APPENDIX F

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

Phase I Environmental Site Assessment

Of

Big Fishweir Creek

And Surrounding Properties

Duval County, Florida

Prepared by:

Melissa J. Reynolds, P.E.

US Army Corps of Engineers

701 San Marco Blvd

Jacksonville, FL 32207

(904) 232-1383

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

BIG FISHWEIR CREEK AND SURROUNDING PROPERTIES

Duval County, Florida

1.0 SUMMARY

The US Army Corps of Engineers (USACE) is working together with the City of Jacksonville (COJ) on the Big Fishweir Creek Restoration Project (Project). The Projects is a Small Capacity project, under the authority of Section 206 of the Water Resources Development Act (WRDA) of 1996. The purpose of the project is the aquatic ecosystem restoration of Big Fishweir Creek to a less degraded state by removing accumulated sediments, restoring benthic substrates, removing invasive vegetation, and planting native vegetation.

Big Fishweir Creek a tidally-influenced tributary of the St. Johns River, and both are Florida Class III water bodies. It is located on the west side of the river, approximately 4 miles west and south of downtown Jacksonville, and just north of the Ortega River outlet, in Duval County, Florida. The creek is surrounded by urban and residential areas. One vehicular bridge traverses it. Big Fishweir Creek has one tributary, Little Fishweir Creek, which feeds into the north side of Big Fishweir Creek, approximately 1,500 ft from the mouth of Big Fishweir Creek.

This Phase I Environmental Site Assessment (ESA) was conducted in general accordance with the accepted principles and methods designed to comply with the procedures outlined in the American Society for Testing and Materials (ASTM) E 1527-05, "Standard Practice for Environmental Site Assessments". The purpose is to determine the likelihood of presence of hazardous substances or petroleum products on any surrounding property under conditions that indicate existing, past, or material threat of release of such, into the ground, groundwater, or surface water. These conditions are defined as Recognized Environmental Conditions, or RECs in ASTM E 1527-05. The findings presented in this report are based on date found by USACE's environmental Professional Engineer (PE) from Federal, State, County, and City regulatory agencies. Data was collected for the properties along both Big and Little Fishweir Creeks, since Little Fishweir Creek discharges into Big Fishweir Creek.

1.1 RECOGNIZED ENVIRONMENTAL CONDITIONS

1.1.1 A few RECs were found adjacent to the Site as a result of this investigation. These RECs include two Historic Auto Stations, and one Underground Storage Tank (UST). Details of these findings are presented in Section 5.0 of this report. Many more RECs were identified within a 1-mile radius of the creeks, but none are on properties adjacent to them. These are covered in EDR's report in Appendix B.

2.0 INTRODUCTION

The following is a summary of the purpose and scope of this ESA of the Big Fishweir Creek Restoration Project area.

2.1 PURPOSE

The purpose of this ESA was to evaluate the Big Fishweir Creek Restoration Project area, including adjacent properties, to identify any RECs based on past and present uses of the properties. The practices and methods set forth in ASTM E 1527-05 were followed for property information search and identification of RECs. Identification of any RECs will be used to determine if further assessment is necessary, including sampling, a Phase II ESA, etc.

2.2 DETAILED SCOPE OF SERVICES

The four-component methodology followed in identifying RECs, as set forth in ASTM E 1527-05, is as follows:

- Records Review to identify RECs within the recommended search distance; including review of files and data from Federal, State, County, and City agencies. Records include:
    - Current and historic aerial photographs,
    - Sanborn Fire Insurance Maps (none were available for this area of Jacksonville),
    - National Priority List (NPL) database,
    - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database,
    - Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal Facility (RCRA TSD) database,
    - RCRA Corrective Action List (RCRA COR),
    - RCRA Generator List (RCRA GEN),
    - Federal Brownfields sites,
    - Emergency Response Notification System (ERNS),
    - State Hazardous Waste Sites databases, including Florida Sites List, Superfund Hazardous Waste Sites, and State Funded Action Sites,
    - State Landfill facilities,
    - Priority Cleaners Sites (dry cleaners on State Program),
    - Dry Cleaners,
    - Regulated Underground Storage Tanks (UST),
    - Regulated Above-ground Storage Tanks (AST), and
    - Leaking Underground Storage Tanks (LUST).
- Site Reconnaissance; a visit to the property to identify RECs through current uses of the property and adjoining properties.
- Interviews of current property owners, past property owners, and local government officials.

- Report; presentation of all findings and evaluation.

2.3 SIGNIFICANT ASSUMPTIONS

The USACE assumes that all information obtained through records review and interviews was complete, accurate, and unbiased.

