, Siemens can customize the right solution for your specific odor control problem. And, should your odor control system require follow-up service, Siemens extensive field experience and operational expertise are available from one of our local service branch locations.

Services available for Odor and Corrosion control

- Installation Assistance
- Preventative maintenance and service contracts
- Process evaluation and optimization services
- Rehab and retrofit services
- Analytical and laboratory testing
- Plant control and instrumentation upgrades
- System survey and sampling
- Remote monitoring
- Parts and expendables
- Temporary/emergency odor control systems

Siemens Water Technologies delivers cost-effective, reliable systems guaranteed for quality, safety, and compliance. Our trained service staff is available to make sure your system is running at peak performance and to your specification. For your water treatment system, choose the partner that is committed to taking care of the world’s water...and yours.

BIOXIDE, BIOXIDE-AQ, AQUIT and ODOPHOS are trademarks of Siemens its subsidiaries or affiliates.

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

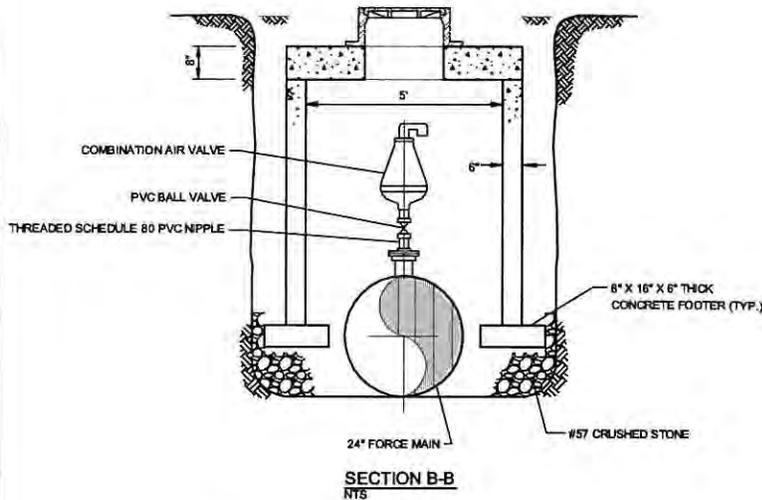
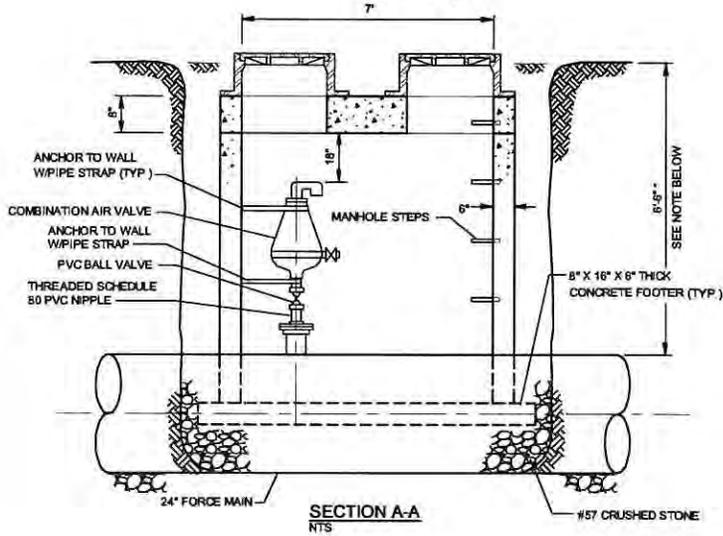
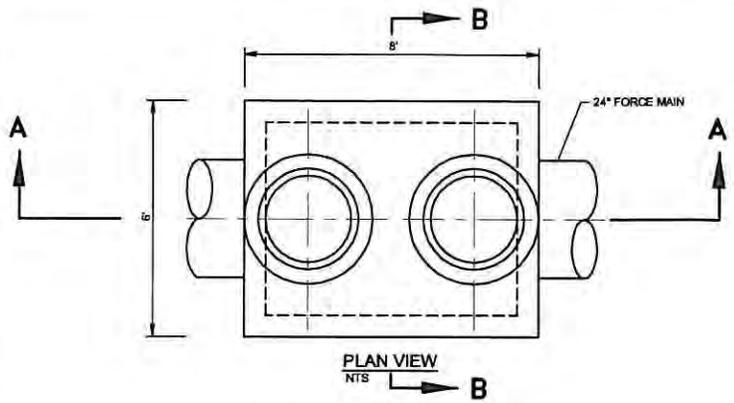
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Tab 3



COMBINATION AIR VALVE SCHEDULE		
FORCE MAIN SIZE	AIR VALVE SIZE	BOTTOM CONNECTION
24"	3"	FLANGED

COMBINATION AIR VALVE & ACCESS VAULT

NOT TO SCALE

AIR VALVE TO BE MOUNTED ON TOP OF DUCTILE IRON MECHANICAL JOINT TEE WITH 4" MJ OUTLET & 4" MJ PLUG PROVIDE THREADED TAP IN 4" MJ PLUG. MJ TEE TO HAVE EPOXY INTERIOR COATING. (PROTECTO 401 OR EQUAL).

* COMBINATION AIR VALVE AND ACCESS VAULT SHALL BE INSTALLED AT THE HIGHEST POINT IN THE FORCE MAIN PROFILE AS SHOWN ON THE CONSTRUCTION DRAWINGS. ADJUST VAULT HEIGHT AND/OR FORCE MAIN DEPTH TO ALLOW FINAL ELEVATION OF MANHOLE FRAME ACCESS TO BE SLIGHTLY HIGHER (2+ INCHES) THAN ORIGINAL GRADE.

CONCRETE . 4500 PSI @ 28 DAYS
WT. 18,450#
REINFORCED W/GRADE 60 STEEL
JOINT SEALED W/BUTYL RESIN SEALANT
MEETS H-20 LOADING REQUIREMENTS

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[Overview](#)

Have a question?
CONTACT US
or CALL (800) 231-7271

DID YOU KNOW...
Enduro provides odor control systems from 1 to over 100,000 cfm.

1 9001:2008
S O CERTIFIED

MANHOLE Odor Control Unit



Enduro's MANHOLE OCU is compact, modular unit designed to remove unpleasant odors such as hydrogen sulfide, mercaptans and other organic odors venting from sewer conveyance manholes. The unit comes equipped with media that is specially designed to have high activity for use in odor control applications. The MANHOLE OCU offers the following features and benefits:

- ▶ **Eliminates Unpleasant Odors:** By removing hydrogen sulfide and organic odors from the air stream, MANHOLE OCU prevents unpleasant odors from entering the atmosphere around manhole covers.
- ▶ **No Energy Requirements:** There are no mechanical parts. Unpleasant odors are removed by adsorption from the air stream as a sewer conveyance line breathes through the manhole.
- ▶ **Flexible Treatment:** Since the MANHOLE OCU is based on adsorption principles it is passive in operation, which means it can be highly effective on changing flows and odor concentrations.
- ▶ **Non-Corrosive:** All MANHOLE OCUs are manufactured from industrial plastics that have proven reliability in this type of service.
- ▶ **Easy Installation:** Modular components can be cut to permit easy assembly into existing manholes.
- ▶ **Passive Odor Control:** By using positive pressures inside the sewer conveyance line, odorous air passes up through the unit where the unpleasant odors are adsorbed and stored in the media, allowing purified air to vent through the top of the unit into the atmosphere. The pressure or surges of pressure with the sewer conveyance line is sufficient to overcome the pressure drop from the media bed.
- ▶ **Cost Effective:** The MANHOLE OCU is a simple media adsorption unit, which offers a high degree of odor control and performance at a low cost.
- ▶ **Replacement Media:** When odor breakthrough is detected, on the media need to be replaced. Bay Products can provide replacement media. Media replacement is as simple as dumping out the old media and filling with fresh media. This can be done at the site in a manner of a few minutes.
- ▶ **Adaptability:** Standard units are available for immediate shipment and will fit existing round manholes in sizes ranging from 16" to 37" diameters.

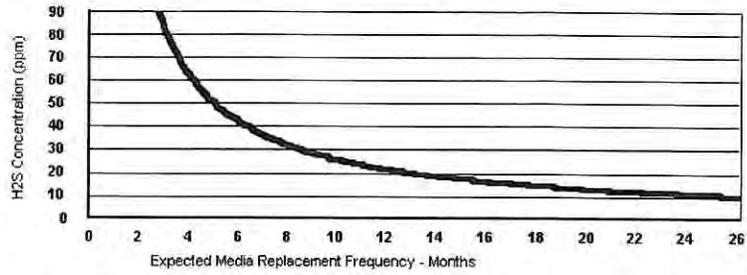
Performance

One of the unique benefits of the MANHOLE OCU design is the ease to perform media replacement. It is as simple as removing the manhole cover and lifting the center bucket adsorber module. The media can then be removed and replaced with a fresh charge of media.

Expected Media Life

Odoriferous airflow as a constant is plotted in Figure 1 to help predict the expected media replacement frequency at various hydrogen sulfide concentrations.

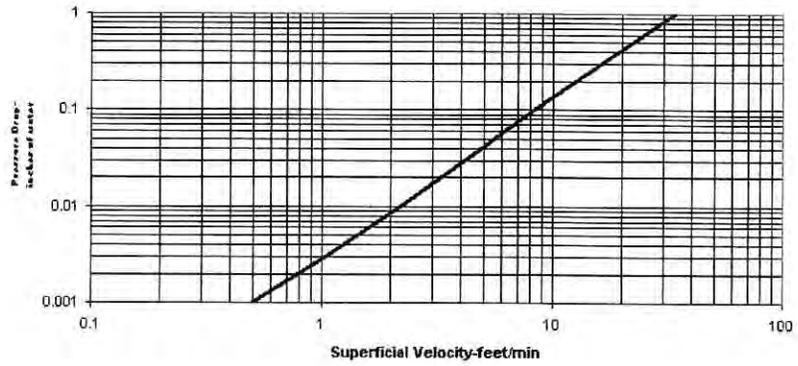
FIGURE 1



Pressure Drop Calculations

Pressure drop for the MANHOLE OCU at 70 and 1 atmosphere is shown on Figure 2.

Figure 2



Tab 4

**Native Species Available for Reforestation
Ash St. Pump Station and Force Main Project**

Wet Areas:

Tulip Poplar
Sweetgum
Pond Cypress
Sycamore

Dryer Areas:

Blackgum
Yellowwood
Ky Coffee Tree
Northern Catalpa
Redbud
Flowering Crabapple
Pagoda Dogwood
Sugar Maple
Red Maple
Pin Oak
Bi-Colored White Oak
Ginkgo - Male

Evergreen:

Eastern Red Cedar
Norway Spruce
Leyland Cypress
Nigra Arborvitae
Green Giant Arborvitae

APPENDIX B. RENDERINGS OF PUMP STATION AND GRINDER SEWER STATION



GRW PROJECT NO. 3883
 CLIENT PROJECT NO.



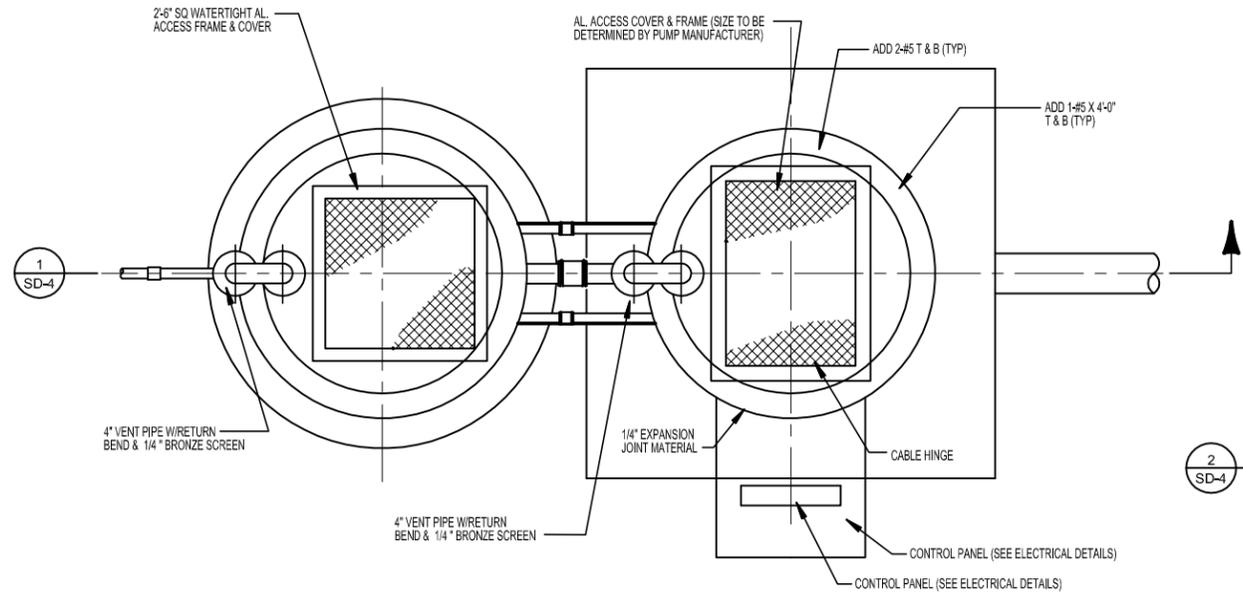
EXTERIOR ELEVATIONS
 SILVER GROVE KENTUCKY
 ASH STREET PUMP STATION
 CONTRACT NO. 1
 SANITATION DISTRICT NO. 1

REVISIONS	DATE	BY	REVISIONS	DATE	BY

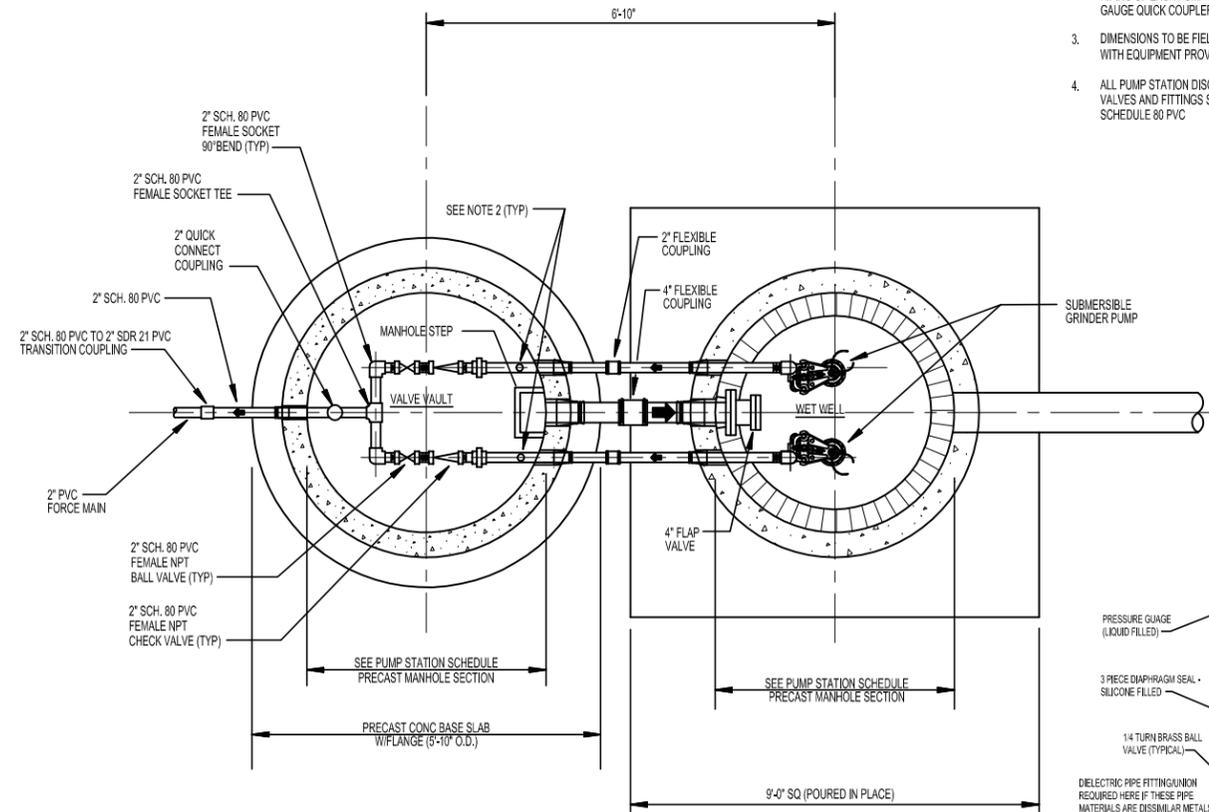
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 SCALE: _____
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 CONTACT: 502.261.8888

FILE NAME: U:\3863-Ash St Pump Station\Working Drawings\Design Drawings\Contract 3 - SG Gravity Sewer & Force Main\3863-C3-SD-4.dwg PRINTED: 4/17/2012 @ 8:53AM



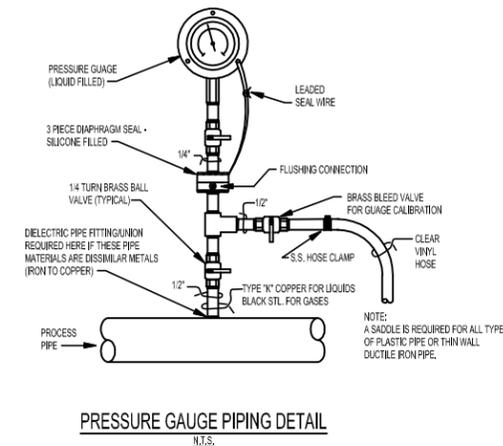
PUMP STATION - PLAN
NOT TO SCALE



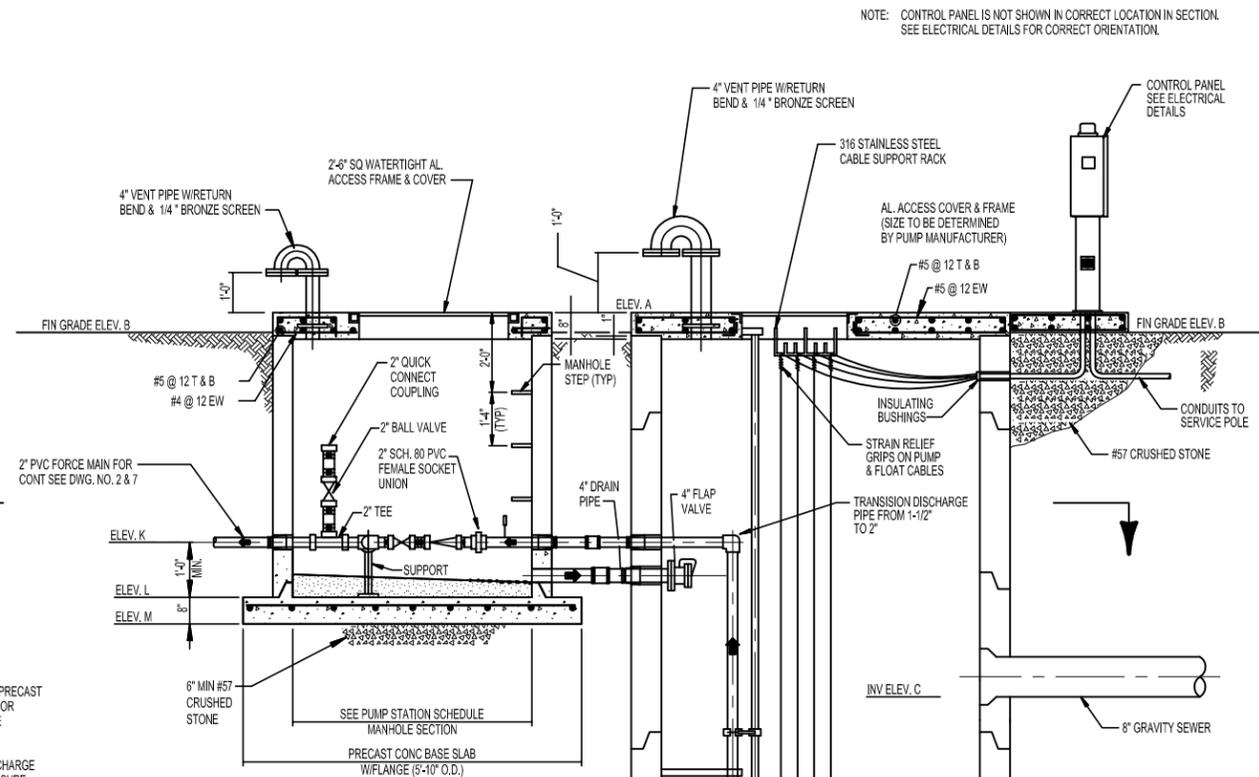
SECTION 2
NOT TO SCALE

NOTES:

1. PROVIDE WATERTIGHT FLEXIBLE CONNECTION IN PRECAST WETWELL PIPE OPENING FOR ALL PIPE ENTERING OR EXITING WETWELL. CONNECTION SHALL MEET THE REQUIREMENTS OF ASTM C 923.
2. PRESSURE GAUGES SHALL BE INSTALLED ON DISCHARGE PIPING OF EACH PUMP IN VALVE VAULT. SEE PRESSURE GAUGE QUICK COUPLER DETAIL THIS SHEET.
3. DIMENSIONS TO BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT PROVIDED.
4. ALL PUMP STATION DISCHARGE PIPING, VALVES AND FITTINGS SHALL BE SCHEDULE 80 PVC



PRESSURE GAUGE PIPING DETAIL
N.T.S.



SECTION 1
NOT TO SCALE

PUMP STATION SCHEDULE		
PUMP STATION	"A"	"B"
ELEV. A	492.65	497.00
ELEV. B	491.65	496.03
ELEV. C	475.20	482.50
ELEV. D	476.00	483.00
ELEV. E	475.00	482.00
ELEV. F	474.45	481.00
ELEV. G	474.00	479.20
ELEV. H	472.50	477.70
ELEV. J	471.50	476.20
ELEV. K	488.00	492.00
ELEV. L	487.00	491.00
ELEV. M	486.33	490.33
FORCE MAIN DIA.	2" PVC	3" PVC
STATION PIPE DIA.	2"	2"
WETWELL DIA.	5'	8'
VALVE VAULT DIA.	5'	5'
PUMP FLOW G.P.M.	25	70
PUMP HEAD T.D.H.	25	33
PUMP TYPE	SUBMERSIBLE GRINDER	SUBMERSIBLE GRINDER

NOTE: CONTROL PANEL IS NOT SHOWN IN CORRECT LOCATION IN SECTION. SEE ELECTRICAL DETAILS FOR CORRECT ORIENTATION.

GRW PROJECT NO. 3863
CLIENT PROJECT NO.



PUMP STATION DETAILS
SILVER GROVE GRAVITY SEWER & FORCE MAIN
CONTRACT NO. 3
SANITATION DISTRICT NO. 1

REVISIONS	NO.	DATE	DESCRIPTION
BY	AAB		
DRAWN	RLT		
REVIEWED	AAB		
APPROVED	JLH		

DATE: DECEMBER, 2011
SCALE: NTS
SHEET NO.

SD-4

REGULATORY REVIEW SET



**GRW, Inc. Proposed SD1 Ash St. Pump Station & Force Main And
Its Related Installation and Long Term Impact To Trees On Or Near
Section 106 Registered Culturally Historic Sites In Camp Springs, Ky.**

**Tree Impact Assessment Conducted By: Arborist Care Urban Forestry
March 2013 Field Data Collection By
Mathew Frantz ISA Certified Arborist OH - 6246A**

Introduction

This tree impact assessment was conducted by Arborist Care Urban Forestry at the request of GRW Engineers, Inc. for the Army Corps Of Engineers, and the Kentucky State Preservation Officer. The trees that are discussed in each setting, are only those trees within the 200' study area from a structure, and / or property line, oriented towards the proposed line. In many cases there are overlap of the two study areas, which will satisfy both priority one and two reporting.

The study areas are in Camp Springs, Kentucky, one of the earliest settlements to the area. It is located in Campbell County, and has never been incorporated. There are at least 27 Registered Section 106 Culturally Historic Sites, 8 of which are in the stretch of Four Mile Road, where the SD1 force main sewer line is proposed to be placed. Along with the notable pre-industrial structures of Camp Springs, are its even older trees.

Some of the oldest trees studied were Easter Red Cedar, *Juniperus virginiana*, averaging 170 years to 290 years of age. Since this project threatens the destruction of many acres of trees, special attention is being given to the most historic ones, specifically those within 200' of historic structures and / or property boundaries.

Methods

To determine a trees relative age, we measure the circumference of the stem, at breast height, which is standardized at 4.5' from soil line. We use the circumference to determine the stems diameter and radius, and divide it by a particular species' growth factor, which is based on a ratio of annual ring production, or growth rate.

Study Areas

1. 6231 Four Mile Road - Culturally Historic Site No. 95
2. 6361 Four Mile Road - Culturally Historic Site No. 98
3. 6617 Four Mile Road - Culturally Historic Site No. CP63
4. 6745 Four Mile Road - Culturally Historic Site No. 117
5. 6810 Four Mile Road - Culturally Historic Site No. 121
6. 7056 Four Mile Road - Culturally Historic Site No. 128
7. 7251 Four Mile Road - Culturally Historic Site No. 130
8. 7342 Four Mile Road - Culturally Historic Site No. 132

Priority 1 & 2 Survey Findings & Comments

1. 6231 Four Mile Road - Culturally Historic Site No. 95

Proposed line will enter at northwest corner of property, along edge of right of way. There are two rows of trees along the fence line. The rearmost row, about 100' off the roadway, consists of a planting of 22 Silver Maple in healthy condition with natural form, averaging from 1.5' to 2.5' DBH. These trees should not be disturbed in the process, since they are outside of proposed installation area.

The closest row, at about 20' from the roadway, will be removed in the installation process. This row consists of younger trees, including: x3, 6" caliper Red Maple, x1, 8" caliper Crabapple; x2, 1' DBH White Pine; x1, 6" caliper Red Maple; x2, 1' DBH Red Oak, and other small 6" caliper Red Maple.

The line merges back across the right of way, just before the row of 6 closely aged White Pine (map items J, K, L, M, O), ranging from 1.5' diameter to 2' diameter. Sensitive practices should be used near these White Pine, while crossing the roadway. All of them are in healthy condition, and should be spared any related disturbance. Included in the survey, across the front of the house are x2 large Silver Maple (map items P, Q), 2'-3' DBH. There are x2 Mature Elm (map items R, S), along the creek side of the driveway, all in good health, averaging between 2' and 4' DBH. These trees will not be disturbed in the installation process.

The trees impacted across the street, at 6240 Four Mile Road, are x6 mature Silver Maple (map items A, B, C, D, F), all in good health, between 2.5 - 3.5' DBH. There are also two maturing White Ash (map items G, H), that are at that properties edge, also in healthy condition. All of these trees should be spared any disturbance in the installation process. They average in age from 75 - 100 years old. One mature Sycamore (map item I), should also be preserved if possible. It is my recommendation to directional drill this stretch of roadway, to avoid impact to all of the trees along the right of way, opposite CH site 95.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

2. 6361 Four Mile Road - Culturally Historic Site No. 98

This site will be largely undisturbed since the proposed line will travel on the far side of the creek, through a pasture field. The Northeast corner of the study area starts with a mature Black Walnut (map item A), on the edge of the creek bank, in good health, with a DBH of 2.3'. Since the proposed line will cross the roadway and creek bed, extra care should be taken to not disturb this tree.

The additional trees in this study area are all occurring on the far side of the creek, and are a mix of the native species, all ranging from as small as 6" caliper, to 1' DBH. This study area has recently been cleared of invasive species, and the area at the creek has been thinned to discourage competition.

Along the Southwest side of the structure, at the edge of Four Mile Road, there area grouping of 4 mature Northern Catalpa (map items B, C, D, E). They range in size from 2.5' - 3.5' DBH, and should remain undisturbed in the installation process, due to the distance between them and proposed line.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

3. 6617 Four Mile Road - Culturally Historic Site No. CP63

This site will be largely undisturbed, since proposed line travels behind creek, in open pasture. There are two mature American Sycamore (map items A, B), in front of the structure, 2.5' to 3.5' DBH, with ages in the 150 - 170 year range. The trees along the creek bed include the native hardwoods, Elm, Ash, Walnut, Sycamore, Maple, Hackberry, Boxelder, averaging 8" caliper up to 2' DBH. According to the proposed installation area, these historic trees on the creek bank should not be damaged in the installation process.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

4. 6745 Four Mile Road - Culturally Historic Site No. 117

This site will be largely undisturbed, as the line is placed behind the out buildings across the street. The trees in these phase 1 & 2 studies include 8 mature Silver Maple (map items A, B, C, D, E, F, G), averaging 2' To 4' DBH, with average ages of 100 - 150 years of age. There is a maturing American Sycamore (map item H), on the edge of the southern most structure, near the proposed line, that should be preserved in the process. Along the rear of the study area, along the creek bank, there are 3' DBH American Sycamore, 2' DBH Silver Maple, and the usual mix of native hardwoods from 6" caliper up to 2' DBH, all of which should remain undisturbed in the excavation process.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

5. 6810 Four Mile Road - Culturally Historic Site No. 121

This site is of greatest concern, and has the oldest trees along the study area, within the closest proximity of the proposed line. There are three mature Eastern Red Cedar (map items A, B, C) near this structure, ranging from 200 to 230 years of age. They are in excellent condition, and have a retaining wall built in front of them. Their combined, extensive root systems certainly exceed 25' in depth, and likely reaches underneath the roadway, given the amount of time growing in this location. These three trees are some of the most prominent trees in the stonehouse trail along Four Mile Road.

Other noteworthy trees on this property are as follows: Continuing south, on the same side of right of way, where the proposed line will be placed, are as follows: x1, 2.5' DBH Red Oak (map item D), in excellent condition; x2, 2' DBH White Oak (map items E, F), both in excellent condition. Then follows another row of seven prominent, 200+ year old, Eastern Red Cedar (map items G, H, I, J, K, L, M) all similar sized and condition as the other three.

The trees mentioned in this area of the proposed line are all historic, and share in the aesthetic and character of Camp Springs. The proposed line will damage these trees in the process of installation, due to their extensive root systems. It is my recommendation to directional drill this stretch of roadway, to avoid impact to all of these trees along the right of way, in the stretch of land between Greskamp and Four Mile Roads. These trees are hallmark examples of the history of the area, and specifically, the homes they surround.

***Special care shall be taken to not disturb the trees, above and below grade.**

6. 7056 Four Mile Road - Culturally Historic Site No. 128

The proposed line will travel at the back of this property, between the creek and the structures on Four Mile Road. The creek bed has the usual native species, with trees ranging in age from 4" caliper, to 2' DBH, and all in favorable health and condition. The most historic trees are along the creek as follow: x3, 2' DBH Black Walnut (map items K, L, M); x1, 1.5' DBH Ash (map item N); x4, 1.5' DBH Elm (map items O, P, Q, J); x1, 1' DBH Boxelder (map item R).

There is a row of trees perpendicular to the creek, moving back toward the structures. These trees appear to be outside of the proposed routing of the line, which will be between them and the creek. There are 8 trees, x4, young Black Walnut (map items C, E, D, F), and x4 young American Sycamore (map items G, B, I, A), all the same size at 1.5' DBH, and all in excellent condition. The proposed line is outside of the creek bed, limiting the impact to both young and mature trees on this site.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

7. 7251 Four Mile Road - Culturally Historic Site No. 130

This site will be largely undisturbed, as the proposed line will be on the opposite side of the roadway. Some of the oldest trees are also found at this site, beginning with the trees along the roadway. Then, towards the house, there are also mature trees within the study area, but are far enough away from the proposed line to avoid any impact.

Beginning at the northeast side of the property are x7, 10" caliper to 1' DBH Eastern Red Cedar (map items A, B, C, D, E, F, G) ; x7, 10" to 1' DBH Hackberry; x1, 1' DBH Elm; x1, 1' DBH Hickory; x1, 2.5' DBH White Pine (map item J); x2, 1' & 2' DBH Eastern Red Cedar (map items H, I) at the front porch of the house, both from 200 to 240 years old. A mature Boxelder Maple (map item K) on the opposite side of right of way, is also historic. All trees listed here are in excellent health, and should not suffer any impact from the proposed line.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

8. 7342 Four Mile Road - Culturally Historic Site No. 132

This site will be largely undisturbed, as the proposed line will be at the right of way. This site is wetland or riparian, and a very productive habitat. The area is dense with the native hardwoods, and are mixed in age from 10" caliper to mature trees 2-3' DBH. The proposed line will not disturb any historic trees, as long as care is taken to stay away from the creek side, not deviating from alongside the right of way. The potential for impact will only occur along the roadway, and doesn't threaten any mature trees. Potential tree damage can be avoided if the same level of care is taken on both sides of the roadway.

***Special care shall be taken to not disturb the creek or trees, above and below grade.**

Discussion

The sites outlined in this study were assessed only for the potential damage to historic trees in close proximity to the registered historic structures, their property lines, or the sewer line itself. The two areas that will require additional directional drilling to reduce impact to historic trees, are site 95, where the proposed line crosses the right of way into neighbors parcel, risk damage to 5 mature Silver Maple, and two maturing Ash. All of the trees mentioned for additional preservation efforts, fall within either the phase 1 or 2 study areas, or are close enough to the proposed line, that sensitive excavation practices should be employed.

Site 98 will not sustain any impact or tree loss since the proposed line is on the opposite side of creek. Similarly, site CP63 will not sustain any impacts since line is completely off property, on the opposite side of creek. Site 117 will not sustain major impact or tree loss, aside from trenching to install proposed line. Site 121 has a total of 10 mature Eastern Red Cedar on that properties edge, within a critical distance of the proposed line. These trees will be severely impacted, unless alternative methods are employed like directional drilling.

Site 128 should not sustain any major tree loss or impact from trenching the open land where the proposed line will be, in relation to the creek bed and other trees on the property. Site 130 will not sustain any major impact or tree loss since the proposed line is placed on the opposite side of the right of way. Site 132 will also not sustain major tree loss or impact since proposed line will be placed just off the road, as long as care is taken to avoid unnecessary tree damage or removal.

Conclusion

Although the GRW, inc. proposed SD1 Ash St. Pump Station & Forced Main routing has taken time to consider minimizing disturbance to the areas natural resources, woodlands and creek, it is clear that it will indeed cause great impact to creek bed and continuous tree canopy. Ranging from the 200+ year old historic species, to the 5 - 10 year old successional species, and associated habitat that occur naturally. These trees and creek beds exist together in a delicately organized balance, and should be left intact, without unnecessary fragmentation.

The trees along creek beds and on registered and / or non registered lands are all historic, especially in the undisturbed riparian and forest habitat. These ecosystems have taken hundreds and hundreds of years to evolve, and will be severely altered in this proposed plan. Great care should be given to protect this region and preserve its historic character, and in the maintenance of these pristine natural environments.

All of the trees protecting and complimenting this historic area, not only give character, but help to retain soils with their extensive root systems, help purify the water by remediating toxins, help control runoff through absorption. They are absolutely living systems performing services that we can measure. They help shade from solar radiation, reducing energy costs of all organisms, large and small alike. Their sudden absence would lead to sun scald and scorch of the understory, and creek bed, creating conditions unfit for the survival of the native macro and micro fauna. These delicate and complex ecosystems could not be replaced, even by the most ambitious restoration efforts.

Directional drilling methods should be utilized throughout the entire Camp Springs area, to avoid the loss of continuous tree canopy, to avoid the unnecessary removal of trees, young and old. This lower impact drilling technology should also be utilized to avoid damage to the centuries old creek bed and associated waterways. The character and function of these two natural systems are a cornerstone of this historic region. These natural systems combined, net disturbance, will have short and long term ecological and financial consequences, that have yet to be understood.

