



Valley Creek Feasibility Study, Bessemer and Birmingham, Alabama

Final Integrated Feasibility Report and Environmental Assessment

Appendix F – HTRW

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**US Army Corps
of Engineers** ®

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1.0 Hazardous, Toxic, and Radioactive Waste Considerations

A Flood Risk Management feasibility study was undertaken to identify and evaluate alternatives to improve life safety and reduce damage to property in the Valley Creek Watershed. The study looked at a number of different potential flood mitigation measures including excavation of detention areas, installation of berms, bridge modifications, inline detention areas, and channel modifications. Figures F-1 to F-4 show the locations of the various flood mitigations measures evaluated as part of the feasibility study.

The objective of the HTRW portion of this study is to provide early identification of potential HTRW issues that may be encountered in the project study area. ER 1165-2-132: HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW) GUIDANCE FOR CIVIL WORK PROJECTS defines HTRW to include any material listed as a “hazardous substance” under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). For projects with non-Federal sponsors, the cost of the response action will be a non-Federal expense for which the sponsor will receive no credit. Therefore, HTRW information developed may be a significant factor in developing overall project decisions. It is Civil Works policy to avoid HTRW sites whenever practicable.

1.1 Environmental Laws and Regulations

Various Federal and State legislation regulates the proper use, disposal, and cleanup of hazardous materials and waste.

1.1.1 Resource Conservation and Recovery Act (RCRA)

Passed by Congress in 1976, this law gives the Environmental Protection Agency the authority to regulate hazardous waste disposal. This is accomplished by tracking the hazardous waste from its generation to its disposal. In 1984, there were several amendments made to this act, called the Hazardous and Solid Waste Act (HSWA). The amendments were enacted to include underground storage tank regulation, all releases of hazardous waste to the environment, and mandates for corrective action at hazardous waste facilities. In addition, the state of Alabama also has laws addressing hazardous waste and the petroleum storage tanks. These laws address the generation, management, and disposal of hazardous waste; the cleanup of hazardous waste sites and releases; and more specifically with the management and removal of petroleum tanks, and cleanup of leaking petroleum storage tanks.

1.1.2 Toxic Substance Control Act (TSCA)

Also enacted by Congress in 1976, this law deals with all chemicals produced or imported into the United States. It requires that the chemical be adequately tested for toxicity prior to its commercial release to the public. In 1979, this act was amended to include the prohibition of the manufacture and distribution polychlorinated biphenyls (PCBs). PCBs are required to be labeled and disposed of properly.

1.1.3 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Nicknamed Superfund, this law was enacted to start a trust fund for the payment of remediation at abandoned hazardous waste sites. This law was passed in 1980. The issue of abandoned or uncontrolled sites has grown through the years. The EPA manages the National Priority List, which lists certain CERCLA sites of the highest priority. By law, the State of Alabama also maintains a registry list of all abandoned and uncontrolled hazardous waste sites within the state. Superfund Amendments and Reauthorization Act (SARA) amended CERCLA in 1984. The amendments included more state and community involvement in the remediation process, increased focus on human health problems posed by contaminated sites, selection of remedies that permanently cleaned the site, and consideration of standards and other requirements in State and other Federal laws and regulations.

1.1.4 Federal Facility Compliance Act (FFCA)

In 1992, Congress passed the Federal Facility Act, which requires the Department of Energy (DOE) to develop and submit Site Treatment Plans for the development of capacity and technologies for treating mixed waste. All facilities that the DOE stores or generates these wastes must have such a plan. It also requires schedules for bringing new treatment facilities into operation.