2.4 LIMITATIONS AND EXCEPTIONS

The data used for this assessment was obtained from Reasonably Ascertainable/Standard Sources, as defined by ASTM E 1527-05. It is possible that a REC went undetected in this study due to unattainable data, incompleteness or inaccuracy of government records, or past incidents that went unreported by the responsible party.

The following limitations and data gaps were encountered during the data collection process for this Project:

- The date of the earliest aerial photo was 1943;
- Deed records do not predate current use;
- Pre-developed land owners not available for interview.

The conclusions presented in Section 12.0 of this report were based on the reasonably ascertainable data collected.

3.0 SITE DESCRIPTION

Following is a summary of the Project lands and surrounding properties, hereafter referred to as "Site".

3.1 LOCATION AND LEGAL DESCRIPTION

As discussed in Section 1.0, the Site is located on the west side of the river, west and south of downtown Jacksonville, and just north of the Ortega River outlet, in Duval County, Florida. The head of the creek begins in the Avondale area, west of US Highway 17, just north of Noyce Avenue. Big Fishwier Creek is approximately 4,700 feet long, and is bordered by urban and residential properties. Five commercial properties border the creek in the project area, and one vehicular bridge, the Herschel Street Bridge, traverses it. The entire project is east of the US 17 Bridge. Big Fishweir Creek's tributary, Little Fishweir Creek, feeds from the north side of Big Fishweir Creek. See Figure 1.

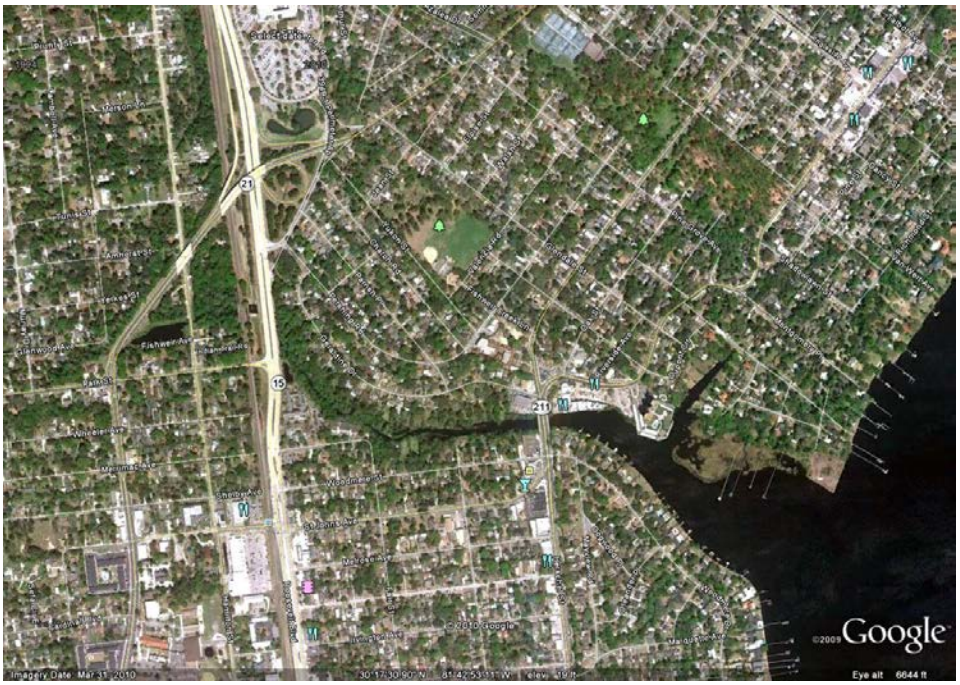

Figure 1, Street Map of Project Area.

Site legal descriptions of all properties were obtained from the City of Jacksonville's Property Appraiser's website (http://www.coj.net/jaxgis, accessed April 16, 2010) and are attached in Appendix A. The project runs through Sections 29, 32, and 33; Township 2 South; and Range 26 East, as shown in the *Jacksonville Quadrangle, Florida – Duval County* United States Geological Survey (USGS) 1994, 7.5-Minute Series (Topographic) map, as shown in Figure 2.