Appendix

A. Native Tree Species

Northern Catalpa - *Catalpa speciosa*

Northern Red Oak & White Oak - *Quercus rubra & alba*

Eastern Red Cedar - *Juniperus virginiana*

Hackberry - *Celtus occidentalis*

American Sycamore - *Plantus occidentalis*

Eastern Redbud - *Cercis cannadensis*

Box elder Maple - *Acer negundo*

Silver & Sugar Maple - *Acer saccharinum*

American & Slippery Elm - *Ulmus americana & rubra*

White Ash - *Fraxinus alba*

Wild Black Cherry - *Prunus serotina*

Black Walnut - *Jugligains nigra*

Black Locust - *Robinia pseudoacacia*

Honey Locust - *Gleditsia tricanthos*

Osage Orange - *Maclura pomifera*

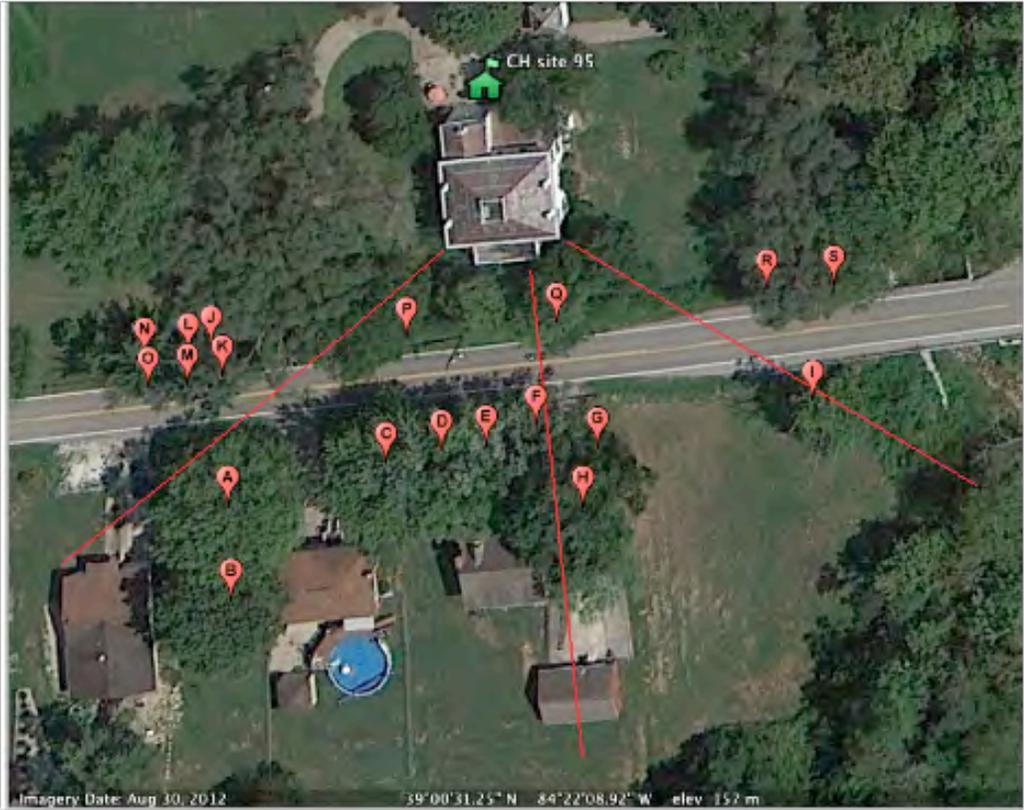
White Pine - *Pinus strobus*

B. Invasive Understory Species

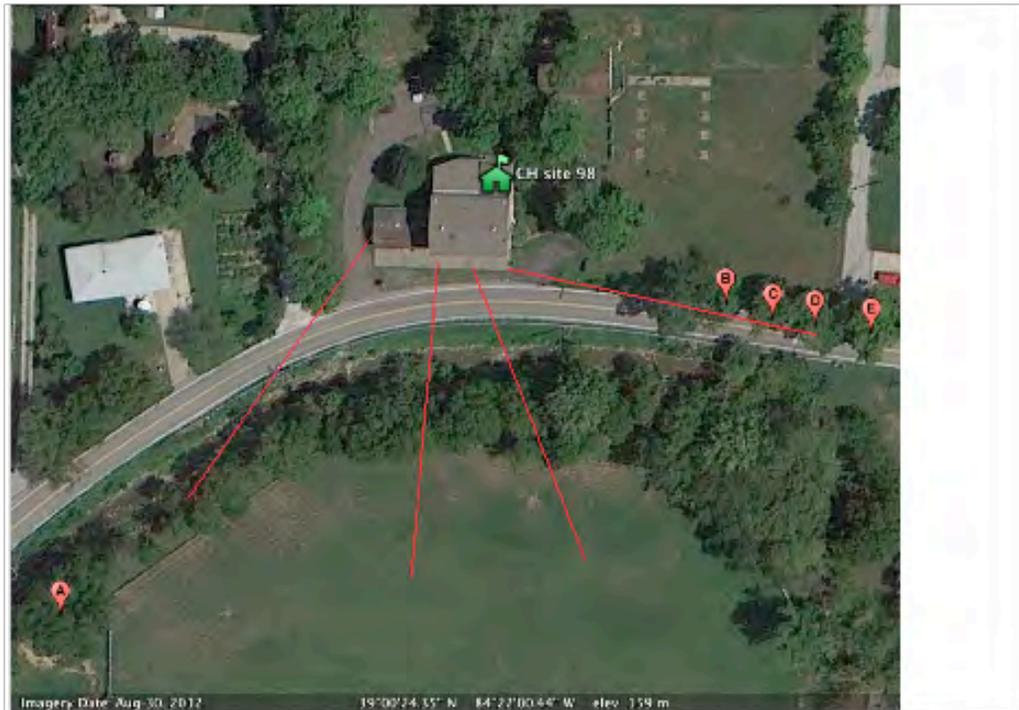
Amur Honeysuckle - *Lonicera maackii*

C. Site Maps

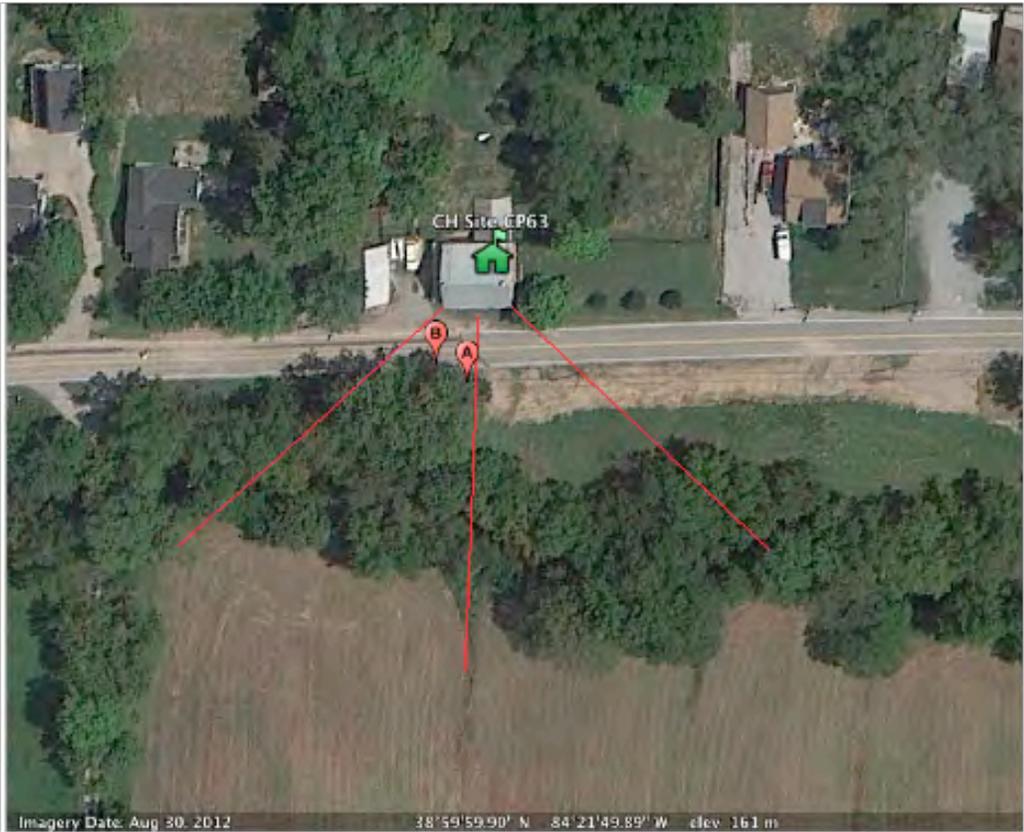
1. CH site 95 Map. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



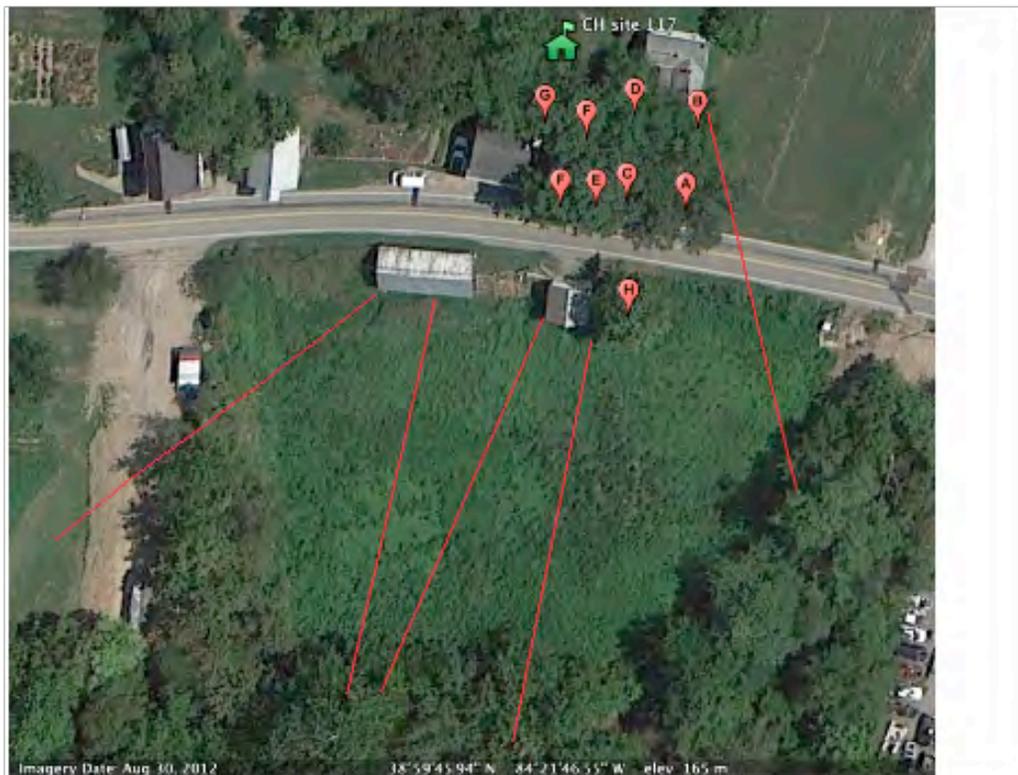
2. CH site 98 Map. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



3. CH Site CP63. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



4. CH Site 117. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



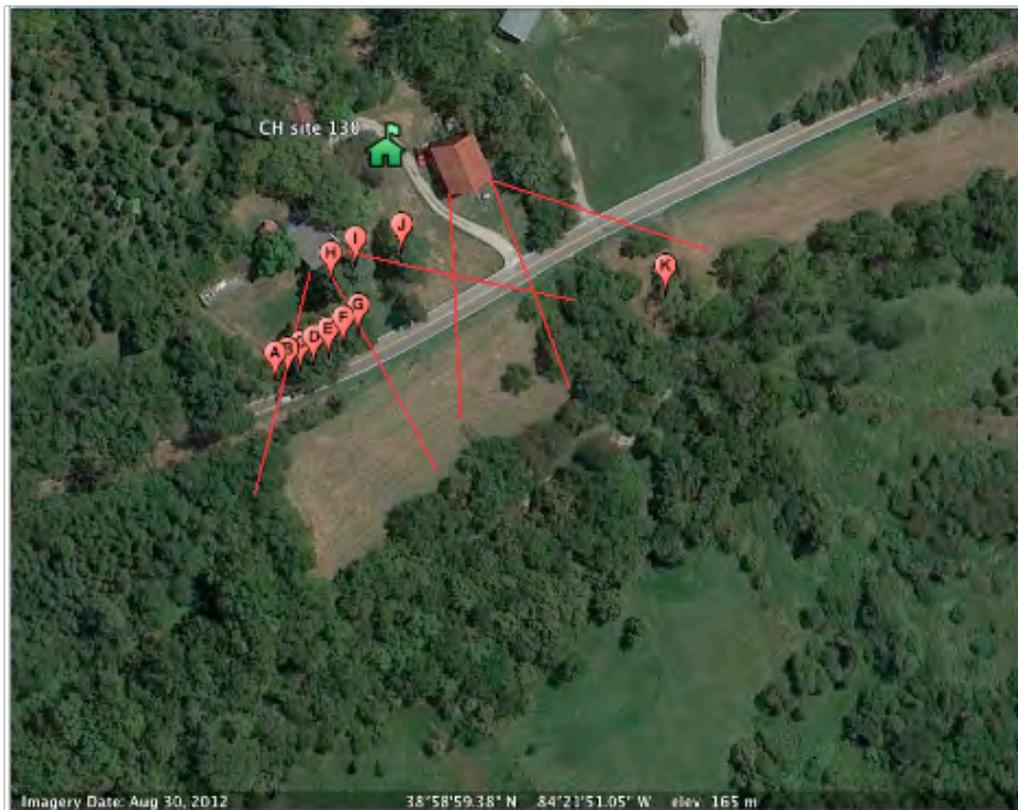
5. CH Site 121. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



6. CH Site 128. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



7. CH Site 130. Red Lines Indicate 200' Study Area. Letters Indicate Items Specified.



8. CH Site 132. Red Lines Indicate 200' Study Area. No Items Specified.



References:

www.na.fs.fed.us/pubs/silvics_manual/...1/.../virginiana.htm



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APPENDIX C

CLEARINGHOUSE LETTERS

SCOPING LETTERS AND RESPONSES



STEVEN L. BESHEAR
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606
WWW.DLG.KY.GOV

TONY WILDER
COMMISSIONER

October 27, 2010

Ms. Ashley Adams
Sanitation District No 1
1045 Eaton Drive
Ft. Wright, KY 41017

RE: SD1 - Ash Street Lift Station
SX21037111
SAI# KY20100922-1569

Dear Ms. Adams

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

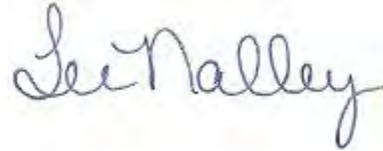
This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state or federal agency.

The results of this review are valid for one year from the date of this letter.

Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

A handwritten signature in black ink that reads "Lee Nalley". The signature is written in a cursive style with a large initial "L" and "N".

Lee Nalley
Kentucky State Clearinghouse

Attachments

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201009221569

PW RATES MAY APPLY CONTACT KY LABOR CABINET AT 502 564 3534

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201009221569

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: Construction of a wastewater pump station. Prior approval must be obtained from the DOW before construction can begin.

The applicant must cite the State Application Identifier:
SAI #KY201009221569 when submitting plans and specifications.

Construction of a wastewater pump station, up to 9 Million Gallons per Day in capacity, to accept wastewater flows from the Silver Grove, Melbourne, and the Highland Heights region of Campbell County. The pump station will also mitigate a current typical year CSO in the City of Silver Grove. The pump station is part of a master plan to divert wastewater flows from the Dry Creek Wastewater Reclamation Facility to the Eastern Regional Reclamation Facility. The pump station facility will consist of wastewater pumps, pump control, odor control facilities, wastewater screening equipment, backup power generation, a building facility constructed above the 100 year floodplain, and other appurtenances. This project is in conjunction with the Ash Street force main, low pressure sewer system, and Silver Grove gravity sewer.

The Wastewater Planning Section of the Water Infrastructure Branch is not opposed to this project. The proposed project may require a facility plan update. The applicant shall contact the Division of Water, Water Infrastructure Branch to discuss facility planning status. Contact Anshu Singh of the Wastewater Planning Section at (502) 564-3410 ext 4805 or at anshu.singh@ky.gov

The pump station's Groundwater Protection Plan will need to be updated to include the generator.

Best management practices shall be used to reduce runoff from the project into adjacent streams.

From the application data, DOW ascertains that the proposed project is located in a floodplain area. Therefore, a floodplain construction permit is required for this project.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY201009221569

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CRF, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

The project area must be surveyed by a professional archaeologist to determine if sites eligible for listing in the National Register of Historic Places will be affected by the undertaking. The State Historic Preservation Officer must review and approve the survey report. Where a given project area or portions thereof have been disturbed by prior construction, the applicant may file documentation of that disturbance with the State Historic Preservation Officer and request an opinion concerning the need of an archaeological survey (note: farming does not constitute disturbance). If you have any questions, please contact Philip Mink at 502-564-7005, extension 140.

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201009221569
no comment

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY201009221569

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY201009221569

Bezold (D6), Mike: no comments

The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY201009221569
No comments.



STEVEN L. BESHEAR
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
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WWW.DLG.KY.GOV

TONY WILDER
COMMISSIONER

October 27, 2010

Ms. Ashley Adams
Sanitation District No 1
1045 Eaton Drive
Ft. Wright, KY 41017

RE: SD1 - Ash Street Force Main
SX21037110
SAI# KY20100920-1567

Dear Ms. Adams

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

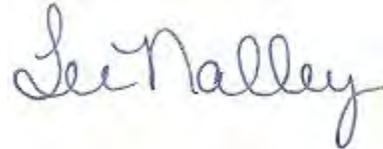
You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state or federal agency.

The results of this review are valid for one year from the date of this letter.
Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

A handwritten signature in blue ink that reads "Lee Nalley". The signature is written in a cursive style with a large initial "L".

Lee Nalley
Kentucky State Clearinghouse

Attachments

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY201009201567

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY201009201567

Bezold (D6), Mike: no comments

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201009201567

PW RATES MAY APPLY CONTACT KY LABOR CABINET AT 502 564 3534

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201009201567
no comment

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY201009201567

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CRF, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

The right of way lines and infrastructure do not require an archaeological survey; however, the lines and infrastructure outside of the right of way must be surveyed by a professional archaeologist to determine if sites eligible for listing in the National Register of Historic Places will be affected by the undertaking. Where a given project area or portions thereof have been disturbed by prior construction, the applicant may file documentation of that disturbance with the State Historic Preservation Officer and may request an opinion concerning the need of an archaeological survey (note: farming does not constitute disturbance). The State Historic Preservation Officer must review and approve the survey report.

If you have any questions, please contact Philip Mink at 502-564-7005, extension 140.

The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY201009201567
No comments.

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201009201567

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: Construction of 27,000 Linear Feet of Ash Street force main. Prior approval must be obtained from the DOW before construction can begin.

The applicant must cite the State Application Identifier:

SAI #KY201009201567 when submitting plans and specifications.

Construction of 27,000 Linear Feet of Ash Street force main (size to be determined between 18" and 24"), 750 LF of 21"/24" gravity sewer upstream of the Silver Grove pump station, 7,600 LF of Silver Grove force main (12"), and 6,000 LF of low pressure sewer system for nineteen homes. The project will accept flows from the Silver Grove, Melbourne, and the Highland Heights region of Campbell County. The project will also mitigate a current typical year CSO in the City of Silver Grove. The project is part of a master plan to divert wastewater flows from the Dry creek Wastewater Reclamation Facility to the Eastern Regional Reclamation Facility. This project is in conjunction with the Ash Street pump station project.

The Wastewater Planning Section of the Water Infrastructure Branch is not opposed to this project. The proposed project may require a facility plan update. The applicant shall contact the Division of Water, Water Infrastructure Branch to discuss facility planning status. Contact Anshu Singh of the Wastewater Planning Section at (502) 564-3410 ext 4805 or at anshu.singh@ky.gov

Best management practices shall be used to reduce runoff from the project into adjacent streams.

From the application data, DOW ascertains that the proposed project is located in a floodplain area. Therefore, a floodplain construction permit is required for this project.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.



November 16, 2009

Lee Andrews
US Fish & Wildlife Service
Kentucky ES Field Office
J C Watts Federal Building - Room 266
330 West Broadway
Frankfort, KY 40601

Re: *Ash Street Pump Station and Force Main, Silver Grove, Kentucky*

Dear Mr. Andrews:

We are conducting an ecosystems analysis for the above-referenced project. The project involves construction of a new interchange at KY 994 (Old Mayfield Road) southeast of Paducah, Kentucky in McCracken County. We are interested in information concerning federally endangered and threatened species that may exist in the project area. The project consists of a proposed pump station and force mains associated with the Ash Street Pump Station in the City of Silver Grove, in Campbell County, Kentucky. The proposed project consists of several components:

1. Replacement of Ash Street pump station
2. Ash Street force mains – 27,000 linear feet
3. Silver Creek force mains – 7,600 linear feet
4. Low-pressure sewer system – grinder pump sites and 6,000 linear feet of small (2- to 3-inch diameter) force mains
5. Silver Grove pump station – Replacement of 750 linear feet of existing sewer lines to pump station

The project area lies within the Newport, Withamsville, and New Richmond USGS 7.5-minute quadrangles; a map of the project area is enclosed. Thank you for your help.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Chelsey Olson'.

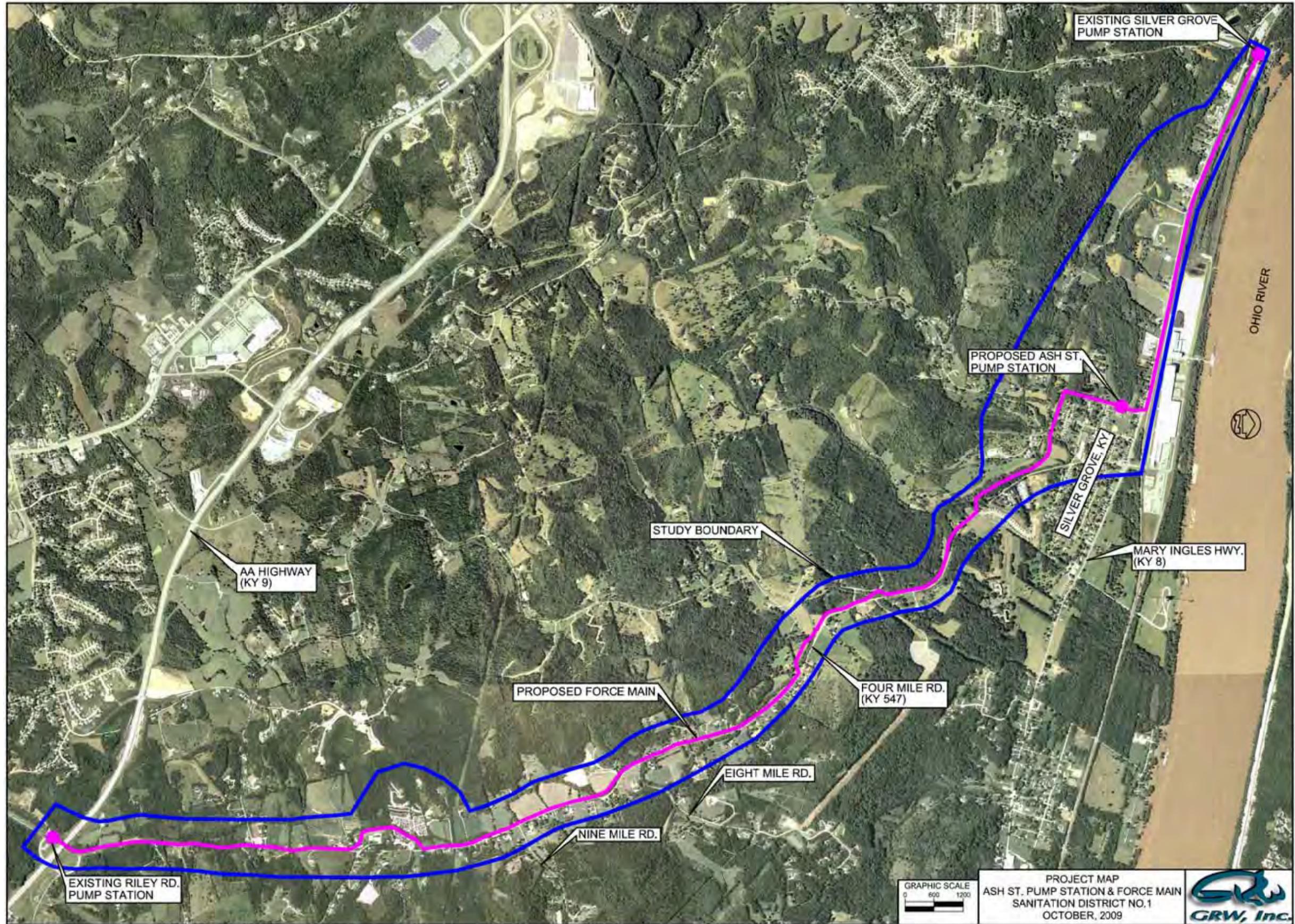
Chelsey Olson
colson@thirdrockconsultants.com

Enclosure

Main Office
2526 Regency Road, Suite 180
Lexington, KY 40503
Phone: 859-977-2000

www.thirdrockconsultants.com

Branch Office
401 North Court Street
Marion, IL 62959
Phone: 618-751-1048





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
330 West Broadway, Suite 265
Frankfort, Kentucky 40601
(502) 695-0468

December 7, 2009

Mr. Chelsey Olson
Third Rock Consultants
2526 Regency Road, Suite 180
Lexington, Kentucky 40503

Re: FWS 2010-B-0086; Third Rock Consultants, Ash Street Pump Station and Force Main Project, located in the City of Silver Grove, Campbell County, Kentucky

Dear Mr. Olson:

Thank you for the correspondence received November 16, 2009 regarding the above-referenced project. The U.S. Fish and Wildlife Service (Service) has reviewed this proposed project and offers the following comments in accordance with the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). This is not a concurrence letter. Please review carefully, as further consultation with the Service may be required.

In accordance with provisions of the Fish and Wildlife Coordination Act, the Service has reviewed the project with regards to the effects the proposed actions may have on wetlands and/or other jurisdictional waters. We recommend that project plans be developed to avoid impacting wetland areas and/or streams, and reserve the right to review any required federal or state permits at the time of public notice issuance. The U.S. Army Corps of Engineers should be contacted to assist you in determining if wetlands or other jurisdictional waters are present or if a permit is required.

In order to assist you in determining if the proposed project has the potential to impact protected species we have searched our records for occurrences of listed species within the vicinity of the proposed project. Based upon the information provided to us and according to our databases, we believe that two federally listed species have the potential to occur within the project vicinity. The listed species are:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>
Indiana bat	<i>Myotis sodalis</i>	endangered
running buffalo clover	<i>Trifolium stoloniferum</i>	endangered

We must advise you that collection records available to the Service may not be all-inclusive. Our database is a compilation of collection records made available by various individuals and

resource agencies. This information is seldom based on comprehensive surveys of all potential habitats and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality.

Indiana bat

Summer roost and/or winter habitat for the endangered Indiana bat may exist within the proposed project site. Based on this information, we believe that: (1) forested areas in the vicinity of and on the project area may provide potentially suitable summer roosting and foraging habitat for the Indiana bat; and (2) caves, rockshelters, and abandoned underground mines in the vicinity of and on the project area may provide potentially suitable wintering habitat for the Indiana bat. Our belief that potentially suitable habitat may be present is based on the information provided in your correspondence, the fact that much of the project site and/or surrounding areas contain forested habitats that are within the natural range of this species, and our knowledge of the life history characteristics of the species.

The Indiana bat utilizes a wide array of forested habitats, including riparian forests, bottomlands, and uplands for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 5 inches DBH.

Prior to hibernation, Indiana bats utilize the forest habitat around the hibernacula, where they feed and roost until temperatures drop to a point that forces them into hibernation. This "swarming" period is dependent upon weather conditions and may last from about September 15 to about November 15. This is a critical time for Indiana bats, since they are acquiring additional fat reserves and mating prior to hibernation. Research has shown that bats exhibiting this "swarming" behavior will range up to five miles from chosen hibernacula during this time. For hibernation, the Indiana bat prefers limestone caves, sandstone rockshelters, and abandoned underground mines with stable temperatures of 39 to 46 degrees F and humidity above 74 percent but below saturation.

Because we have concerns relating to the Indiana bat on this project and due to the lack of occurrence information available on this species relative to the proposed project area, we would have the following recommendations relative to Indiana bats.

1. Based on the presence of numerous caves, rock shelters, and underground mines in Kentucky, we believe that it is reasonable to assume that other caves, rock shelters, and/or abandoned underground mines may occur within the project area, and, if they occur, they could provide winter habitat for Indiana bats. Therefore, we would recommend that the project proponent survey the project area for caves, rock shelters, and underground mines, identify any such habitats that may exist on-site, and avoid impacts to those sites pending an analysis of their suitability as Indiana bat habitat by this office.

2. We would also recommend that the project proponent only remove trees within the project area between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area, we recommend the project proponent only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat “swarming” behavior.

However, if these recommendations cannot be incorporated as project conditions, then the project area may be surveyed to determine the presence or absence of this species within the project area in an effort to determine if potential impacts to the Indiana bat are likely. A qualified biologist who holds the appropriate collection permits for the Indiana bat must undertake such surveys, and we would appreciate the opportunity to approve the biologist’s survey plan prior to the survey being undertaken and to review all survey results, both positive and negative. If any Indiana bats are identified, we would request written notification of such occurrence(s) and further coordination and consultation.

If your project schedule requires the clearing of potential Indiana bat habitat (i.e., trees) during the period of April 1 to October 14, you have two primary options for addressing impacts to Indiana bats. First, you can survey the project site as described previously, or you can enter into a Conservation Memorandum of Agreement (MOA) with the Service. By entering into a Conservation MOA with the Service, Cooperators gain flexibility in project timing with regard to the removal of suitable Indiana bat habitat. In exchange for this flexibility, the Cooperator provides recovery-focused conservation benefits to the Indiana bat through the implementation of minimization and mitigation measures as set forth in the Indiana Bat Mitigation Guidance for the Commonwealth of Kentucky. For additional information about this option, please notify our office.

running buffalo clover

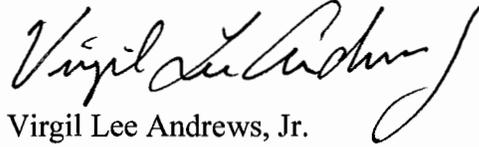
Running buffalo clover may occur within the proposed project site. This species requires periodic, moderate disturbances to reduce competition and maintain open or semi-open habitat conditions. Disturbed areas such as old pastures, moderately grazed fields, road rights-of-way, and power line rights-of-way that are mechanically maintained are known to provide suitable habitat for these species. Additionally, running buffalo clover is known to occur in habitats ranging from stream banks and low mesic (moderately moist) forests to lawns and cemeteries. If the proposed project(s) require alteration of habitat that coincides with the habitat required for this species, an on-site inspection or survey of the area must be conducted to determine if the listed species is present or occurs seasonally. Prior to construction activities including tree clearing, a survey should be done by qualified personnel and be conducted during the appropriate time of day and/or year to ensure confidence in survey results. Please notify this office with the results of any surveys and an analysis of the “effects of the action,” as defined by 50 CFR 402.02 on any listed species including consideration of direct, indirect, and cumulative effects.

Surveys for both species would not be necessary if sufficient site-specific information was available that showed that: (1) there is no potentially suitable habitat within the project area or its vicinity or (2) the species would not be present within the project area or its vicinity due to site-specific factors. A survey for Indiana bats would also not be necessary if trees were removed

from the site between October 15 and March 31, or if the project proponent chooses to enter into a Conservation MOA with the Service.

Thank you again for your request. Your concern for the protection of endangered and threatened species is greatly appreciated. If you have any questions regarding the information that we have provided, please contact James Gruhala at (502) 695-0468 extension 116.

Sincerely,

A handwritten signature in black ink, appearing to read "Virgil Lee Andrews, Jr.", written in a cursive style.

Virgil Lee Andrews, Jr.
Field Supervisor



November 16, 2009

Sara Hines
Data Manager
Kentucky State Nature Preserves Commission
801 Schenkel Lane
Frankfort, KY 40601-1403

Re: *Ash Street Pump Station and Force Main, Silver Grove, Kentucky*

Dear Ms. Hines:

We are conducting an ecosystems analysis for the above-referenced project and are interested in information concerning endangered, threatened, or special concern plants and animals and exemplary natural communities that may exist in the project area. The project consists of a proposed pump station and force mains associated with the Ash Street Pump Station in the City of Silver Grove, in Campbell County, Kentucky. The proposed project consists of several components:

1. Replacement of Ash Street pump station
2. Ash Street force mains – 27,000 linear feet
3. Silver Creek force mains – 7,600 linear feet
4. Low-pressure sewer system – grinder pump sites and 6,000 linear feet of small (2- to 3-inch diameter) force mains
5. Silver Grove pump station – Replacement of 750 linear feet of existing sewer lines to pump station

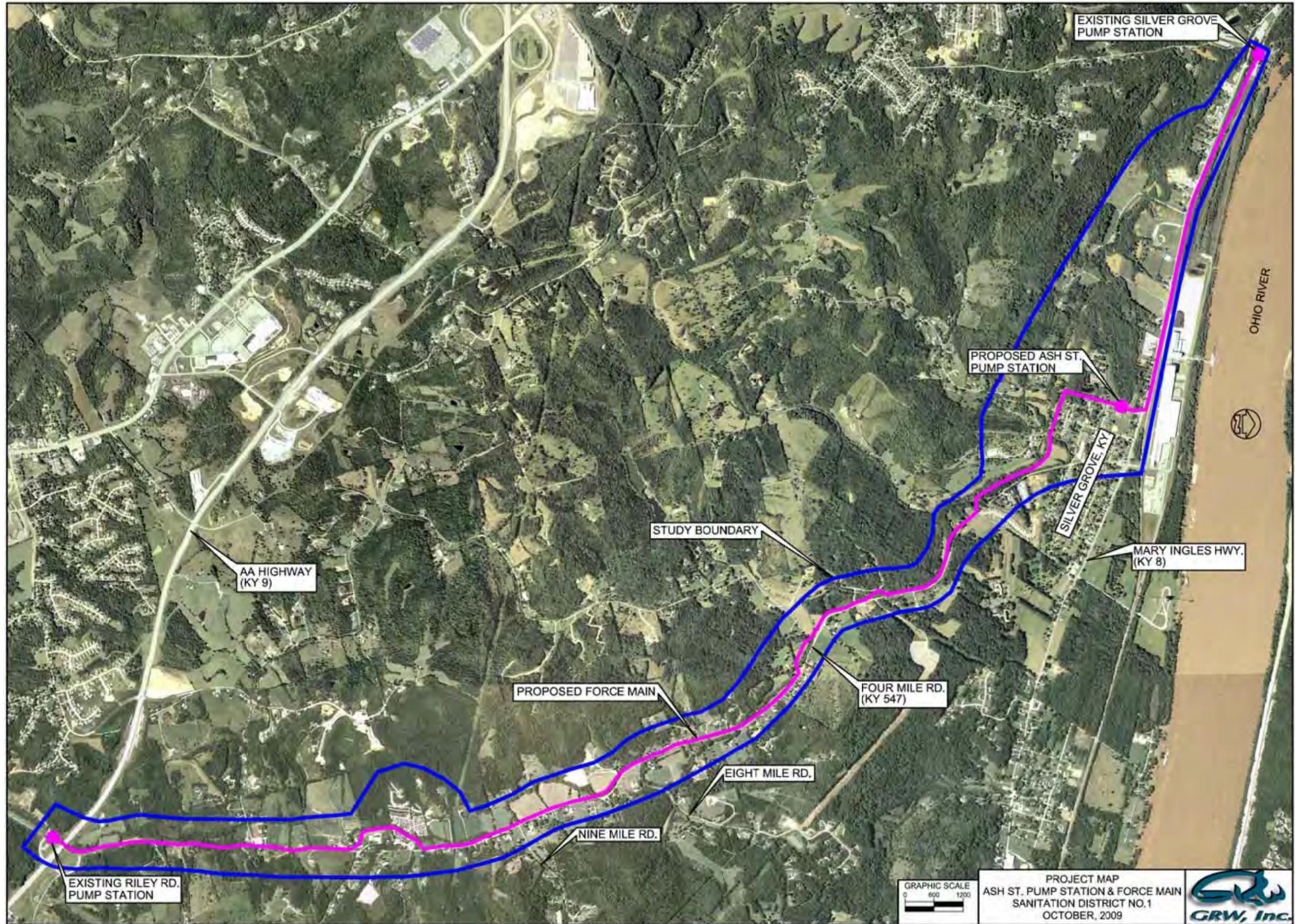
The project area lies within the Newport, Withamsville, and New Richmond USGS 7.5-minute quadrangles; a map of the project area and a completed data license are enclosed. Thank you for your help.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Chelsey Olson'.

