FINAL ENVIRONMENTAL ASSESSMENT

FLOOD MITIGATION FOR PUMPING STATION NO. 1

GENESEE COUNTY DRAIN COMMISSIONER, GENESEE COUNTY, MICHIGAN

FEMA DR-1346-MI
HMGP APPLICATION A1346.82

Prepared for
FEMA Region V
536 South Clark Street
Sixth Floor
Chicago, IL 60605

March 2, 2004

Dewberry-Goodkind, Inc.
A Dewberry Company

Prepared by:
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, New Jersey 07054
89-FEMA4138.00-10082

and:
URS Group, Inc.
200 Orchard Ridge Drive, Suite 101
Gaithersburg, Maryland 20878
Contract No. EMW-2000-CO-0246,
Task Order No. 138

FINDING OF NO SIGNIFICANT IMPACT
Flood Mitigation for Pumping Station Number 1
Genesee County Drain Commissioner, Genesee County, Michigan

FEMA-DR-1346-MI, HMGP Application A1346.82

The Genesee County Drain Commissioner has applied for funding from the Federal Emergency Management Agency (FEMA) for assistance with flood mitigation measures in Flint Township, Genesee County, Michigan. The purpose of the proposed project is to prevent damage to Pumping Station No. 1 from floodwaters and reduce the need for financial assistance following natural disasters. The Proposed Action would relocate the existing pumping station 300 feet north to a vacant site along the existing trunk line near Miller Road that is located outside the 100-year and 500-year floodplains. FEMA is proposing to provide assistance for this project through the Hazard Mitigation Grant Program (HMGP) under Presidential Disaster Declaration FEMA-DR-1346-MI and the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

In accordance with 44 Code of Federal Regulations (CFR) for FEMA, Subpart B – Agency Implementing Procedures, Part 10.9, an Environmental Assessment (EA) was prepared pursuant to Section 102 of the National Environmental Policy Act of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (40 CFR Parts 1500-1508). The purpose of the EA was to analyze the potential environmental impacts for the Flood Mitigation for Pumping Station Number 1 and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Based upon the conditions and information contained in the EA for the Flood Mitigation for Pumping Station Number 1 (January 2004) and in accordance with FEMA's regulations in 44 CFR Part 10 (Environmental Considerations) and Executive Orders 11988 (Floodplain Management), 11990 (Protection of Wetlands), and 12898 (Environmental Justice), FEMA the following is concluded:

A Finding of No Significant Impact. The proposed project, as described in the EA, will not result in any significant adverse impacts to existing land use, water resources (surface water, groundwater, wetlands, waters of the United States, and floodplains), air quality, noise, biological resources (vegetation, fish and wildlife, state-and federally listed threatened or endangered species and critical habitats), safety issues, hazardous materials and waste, and cultural resources, or result in disproportionately high or adverse effects on minority or low-income populations. Therefore, an Environmental Impact Statement will not be prepared. This Finding of No Significant Impact is based upon the conditions contained in the Environmental Assessment; failure to comply with these conditions may jeopardize federal funds.

APPROVAL

Date: March 3, 2004

Ms. Jeanne Millin
Regional Environmental Officer
FEMA, Region V

Federal Emergency Management Agency
PUBLIC NOTICE

Notice of Availability of the Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)

Flood Mitigation for Pumping Station Number 1

Genesee County Drain Commissioner, Genesee County, Michigan

FEMA-DR-1346-MI, HMGP Application A1346.82

Environmental Assessment for Pumping Station No. 1 Flood Mitigation, Genesee County Drain Comissioner, Genesee County, Michigan. FEMA DR-1346-MI

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA) is proposing to assist in the funding of flood mitigation measures for a sewage pumping station located in Flint Township. In accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA, an Environmental Assessment (EA) is being prepared to assess the potential impacts of the proposed action on the human and natural environment. This also provides public notice to invite public comments on the proposed project in accordance with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. In addition, this notice and the draft EA provide information to the public on potential impacts to historic and cultural resources from the proposed undertaking, as outlined in the National Historic Preservation Act of 1966.

The EA evaluates alternatives that provide for compliance with applicable environmental laws.

The alternatives evaluated include (1) No Action; (2) The Proposed Action, which would relocate the pumping station outside of the 100-year floodplain; and (3) Elevation of Berm which would raise a berm surrounding the pumping station to approximately one foot above the base flood (100-year) elevation and replace and upgrade electrical systems.

No further environmental review of this project is proposed to be conducted prior to the release of FEMA funds. Copies of the final EA and FONSI can be obtained by contacting: Jeanne Millin, FEMA Regional Environmental Officer, 536 South Clark, 6th Floor, Chicago, IL 60605-1521, or at Jeanne.Millin@dhs.gov. The final EA and FONSI are also available on the World Wide Web on the FEMA website at http://www.fema.gov/ehp/docs.shtm.

TABLE OF CONTENTS

List of Acronyms iii

Section 1 Introduction 1-1

1.1 Project Authority 1-1
1.2 Project Location 1-1
1.3 Purpose and Need 1-2

Section 2 Alternative Analysis 2-1

2.1 Alternative 1 – No Action Alternative 2-1
2.2 Alternative 2 – Relocation of Pumping Station (Proposed Action) 2-1
2.3 Alternative 3 – Elevation of Berm 2-1
2.4 Alternatives Considered and Dismissed 2-2

Section 3 Affected Environment and Environmental Consequences 3-1

3.1 Physical Environment 3-1
3.1.1 Geology, Seismicity and Soils 3-1
3.1.2 Water Resources and Water Quality 3-2
3.1.3 Floodplain Management (Executive Order 11988) 3-4
3.1.4 Air Quality 3-5
3.2 Biological Environment 3-6
3.2.1 Terrestrial and Aquatic Environment 3-6
3.2.2 Wetlands (Executive Order 11990) 3-8
3.2.3 Threatened and Endangered Species 3-9
3.3 Hazardous Materials 3-10
3.4 Socioeconomics 3-11
3.4.1 Zoning and Land Use 3-11
3.4.2 Visual Resources 3-12
3.4.3 Noise 3-13
3.4.4 Public Services and Utilities 3-13
3.4.5 Traffic and Circulation 3-14
3.4.6 Environmental Justice (Executive Order 12898) 3-15
3.4.7 Safety and Security 3-15
3.5 Cultural Resources 3-16

Section 4 Cumulative Impacts 4-1

Section 5 Public Participation 5-1

Section 6 Mitigation Measures and Permits 6-1

TABLE OF CONTENTS

Section 7 Consultations and References 7-1

Section 8 List of Preparers 8-1

Appendices

Appendix A Figures and Photographs

Appendix B EO 11988 and EO 11990 Eight-Step Planning Process

Appendix C Agency Correspondence

Appendix D Public Notice

Appendix E Public Comments

AGL	Above Ground Level
ARWTP	Anthony Rangone Waste Water Treatment Plant
APE	Area of Potential Effect
BFE	Base Flood Elevation
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FBFM	Flood Boundary and Floodway Map
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HEC-RAS	Hydrologic Engineering Center – River Analysis System
HMGP	Hazard Mitigation Grant Program
I-69	Interstate 69
I-75	Interstate 75
IWI	Index of Watershed Indicators
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
mL	milliliter
msl	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NCA	Noise Control Act
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NFRAP	No Further Remedial Action Planned

NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NPL	National Priority List
NRCS	Natural Resources Conservation Service
NREPA	Natural Resources and Environmental Protection Act
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O_3	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM-10	Particulate Matter With a Diameter Less than or Equal to 10 Microns
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SQG	Small Quantity Generator
SWF	Solid Waste Facility
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank

1.1 PROJECT AUTHORITY

Severe storms and flooding occurred on September 10 and 11, 2000, in the State of Michigan, leading the Federal Emergency Management Agency (FEMA) to issue a federal disaster declaration, DR-1346-MI, on October 17, 2000. Under this declaration, Oakland and Wayne Counties became eligible for Individual Assistance, and all counties within the state became eligible for funding through the Hazard Mitigation Grant Program (HMGP).