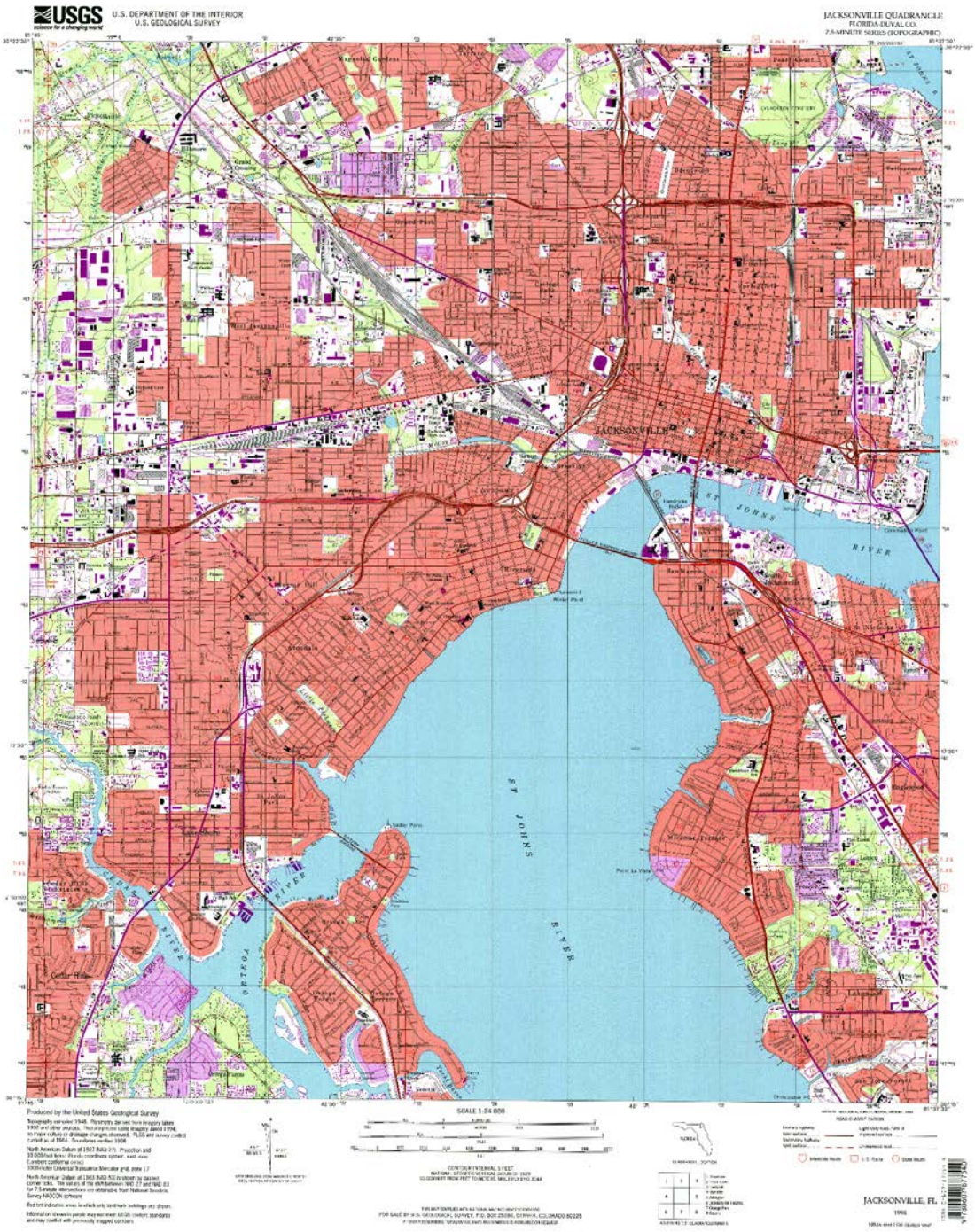

Figure 2, Topographic Map

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The project area is predominantly surrounded by low density residential properties, with about five commercial properties, a high density residential tower, and one park. Big Fishweir Creek is traversed by one vehicular bridge, and runs under US Highway 17.

Little Fishweir Creek runs through a large park, past many residential lots, and runs under several residential streets via culvert.

3.2.1 SITE ELEVATION AND TOPOGRAPHY

A review of the USGS topographic map for the project area indicated that the surrounding areas have an average elevation of the bank is about 10.0-ft, relative to the North American Datum, 1927 (NAD 27). The ground elevation along Big Fishweir Creek slopes up to about 20.0-ft at the streets. There are some high spots of elevation 25-ft in the watershed.

3.2.2 SURFACE SEDIMENTS

According to The United States Department of Agriculture/Natural Resources Conservation Service, Web Soil Survey, *Soil Map - Duval County, Florida*, the primary soil types found in the project area consists of Urban land-Ortega-Kershaw complex and Urban land-Leon-Boulogne complex. A copy of the soils map and table is provided in Appendix C.

The USDA/SCS *Soil Survey of City of Jacksonville, Duval County, Florida* provided a breakdown of the soil types. The Ortega-Kershaw complex consists of broad, nearly level to sloping ridges interspersed with narrow, wet sloughs that generally parallel the ridges. Kershaw soils, which make up about 55%, are on the higher ridges, and have a 3-inch layer of very dark gray fine sand on the surface, above a 48-inch layer of light yellow-brown fine sand, on top of a 32-inch layer of brownish-yellow fine sand. Ortega soils, which make up about 35%, are on the lower ridges. The 5-inch top layer is typically grayish brown fine sand, on top of a 43-inch layer of very pale brown fine sand, on top of about 40 inches of white fine sand. The Leon soils occur in the broad flatwoods area. The top 5-inch layer of very dark gray fine sand, on top of 3 inches of dark gray fine sand. Below these layers is gray fine sand. Permeability values range from 6.0 to 20 inches per hour, from 0 to 80 inches below land surface.