Chelsey Olson
colson@thirdrockconsultants.com

Enclosures (2)



Steven L. Beshear
Governor



Leonard K. Peters
Secretary
Energy and Environment Cabinet

Donald S. Dott, Jr.
Director

Commonwealth of Kentucky
Kentucky State Nature Preserves Commission
801 Schenkel Lane
Frankfort, Kentucky 40601-1403
502-573-2886 Voice
502-573-2355 Fax

November 20, 2009

Amanda Kerley
Third Rock Consultants
2526 Regency Rd, Ste 180
Lexington, KY 40503

Data Request 10-044

Dear Ms. Kerley:

This letter is in response to your data request of November 16, 2009 for the Ash Street Pump Station and Force Main project. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Kentucky State Nature Preserves Commission occur near the project area on the Newport, New Richmond, and Withamsville USGS Quadrangles, as shown on the map provided. Please see the attached reports for more information, which reflect analysis of the project area with three buffers applied:

- 1-mile for all records – 25 records
- 5-mile for aquatic records – 29 records
- 5-mile for federally listed species – 16 records
- 10-mile for mammals and birds – 4 records

Most of the aquatic organisms found in the search area are extirpated records from the Ohio River. They are indicated on the reports by an EORANK of X. However, some species still live here, including: *Plethobasus cyphus* (Sheepnose, federal candidate, KSNPC endangered), *Ictiobus niger* (Black Buffalo, KSNPC special concern), *Lampetra appendix* (American Brook Lamprey, KSNPC threatened), and *Notropis hudsonius* (Spottail Shiner, KSNPC special concern). A written erosion control plan should be developed that includes stringent erosion control methods (i.e., straw bales, silt fences and erosion mats, immediate seeding and mulching of disturbed areas), which are placed in a staggered manner to provide several stages of control. All erosion control measures should be monitored periodically to ensure that they are functioning as planned.

Falco peregrinus (Peregrine Falcon, KSNPC endangered, federal species of management concern) typically nests on rocky cliffs, bluffs, or dirt banks. Ideal locations include undisturbed areas with a wide view, near water, and close to plentiful prey. Substitute man-made sites include tall buildings, bridges, rock quarries, and raised platforms.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Kentucky State Nature Preserves Commission, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Kentucky State Nature Preserves Commission." The exact location of plants, animals, and natural communities, if released by the Kentucky State Nature Preserves Commission, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Kentucky State Nature Preserves Commission's Data Manager (801 Schenkel Lane, Frankfort, KY, 40601. Phone: (502) 573-2886).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed, and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

Data Request 10-044

November 20, 2009

Page 3

If you have any questions or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Sara Hines
Data Manager

SLD/SGH

Enclosures: Data Report and Interpretation Key



Donald S. Dott, Jr.
Director

Steven L. Beshear
Governor

**Commonwealth of Kentucky
Kentucky State Nature Preserves Commission
801 Schenkel Lane
Frankfort, Kentucky 40601-1403
502-573-2886 Voice
502-573-2355 Fax**

INVOICE

November 20, 2009

Amanda Kerley
Third Rock Consultants
2526 Regency Rd, Ste 180
Lexington, KY 40503

Purchase Order Number _____

Data Request 10-044

This letter is an invoice for the amount of \$52.50 for data services requested in your letter of November 16, 2009 for the Ash Street Pump Station and Force Main project.

Please make payment to the Kentucky Nature Preserves Fund and include the Data Request number on your check. Payment is due upon receipt.

Please contact us if we can be of further assistance.

Data Key for Element and Occurrence Reports (v. 9.05)

Kentucky State Nature Preserves Commission
Natural Heritage Program Data Services

Many of the data fields on the enclosed report are easily understood. Other fields, however, use abbreviations and formats that are not always self-explanatory. A key to these fields follows. Your report may contain some or all of the following data fields.

BESTSOURCE:	Best available reference to the occurrence: literature citation, collector, collection number, museum or herbarium code, etc.
COMMENTS:	Additional information about the occurrence including identification, taxonomy, or date of occurrence.
DIRECTIONS:	Directions to an occurrence. This field is masked for sensitive occurrences; contact KSNPC in these cases.
DISTANCE:	Distance from a center point to an occurrence's latitude and longitude. Units coded as M (miles), K (kilometers), and F (feet). This field is masked for sensitive occurrences; contact KSNPC in these cases. Omitted for G, U, and Q precision occurrence records.
ELCODE:	Element (species) code.
EOCODE:	Element (species) code, occurrence number (last three digits), and state.
EODATA:	Occurrence population data: date of observation, number of individuals, health, size of colony, flowering data, etc.
EORANK:	Judgement of occurrence quality: A = excellent, B = good, C = marginal, D = poor, E = verified extant but quality not judged, H = historically known from site but no known observation or collection since 1975, F = failed to find (site was revisited and none observed but still likely to use the area - further searching needed), X = extirpated from site.
FIRSTOBS:	Year of first known observation or collection.
GENDESC:	Description of an occurrence's habitat.
GRANK:	Estimate of element abundance on a global scale: G1 = extremely rare, G2 = rare, G3 = uncommon, G4 = common, G5 = very common, GH = historically known and expected to be rediscovered, GU = uncertain, GX = extinct. Subspecies and variety abundances are coded with a 'T' suffix; the 'G' portion of the rank then refers to the entire species.
HABITAT:	General description of the element's habitat across its range.
IDENT:	Whether the identification has been checked by a reliable individual and is believed to be correctly identified: Y = identification confirmed and believed correct, N = No, identification determined to be wrong despite reports to the contrary, ? = Whether identification is correct or not is confusing or disputed, blank or U = unknown whether identification correct or not, assumed correct.
KSNPC:	Kentucky State Nature Preserves Commission status: N or blank = none, E = endangered, T = threatened, S = special concern, H = historic, X = extirpated.
LASTOBS:	Year(-month-date) of most recent known observation or collection.
LAT:	Latitude in degrees minutes and seconds.
LONG:	Longitude in degrees minutes and seconds. Lat/long fields are masked for sensitive occurrences; contact KSNPC in these cases.
PREC:	See PRECISION.
PRECISION:	Precision of the latitude, longitude, directions, and plotted location: S = location accurate to within three seconds of latitude-longitude, M = location accurate to within one minute of latitude-longitude, G = precision within about 8 km or 5 miles, or to place name precision only, C = known to occur within a county but specific location unknown, W = known to occur within a watershed but specific location unknown, U

or blank = accuracy of location unknown or not specified.

The accuracy of an occurrence's location is designated by the precision code assigned to the record. Only 'S' precision occurrence records are reliably mapped at or near their precise locations. While an attempt is made to map 'M' precision occurrences as accurately as possible, the plotted locations, lat, long, directions, bearing, and distance data fields may or may not be correct. 'G', 'C', and 'W' precision occurrence locations are very unreliable and only should be used to indicate the possibility that the species is in the area.

SPROT:

See KSNPC.

SRANK:

Estimate of element abundance in Kentucky: S1 = extremely rare, S2 = rare, S3 = uncommon, S4 = many occurrences, S5 = very common, SA = accidental in state, SE = exotic, SH = historically known in state, SN = migratory or nonbreeding, SR = reported but without persuasive documentation, SRF = reported falsely in literature, SU = uncertain, SX = extirpated.

USES:

U.S. Fish and Wildlife Service status: N or blank = none, LT = listed as threatened, LE = listed as endangered, C = Candidate.

OTHER STATUS:

SOMC = Designated by the U.S. Fish and Wildlife Service as a Species of Management Concern.

WATERBODY:

Name of the 11-digit Hydrologic Unit Code EPA Waterbody in which the occurrence is plotted.

WATERSHED:

See WATERBODY.

Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Aquatic Snails																		
IMGASK5100*003 5595	<i>Leptoxis praerosa</i>	Onyx Rocksnail	G5	S3S4	S	SOMC		Y	1900-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek 05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell)	OHIO RIVER AT CINCINNATI, OHIO (PLOTTED NEAR KY-OHIO LINE ACROSS FROM MOUTH OF LICKING RIVER).	Call (1895) indicated that in the Ohio River at the falls it occurred in the greatest profusion where the bottom is clean rock or rock with abundant "confervoid" vegetation.
Freshwater Mussels																		
IMBIV08010*012 4864	<i>Cumberlandia monodonta</i>	Spectaclecase	G3	S1	E	C		Y	1967-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton)	OHIO RIVER AT CINCINNATI.	Usually found in medium to large rivers where it inhabits substrate ranging from silt to rubble and boulders in slow to swift currents of shallow to deep water (Ahlstedt 1984, Bogan and Parmalee 1983, Buchanan 1980, Nelson and Freitag 1980, Parmalee 1967). Sometimes found in or near vegetation beds, and in mud between boulders adjacent to swift water (Stansbery 1966). May become established in wing dams (Nelson and Freitag 1980).

Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOID	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV10020*023 2673	<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV10020*149 11097	<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	E	LE		Y	1999-09-15	S	H	Campbell Kenton	Alexandria	385728N	0842633W	05100101270 - Licking River (Fort Thomas)	Licking River at Fannin Creek.	
IMBIV16111*006 4529	<i>Epioblasma obliquata obliquata</i>	Catspaw	G1T1	S1	E	LE		Y	1970-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Inhabits medium to large rivers in riffles, shoals, and/or deep water in swift current (Bogan and Parmalee 1983, Parmalee 1967, Wilson and Clark 1914).
IMBIV16184*009 9096	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	G2T2	S1	E	LE		Y	1973-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Riffles or shoals with current and substrate of sand and/or gravel in small to moderate-size rivers (Clarke 1981, Watters 1987).

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV16190*062 9990	<i>Epioblasma triquetra</i>	Snuffbox	G3	S1	E	SOMC		Y	1967-Pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI.	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water (Baker 1928, Buchanan 1980, Johnson 1978, Murraray and Leonard 1962, Parmalee 1967). Often deeply buried in substrate and overlooked by collectors.
IMBIV17120*020 1346	<i>Fusconaia subrotunda</i>	Longsolid	G3	S3	S			Y	1870-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek	OHIO RIVER, AT CINCINNATI (PLOTTED NEAR KY-OH LINE ACROSS FROM MOUTH OF LICKING RIVER).	Gravel bars and deep pools in large rivers and large to medium-sized streams (Ahlstedt 1984, Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967).
IMBIV17120*065 594	<i>Fusconaia subrotunda</i>	Longsolid	G3	S3	S			Y	1987-02-01	M	F	Campbell	Withamsville Newport	390234N	0842211W	05090201430 - Ohio River (Melbourne) 05100205030 - Fourmile Creek	OHIO RIVER MILE 458.3 OPPOSITE MELBOURNE.	
IMBIV21110*012 603	<i>Lampsilis abrupta</i>	Pink Mucket	G2	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV21110*018 6163	<i>Lampsilis abrupta</i>	Pink Mucket	G2	S1	E	LE		Y	1945	G	H	Campbell	New Richmond	385817N	0841744W	05090201430 - Ohio River (Melbourne) 05090201390 - Twelvemile Creek 05090201380 - Ohio River (California - Mentor)	Ohio River, below New Richmond, OH, Clermont Co.	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).
IMBIV21130*015 3627	<i>Lampsilis ovata</i>	Pocketbook	G5	S1	E			Y	1988-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI, OH.	Considered a large river species (Clench and Van Der Schalie 1944, Parmalee 1967, Stansbery 1976), but occurs in medium-sized streams in gravel, sand, or even mud (Parmalee 1967, Johnson 1970, Gordon and Layzer 1989). In the Lower Wabash and Ohio Rivers specimens were taken in deep water (6-10 feet or more) in current from sand or gravel.
IMBIV22020*006 1059	<i>Lasmigona compressa</i>	Creek Heelsplitter	G5	S1	E			Y	1985-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton)	OHIO RIVER, CINCINNATI, HAMILTON CO., OHIO.	Generally occurs in creeks, small streams, and headwaters of larger rivers in sand, fine gravel, or mud bottoms, usually in swift water below riffles (Clarke 1981; Goodrich and Van Der Schalie 1944; Parmalee 1967; Taylor 1980a, b).

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV31030*027 1740	<i>Obovaria retusa</i>	Ring Pink	G1	S1	E	LE		Y	1838	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Large river species that inhabits gravel and sand bars (Bogan and Parmalee 1983, Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Stansbery 1976).
IMBIV34020*025 1814	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	G1	S1	E	LE		Y	1900s	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Usually found in large rivers in sand and gravel substrates (Ahlstedt 1983, Bogan and Parmalee 1983, Miller, A.C. et al. 1986).
IMBIV34030*033 2514	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1987-06-02	M	D	Campbell	Withamsville Newport	390222N	0842116W	05090201430 - Ohio River (Melbourne)	OHIO RIVER MILE 455.8-459.0, 30-90 YDS OFF NORTH SHORE, HAMILTON CO, OHIO.	Usually found in large rivers in current on mud, sand, or gravel bottoms at depth of 1-2 meters or more (Baker 1928, Parmalee 1967, Gordon and Layzer 1989).
IMBIV34030*058 6371	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1965-08-09	M	H	Campbell	Newport Withamsville	390239N	0842325W	05090201430 - Ohio River (Melbourne) 05100205030 - Fourmile Creek	OHIO RIVER 2 MI ABOVE CONEY ISLAND, AT RUHOFF CAMP.	
IMBIV34030*062 3623	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1900-Pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	(OHIO RIVER) AT CINCINNATI, OH.	

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35060*038 10662	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1844-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	(Ohio River) at Cincinnati, OH.	This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35240*006 3812	<i>Pleurobema plenum</i>	Rough Pigtoe	G1	S1	E	LE		Y	1800s	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati (Hamilton County).	Medium to large rivers in sand, gravel, and cobble substrates (Ahlstedt 1984, Bogan and Parmalee 1983, Clarke 1981, Neel and Allen 1964).
IMBIV35250*017 9012	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	G2G3	S1	E	SOMC		Y	1800s	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati.	Inhabits medium to large rivers and usually occurs in sand or gravel bottoms in deep waters (Ahlstedt 1984, Murray and Leonard 1962, Parmalee et al. 1982).
IMBIV39041*032 4411	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	G3G4T3	S2	T	C		Y	1987-10-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas)	OHIO RIVER, CINCINNATI.	Small to large rivers with sand, gravel, and cobble and moderate to swift current, sometimes in deep water (Parmalee 1967, Bogan and Parmalee 1983).

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV41010*018 5881	<i>Simpsonaias ambigua</i>	Salamander Mussel	G3	S2S3	T	SOMC		Y	1985-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI.	Often found buried in substrate such as soft mud and/or gravel, and/or under flat stones in shallow water in small streams where the current may be swift (Baker 1928, Buchanan 1980, Goodrich and Van Der Schalie 1944).
Fishes																		
AFCBA01020*005 8698	<i>Acipenser fulvescens</i>	Lake Sturgeon	G3G4	S1	E	SOMC		Y	1800s	G	H	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas)	OHIO RIVER AT CINCINNATI. (PLOTTED AT HAMILTON- KENTON CO. LINE).	Lakes and large rivers with a firm sand/gravel bottom (Burr and Warren 1986, Etnier and Starnes 1993).
AFCBA02010*008 7285	<i>Atractosteus spatula</i>	Alligator Gar	G3G4	S1	E	SOMC		Y	1981-pre	G	H	Campbell Kenton	Newport Covington Withamsville	390644N	0842650W	05100101270 - Licking River (Fort Thomas) 05090201430 - Ohio River (Melbourne) 05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100205030 - Fourmile Creek	OHIO RIVER ACROSS FROM HAMILTON CO., OHIO.	Sluggish pools and backwaters of large rivers, backwaters, and oxbow lakes (Burr and Warren 1986, Page and Burr 1991, Etnier and Starnes 1993).

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Standard Occurrence Report
 KSNPC Monitored Aquatic Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOID	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
AFCJC07030*023 8029	<i>Ictiobus niger</i>	Black Buffalo	G5	S3	S			Y	1991-10-10	M	C	Campbell	New Richmond	385854N	0841752W	05090201430 - Ohio River (Melbourne) 05090201380 - Ohio River (California - Mentor) 05090201390 - Twelvemile Creek	OHIO RIVER NEAR W.C. BECKJORD PLANT, CA ORM 450.7-454.3	Reservoirs and medium to large rivers with moderate to low gradient and sometime swift current (Becker 1983, Pflieger 1975, Smith 1979, Trautman 1981, and Burr and Warren 1986).
AFBAA02020*031 11683	<i>Lampetra appendix</i>	American Brook Lamprey	G4	S2	T			Y	2004-08-10	S	E		New Richmond	385713N	0841711W		Ohio River, Just S of New Richmond, KY; site can be accessed by boat 1.68 km upstream along left descending bank shoreline in shallow sand/silt pocket.	
AFCJB28550*002 2616	<i>Notropis hudsonius</i>	Spottail Shiner	G5	S2	S			Y	1991-07-08	M	D	Campbell	New Richmond	385854N	0841752W	05090201430 - Ohio River (Melbourne) 05090201390 - Twelvemile Creek 05090201380 - Ohio River (California - Mentor)	OHIO RIVER NEAR W.C. BECKJORD GENERATING STATION JUST UPSTREAM OF POND RUN CREEK.	Occurs over firm sand along the shoreline of big rivers where rapid current is avoided (Burr and Warren 1986).
Extirpated from Kentucky																		
Freshwater Mussels																		
IMBIV47050*003 6547	<i>Villosa fabalis</i>	Rayed Bean	G2	SX	X	C		Y	1870-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati.	Occurs in small to medium-size rivers where it lives deeply buried in sand and gravel runs together by the roots of aquatic vegetation (Bogan and Parmalee 1983; Ortmann 1925, 1926; Parmalee 1967; Stansbery 1976). This small mussel is easy to overlook because of the habitat occupied.

Standard Occurrence Report
 KSNPC Monitored Bird and Mammal Elements within a 10-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOID	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Breeding Birds																		
ABNKD06070*005 12003	<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1B	E	SOMC		Y	2007-06-17	S	C	Campbell	Newport	390327N	0842551W	05090203010 - Ohio River (Bellevue - Dayton)	I-275 bridge over the Ohio River; under westbound lanes.	
ABNKD06070*013 12838	<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1B	E	SOMC		Y	2009-06-10	S	C	Kenton	Covington	390525N	0843037W	05090203040 - Ohio River (Edgewood - Fort Mitchell)	River Center Tower (west), on Covington waterfront.	
ABPAU08010*029 11999	<i>Riparia riparia</i>	Bank Swallow	G5	S3B	S			Y	2007-07-05	S	E	Campbell	Newport	390707N	0842742W	05090203010 - Ohio River (Bellevue - Dayton)	Watertown Yacht Club along the Ohio River just NE of Dayton.	
Mammals																		
AMAJF05010*010 2698	<i>Spilogale putorius</i>	Eastern Spotted Skunk	G5	S2S3	S			Y	2001-pre	M	H	Campbell	Newport Covington	390517N	0842902W	05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton)	Newport, Campbell Co.	Wooded areas, especially along clifflines. Will use abandoned buildings.

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Standard Occurrence Report
 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Aquatic Snails																		
IMGASK5100*003 5595	<i>Leptoxis praerosa</i>	Onyx Rocksnail	G5	S3S4	S	SOMC		Y	1900-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek 05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell)	OHIO RIVER AT CINCINNATI, OHIO (PLOTTED NEAR KY-OHIO LINE ACROSS FROM MOUTH OF LICKING RIVER).	Call (1895) indicated that in the Ohio River at the falls it occurred in the greatest profusion where the bottom is clean rock or rock with abundant "confervoid" vegetation.
Freshwater Mussels																		
IMBIV08010*012 4864	<i>Cumberlandia monodonta</i>	Spectaclecase	G3	S1	E	C		Y	1967-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton)	OHIO RIVER AT CINCINNATI.	Usually found in medium to large rivers where it inhabits substrate ranging from silt to rubble and boulders in slow to swift currents of shallow to deep water (Ahlstedt 1984, Bogan and Parmalee 1983, Buchanan 1980, Nelson and Freitag 1980, Parmalee 1967). Sometimes found in or near vegetation beds, and in mud between boulders adjacent to swift water (Stansbery 1966). May become established in wing dams (Nelson and Freitag 1980).

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 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV10020*023 2673	<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV16111*006 4529	<i>Epioblasma obliquata obliquata</i>	Catspaw	G1T1	S1	E	LE		Y	1970-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Inhabits medium to large rivers in riffles, shoals, and/or deep water in swift current (Bogan and Parmalee 1983, Parmalee 1967, Wilson and Clark 1914).
IMBIV16184*009 9096	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	G2T2	S1	E	LE		Y	1973-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Riffles or shoals with current and substrate of sand and/or gravel in small to moderate-size rivers (Clarke 1981, Watters 1987).
IMBIV16190*062 9990	<i>Epioblasma triquetra</i>	Snuffbox	G3	S1	E	SOMC		Y	1967-Pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI.	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water (Baker 1928, Buchanan 1980, Johnson 1978, Murray and Leonard 1962, Parmalee 1967). Often deeply buried in substrate and overlooked by collectors.

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 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV17120*020 1346	<i>Fusconaia subrotunda</i>	Longsolid	G3	S3	S			Y	1870-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101270 - Licking River (Fort Thomas) 05100101290 - Banklick Creek	OHIO RIVER, AT CINCINNATI (PLOTTED NEAR KY-OH LINE ACROSS FROM MOUTH OF LICKING RIVER).	Gravel bars and deep pools in large rivers and large to medium-sized streams (Ahlstedt 1984, Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967).
IMBIV17120*065 594	<i>Fusconaia subrotunda</i>	Longsolid	G3	S3	S			Y	1987-02-01	M	F	Campbell	Withamsville Newport	390234N	0842211W	05090201430 - Ohio River (Melbourne) 05100205030 - Fourmile Creek	OHIO RIVER MILE 458.3 OPPOSITE MELBOURNE.	
IMBIV21110*012 603	<i>Lampsilis abrupta</i>	Pink Mucket	G2	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).
IMBIV21130*015 3627	<i>Lampsilis ovata</i>	Pocketbook	G5	S1	E			Y	1988-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI, OH.	Considered a large river species (Clench and Van Der Schalie 1944, Parmalee 1967, Stansbery 1976), but occurs in medium-sized streams in gravel, sand, or even mud (Parmalee 1967, Johnson 1970, Gordon and Layzer 1989). In the Lower Wabash and Ohio Rivers specimens were taken in deep water (6-10 feet or more) in current from sand or gravel.

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Standard Occurrence Report
 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV22020*006 1059	<i>Lasmigona compressa</i>	Creek Heelsplitter	G5	S1	E			Y	1985-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton)	OHIO RIVER, CINCINNATI, HAMILTON CO., OHIO.	Generally occurs in creeks, small streams, and headwaters of larger rivers in sand, fine gravel, or mud bottoms, usually in swift water below riffles (Clarke 1981; Goodrich and Van Der Schalie 1944; Parmalee 1967; Taylor 1980a, b).
IMBIV31030*027 1740	<i>Obovaria retusa</i>	Ring Pink	G1	S1	E	LE		Y	1838	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Large river species that inhabits gravel and sand bars (Bogan and Parmalee 1983, Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Stansbery 1976).
IMBIV34020*025 1814	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	G1	S1	E	LE		Y	1900s	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Usually found in large rivers in sand and gravel substrates (Ahlstedt 1983, Bogan and Parmalee 1983, Miller, A.C. et al. 1986).
IMBIV34030*033 2514	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1987-06-02	M	D	Campbell	Withamsville Newport	390222N	0842116W	05090201430 - Ohio River (Melbourne)	OHIO RIVER MILE 455.8-459.0, 30-90 YDS OFF NORTH SHORE, HAMILTON CO, OHIO.	Usually found in large rivers in current on mud, sand, or gravel bottoms at depth of 1-2 meters or more (Baker 1928, Parmalee 1967, Gordon and Layzer 1989).
IMBIV34030*058 6371	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1965-08-09	M	H	Campbell	Newport Withamsville	390239N	0842325W	05090201430 - Ohio River (Melbourne) 05100205030 - Fourmile Creek	OHIO RIVER 2 MI ABOVE CONEY ISLAND, AT RUHOFF CAMP.	

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Standard Occurrence Report
 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV34030*062 3623	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1900-Pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	(OHIO RIVER) AT CINCINNATI, OH.	Usually found in large rivers in current on mud, sand, or gravel bottoms at depth of 1-2 meters or more (Baker 1928, Parmalee 1967, Gordon and Layzer 1989).
IMBIV35060*038 10662	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1844-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	(Ohio River) at Cincinnati, OH.	This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35240*006 3812	<i>Pleurobema plenum</i>	Rough Pigtoe	G1	S1	E	LE		Y	1800s	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati (Hamilton County).	Medium to large rivers in sand, gravel, and cobble substrates (Ahlstedt 1984, Bogan and Parmalee 1983, Clarke 1981, Neel and Allen 1964).
IMBIV35250*017 9012	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	G2G3	S1	E	SOMC		Y	1800s	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati.	Inhabits medium to large rivers and usually occurs in sand or gravel bottoms in deep waters (Ahlstedt 1984, Murray and Leonard 1962, Parmalee et al. 1982).

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 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV39041*032 4411	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	G3G4T3	S2	T	C		Y	1987-10-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas)	OHIO RIVER, CINCINNATI.	Small to large rivers with sand, gravel, and cobble and moderate to swift current, sometimes in deep water (Parmalee 1967, Bogan and Parmalee 1983).
IMBIV41010*018 5881	<i>Simpsonaias ambigua</i>	Salamander Mussel	G3	S2S3	T	SOMC		Y	1985-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	OHIO RIVER AT CINCINNATI.	Often found buried in substrate such as soft mud and/or gravel, and/or under flat stones in shallow water in small streams where the current may be swift (Baker 1928, Buchanan 1980, Goodrich and Van Der Schalie 1944).
Fishes																		
AFCOA01020*005 8698	<i>Acipenser fulvescens</i>	Lake Sturgeon	G3G4	S1	E	SOMC		Y	1800s	G	H	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas)	OHIO RIVER AT CINCINNATI, (PLOTTED AT HAMILTON- KENTON CO. LINE).	Lakes and large rivers with a firm sand/gravel bottom (Burr and Warren 1986, Etnier and Starnes 1993).

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Standard Occurrence Report
 KSNPC Monitored Elements within a 1-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOID	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
AFCBA02010*008 7285	<i>Atractosteus spatula</i>	Alligator Gar	G3G4	S1	E	SOMC		Y	1981-pre	G	H	Campbell Kenton	Newport Covington Withamsville	390644N	0842650W	05100101270 - Licking River (Fort Thomas) 05090201430 - Ohio River (Melbourne) 05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100205030 - Fourmile Creek	OHIO RIVER ACROSS FROM HAMILTON CO., OHIO.	Sluggish pools and backwaters of large rivers, backwaters, and oxbow lakes (Burr and Warren 1986, Page and Burr 1991, Etnier and Starnes 1993).
Breeding Birds																		
ABNKD06070*005 12003	<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1B	E	SOMC		Y	2007-06-17	S	C	Campbell	Newport	390327N	0842551W	05090203010 - Ohio River (Bellevue - Dayton)	I-275 bridge over the Ohio River; under westbound lanes.	
Extirpated from Kentucky																		
Freshwater Mussels																		
IMBIV47050*003 6547	<i>Villosa fabalis</i>	Rayed Bean	G2	SX	X	C		Y	1870-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati.	Occurs in small to medium-size rivers where it lives deeply buried in sand and gravel bound together by the roots of aquatic vegetation (Bogan and Parmalee 1983; Ortmann 1925, 1926; Parmalee 1967; Stansbery 1976). This small mussel is easy to overlook because of the habitat occupied.

Standard Occurrence Report
 KSNPC Federal Status Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Freshwater Mussels																		
IMBIV08010*012 4864	<i>Cumberlandia monodonta</i>	Spectaclecase	G3	S1	E	C		Y	1967-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05100101290 - Banklick Creek 05100101270 - Licking River (Fort Thomas) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton)	OHIO RIVER AT CINCINNATI.	Usually found in medium to large rivers where it inhabits substrate ranging from silt to rubble and boulders in slow to swift currents of shallow to deep water (Ahlstedt 1984, Bogan and Parmalee 1983, Buchanan 1980, Nelson and Freitag 1980, Parmalee 1967). Sometimes found in or near vegetation beds, and in mud between boulders adjacent to swift water (Stansbery 1966). May become established in wing dams (Nelson and Freitag 1980).
IMBIV10020*023 2673	<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV10020*149 11097	<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	E	LE		Y	1999-09-15	S	H	Campbell Kenton	Alexandria	385728N	0842633W	05100101270 - Licking River (Fort Thomas)	Licking River at Fannin Creek.	

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 KSNPC Federal Status Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EOID	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EO-RANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV16111*006 4529	<i>Epioblasma obliquata obliquata</i>	Catspaw	G1T1	S1	E	LE		Y	1970-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Inhabits medium to large rivers in riffles, shoals, and/or deep water in swift current (Bogan and Parmalee 1983, Parmalee 1967, Wilson and Clark 1914).
IMBIV16184*009 9096	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	G2T2	S1	E	LE		Y	1973-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Riffles or shoals with current and substrate of sand and/or gravel in small to moderate-size rivers (Clarke 1981, Watters 1987).
IMBIV21110*012 603	<i>Lampsilis abrupta</i>	Pink Mucket	G2	S1	E	LE		Y	1980-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River, at Cincinnati, OH, Hamilton Co.	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).
IMBIV21110*018 6163	<i>Lampsilis abrupta</i>	Pink Mucket	G2	S1	E	LE		Y	1945	G	H	Campbell	New Richmond	385817N	0841744W	05090201430 - Ohio River (Melbourne) 05090201390 - Twelvemile Creek 05090201380 - Ohio River (California - Mentor)	Ohio River, below New Richmond, OH, Clermont Co.	

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 KSNPC Federal Status Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV31030*027 1740	<i>Obovaria retusa</i>	Ring Pink	G1	S1	E	LE		Y	1838	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Large river species that inhabits gravel and sand bars (Bogan and Parmalee 1983, Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Stansbery 1976).
IMBIV34020*025 1814	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	G1	S1	E	LE		Y	1900s	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati, Hamilton Co., Ohio.	Usually found in large rivers in sand and gravel substrates (Ahlstedt 1983, Bogan and Parmalee 1983, Miller, A.C. et al. 1986).
IMBIV34030*033 2514	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1987-06-02	M	D	Campbell	Withamsville Newport	390222N	0842116W	05090201430 - Ohio River (Melbourne)	OHIO RIVER MILE 455.8-459.0, 30-90 YDS OFF NORTH SHORE, HAMILTON CO, OHIO.	Usually found in large rivers in current on mud, sand, or gravel bottoms at depth of 1-2 meters or more (Baker 1928, Parmalee 1967, Gordon and Layzer 1989).
IMBIV34030*058 6371	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1965-08-09	M	H	Campbell	Newport Withamsville	390239N	0842325W	05090201430 - Ohio River (Melbourne) 05100205030 - Fourmile Creek	OHIO RIVER 2 MI ABOVE CONEY ISLAND, AT RUHOFF CAMP.	
IMBIV34030*062 3623	<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	E	C		Y	1900-Pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas) 05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek	(OHIO RIVER) AT CINCINNATI, OH.	

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EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EOURANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35060*038 10662	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1844-pre	G	X	Kenton Campbell Boone	Covington Newport Burlington Addyston	390524N	0843115W	05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203010 - Ohio River (Bellevue - Dayton) 05090203070 - Ohio River (Francisville - Petersburg)	(Ohio River) at Cincinnati, OH.	This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35240*006 3812	<i>Pleurobema plenum</i>	Rough Pigtoe	G1	S1	E	LE		Y	1800s	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati (Hamilton County).	Medium to large rivers in sand, gravel, and cobble substrates (Ahlstedt 1984, Bogan and Parmalee 1983, Clarke 1981, Neel and Allen 1964).
IMBIV39041*032 4411	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	G3G4T3	S2	T	C		Y	1987-10-pre	G	X	Kenton Campbell	Covington Newport	390540N	0843025W	05090203010 - Ohio River (Bellevue - Dayton) 05100101290 - Banklick Creek 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05100101270 - Licking River (Fort Thomas)	OHIO RIVER, CINCINNATI.	Small to large rivers with sand, gravel, and cobble and moderate to swift current, sometimes in deep water (Parmalee 1967, Bogan and Parmalee 1983).

Extirpated from Kentucky

Freshwater Mussels

Standard Occurrence Report

KSNPC Federal Status Elements within a 5-mile radius of the proposed Ash Street Pump Station & Force Main project (Campbell Co.)

EOCODE EIOD	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	ERANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV47050*003 6547	<i>Villosa fabalis</i>	Rayed Bean	G2	SX	X	C		Y	1870-pre	G	X	Kenton Campbell Boone	Covington Newport Addyston Burlington	390524N	0843115W	05090203010 - Ohio River (Bellevue - Dayton) 05090203040 - Ohio River (Edgewood - Fort Mitchell) 05090203070 - Ohio River (Francisville - Petersburg)	Ohio River at Cincinnati.	Occurs in small to medium-size rivers where it lives deeply buried in sand and gravel bound together by the roots of aquatic vegetation (Bogan and Parmalee 1983; Ortmann 1925, 1926; Parmalee 1967; Stansbery 1976). This small mussel is easy to overlook because of the habitat occupied.