The Genesee County Drain Commissioner in Flint Township, Genesee County, Michigan, has applied for HMGP Section 404 funding under the Robert T. Stafford Disaster Relief and Emergency Assistance Act. HMGP funds are provided by FEMA under this program for disaster-related mitigation projects. In accordance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA [Title 40 Code of Federal Regulations (CFR) Parts 1500 through 1508], and FEMA regulations for NEPA compliance (44 CFR Part 10), FEMA must fully consider the potential environmental impacts of the proposed actions and alternatives. The President's CEQ has developed regulations for implementing NEPA. The federal regulations set forth in 40 CFR Parts 1500-1508 require an evaluation of the proposed action and alternatives. The required evaluation is provided in this Environmental Assessment (EA). A second purpose of this EA is to determine whether the preparation of a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS) should be the subsequent step in fulfilling the NEPA process.

1.2 PROJECT LOCATION

The proposed project is located in the Flint Township in Genesee County, Michigan (Figure 1). Genesee County is located in east-central Michigan and is bordered by Saginaw County and Tuscola County to the north, Lapeer County to the east, Oakland and Livingston County to the south, and Shiawassee County to the west.

The nearest population center is the City of Flint, located to the east of the project site. The project site is located immediately west of the southern terminus of an unnamed access road, approximately ¼ mile west of Claude Road and 500 feet south of Miller Road/State Route 21. The site is bordered to the east by Interstate 75 (I-75) and to south by Swartz Creek, a major tributary of the Flint River, and by Interstate 69 (I-69) (Figure 2).

Pumping Station Number 1 is located adjacent to the north bank of Swartz Creek. The pumping station is part of the Genesee County Drain Commissioner Sewer District Number 1, the largest single sewer service district in the county, covering 509 square miles. The sewage district provides service to 24 Genesee County member municipalities and 5 customers outside Genesee County. The entire system includes over 1,700 miles of sewers and 73 pump stations that all lead to the Anthony Rangone Waste Water Treatment Plant (ARWTP) in the Township of Montrose for treatment prior to discharge into the Flint River.

Pumping Station Number 1, the second largest pumping station in the district, handles 90 percent of the wastewater generated in Sewer District Number 1. Wastewater flowing into Pumping Station Number 1 is received from a trunk line from the City of Swartz to the west (Figure 3). The trunk line runs eastward from the City of Swartz along Swartz Creek until it meets a second trunk line running north towards Swartz Creek. The two lines combine and flow east, then north

under Swartz Creek, to reach Pumping Station No. 1. Wastewater is then pumped generally northwest via a trunk line that crosses under Miller Road and I-75 and continues to the Flushing Park Pumping Station (Figure 3).

Pumping Station Number 1 is located on a 0.32-acre triangular parcel. The Genesee County Drain Commissioner owns the parcel and pumping station. The Division of Water and Waste Services operates and maintains Pumping Station Number 1 and is also the HMGP applicant.

Access to the site is provided by an extension of the terminus of a one-lane paved road. A 12-foot wide driveway extension from the road enters at the northeastern corner of the site. The pump station is a one-story brick building with a pitched roof measuring approximately 30 feet wide by 30 feet long (approximately 900 square feet). The building, or pumping station, houses 4 pumps. A set of switchgears is located on a concrete pad, immediately east of the building. A wet well is located on the southeastern portion of the triangular-shaped property. Also, a 60-inch diameter trunk line enters the site from the south and crosses under Swartz Creek.

A 7-foot high chain link fence has been installed around the project site at approximately 30 feet from the pumping station building. There is a 4-foot high earthen berm around the outside perimeter of the fence. The top of the berm varies in width around the site, ranging from 5 to 10 feet. The elevation of the berm varies between approximately 743.7 feet and 745.2 feet above mean sea level (msl) [3.25 feet and 5 feet above ground level (AGL)]. On average, the berm height is equal to the Base Flood Elevation (BFE), or 100-year elevation, but it is very susceptible to the 100-year flood because of the considerable fluctuation in height. Additionally, a site reconnaissance on March 7 and 8, 2002 revealed that a portion of the berm (approximately 20 feet wide) on the northwestern corner has been removed. According to the applicant, the berm was removed to allow standing water from a 100-year flood event in 2001 to drain from the site (Crespo, pers. comm.).

1.3 PURPOSE AND NEED

The purpose of the project is to prevent damage to the pumping station from floodwaters and reduce the need for financial assistance following natural disasters.

Pumping Station Number 1 currently handles steady flows of sanitary wastewater without much seasonal fluctuation. Wet weather flows, particularly during the months of March and April, however, result in heavy infiltration of stormwater through manholes. During a flood event, water from Swartz Creek rises over the top of the existing berm, creating standing water inside the berm and over the manhole, thereby exacerbating the infiltration of stormwater into the system. Although the pumping station is not located near the outflow into the Flint River, the infiltration of stormwater into the sanitary system results in the overflow of untreated or partially treated sewage into Swartz Creek and then into the Flint River. Representative photographs of the pumping station are provided in Appendix A.

On February 8, 2001, a 100-year flood event inundated the area between the berm and pumping station structure with 4 feet of standing water, approximately the average height of the existing berm. Much of the electrical equipment inside the pumping station building, including the variable fixed drive, was submerged under floodwater and incurred severe damage. Previous flood events also occurred between 1986 and 1996 with flood damage occurring in varying degrees.

In response to recurring flood damages to Pumping Station Number 1 and the associated human health risks, the implementation of specific measures to decrease the infiltration of stormwater during the 100-year event has been proposed. The purpose and need of this action would be to reduce the potential for flooding (from the 100-year event) to the pumping station and equipment, minimize human health risks caused by the overflow of sewage into Swartz Creek, and reduce the need for financial assistance for post-disaster recovery.

The CEQ has developed regulations for implementing NEPA. These federal regulations, set forth in Title 40, CFR Parts 1500-1508, require an evaluation of alternatives, and a discussion of the potential environmental impacts of a proposed federal action, as part of the EA process. The FEMA regulations, which establish FEMA's process for implementing NEPA, are set forth in 44 CFR, Subpart 10. This EA was prepared in accordance with FEMA's regulations as required under NEPA. As part of this NEPA review, the requirements of other environmental laws and executive orders are addressed.

The purpose of FEMA's HMGP is to provide funding to local communities to prevent damage to property and loss of life caused by natural disasters. Additionally, funded projects should meet the goal of reducing the need for financial assistance following natural disasters. This EA evaluates three alternatives to meeting the project's purpose and need: Alternative 1 – No Action; Alternative 2 – Relocation of the Pumping Station (Proposed Action); and Alternative 3 – Elevation of the Berm.

2.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Under the No Action Alternative, permanent improvements at the project site, including improvements to the existing berm and electrical systems, would not be conducted. Maintenance and repair of the existing levee would continue to be conducted by the applicant. During flood events, floodwaters would continue to impact the existing pumping station, electrical system, and sewer system. The sewer system would continue to experience infiltration of stormwater in its system through the manhole on the project site.

2.2 ALTERNATIVE 2 – RELOCATION OF PUMPING STATION (PROPOSED ACTION)

The Proposed Action would relocate the existing pumping station to a site 300 feet north of the existing project site along the existing trunk line near Miller Road (Figure 2). This relocation site, which is currently vacant, is approximately 0.32 acre in size and is located outside the 100-year and 500-year floodplains. Due to its location outside of the 100-year and 500-year floodplains, no berm would be included in this alternative.