Vibracore core boring samples were taken in the Big Fishweir Creek bed in 2008. Analysis results indicated that the primary sediment within the creek consisted of silt. A copy of the analysis results is provided in Appendix E.

3.2.3 REGIONAL HYDROGEOLOGY

The hydrogeology of the area is as follows:

Approx Thickness	Stratigraphic Unit	Hydrogeologic Unit	Lithology
20-120	Undifferentiated surficial deposits	Surficial Aquifer System	Sand, Clay, Shell, Limestone
100-500	Hawthorn Formation	Intermediate Confining Unit	Phosphatic sand, silt, clay,

			limestone, dolomite
100-350	Ocala Limestone	Upper Floridan Aquifer	Chalky to granular marine Limestone

The Surficial Aquifer System is mostly unconfined, except in areas where layers of lower permeability above are thick and continuous. The Floridan Aquifer is the predominant source of drinking water in this area of Jacksonville/Duval County.

3.3 CURRENT USE OF THE PROPERTIES

The Big and Little Fishweir Creek Watersheds are predominantly urban with only two parks. The creeks are currently used by people for recreation with only small personal watercraft. The wildlife that inhabit this creek include wading birds, such as the Snowy Egret, Green Heron, and Tri-Colored Heron; the Red-Shouldered Hawk; Mallard Ducks; Canada Geese; and schools of forage fish, such as gar and mullet. A frequent visitor reported past spotting of “beavers”; more likely nutria.

A majority of the land surrounding Big Fishweir Creek is residential, with one high density residential tower, one high density residential retirement facility, and five other commercial lots.

The properties surrounding Little Fishweir Creek are almost all residential. This tributary does run through one park.

3.4 DESCRIPTIONS OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS OF THE SITE

Please refer to Section 5.3.1 for a detailed description of the improvements on the properties adjacent to the Site.

4.0 USER PROVIDED INFORMATION

4.1 TITLE RECORDS

The USACE obtained all property chain-of-title reports available on the City of Jacksonville’s Property Appraiser’s web site. Copies of these can be found in Appendix A.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

No information was provided to the USACE regarding any legal activity, or use limitations associated with any property bordering Big and Little Fishweir Creeks.

4.3 SPECIALIZED KNOWLEDGE

PBS&J performed a bacteriological/fecal coliform source study for The Florida Department of Environmental Protection (FDEP), the "*Fecal BMAP Implementation: Identification of Probable Sources in the Big Fishweir Creek Watershed (WBID 2280),"* March 2009. Two known point sources were identified, but the main purpose of the rest of the study was to identify non-point sources. As a result of the bacteriological sources found during this study, JEA has begun implementing several improvement programs around Jacksonville to address problems, such as regular lift station inspections and regular surface water testing. This report was referred to by several interviewees as the most detailed report of sanitary sewer overflows (SSOs) and stormwater sources contributing to the high fecal coliform levels in the creek.

The USGS also conducted a bacteriological study on the creek, in conjunction with the City of Jacksonville. The original intent of this study was to compare the water quality of two St. Johns River Tributaries (one being Big Fishweir Creek) before and after replacement of septic tanks with connections to a central sewer system. However, the second phase of the project could not be completed, resulting in a report of the water quality in 2000-2002, before the bacterial source reductions.

In May 2004, the St. Johns River Water Management District published Special Publication SJ2004-SP43, a contaminant study entitled *Sediment Quality of the Lower St. Johns River and Cedar-Ortega River Basin: Chemical Contaminant Characteristics.* This study included two samples from Big Fishweir Creek. Many contaminants were detected in the project area, as well as the entire Cedar Ortega River basin (COR). The contaminants that exceeded the NOAA NS&T "high" reference values in the COR included PCBs, DDT, Poly-aromatic Hydrocarbons (PAHs), lead, mercury, cadmium, zinc, silver, tin, copper, and chlordane. Many more contaminants exceeded FDEP's Sediment Quality Assessment Guidelines SQAG levels. For this reason, eight (8) vibracore samples were analyzed in 2008, for a more detailed analysis, as covered in the next section.

As a result of past and ongoing watershed study for the Ecosystem Restoration Report and Environmental Assessment, the Corps also has specialized knowledge of an extra 1-3 feet of sediment deposition in the creek due to a number of construction projects dating back to the 1960's.