1.1.5 State Regulations

Alabama is an "authorized" state, meaning that it is authorized by the EPA to administer state environmental law in lieu of most federal environmental laws. This is consistent with Alabama statutes that created ADEM, and which express legislative intent to have federal environmental laws administered at the state level. The scope of the Department's statutory authorities is listed below. These are the only laws under which ADEM can write regulations. ADEM laws are found under Title 22 of the Code of Alabama 1975. Laws pertinent to identifying and addressing contaminated sites that could pose a concern in implementing alternative measures identified for Valley Creek are:

- Chapter 22A Environmental Management
- Chapter 27 Solid Waste.
- Chapter 30 Hazardous Wastes Management
- Chapter 36 Alabama Underground Storage Tank and Wellhead Protection Act

2.0 Site Investigation

The HTRW investigations at this stage of the project consisted primarily of a records search of past and present environmental activities and enforcement actions near each of the various measures to determine if there were potential contamination issues that could result in increased costs to the sponsor or the government. The areas focused on during this records search included properties or sites near the alternative measures being considered for Valley Creek. The information sources reviewed as part of this records search included:

USEPA Cleanups in My Community (CIMC) Map/Database – EPA and its state, territory and tribal partners have developed a variety of cleanup programs to assess and, where necessary, clean up contaminated sites. CIMC is intended to provide information about sites that might need to be cleaned up, are being cleaned up, or have been cleaned, in a particular community or anywhere in the United States. The scope of sites included in the CIMC GIS database are: Brownfields Properties, Brownsfields Grants Jurisdictions, RCRA Corrective Action, Superfund, Federal Facilities and Federal Agency Hazardous Waste Compliance Docket, Removals/Responses, and Recovery Act Funded Cleanups. The link to the CIMC Map/Database is:

https://ofmpub.epa.gov/apex/cimc/f?p=cimc:MAP:0:::71:P71_WELSEARCH:AL|State|AL|||true|true|true|true|true|-1|sites|N|basic

- Alabama Department of Environmental Management (ADEM) Brownfield Map – The ADEM Brownfield Map is similar to the USEPA CIMC Map/Database but is limited to sites in Alabama. The title Brownfields sites is somewhat of a misnomer in that the map/database identifies all contaminated or previously contaminated sites regardless of whether or not they are in the Brownfields program. There is some overlap between this map/database and the USEPA CIMC map/database. The link to the ADEM Brownfields map/database is:

http://gis.adem.alabama.gov/adem_dash/GISINSP.html

- UST Facility Map/Database – this map/database provides information on the location and status of registered underground storage tanks. The link to the map/database is:

<https://aldem.maps.arcgis.com/apps/webappviewer/index.html?id=b281b56f4e944192be8ce0396df46cec>

- UST Incident Map/Database – this map/database provides information on sites where underground storage tanks have leaked or have been removed and any additional actions that were taken to clean up the site as well as any ongoing actions. The link to map/database is:

<https://aldem.maps.arcgis.com/apps/webappviewer/index.html?id=e482b5f461f948f6a729574c83fd1418>

3.0 Findings

Below are the findings from the records search organized by the category of flood mitigation measures being considered:

3.1 Detention Areas

There were no issues or concerns identified at detention areas VD4, VD8, VD9, or VD10. Potential areas of concern for other detention areas are identified are below:

3.1.1 VD1

Twin City Clarage Inc, 245 Center Street, Birmingham, AL (see figure F-1) – this site is identified on the ADEM Brownfield Map. It is across the street from detention area VD1 to the east. The site contains a number of scrap vehicles and other debris. However, no documents were available on the ADEM site to describe what type of contamination or other environmental issues were found at the site. The concern with this area would be if the detention area were to extend below the water table and the groundwater were contaminated due to this site. However, it has been indicated that there is no intent to extend the bottom of the detention area below the top of groundwater, so the risk of encountering contamination is low.

Center Street Food and Gas, 6 2nd Ave North, Birmingham, AL (see figure F-1) – this site is located approximately 500 southeast of VD1. Four USTs were removed and replaced at this site. No contamination was encountered during removal of the tanks and there is frequent leak detection performed on the new tanks. This site presents a very low risk of impacting VD1.