To extend the force main to the relocated pumping station, a 9-foot wide, 25-foot deep trench would be excavated from the existing pumping station to the location of the new station (see Photographs 1-5). The excavation near the surface would be wider (25 feet) to comply with trenching safety regulations. Excavated soil would be temporarily stockpiled on-site, adjacent to the trench. A 60-inch diameter reinforced concrete pipe would be installed in the bottom of the trench, and the trench would be backfilled with the material that was excavated from the trench. All excess spoils (approximately 220 cubic yards) would be removed from the site and disposed of properly. Excavated materials would not be deposited in the 100-year floodplain. Soil erosion and sedimentation control such as silt fence and check dams would be installed to minimize erosion. After construction activities are concluded, the excavated area would be restored to as original condition as possible. The new pumping station would be approximately the same size as the old pumping station, and will require excavating into a footprint of approximately 900 square feet. After the new pumping station is operational, the old pumping station would be demolished and the existing earthen berm removed.

2.3 ALTERNATIVE 3 – ELEVATION OF BERM

Alternative 3 would include raising the existing earthen berm around the perimeter of the pumping station to a new height 5 feet above the base elevation of the pumping station structure (740.5 feet msl). Thus, the proposed height of the berm would be increased to 745.5 feet msl around the entire perimeter and above the BFE (744.4 feet msl) by approximately 1 foot. The pumping station's electrical components would also be replaced and upgraded to withstand future flood damage

2.4 ALTERNATIVES CONSIDERED AND DISMISSED

As an alternative to the existing aboveground structure and pumping station, a submersible pumping station could be constructed on the project site. The submersible station would be designed to withstand flooding and wet weather conditions, so stormwater infiltration would no longer occur. However, the placement of the power supply and selected electrical switches would need to be above ground to prevent flooding and to provide access, which would further add to the cost of the pumping station. This alternative would require extensive feasibility studies to determine the environmental constraints (e.g., soils suitability, geotechnical hazards) and final cost. Although a submersible pumping station would be effective, the length of time required for feasibility analysis, cost studies, design, and construction would be considerable. As a result, this alternative was determined infeasible and dismissed from further consideration.

Another alternative involves only the alteration and relocation of the existing manhole on the southern portion of the site to minimize infiltration of stormwater. The manhole would be extended above the 740.5-foot msl elevation, renovated, and re-sealed. While this approach would likely minimize wet weather flows in the system and possibly have a positive impact on the Sewage Treatment Plant, this alternative would not meet the project's purpose and need. It would not prevent damage caused by natural disasters and would not preclude the need for financial assistance following natural disasters. Therefore, this alternative was dismissed from further consideration.

Table 1: Impact Summary Matrix

A. Description of Alternative	No Action Alternative (Alternative 1)	Relocation of Pumping Station (Alternative 2 – Proposed Action)	Elevation of Berm (Alternative 3)
	FEMA funds would not be used for improvements at the project site, including improvements to the existing berm and electrical systems.	The pump station would be relocated to a site outside of the 100-year and 500-year floodplains, which is 300 feet north of the current location, near Miller Road.	The existing berm would be elevated above the BFE by a foot around the perimeter of the pumping station, and the pumping station's electrical components would be replaced and upgraded to withstand future flood damage.
B. Potential Impacts	**No Action Alternative (Alternative 1)**	**Relocation of Pumping Station (Alternative 2 – Proposed Action)**	**Elevation of Berm (Alternative 3)**
Geology, Seismicity and Soils	• No impacts to soils and prime farmland. • The geology and seismicity of the area would not be impacted.	• Moderate yet temporary disturbance to soils because the station would be removed from the current site and the new site would be disturbed; surface erosion may increase, but implementation of BMPs[1] would minimize adverse effects. • No impacts to geology, prime farmland, or seismicity.	• Minor topographical changes would occur, but the local geology would not be affected. • Minimal disturbance to soils; surface erosion may increase, but implementation of BMPs would minimize adverse effects. • No impacts to prime farmland or seismicity.
Water Resources and Water Quality	• The current threats to the water resources and water quality of the area would remain; future flood events would continue at the project site and could result in the accidental discharge of sewage effluent into Swartz Creek, which is detrimental to the water quality of areas downstream.	• The potential for overflow of sewage effluent into Swartz Creek would be greatly reduced.	• The potential for contaminants to be discharged from the pump station into Swartz Creek would be reduced.

[1] BMPs = Best Management Practices

B. Potential Impacts	No Action Alternative (Alternative 1)	Relocation of Pumping Station (Alternative 2 – Proposed Action)	Elevation of Berm (Alternative 3)
Floodplain Management	• No impacts to the floodplain would be anticipated.	• The volume of the floodplain would increase slightly after the existing pumping station and berm are removed, potentially lowering flood elevations and velocities.	• Localized flood elevations would increase slightly but no impacts to upstream or downstream 100-year flood levels are anticipated. • The pumping station would be protected from the 100-year flood.
Air Quality	• No impacts to air quality.	• Fugitive dust emissions due to construction may have a temporary impact on local air quality. • Construction equipment has the potential to temporarily increase criteria air pollutants of concern.	• Fugitive dust emissions due to construction may have a temporary impact on local air quality. • Construction equipment has the potential to temporarily increase criteria air pollutants of concern.
Terrestrial and Aquatic Environment	• No impacts to the terrestrial environment are anticipated.	• Removal of herbaceous vegetative cover in the 900 square-foot footprint of the pump station and disturbance of the limited herbaceous vegetation in the vicinity of the site. • Minimal disturbance to the vegetation adjacent to the fence during the removal of the pumping station. • No trees would be impacted. • Temporary disturbance to wildlife that utilize the current site and relocation site. • The potential for harmful contaminants to be discharged from the pump station into	• Minimal disturbance to the vegetation adjacent to the fence surrounding the pumping station. • There would be no disturbance to bottomland or floodplain areas adjacent to the site or areas near the edge of Swartz Creek. • Temporary disturbance to wildlife that utilize the project site. • The potential for harmful contaminants to be discharged from the pump station into nearby aquatic environments would be reduced.

B. Potential Impacts	No Action Alternative (Alternative 1)	Relocation of Pumping Station (Alternative 2 – Proposed Action)	Elevation of Berm (Alternative 3)
		nearby aquatic environments would be reduced.	
Wetlands	• Would not impact wetlands or jurisdictional waters in the project area.	• No impacts are anticipated to wetlands. • Relocation site would not be located within identified wetland areas, and wetland areas would be avoided during the removal of the pumping station from its current site.	• The potential for the release of effluent from the station into adjacent wetlands would be reduced. • Wetland areas would be avoided during construction.
Threatened and Endangered Species	• No impacts to proposed or listed threatened and endangered species would be expected.	• No impacts to proposed or listed threatened and endangered species would be expected.	• No impacts to proposed or listed threatened and endangered species would be expected.
Hazardous Materials and Wastes	• No impacts to listed hazardous materials or wastes are anticipated.	• Based on results from an environmental database search, no impacts to known hazardous materials or wastes are anticipated.	• Based on results from an environmental database search, no impacts to known hazardous materials or wastes are anticipated
Zoning and Land Use	• No impacts to land use and zoning would occur.	• No impacts to land use and zoning would occur.	• No impacts to land use and zoning would occur.
Visual Resources	• No impacts would occur to existing visual resources.	• Careful siting and screening would ensure minimal impacts to visual resources.	• No impacts would occur to existing visual resources.
Noise	• No construction would occur and no additional noise would be generated.	• Temporary increase in the ambient noise levels due to equipment use. • The surrounding area is sparsely populated and would not incur noise impacts.	• Temporary increase in the ambient noise levels due to equipment use. • The surrounding area is sparsely populated and would not incur noise impacts.
Public Services and Utilities	• Township emergency response and repair services would continue to be needed as a result of 100-year flooding of the pumping station.	• No adverse impacts to public services and utilities are anticipated.	• No adverse impacts to public services and utilities are anticipated.