USACE has specialized knowledge associated with the sediment in Big Fishweir Creek, as a result of sediment sampling and analysis performed in 2008. The report and results of these analyses are presented in Appendix E.

4.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

USACE was not provided any information regarding the reduction of land values in the area as a result of environmental issues.

4.5 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The owners of all the commercial properties adjacent to Big and Little Fishweir Creeks are presented in Appendix A. These were all obtained from the City of Jacksonville's Property Appraiser's web site.

4.6 REASON FOR PERFORMING THE ENVIRONMENTAL SITE ASSESSMENT

The USACE performed the Phase I ESA in order to determine the possible presence of any contamination, and provide a recommended course of action, as part of the Big Fishweir Creek Restoration Project. The USACE and the City of Jacksonville is the sponsor of this project.

5.0 RECORD REVIEW

The following is a summary of the historical record review conducted for the Project.

5.1 STANDARD ENVIRONMENTAL RECORDS SOURCES

As part of this ESA, the USACE reviewed numerous sources of information to obtain information pertaining to the presence of, release of, or possible release of regulated substances or petroleum products in or near the Project.

An environmental database search for the Project and the surrounding required ASTM standard radii was performed by Environmental Data Resources (EDR). A copy of the EDR report is attached in its entirety in Appendix B. The EDR report revealed that there are numerous properties within the recommended 1-mile radius search area that are considered RECs. The RECs that are not properties adjacent to the Site are summarized in Table 1. The RECs adjacent to the Site are covered in the next section.

5.1.1 RECS ADJACENT TO THE SITE

HISTORIC AUTO STATIONS

Figure 3 shows the location of 4070 Herschel Street, which historically contained an auto station from 1944 through 1954. No known spills occurred on this site. The historic structure had been torn down and replaced by the current commercial building, housing six businesses, including a restaurant.

Figure 3, 4070 Herschel Street.

Figure 4 shows the location of 4425 Merrimac Avenue, which historically contained an auto station in 1993. No known spills occurred on this site.

Figure 4, 4425 Merrimac Avenue.

UNDERGROUND STORAGE TANKS (UST)

Figure 5 shows the location of 3806 Herschel Street, which historically contained an emergency diesel generator and underground storage tank (UST). This JEA facility located adjacent to Little Fishweir Creek, included Tank 1, installed in 1975, and was closed in place and replaced by Tank 2 in 1998. There is no record of any spills at this site.

Figure 5, 3806 Herschel Street.

5.2 PHYSICAL SETTING SOURCES

Site elevation and topography were reviewed using the *Jacksonville* USGS 7.5 Minute Target Quad map, dated 1994. *Jacksonville* USGS 7.5 Minute Target Quad maps dated 1992, 1983, 1982, 1977, 1970, 1964, 1950, and 1918 were also reviewed. All are available in Appendix B, as part of the EDR report. Information on surface soils was obtained from the USDA/NRCS Web Soil Survey for Duval County, Florida. This map and table is available in Appendix C. Information on regional hydrogeology was obtained from the U.S. Geological Survey Water Resources Investigations Report 96-4242, "The Relation Between Hydrogeology and Water Quality of the Lower Floridan Aquifer in Duval County, Florida, and Implications for Monitoring Movement of Saline Water (1996)."

5.3 HISTORICAL USE INFORMATION ON THE PROPERTY

The following is a summary of the historic uses of the properties aligning the subject creek.

5.3.1 AERIAL PHOTOGRAPH REVIEW

In order to ascertain the previous land uses of the Site, a review of historic aerial photographs was conducted. A series of photographs dated 1943, 1959, 1960, 1969, 1975, 1982, 1988, 1997, and 2009 were reviewed. The 1959, 1969, 1975, and 1988 photos were obtained through the University of Florida Digital Library, and are provided in Appendix D. The 1943, 1960, 1969, 1975, 1982, and 1997 photos were obtained by Environmental Data Resources, Inc., and are provided as part of Appendix B. The 2009 photograph was obtained from Google Earth™. The photographs were examined for past physical conditions on the properties adjacent to the creek that might impact the creek's

environmental condition. The earliest photo from 1943 shows the current residences on the south side of the creek, and the COJ Property Appraiser database confirms the houses along this stretch of the creek were constructed in the 1920's. The current residential street on the north side of the creek was there in 1943, but the properties were undeveloped; the area vegetation appeared to be native and undisturbed. The COJ Property Appraiser database confirms that the houses along this street were constructed in the mid to late 1940's and into the '50's. All current houses along the north side of the creek were in the 1959 photo. The residential area on the southeast side of the Herschel Street Bridge appeared to be undeveloped, which was verified by the COJ Property Appraiser database. The houses just southeast of the bridge were constructed in the latter 1940's through 1960's.