Jefferson County Family Court, 120 2nd Ct N Birmingham, AL – This site is located 800 feet to the east of VD1. There was a suspected leak in a 1,000 gallon diesel tank that provided fuel for a generator. An investigation was performed and no extensive contamination was found. Due to the limited contamination and the distance from the site, this site poses very low risk to VD1.

3.1.2 VD2b

- Triple T's Food Store, 1001 Lomb Ave SW Birmingham, AL (see figure F-1) - There was a leaking incident at the Triple T's Food Store reported in July 1998. This site 280-ft to the south of the western end of detention area VB2b. A June 2001 groundwater monitoring report did not find any remaining contamination in the groundwater as a result of the leak. Therefore it is not anticipated this will result in any risk to the proposed detention area VB2b. However, the revision in the 5/22/2019 version of the detention areas extended the southernmost boundary of the area up to Lomb Ave. No known residual contamination appears to exist but this extension does increase the risk slightly if all contamination was not found at the time of the cleanup. Three new regulated tanks were installed at this location and it now goes by the name Triple Food Store Citgo. Frequent leak detection is performed on the tanks so it is expected this site poses a very low risk of future contamination impacting VD2b.

3.1.3 VD5

- Alfred Parks, 1700 31st SW Birmingham, AL – A correction action 400 feet from the northeast corner of VD5. It was discovered in Oct 1990 and the cleanup completed in Nov. 1991. The current status of the site is No-Further-Action. No documents describing the contamination were found for the site. Due to the NFA status it is assumed any contamination was minimal and this site would pose very low risk to implementing VD5.
- Sarrels Service Station, 1715 31st St SW, 3428 Sierra Dr, Birmingham, AL – leaking USTs were discovered in 1997. The site is located 500 feet from the northeast corner of VD5. The cleanup was completed in 2018. Based on reports in the ADEM database it appears contamination did not

extend to VD5. The current status of the site is NFA. Due to the distance from VD5 and the NFA status, it is assumed this site poses very low risk to implementing VD5.

- Powderly Chevron, 1800 31st St, Birmingham, AL – This site is located 500 feet from the east side of VD5. Contamination from leaking underground storage tanks was discovered in 1993 but it was presumed it was the result of tanks that were removed and replaced in 1985 since the new tanks passed tightness testing requirements. The cleanup of the site was completed in 2003. The current status of the site is NFA. Due to the distance from VD5 and the NFA status, it is assumed this site poses very low risk to implementing VD5.

3.1.4 VD11

- Street's Phillips 66, 3400 9th Ave N, Bessemer, AL – This site is located 500 feet from the east side of VD11. There was a leaking UST at this site. The report indicates the release occurred in 1989 and the cleanup was completed in 2007. The current status of the site is NFA. Due to the distance from VD5 and the NFA status, it is assumed this site poses very low risk to implementing VD11.

3.2 Berm Areas

There were no issues or concerns identified at berm area VL2. Potential areas of concern for other berm areas are identified are below:

3.2.1 VL3

- Former Kerr-McGee, 4536 Bessemer Super Hwy, Bessemer, AL – This site is 200 feet south of where the berm is shown crossing the Bessemer Super Hwy. A leak was discovered in 2008 and cleaned up in 2009. The site received a NFA in 2009 based on the cleanup report and monitoring well results. Sewer line repair work discovered odors coming from the soil. An inspection was performed and PID readings of 298 ppm and 250 ppm were recording near the sewer excavation area. 150 feet further north along the presumed location of the sewer the PID readings were 0 ppm. It is uncertain if these were subsurface readings or just readings at the surface of the soil. It is likely residual petroleum contamination from the former Kerr-McGee filling station. It appears contamination would remain south of the potential berm location but there is some uncertainty. Notes on the site inspection indicated the site will remain in the NFA status. The site poses some risk of encountering petroleum contamination if excavation is required to install the berms or make modifications to the road to enable installation of the berm. A link to the inspection report and an aerial showing PID readings is at the link below:

<http://lf.adem.alabama.gov/WebLink/DocView.aspx?id=103236130&dbid=0>

- Salvage yard – there is also an auto salvage yard 120 feet of the potential berm location. This property is not identified in any of the information reviewed as a site of concern.