B. Potential Impacts	No Action Alternative (Alternative 1)	Relocation of Pumping Station (Alternative 2 – Proposed Action)	Elevation of Berm (Alternative 3)
Traffic and Circulation	• No impacts to traffic or circulation.	• No impacts to traffic or circulation.	• No impacts to traffic or circulation.
Environmental Justice	• Executive Order 12898 is not applicable to this alternative.	• Minority or low-income populations are not concentrated in project area, and therefore would not be impacted by project activities.	• Minority or low-income populations are not concentrated in project area, and therefore would not be impacted by project activities.
Safety and Security	• There would be no potential risks to the personal safety of those who would otherwise be performing project-related activities • Potential health and safety risks to residents in the event of sewage overflow from the pumping station during 100-year flood events would remain.	• All project activities would be performed using qualified personnel and conducted in accordance with the standards specified in OSHA[2] regulations. • Overall, the project activities would decrease risks to human health and safety associated with 100-year flood events.	• All project activities would be performed using qualified personnel and conducted in accordance with the standards specified in OSHA regulations. • Overall, the project activities would decrease risks to human health and safety associated with 100-year flood events.
Cultural Resources	• No changes or impacts to the existing historical sites of architectural or archaeological significance, or Tribal Religious Sites are anticipated to occur.	• No impacts to archeological or historic resources are anticipated. • Based on consultation with local Native American tribes, impacts to Indian Religious Sites are not anticipated to occur.	• No impacts to archeological or historic resources are anticipated. • Based on consultation with local Native American tribes, impacts to Indian Religious Sites are not anticipated to occur.

[2] OSHA = Occupational Safety and Health Administration

3.1 PHYSICAL ENVIRONMENT

3.1.1 Geology, Seismicity and Soils

The project area lies within the Michigan Basin, a large regional structure composed of a variety of strictly sedimentary rocks that were deposited in the Paleozoic Era, Cambrian through Pennsylvanian Periods. Bedrock in Genesee County is the Saginaw Formation, Pottsville Series and consists of sandstone, siltstone, shale, and limestone (Farrand and Bell, 1982; MDEQ, 2002).

Formerly inundated by the glacial Great Lakes during the Pleistocene Epoch, much of the flat, low-lying Genesee County is covered in Quaternary sediments of gray to dark reddish brown lacustrine clay and silt of up to 10 meters in thickness. Also common are 10- to 30-meter thick terminal moraines of medium textured till which mark the standstills of the ice sheet margin during the Wisconsian glacial period. The till mainly consists of gray to reddish brown unsorted glacial debris including loam and silt loam with varying amounts of cobbles and boulders (Farrand and Bell, 1982).

Genesee County lies in an area of low seismic activity. According to the United States Geological Survey (USGS) National Earthquake Information Center, no significant (Modified Mercalli Intensity VII or more) earthquakes have occurred in Michigan in the last 50 years. The last significant earthquake was a magnitude 4.4 in 1947 (USGS, 2002a). The National Seismic Hazard Mapping Project shows that Genesee County has a low probability of seismic activity (USGS, 2002b).

According to the Genesee County Soil Survey, Ceresco fine sandy loam (Cn) is the dominant soil on the project site (Figure 4). Ceresco fine sandy loam (Cn) is the most extensive soil found within the stream corridor floodplain of the county (USDA, 1993). This soil is a poorly drained soil common in bottomlands or floodplains of the region. This soil is sandy loam to fine sandy loam deposited by water. This soil is considered a prime farmland soil when it is adequately drained, not flooded more than occasionally, and protected from flooding during the growing season.

Swartz Creek, flowing directly adjacent to the south side of the project area, is one of the main tributaries to the Flint River. Soils within this area appear to have been altered by the placement of fill to accommodate development of business enterprises along Miller Road in Flint. As such, the soils on the subject property are modified from the mapped soil type and therefore, are not considered to be a prime farmland soil. The areas surrounding Pumping Station Number 1 are either inundated or poorly drained, except in areas where backfilled materials have been placed.

Conover loam with 2 to 6 percent slopes (CvB) is located in the vicinity of the relocation site (Alternative 2) and is a poorly drained soil that consists of high lime content (USDA, 1993). Without drainage, this soil remains wet in the spring and after heavy rainfall. This soil is considered a prime farmland soil if it is adequately drained.

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (P.L. 98-98) to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. Programs administered by federal agencies must be compatible with state and local farmland

protection policies and programs. The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of an essential food or environmental resource.

Alternative 1 – No Action Alternative

No construction would occur under the No Action Alternative. Therefore, there would be no impact on the geology, seismicity, or soils of the project site.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

Impacts to geology, seismicity, or soils are not anticipated under the Proposed Action. The Proposed Action would disturb approximately 900 square feet of (previously disturbed) soil at the existing station location, approximately 900 square feet of soil at the relocation site, and approximately 7,500 square feet of soil along the force main extension route. Construction would increase the potential for soil loss due to erosion; however, stormwater BMPs such as placing silt fences and hay bales, and seeding and mulching exposed soils shortly after disturbance, would be used to minimize the impact. If project activities include the stockpiling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and soil erosion. Any excess excavated material would be taken off-site and disposed of at a facility permitted for that type of activity.

Because soils in the project area have been modified from those mapped by the USDA, are poorly drained, and are not currently farmed, this alternative would be exempt from the FPPA.

Alternative 3 – Elevation of Berm

Minor topographical changes would occur as a result of raising the berm, but the local geology would not be affected. Replacing the electrical system would not affect the topography or the geology of the local area. Construction would increase the potential for soil loss due to erosion, however, stormwater BMPs, such as placing silt fences and hay bales, and seeding and mulching exposed soils shortly after disturbance, would be used to minimize the impact. Stockpiling in a floodplain is not permitted, so stockpiling of soil or fill on-site would have to be avoided under Alternative 3. Due to the low seismic hazard, there are no anticipated seismic-related impacts. Consequently, Alternative 3 is not anticipated to result in impacts to geological or seismological conditions and is expected to have a minimal impact on soil conditions.

Because soils in the project area have been modified from those mapped by the United States Department of Agriculture (USDA), are poorly drained, and are not currently farmed, this alternative would be exempt from the FPPA.

3.1.2 Water Resources and Water Quality

The project area is located within the Flint Watershed, one of three watersheds in Genesee County, Michigan. The watershed is approximately 72 miles across, and it covers portions of three counties, approximately 10,500 acres, and over 1,500 total river miles (USGS, 2002c and EPA, 2002a). Pumping Station Number 1 lies near the center of the Swartz Creek watershed.

Swartz Creek is a tributary to the Flint River and is one of 10 rivers in the Flint Watershed, which has a drainage area of 115 square miles and ultimately discharges to Lake Huron (USGS, 2002c). Surface water is the major source of potable and irrigation water in the Flint area (USGS, 2002c and EPA, 2002a).

Groundwater wells in the area draw from sandstone aquifers. The Pennsylvanian Aquifers and the Mississippian Aquifer of Michigan are the principal aquifers for the region (USGS, 2002c).

The EPA's Index of Watershed Indicators (IWI) is a program that compiles information on the health of aquatic resources in the United States. The IWI looks at a variety of indicators that point to whether rivers, lakes, streams, wetlands, and coastal areas are well or ailing and whether activities on the surrounding lands that affect these waters are placing them at risk. The IWI has classified the Flint Watershed with a score of 5, which means the Flint Watershed has "more serious water quality problems" (EPA, 2002a). This classification signifies that the watershed has aquatic conditions well below state water quality goals and has serious problems as shown by other indicators.

Regular flooding of the pumping station results in sewage discharges into Swartz Creek and the Flint River Basin. The Genesee County Health Department conducts frequent *E. coli* bacteria level analysis of Swartz Creek just upstream of Interstate 75 and Miller Road. The most recent analytical results (February 15, 2002) were reported as 126 units, which is below the state total body contact limit of 300 units of *E. coli* per 100 milliliters (mL) (Genesee County Health Department, 2002).

In a letter dated October 15, 2001, the Michigan Department of Environmental Quality (MDEQ) stated that the project would not require a permit under Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act (NREPA), as amended.