May 16, 2011

Mike Hardin
Kentucky Department of Fish and Wildlife Resources
#1 Sportsman's Lane
Frankfort, KY 40601

Re: *Ash Street Pump Station and Force Main, Silver Grove, Kentucky*

Dear Mr. Hardin:

We are preparing an Environmental Information Document for the above-referenced project. As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund low-interest loan project, please review and comment on the proposed project. We are particularly interested in information on identified natural areas and unique, sensitive, or critical wildlife habitats in the project area. Please provide a list of any federal or state endangered, threatened, or rare species listed for the project area. The project consists of a proposed pump station and force mains associated with the Ash Street Pump Station in the City of Silver Grove, in Campbell County, Kentucky. The proposed project consists of several components:

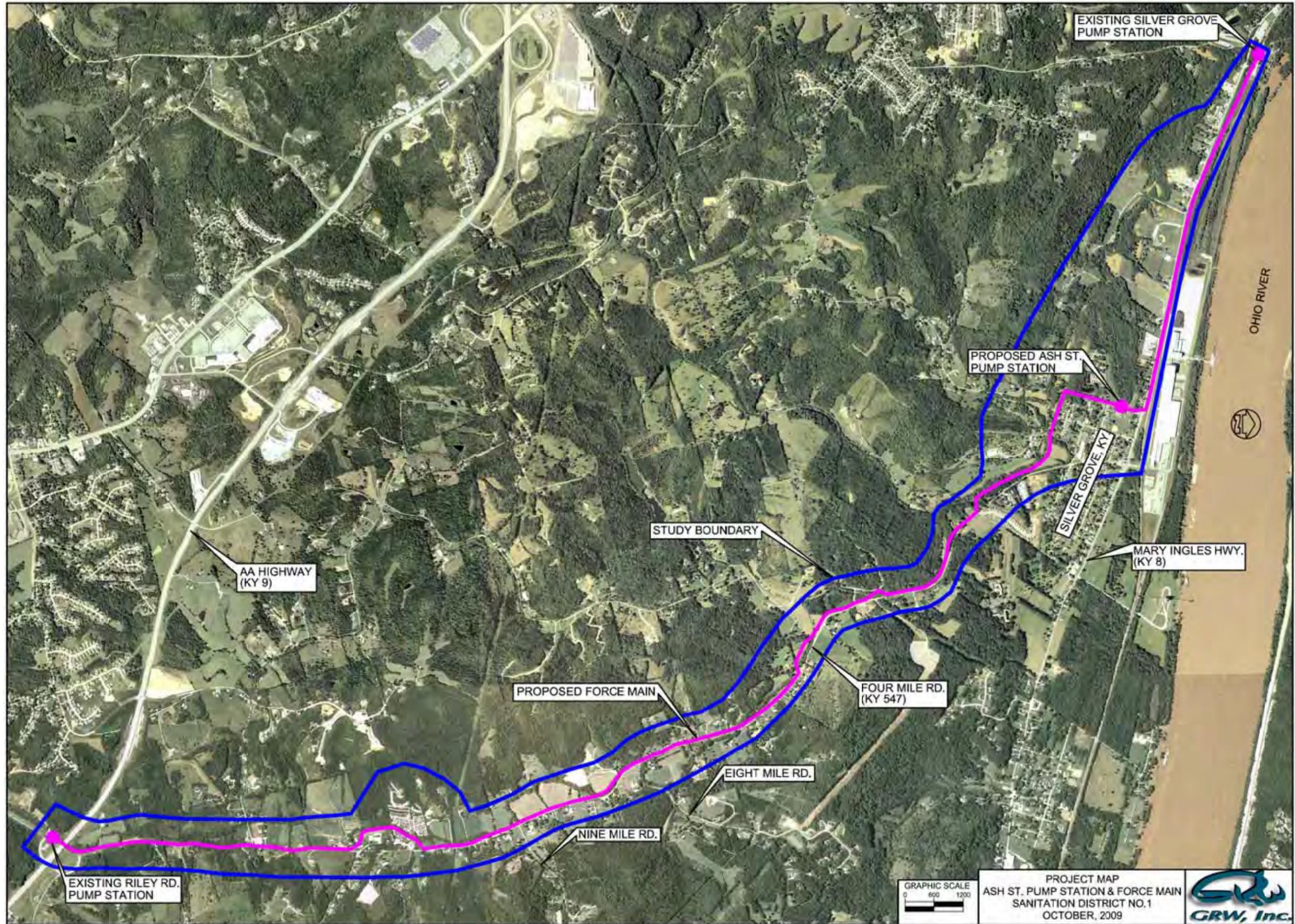
1. Replacement of Ash Street pump station
2. Ash Street force mains – 27,000 linear feet
3. Silver Creek force mains – 7,600 linear feet
4. Low-pressure sewer system – grinder pump sites and 6,000 linear feet of small (2- to 3-inch diameter) force mains
5. Silver Grove pump station – Replacement of 750 linear feet of existing sewer lines to pump station

The project area lies within the Newport, Withamsville, and New Richmond USGS 7.5-minute quadrangles; a map of the project area is enclosed. Thank you for your help.

Sincerely,

Chelsey Olson
colson@thirdrockconsultants.com

Enclosure





**KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
TOURISM, ARTS, AND HERITAGE CABINET**

Steven L. Beshear
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
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fw.ky.gov

Marcheta Sparrow
Secretary

Dr. Jonathan W. Gassett
Commissioner

June 6, 2011

Third Rock Consultants
ATTN: Chelsey Olson
2526 Regency Road
Lexington, KY

RE: Ash Street Pump Station and Force Main, Silver Grove, Kentucky

Dear Ms. Olson:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System (KFWIS) indicates that several federally endangered species are known to occur within a 10-mile radius of the proposed project site: the Clubshell (*Pleurobema clava*), Fanshell (*Cyprogenia stegaria*), Peregrine falcon (*Falco peregrinus*), and Indiana bat (*Myotis sodalis*). In addition, KFWIS indicates that several state threatened/endangered species occur within a 1-mile radius of the proposed project site: Sheepsnose (*Plethobasus cyphus*), Kirtland's snake (*Clonophis kirtlandii*), Lark sparrow (*Chondestes grammacus*), and Vesper sparrow (*Pooecetes gramineus*). As identified in Kentucky's 2005 Wildlife Action Plan, this project is located in the Ohio Brush-Whiteoak 8-digit HUC Conservation Area for mussels. These conservation areas in Kentucky contain populations of threatened and endangered mussels that are especially vulnerable to disturbance.

KDFWR does not expect direct impacts to mussels, due to the records being located within the Licking River and Ohio River proper. Based on the project area and narrow disturbance limit, KDFWR does not expect impacts to Lark sparrow or Vesper sparrow. There are no records of Peregrine falcon nesting areas within the project area, therefore impacts to this species are considered insignificant.

- KDFWR recommends avoiding those areas that provide adequate habitat for bats, such as cave entrances, mine portals, and/or rock shelters that exist within the project area. If avoidance is not an option, please contact the US Fish and Wildlife Service Kentucky Field Office and KDFWR for information on how to proceed.
- To minimize indirect impacts to aquatic resources strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, pump around, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

- To prevent sedimentation problems during construction, construction should be completed during a low flow period, such as late summer to fall.
- With the project area located within a floodplain, KDFWR recommends completing jurisdictional water delineations to determine potential impacts to wetlands or streams. KDFWR recommends avoiding wetland areas that provide adequate habitat for the Kirtland's snake.

For more information on how to proceed with the federally listed threatened/endangered species please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

I hope this information proves helpful to you. If you have further questions or require additional information, please call me at (502) 564-7109 Extension 4473.

Sincerely,



Joseph Zimmerman
Environmental Biologist Consultant



May 16, 2011

Ed L. Thompson, Jr.
US Department of Agriculture – Natural Resources and Conservation Service
24 E. Main Street
Alexandria, KY 41001-1214

Re: *Ash Street Pump Station and Force Main, Silver Grove, Kentucky*

Dear Mr. Thompson:

We are preparing an Environmental Information Document for the above-referenced project. As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund low-interest loan project, please review and comment on the proposed project. I am particularly interested in information regarding any prime or unique agricultural lands or agricultural districts that may be located in the project area.

The proposed project is a pump station and force mains associated with the Ash Street Pump Station in the City of Silver Grove, in Campbell County, Kentucky. The proposed project consists of several components:

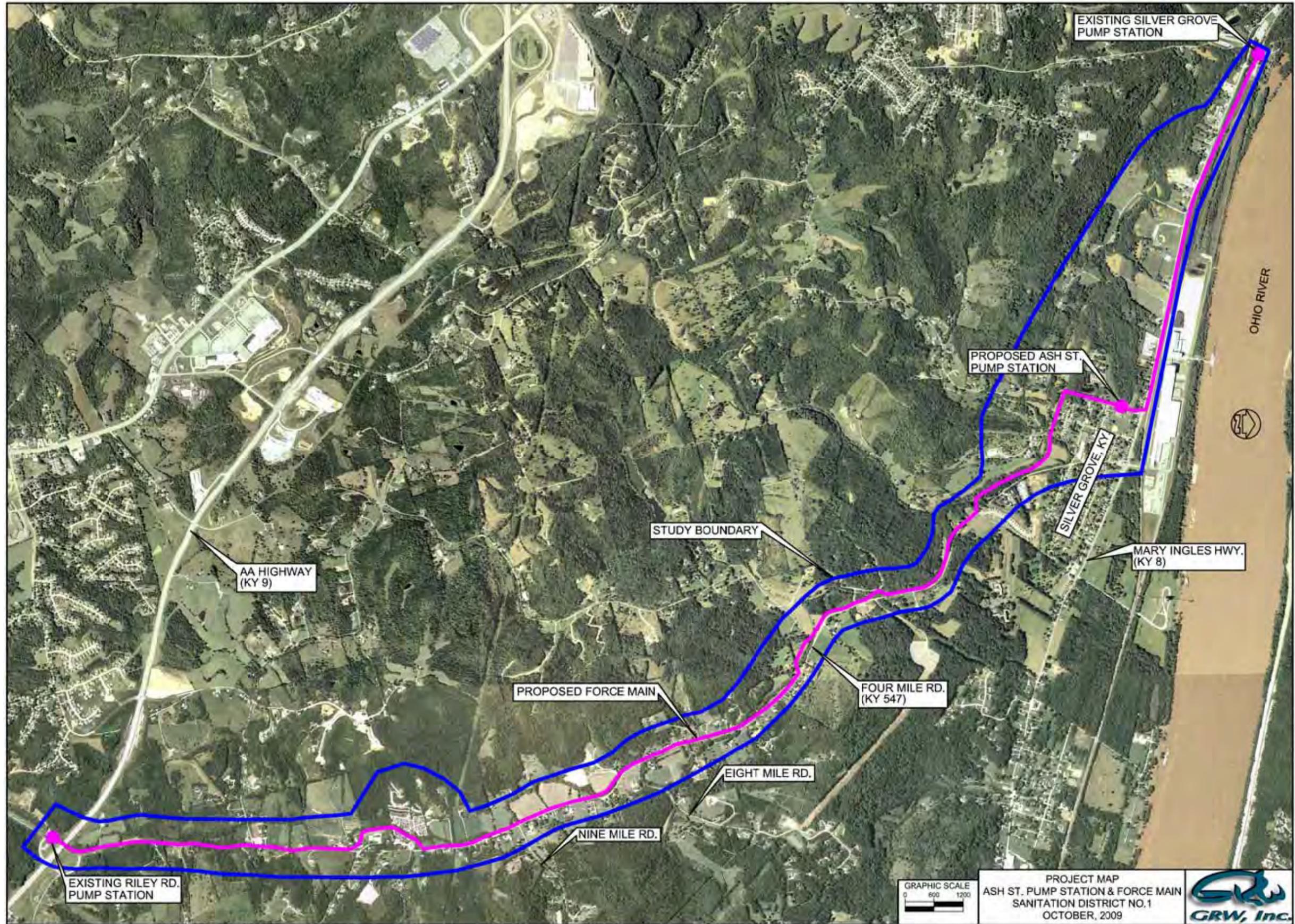
1. Replacement of Ash Street pump station
2. Ash Street force mains – 27,000 linear feet
3. Silver Creek force mains – 7,600 linear feet
4. Low-pressure sewer system – grinder pump sites and 6,000 linear feet of small (2- to 3-inch diameter) force mains
5. Silver Grove pump station – Replacement of 750 linear feet of existing sewer lines to pump station

The project area lies within the Newport, Withamsville, and New Richmond USGS 7.5-minute quadrangles; a map of the project area is enclosed. Thank you for your help. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

Amanda Kerley
akerley@thirdrockconsultants.com
2526 Regency Road, Suite 180, Lexington, KY 40503
859-977-2000

Enclosure



EXISTING SILVER GROVE PUMP STATION

PROPOSED ASH ST. PUMP STATION

OHIO RIVER

SILVER GROVE, KY

MARY INGLES HWY. (KY 8)

STUDY BOUNDARY

AA HIGHWAY (KY 9)

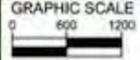
PROPOSED FORCE MAIN

FOUR MILE RD. (KY 547)

EIGHT MILE RD.

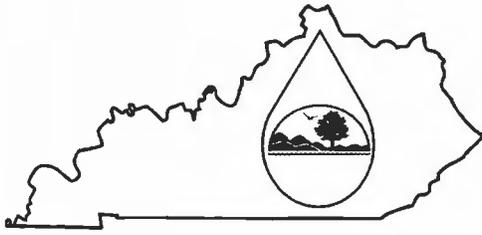
NINE MILE RD.

EXISTING RILEY RD. PUMP STATION



PROJECT MAP
ASH ST. PUMP STATION & FORCE MAIN
SANITATION DISTRICT NO.1
OCTOBER, 2009





Commonwealth of Kentucky
 Energy and Environment Cabinet
 Division of Water

**CONSTRUCTION PERMIT APPLICATION
 for CLEAN WATER COLLECTION SYSTEM**

See the INSTRUCTIONS for more information about selected portions of this application.

Questions on completing this application? Contact the Water Infrastructure Branch at 502/564-3410 or visit our website at <http://water.ky.gov> for more information.

I. CONSTRUCTION PROJECT INFORMATION

Project Name: Ash Street Pump Station and Force Main

Name of WWTP which will treat sewage from this project: SD1 Eastern Regional

KPDES Number of the WWTP: KY0 105031 WWTP County: Campbell

Project County: Campbell County

Project Latitude/Longitude (DMS) 39° 02' 11" N 84° 23' 41" W

Estimated construction cost of this project: \$ 14,500,000

Is this a funded project:

CWSRF SPAP Other: _____

If the answer is yes, provide applicable funding checklist.

II. APPLICANT MAILING ADDRESS

Applicant (Entity paying for construction): Sanitation District No. 1 Northern KY

Street Address: 1045 Eaton Drive

City, State, Zip: Ft. Wright, KY 41017

Phone (859) 547-1644 Fax (859) 547-1034 E-mail _____

Will ownership be transferred? Yes, future owner will be: _____ No

III. DESIGN CONSIDERATIONS

A. PLANS AND SPECIFICATIONS COMPLIANCE REQUIREMENTS:

Design plans and specifications shall comply with **401 KAR 5:005** and "Recommended Standards for Wastewater Facilities" ("Ten States' Standards"). If engineering practices, other than those contained in "Ten States' Standards", were used in the design, indicate the source and the corresponding portion of the design. [**401 KAR 5:005 Section 7**]

For plans submitted to this office, one set of plans must have an original signed and dated P.E. stamp. The additional plan sets must have either an original signature and dated stamp, or a legible facsimile thereof. SRF funded projects shall include at least 1 printed copy of specifications.

Plan and specification submittals shall meet one of the following options:

_____ At least one paper printed set of detailed plans (no larger than 24" X 36") and a PDF copy of plans and specifications on CD/DVD. The PDF copy shall contain a stamp, signature, and date. The plans on the CD/DVD shall be in a folder called "Engineering Plans" and the specifications manual shall be in a folder called "Specifications".

_____ At least 2 paper printed sets of detailed plans (one shall be no larger than 24" X 36" and the other set shall be 11" X 17") and one paper copy of the specifications manual.

B. DESIGN ENGINEER, if the sewer lines will become part of a sewer system served by a regional facility. [Section 6]

P.E.'s Name/Firm: Joseph Henry, GRW

Street Address: 801 Corporate Drive

City, State, Zip: Lexington, KY 40503 Phone: (859)223-3999 E-mail JHenry@grwinc.com

C. CONFORMITY TO PLANS AND SPECIFICATIONS. Provide name of person who will inspect and certify that the constructed facility conforms to the approved plans and specifications. If the sewer lines will become part of a sewer system served by a regional facility, this person must be a professional engineer (P.E.). [Section 3]

Name/Firm: Joseph Henry, GRW

Street Address: 801 Corporate Drive

City, State, Zip: Lexington, KY 40503 Phone: (859)223-3999 E-mail JHenry@grwinc.com

D. DESIGN CAPACITIES. The amount of average daily flow added by the sewer line extension is 0 gpd. The basis for the amount of additional flow is No additional flow will be added

E. OTHER INFORMATION TO BE SUBMITTED WITH APPLICATION. Place a check (x) by the items that are included in this application or an N/A if the item is not applicable to the project.

X 1. A copy of a USGS 7½ minute topographic map with the locations of the proposed project shown. [Section 3]

N/A 2. If modifying, replacing or abandoning an existing facility, a closure plan indicating how the new facility will be constructed without a by-pass to a stream and the procedures that will be used for abandoning the existing facility. [Section 3]

X 3. If the project includes a pump station, provide the pump performance curve, design calculations, and detailed wet well drawing with elevations. [Section 8]

X 4. If the project includes gravity sewer lines or force mains, a plan view and a profile view of each. [Section 6]

X 5. A model of the hydraulic analysis if the project consists of, or is connected to a network of pumps. [Section 8].

X 6. A brief description of the project, including what is being constructed, who will be served by this project, the flow rate, and flow rate calculations. [Section 8]

X 7. A signed letter from the owner of the proposed sewer line stating that the owner will accept responsibility for the operation and maintenance of the sewer line when it is constructed. [Section 8]

N/A 8. A signed letters from both the owner of the receiving sewer system and the WWTP stating that they approve the connection and accept responsibility for the additional flow. [Section 8]

X 9. A written statement that the portion of the sewer system used by the connection has adequate capacity to transport the current and anticipated peak flow to the WWTP and that the portion of the sewer system used by the connection is not subject to excessive infiltration or excessive inflow. [Section 8]

N/A 10. A completed sewer sanctions exemption request form has to be submitted, if the receiving WWTP for this

project is on sewer sanction. (Required only when additional flow is added). [Section 9]

IV. Environmental Benefits

Check all the items that apply. Identify the environmental benefit(s) of the project.

- Construction of a new sewer lines to service previously non-sewer customers. Number of connections to these customers. _____
- Upgrading of existing sewer lines. Reduction of I&I, CSO, or SSO problems.
- Elimination of package plant. KPDES Number of the WWTP: KY0 _____.
- Elimination of failing septic tanks. Number removed _____.
- Elimination of straight pipe. Number removed _____.
- Other: Provide a brief description in the space below.

V. Fees

Fees. Check or money order must be made payable to "Kentucky State Treasurer" for the total amount. **Fees do not apply** for a municipality, sanitation district, or other publicly owned facility. [Section 5] If claiming Non-Profit status, provide proof.

Sewer Collection Project Category: Sanitation District Total Amount: \$ 0

VI. CERTIFICATION

I, the applicant, certify under penalty of law that this document and all attachments were prepared under my direction or supervision. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment or both for known violations.

[Section 2]

Applicant's Name and Official Title (Type or Print) CHRISTOPHER NOVAK DEPUTY EXECUTIVE DIRECTOR	Phone Number (Include area code) (859) 578-6885
Signature Christopher Novak	Date 2-20-12

COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER

APPLICATION FOR PERMIT TO CONSTRUCT ACROSS OR ALONG A STREAM
AND / OR WATER QUALITY CERTIFICATION

Chapter 151 of the Kentucky Revised Statutes requires approval from the Division of Water prior to any construction or other activity in or along a stream that could in any way obstruct flood flows or adversely impact water quality. *If the project involves work in a stream, such as bank stabilization, dredging or relocation, a 401 Water Quality Certification (WQC) from the Division of Water will be required.* This completed form will be forwarded to the Water Quality Branch for WQC processing. The project may not start until all necessary approvals are received from the KDOW. For questions concerning the WQC process, contact the WQC section at 502/564-3410.

If the project will disturb more than 1 acre of soil, A Notice of Intent for Storm Water Discharges will also be required. Both forms must be returned to the Floodplain Management Section of the Division of Water.

1. OWNER: Sanitation District No. 1 Northern Kentucky
Give name of person(s), company, governmental unit, or other owner of proposed project.

MAILING ADDRESS: 1045 Eaton Drive Ft. Wright, KY 41017

TELEPHONE #: (859) 547-1644 EMAIL: (859) 547-1034

2. AGENT: Joseph Henry
Give name of person(s) submitting application, if other than owner.

ADDRESS: 801 Corporate Dr. Lexington KY 40503

TELEPHONE #: (859) 223-3999 EMAIL: jhenry@grwinc.com

3. ENGINEER: Joseph Henry P.E. NUMBER: 13555
Contact Division of Water if waiver can be granted.

TELEPHONE #: (859) 223-3999 EMAIL: jhenry@grwinc.com

4. DESCRIPTION OF CONSTRUCTION: Construction consists of a 20" ductile iron force main crossing Four
List the items to be constructed in the floodplain

Mile Creek in 12 locations as well as unnamed tributaries to Four mile Creek in 8 locations and a 24" gravity
sewer crossing 4 Mile Creek in 1 location.

5. COUNTY: Campbell NEAREST COMMUNITY: Silver Grove

6. USGS QUAD NAME 38084H3Y & 39084A3J LATITUDE/LONGITUDE: See attached Sheet

7. STREAM NAME: Four Mile Creek and Unnamed Tributaries WATERSHED SIZE (in acres): 11,377

8. LINEAR FEET OF STREAM IMPACTED: 465 feet of combined stream crossing

9. DIRECTIONS TO SITE: From I-75 take I-275 to the east. Take Exit #77 A/AA Hwy (KY 9), go 7.8 miles and
take ramp toward Riley Rd/ KY 547. Turn right on KY 547 and go 4.8 miles to KY 8 (Mary Ingles Highway). Turn
left and go 2 blocks then turn left on Ash St. Go 200' and project will begin on your right, across from the baseball
field. See attached list of individual stream crossings for location.

10. IS ANY PORTION OF THE REQUESTED PROJECT NOW COMPLETE? Yes No If yes, identify the completed portion on the drawings you submit and indicate the date activity was completed. DATE: _____
11. ESTIMATED BEGIN CONSTRUCTION DATE: July 2012
12. ESTIMATED END CONSTRUCTION DATE: December 2013
13. HAS A PERMIT BEEN RECEIVED FROM THE US ARMY, CORPS of ENGINEERS? Yes No If yes, attach a copy of that permit.
14. THE APPLICANT *MUST* ADDRESS PUBLIC NOTICE:

- (a) PUBLIC NOTICE HAS BEEN GIVEN FOR THIS PROPOSAL BY THE FOLLOWING MEANS:
 _____ Public notice in newspaper having greatest circulation in area (provide newspaper clipping or affidavit)
 _____ Adjacent property owner(s) affidavits (Contact Division of Water for requirements.)
- (b) X I REQUEST WAIVER OF PUBLIC NOTICE BECAUSE:

_____ Contact Division of Water for requirements.

15. I HAVE CONTACTED THE FOLLOWING CITY OR COUNTY OFFICIALS CONCERNING THIS PROJECT:
Neal Bedel, Mayor of Silver Grove - Peter J Klear Campbell County Floodplain Coordinator
 Give name and title of person(s) contacted and provide copy of any approval city or county may have issued.
Steve Pendery Campbell County Judge Executive

16. LIST OF ATTACHMENTS: Plan and Profile Drawings, 7.5' USGS Map, Set of Specifications, List of Crossings
 List plans, profiles, or other drawings and data submitted. Attach a copy of a 7.5 minute USGS topographic map clearly showing the project location.

17. I, _____ (owners Initials) CERTIFY THAT THE OWNER OWNS OR HAS EASEMENT RIGHTS ON ALL PROPERTY ON WHICH THIS PROJECT WILL BE LOCATED OR ON WHICH RELATED CONSTRUCTION WILL OCCUR (for dams, this includes the area that would be impounded during the design flood).

18. REMARKS: _____

I hereby request approval for construction across or along a stream as described in this application and any accompanying documents. To the best of my knowledge, all the information provided is true and correct.

SIGNATURE: Christopher Novak DEPUTY EXECUTIVE DIRECTOR
 Owner or Agent sign here. (If signed by Agent, a Power of Attorney should be attached.)

DATE: 2-20-12

SIGNATURE OF LOCAL FLOODPLAIN COORDINATOR: _____
 Permit application will be returned to applicant if not properly endorsed by the local floodplain coordinator.

DATE: 2-20-12

SUBMIT APPLICATION AND ATTACHMENTS TO:
 Floodplain Management Section
 Division of Water
 200 Fair Oaks Lane
 Frankfort, KY 40601



STEVEN L. BESHEAR
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL**

BOB STEWART
SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE
300 WASHINGTON STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-7005
FAX (502) 564-5820
www.heritage.ky.gov

CRAIG A. POTTS
EXECUTIVE DIRECTOR AND
STATE HISTORIC PRESERVATION OFFICER

July 19, 2013

U.S. Army Corps of Engineers, Louisville District
ATTN: Lee Anne Devine
PO Box 59
Louisville, KY 40201-0059

**Re: LRL-2011-917-mlc SD-1 Ash Street Force Main and Pump Station, Campbell
County, Kentucky**

Dear Ms. Devine:

On June 21, the State Historic Preservation Office received your letter outlining responses to consulting party comments, along with a determination of no adverse effect for the above referenced project.

We appreciate the involvement of consulting parties in this process. The comments and concerns expressed throughout have been instructive in our review, and have contributed to the proposed actions intended to minimize effects. We also appreciate the willingness of the Corps of Engineers to honor SD-1's request to take the entire project alignment into its jurisdiction.

We acknowledge that Section 106 is a federal agency process which does not prevent projects from taking place. It also does not mandate preservation, but rather requires federal agencies to take into account the effects their actions may have on historic properties. When a project such as this has the potential to result in an adverse effect, the federal agency has certain obligations to ensure that consideration is given to avoidance and minimization, and as a last resort, mitigation.

In our opinion, the Corps has made a good faith effort to identify historic properties and assess effects. Because of the consulting party concerns and the presence of historic properties near the project's area of potential direct effect, the attention given to potential impacts on the built environment was more comprehensive than what is generally pursued for average projects where the majority of the resulting infrastructure will be underground.

In considering all the information available at this time, and in applying the criteria of adverse effect outlined in 36 CFR Part 800.5, we find the project, if implemented in accordance with appropriate conditions to minimize effects, will not significantly diminish the integrity of location, design, setting,

materials, workmanship, feeling, or association which qualify historic properties in the area of potential effect for listing in the National Register of Historic Places. We conditionally concur with the Corps finding of no adverse effect, contingent on the plan outlined in Appendix A of the May 9, 2012, cultural historic survey report and the recommendations outlined in the tree survey (and confirmed in the April 23 memo from GRW Engineers, Inc.) being incorporated into the Corps permit conditions for this project. As these items are critical to minimizing effects to the extent that they would not be considered adverse, we agree they should be required actions.

Following are additional comments on some of the proposed steps:

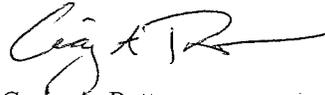
- *Odor:* We consulted with staff at Kentucky Division of Water and were advised that the proposed treatment measures at the new pump station are two recognized methods of odor control systems that should significantly diminish the potential for odor escaping to the atmosphere. The additional use of carbon canisters on the air release valves was also taken into consideration as a measure which should, when properly maintained, substantially decrease the chance of odor.
- *Construction Noise:* While the work will take place between 7 AM and 6 PM, we recommend SD-1 establish a plan for communicating in advance with community members if this will ever vary for some reason. If it would be possible to keep the residents informed a reasonable amount of time in advance of when work is to take place in particular areas, we would also ask SD-1 to consider this. This could contribute to further minimizing temporary construction effects by giving community members an opportunity to plan for when work may be happening closest to their home/business.
- *Damage to Structures from Construction Activities:* This step focuses on listed historic properties. In early comments on the project the Corps indicated there was not enough information on several surveyed sites to agree with findings of "ineligible," and we agree. These included Site 74/CP-277, Site 84/CP-287, Site 96/CP-298, Site 101/CP302, Site 109/CP-310, and Site 118/CP-318. Of these, Sites 74, 101, 109 and 118 presently appear to be relatively close to areas where work will take place. These sites should be reviewed to ascertain whether any of the buildings have historic masonry foundations in a similar fragile condition so that monitoring measures would be warranted.
- *Tree removal:* Emphasis should be placed on the importance of working with contractors installing the lines to ensure the older trees mentioned in the arborists's report are adequately protected. The arborist's comments about the importance of larger trees overall to the setting of Camp Springs should be taken seriously, and these larger trees should be avoided not only at the historic properties identified in the report, but at stream crossings and any locations

readily visible from public right-of-way. So long as only small caliper trees are being removed at these additional locations, impacts should be sufficiently minimized.

- *General:* This project is subject to the terms of post-review discovery outlined in 36 CFR Part 800.13. While typically applied in relation to archaeological resources, in this instance it would also be applied to buildings and identified trees. Should any damage inadvertently occur during construction, work must stop until the damage can be assessed and the effect resolved. The Corps would need to be notified immediately so that consultation on effects could take place. (Please note, as a public utility SD-1's work is also subject to the Kentucky Antiquities Act.)

If you have questions regarding these comments, please contact Jill Howe of my staff at 502-564-7005, ext. 121.

Sincerely,



Craig A. Potts
Executive Director and
State Historic Preservation Officer

Cc: Anna Zinkhon
Anshu Singh (Division of Water)
Chris Novak (SD-1)
Joseph Henry (GRW Engineers)
County Judge Executive

CP:jh



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE KY 40201-0059
FAX: (502) 315-6677
<http://www.lrl.usace.army.mil/>

August 20, 2013

Sanitation District No. 1
Records Dept.

AUG 23 2013

RECEIVED

Operations Division
Regulatory Branch (South)
ID No. LRL-2011-917-mlc

Mr. Chris Novak
Sanitation District No. 1
1045 Eaton Drive
Fort Wright, Kentucky 41017

Dear Mr. Novak:

This is in response to your request for authorization to construct the Ash Street Pump Station and Force Main Project located in Campbell County, Kentucky. The Ash Street Force Main route would involve the installation of a 20-inch force main that would begin at the proposed Ash Street Pump Station site in Silver Grove and end at the Riley Road Pump Station, located at the intersection of KY 9 and KY 547. This project also includes the installation of 8,700 linear feet of 12-inch force main (Silver Grove Force Main) along Mary Ingles Highway (KY 8), 8-inch gravity sewer collection sewer systems along this route to serve 19 homes, two small grinder pump stations along with 2-inch force main to serve these properties. The project also includes 750 linear feet of 24-inch replacement gravity sewer upstream of the existing Silver Grove Pump Station.

The installation of the force mains and gravity sewer lines would involve directional drill/bore and jack crossings of a Section 10 navigable water (Fourmile Creek), temporary open cut crossings and temporary equipment access crossings at various locations of Fourmile Creek and unnamed tributaries to Fourmile Creek and the permanent filling of 0.393 acre of a forested wetland for the construction of the pump station (see enclosed tables titled "Table 1 Impacts," dated August 2013 and "Ash St. Force Main Impact Table-Silver Grove, KY Sanitation District No. 1 of Northern, KY," dated August 2, 2013).

The installation of utility lines at crossings 3, 7, 9, 16, and 22 (see enclosed table titled "Table 2 No Permit Required") would utilize directional drill or the bore and jack method and would not include the discharge of dredged or fill material into "waters of the United States (U.S.);" therefore, these crossings would not require an authorization.

The information supplied by you was reviewed to determine whether a Department of the Army (DA) permit will be required under the provisions

of Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

This project is considered a discharge of backfill or bedding material for utility lines and temporary construction and access. The project is authorized under the provisions of Nationwide Permit (NWP) No. 12, Utility Line Activities, and NWP No. 33 Temporary Construction, Access, and Dewatering, as published in the Federal Register February 21, 2012. Under the provisions of this authorization, you must comply with the enclosed Terms and General Conditions for NWP No. 12 and No. 33 and the following Special Conditions:

1. The permittee must conduct all removal of trees associated with the project between the dates of October 15th to March 31st.

2. The permittee shall provide a receipt to this office from an approved mitigation bank for the purchase of 0.80 wetland AMUs for impacts to 0.393 acre of wetland. **Credits must be purchased prior to the discharge of fill material into "waters of the U.S."**

3. The permittee shall implement the plans outlined in *Assessment of Adverse Effects: Response to the Kentucky State Historic Preservation Office Comments, Ash Street Pump Station and Force Main, Sanitation District No. 1 of Northern Kentucky (April 2012)* and *GRW, Inc. Proposed SD1 Ash St. Pump Station & Force Main and Its Related Installation and Long Term Impact to Trees on or Near Section 106 Registered Culturally Historic Sites in Camp Springs (March 2013)*.

4. The permittee shall restore all temporary utility line stream crossings and temporary construction and access crossings to preconstruction contours once construction is completed and must adhere to the Typical Creek Crossing Details (Gravity Sewer and Force Main) submitted on August 7, 2012, Streambank Restoration plans submitted on August 28, 2013 and Erosion Control and Site Grading plans submitted on October 1, 2012.

5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

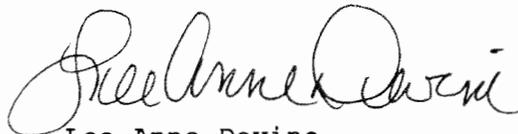
Sanitation District No. 1 must also comply with the enclosed Individual Water Quality Certification (WQC), issued by the Kentucky Division of Water on January 11, 2013 (WQC#2012-044-1 and AI No. 7556). Sanitation District No. 1 may proceed with the project without further contact or verification from us.

This decision is valid until March 18, 2017. The enclosed Compliance Certification should be signed and returned when the project is completed. If this project is not completed by this date or if this project is modified, Sanitation District No. 1 must contact us for another permit determination in accordance with the rules and regulations in effect at that time. Please note that we also perform periodic inspections to ensure compliance with our permit conditions and applicable Federal laws. Copies of this letter are being sent to the appropriate coordinating agencies and to your agent, GRW Engineer, Inc. (see enclosure for addresses).

Attached to this verification are a preliminary jurisdictional determination (JD), a Notification of Appeal Process (NAP) fact sheet, and Request for Appeal (RFA) form. However, a preliminary JD is not appealable and impacting "waters of the U.S." identified in the preliminary JD will result in Sanitation District No. 1 waiving the right to request an approved JD at a later date. An approved JD may be requested (which may be appealed), by contacting the project manager for further instruction.

If you have any questions, please contact this office by writing to the above address, ATTN: CELRL-OP-FS, or by calling Ms. Meagan Chapman at 502-315-6709. All correspondence pertaining to this matter should refer to our ID No. LRL-2011-917-mlc.

Sincerely,



Lee Anne Devine
Chief, South Section
Regulatory Branch

Enclosures

Terms for Nationwide Permit No. 12 – Utility Line Activities

12. Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A “utility line” is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term “utility line” does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 4: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Terms for Nationwide Permit No. 33
Temporary Construction, Access, and Dewatering

Temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps of Engineers or the U.S. Coast Guard. This NWP also authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities not otherwise subject to the Corps or U.S. Coast Guard permit requirements. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if the district engineer determines that it will not cause more than minimal adverse effects on aquatic resources. Following completion of construction, temporary fill must be entirely removed to an area that has no waters of the United States, dredged material must be returned to its original location, and the affected areas must be restored to pre-construction elevations. The affected areas must also be revegetated, as appropriate. This permit does not authorize the use of cofferdams to dewater wetlands or other aquatic areas to change their use. Structures left in place after construction is completed require a separate section 10 permit if located in navigable waters of the United States. (See 33 CFR part 322.)