3.2.2 VL4

- Illegal Dumping - In April 2014, EPA conducted an emergency removal action of a site where 26 drums of unknown contents had been dumped and abandoned. This site was located near the south end of the Berm VL4 near Holmes Dr. Six of the drums were leaking. Although the contents were unknown, some of the contents were flammable, had extreme pH, and oil. The drums were overpacked, removed from the site and disposed. Approximately 20 CY of visibly contaminated soil was excavated and disposed and the area was backfilled. There is no indication if confirmatory samples were collected to ensure all contamination was removed. However, the soil was disposed of as Non-Hazardous. Based on the geographic coordinates provided in the Pollution/Situation Report (Lat. 33.4012545, Long. -86.9792250) the location of the dumping

was 700 feet southwest of the potential berm. Given the distance away from berm VL4 this site poses very low risk. A link to the site cleanup report is below:

https://response.epa.gov/site/sitrep_profile.aspx?site_id=9168&counter=21835

3.3 Bridge Modifications

There were no issues or concerns identified at bridge modifications VB1&2, VB3, VB4, VB5, or VB8 (see discussion below for VB8). Potential areas of concern for other bridge modifications areas are identified are below:

3.3.1 VB6 & 7

- In 2017 and 2018, there was a corrective measure implemented for both Valley Creek and Opossum Creek, both in Jefferson County, AL. This corrective measure was in response to the discovery of tar-like material (TLM) contamination from several outfalls up-stream in Opossum Creek. The cleanup was concluded, however, several areas with TLM contamination were left in place, due to the presence of buried utilities or bridge foundations.

Figure F-1 below was taken from the Corrective Measures Implementation Documentation Report dated May 2018 (PDF p. 58 of 446). It shows an area immediately downstream of VB6 that was not remediated due to proximity to the bridge foundation and an area 10-feet downstream of VB7 that was not remediated due to the presence of a utility. It is likely modifications to this bridge would result encountering tar-like material and sediments contaminated with poly-aromatic hydrocarbons (PAHs). The TLM was considered a U051 listed hazardous waste and was disposed of in the currently Closed Waste Pile which is permitted as a hazardous waste landfill. Therefore, tar and contaminated sediments removed from this area would likely need to be disposed of offsite as a hazardous waste in a Subtitle C landfill where disposal rates are much higher than a municipal solid waste landfill (Subtitle D landfill). Depending on the volume of sediments requiring removal, this could add significant cost to the project sponsor.



Figure F-1. Conceptual Bridge Modification of Murphys Lane Bridge over Valley Creek (VB).

3.3.2 VB8

- A brownfield site was identified on the ADEM Brownfield map upstream of VB8 associated with Southern Natural Gas Company. However, documentation associated with this site indicates the brownfield map was inaccurate and the site was actually 3,500 feet west of Valley Creek on the south side of Murphy's Ln and east of Mitchell Rd. Therefore, this site presents no risk to the potential bridge modification.

3.4 Channel Modifications

3.4.1 VC1

The only potential issue for this channel modification was 3 existing USTs at the adjacent sewage treatment plant. However, there are no reported leaks or spills associated with these tanks so the risk associated with implementing the channel widening in this area is very low.

3.5 Inline Detention Areas

There were no potential issues found near any of the potential inline detention area measures VII, VI2, or OI1.

4.0 Summary/Conclusions

Based on the findings of the records search for the project area, there is very low risk of encountering HTRW contamination at the vast majority of the potential measures being considered. Although there are some nearby sites (primarily past leaking petroleum USTs), most of those sites have been cleaned up and have a No Further Action status so pose very little risk.