Alternative 1 – No Action Alternative

Under the No Action Alternative, the current threats to the water resources and water quality of the area would remain. Future flood events would continue at the project site and could be detrimental to the water quality of areas downstream. This alternative would continue to result in the discharge of sewage effluent into Swartz Creek during high water events.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

The relocation of the pumping station out of the 100-year floodplain would reduce flooding events and infiltration of floodwaters into the station, thereby reducing the overflow of sewage effluent into Swartz Creek. This would be a long-term beneficial effect to the water quality of Swartz Creek and other downstream bodies of water.

Best management practices would be implemented during construction to prevent soil erosion and degradation of water quality in Swartz Creek.

Alternative 3 – Elevation of Berm

This alternative would reduce the potential for future discharge of contaminants from Pumping Station Number 1 resulting from the 100-year event. The elevated berm would prevent infiltration of floodwaters into Pumping Station Number 1 and protect against discharge of sewage effluent from the pumping station into Swartz Creek. This would be a long-term beneficial effect to the water quality of Swartz Creek and other downstream bodies of water.

Best management practices would be implemented during construction to prevent soil erosion and degradation of water quality in Swartz Creek.

3.1.3 Floodplain Management (Executive Order 11988)

Executive Order (EO) 11988 directs federal agencies to take actions to avoid and minimize any modifications to floodplains. FEMA's Eight-Step Planning Process was conducted within this EA process and was documented as required by FEMA regulations (FEMA, 1996). The Eight-Step Process is included as Appendix B. In addition, 44 CFR Part 9.6 prohibits FEMA from taking or approving any action within a floodplain unless no practical alternatives can be identified or if the proposed action clearly outweighs the requirement of EO 11988.

Floodplains refer to the 100-year floodplains as set by FEMA and are shown on Flood Insurance Rate Maps (FIRMs) for all communities participating in the National Flood Insurance Program (NFIP). The 100-year floodplain designates the area inundated during a storm having a one-percent chance of occurring in any given year. FEMA also identifies the 500-year floodplain. The 500-year floodplain designates the area inundated during a storm having a 0.2 percent chance of occurring in any given year.

Flint Township participates in the NFIP, and both project areas are located on FIRM Community Panel Number 2603950010B, effective November 1, 1979 (Figure 5). According to the FIRM and the Flood Boundary and Floodway Map (FBFM) Community Panel Number 2603950010 (Figure 6), the relocation site (proposed under Alternative 2) is located outside of the 100-year and 500-year floodplains, but the pumping station is currently located within the 100-year floodplain and floodway of Swartz Creek on an island of high ground..

On average, the berm height is equal to the BFE, but it is very susceptible to the 100-year flood because the height deviates from being approximately 0.7 foot below the BFE to 0.8 foot above it. Additionally, a site reconnaissance on March 7 and 8, 2002 revealed that a portion of the berm (approximately 20 feet wide) on the northwestern corner has been removed. According to the applicant, the berm was removed to allow standing water from a 100-year flood event in 2001 to drain from the site (Crespo, pers. comm.).

Alternative 1 – No Action Alternative

The No Action Alternative would have no effect on the floodplain, as no construction would occur. Pumping Station Number 1 would continue to flood during flood events.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

In a letter dated November 4, 2003, MDEQ indicated that removing the pumping station from the floodplain would not require a permit under Part 31 of the NREPA. However, it was also noted that the berm around the existing pumping station was constructed in the floodplain without a permit under Part 31. MDEQ further recommends that the existing pumping station and berm be removed from the floodplain and the ground restored.

The removal of the pumping station from the floodplain would have the beneficial effect of removing the facility at risk from a hazardous location. Removing the station from the floodplain would also slightly increase the volume of the floodplain, potentially decreasing flood elevations and velocities. Removing the station and the existing earthen berm would have a greater beneficial effect than removing the pumping station alone.

No excess excavated material would be disposed of in a floodplain.

Alternative 3 – Elevation of Berm

Alternative 3 would involve raising the top of the berm to an elevation about 1 foot above the BFE around the perimeter of the pumping station. A hydrologic and hydraulic analysis of Alternative 3 concluded that the new berm height would protect the pumping station from the 100-year event, while only causing minimal localized flood elevation increases in the vicinity of the pump station. There would be no adverse impact to the floodway or to flood elevations upstream or downstream of the pumping station.

According to a MDEQ consultation letter dated October 15, 2001, a permit would be required under the state's Floodplain Regulatory Authority found in Part 31, Water Resources, Protection, of the NREPA. In subsequent correspondence with MDEQ, it was noted that the existing berm was originally constructed without a permit under Part 31. In addition to a hydrologic and hydraulic analysis of this alternative, a Letter of Map Revision (LOMR) would be required from FEMA as a result of altering the floodway.

3.1.4 Air Quality

EPA regulates 6 criteria pollutants that could cause adverse health effects. National Ambient Air Quality Standards (NAAQS) have been set for sulfur dioxide (SO_2), particulate matter with a diameter less than or equal to 10 microns (PM-10), ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), and lead (Pb). NAAQS are typically established for a variety of averaging times, ranging from one hour to one year.

Michigan is in attainment for five of the six criteria pollutants mandated by the EPA. The State of Michigan has been in attainment for CO since 1999, Pb and NO_2 since 1978, PM-10 since 1996, and SO_2 since 1982. Several counties are in non-attainment status for ozone, including Genesee County.

To monitor the criteria pollutants, MDEQ maintains a network of air quality monitoring stations to measure background concentrations of the 6 criteria pollutants. The monitoring station closest to the project site is located in an urban area of the City of Flint, 15 miles to the northeast of the

site, at Whaley Park (420 E. Boulevard Drive). The Whaley Park monitoring station last exceeded the NAAQS for ozone in 1998 (EPA, 2002b).

Alternative 1 – No Action Alternative

The existing pumping station does not generate pollutants that significantly contribute to the degradation of the quality of air. No impacts to air quality from criteria or other pollutants are anticipated under the No Action Alternative.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

The Proposed Action would not adversely affect air quality at or near the project site. The pumping station does not generate pollutants that significantly contribute to the degradation of the quality of air. However, temporary impacts from construction activities may result from dust and diesel fuel emissions from bulldozers and other heavy equipment, and may temporarily increase pollutant levels. Dust emissions can vary greatly from day to day depending on the level of activity. To reduce temporary impacts to air quality, the applicant would be required to water down construction areas when necessary. To reduce the emission of criteria pollutants, fuel-burning equipment operation would be kept to a minimum.

Alternative 3 – Elevation of Berm

Impacts under Alternative 3 would be similar to those described for Alternative 2.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Terrestrial and Aquatic Environment

American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), hickory (*Carya* sp.), quaking aspen (*Populus tremuloides*), locust (*Gleditsia* sp.), willow (*Salix* sp.), and cottonwood (*Populus deltoides*) are the dominant tree species within the vicinity of the existing pumping station. Honeysuckle (*Lonicera* sp.), multiflora rose (*Rosa multiflora*), and grape (*Vitis* sp.) are the main shrub or vine species noted within the project area. Goldenrod (*Solidago* spp.), teasel (*Dipsacus sylvestris*), bramble (*Rubus* sp.), and knotweed (*Polyganum* sp.) are the main herbaceous plant species within the project area. This vegetation primarily exists along Swartz Creek and the embankment between the creek and the pumping station. The relocation site is vegetated with the herbaceous species listed above and contains no trees.

Swartz Creek is home to several fish species including: panfish (*Lepomis* sp.), bass (*Micropterus* spp.), carp (*Cyprinus carpio*), and walleye (*Stizostedion vitreum*). Wildlife is abundant along the creek.

Even in this predominantly urban setting, evidence of beaver (*Castor canadensis*) was noted upstream and downstream of the project site during a site visit on March 7 and 8, 2002. Evidence of woodchuck (*Marmota monax*), white-tail deer (*Odocoileus virginianus*), rabbit (*Sylvilagus floridanus*), and raccoon (*Procyon lotor*) was also noted during the site visit. Muskrat (*Ondatra*

zibethica), fox (*Vulpes vulpes*), and skunk (*Mephitis mephitis*) are also likely to inhabit the project vicinity.