Only two commercial buildings on the north side of the creek, flanking the Herschel Street Bridge, were in existence in 1943, and the rest appeared to be undeveloped (trees). The lot on the southwest corner of the Herschel Street Bridge is unclear in all photos until 1988. The Property Appraiser database confirmed the current commercial building, a six-unit shopping center with a restaurant, was constructed in 1984. The EDR report shows this address contained a Historic Auto Station from 1944 – 1954. The commercial building on the northwest side of the bridge was constructed in 1941, and is currently used as a commercial hardware sales center, Rayware Hardware. An animal clinic is located north of that, across the street. Prior to 1970, the properties housed a grocery store and a Gulf gas station, respectively (per interview with Mike Hollingsworth). In 1959, the northeast side of the bridge had two commercial structures, a grocery store (Winn Dixie) and a drive-through hamburger stand (per interview with Mike Hollingsworth). The high-rise condominiums east of the grocery store appear to be under construction in the 1959 photo, and were completed in 1961, according to the COJ Property Appraiser. The grocery store between the condominiums and the bridge was removed and replaced with the current 4-building shopping complex in 1987. The current commercial buildings on the south side of the creek, just east of US 17, were constructed in 1997 and 1985 (west to east). Prior to these current commercial buildings being constructed, the properties in the photos appeared undeveloped. The EDR report shows that a Historic Auto Station was here in 1993. No photos from this date are available.

5.3.2 CITY DIRECTORY SEARCH

EDR conducted a city directory search to show all the past uses of the lands adjacent to the project area. This is included in Appendix B.

6.0 SITE RECONNAISSANCE

The following is a summary of the methodology and observations of the site reconnaissance.

6.1 METHODOLOGY AND LIMITING CONDITIONS

On June 22 and September 10, 2010, Melissa Reynolds, P.E., along with several Corps members of the project team, performed site visits along the Big Fishweir Creek. The team focused on the commercial properties, and looked for any possible conditions that might affect environmental conditions in the creek.

6.2 GENERAL SETTING

As previously discussed, a majority of the creek is surrounded by residential areas. A few commercial areas also align the creek. The restoration area runs from just east of US 17 to the confluence with the St. Johns River.

6.3 EXTERIOR OBSERVATIONS

The residential properties along the creek near the confluence with the St. Johns River appeared neat and well-kept. Near the confluence of Big Fishweir Creek with the St. Johns River, one pipe discharged into the creek from under the residential area. The residential properties along the upstream segment of the project (upstream of the Herschel Street Bridge) were densely vegetated, including large tree canopies. According to the report, "Fecal BMAP Implementation: Identification of Probable Sources in the Big Fishweir Creek Watershed (WBID 2280)," all these properties are connected to JEA's sanitary sewer system. The Duval County Health Department (DCHD)-designated septic system failure areas known as Murray Hill A and Murray Hill B are located more upstream of the project, west of US 17. Though these residences have been connected to city sewer system, the report concludes that the septic systems in this area are a likely source contributing to the overall bacterial loading of Big Fishweir Creek.

There are four main commercial areas that also border the creek; northeast of the Herschel Street bridge, northwest of the same bridge, southeast of the same bridge, and just east of US 17. The commercial properties on the northeast side of the bridge include The Loop restaurant, Sylvan Learning Center, Espeto Steak House, a nail salon, a chiropractic practice, a bakery, and office space. The parking lots contained three garbage dumpsters, one recycle dumpster, two restaurant grease traps, one 55-gallon drum, a construction and demolition dumpster, and several stormwater drains, all in the same area. This parking area containing the refuse receptacles appeared to have newer concrete sections (see Section 7.3, Interviews with Site Managers for more detail on this). It appeared that the stormwater drains into the creek, as pipes adjacent to the drains led to the creek. However, the dumpster and grease trap lids were intact and closed, and there were no oil, grease, or other stains around them. There was one large concrete pipe discharging under the bridge on this side. The report "Fecal BMAP Implementation: Identification of Probable Sources in the Big Fishweir Creek Watershed (WBID 2280)," discussed a study that showed there was a direct linear relationship between bacterial loading and the cumulative 3-day rainfall in the area around the Herschel Street Bridge (Station CR 319). However, it did note that it is hard to identify specific stormwater

discharge locations that would contribute to this rise in fecal coliforms, and that a relationship between rainfall and sanitary sewer overflows (SSOs) needs to be established to help determine this.

The commercial property on the northwest side of the bridge contained only one business, Rayware Hardware, a hardware store. The stormwater from the roof and parking lot obviously drains straight to the creek, as evidenced by the slope of the land, the gutters on the building, and the concrete stormwater gutters leading from the parking lot to the creek. There appeared to be a recent repair to bank erosion at the back of the parking lot.