The sites that pose low to moderate risk are listed below:

- VD1 – the site immediately across the street from the potential detention area VD1 (Twin City Clarage Inc, 245 Center Street, Birmingham, AL) is identified on the ADEM brownfield map/database but there is no information provided on the type or extent of contamination on the site. The site appears to be a salvage yard. Since the detention area is not expected to extend below the water table, the risk posed by this site is low.
- VL3 - a site 200 feet south of where the berm is shown crossing the Bessemer Super Hwy (Former Kerr-McGee, 4536 Bessemer Super Hwy, Bessemer, AL) was a former filling station with leaking petroleum USTs. The site was cleaned up and received a No Further Action status in 2009. However, in August of 2019, excavations associated with sewer line repair encountered residual contamination. This contamination was not cleaned up and there is some risk that petroleum contamination could be encountered if there is excavation or road modifications associated with implementing VL3. There is also a scrap yard to the south of this area. It is not identified in any of the maps or databases searched. However, it does present some uncertainty.
- VB6&7 – for this potential bridge modification measure, it is likely if not certain tar material and PAH contaminated sediment would be encountered during implementation. Sediment disturbed during implementation of this measure would likely have to be handled and disposed as U051 listed hazardous waste, similar to how the material was handled and disposed of during remediation of the creek. If that is the case, sediments removed would need to be disposed of in a Subtitle C hazardous waste landfill and could add significant cost to the sponsor. If possible, it is recommended this flood mitigation measure be avoided.