Bird species in the project area include: downy woodpeckers (*Dendrocopos pubescens)*, hairy woodpeckers (*Dendrocopos villosus*), and mourning dove (*Zenaida macroura*). Other bird species prevalent in this area include: great blue heron (*Ardea herodias*), ducks, kingfisher (*Megaceryle alcyon*), geese, and wood ducks (*Aix sponsa*). Shorebirds, cormorants, hawks, and owls are likely to be seen on occasion.

Alternative 1 - No Action Alternative

The No Action Alternative would not adversely impact the terrestrial or aquatic environment within the vicinity of the existing pump station, since there would be no disturbance. If this alternative is selected, protective measures against nuisance species, such as woodchuck, should be implemented to avoid damage to the existing earthen berm. Vegetation, especially woody vegetation, should be removed from the pumping station berm to retain the berm's structural integrity.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

During relocation, this alternative would result in minimal disturbance of vegetation adjacent to the fence surrounding the pumping station at its current location. It would also require the removal of herbaceous vegetative cover in the 900-square-foot footprint of the pump station and disturbance of the limited herbaceous vegetation in the vicinity of the relocation site, but would disturb no trees.

During construction, this alternative would temporarily disturb wildlife species that utilize the existing project site and the relocation site.

By reducing the severity of flood events and the overflow of sewage effluent into Swartz Creek, potential impacts to the aquatic environment would be reduced.

Alternative 3 – Elevation of Berm

This alternative would result in minimal disturbance of vegetation adjacent to the fence surrounding the pumping station. No disturbance to bottomland floodplain areas or wooded areas adjacent to the pumping station, or areas near the edge of Swartz Creek is anticipated. To minimize impacts to trees, the applicant would employ temporary fences around the tree driplines to prevent the encroachment of personnel and equipment on root systems. Vegetation, especially woody vegetation, should be removed from the pumping station berm to retain the berm's structural integrity.

During construction, this alternative would temporarily disturb wildlife species that utilize the project site. Protective measures to deter burrowing mammals, such as woodchuck, should be considered to reduce the potential for damage to the berm. Such measures include using stone materials, riprap, or a chain link fence with a foundation at least 1 foot below ground level.

By preventing infiltration of floodwaters into the pumping station and protecting against sewage discharge into Swartz Creek, potential impacts to the aquatic environment would be reduced.

3.2.2 Wetlands (Executive Order 11990)

The term wetland refers to areas that are inundated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, intrastate lakes, rivers, streams (including intermittent streams), mudflats, sloughs, and similar areas.

Under EO 11990, federal agencies are required to minimize the destruction, loss, or degradation of wetlands and preserve and enhance their natural and beneficial values. If a federal action has the potential to impact jurisdictional waters of the U.S. as defined by Section 404 of the Federal Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) would be contacted for appropriate permitting requirements. Section 404 of the CWA authorizes the USACE to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into waters of the U.S. at specified disposal sites. FEMA applies the Eight-Step Planning Process, required by 44 CFR Part 9, to meet the requirements of EO 11990.

Prior to conducting a site characterization, the National Wetland Inventory (NWI) map was reviewed for a preliminary identification of wetlands within the vicinity of the site. Based on this review, there are scrub-shrub, emergent, and forested wetland areas near the proposed project site and scrub-shrub wetlands on the border of the relocation site (Figure 7). A formal delineation of wetlands and waters of the U.S. in the potential areas of impact was not conducted.

During a site characterization on March 7 and 8, 2002, scrub-shrub and forested wetland areas were observed on the project site, but were confined to the bottomlands, floodplain zone, and the Swartz Creek stream corridor, and were not in the immediate vicinity of the pumping station. The wetlands were inundated with several inches of standing water. Due to the poor drainage of the soils and the limited stream corridor floodplain areas, these forested areas probably remain inundated for long periods of time. Natural drainage is via a series of ephemeral and/or intermittent channels into the forested areas, particularly to the west of the project site.

No wetlands were observed during the site visit on the relocation site. The closest wetlands were down-gradient of the site in the Swartz Creek stream corridor.

Michigan has received authorization from the federal government to administer Section 404 of the Clean Water Act in most areas of the state. The MDEQ has reviewed the project area and stated in a letter dated October 15, 2001 that the project would be reviewed under Part 303, Wetlands Protection, of the NREPA.

Alternative 1 - No Action Alternative

This alternative would have no effect on wetlands adjacent to the project site because no construction would occur. The pumping station would continue to be vulnerable to the 100-year event, and the adjacent wetlands would continue to be periodically inundated with sewage overflow.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

The relocation site would not be located within identified wetland areas, and wetland areas would be avoided during the removal of the pumping station from its current site. The area to be excavated during the installation of the new force main consists of previously disturbed soils and is regularly groomed. No wetlands were identified along this route during site visits conducted in March 2002. If required by MDEQ during permitting, a site-specific delineation would be conducted to evaluate nearby wetland conditions and to determine and mark boundaries. No excess excavated material would be disposed of in a wetland. As a result, no impacts to these resources are anticipated.

FEMA applies the Eight-Step Planning Process, as required by regulation, to meet the requirements of EO 11990. This step-by-step analysis is included in Appendix B of this document.

Alternative 3 – Elevation of Berm

Alternative 3 would reduce the potential for future releases of effluent from the site to adjacent areas, including the wetlands. A site-specific delineation may be required to evaluate wetland conditions and to determine and mark boundaries. Wetland areas would be avoided during the construction of the berm and the electrical upgrades. No wetlands were observed in the surrounding area within or immediately surrounding the pumping station. FEMA applies the Eight-Step Planning Process, as required by regulation, to meet the requirements of EO 11990. This step-by-step analysis is included in Appendix B of this document.

3.2.3 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 requires federal agencies to determine the effects of their actions on threatened and endangered species of fish, wildlife, and plants, and their habitats, and to take steps to conserve and protect these species.

FEMA requested the Michigan Department of Natural Resources (MDNR) to review records for known occurrences of threatened, endangered, or otherwise significant plant and animal species, natural plant communities, and other natural features. In a letter dated October 7, 2003, the MDNR responded there are no known occurrences of federal- or state-listed threatened, endangered, or otherwise significant species, natural plant communities, or natural features at the project site (Appendix C).

The U.S. Department of the Interior, Fish and Wildlife Service (USFWS) was also requested to review records for known occurrences of threatened and endangered species in the project area. In their consultation letter dated October 3, 2003, they also indicated that there are no endangered, threatened, proposed, or candidate species, or critical habitat occurring within the project area (Appendix C).

Based on these consultations, no further consideration is required for the No Action Alternative, Alternative 2 (Proposed Action), or Alternative 3 regarding impacts to threatened or endangered species.

3.3 HAZARDOUS MATERIALS

The scope of work conducted in the preparation of this EA included a database search, inquiries with state and local agencies, and a site reconnaissance.

To determine the presence and approximate location of known hazardous materials in the vicinity of the proposed project, VISTA, an independent information service, conducted an environmental database search. The database search queries multiple federal, state, and local hazardous materials and underground storage tank (UST) databases.

The VISTA report, dated March 8, 2002, identified five facilities located within a one-quarter mile radius of the site with environmental classifications.

Claude Road Landfill, on Claude Road, is listed on the Solid Waste Facility (SWF) and Comprehensive Environmental Response Compensation Liability Information System/No Further Remedial Action Planned (CERCLIS/NFRAP) databases. The landfill is reportedly located on the north, east and south of Claude Avenue, and is adjacent to the north and east boundaries of the pumping station. A preliminary assessment was conducted by the MDEQ on June 27, 1986, and was completed on February 7, 1990. Based on that investigation no additional remedial actions are planned. This site is not listed on the Hazardous Waste docket or on the National Priority List (NPL). A site reconnaissance on March 7 and 8, 2002 revealed no issues of particular concern. However, it should be noted that at the time of the site visit, the property was covered with approximately 3 to 4 inches of snow.