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The pre-construction notification must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. (Sections 10 and 404)



**US Army Corps
of Engineers.**
Louisville District

Nationwide Permit Conditions

The following General Conditions must be followed in order for any authorization by NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the US.
(c) The permittee understands and agrees that, if future operations by the US require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the US. No claim shall be made against the US on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the US that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the US during periods of low-flow or no-flow.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.
14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.
16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, US Forest Service, US Fish and Wildlife Service).
17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.
(c) Non-federal permittees must submit a pre-construction notification (PCN) to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete PCN. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from Corps.
(d) As a result of formal or informal consultation with the USFWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the US to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA is complete.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110(k) of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who,

with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-

managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the US, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the US, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the US are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has

been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or USEPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(j)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification (PCN). (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a PCN as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification. The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the US expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- (4) The PCN must include a delineation of wetlands, other special aquatic sites, and waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the US. The 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;
- (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of PCN Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require PCN notification and result in the loss of greater than 1/2-acre of waters of the US, for NWP 21, 29, 39, 40, 42, 43, 44, 45, 51, and 52 activities that require PCN notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require PCN notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO)), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the PCN notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each PCN notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of PCN notifications to expedite agency coordination.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

Ash St. Force Main Impact Table - Silver Grove, KY
Sanitation District No. 1 of Northern, KY
8/2/13

Block 15 Location of Project			Ash Street Force Main						Sanitation District No. 1				
Crossing No.	Property Owner	Address	Creek Name	Plan Sheet No.	Coordinate	Crossing Type	Line Type	Type of Impact	Restoration Type	Crossing Width (ft)	Impacted Area (Acres)	Temporary Crossing Required	
1	SD1	1045 Eaton Dr Fl. Wright, KY 41017	4 Mile Creek	Contract 3 Sheet 2 Gravity Line SG-A Sta 11+50	39° 02' 33.2" N 84° 25' 09.2" W	Directional Drill or Bore	-	Temporary	None Required	80	0.046	N	
	Wilson Wilburn	3008 Nine Mile Rd. Melbourne, KY 41059											
	Campbell Lodge Corp	150 Skyline Dr. Cold Spring, KY 41076											
2	Anna Zinkhon	5210 Owl Creek Road Camp Springs, KY 41059	4 Mile Creek	Contract 2 Sheet 3 Sta 32+25	39° 01' 55.6" N 84° 23' 31" W	Directional Drill	20" Force Main	Temporary	None Required	60	0.034	N	
3	Anthony Vogel	5380 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 5 Sta 56+75	39° 01' 33.6" N 84° 23' 14" W	Directional Drill	20" Force Main	Temporary	None Required	90	0.052	N	
	Barry Dalton	5469 Owl Creek Rd Melbourne, KY 41059											
4	Sisters of Divine Providence	2000 Saint Anne Dr Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 7 Sta 72+50	39° 01' 34.6" N 84° 22' 57" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	15	0.009	N	
4A	Right of Way		Unnamed Tributary	Contract 2 Sheet 7 Sta 75+25	39° 01' 33.1" N 84° 22' 55.5" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	15	0.009	N	
4B	Right of Way		Unnamed Tributary	Contract 2 Sheet 7 Sta 77+25	39° 01' 30.1" N 84° 22' 53.5" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	15	0.009	N	
4C	Right of Way		Unnamed Tributary	Contract 2 Sheet 8 Sta 82+30	39° 01' 28.5" N 84° 22' 53" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	10	0.006	N	
5	Right of Way		Unnamed Tributary	Contract 2 Sheet 9 Sta 101+30	39° 01' 09.2" N 84° 22' 42" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	15	0.009	N	
6	Leonard Beck	6024 4 Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 1 Sheet 11 Sta 125+50	39° 00' 53.6" N 84° 22' 18" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	10	0.006	N	
7	Leonard Beck	6024 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 1 Sheet 11 Sta 127+30	39° 00' 52.6" N 84° 22' 17.6" W	Directional Drill	20" Force Main	Temporary	None Required	75	0.043	N	
8	Nancy Kremer	6037 4 Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 1 Sheet 12 Sta 135+00	39° 00' 45.6" N 84° 22' 14.5" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	25	0.014	N	
9	Right of Way		4 Mile Creek	Contract 2 Sheet 13 Sta 150+50	39° 00' 31.6" N 84° 22' 09" W	Directional Drill	20" Force Main	Temporary	None Required	55	0.032	N	
10	Firth Farm	Property along 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 14 Sta 167+20	39° 00' 27" N 84° 22' 03" W	Bore & Jack	20" Force Main	Temporary	All disturbed areas restored to original conditions	45	0.026	30 LF	
11	Firth Farm	Property along 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 15 Sta 172+75	39° 00' 22.3" N 84° 22' 01" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	45	0.026	30 LF	
	John Feldman	6400 4 Mile Rd Melbourne, KY 41059											
12	Fred Maschinot	8521 4 Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 16 Sta 189+30	39° 00' 07.5" N 84° 21' 53" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	20	0.011	N	
13	Fred Maschinot	8521 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 16 Sta 191+25	39° 00' 05.5" N 84° 21' 52.7" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	40	0.023	30 LF	
14	Fred Studer	Property along 4 Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 17 Sta 203+40	38° 59' 53.9" N 84° 21' 31" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	20	0.011	N	
	James Meyer	8692 4 Mile Rd Melbourne, KY 41059											
15	Debra Buckley	8694 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 17 Sta 205+40	38° 59' 52.8" N 84° 21' 49" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	40	0.023	30 LF	
16	Helen Reitzman	6810 4 Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 18 Sta 212+30	38° 59' 46.1" N 84° 21' 47.8" W	Bore and Jack	20" Force Main	Temporary	None Required	25	0.014	N	
17	Nettner Farm	6922 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 19 Sta 225+50	38° 59' 33.5" N 84° 21' 52" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	45	0.026	30 LF	
18	Nettner Farm	6922 4 Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 19 Sta 233+25	38° 59' 27.1" N 84° 21' 52.7" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	60	0.034	30 LF	
19	Richard A Smith	7271 Four Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 21 Sta 265+00	38° 58' 59" N 84° 21' 49" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	10	0.006	N	
19A	Rkhard A Smith	7271 Four Mile Rd Melbourne, KY 41059	Unnamed Tributary	Contract 2 Sheet 22 Sta 273+75	38° 58' 50.5" N 84° 21' 50.5" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	10	0.006	N	
19B	Tracy Doering, LLC	18 Mitchell Hill Road Fl. Thomas, KY 41075	Unnamed Tributary	Contract 2 Sheet 22 Sta 278+25	38° 58' 46" N 84° 21' 49.9" W	Open Cut	20" Force Main	Temporary	Vegetative Stream Bank Stabilization w/ Rip Rap Where Required	10	0.006	N	
20	Daniel Heeb	7428 Four Mile Rd Melbourne, KY 41059	4 Mile Creek	Contract 2 Sheet 23 Sta 284+00	38° 58' 41" N 84° 21' 49" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	55	0.032	30 LF	
21	Right of Way		4 Mile Creek	Contract 2 Sheet 23 Sta 288+75	38° 58' 37.4" N 84° 21' 48.8" W	Directional Drill	20" Force Main	Temporary	All disturbed areas restored to original conditions	55	0.032	30 LF	
22	City Right of Way	City Hall 308 Oak St. Silver Grove, KY	4 Mile Creek	Contract 3 Sheet 10 Sta 79+00 to Sta 85+00	39° 02' 12.97" N 84° 23' 42.83" W	Directional Drill	12" Force Main	Temporary	None Required	805	0.100	N	
23	Pump Station Site Sanitation District No 1	1045 Eaton Dr Fl. Wright, KY 41017	4 Mile Creek	Contract 3 Sheet 10 Sta 79+00 to Sta 85+00	39° 02' 12.97" N 84° 23' 41.86" W	Open Cut	12" Force Main	Permanent Fill On Site	Wetland Restoration	Disturbed Wetland Area	0.393	N	

"Table 1 Impacts," August 2013							LRL-2011-917-mic	
Stream Crossing Number	Stream Flow Type	Stream Name	Latitude ('N)	Longitude ('W)	Total Impacts (Linear Feet)	Total Impacts (Acreage)	Crossing Type	NWP
1**	Perennial	Fourmile Creek	39° 02' 33.2" N	84° 25' 09.2" W	0	0	Directional Drill/Bore (Section 10)	NWP 12
2**	Perennial	Fourmile Creek	39° 01' 55.6" N	84° 23' 31" W	0	0	Directional Drill (Section 10)	NWP 12
4	Ephemeral	UT to Fourmile Creek	39° 01' 34.6" N	84° 22' 57" W	15	0.009	Temporary Open Cut	NWP 12
4a	Ephemeral	UT to Fourmile Creek	39° 01' 33.1" N	84° 22' 55.5" W	15	0.009	Temporary Open Cut	NWP 12
4b	Ephemeral	UT to Fourmile Creek	39° 01' 30.1" N	84° 22' 53.5" W	15	0.009	Temporary Open Cut	NWP 12
4c	Ephemeral	UT to Fourmile Creek	39° 01' 28.5" N	84° 22' 53" W	10	0.006	Temporary Open Cut	NWP 12
5	Ephemeral	UT to Fourmile Creek	39° 01' 09.2" N	84° 22' 42" W	15	0.009	Temporary Open Cut	NWP 12
6	Intermittent	UT to Fourmile Creek	39° 00' 53.6" N	84° 22' 18" W	10	0.006	Temporary Open Cut	NWP 12
8	Ephemeral	UT to Fourmile Creek	39° 00' 45.6" N	84° 22' 14.5" W	25	0.014	Temporary Open Cut	NWP 12
10*	Perennial	Fourmile Creek	39° 00' 27" N	84° 22' 03" W	30	-	Temporary Crossing	NWP 33
11*	Perennial	Fourmile Creek	39° 00' 22.3" N	84° 22' 01" W	30	-	Temporary Crossing	NWP 33
12	Intermittent	UT to Fourmile Creek	39° 00' 07.5" N	84° 21' 53" W	20	0.011	Temporary Open Cut	NWP 12
13*	Perennial	Fourmile Creek	39° 00' 05.5" N	84° 21' 52.7" W	30	-	Temporary Crossing	NWP 33
14	Intermittent	UT to Fourmile Creek	38° 59' 53.9" N	84° 21' 31" W	20	0.011	Temporary Open Cut	NWP 12
15*	Perennial	Fourmile Creek	38° 59' 52.8" N	84° 21' 49" W	30	-	Temporary Crossing	NWP 33
17*	Perennial	Fourmile Creek	38° 59' 33.5" N	84° 21' 52" W	30	-	Temporary Crossing	NWP 33
18*	Perennial	Fourmile Creek	38° 59' 27.1" N	84° 21' 52.2" W	30	-	Temporary Crossing	NWP 33
19	Intermittent	UT to Fourmile Creek	38° 58' 59" N	84° 21' 49" W	10	0.006	Temporary Open Cut	NWP 12
19a	Ephemeral	UT to Fourmile Creek	38° 58' 50.5" N	84° 21' 50.5" W	10	0.006	Temporary Open Cut	NWP 12
19b	Ephemeral	UT to Fourmile Creek	38° 58' 46" N	84° 21' 49.9" W	10	0.006	Temporary Open Cut	NWP 12
20*	Perennial	Fourmile Creek	38° 58' 41" N	84° 21' 49" W	30	-	Temporary Crossing	NWP 33
21*	Perennial	Fourmile Creek	38° 58' 37.4" N	84° 21' 48.8" W	30	-	Temporary Crossing	NWP 33
23	Wetland	Wetland	39° 2' 13.0" N	84° 23' 41.9" W		0.393	Permanent Impact	NWP 12

**Crossings 1 and 2 are utility lines routed under section 10 waters without a discharge of dredged or fill material and require a Section 10 permit.

*These are temporary construction access crossings and involve bore & jack or directional drill utility line at the site

		"Table 2 No Permit Required," August 2013					LRL-2011-917-m1c
Stream Crossing Number	Stream Flow Type	Stream Name	Latitude (°N)	Longitude (°W)	Total Impacts (Linear Feet/Acreage)	Crossing Type	
3	Perennial	Fourmile Creek	39° 01' 33.6" N	84° 23' 14" W	0	Directional Drill	
7	Perennial	Fourmile Creek	39° 00' 52.6" N	84° 22' 17.6" W	0	Directional Drill	
9	Perennial	Fourmile Creek	39° 00' 31.6" N	84° 22' 09" W	0	Directional Drill	
16	Intermittent	UT to Fourmile Creek	38° 59' 46.1" N	84° 21' 47.8" W	0	Bore & Jack	
22	Wetland	Wetland	39° 2' 14.6" N	84° 23' 59.5" W	0	Directional Drill	



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

January 11, 2013

Christopher Novak
Sanitation District No.1 of Northern Kentucky
1045 Eaton Drive
Fort Wright, Kentucky 41017

Re: Water Quality Certification #2012-044-1
Ash Street Pump Station & Force Main Project
AI No.: 7556; Activity ID: APE20120004
Fourmile Creek, Unnamed Tributaries to
Fourmile Creek and Jurisdictional Wetlands
Campbell County, Kentucky

Dear Mr. Novak:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the attached conditions are met.

All future correspondence on this project must reference **AI No. 7556**. **The attached document is your official Water Quality Certification; please read it carefully.** If you should have any questions concerning the conditions of this water quality certification, please contact Chloe Tewksbury of my staff at (502) 564-3410 Extension 4863 or Chloe.Tewksbury@ky.gov.

Sincerely,

Barbara Scott, Supervisor
Water Quality Certification Section
Kentucky Division of Water

BJS:CT

Attachments

cc: Meagan Chapman, USACE: Louisville District (via email: Meagan.L.Chapman@usace.army.mil)
Lee Andrews, USFWS: Frankfort (via email: Teresa_Welch@fws.gov)
Joseph Henry, GRW, Inc. (via email: jhenry@grwinc.com)

Water Quality Certification

Northern KY Sanitation Dist No 1

Facility Requirements

Permit Number: WQC #2012-044-1

Activity ID No.: APE20120004

Page 1 of 4

ACTV0000000002 (SD#1- Ash Street Pump Station & Force Main Project) Fourmile Creek and Unnamed Tributaries to Fourmile Creek:

Submittal/Action Requirements:

Condition No.	Condition
S-1	A copy of the in-lieu fee receipt paid to the Northern Kentucky Mitigation Bank for 0.786 Adjusted Mitigation Units (AMUs) must be submitted to the Water Quality Certification Section before the beginning of construction. [Clean Water Act]

Narrative Requirements:

Condition No.	Condition
T-1	<p>The proposed Sanitation District No. 1 of Northern Kentucky Ash Street Pump Station and Force Main Project will temporarily impact jurisdictional ephemeral, intermittent and perennial unnamed tributaries to Four Mile Creek and Four Mile Creek at various locations and 0.393 acre of wetland will be permanently impacted at the proposed pump station site. Several crossings will involve directional drilling and bore and jack methodologies which do not require 401 water quality certification. The Ash Street force main corridor would begin at the Ash Street pump station and parallel KY 547 to the AA Highway and end at the Riley Road Pump Station. The proposed Silver Grove force main, which is part of the Ash Street project, is approximately 8,700 feet long and would be located primarily adjacent to the Mary Ingles Highway (KY 8), and would utilize the existing Silver Grove Pump Station. Finally, 750 linear feet of replacement gravity sewer would be constructed upstream of the existing Silver Grove Pump Station. The work approved by this certification shall be limited impacts to the following streams through open cut crossings:</p> <ul style="list-style-type: none">- 350 linear feet of perennial stream Fourmile Creek- 115 linear feet of ephemeral, unnamed tributaries to Fourmile Creek- 50 linear feet of intermittent, unnamed tributaries to Fourmile Creek <p>This project will permanently impact the following wetland:</p> <ul style="list-style-type: none">- 0.393 acre of wetland for the pump station site. <p>[Clean Water Act]</p>

Water Quality Certification

Northern KY Sanitation Dist No 1

Facility Requirements

Permit Number:WQC #2012-044-1

Activity ID No.: APE20120004

ACTV000000002 (continued):

Narrative Requirements:

Condition No.	Condition
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the following documents: - Water Quality Certification application, received April 06, 2012 - The Standard Creek Crossing Details and Streambank Restoration plan, received July 9, 2012 - The Pre-Construction Notification for Ash Street Pump Station, issued January 2, 2012 and associated documentation (LRL-2011-917-mlc). All materials were submitted by GRW Engineers, Inc. on behalf of Sanitation District No. 1 of Northern Kentucky. [Clean Water Act]
T-3	The Kentucky Division of Water will require mitigation for the permanent wetland impacts associated with the pump station site for the project. Sanitation District No. 1 has chosen to purchase a total of 0.786 wetland Adjusted Mitigation Units from the Northern Kentucky Mitigation Bank. The USACE may have a higher requirement, and this requirement must be satisfied for this water quality certification to be valid. [Clean Water Act]
T-4	Sanitation District No.1 of Northern Kentucky shall mitigate on-site for temporary impacts to streams and wetlands through minimization of impacts and restoration to pre-construction contours, grades and conditions (or better), and strictly adhere to the Standard Creek Crossing Details and Streambank Restoration plan submitted for the project. [Clean Water Act]
T-5	Sanitation District No.1 of Northern Kentucky should limit construction timelines to avoid periods of high rainfall and stream flow. [Clean Water Act]
T-6	Sanitation District No. 1 of Northern Kentucky shall employ effective erosion and sediment control measures, structures, and best management practices at all times during construction of the project to prevent degradation of surface waters of the Commonwealth. These devices shall be removed once revegetation has become well-established and restoration has been deemed successful. [Clean Water Act]
T-7	Sanitation District No. 1 of Northern Kentucky shall conduct open cut, bore and jack, and directional drilling crossings, pipeline installation, backfilling, capping, and temporary stabilization or final restoration activities at each individual stream and/or wetland crossing in a manner which minimizes erosion and sedimentation into all surface waters. [Clean Water Act]
T-8	Sanitation District No. 1 of Northern Kentucky shall utilize sewerline crossings techniques that maintain normal stream flows and allow for dry excavation by utilizing pump-around flow diversion structures. Water pumped from the excavation shall be contained and allowed to settle prior to re-entry to the stream. Excavation equipment and vehicles shall operate outside of the streambed. [Clean Water Act]
T-9	Sanitation District No. 1 of Northern Kentucky shall minimize the removal of riparian and wetland vegetation within the utility line right-of-way to necessary for equipment access and staging. Significant trees and shrubs should be preserved along streambanks adjacent to stream crossings to the maximum extent possible. [Clean Water Act]

Water Quality Certification

Northern KY Sanitation Dist No 1

Facility Requirements

Permit Number:WQC #2012-044-1

Activity ID No.: APE20120004

ACTV0000000002 (continued):

Narrative Requirements:

Condition No.	Condition
T-10	Sanitation District No. 1 of Northern Kentucky shall employ a wetland professional to clearly mark all wetland boundaries with signs and/or highly visible flagging at each crossing or right-of-way prior to the start of construction and shall be left up until construction is complete. Material resulting from open cut, bore and jack or directional drilling shall not be temporarily sidecast into any surface water, including stream or wetlands. In wetlands, the top 6' to 12' of the trench should be backfilled with topsoil from the trench. Furthermore, the trench cannot be constructed in such a manner as to drain the wetlands (e.g., backfilling with gravel layers that creates a french drain effect.) All wetlands temporarily impacted shall be restored to original conditions. A wetland seed mix shall be broadcasted over the impacted area at a rate of 40 pounds per acre in addition to annual rye at a rate of 25 pounds per acre and covered with hay, straw or erosion control matting. [Clean Water Act]
T-11	Temporary impact of utility line construction projects through jurisdictional wetlands shall not result in the conversion of the area to non-wetland status. [Clean Water Act]
T-12	Sanitation District No. 1 of Northern Kentucky shall properly revegetate all areas of impacted and/or exposed soils immediately after construction is complete through seeding, hay or straw or erosion control matting applications. Groundcover mixes should adhere to the species recommended in the Kentucky Division of Water's "Recommended Stream Restoration Guidelines" at a density of 25 to 30 pounds per acres in addition to annual rye at a density of 15 to 20 pounds per acre. Streambanks shall be restored to preconstruction grades, contours, and conditions or better and revegetated with native herbaceous seedlings, tree and shrub plantings, and erosion control matting. [Clean Water Act]
T-13	Sanitation District No.1 of Northern Kentucky is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-14	Check dams are not allowed within the stream channel. [Clean Water Act]
T-15	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]
T-16	If construction does not commence within one year of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-17	Mitigation for impacts shall begin prior to or concurrently with impacts. [Clean Water Act]
T-18	Remove all sediment and erosion control measures after re-vegetation has become well-established. [Clean Water Act]

Water Quality Certification

Northern KY Sanitation Dist No 1

Facility Requirements

Permit Number: WQC #2012-044-1

Activity ID No.: APE20120004

ACTV000000002 (continued):

Narrative Requirements:

Condition	No.	Condition
T-19		Other permits may be required from the Division of Water for this project. If this project takes place within the floodplain, a permit may be required from the Surface Water Permits Branch. The contact person is Todd Powers. If this project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a KPDES general storm water permit will be required from the Surface Water Permits Branch. The contact person is Cassie Campbell. Both can be reached at 502-564-3410. [Clean Water Act]



STEPHEN L.
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LEONARD K. PETERS
SECRETARY

ATTENTION APPLICANT

If your project involves one or more of the following activities, you may need more than one permit from the Kentucky Division of Water.

***building in a floodplain *road culvert in a stream**

***streambank stabilization *stream cleanout**

***utility line crossing a stream**

***construction sites an acre or more**

- If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) stormwater permit shall be required from the Operational Permits Section. This permit requires the creation of an erosion control plan.

Contact Allen Ingram.

- Projects that involve filling in the floodplain will require a stream construction permit from the Floodplain Management Section.

Contact Todd Powers.

- Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a stream construction permit and a Water Quality Certification from the Water Quality Certification Section.

Contact Barbara Scott.

All three contacts listed above can be reached at 502/564-3410. A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodman by calling 502/564-3410.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. The Kentucky Division of Water may require submission of a formal application for an Individual Certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
2. Nationwide permits issued by the U.S. Army Corps of Engineers for projects in Outstanding State Resource Waters, Cold Water Aquatic Habitats, and Exceptional Waters as defined by 401 KAR 10:026 shall require individual water quality certifications.
3. Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur.
4. Sediment and erosion control measures (e.g., check-dams, silt fencing, or hay bales) shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, placement shall not be conducted in such a manner that may cause instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control measures shall be removed and the natural grade restored prior to withdrawal from the site.
5. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
6. To the maximum extent practicable, all in-stream work under this certification shall be performed during low flow.
7. Heavy equipment (e.g. bulldozers, backhoes, draglines, etc.), if required for this project, should not be used or operated within the stream channel. In those instances where such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize re-suspension of sediments and disturbance to the channel, banks, or riparian vegetation.
8. If there are water supply intakes located downstream that may be affected by increased turbidity, the permittee shall notify the operator when work will be performed.
9. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
10. Should stream pollution, wetland impairment, and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.

Compliance Certification:

Permit Number: LRL-2011-917-mlc

Name of Permittee: Sanitation District No. 1

Date of Issuance: August 20, 2013

Upon completion of the activity authorized by this permit and any mitigation required by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
CELRL-OP-FS
P.O. Box 59
Louisville, Kentucky 40201

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

ADDRESSES FOR COORDINATING AGENCIES

USEPA, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Mr. Lee Andrews
U.S. Fish & Wildlife Service
JC Watts Federal Building
330 West Broadway, Room 265
Frankfort, KY 40601

Ms. Sandra Gruzesky, Director
Kentucky Energy & Environment Cabinet
Division of Water
200 Fair Oaks, 4th Floor
Frankfort, KY 40601

Ms. Chloe Tewksbury
Kentucky Division of Water
Water Quality Certification Section
200 Fair Oaks Lane, 4th Floor
Frankfort, KY 40601

Dr. Jonathan W. Gassett
Commissioner
Department of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, KY 40601

Mr. Craig Potts
Executive Director
State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, KY 40601

ADDRESS FOR AUTHORIZED AGENT

Mr. Joseph Henry
GRW Engineer, Inc.
801 Corporate Drive
Lexington, Kentucky 40502

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): January 16, 2013

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Sanitation District No. 1
Mr. Chris Novak
1045 Eaton Dr.
Ft. Wright, KY 41017

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, Ash St. Pump Station and Force Main, LRL-2011-917-mlc

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: Ash Street Force Main and Silver Grove Gravity Sewer and Force Main, Sanitation District No. 1
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: KY County/parish/borough: Campbell City: Silver Grove & Camp Springs
Center coordinates of site (lat/long in degree decimal format): Lat. 39.036286°N,
Long. 84.394956°W.

Universal Transverse Mercator:

Name of nearest waterbody: Fourmile Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 945 Linear Feet (LF) or 1.508 acres

Cowardin Class: Riverine

Stream Flow: Perennial, Intermittent, and Ephemeral

Wetlands: 0.963 acres.

Cowardin Class: Forested

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal: Fourmile Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): August 7, 2012

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply -

checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:

- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.

- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, KY-NEWPORT.
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name: U.S. Fish and Wildlife Service, National Wetlands Inventory 25 October 2012. <http://www.fws.gov/wetlands/index.html>.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Aerials submitted by GRW Engineers, INC.
or Other (Name & Date): photos by Third Rock Consultants.
- Previous determination(s). File no. and date of response letter:
- Other information (please specify): Corps staff site visit on August 7, 2012.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

 3/25/13
Signature and date of
Regulatory Project Manager
(REQUIRED)


Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the
signature is impracticable)

SAMPLE

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1 (4 Mile Creek)	39° 02' 33.2" N	84° 25' 09.2" W	R2UB	80 LF 0.046 acres	Section 10, non-wetland
2 (4 Mile Creek)	39° 01' 55.6" N	84° 23' 31" W	R2UB	60 LF 0.034 acres	Section 10, non-wetland
3 (4 Mile Creek)	39° 01' 33.6" N	84° 23' 14" W	R2UB	90 LF 0.052 acres	non-section 10, non-wetland
4 (Unnamed tributary)	39° 01' 34.6" N	84° 22' 57" W	R6	15 LF 0.009 acres	non-section 10 – non-wetland
4a (Unnamed tributary)	39° 01' 33.1" N	84° 22' 55.5" W	R6	15 LF 0.009 acres	non-section 10 – non-wetland
4b (Unnamed tributary)	39° 01' 30.1" N	84° 22' 53.5" W	R6	15 LF 0.009 acres	non-section 10 – non-wetland
4c (Unnamed tributary)	39° 01' 28.5" N	84° 22' 53" W	R6	10 LF 0.006 acres	non-section 10 – non-wetland
5 (Unnamed tributary)	39° 01' 09.2" N	84° 22' 42" W	R6	15 LF 0.009 acres	non-section 10 – non-wetland
6 (Unnamed tributary)	39° 00' 53.6" N	84° 22' 18" W	R4SB	10 LF 0.006 acres	non-section 10 – non-wetland
7 (4 Mile Creek)	39° 00' 52.6" N	84° 22' 17.6" W	R2UB	75 LF 0.043 acres	non-section 10 – non-wetland
8 (Unnamed tributary)	39° 00' 45.6" N	84° 22' 14.5" W	R6	25 LF 0.014 acres	non-section 10 – non-wetland
9 (4 Mile Creek)	39° 00' 31.6" N	84° 22' 09" W	R2UB	55 LF 0.032 acres	non-section 10 – non-wetland
10 (4 Mile Creek)	39° 00' 27" N	84° 22' 03" W	R2UB	45 LF 0.026 acres	non-section 10 – non-wetland
11 (4 Mile Creek)	39° 00' 22.3" N	84° 22' 01" W	R2UB	45 LF 0.026 acres	non-section 10 – non-wetland
12 (Unnamed tributary)	39° 00' 07.5" N	84° 21' 53" W	R4SB	20 LF 0.011 acres	non-section 10 – non-wetland
13 (4 Mile Creek)	39° 00' 05.5" N	84° 21' 52.7" W	R2UB	40 LF 0.023 acres	non-section 10 – non-wetland
14 (Unnamed tributary)	38° 59' 53.9" N	84° 21' 31" W	R4SB	20 LF 0.011 acres	non-section 10 – non-wetland

15 (4 Mile Creek)	38° 59' 52.8" N	84° 21' 49" W	R2UB	40 LF 0.023 acres	non-section 10 – non-wetland
16 (Unnamed tributary)	38° 59' 46.1" N	84° 21' 47.8" W	R4SB	25 LF 0.014 acres	non-section 10 – non-wetland
17 (4 Mile Creek)	38° 59' 33.5" N	84° 21' 52" W	R2UB	45 LF 0.026 acres	non-section 10 – non-wetland
18 (4 Mile Creek)	38° 59' 27.1" N	84° 21' 52.2" W	R2UB	60 LF 0.034 acres	non-section 10 – non-wetland
19 (Unnamed tributary)	38° 58' 59." N	84° 21' 49" W	R4SB	10 LF 0.006 acres	non-section 10 – non-wetland
19a (Unnamed tributary)	38° 58' 50.5" N	84° 21' 50.5" W	R6	10 LF 0.006 acres	non-section 10 – non-wetland
19b (Unnamed tributary)	38° 58' 46" N	84° 21' 49.9" W	R6	10 LF 0.006 acres	non-section 10 – non-wetland
20 (4 Mile Creek)	38° 58' 41" N	84° 21' 49" W	R2UB	55 LF 0.032 acres	non-section 10 – non-wetland
21 (4 Mile Creek)	38° 58' 37.4" N	84° 21' 48.8" W	R2UB	55 LF 0.032 acres	non-section 10 – non-wetland
22* (Wetland)	39° 2' 14.6" N	84° 23' 59.5" W	PFO1	0.570 acres	Wetland, Section 10
23** (Wetland)	39° 2' 13.0" N	84° 23' 41.9" W	PFO1	0.393 acres	Wetland, Section 10

*Entire length of 12" force main in the wetland area will be directional drilled to avoid disturbance

** Pump Station Site – rear of site

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Sanitation District No. 1 of Northern KY	File Number: LRL-2011-917	Date: 20 AUG 13
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Meagan Chapman
US Army Corps of Engineers – Louisville District
PO Box 59
Louisville, KY 40201-0059
(502) 315-6709

If you only have questions regarding the appeal process you may also contact:

US Army Corps of Engineers
ATTN: Appeal Review Officer CELRD-PD-REG
550 Main Street RM 10524
Cincinnati, OH 45202-3222
TEL (513) 684-6212; FAX (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

APPENDIX D

**TECHNICAL MEMORANDUM BY
HAZEN AND SAWYER**

TECHNICAL MEMORANDUM

DATE: June 10, 2009

FOR: Sanitation District No. 1 of Northern Kentucky (SD1)
Ash Street Pumping Station and Force Main

TO: Brandon Vatter, SD1

CC: Sean FitzGerald, H&S
Tim Pringle, H&S
Seth Bradley, H&S

PREPARED BY: Sean O'Rourke and Sean FitzGerald, Hazen and Sawyer

SUBJECT: Ash Street Pump Station and Force Main

Introduction

Wastewater from the Cities of Silver Grove and Melbourne, Kentucky, which are located along the Ohio River, is conveyed to the Silver Grove Pump Station (SGPS) through a 10-inch gravity sewer. The Melbourne system is entirely separate, but the City of Silver Grove is partially combined. Therefore, during heavy rainfall, flow into the 10-inch sewer quickly exceeds the sewer's conveyance capacity of approximately 0.7 MGD. The sewer has capacity to convey the average dry weather flow of 0.17 MGD, but as Table 1 below shows, wet weather flows during heavy rainfall easily exceed the conveyance capacity of the sewer. Table 1 shows model predicted peak flows tributary to the 10-inch sewer during the typical year.

Table 1 Model Predicted Typical Year Flows from Melbourne and Silver Grove

Condition	Flow (MGD)
Average DWF	0.17
Peak DWF	0.30
Peak Flow (5 minute)	6.19
Peak Flow (30 min)	6.05
Peak Flow (1 hour)	5.23

The excess flow is discharged into a drainage ditch through the Silver Grove CSO. This overflow activates an average of 29 times per typical year with an annual combined sewer overflow (CSO) volume of approximately 2.4 MG. The CSO discharge is located within a few hundred feet of a mobile home park and the surrounding area is subject to frequent backwater from the Ohio River and experiences poor drainage even in low river conditions. When the Ohio River is elevated, ground water and Ohio River water enters the SGPS through low lying manholes and leaky sewers resulting in sewer overflows near the pump station that discharge a total of approximately 23.2 MG in a typical year. Figure 1 shows the location of the SGPS relative to the rest of SD1's system. The figure shows that the location of the SGPS is at the upper most end of the system.

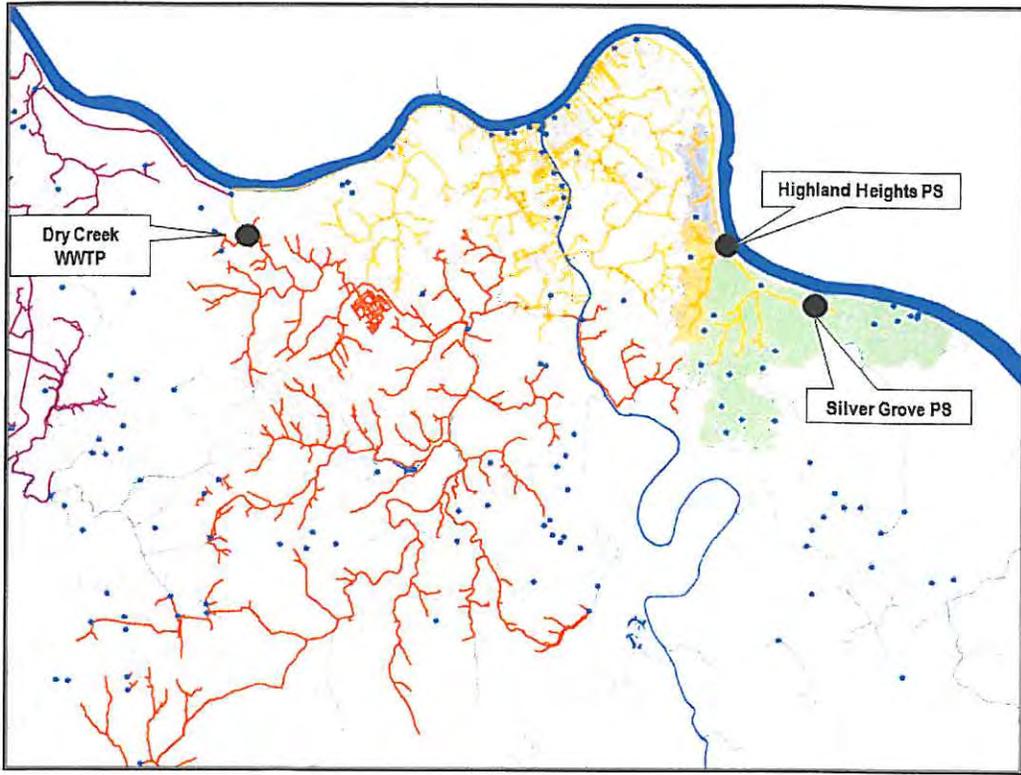


Figure 1 Silver Grove Pump Station Location

Figure 2 shows the location of the CSO relative to downtown Silver Grove.

Figure 2 Silver Grove CSO



As Figure 2 shows, the CSO discharges very close to the populated areas and is exacerbated by poor drainage. The poor drainage causes the flow from the CSO and downstream sewer overflows to become stagnant and are not carried away by the tributary Four Mile creek. Figure 3 below is a photo of the resulting sludge which is essentially impossible to clean with heavy equipment. Therefore this area is considered a public health risk and is to be addressed during the first 5 years of the implementation of SD1's Watershed Consent Decree.

Figure 3 Silver Grove CSO Discharge



The other public health consideration related to the Silver Grove CSO, as well as other nearby overflows, is their vicinity to three drinking water intakes on the Ohio River. Figure 4 shows the locations of these intakes as well as the locations of other SSOs and CSOs located upstream of these intakes. Two of the intakes are directly adjacent to each other and appear to be a single location in the figure. While this analysis focuses mainly on the public health concerns near Silver Grove, the analysis was done within the broader context of what is known as the Highland-Heights-Silver Grove (HHSG) area. This overall area was previously studied in 2007 and resulted in a recommendation to change the direction of the flows in this area away from the Ohio River Interceptor and to the new Eastern Regional Water Reclamation facility. Figure 5 shows the proposed concept from the previous study.