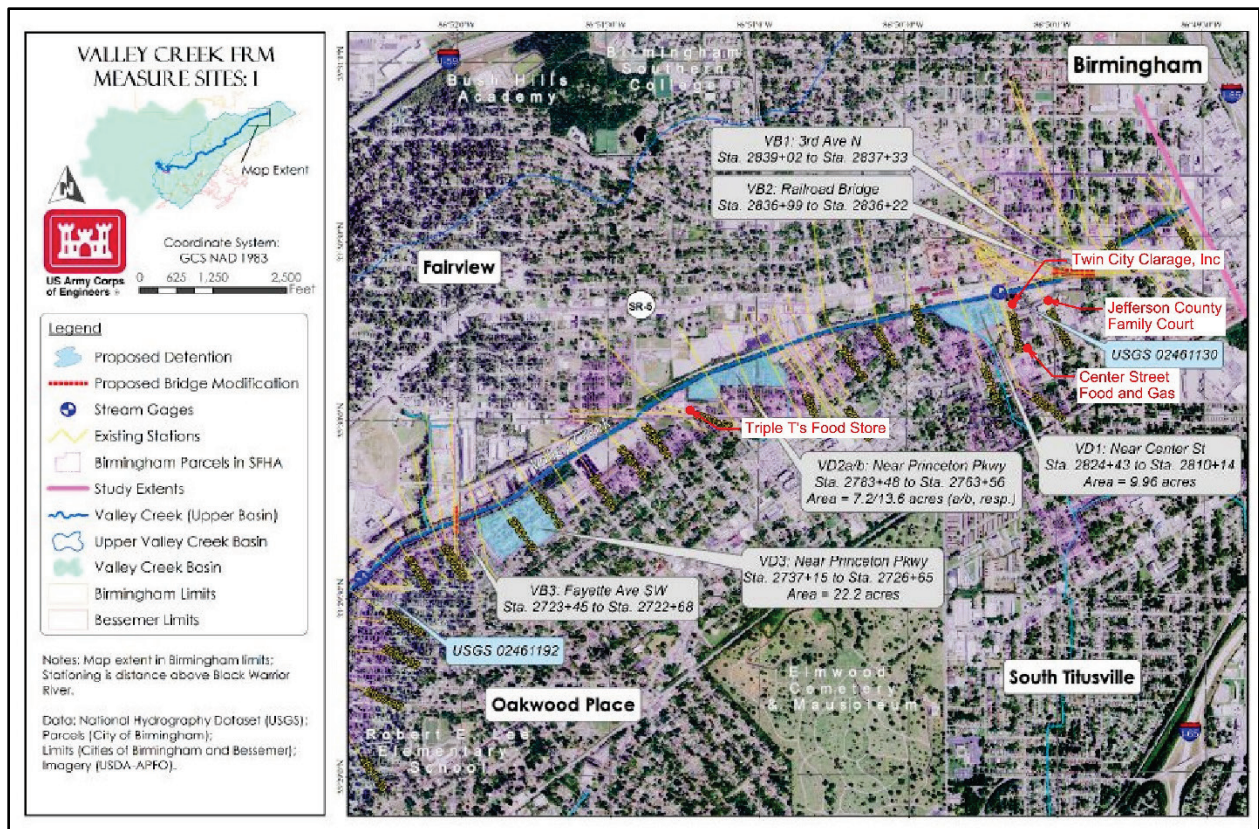


Figure F-2. Preliminary structural FRM measure locations in the vicinity of Valley Creek headwaters, downtown Birmingham, and Fairview.