Dawn Donuts, G-3265 Miller Road, is reportedly located approximately 0.07 mile north of the pumping station. However, the field reconnaissance could not identify the exact location of this establishment. As a result, it believed that this facility is no longer in operation. This facility is listed as a Small Quantity Generator (SQG) with no violations listed. Because no violations are listed, this site poses a minimal risk to all of the project alternatives.

Red Roof Inn, G-3219 Miller Road, is reportedly located 0.12 mile north of the pumping station and is listed as a one-time SQG. No violations were listed. Based on the fact that no violations are listed, this site poses a minimal risk to all of the project alternatives.

Midas Muffler, G-3211 Miller Road, is located 0.12 mile north of the pumping station and is listed as a SQG with no violations listed. Based on the fact that no violations are listed, this site poses a minimal risk to all of the project alternatives.

Point Amoco, G-3356 Miller Road, is a gas station reportedly located 0.14 mile west of the pumping station and is listed on the UST database. This facility did not appear on the leaking underground storage tank (LUST) database or other databases of concern; therefore, the site does not represent a significant concern for any of the project alternatives. Access into the pumping station was not obtained at the time of the site reconnaissance. However, subsequent discussions with the applicant suggest that there are no asbestos-containing materials (piping insulation, roofing materials, wallboard, etc.) in the pumping station building (Davidek, pers. comm.).

Alternative 1 - No Action Alternative

The existing use would continue under this alternative. This alternative poses no risk or impacts to the surrounding sites. In addition, the identified hazardous waste screening sites pose no threat to the existing pump station.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

The relocation would require soil excavation. Based on a review of the information presented in the VISTA report, soil excavation associated with Alternative 2 is not anticipated to impact any hazardous materials.

Although subsurface hazardous materials are not anticipated to be present in the project area, construction activities could expose or otherwise affect subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled by the county in accordance with applicable local, state, and federal regulations.

Alternative 3 - Elevation of Berm

Alternative 3 would involve placing clean fill (obtained off-site) onto the existing berm. No material would be excavated from the project site or adjacent properties. The replacement of variable drive parts is not anticipated to involve hazardous materials because there are no asbestos-containing materials on site. As such, Alternative 3 is not anticipated to impact any hazardous materials.

Although subsurface hazardous materials are not anticipated to be present in the project area, construction activities could expose or otherwise affect subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled by the county in accordance with applicable local, state, and federal regulations.

3.4 SOCIOECONOMICS

3.4.1 Zoning and Land Use

The project site is located near Flint Township's eastern border with the City of Flint, in Genesee County. Flint Township has both a Master Plan and a Zoning Ordinance.

The project site and the relocation site are located within the C-2 General Business District (Flint Township, 2002). The C-2 district extends north of the project site across Miller Road to Lennon Road, to the west and to the south across Swartz Creek to I-69. Permitted uses within the C-2 district include: essential public services; public service buildings; retail food establishments, including convenience stores; retail businesses; personal services establishments; newspaper offices; churches; restaurants; private clubs; funeral homes and other uses. The sanitary sewer pumping station is the only existing use on the project site.

To the immediate south of the site are Swartz Creek, floodplain, and wetland areas. Further to the south are I-75 and Bishop Airport. The area to the immediate east and northeast of the project site is zoned as a C-3 Highway Service District, which permits more extensive business and entertainment activities than the C-2 General Business district. Immediately east of the site is a one-lane paved road with no curb or shoulders, and slightly further east is a vacant parcel that is reported to be a former landfill (discussed in Section 3.3: Hazardous Materials). Also to the east and northeast are hotels, restaurants, retail, and commercial establishments. A vacant parcel with debris consisting of an abandoned truck, shed, and other wood debris, is located to the immediate north of the site. Further to the north is a U-Haul truck rental establishment with frontage on Miller Road, with the loading and parking areas that appear to be intermingled with the pumping station right-of-way. The areas further to the north along Miller Road and beyond are dominated by highway commercial uses. To the west and northwest are forested wetland areas consisting of mixed broad-leaved deciduous hardwoods. Several inches of water and several dozen used tires were observed within the wetland areas northwest of the site during the field reconnaissance on March 7 and 8, 2002.

Alternative 1 – No Action Alternative

The No Action Alternative would have no impact upon the existing zoning designation and current land uses in the area, as no changes would occur.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

Under the Proposed Action, the relocation of the pumping station from its current location to a location further north along the access road would keep the pump station within the C-2 zoning district, where it is considered a principal permitted use. The relocation would be compatible with adjacent land uses.

Alternative 3 – Elevation of Berm

Alternative 3 would be permitted as a principal permitted use under the existing C-2 zoning district and would require no amendments or variances from existing lot and block regulations. Alternative 3 would also be consistent with the existing use and compatible with adjacent and surrounding land uses.

3.4.2 Visual Resources

Visual resources refer to the landscape character (i.e., what is seen), visual sensitivity (i.e., human preferences and values regarding what is seen), scenic integrity (i.e., degree of intactness and wholeness in landscape character), and landscape visibility (i.e., relative distances of seen areas) of a geographically defined viewshed.

An 8-foot high chain link fence surrounds the existing pumping station. The pumping station is only partially obscured from the access road due to the presence of the berm. The pumping station is not visible from Miller Road.

Alternative 1 – No Action Alternative

Under the No Action Alternative, there would be no impact to the visual resources of the project site and surrounding area because no changes would occur.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

Under the Proposed Action, the pump station would be relocated to a vacant site approximately 200 to 300 feet north of the existing pump station. Careful siting and adequate screening of the pumping station would ensure compatibility with adjacent uses and minimize visual impacts.

Alternative 3 – Elevation of Berm

No visual impacts to the project site are anticipated from this alternative. Visual quality from the U-Haul property may be improved by a higher berm that further obscures the pumping station.

3.4.3 Noise

Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses.

Noise, defined herein as undesirable sound, is federally regulated by the Noise Control Act of 1972 (NCA). Although the NCA gives the EPA authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards. The EPA's guidelines, and those of many federal agencies, state that outdoor sound levels in excess of 55 dB DNL are "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals. The No Action Alternative would not increase noise levels because construction activities would not take place. Although construction would increase noise levels temporarily, because both the project site and the relocation site are in sparsely populated areas without receptors nearby, the Proposed Action and Alternative 3 are not anticipated to adversely impact the local population.

3.4.4 Public Services and Utilities

A 7-member Township Board oversees departments, commissions and other volunteer organizations that provide services to the residents of Flint Township including: Parks and Recreation Commission; Planning Commission Board of Appeals; Board of Review, Building Authority; Building Board of Appeals; Civil Service Commission; Compensation Commission; Economic Development Corporation; Airport Airpark Development Advisory Council; Election Commission; Fire Retirement Board; and Liquor Advisory Commission.

The Flint Township Police Department provides police protection to the project site. The Flint Township Police Department has 41 professional officers, including the Police Chief, supervisors, and patrol officers (Flint Township Police Department, 2001).

Fire protection services to the project site and relocation site are provided by the Flint Township Fire Department, which was established in 1947. The Township Fire Department has three fire stations and employs 14 full-time firefighters and 38 part-time, on-call firefighters. Three trained arson investigators and two state-certified fire safety inspectors are also on the Department staff (Flint Township, 2000).

The Fire Department maintains all 1,300 hydrants in the Township, which contains the largest water-main distribution system in Genesee County. Department vehicles include seven pump trucks, one tower, two chief's vehicles, a captain's vehicle; a walk-in van (Air Unit), three utility pickups, and an investigation van.

The existing use does not require the provision of solid waste disposal services to the site. Consumers Energy provides gas and electric service to the project site. The applicant provides water to the site, and the facility is operated as part of the wastewater disposal system.

No utilities exist at the relocation site proposed under Alternative 2.