Figure 4 HHSG Area and Water Intake Locations

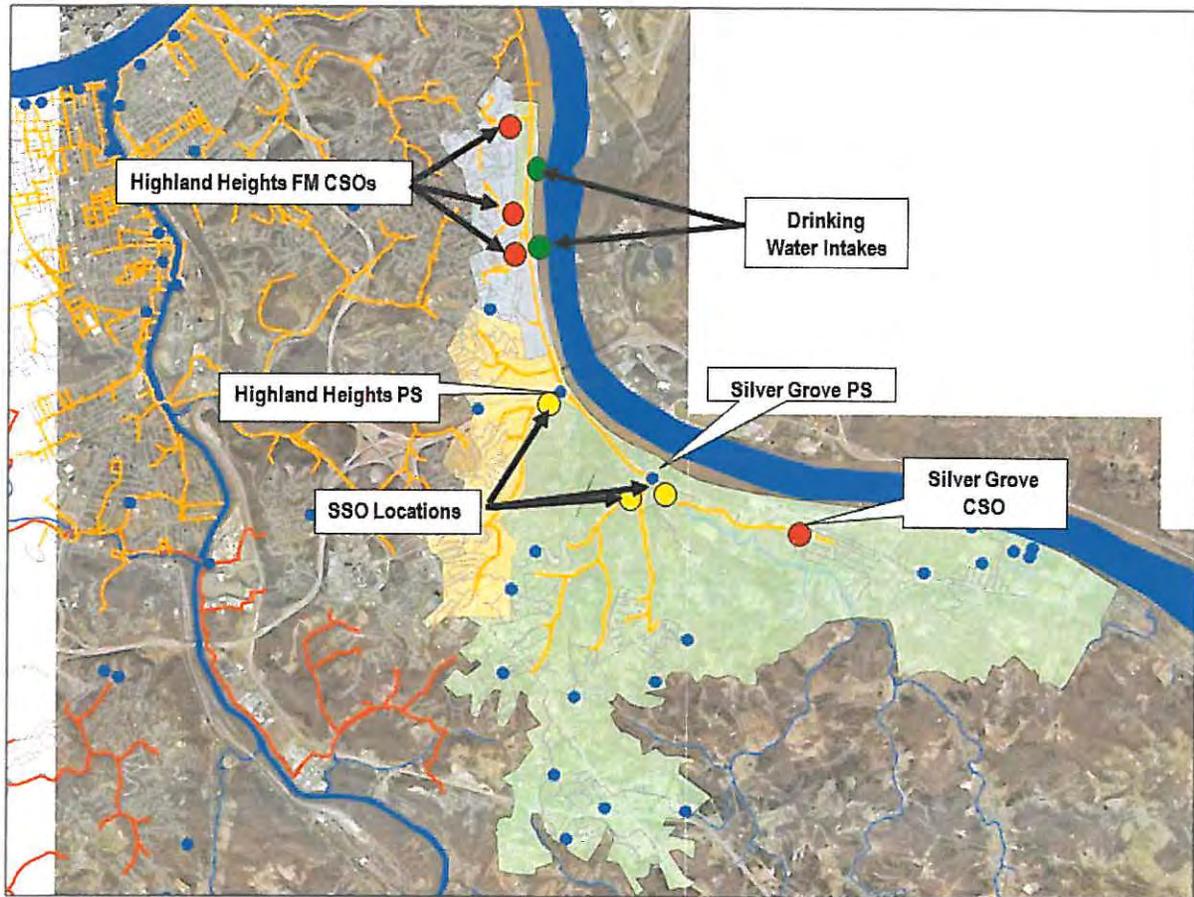
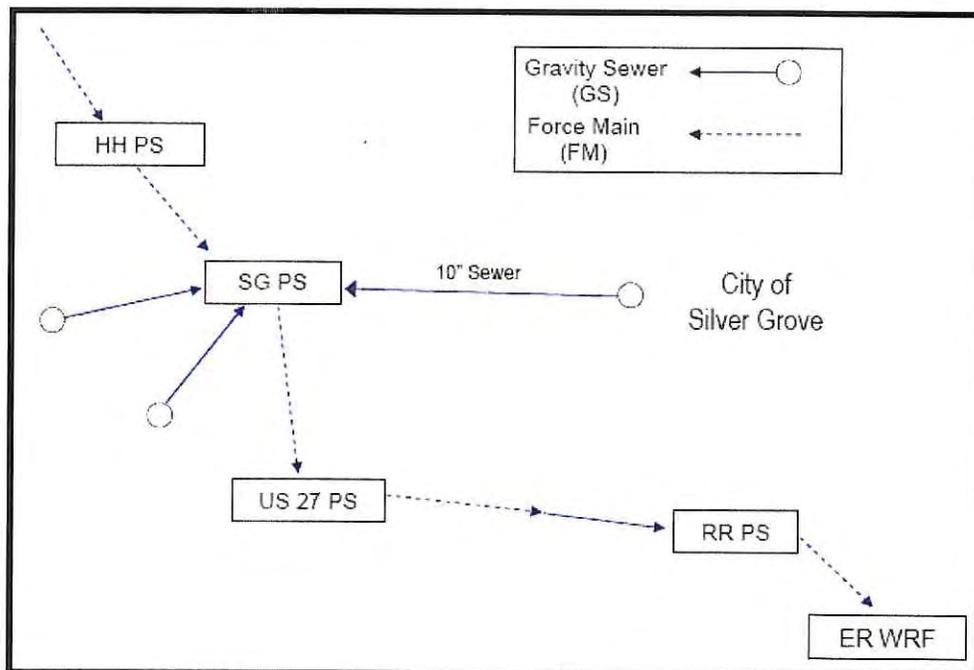


Figure 5 shows the proposed conceptual rerouting of the flows.

FIGURE 5 Proposed Rerouting to ERWRF per 2007 Report



The overall goal of this study is to remedy this public health concern, as well as to provide the benefits of reducing and or eliminating other CSOs in the HHSG area and reducing flow to the Ohio River Interceptor (ORI) in alignment with previous studies and current strategies.

Alternatives Analysis

Gravity Sewer Replacement Solution:

As mentioned previously, the HHSG area was previously studied and the overall recommendation was to convey flows to an upsized SGPS, which would then pump flow towards the ERWRF. Therefore, the first solution to remove the CSO from downtown Silver Grove was to replace the undersized 10-inch gravity sewer with 8,000 LF a of new 24-inch gravity sewer. This would convey peak wet weather flows away from the Silver Grove CSO location to the SGPS. This solution would essentially move the overflows to the SGPS and would act as an initial phase in the recommendations made in the HHSG report.

During the design of the new gravity sewer, a Phase 1 Environmental Assessment was conducted and it revealed four landfills along the sewer alignment. The amount and type of trash that was buried in these landfills was not known. This finding revealed a large risk and cost associated with the construction of the new gravity sewer through these areas. This additional level of risk and increased cost, combined with the fact that the gravity sewer would only move overflows downstream, prompted SD1 to reconsider their approach.

New Ash Street Pump Station Solution:

Hazen and Sawyer assisted SD1 in formulating a new approach to address the CSO in Silver Grove as part of the Watershed Plan development. The focus of this new effort was to eliminate the CSO rather than moving it. SD1 field investigations also showed that much of the downstream sanitary sewer overflow volume would still stagnate at the SGPS and would still result in a public health risk.

The resulting plan was to divide the overall HHSG improvements into 3 phases with the first phase comprising the construction of a new pump station, herein referred to as Ash Street

PS, near the Silver Grove CSO and would convey flows to the new Riley Road PS which has been constructed as part of the overall Eastern Regional improvements. This would eliminate the need for the US 27 PS and reduce the length of sewer needed to reroute the flows from the Silver Grove / Highland Heights Subcatchments to the ERWRF. Figure 6 below shows the location of the proposed Ash St. PS and force main. A more detailed map of the force main alignment is included in Appendix A. Figures 7, 8 and 9 show the three phases as they were outlined.

Figure 6 Proposed Ash St. Pump Station

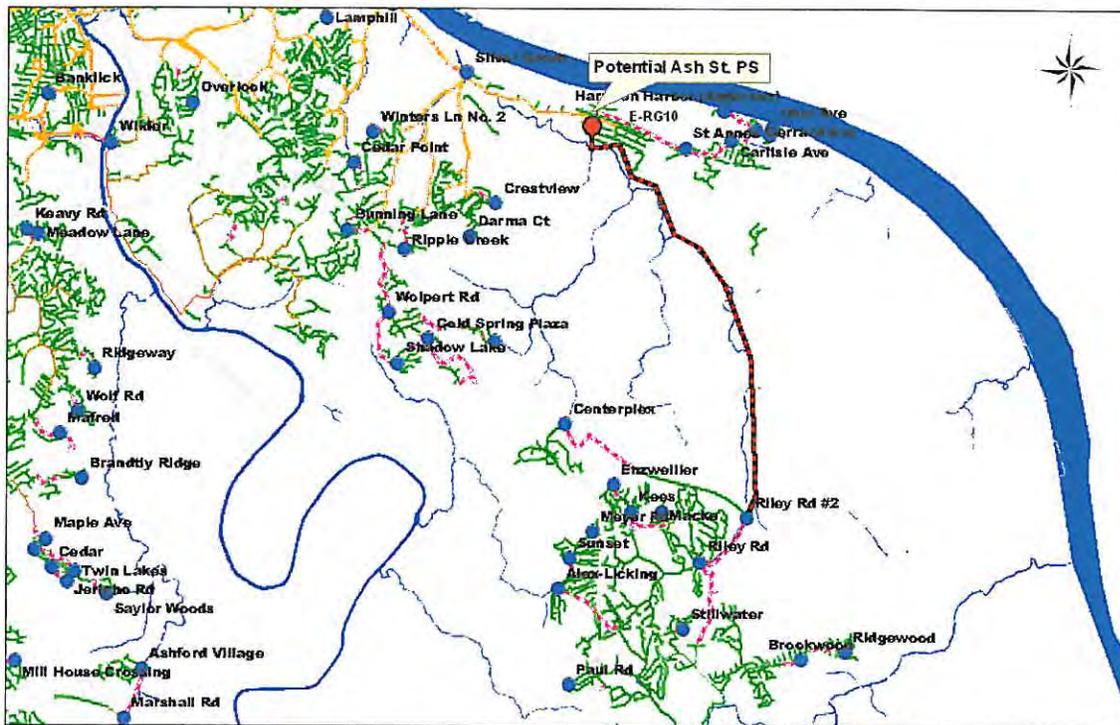


Figure 7 Phase 1 Ash St. PS

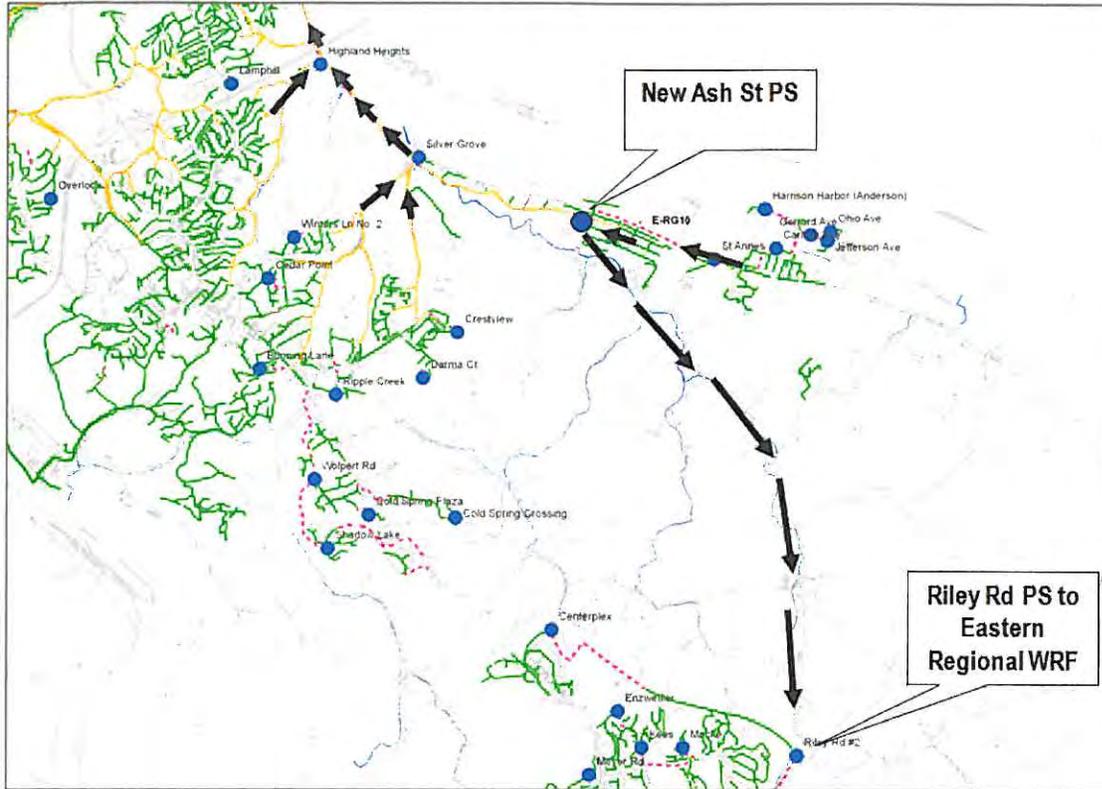


Figure 8 Phase 2 New Silver Grove PS

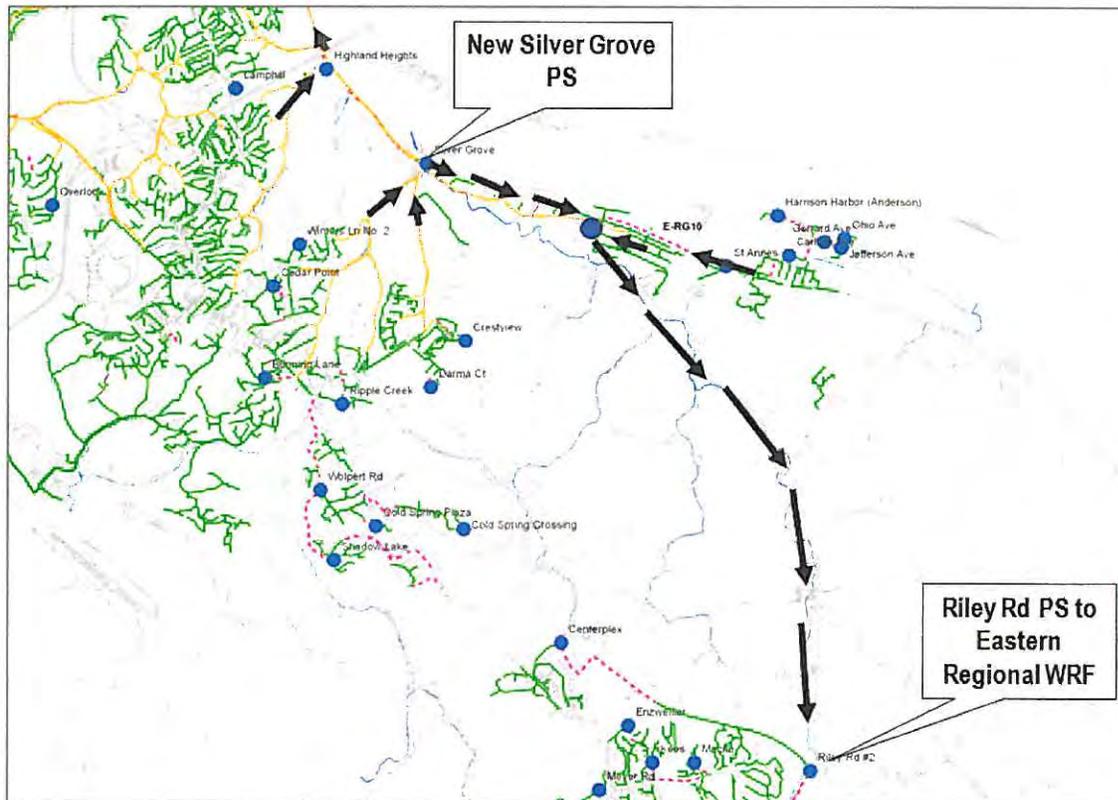
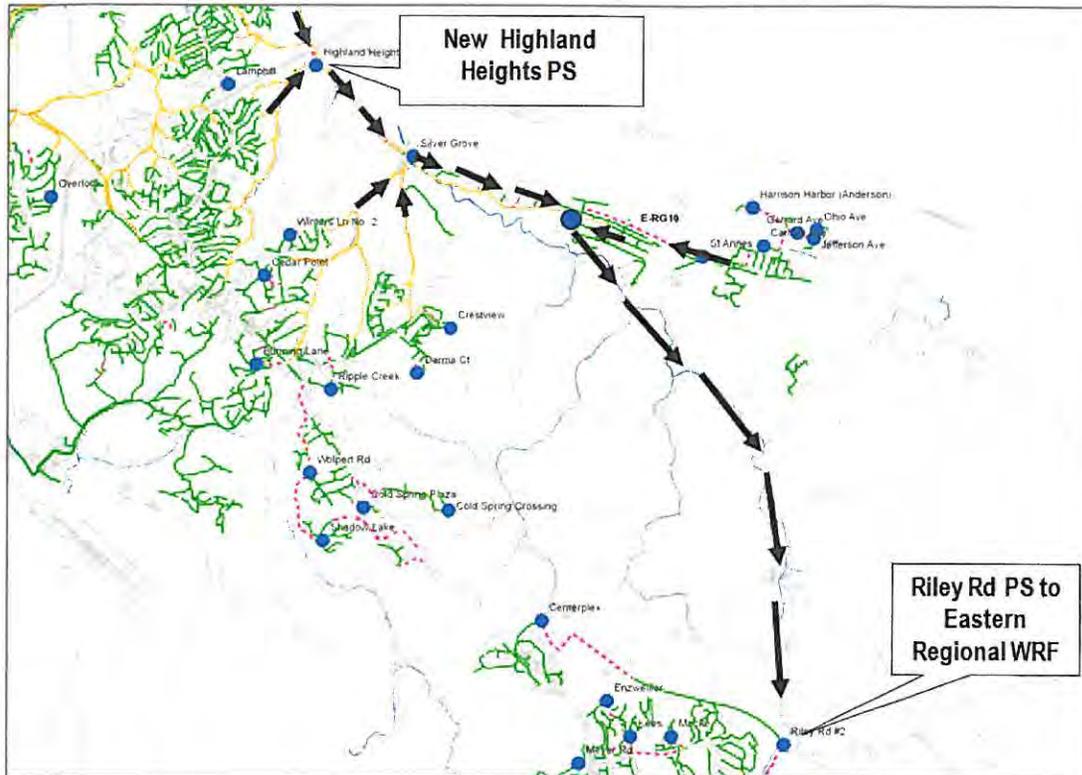


Figure 9 Phase 3 New Highland Heights Pump Station



After the overall HHSG plan was reformulated and broken into phases, the assessment began to focus on Phase 1, which has the most immediate impact on the Silver Grove CSO as well as overflows near the SGPS. However, it is important to understand that the Ash St. PS becomes the new backbone for all flow being turned to the ERWRF. SD1 decided to target the sizing of the improvements to eliminate the Silver Grove CSO in a typical year, which is a high level of control for a combined sewer overflow. However, given the public health risks in the vicinity, this higher level of control to eliminate the CSO in a typical year was selected. This level of control will be further enhanced by the continued storm sewer separation that is continuing within the City of Silver Grove. In addition, SD1 plans to pursue I/I removal activities in the separate portions of the HHSG area, which will also further enhance the performance of these improvements in the separate sewer area. As subsequent phases are implemented, equalization storage will be needed to maintain the required level of control. The flows shown in Table 1 were selected to be used in the preliminary sizing.

Below is a more detailed description of Phase 1 with preliminary facility sizing.

Phase 1:

Phase 1 improvements comprise the following:

- Construct 6.0 MGD Ash Street PS and approximately 27,000 LF of 18-inch force main to convey wet weather flows from Silver Grove to the new Riley Road PS for treatment at the new state of the art ERWRF.
- Abandon 10-inch gravity sewer that currently conveys flow from downtown Silver Grove to the Silver Grove PS.
- Install new gravity sewer immediately upstream of the Silver Grove PS to convey the remaining flow and to eliminate the intrusion of river water when the river levels are elevated. Construct approximately 750 LF of gravity sewer just upstream of Silver Grove PS shall be upsized from 12-inch and 15-inch to 21-inch and 24-inch diameter pipe.
- Approximately nineteen SD1 customers are currently served directly by the 10-inch gravity sewer to be abandoned. These customers shall receive sewer service through individual grinder pumps and low pressure sewers. This installation will include approximately nineteen (19) individual grinder pumps and 6,000 linear feet of low pressure sewer to be installed. The low pressure sewer can be routed along Mary Ingles Highway and discharge into either Ash Street PS or the Silver Grove PS.
- While the City of Silver Grove has a separate sanitary and storm sewer system, both are interconnected and cause additional sewer overflows during heavy rains. Ongoing plans involve sewer separation work within the city, which will serve to lessen overflow volumes.
- Installation of new pumps at the SGPS that can continue to pump during elevated Ohio River conditions. These pumps have already been installed.

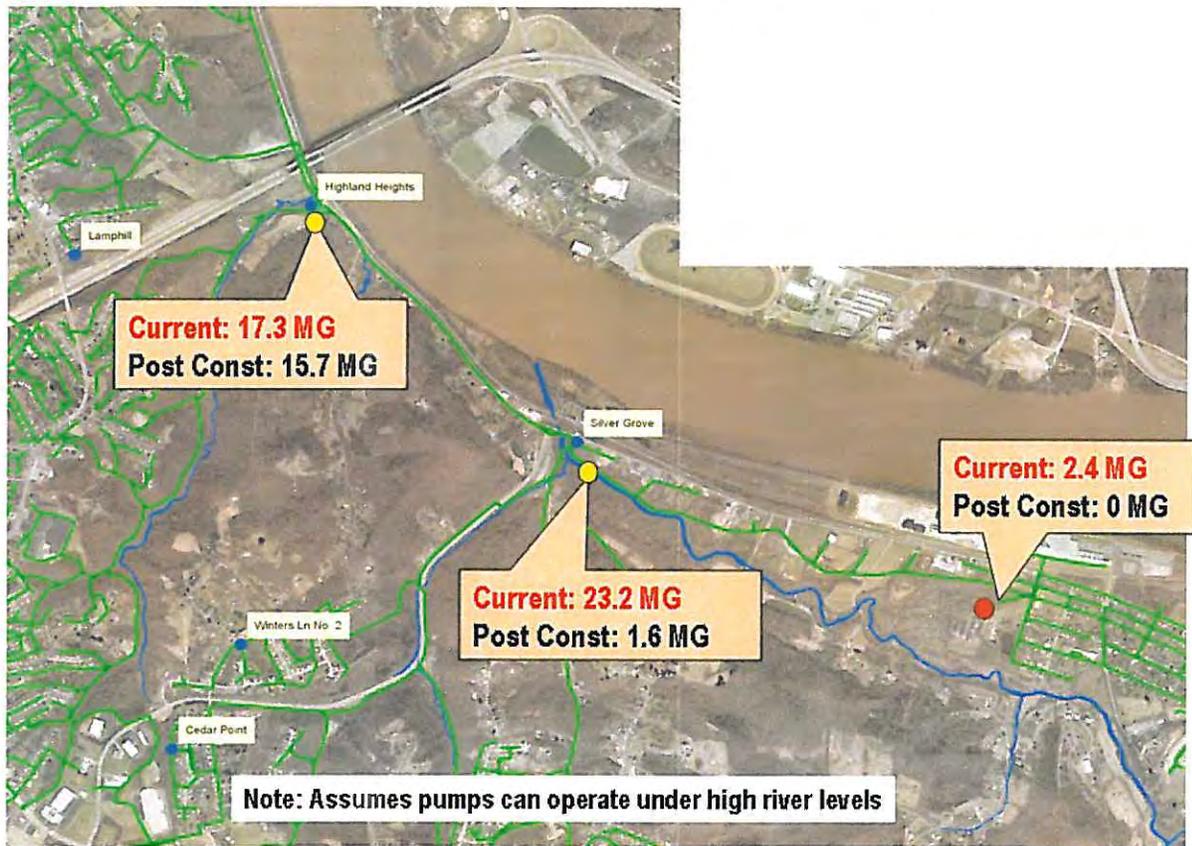
The estimated capital cost to implement Phase 1 is \$16.2 M in 2009 dollars. These costs were developed using a more refined analysis than the Costing Tool that was used to cost many of the proposed Watershed Plan improvements. Figure 10 summarizes the model predicted overflow reductions in the typical year with the implementation of Phase 1. The Figure shows that there would be a total overflow reduction of 25.6 MG. Much of that reduction comes from the ability to operate the Silver Grove PS during elevated river conditions.

The ability to pump the full 6.0 MGD to the Riley Road PS is dependent upon the ability of the new Riley Road PS to handle the flows. The new pump station has been

constructed but is not currently in operation. With the current motors, impellers, and backup generators, the Riley Road PS is estimated to have a firm capacity (2 pump sets running) of nearly 9.36 MGD. It is important to note that field pump tests have not yet been completed to confirm this number. Excluding the flows from Ash Street PS, the wet weather flows to be received at the new Riley Road PS are projected to be 3.36 MGD. Therefore, the addition of 6 MGD would be just at the limit of the current firm capacity of the new Riley Road PS. The pump station does have space for an additional pump set. The addition of this pump set would increase the firm capacity to approximately 11.8 MGD. Given current information, Riley Road PS will be able to convey the anticipated peak flow of 9.36 MGD. With the addition of the fourth pump set, the firm capacity would allow for approximately 2.44 MGD of additional flow to allow for future growth.

Figure 10 Model Predicted Benefits of Phase 1 Improvements.

Total overflow volume is reduced by 25.6 MG



Potential Phase 1A

As Figure 10 shows, there will still be overflows at the Silver Grove PS and Highland Heights PS in the typical year. Another issue related to Phase 1 alone is the elevated chloride concentrations at the ERWRF. Because of the presence of industrial flow, the influent to the ERWRF has elevated chloride levels. Previous analyses showed that the redirected anticipated flows from Phase 1 and Phase 2 to the ERWRF would provide the necessary dilution to consistently reduce chloride concentrations below the NPDES permit limit. However, with only 0.17 MGD of average flow from Phase 1, the resulting dilution in the chloride concentrations at the ERWRF would be limited.

One possible alternative to address these issues is to construct a portion of Phase 2 along with Phase 1. The additional work would comprise the installation of approximately 7,600 LF of 12-inch force main to convey flows from the Silver Grove PS to the Ash St. PS. A new, expanded Silver Grove pump station would not be constructed at this time. The resulting impact on the current Silver Grove Pumps was assessed. The results indicate that the pumps would operate very near their best efficiency point and could provide a firm capacity flow of 1.7 MGD and a peak capacity of 2.0 MGD. Table 2 below summarizes the average and peak flows to the Ash St. PS if the 12-inch force main from SGPS was installed.

Table 2 Model Predicted Flows with SGPS Discharging to Ash St. PS

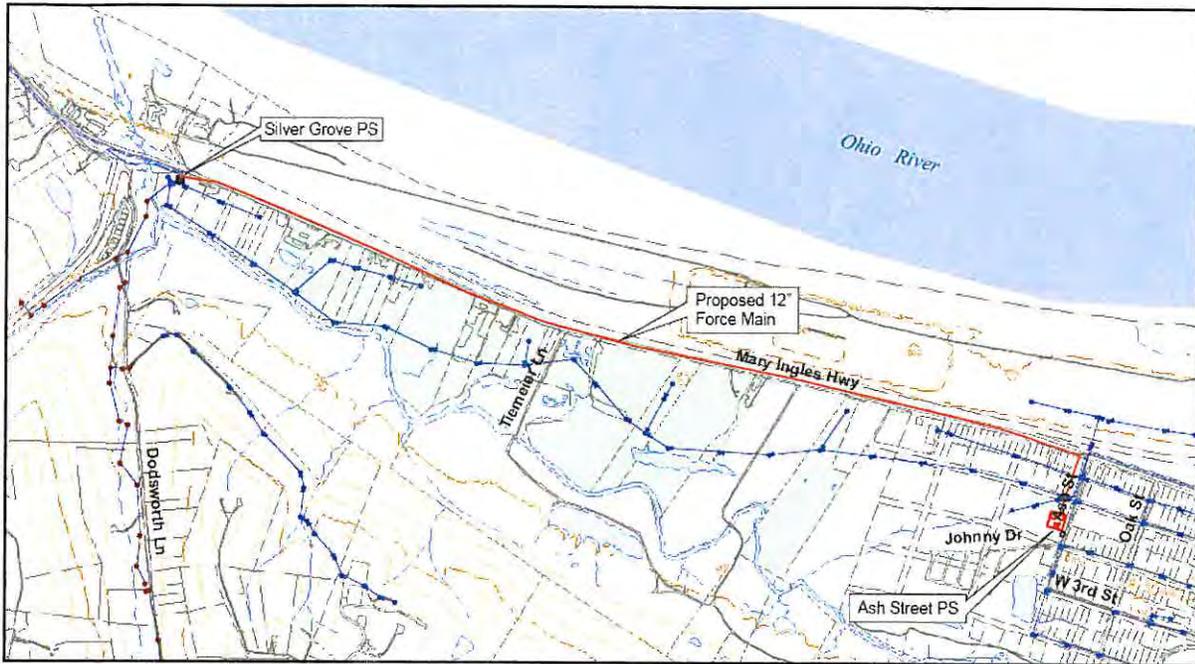
Condition	Flow to SGPS (MGD)	Total Flow into Ash St. PS (MGD)
Average DWF	0.41	0.57
Peak DWF	0.63	1.51 ⁽¹⁾
Peak Flow (5 minute)	2.20	8.10
Peak Flow (30 min)	2.11	7.92
Peak Flow (1 hour)	2.04	6.89

(1) The peak flow from the SGPS is higher than 0.63 mgd due to the pumping rate from the pump station

As the table shows, the capacity of the proposed Ash St. PS would be exceeded in the typical year under these conditions. Therefore some equalization would be needed at the Ash St. PS to handle these flows. Based on model simulations, approximately 50,000 gallons

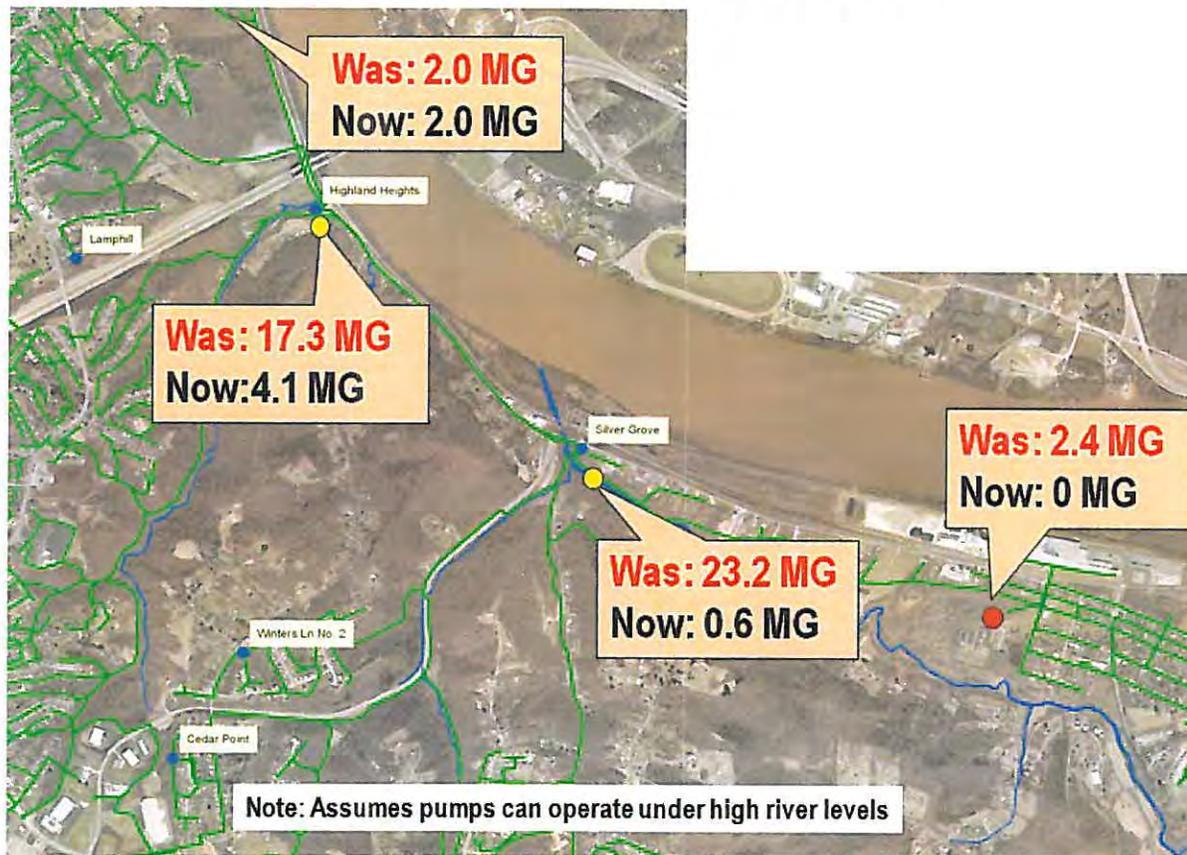
of storage would be needed in the typical year. Figure 11 below shows a possible alignment for the 12-inch force main.

Figure 11 Phase 1A New 12-inch Force Main from SGPS to Ash St. PS



The estimated additional capital costs for constructing the force main and the equalization storage is approximately \$3.1 M. Figure 12 below shows the model-predicted benefits of including Phase 1A.

Figure 12 Phase 1A Model Predicted Benefits.
Total overflow volume is reduced by 38 MG



As Figure 12 shows, the total overflow volume in the typical year would be reduced by over 38 MG. In addition to reducing overflow volume, rerouting SGPS to the Ash St. PS will have the following benefits:

- o Additional rerouted flow will provide important chloride reduction benefits for the ERWRF:
NPDES monthly Permit Limit: 600 mg/l
Current monthly average: ~ 600 mg/l
Monthly average with Phase 1 flow only: 544 mg/l
Monthly average with Phase 1 and Phase 1A flow: 450 mg/l
- o The detention time in the Ash St. PS wet well and force main would drop significantly due to the increased average dry weather flow and could significantly reduce the need for odor and corrosion control chemical.
- o The velocity in the Ash St. PS force main at firm capacity is over 2 fps

Conclusions and Recommendations

Table 3 below summarizes the total CIP costs and model predicted overflow reductions with their implementation.

Table 3 Alternatives Evaluation

Scenario	Model Predicted TY Overflow Reduction (MG)	Total CIP Cost in 2009 Dollars (\$M)
Phase 1	25.6	\$16.2
Phase 1A	38.2	\$19.3

Due to the public health risks presented by the recurring CSO in Silver Grove and the downstream sanitary sewer overflows at the SGPS, Hazen and Sawyer recommends that SD1 proceed with Phase 1A which provides an additional 50% overflow volume reduction for an increase in cost of less than 20%. In addition, this option will significantly improve the chloride issue at the ERWRF, while construction of Phase 1 only would provide limited benefit. Table 4 below summarizes the model predicted flows for the typical year to the Ash St. PS.

Table 4 Ash St. Influent Flows Typical Year

Condition	Phase 1 (MGD)	Phase 1A (MGD)
Average DWF	0.17	0.57
Peak DWF	0.30	1.51 ⁽¹⁾
Peak Flow (5 minute)	6.19	8.10
Peak Flow (30 min)	6.05	7.92
Peak Flow (1 hour)	5.23	6.89

Other recommendations include:

- o The actual capacity of Riley Road PS should be determined in the field to confirm planning numbers.
- o Flows into Riley Road PS should be monitored to verify the peak flows that will discharge to the pump station. This data, along with the pump testing data would help confirm available capacity.

- Storm sewer separation should continue in Silver Grove. This would decrease the need for storage at Ash St. PS in preparation for subsequent phases.

There are a few other considerations listed below that should be evaluated prior to detailed design of the Ash St. PS,

- Consideration could be given to eliminate the need for storage at the Ash St. PS under Phase 1A by increasing the peak pumping capacity at the Ash St. PS to greater than 6 MGD. This would potentially affect the Ash St. PS force main size, the need to install the fourth pump set at the Riley Road PS, and the ability to handle additional growth tributary to the Riley Road PS.
- The wide range of flows to the pump station should be considered during the design phase.
- The capacity of 6 MGD for the Ash St. PS was determined based on several factors such as peak tributary flows and available capacity at the Riley Road PS as well as future flows tributary to the Ash St. PS. Model predicted flows under various time durations are shown because the actual critical flow value will depend on factors such as the size of the wet well and whether the pumps are constant or variable speed.

APPENDIX E

Ash Street Pump Station Site Evaluation

**Ash St. Pump Station
Site Evaluation Summary
Silver Grove, KY
Sanitation District No. 1 of Northern Kentucky
May 2012**



Engineers · Architects · Planners

Ash St. Pump Station Site Evaluation Summary
Silver Grove, KY
Sanitation District No. 1 of Northern Kentucky
GRW Project No. 3863
May 2012

A public meeting was held at 7 PM, February 8, 2012 at the local fire station in the City of Silver Grove to discuss the proposed location of the Ash St. Pump Station. As a result of public comment, SD1 agreed to further evaluate the existing and several alternative pump station sites to address local concerns such as noise, odor, and site aesthetics.