The commercial property on the southwest side of the Herschel Street Bridge is home to a small shopping center. The businesses on this property include Contemporary Business Services; Tax Consultants, PA; Small Business Associates; two web design businesses; Talbot Accounting & Tax Service, LLC; and Harpoon Louie's restaurant, which overlooks the creek. Stormwater obviously drains to the creek past the restaurant, but no other RECs were noted at this location. The interview with one of the owners is in Section 7.1 Interviews with Owners of Adjacent Properties. Just west of this commercial properties lies a JEA lift station. Stormwater from the lift station and driveway drains to the creek (along with any lift station overflow). Two dirty oily patches were on the driveway in front of the lift station, complete with petroleum fumes.

When looking upstream from the bridge, oily patches could be seen in the creek. There was some garbage and litter in the creek, including cinder blocks, old rip-rap, and drink containers.

The commercial properties just east of US 17 included Sterling House Retirement Home, Autoquotes offices, and another JEA lift station. Stormwater from the lift station drains directly to the creek through a new concrete gutter. Stormwater drains in the parking lot of Sterling House appeared to drain straight to the creek. The parking lot and dumpster pad for the office building appear to drain straight to the creek, also. The vegetation behind the commercial properties was thick and relatively undisturbed, otherwise.

7.0 INTERVIEWS

Melissa Reynolds, P.E., and Michael Hollingsworth, both of the Corps, both conducted interviews pertaining to this Site. The following is a summary of the interviews conducted in support of this assessment.

7.1 INTERVIEWS WITH OWNERS OF ADJACENT PROPERTIES

David Witt, a co-owner of Harpoon Louie's restaurant, was interviewed. He reported that after rain events, he can often see "chemicals" and "oil" in the creek. He has not noted any other dumping of anything into the creek. He also reported that people often fish off the Herschel Street Bridge for "bait fish".

Several of the residents along the creek have reported siltation over time, and that the creek used to be a lot deeper. One particular event causing siltation was a large storm in 1989. Many residents use the creek for recreation, including fishing and swimming.

7.2 INTERVIEWS WITH PAST OWNERS

No past owners were interviewed.

7.3 INTERVIEWS WITH SITE MANGERS

Ginny Sekula, manager of Sylvan Learning Center, was interviewed. She has not witnessed anyone dumping anything into the creek, nor had she ever noticed any chemicals or oily sheen after large rain events. However, she did report that about 1-2 years ago, the part of the parking lot that supported all the dumpsters collapsed and fell into the creek. This explains why the pavement under the current dumpsters appears newer. She could not recall any recreational use of the creek, due to its shallow depth (no depth at low tide).

7.4 INTERVIEWS WITH PAST SITE MANAGERS

No past site managers were interviewed.

7.5 INTERVIEWS WITH SITE OCCUPANTS

No site occupants were interviewed.

7.6 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS

Mr. Dana Morton, with the City of Jacksonville, was interviewed regarding any complaints of spills in the area, especially pertaining to any oily discharge complaints in the area of the restaurants north of the Herschel Street Bridge. He reported that he has had some complaints in the past of oily discharges, and reports of the lift station overflowing. He referenced the BMAP report completed for the FDEP for details on this.

Mr. Pat O'Connor, with the FDEP, was interviewed regarding SSOs in the area. He also referred to the BMAP report for the most detailed information.

Mr. Michael Hollingsworth, A Corps employee, long-time team member, and lifetime neighborhood resident, was interviewed. Mr. Hollingsworth lived in the area from 1962 to present, has worked for FDEP, and has been a Big Fishweir Creek team member for several years. Particular detail was given to the past uses of the two commercial properties on which the current buildings replaced older structures. His information is detailed in Section 5. He noted that although he witnessed no dumping of hazardous substances along the creek, he has noticed the following in the past:

- Illicit “gray water” connections discharging into the creek, which have been removed;
- The lift station at 4401 Merrimac Avenue replaced a sewer outfall. The outfall pipe was in existence prior to 1975;
- While he was employed with FDEP, he found a sanitary sewer overflow cross connected to a stormwater sewer in the area. This was corrected in 1998, but suspects the presence of others.
- Stormwater discharges underneath the Herschel Street Bridge.

8.0 DEVIATIONS

This Phase I ESA was conducted in general compliance with the standard procedures set forth in ASTM Standard Practice E 1527-05.

9.0 SIGNIFICANT DATA GAPS

According to ASTM Standard Method D 1527-05,

“…The report shall identify and comment on significant data gaps that affect the ability of the EP to identify recognized environmental conditions and identify the sources of information that were consulted to address the data gaps. A data gap by itself is not inherently significant. A data gap is only significant if other information and/or professional experience raises reasonable concerns involving the data gap...”

The following data gaps were encountered in this Phase I ESA:

The historical aerial photographs were not available back to 1940, but started in 1943. However, since the first developed uses of the property are known, these data gaps are not considered significant.