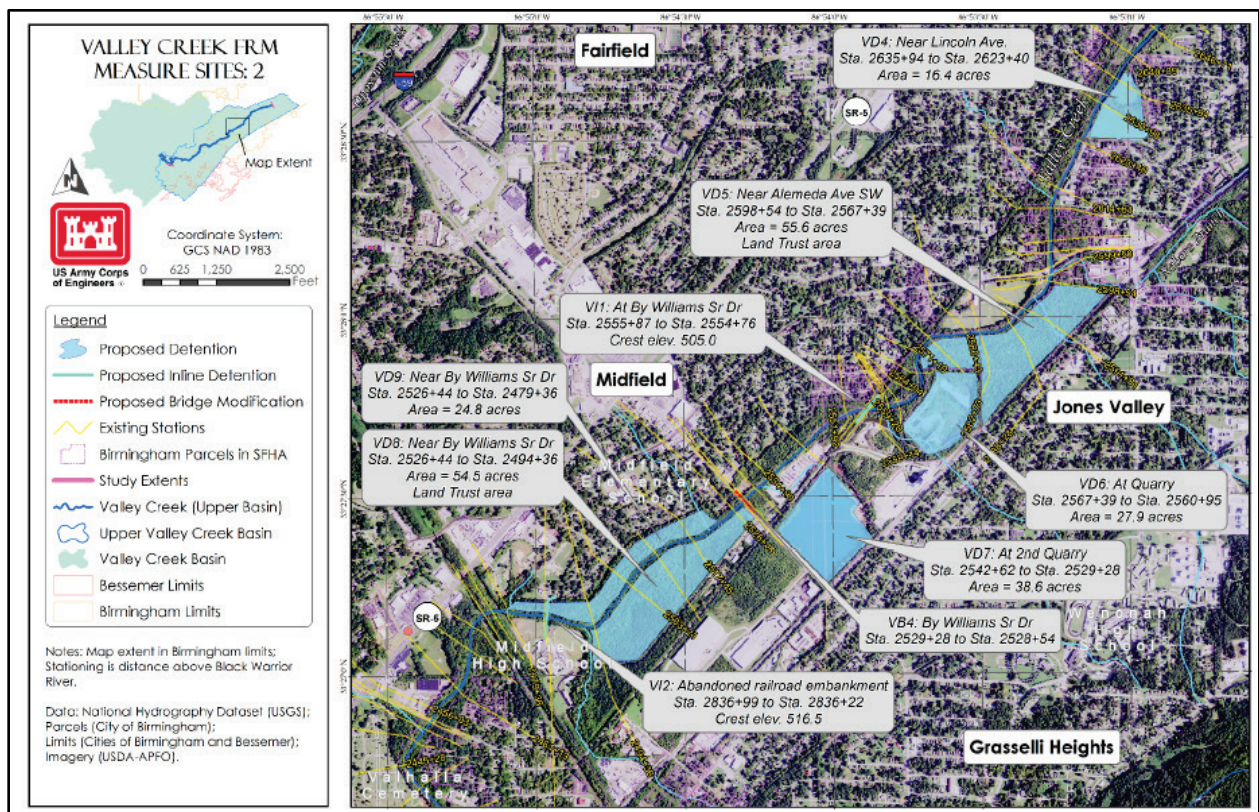


Figure F-3. Preliminary structural FRM measure locations in the vicinity of Midfield.

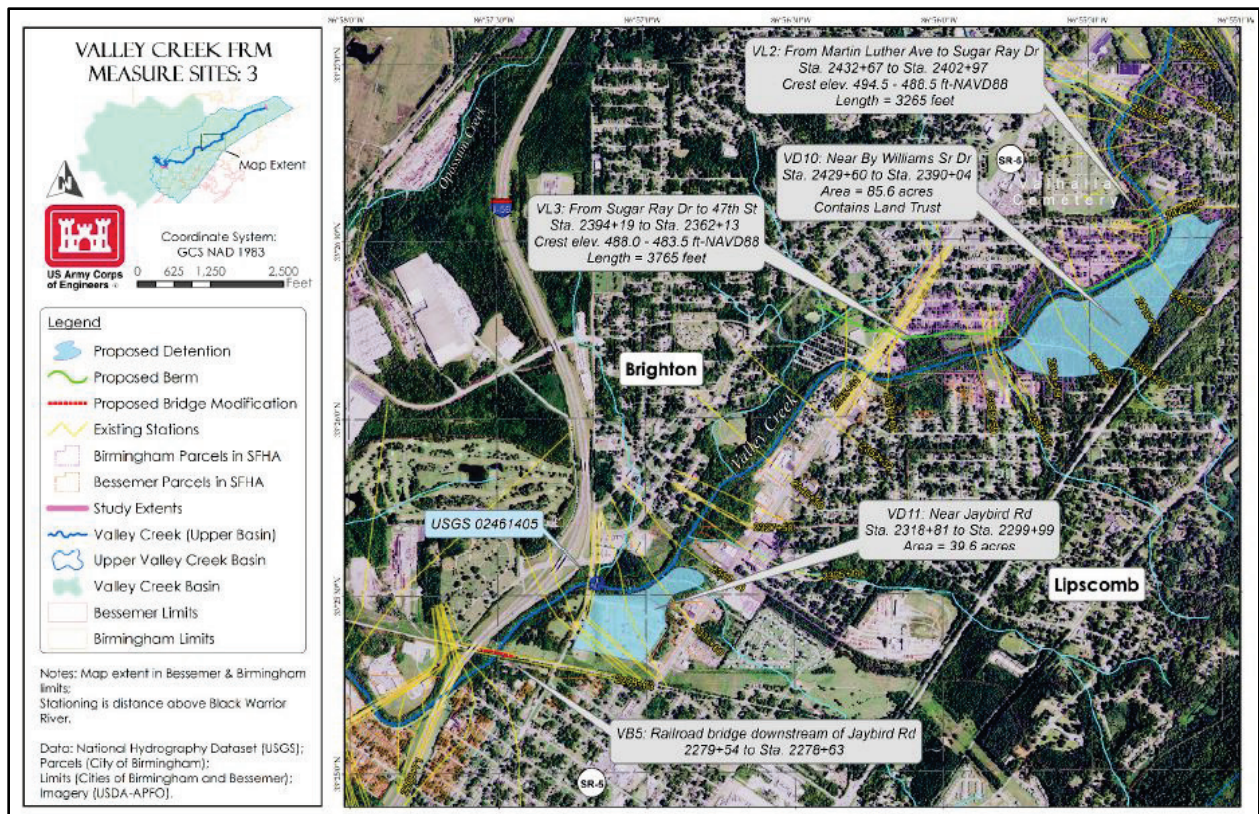


Figure F-4. Preliminary structural FRM measure locations in the vicinity of Brighton.