History

The existing Ash St. Pump Station and Force Main project was developed to mitigate a large recurring combined sewer overflow in Silver Grove, KY and as an alternative to divert local wastewater flows to the newly constructed Eastern Regional Water Reclamation Facility (ERWRF), located in Alexandria, KY. Presently, wastewater flows from the cities of Melbourne, Silver Grove, and Highland Heights convey wastewater flow to the Dry Creek Wastewater Treatment Plant, located near Villa Hills, KY, west of I-75. Mitigation of the combined sewer overflow in Silver Grove will prevent over 23 million gallons per year of raw sewerage from being spilled into Four Mile Creek and ultimately, the Ohio River. Mitigation of sanitary sewer and combined sewer overflows by SD1 are mandated by a Federal Consent Decree via the U.S. EPA. Ultimately, diversion of these wastewater flows to the ERWRF will also reduce the occurrence of other sanitary sewer overflows in the SD1 wastewater conveyance system.

The existing site, on Ash St., was identified as the preferred site for the facility, due to its proximity to the combined sewer overflow that occurs at and adjacent to this site. A majority of the existing proposed site was purchased from a private property owner. SD1 originally contacted the City of Silver Grove in 2010 to initiate discussions of obtaining a portion of the proposed site from the City of Silver Grove. Upon agreement, the City of Silver Grove transferred the additional property for the proposed site to the SD1 with the understanding the existing abandoned structure on this property would be demolished.

Project Design and Consideration

SD1 understands the public concerns of placement of a large wastewater pumping station on Ash St. in Silver Grove, KY. For this reason, SD1 has implemented many features into the pump station design to lessen the impact of the pump station and no matter the location of the pump station, these features will be incorporated into the design and are detailed below.

Noise Control

Noise attributed to the pump station originates from the operating equipment, which include the wastewater pumps, odor control mechanical blower, and HVAC units. All operating equipment is housed inside of the wetwell or the building and nuisance noise shall not be an issue. The pumps will be fully submerged under the wastewater level, 25' deep, in the wetwell of the pump station. Any noise attributed to the pumps will be very slight and typical of the "buzz" from a street light. The mechanical blower is for the odor control system to push the untreated air through a carbon adsorption vessel and then exhaust the treated air to the atmosphere. Noise will be minimal from this unit and the exhaust of the odor control system is directed to the southwest to lessen the impact from surrounding business and residence. The noise of the mechanical blower is muffled through the carbon media inside the vessel. The HVAC units are associated with cooling for the electrical room and ventilation of the piping and equipment gallery. Two units exist, an exterior air conditioner and an interior energy recovery unit and fan. The noise from these units will be typical of a small residential exterior air conditioning unit.

A back-up power diesel generator will also exist on the site and is located behind the pump station. The generator will be utilized when power outages occur and prevent raw sewage from spilling into Four Mile Creek. To ensure reliability, the generator will be exercised on a routine schedule, either weekly or monthly. The generator will be typically operated during working hours, 8 AM to 4:30 PM. Operation time will typically not be longer than one hour.

Liquid Phase Odor Control –Chemical Injection

SD1 utilizes odor control chemicals to prevent the formation of hydrogen sulfide, the odor causing constituent of wastewater. The odor control chemicals will be injected, both upstream at the Silver Grove Pump Station, located at the intersection of Mary Ingles Highway and Industrial Rd., and at the Ash St. Pump Station. The addition of these chemicals is continuous to mitigate possible foul odors associated with wastewater.

Air Phase Odor Control –Carbon Adsorption

A carbon adsorption system shall be installed to "scrub" the atmosphere of remaining odors associated with wastewater from the wetwell and screening facility. No exposed wastewater basins or untreated air from the facility will exist. The fan pulls air from the wetwell and the screenings facility and pushes the air through the carbon vessel. The carbon media is sized to last several years to prevent odor. Routine testing will be performed on the carbon media to

ensure its adequate performance. The carbon media will be replaced prior to the end of its life expectancy, which is dependent upon the actual odor loading.

Architectural and Site Design

The SD1 has placed a large importance on the building and site aesthetics to help lessen the impact of a large pumping facility near residences, business', and a City park. The following briefly describes the details of the facility.

Building

The pump station will be a two-story, brick and decorative masonry facility. The roofs shall be residential style shingle. The facility must be flood-protected above the 100-year floodplain, so major electrical facilities are located on the second floor of the building. The 100-year floodplain is approximately sixteen feet (16') higher than the surrounding elevation of the ground. The lower portion of the facility will house the piping gallery and odor control equipment. This area will be protected by "waterproof" flood doors. Exhibit 1 provides a typical elevation view of the facility.

Site

The site will incorporate pervious paver design to mitigate stormwater runoff concerns. A site retention basin and bioswale will provide green features for stormwater treatment and will also be integral to the site design. The fencing shall be black or dark green, visually pleasing, PVC coated wire fabric, posts, and supports. Site lighting will be minimal with down-lighted entrance lighting for safety. The site will have flood-lighting installed and will only be utilized during emergency situations and manually operated from inside of the pump station. The perimeter of the site will also have plantings for an evergreen screen outside of the fence and on three sides of the pump station. The evergreen screen shall minimize the view of the pump station facility.

Each of these above-mentioned items is integral to the design. These design features will be incorporated into all sites considered for the project.

Alternative Site Consideration

Along with the proposed existing site, five other alternatives were developed for consideration. Four additional sites were selected and one other alternative on the existing site was developed. The following provides a synopsis of each of the considered sites. The five sites that have been considered are all accessible during relatively high water flooding events. A

criteria exists that all sites must be accessible from elevations higher than el. 489 ft. Location of the pump station in low and hidden areas along Four Mile Creek is not feasible. Exhibit 2 provides an overview of the alternative site locations.

Current Design – Existing Proposed Site

The existing site is located on Ash St. and was selected due to its relative elevation for accessibility during flooding, close proximity of the combined sewer overflow, and availability of private land. In addition, the City of Silver Grove owned property at the proposed site and desired to demolish the existing and abandoned structure. As a part of the agreement to transfer the property to SD1, the structure would be demolished as a part of this project. The anticipated cost of construction on this site is \$6,000,000.

Revised Design – Existing Proposed Site

The existing site is located on Ash St. and was selected due to its relative elevation for accessibility during flooding, close proximity of the combined sewer overflow, and availability of private land. In addition, the City of Silver Grove owned property at the proposed site and desired to demolish the existing and abandoned structure. As a part of the agreement to transfer the property to SD1, the structure would be demolished as a part of this project.

As a result of the public meeting, the existing proposed site has been reviewed to further reduce the impact on the area. The existing property parcel is near 250' deep. The entire pump station facility can be moved to the rear of the property, approximately 60' to the west. By doing so, ample room will be available to the front of the property for the City of Silver Grove to construct a future paved parking lot for the park facility. In addition, moving the facility to the rear and into the wooded area of the site, will further remove the pump station from vision and the entire generator will be mostly screened from visibility by the surrounding properties by the existing tree line. The anticipated cost of construction for the alternative design at the existing proposed site is \$6,144,1237.

Alternative Site No. 1

Alternative Site No. 1 is located adjacent to Mary Ingles Highway in the new development adjacent and to the west of the "paintball" fields and just to the east of the new Dollar General Store. The site would be accessed from either Mary Ingles Highway or from the rear along the private development road. Site No. 1 is the most expensive of all alternatives due to the excessively deep excavation, 2,370 LF of additional length of 30" diameter combined sewer and overflow sewer, purchase of additional land, and complete redesign of the facility. Anticipated total project cost is \$7,703,562.

Alternative Site No. 2

Alternative Site No. 2 is located the rear of the new development along Mary Ingles Highway. It is also adjacent and to the west of the to the “paintball” field property. The site would be accessed from the rear along the private development road. Site No. 2 is the second most expensive of all alternatives due to the required earth fill, 2,370 LF of additional length of 30” diameter combined sewer and overflow sewer, purchase of additional land, and near complete redesign of the facility. Anticipated total project cost is \$6,841,062.

Alternative Site No. 3

Alternative Site No. 3 is located behind the trucking/storage business at 4982 Mary Ingles Road. It would be accessed, via existing public right-of-way, between 4994 Mary Ingles Highway and 4988 Mary Ingles Highway. The access right of way will require earthen fill or retaining wall construction to access during high water events. The site is adjacent and to the east of the “paintball” field property. The site is very steep and tight for typical operations. Site No. 3 is less expensive than sites no. 1 and no. 2 and will require earth fill/retaining wall construction, 1,600 LF of additional length of 30” diameter combined sewer and overflow sewer, purchase of additional land, and substantial redesign of the facility. Further study of the site was performed consisting of archaeological, historical, endangered species and wetlands review. These provided studies indicated no identified concerns with this site. Anticipated total project cost is \$6,766,425.

Alternative Site No. 4

Alternative Site No. 4 is located behind the existing selected site on Ash St. It would be accessed, via Ash St. and will require additional earthen fill to access during high water events. In summary, site no. 4 is approximately 10’ lower than the existing site, will require substantial earthfill, a large quantity of additional clearing of trees, 500 LF of additional length of 30” diameter combined sewer and overflow sewer, purchase of additional land, and substantial redesign of the facility. Further study was performed consisting of archaeological, historical, endangered species and wetlands. These provided studies indicated no identified concerns with this site, however, the site is adjacent to an identified wetland. Anticipated total project cost is \$6,493,475.

Selected Alternative

The Revised Design – Existing Proposed Site is the selected alternative and will allow the pump station to be located further from the park and residential properties. The revised design will also allow more of the pump station facility to be screened from adjacent properties by the natural tree line, including the full generator facility. The site will allow the front of the

property to be utilized as future parking for the park and still allow ample room for evergreen plantings to shield a large portion of the pump station from view of the surrounding properties. Exhibit 3 provides a preliminary drawing of the proposed redesign of the existing site.

Summary

SD1 understands that the location of a large wastewater pumping stations in any community is a concern. Due to these concerns, the SD1 has incorporated numerous measures into the design to further reduce the impacts from the facility, such as two-phase odor control, noise control, minimal site lighting, site landscaping, and architectural aesthetics. In addition, the revised site design provides for demolition of the abandoned structure and future parking on Ash St. for the City of Silver Grove to be utilized for the Park.

The SD1 is faced with the large task of solving sanitary sewer and combined sewer overflows in the region, as mandated by the U.S.E.P.A. Many of these existing sewers are very old and require repair or replacement. The growth and demand on the sewer system was certainly not envisioned when these sewer systems were constructed, long before the SD1 ever existed. These tasks to solve these issues are not easy, require several millions of dollars to accomplish, and are many times unpopular with those it personally affects. The SD1 makes every effort possible to lessen these concerns that the facility will not impact those in close proximity.

The Silver Grove combined sewer overflow, near Ash St., discharges over 23 million gallons per year of untreated sewerage into Four Mile Creek, and ultimately the Ohio River, causing odor, water quality, and health concerns in the area. The Ash St. Pump Station and Force Main project mitigates these concerns and will ultimately provide better water quality and environment for the Silver Grove region of Northern Kentucky.

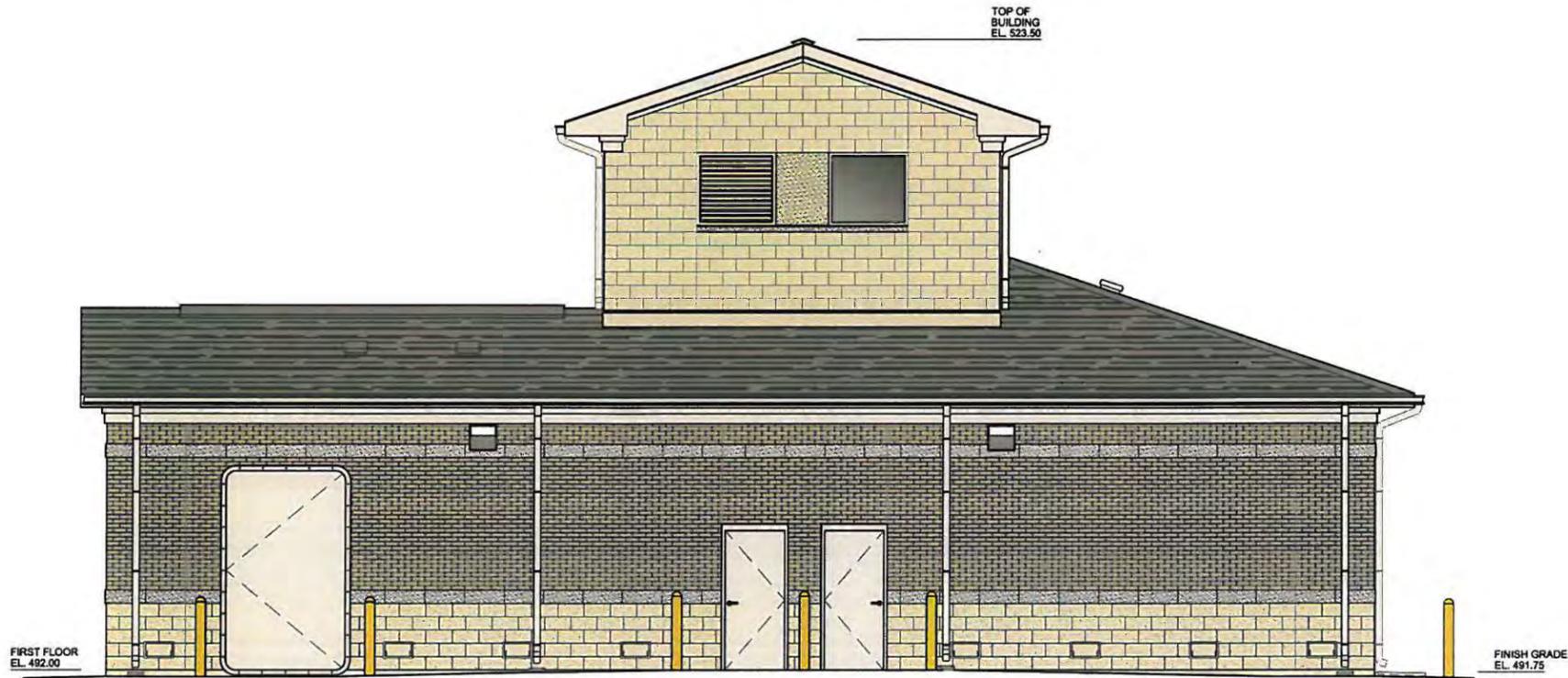


Exhibit 1

GRW PROJECT NO. 3863

CLIENT PROJECT NO.

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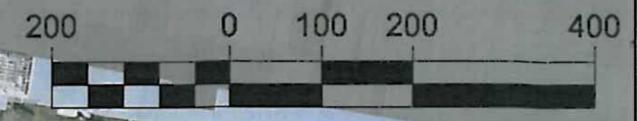
EXTERIOR ELEVATIONS
SILVER GROVE KENTUCKY
ASH STREET PUMP STATION
CONTRACT NO. 1
SANITATION DISTRICT NO. 1

REVISIONS	DATE	BY	DESCRIPTION

DATE: _____
SCALE: _____
SHEET NO: _____
Exhibit 1



GRAPHIC SCALE



(SCALE 1" = 200')

ALT 1

ALT 2

ALT 3

ALT 4

EXISTING

FOUR MILE CREEK

FOUR MILE CREEK

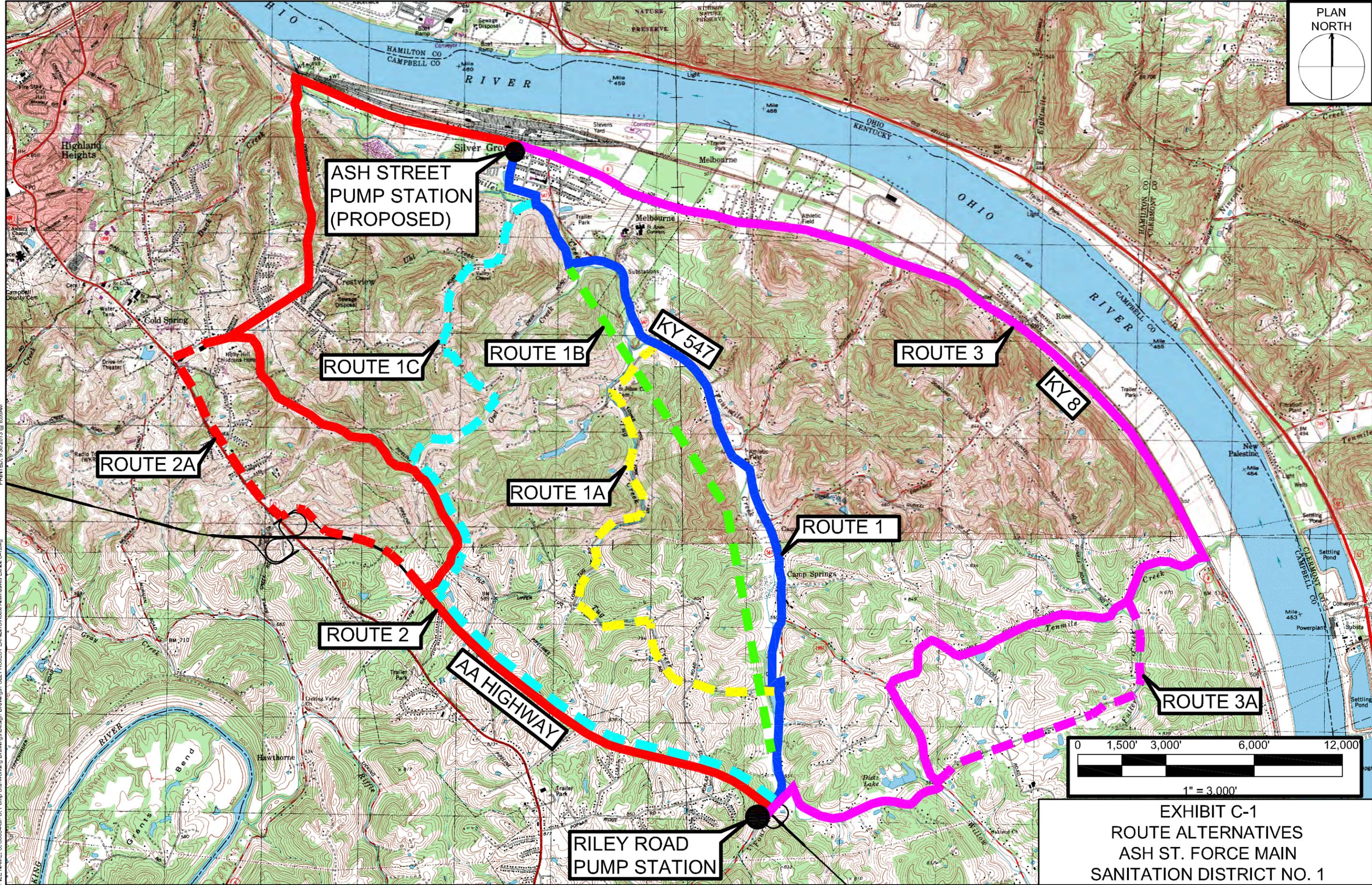
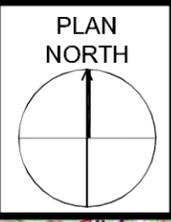
MARY INGLES HIGHWAY (KY 8)

EXHIBIT 2
ALTERNATIVE SITE EVALUATION
ALTERNATIVE SITES 1 THRU 4
ASH STREET PUMP STATION
SANITATION DISTRICT NO. 1
FEBRUARY, 2012



APPENDIX F

Ash Street Force Main Alternative Analysis



ASH STREET
PUMP STATION
(PROPOSED)

ROUTE 1C

ROUTE 1B

KY 547

ROUTE 3

KY 8

ROUTE 2A

ROUTE 1A

ROUTE 1

ROUTE 2

AA HIGHWAY

ROUTE 3A

RILEY ROAD
PUMP STATION

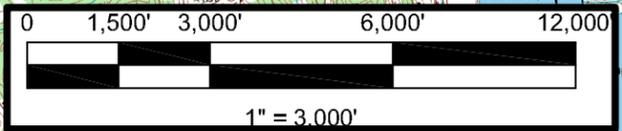


EXHIBIT C-1
ROUTE ALTERNATIVES
ASH ST. FORCE MAIN
SANITATION DISTRICT NO. 1

PRINTED: 9/30/2013 @ 8:05AM
FILE NAME: U:\3863-Ash St. Pump Sta Working Drawings\Design Drawings\FULL PROJECT EXHIBITS\Route Alternatives Exhibit C-1.dwg



GRW Engineers, Inc.

Project: Ash St. Force Main - Route Comparison

Ash St. Pump Station and Force Main

Owner: Sanitation District No. 1

Construction Cost Estimate

Project No. 3863 25% Contingency

Date: 09/06/13 Route 1 (Proposed) - 29,430 LF

Estimator: JLH Through Camp Springs

Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	25,490	LF	\$160.00	\$4,078,400.00
DI Fittings	24	Ton	8,000.00	192,000.00
Pavement Replacement Road Trench	785	LF	50.00	39,250.00
Aggregate Surface Replacement	300	LF	20.00	6,000.00
Concrete Driveway Replacement - (10' wide)	600	SY	20.00	12,000.00
Pavement Repl. - Mill and Repave	16,000	SY	10.00	160,000.00
20" Carrier/30" Casing - Road Bore	1,130	LF	500.00	565,000.00
Creek Crossing - Directional Drill (2 Ea)	960	LF	300.00	288,000.00
Directional Drill - Camp Springs	1,850	LF	275.00	508,750.00
Stream Bank Restoration	6	EA	2,500.00	15,000.00
Air Release Valve and Vault	6	EA	15,000.00	90,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	25,280	LF	3.00	75,840.00
Special Granular Fill	100	TON	25.00	2,500.00
Concrete for Anchors, Encasement, Etc.	50	CY	150.00	7,500.00
Remove and Replace Fence	300	LF	10.00	3,000.00
Curb and Gutter Replacement	50	LF	50.00	2,500.00
Clearing of Trees	1,750	LF	10.00	17,500.00
Landscaping Allowance	1	LS	40,000.00	40,000.00
Traffic Control	16,200	LF	7.00	113,400.00
Temporary Creek Crossings / Culverts	8	Ea	12,000.00	96,000.00
			Subtotal	\$6,327,640.00
			25% Construction Contingency	\$1,581,910.00
			Total Opinion of Construction Cost	\$7,909,550.00
Non-Construction Cost				
Easements				
Easement Appraisals	50	EA	2,500.00	125,000.00
Easement Legal	50	EA	250.00	12,500.00
Purchase of Easement	20,000	LF	7.00	140,000.00
			Total Estimated Cost of Easement	\$277,500.00
			Total Opinion of Project Cost	\$8,187,050.00



GRW Engineers, Inc.

Project: Ash St. Force Main
Ash St. Pump Station and Force Main
Owner: Sanitation District No. 1

**Construction
Cost Estimate**

Project No. 3863 25% Contingency
Date: 09/06/13 Route 1A - 36,780 LF
Estimator: JLH Tug Fork Rd./Poplar Ridge Road

Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	35,935	LF	\$160.00	\$5,749,600.00
Add for Installation Difficulty	16,500	LF	\$25.00	\$412,500.00
DI Fittings	41	Ton	8,000.00	328,000.00
Pavement Replacement Road Trench	15,000	LF	50.00	750,000.00
Aggregate Surface Replacement	350	LF	20.00	7,000.00
Concrete Driveway Replacement - (10' wide)	600	SY	20.00	12,000.00
Pavement Repl. - Mill and Repave	19,000	SY	10.00	190,000.00
20" Carrier/30" Casing - Road Bore	175	LF	500.00	87,500.00
Creek Crossing - Directional Drill (2 Ea)	960	LF	300.00	288,000.00
Stream Bank Restoration	12	EA	2,500.00	30,000.00
Air Release Valve and Vault	16	EA	15,000.00	240,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	30,345	LF	3.00	91,035.00
Special Granular Fill	115	TON	25.00	2,875.00
Concrete for Anchors, Encasement, Etc.	70	CY	150.00	10,500.00
Remove and Replace Fence	500	LF	10.00	5,000.00
Curb and Gutter Replacement	50	LF	50.00	2,500.00
Clearing of Trees	2,750	LF	10.00	27,500.00
Landscaping Allowance	1	LS	40,000.00	40,000.00
Traffic Control	26,950	LF	7.00	188,650.00
Temporary Creek Crossings	2	EA	12,000.00	24,000.00
Additional Pumping Station	1	LS	4,000,000.00	\$4,000,000.00
			Subtotal	\$12,501,660.00
			25% Construction Contingency	\$3,125,415.00
			Total Opinion of Construction Cost	\$15,627,075.00
Non-Construction Cost				
Easements				
Easement Appraisals	70	EA	2,500.00	175,000.00
Easement Legal	70	EA	250.00	17,500.00
Purchase of Easement	26,000	LF	7.00	182,000.00
			Total Estimated Cost of Easement	\$374,500.00
			Total Opinion of Project Cost	\$16,001,575.00



GRW Engineers, Inc.

Project: Ash St. Force Main
 Ash St. Pump Station and Force Main
Owner: Sanitation District No. 1

**Construction
 Cost Estimate**

Project No. 3863 25% Contingency
Date: 09/06/13 Route 1B (Alternate) - 27,010 LF
Estimator: JLH Cross Country

Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	25,875	LF	\$160.00	\$4,140,000.00
Add for Installation Difficulty	17,000	LF	\$20.00	\$340,000.00
DI Fittings	30	Ton	8,000.00	240,000.00
Pavement Replacement Road Trench	500	LF	50.00	25,000.00
Aggregate Surface Replacement	400	LF	20.00	8,000.00
Concrete Driveway Replacement - (10' wide)	200	SY	20.00	4,000.00
Pavement Repl. - Mill and Repave	200	SY	10.00	2,000.00
20" Carrier/30" Casing - Road Bore	175	LF	500.00	87,500.00
Creek Crossing - Directional Drill (2 Ea)	960	EA	300.00	288,000.00
Stream Bank Restoration	15	EA	2,500.00	37,500.00
Air Release Valve and Vault	25	EA	15,000.00	375,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	25,875	LF	3.00	77,625.00
Special Granular Fill	100	TON	25.00	2,500.00
Concrete for Anchors, Encasement, Etc.	50	CY	150.00	7,500.00
Remove and Replace Fence	500	LF	10.00	5,000.00
Curb and Gutter Replacement	50	LF	50.00	2,500.00
Clearing of Trees	17,000	LF	10.00	170,000.00
Add for Additional Removal/Handling of Trees Due to Remote Access	17,000	LF	10.00	170,000.00
Landscaping Allowance	1	LS	40,000.00	40,000.00
Traffic Control	3,100	LF	7.00	21,700.00
Temporary Creek Crossings	8	EA	12,000.00	96,000.00
Additional 2nd Stage Lift for PS	1	LS	2,000,000.00	\$2,000,000.00
			Subtotal	\$8,154,825.00
			25% Construction Contingency	\$2,038,706.25
			Total Opinion of Construction Cost	\$10,193,531.25
Non-Construction Cost				
Easements				
Easement Appraisals	40	EA	2,500.00	100,000.00
Easement Legal	40	EA	250.00	10,000.00
Purchase of Easement	26,300	LF	7.00	184,100.00
			Total Estimated Cost of Easement	\$294,100.00
			Total Opinion of Project Cost	\$10,487,631.25



GRW Engineers, Inc.

Project: Ash St. Force Main
Ash St. Pump Station and Force Main
Owner: Sanitation District No. 1

Construction Cost Estimate
Project No. 3863 Uhl Rd. / Messmer Hill Rd. / AA
Date: 09/06/13 Route 1C (Alternate) - 37,300 LF
Estimator: JLH Uhl/ 25% Contingency

Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	36,825	LF	\$160.00	\$5,892,000.00
Add for Installation Difficulty	12,500	LF	\$25.00	\$312,500.00
DI Fittings	45	Ton	8,000.00	360,000.00
Pavement Replacement Road Trench	12,000	LF	50.00	600,000.00
Aggregate Surface Replacement	400	LF	20.00	8,000.00
Concrete Driveway Replacement - (10' wide)	800	SY	20.00	16,000.00
Pavement Repl. - Mill and Repave	14,000	SY	10.00	140,000.00
20" Carrier/30" Casing - Road Bore	350	LF	500.00	175,000.00
Creek Crossing - Directional Drill (1 Ea)	500	EA	300.00	150,000.00
Stream Bank Restoration	6	EA	2,500.00	15,000.00
Air Release Valve and Vault	18	EA	15,000.00	270,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	30,000	LF	3.00	90,000.00
Special Granular Fill	140	TON	25.00	3,500.00
Concrete for Anchors, Encasement, Etc.	70	CY	150.00	10,500.00
Remove and Replace Fence	500	LF	10.00	5,000.00
Curb and Gutter Replacement	50	LF	50.00	2,500.00
Clearing of Trees	5,000	LF	10.00	50,000.00
Add for Additional Removal/Handling of Trees Due to Remote Access	5,000	LF	10.00	50,000.00
Landscaping Allowance	1	LS	50,000.00	50,000.00
Traffic Control	18,000	LF	7.00	126,000.00
Temporary Creek Crossings	2	EA	12,000.00	24,000.00
Additional Pumping Station	1	LS	4,000,000.00	\$4,000,000.00
			Subtotal	\$12,365,000.00
			25% Construction Contingency	\$3,091,250.00
			Total Opinion of Construction Cost	\$15,456,250.00
Non-Construction Cost				
Easements				
Easement Appraisals	50	EA	2,500.00	125,000.00
Easement Legal	50	EA	250.00	12,500.00
Purchase of Easement	14,000	LF	7.00	98,000.00
			Total Estimated Cost of Easement	\$235,500.00
			Total Opinion of Project Cost	\$15,691,750.00



 GRW Engineers, Inc.	Project: Ash St. Force Main			
	Ash St. Pump Station and Force Main			
	Owner: Sanitation District No. 1			
Preliminary Opinion of Cost	Project No. 3863			
	Date: 09/06/13	Ky 8, Doddsworth, Alexandria Pike, AA		
	Estimator: JLH	Route 2 - 48,240 LF		
Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	45,800	LF	\$160.00	\$7,328,000.00
Add for Installation Difficulty	21,000	LF	\$20.00	\$420,000.00
DI Fittings	35	Ton	8,000.00	280,000.00
Pavement Replacement Road Trench	14,000	LF	50.00	700,000.00
Aggregate Surface Replacement	850	LF	20.00	17,000.00
Concrete Driveway Replacement - (10' wide)	2,000	SY	20.00	40,000.00
Pavement Repl. - Mill and Repave	26,400	SY	10.00	264,000.00
20" Carrier/30" Casing - Road Bore	1,440	EA	500.00	720,000.00
Creek Crossing - Directional Drill (20")	500	EA	300.00	150,000.00
Streambank Restoration	10	EA	2,500.00	25,000.00
Air Release Valve and Vault	30	EA	15,000.00	450,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	20,000	LF	3.00	60,000.00
Special Granular Fill	170	TON	25.00	4,250.00
Concrete for Anchors, Encasement, Etc.	85	CY	150.00	12,750.00
Remove and Replace Fence	500	LF	10.00	5,000.00
Curb and Gutter Replacement	85	LF	50.00	4,250.00
Clearing of Trees	4,000	LF	10.00	40,000.00
Landscaping Allowance	1	LS	50,000.00	50,000.00
Traffic Control	29,800	LF	7.00	208,600.00
Temporary Creek Crossings	2	EA	12,000.00	24,000.00
Additional Pump Station	1	LS	4,000,000.00	4,000,000.00
			Subtotal	\$14,817,850.00
			25% Construction Contingency	\$3,704,462.50
			Total Opinion of Construction Cost	\$18,522,312.50
Non-Construction Cost				
Easements				
Easement Appraisals	85	EA	2,500.00	212,500.00
Easement Legal	85	EA	250.00	21,250.00
Purchase of Easement	33,000	LF	7.00	231,000.00
			Total Estimated Cost of Easement	\$464,750.00
			Total Opinion of Project Cost	\$18,987,062.50

 GRW Engineers, Inc.	Project: Ash St. Force Main			
	Ash St. Pump Station and Force Main			
Preliminary Opinion of Cost	Owner: Sanitation District No. 1			
	Project No. 3863 KY 8, Doddsworth, AA			
	Date: 09/06/13		Route 2A - 47,640 LF	
	Estimator: MAU			
Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	46,200	LF	\$170.00	\$7,854,000.00
Add for Installation Difficulty	21,000	LF	\$20.00	\$420,000.00
DI Fittings	36	Ton	8,000.00	288,000.00
Pavement Replacement Road Trench	12,000	LF	50.00	600,000.00
Aggregate Surface Replacement	850	LF	20.00	17,000.00
Concrete Driveway Replacement - (10' wide)	2,000	SY	20.00	40,000.00
Pavement Repl. - Mill and Repave 1 Lane	23,000	SY	10.00	230,000.00
20" Carrier/30" Casing - Road Bore	480	EA	500.00	240,000.00
Creek Crossing - Directional Drill (20")	960	EA	300.00	288,000.00
Streambank Restoration	10	EA	2,500.00	25,000.00
Air Release Valve and Vault	35	EA	15,000.00	525,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	20,000	LF	3.00	60,000.00
Special Granular Fill	170	TON	25.00	4,250.00
Concrete for Anchors, Encasement, Etc.	85	CY	150.00	12,750.00
Remove and Replace Fence	550	LF	10.00	5,500.00
Curb and Gutter Replacement	85	LF	50.00	4,250.00
Clearing of Trees	5,000	LF	10.00	50,000.00
Landscaping Allowance	1	LS	50,000.00	50,000.00
Traffic Control	33,000	LF	7.00	231,000.00
Temporary Creek Crossing	3	EA	12,000.00	36,000.00
Additional Pump Station	1	LS	4,000,000.00	4,000,000.00
			Subtotal	\$14,995,750.00
			25% Construction Contingency	\$3,748,937.50
			Total Opinion of Construction Cost	\$18,744,687.50
Non-Construction Cost				
Easements				
Easement Appraisals	85	EA	2,500.00	212,500.00
Easement Legal	85	EA	250.00	21,250.00
Purchase of Easement	33,000	LF	7.00	231,000.00
			Total Estimated Cost of Easement	\$464,750.00
			Total Opinion of Project Cost	\$19,209,437.50



GRW Engineers, Inc.