10.0 ADDITIONAL SERVICES

No additional services were performed in association with this Phase I ESA.

11.0 FINDINGS

A Phase I ESA was conducted to identify RECs associated with the Site. The following is a summary of our Phase I ESA findings.

- Based on the review of historical aerial photographs, the COJ Property Appraiser’s database, and interviews, the commercial sites were developed as discussed in section 5.
- Three properties adjacent to the creek have been identified as RECs. However, no spills were recorded as a result of these facilities. Field reconnaissance identified possible sources of bacteria from stormwater, but no hazardous substances were noted.
- Site visits showed several RECs due to stormwater runoff.

- Other RECs in within a 1-mile radius of the Site were identified in the EDR report as RECs, but none are adjacent to the creek.
- Since 8 vibracore samples were analyzed as recently as 2008, it can be reasonably assumed that these results are a good indicator of the current environmental conditions in the creek.
- The results of the vibracore analyses show no HTRW, based on FDEP's Soil Cleanup Target Levels (SCTLs) for industrial areas, with one questionable exception. The areas were classified as industrial with the understanding that no regular human contact is/will be made with the sediments except during dredging/construction. The sediments left in place are also not reasonably expected to be accessed by humans on a regular basis; thereby not posing any long-term exposure risks to humans.
- The Dioxin level was analyzed at one location, along with a duplicate analysis in the same core boring. One was below, and one was above the FDEP SCTL level for both residential and industrial areas.
- The elutriate samples contained some levels that exceeded Class III water levels.
- The EPA's Ecological Soil Screening Levels were exceeded in several of the sampling locations.
- Six of the vibracore analysis results exceeded some of FDEP's Sediment Quality Assessment Guidelines for Florida Inland Waters (SQAGs) levels.

14.0 REFERENCES

ASTM, *ASTM Standards on Environmental Site Assessments for Commercial Real Estate, Fourth Edition*. E 1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". 2005. Conshohocken, PA.

City of Jacksonville Property Appraiser's Web Site

Florida Department of Transportation (FDOT) Aerial Photographs, Duval County. Various dates.

Macdonald Environmental Services Ltd., and United States Geological Survey. *Development and Evaluation of Numerical Sediment Quality Assessment Guidelines for Florida Inland Waters*, January 2003. Nanaimo, British Columbia.

PBS&J. *Fecal BMAP Implementation: Identification of Probable Sources in the Big Fishweir Creek Watershed (WBID 2280)*, March 2009. Jacksonville, Florida.

St. Johns River Water Management District; Gregory S. Durell, Julie Seavey Fredriksson, and John C. Higman. Special Publication SJ2004-SP43, *Sediment Quality of the Lower St. Johns River And Cedar-Ortega River Basin: Chemical Contaminant Characteristics*, May, 2004. Palatka, Florida.

United States Department of Agriculture/Natural Resources Conservation Service, *Web Soil Survey of Duval County*. January 2010. Jacksonville, Florida

United States Department of Agriculture/Soil Conservation Service, in cooperation with University of Florida Institute of Food and Agricultural Sciences and Agricultural Experiment Stations, Soil Science Department, *Soil Survey of City of Jacksonville, Duval County, Florida*, May 1978. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-62. *Ecological Soil Screening Levels for Arsenic*. March 2005. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-64. *Ecological Soil Screening Levels for Beryllium*. February 2005. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-65. *Ecological Soil Screening Levels for Cadmium*. March 2005. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-66. *Ecological Soil Screening Levels for Chromium*. March 2005. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-68. *Ecological Soil Screening Levels for Copper*. February 2007. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-57. *Ecological Soil Screening Levels for DDT and Metabolites*. April 2007. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-70. *Ecological Soil Screening Levels for Lead*. March 2005. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-76. *Ecological Soil Screening Levels for Nickel*. March 2007. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-72. *Ecological Soil Screening Levels for Selenium*. July 2007. Washington, D.C.

United States Environmental Protection Agency, OSWER Directive 9285.7-78. *Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs)*. June 2007. Washington, D.C.

United States Geological Survey (USGS), Duval County, Florida 7.5 Minute Topographic Quadrangle Map (1994).

United States Geological Survey (USGS), Water-Resources Investigations Report 03-4299. *Evaluation of Water Quality for Two St. Johns River Tributaries Receiving Septic Tank Effluent, Duval County, Florida (2004)*. Tallahassee, Florida.

United States Geological Survey (USGS), Water-Resources Investigations Report 96-4242, *The Relation Between Hydrogeology and Water Quality of the Lower Floridan Aquifer in Duval County, Florida, and Implications for Monitoring Movement of Saline Water (1996)*. Tallahassee, Florida.

University of Florida Digital Library.