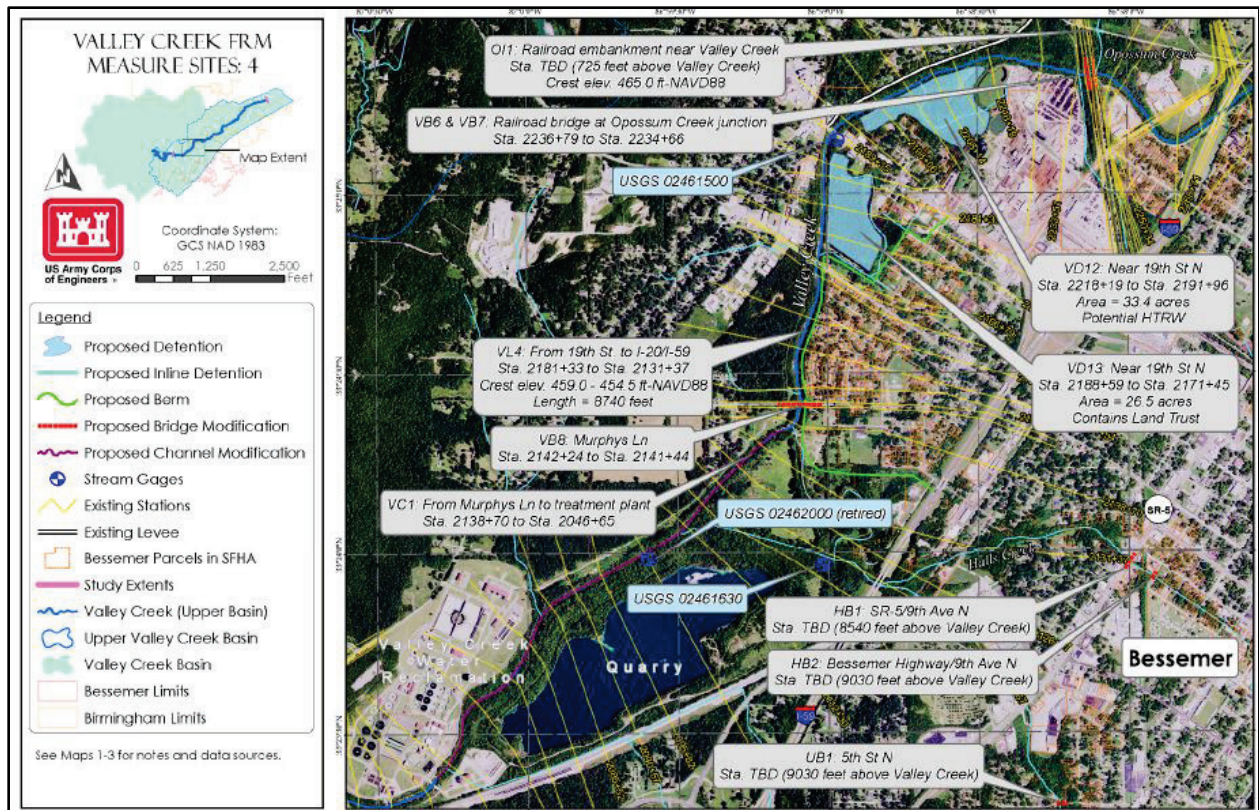


Figure F-5. Preliminary structural FRM measure locations in the vicinity of Bessemer, Halls Creek, and Halls Tributary. Note: Two structural measures added during preliminary screening not shown on this map (VB9 (18th Ave. over Valley Creek) and UB2 (9th Ave. N over Halls Tributary)).