Project:	Ash St. Force Main	
	Ash St. Pump Station and Force Main	
Owner:	Sanitation District No. 1	
Project No.	3863	KY 8, Ten Mile, Kohls, Fender
Date:	09/06/13	Route 3 - 53,720 LF
Estimator:	JLH	

Preliminary Opinion of Cost	Project No. 3863		KY 8, Ten Mile, Kohls, Fender		
Description		Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	53,200	LF	\$160.00	\$8,512,000.00	
Add for Installation Difficulty	20,000	LF	\$20.00	\$400,000.00	
DI Fittings	40	Ton	8,000.00	320,000.00	
Pavement Replacement Road Trench	8,000	LF	50.00	400,000.00	
Aggregate Surface Replacement	900	LF	20.00	18,000.00	
Concrete Driveway Replacement - (10' wide)	2,300	SY	20.00	46,000.00	
Pavement Repl. - Mill and Repave	30,000	SY	10.00	300,000.00	
20" Carrier/30" Casing - Road Bore	520	EA	500.00	260,000.00	
Creek Crossing - Directional Drill (20")	0	LF	300.00	0.00	
Streambank Restoration	10	EA	2,500.00	25,000.00	
Air Release Valve and Vault	35	EA	15,000.00	525,000.00	
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00	
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00	
Surface Restoration	50,400	LF	3.00	151,200.00	
Special Granular Fill	190	TON	25.00	4,750.00	
Concrete for Anchors, Encasement, Etc.	95	CY	150.00	14,250.00	
Remove and Replace Fence	575	LF	10.00	5,750.00	
Curb and Gutter Replacement	95	LF	50.00	4,750.00	
Clearing of Trees	10,000	LF	10.00	100,000.00	
Landscaping Allowance	1	LS	60,000.00	60,000.00	
Traffic Control	45,000	LF	7.00	315,000.00	
Temporary Creek Crossings	2	EA	12,000.00	24,000.00	
Additional Pump Station	1	LS	4,000,000.00	4,000,000.00	
			Subtotal	\$15,500,700.00	
			25% Construction Contingency	\$3,875,175.00	
			Total Opinion of Construction Cost	\$19,375,875.00	
Non-Construction Cost					
Easements					
Easement Appraisals	95	EA	2,500.00	237,500.00	
Easement Legal	95	EA	250.00	23,750.00	
Purchase of Easement	38,000	LF	7.00	266,000.00	
			Total Estimated Cost of Easement	\$527,250.00	
			Total Opinion of Project Cost	\$19,903,125.00	

 GRW Engineers, Inc.	Project: Ash St. Force Main			
	Ash St. Pump Station and Force Main			
Preliminary Opinion of Cost	Owner: Sanitation District No. 1			
	Project No. 3863			
	Date: 09/06/13	KY 8, Ten Mile, Fender		
	Estimator: JLH	Route 3A - 52,020 LF		
Description	Number of Units	Units of Measure	Unit Cost	Total Cost
20" DI, Protecto 401 Force Main	51,500	LF	\$160.00	\$8,240,000.00
Add for Installation Difficulty	20,000	LF	\$20.00	\$400,000.00
DI Fittings	38	Ton	8,000.00	304,000.00
Pavement Replacement Road Trench	8,000	LF	50.00	400,000.00
Aggregate Surface Replacement	900	LF	20.00	18,000.00
Concrete Driveway Replacement - (10' wide)	2,300	SY	20.00	46,000.00
Pavement Repl. - Mill and Repave	30,000	SY	10.00	300,000.00
20" Carrier/30" Casing - Road Bore	520	EA	300.00	156,000.00
Creek Crossing - Directional Drill (20")	5	EA	30,000.00	150,000.00
Streambank Restoration	10	EA	2,500.00	25,000.00
Air Release Valve and Vault	40	EA	15,000.00	600,000.00
Tie into Ash St. Pump Station	1	EA	5,000.00	5,000.00
Tie into Riley Rd. Pump Station	1	EA	10,000.00	10,000.00
Surface Restoration	47,700	LF	3.00	143,100.00
Special Granular Fill	190	TON	25.00	4,750.00
Concrete for Anchors, Encasement, Etc.	90	CY	150.00	13,500.00
Remove and Replace Fence	550	LF	10.00	5,500.00
Curb and Gutter Replacement	90	LF	50.00	4,500.00
Clearing of Trees	10,000	LF	10.00	100,000.00
Landscaping Allowance	1	LS	60,000.00	60,000.00
Traffic Control	45,000	LF	7.00	315,000.00
Temporary Creek Crossings	2	EA	12,000.00	24,000.00
Additional Pump Station	1	LS	4,000,000.00	4,000,000.00
			Subtotal	\$15,324,350.00
			25% Construction Contingency	\$3,831,087.50
			Total Opinion of Construction Cost	\$19,155,437.50
Non-Construction Cost				
Easements				
Easement Appraisals	95	EA	2,500.00	237,500.00
Easement Legal	95	EA	250.00	23,750.00
Purchase of Easement	38,000	LF	7.00	266,000.00
			Total Estimated Cost of Easement	\$527,250.00
			Total Opinion of Project Cost	\$19,682,687.50

Non-Cost Consideration Factor for Selection
Ash St Force Main Route Alternatives

September 2013

Non-Cost Consideration	Route 1	Route 1A	Route 1B	Route 1C	Route 2	Route 2A	Route 3	Route 3A
Streambank Restoration	3.0	6.0	7.5	3.0	5.0	5.0	5.0	5.0
Traffic Maintenance	3.2	5.4	0.6	3.6	6.0	6.6	9.0	9.0
Tree Removal	0.9	1.4	8.5	2.5	2.0	2.5	5.0	5.0
Cultural/Historical	10	5.0	7.0	1.0	1.0	1.0	1.0	1.0
Impact to Residences/Business/Farms - Easements	5.0	7.0	4.0	5.0	8.5	8.5	9.5	9.5
Access to Maintenance	3.1	2.0	8.5	2.0	2.0	2.0	2.0	2.0
Sum Total	25.2	26.8	36.1	17.1	24.5	25.6	31.5	31.5
Cost in \$ Million	\$8.2M	\$16.0M	\$10.5M	\$15.7M				

Criteria Ranking and Scoring

Streambank Restoration* - Based on Number of Perennial /Intermittent Streams

- 0 0 Major Restoration
- 5 10 Major Restorations
- 10 20 Major Restorations

*If the stream has been directional drilled or bored no streambank restoration is required.

Traffic Maintenance

- 0 No Traffic Control
- 5 25,000 LF of Traffic Control
- 10 50,000 LF of Traffic Control

Tree Removal

- 0 No Tree Removal
- 5 10,000 LF of Tree Removal
- 10 20,000 LF of Tree Removal

Cultural/Historical

- 0 Does Not Route Near Camp Springs
- 5 Nears Camp Springs
- 10 Routes Through Camp Springs

Impact to Residences – Based on the Number of Easements

0	0 Easements
5	50 Easements
10	100 Easements

Access to Maintenance

0	No Pipeline Greater Than 250 LF from Major Road
5	10,000 LF Greater Than 250 LF from Major Road
10	20,000 LF or More Greater Than 250 LF from Major Road

APPENDIX G

CORRESPONDENCE FROM CITIZENS



801 Corporate Drive
Lexington, KY 40503
Tel 859 / 223-3999
Fax 859 / 223-8917

GRW Engineers, Inc.

Engineering
Architecture
Planning
GIS
Aviation Consultants

Arlington, TX
Cincinnati, OH
Indianapolis, IN
Knoxville, TN
Louisville, KY
Nashville, TN

July 14, 2010

Tracy Doering, LLC
18 Mitchell Hill Road
Ft. Thomas, KY 41075

Re: Sanitary Sewer Improvements
Silver Grove, Kentucky
Sanitation District No. 1 of Northern KY
GRW Project No. 3863
Property on Four Mile Road

To Whom It May Concern:

Sanitation District No. 1 of Northern Kentucky is in the preliminary design phase of sanitary sewer improvements along Four Mile Road, between Ash Street in Silver Grove, Kentucky and the AA Highway. The project is part of a sanitary sewer system upgrade to eliminate the intrusion of stormwater into the existing sanitary sewer system.

At the direction of Sanitation District No. 1, it will be necessary for representatives from GRW Engineers and/or Viox & Viox to enter your property to perform a survey for possible proposed sanitary sewer improvements. At the present time, no property disturbance or construction shall occur and will not occur without your final approval via a formal easement agreement.

If you have no objections to representatives (GRW Engineers and/or Viox & Viox) accessing the property to perform the preliminary survey, please sign the attached letter and return it to me in the self-addressed envelope provided.

Should you have any questions or concerns, please contact Ms. Sue Wright or me at (800) 432-9537. I thank you for your time and cooperation in this matter.

Sincerely,

Michael Jacobs, P.E.
Project Manager

TYPICAL LETTER TO PROPERTY OWNERS



801 Corporate Drive
Lexington, KY 40503
Tel 859 / 223-3999
Fax 859 / 223-8917

GRW Engineers, Inc.

Engineering
Architecture
Planning
GIS
Aviation Consultants

Arlington, TX
Cincinnati, OH
Indianapolis, IN
Knoxville, TN
Louisville, KY
Nashville, TN

Sanitary Sewer Improvements Sanitation District No. 1 of Northern KY

By signing below, I grant permission to representatives of Sanitation District No. 1 of Northern Kentucky (GRW Engineers and/or Viox & Viox) to enter my property for the purpose of performing a survey for possible proposed improvements to the sanitary sewer system.

Also, by signing this I have in no way agreed to the construction of these improvements until such time as a legal easement has been executed between Sanitation District No. 1 of Northern Kentucky and me.

Property Owner

Date

Property Address

E-Mail

Phone Number

Camp Springs Initiative

Post Office Box 103, Camp Springs, KY 41059

October 27, 2010

Jeff Eger
Executive Director
Sanitation District No.1
1045 Eaton Drive
Fort Wright, KY: 41017

Dear Mr. Eger,

Camp Springs Initiative (CSI) is a non profit organization whose mission is to work proactively to maintain a high quality of life in Camp Springs and to promote sustainable and desirable development in the area. CSI seeks to preserve the area's rural, historical, cultural and agricultural heritage and to find ways to improve recreational opportunities for residents.

Camp Springs residents have gathered recently to express their concern of SDI's plan to install a force main along Four Mile Pike from Silver Grove to the pumping station at the AA Highway. We understand that at the behest of those concerned a meeting was previously held with SDI representatives to learn of SDI's plans. To meet current needs, a request was made that the plan design include accommodation of the sewage problems along Four Mile Creek which SDI staff agreed to study and respond.

Though information was forthcoming, residents remain concerned about the impact of construction on their lands, the environment, the effect on historical structures, and the inconvenience caused by this project without due consideration to residents' welfare.

There is concern that the project might proceed without fully informing the residents in a timely manner of the steps to be taken by SDI in establishing the force main's path, the mitigation of historical structures, the necessary application and approvals and financing of the project.

CSI has obtained a grant to establish walking trails which may coincide, to some extent, with SDI's plans. CSI can be of assistance in facilitating the flow of information from SDI to our residents while assisting us in achieving our objectives.

Our Board of Directors requests that SDI keep us informed in a regular and timely manner with a timeline of plans and progress including the final path of the force main, obtaining necessary easements, approvals and financing and any other pertinent information. Results of the study to address current needs of sewage problems along Four Mile Creek will be appreciated.

Sincerely,

Bill Allender
President
Camp Springs Initiative
6361 Four Mile Pike
Camp Springs, KY 41059

859 635-4600

e-mail: csi@campsprings.com

Response to 7/26/11 Letter

From Ms. Anna Zinkhon (Camp Springs Initiative) to Judge Steve Pendery

Response Date - August 3, 2011

- 1.) An area of deep concern to the Camp Springs community is air quality. Third Rock's *Existing Conditions Overview report dated 6-3-2011* states that the raw sewage methane gas vents which are to be installed in Camp Springs are exempt from air quality studies. We strongly disagree with this proposal, as three (3) of the gas vents are within one half mile of a school, churches, businesses, residences and farm operations. Not only does this create critical health issues, but because Camp Springs is located in a valley with no prevailing winds, this creates a huge potential for unbelievable conditions and a lower quality of life for our residents and tourists. Not to mention, that the entire community's property values will depreciate. We therefore insist on an independent air quality study by an out of region research University. This air quality study will be the baseline for anticipated air quality issues in our valley.

Response to Item No. 1

- The vents referred to are "air release vents". Although similar, the gas is hydrogen sulfide gas, not methane gas. The vents exhaust air from the force main to eliminate air pockets in the force main to prevent potential rupture of the pipeline during instantaneous power failure events and air binding of the pumping system. Any reduced pumping capacity could result in sewer overflows to Four Mile Creek.
 - The Sanitation District will utilize several methods of odor control for the Ash St. Pump Station and Force Main. First, Siemens "Bioxide" chemical will be injected into the wetwell to prevent the formation of hydrogen sulfides, the most significant constituent of odors from sewage. The second level of odor control will be a carbon air scrubber which will remove odors from the wetwell at the pump station. Lastly, where required, a carbon canister will be placed in the air release valve structure to absorb odors.
 - Most sewer systems have numerous force mains and air release valves in their systems without odor complaints.
- 2.) The safety of our drinking water is a premier concern of the entire area. Has the City of Cincinnati, Northern Kentucky Water District and other communities been notified that with the SD1 plan, additional millions of gallons of treated raw sewage will be pumped into the Ohio River above its intake valves for drinking water? We request the US Army Corp of Engineers, Louisville district to perform an environmental assessment to evaluate the potential environmental effects of the Ohio River, the Four Mile Creek, the Twelve Mile Creek and its tributaries. The SD1 Silver Grove Ash Street force main plan to divert raw sewage from the SD1 Dry Creek Treatment Plant to the Eastern Regional Treatment Plant in Alexandria is only "Phase 1" of SD1's Master Plan to divert substantially larger amounts of raw sewage in Phase 2 to the Alexandria Plant.

Response to Item No. 2

- Millions of gallons of raw sewage are being removed from the Ohio River, not pumped into it. The diversion of raw sewage will lessen sanitary sewer overflows in the SD1 wastewater collection system. The water quality for the region will improve as a result of this project.
- The Eastern Regional treatment plant is permitted for its rated capacity, not current average flows.

3.) It appears that there was and may still be a highly contaminated piece of property that SD 1 plans on crossing with the raw sewage pipeline. Although the source of contamination started on the West side of Four Mile Creek (a tributary to the Ohio River), the containments migrated under Four Mile Creek into the Campbell County Animal shelter property. Trichloroethane was used to clean polymer solvent adhesive application guns behind the house at 1951 Poplar Ridge Road. Rohm & Haas, formerly Morton, (a subsidiary of Dow Chemical) owns the property now.

There is a USGS (United States Geological Survey) water monitoring station located across the creek from the property. We learned from Tom Ruby from USGS (502) 493-1900 they installed it at this location at the request of SD1 and it has the capability to monitor a lot of things in Four Mile Creek, including contamination; however, USGS has stopped monitoring contamination at this station. Our concern is that if the property is disturbed it will further contaminate our areas drinking water.

Over the years, continuing efforts have been made to improve the water quality of Four Mile Creek. The 4-H organization has used numerous clean-up efforts as education for students, and through them, to educate the community as a whole. SD1's excessive plan for 25 stream crossings in our area will permanently destroy the natural contours and flow of the streams, increasing chronic flooding. To take these kinds of catastrophic risks prohibit our support of the plan. The current Gunpowder Creek construction site will be researched.

Response to Item No. 3

- It is our understanding the required sampling stations have indicated the contaminated site has been mitigated.
- All stream crossings will be performed in a manner acceptable to the US Army Corps of Engineers and the Kentucky Division of Water. Several deep crossings are required and "directional drilling" will be performed to eliminate the disturbance of the stream bank, such as on Mr. Zinkhon's property.

- 4.) Third Rock's *Existing Conditions Overview* report fails to take into account the necessary farm income that supports businesses and residents. To our knowledge they did not interview any Camp Springs residents and without a farming background we question their ability to value projected losses.

Most of the farmland directly impacted by the proposed force main is in hay/pasture or woodland. These hay fields and pastures are critical to our community; they feed our livestock and are a consistent source of income. Third Rock states that "Only a small portion of the land is used for row crops." To identify the production of a centennial Kentucky State Fair Board designee, as is the Neltner Farm, as such demonstrates an important lack of understanding of the agricultural impact of our community. The Neltner's welcoming sign speaks for all Kentucky agriculture "We are in the fields (picking your dinner)."

Vineyards, livestock, nurseries and other farm production are all vital to the income of our valley. "Agriculture is part of the fabric of life in Campbell County. Farm land and working land helps keep our air and water clean", as documented by the Campbell County Conservation District in the 2011 Campbell County Backroads Farm Tour brochure.

Response to Item No. 4

- Crop losses during the construction of the force main can be considered in the valuation of easement properties. It is anticipated that several areas will have fall and wintertime construction, which will minimize farm income losses. It is not anticipated the force main location would affect farm incomes after construction is complete. SD1 recognizes the "fabric of life" of the community and are trying to work with property owners to minimize the temporary impact of force main construction.

5.) Per Third Rock's *Existing Conditions Review* report "The project force main area includes approximately 435 acres of Indiana bat summer foraging and roosting habitat." The Indiana bat formally attained endangered species status on March 11, 1967. In the *Preliminary Natural Resources and Hazardous Materials Survey dated 12-7-2009* also completed by Third Rock, it states "Tentative plans for the proposed sewer line closely follow KY 547." How is "closely followed" defined? Neither report addresses the impact on the Indiana Bat during the spring time. According to the preliminary report, "Each spring, the females emerge from these hibernacula and migrate to summer (maternity) habitat consisting of hardwood forests. Maternity colonies are formed in these areas under the exfoliating bark of dead trees or loose bark of living trees." If "most of the farmland directly impacted by the proposed force main is in hay/pasture or woodland" and the project force main still includes approximately 435 acres of Indiana bat summer foraging and roosting habitat, what is the impact to the Indiana bat during the spring time?

Also, according to the preliminary report, "white clover and alsike clover can occur in the same habitat as running buffalo clover and should be carefully examined to separate these two species from running buffalo clover. It is difficult to identify with certainty except in a brief period of time just before flowering, during flowering and a short time after flowering. Therefore, all searches for the occurrence of this species should be made only within these timeframes, which generally occur from late mid-April to mid-June." Third Rock's *Existing Conditions Review* report states, "Based on current land use, previous road construction and field observations, running buffalo clover is not present within the project area." When was the field study performed? With the amount of rain we received between April and June, how could they successfully perform a field study?

What will be done to protect the two wetlands? In Third Rock's *Existing Conditions Review* report regarding the wetland just south of Poplar Ridge Road, there is concern that "the rock fill around the pipe could act as a "French drain," intercepting subsurface flow off the hillside that would ordinarily feed into the wetland. Depending on the porosity of the soil between the wetland and the trench, it might also drain water from the wetland." In regards to the second wetland just west of Ash Street in Silver Grove they state, "...previous disturbance [from an existing sewer line] creates an atypical wetland soil situation."

Response to Item No. 5

- Prior to construction of a project, the following will be addressed:
 - Endangered species, in this case, specifically the Indiana bat and running buffalo clover. Third Rock has completed their study. We will not be able to remove trees and clear during certain times of the year due to the possible Indiana bat

habitat. No Running Buffalo Clover was present in the area. A clearance letter from U.S. Fish and Wildlife will be received prior to construction.

- Wetlands are regulated by the U.S. Army Corps of Engineers. A few wetlands have been identified on this project, most of which appear to be manmade. Wetlands are always a concern to engineers, especially how to determine if the area is a wetland or a pond? Many wetlands are too small to be registered. In addition, some disturbance of wetlands is allowed without creating a non-compliance situation. SD1 is avoiding the wetlands. In addition, we will not allow crushed stone bedding in these areas and will compact clay around the pipe to create a “trench stop” in several locations to prevent draining. This is common practice in the industry.
- Stream crossings will be permitted by the State of Kentucky and by Nationwide Permit #12 by the U.S. Army Corps of Engineers. The Kentucky permits required will be a Water Quality Certification and a Permit to Construct Along or Across a Stream. GRW and SD1 standard practice is to prevent erosion at stream bank crossings. In fact, green infrastructure will be utilized on this project for all stream crossings to vegetate the banks with willows or other vegetation to prevent any future type erosion. Where possible, trees have not been impacted. For several deep stream crossings, such as Ms. Zinkhon’s property, SD1 is going to the additional expense to directional drill the creek to avoid stream disturbance on mud-type banks.

- 6.) SD1 consultants have not adequately addressed the incursion of the raw sewage forced main and adverse effects on our historic resources and cultural landscape. The Camp Springs area is a wealth of German stone buildings, and historic farms. The community has twenty-seven (27) properties listed in the National Register of Historic Places (NRHP), as well as a thematic nomination for the entire Camp Springs Community. The proposed raw sewage pipeline will have an adverse effect on most of our historic properties and the historic integrity of their setting. Please keep in mind that NRHP deems the historic and architecturally significant settlement to be valuable to the community, state, and nation, and deems it worthy of preservation. According to the Advisory Council on Historic Preservation, "The introduction of incompatible visual, atmospheric, or audible elements are all adverse effects on historic properties."

Since there are Federal funds involved in this project, a complete **Section 106 Historic Review** is required under the National Historic Preservation Act of 1966 to mitigate any adverse effects on our historic resources. This review has not been completed, and we are questioning the value and integrity of *CRA's Cultural Historic Records Review* by Kathryn M. Joseph dated 12-14-2009, because of major inconsistencies. According to the report, "No field investigation was conducted....Once an alignment has been chosen, the APE (area of potential effect) should be approved by the KHC SHPO (Kentucky Heritage Council State Historic Preservation Office) before more detailed evaluation of impact takes place." It also states that the "Buttermilk" John Weber Farm (CP-72) and its historic home (CP-107) are not listed on the NRHP. Both have been on the NRHP since July 11th 2007 as issued by the United States Department of the Interior. We are extremely concerned about modern technology and digging destroying the 19th century foundations of the stone houses/buildings in close proximity to the raw sewage line. More of a concern however, is the incompatible visual, atmospheric, and audible elements that will be present throughout the historic community. What are SD1's plans to complete the Section 106 Review, and mitigate the numerous adverse effects to our historic resources? In SD1's previous raw sewage pipeline projects, how close has the construction come to historic properties?

Response to Item No. 6

- Through consultation with Jill Howe, environmental review coordinator for Kentucky Heritage Council, it was determined that since the sewer line is located entirely below ground, the project will not adversely impact any historic resources unless it directly impacts a building or structure. Any visual, audible, or atmospheric effects would be temporary during construction, and would have no lasting impact on the qualities of the properties that qualify them for listing in the NRHP. The field survey only recorded resources located directly within the project area for the current alignment. Four resources were recorded. Three of these were not previously recorded and are recommended not eligible for listing in the NRHP. One of these is listed in the NRHP. Directional drilling will be utilized in the area to avoid any physical impact to this building, resulting in no adverse effect.

- In no instances (besides the one mentioned above) does the proposed alignment cross a NRHP listed property—it is always located on the opposite side of the street or well outside of the property boundaries.
- Regarding the two listed missed properties, records review reflected the information available at KHC at that time. KHC records had not been updated to reflect the listed status of these properties. In any event, this should not be an issue, as the sewer line does not directly impact these properties (the current alignment is on the opposite side of the street).

7.) In CRA's Archaeological Records Review by Jonathan P Kerr & David J Stephenson dated 11-24-2009, it states "The records review was designed to determine if portions of the project area had been previously surveyed for cultural resources and if there are known cultural resources in the project area. No new field investigations were conducted...Furthermore, none of the proposed project area has been previously surveyed...Finally, there is very little evidence documented for significant historic resources in the proposed corridor, but they cannot be ruled out because there are numerous structures depicted on historic maps of the area primarily along the existing roadways. If the proposed force main is placed within the existing public right-of-ways (i.e, the roadways) then few significant archaeological resources, if present, will be impacted." CRA's assessment is obviously contradictory. There are a number of historical properties only a few feet from the roadways. Since only a small portion of the force main is being placed in the roadways, we request an archaeological field investigation completed by a research University.

Response to Item No. 7

- The records review mentioned that if the pipeline is placed in the public ROW (i.e., the roadways) then it likely wouldn't impact intact resources. However, while not specifically mentioned in the report, the ROW would also include sidewalks, drainages, and previously existing utilities at the very least along the roadways. Furthermore, the pump station and a lot of the pipeline will be constructed in existing right-of-way and only a records review and a visual examination to verify disturbance was required when fieldwork was to be undertaken. The other areas would require intensive survey. Both tasks have been completed and no archaeological sites were identified.
- Also, the project alignment changed after the records review was complete: the original layout completely avoided the buildings by running along the stream rather than in the public right-of-way / road. The re-alignment (under the edge of the road) is the only thing that brings the buildings into play and in every case, except the smokehouse, the revised alignment jumps across the road so that it avoids listed buildings.

- CRA has conducted hundreds of similar archaeological surveys for over 25 years; as much and as long or longer than many research universities.

8.) The Environmental Protection Agency (EPA) has defined **Environmental Justice** as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work” (www.epa.gov). The Third Rock discussion of environmental justice should apply directly to the Camp Springs community, not just mobile home parks located in the project area. How have we been a part of the decision making process?

As stated in the *90% Design Review Memorandum dated 06-2011*, “The Phase 1A concept is the basis for design for the Ash Street Pump Station and Force Main project....The final design will also accommodate for future flows and phases of construction...” The Highland Heights Pump Station will be diverted to the Silver Grove Pump Station. What will then be going into the Highland Heights Pump Station? What are the other phases to this project? Does this plan mean that the Camp Springs community, its residents, schools, churches, agri and historical tourism, businesses, vineyards and other farming will continue to be impacted by future continuing construction? If **environmental justice** means equal treatment for all, why does our rural community bear the burden for a disastrous raw sewage plan from which we receive no benefit?

This *90% Design Review Memorandum* also states that the projected flows do not reflect any results of future additional I/I (infiltration inflow) removal. We anticipate this will mean future additional pipeline or larger pipeline through the Camp Spring community. Boone County is currently living through a sewer line update along Gunpowder Creek; lines are being replaced with larger ones as part of the Western Regional Conveyance System improvement. (KY Enquirer Monday, July 18, 2011). Where are the alternative plans to assist other communities in solving their own raw sewage problems?

Response to Item No. 8

- Ms. Zinkhon is correct in the verbiage concerning Environmental Justice. It is the first text that pops up when one googles "epa environmental justice." While that text is clearly on EPA's web site under the heading of EJ, her interpretation of EJ's intent is not entirely on target. EJ originates from Executive Order 12898, which states:

1–101. Agency Responsibilities. To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance

Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

- The intent of the Order is to protect minority and low-income populations. EJ's emphasis has been to ensure that these two groups are given a voice in decision-making. That's not to say that other groups should not have a voice; it's just that other groups are not what the Executive Order addresses per se.

August 24, 2011

RECEIVED
SEP - 2 2011

By _____

Anna Zinkhon
5210 Owl Creek Road
Camp Springs, Kentucky 41059

Cultural Resources Analysts, Inc.
151 Walton Avenue
Lexington, Kentucky 40508

Re: Correction to Cultural Resource Survey of the Proposed Ash Street Pump Station and Force Main Project in Campbell County, Kentucky

Dear Sirs;

I am writing you to inform you of an error in the facts contained in your report dated August 8, 2011, prepared for Joe Henry of GRW Engineers, Inc.

The error is on page 50, Section VI Consulting Parties. The first sentence is correct, in that I, Anna Zinkhon did contact Kentucky Heritage Council on May 4, 2011 in regards to the Force Main Project in Campbell County. I was instructed by Craig Potts to contact CRA (Cultural Resources Analysts) and give the CRA contact information.

The next sentence is not accurate; "CRA contacted Ms .Zinkhon to invite her to share any information that she had on historic resources that she feels may be impacted by the proposed project. To date, Ms. Zinkhon has not responded to CRA; however in a letter to Judge Steve Pendery, Judge/Executive of Campbell County, she expressed her concerns with the preliminary cultural resource surveys conducted by CRA."

I personally made the first contacts with CRA. I requested a meeting with the experts doing the survey of Camp Springs and offered our local historian and her records to assist with this project. This initial conversation with CRA was well received and tentative dates for an onsite meeting where exchanged.

I called back a couple of days later with other proposed dates for a meeting and was told that no meeting was necessary. I was told CRA would not be coming. The tone of this conversation was totally changed from first contact.

The CRA elected not to obtain the significant historical information that is available. This area is unique to Kentucky and it's German immigrants. The entire location is on the National Historic Registrar. The stone homes and structures are over 150 years old and will surely be damaged by this project. The CRA had a duty to look and failed in their duties.

I appreciate your attention to these important details.

Sincerely



Anna Zinkhon, Convener Citizens of Camp Springs

Cc: ✓ Joe Henry, GRW Engineers
Christopher Novak, SD-1
Judge Steve Pendery, Campbell County Judge/Executive
John E. Covington III, Kentucky Infrastructure Authority
Anshu Singh, KY Division of Water
Craig Potts, KY Heritage Council

Meeting Minutes
Public Meeting @ Camp Springs Fire Station
9:00 AM, August 13, 2010
Ash St. Force Main Project
GRW Project 3863

The meeting was scheduled as a result of the access request by GRW Engineers, Inc. to survey a proposed force main alignment across affected properties. An attendance list is attached. The following is a summary of the meeting:

1. Anna Zinkhon, who organized the meeting, introduced all.
2. Kyle Boyle described the purpose of the project.
3. A question was received from Ms. Plattner about the project benefits to local residents. Kyle responded that the project will lessen sanitary sewer overflows and combined sewer overflows in the Silver Grove area. The project will lessen overflows into Four Mile Creek and the Ohio River, providing improved water quality for the region.
4. Ms. Plattner stated that they have significant storm water issues in the Camp Springs area.
5. A question was asked could a collector sewer for the area be installed in the same trench as the force main. Discussion continued concerning local sewer and their problems. No firm response was provided, except the force main was not presently intended to provide local sanitary sewer service. Force mains usually follow existing terrain, whereas local sewers would be gravity systems so the pipes most likely couldn't lay in the same trench. Also mentioned budget reasons for not constructing a local sewer.
6. The funding on the project may be from several sources. The Kentucky Infrastructure Authority, a Kentucky legislature grant, and/or the SD1 budget.
7. Several voiced their concerns over the stormwater fee that does not benefit the local residents. The attendees were upset over the fee. SD1 currently has lots of storm water issues, they are prioritized based on impact to public, safety concerns, etc.
8. Creek crossings were discussed with concern by several over additional flooding caused by the project. Open cut construction and directional drilling were both discussed for creek crossings.
9. Concern over bad construction restoration practice was voiced. Kyle Boyle stated that the SD1 was a good neighbor and would make sure clean-up and restoration would be to their satisfaction. One attendee stated, "so you can trust the government".

10. Crop damage was discussed. Kyle Boyle stated that if crops were disturbed or a season was affected, the landowner would be compensated fairly. To be discussed during easement negotiations, will be a case by case analysis.
11. Right of way construction and traffic issues were discussed. Delays and road closings were a concern. Kyle responded that these would be minimized and road closures or "one lane closures" would be at a minimum and scheduled well in advance of the occurrence.
12. Construction timeframe was discussed. Construction would initiate in 2012/2013 and be complete in 2013/2014. An approximate construction period of one year was provided.
13. Separation of water mains and force mains was discussed. A 10' separation is required.
14. Concern of overflow issues related to the force main was voiced. Kyle stated that the force main is a pressure main, like a water main, and does not overflow unless a break occurs.
15. The depth of the force main was discussed. It was stated that the force main for this project would typically be from 4' deep to 12' deep maximum.
16. The question was asked whether stream improvements could be performed as a part of this project. Kyle stated that at this time none were planned. KIA funding has strict guidelines on how the monies can be spent. SD1 will provide stream improvements where we cross the creek to protect our infrastructure
17. It was requested that the SD1 look into stormwater issues in the area.
18. At the end of the meeting, preliminary plans were reviewed by attendees.
19. A copy of drawings were requested and a set was left for local review.

POST MEETING DISCUSSION

After all attendees had left, general discussion between Henry, Jacobs, Bryan (GRW); Larison (Viox&Viox), and Boyle (SD1) was that the meeting started off on a negative note and ended without significant negative comment. Most seemed to be more concerned about the stormwater issues than the force main. After review of the drawings, no negative comments were received. Several attendees desired to have access to sanitary sewer and a few also voiced they did not want sanitary sewer in the area due to development concerns.

Sign-In Sheet
Ash St. Pump Station & Force Main
Sanitation District No. 1

<u>NAME</u>	<u>Address</u>	<u>Phone</u>	<u>EMAIL</u>
- LEN BECK	6024 FOUR MILE MOLBOWNE KY	859-635-7569	lenbeckd@hotmail.com
- ANNA Zinkhon	5210 Owl Creek Camp Springs, Ky 41059	781-5779	ANNA.ZINKHON@ FUSE.NET
- Daniel T. Murphy + Cindy Murphy	5990 4 mile rd Camp Springs, Ky 41059		
- JASON SANER	5889 4 MILE Rd Camp Springs, Ky 41059		859-635-3436
Christa Platten	6231 4 Mile Pike		Camp Springs 859-635 9555
Ben Johnson	6844 FOUR MILE RD		CAMP SPRINGS
Dan & Cindy Murphy	5990 4 MILE Rd		859-635-4356 Cindoll265@aol.com
Madonna Saner	-6598 Four Mile		635-4937 mrs4953@hotmail.com

Darath Lamberk

5878 4 Mile Rd.

Melbourne Ky 41059 (Camp Springs)

Kevin Nelson

6922 Four mile road

Melbourne Ky 41059

Kyle Boyle

SD 1

Alan Bryan

GRW

Joe Henry

GRW

Mike Jacobs

GRW

Greg Larison

Viox + Viox

859-223-3999

Zion Reitman Reitman Auto Parts

ED Saver 6598 4 mile Rd.

Meeting Minutes
Public Meeting @ Camp Springs Fire Station
7:00 PM, February 23, 2011
Ash St. Pump Station and Force Main Project
GRW Project 3863

The meeting was scheduled as a result of the request of local citizens to discuss the need and the impact of the project. A large crowd attended. No attendance list is provided. The following is a summary of the meeting:

1. Chris Novak welcomed and introduced the SD1 and GRW personnel.
2. Chris Novak described the need for the project to improve water quality in the region. Specifically, a recurring CSO located in Silver Grove, KY, will be mitigated to the typical annual storm level. In addition, significant I/I will be eliminated in the sewer system. All sewage flows from the Melborne and Silver Grove areas will be diverted to proposed Ash St. pump station, conveyed to the Riley Road pump station, and then conveyed to the new Eastern Regional Water Reclamation Facility. In the future, the Highland Heights area will be diverted to the Ash St. pump station. Eventually

Meeting Minutes
Public Meeting @ Camp Springs Vineyard
1:00 PM, November 9, 2011
Ash St. Pump Station and Force Main Project
GRW Project 3863

The meeting was scheduled as a result of the request of local citizens to discuss the environmental impact and historical preservation of the area. The following is a summary of the meeting:

- In attendance were some concerned citizens from the area and representatives from the Kentucky Division of Water, the Kentucky Heritage Council, SD1, and GRW.
- Alan Bryan with GRW introduced himself and indicated that he was the Engineer that has gone door to door to discuss with the property owners the route of the force main.
- GRW passed around a memorandum addressed to SD1 that discusses the force main route alternatives that were considered and their estimated costs
- GRW passed around a map that showed the force main route alternatives.
- Chris Novak with SD1 discussed how the Four Mile Road route was chosen, based on topography and cost.
- GRW passed around a map showing the proposed air release valve locations
- A resident asked how often the pipeline comes up when it crosses a creek. GRW replied that the pipeline is designed to stay deep in the trench and not come back up that often to minimize the number of high points and air release valves
- Kevin Neltner (resident) expressed his concern that the creek on his property is too deep to go under.
- GRW replied that the Neltner farm has been surveyed, the creek depths have been measured, and the force main design has taken this into account.
- Kevin Neltner (resident) expressed his concern that if the force main breaks on his property and dumps raw sewage, then his farm is forever lost.
- Mrs. Platner (resident) expressed her concern that cigarette butts caused a pipe in Lexington, KY to overflow into the Elkhorn Creek.
- Mrs. Platner (resident) wanted to know how the creeks are to be restored after they are crossed.
- Camp Springs Bed & Breakfast (residents) expressed their concern that the smell from the air release valves will ruin his business. Expressed concern that his business is based on “word of mouth”.
- Anna Zinkhon (resident) inquired about the additional flow from Bromley & Covington into Silver Grove.
- SD1 discussed the overall planning to move flow from the old undersized sewers in Bromley, Covington, Newport, Bellview, Dayton, and Fort Thomas, and move it to the proposed Ash St. Pump Station in Silver Grove and pump it to the new Eastern Regional WWTP.

- SD1 discussed how different chemicals are applied to the wastewater to address odor problems. SD1 stated that Siemens (a third party company) is under contract to provide these odor control services.
- SD1 indicated that they are being proactive in trying to monitor odors and address them.
- Camp Springs Bed & Breakfast (residents) expressed their concern how a community that receives no benefit from the pipeline, should have to shoulder the burden of the construction and effected change of the landscape
- SD1 responded the concerns of construction.
- Anna Zinkhon (resident) asked if the only reason that the route was chosen was based on economics.
- SD1 replied that the pipeline route was chosen holistically as a regional route. SD1 noted that economics are a primary concern as the cost of the new facilities are passed on to the customers, the end users.
- Mrs. Platner (resident) conducted a speech about heritage of the community at Camp Springs.
- Don Wiedeman (resident) discussed if you provide a sewer line that provides some benefit to customers, that changing the route with additional cost would be justified, as opposed to selecting the shortest route and providing no beneficial service.
- Residents agreed on their primary concerns in protecting the historic properties:
 - Odor
 - Mechanical failure
 - Change of settings (loss of trees)
 - Direct taking of National Registered Properties
 - Pre-construction surveys (properties)
- Anna Zinkhon (resident) expressed that encroaching development is a concern
 - No high density housing
 - Loss of wild life
- Jill Howe (KY Heritage Council) discussed how they conduct their surveys and what they look for. She indicated that if a property has not registered to be a Historic Property then it is not in their data base.

Name

Contact Info

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