Alternative 1 – No Action Alternative

Under this alternative, no impacts are anticipated to essential public services or utilities. Because flooding is anticipated at the same historic levels, 100-year flood events are anticipated to continue to require Township services for emergency response and repair to the existing pumping station. Access to public services for the general population is not expected to be affected, except to the extent that municipal employees may not otherwise be available while responding to flooding at the pumping station.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

Alternative 2 would reduce the requirement for Township response services to the project site. Under this alternative, a positive benefit may occur from reduced infiltration of floodwaters into the sanitary sewer system.

Alternative 3 – Elevation of Berm

Alternative 3 is anticipated to reduce the requirement for Township response services to the project site. Under this alternative, a positive benefit may occur from reduced infiltration of floodwaters into the sanitary sewer system.

3.4.5 Traffic and Circulation

The project site is located at the southern terminus of Claude Road, a one-lane macadam road that runs in a north-south direction from Miller Road to the north. Miller Road is an east-west arterial providing regional access to the site. Located within one-half mile of the project site are Interstate 69 and Interstate 75/ U.S. Route 23. No impacts are anticipated to traffic or circulation under the No Action Alternative, Proposed Action, or Alternative 3; the work area for all alternatives is located at the terminus of a dead-end road.

3.4.6 Environmental Justice (Executive Order 12898)

EO 12898, entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to "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 U.S."

This section examines the impact of the Proposed Action and alternatives on minority and low-income populations and determines whether the Proposed Action and alternatives would have a disproportionately high and adverse effect on the populations.

The project site is located within Census Tract 109.12, Block Group 1, Block 1023. According to 2000 U.S. Census Bureau data, there are no residents in this block group. A site reconnaissance verified that the block group consists of non-residential and predominantly highway commercial, lodging, and food establishment uses. The closest residence is located approximately one-third of a mile to the north on the north side of Miller Road and outside of the floodplain.

Census Tract 109.12, Block Group 1, which encompasses Block 1023 and the surrounding areas, has a population of 1,217 according to 2000 Census data. Approximately 84 percent of the population is White, 10 percent is African American, and 2.6 percent is Hispanic. The remaining portion of the population is comprised of Asian, Native American, or other races.

In 1990, the project site was formerly part of Census Tract 109.04, Block Group 4. In 1989 (the latest income data available), the median income per household for Block Group 4 was $16,378 as opposed to the national median income of $38,837 (U.S. Census Bureau, 1990). Approximately 14.5 percent of the population was reported to be below the poverty level, which is slightly more than the national percentage of 13.1 for the same year.

None of the Action Alternatives would have a disproportionately high or adverse effect on minority or low-income populations. There are no populations near the project area, or within a quarter-mile radius of the project site.

3.4.7 Safety and Security

Safety and security issues that have been considered in this EA include the health and safety of the area residents and the public at-large, and protection of personnel involved in construction activities. The project site is located at the end of a private road with adjacent vacant parcels. Historically, flood events have remained localized within the 100-year floodplain, an area that includes the project site and adjacent parcels, without reaching further north to Miller Road, a major thoroughfare for through traffic. However, there is a public health risk related to the overflow of sewage into Swartz Creek that results from the infiltration of stormwater into the pumping station and manhole.

Alternative 1 – No Action Alternative

Under the No Action Alternative, the public health risk associated with the overflow of sewage into Swartz Creek (and then to the Flint River) during flood events would continue.

Alternative 2 – Relocation of Pumping Station (Proposed Action)

There would be no impact to public safety and security from the Proposed Action. The relocation out of the floodplain and further from Swartz Creek would decrease the probability of a sewage overflow into Swartz Creek. The construction activity under this alternative would not impact the safety or accessibility of the roads in the area. However, construction activities could present safety risks to those performing the activities. To minimize risks to human safety and health, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment and all appropriate safety precautions. Additionally, all activities would be conducted in a safe manner in accordance with the standards specified in OSHA regulations.

Alternative 3 – Elevation of Berm

There would be no adverse impact to public safety and security from Alternative 3. The improved flood control measures would decrease the probability of a sewage overflow into Swartz Creek. The construction activity under this alternative would not impact the safety or accessibility of the roads in the area. However, construction activities could present safety risks to those performing the activities. To minimize risks to human safety and health, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment and all appropriate safety precautions. Additionally, all activities would be conducted in a safe manner in accordance with the standards specified in OSHA regulations.

3.5 CULTURAL RESOURCES

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800. Requirements include identification of significant historic properties that may be impacted by the Proposed Action. Historic properties are defined as archaeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 60.4).

As defined in 36 CFR Part 800.16(d), the Area of Potential Effect (APE) “is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.”

In addition to identifying historic properties that may exist in the proposed project’s APE, FEMA must also determine, in consultation with the appropriate State Historic Preservation Officer (SHPO), what effect, if any, the action would have on historic properties. Moreover, if the project would have an adverse effect on these properties, FEMA must consult with the SHPO on ways to avoid, minimize, or mitigate the adverse effect.

An on-line review of the Michigan State Register of Historic Places and the National Register of Historic Places was conducted (Michigan SHPO, 2002). This assessment identified the presence of five historic places within Flint Township. All of the sites are located further than 1 mile from the subject property and relocation site. Additionally, no properties over 50 years old were noted in the vicinity of the project sites during the site reconnaissance on March 7 and 8, 2002.

FEMA has concluded, and the Michigan SHPO concurs, that no archaeological or historic resources are present at either of the Action Alternative project sites. The FEMA determination letter dated May 7, 2003, and the SHPO review letter dated October 24, 2003 can be found in Appendix C. If artifacts or human remains are encountered during construction of Alternative 2 or Alternative 3, work in the vicinity would be discontinued, and the applicant would immediately notify FEMA and the SHPO.

Tribal Religious Sites Investigation

In March 2002, Dewberry and Goodkind issued coordination letters requesting determination of the presence or absence of Indian Religious Sites and known archaeological sites on or near the project areas to the following tribal organizations: Pokagan Band, Potawatomi Indian Nation, Inc.; Keweenaw Bay Indian Community; Sault Ste. Marie Tribe of Chippewa Indians; Hannahville Indian Community; and Lac Vieux Desert Band of Lake Superior Chippewa. No responses were received.

After the project alternatives were modified, the Michigan Historical Center was contacted to obtain a list of tribes that could be impacted by the implementation of either of the alternatives. In a response letter, the Michigan Historical Center indicated that the Saginaw Chippewa Indian Tribe was the only tribe that claims cultural affiliation in the project area. A request for an evaluation of the presence or absence of Tribal Religious Sites within the project areas described in Alternatives 2 and 3 was submitted to the Saginaw Chippewa Indian Tribe. In a response letter dated October 1, 2003, the Tribe indicated that no information about the presence of Indian Traditional Cultural Properties, Sacred Sites, or other Significant Properties near the project area is available.

Cumulative impacts are those effects on the environment that result from the incremental effect of the action when added to past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

Regardless of future development in Genesee County, if no action is taken, Pumping Station Number 1 would continue to incur flood damages from the 100-year event. Therefore, repair costs (incurred by the Division of Water and Waste Services) and the risk to public health and the environment resulting from sewage overflow would continue. Completion of the Proposed Action or Alternative 3 would not change the capacity of the pumping station and therefore would not encourage development in the area. No other projects that would affect or be affected by the Proposed Action or Alternative 3 are planned or ongoing in the project area. Therefore, no cumulative impacts are associated with the Proposed Action or Alternative 3.

A public notice advertising the availability of the draft EA for public review was published in the Flint Journal on January 25, 2004 (Appendix D). The public was provided the opportunity to review the EA from January 25, 2004 to February 23, 2004 and comment on the Proposed Action. No public comments were received during the review period.

This table provides a brief summary of the anticipated permitting and mitigation requirements for the proposed project alternatives.

Alternatives	Permit/Mitigation Requirements
Alternative 1 – No Action Alternative	▪ No permits are required ▪ Protective measures to deter burrowing mammals should be considered to reduce the potential for damage to the berm. Such measures include using stone materials, riprap, or a chain link fence with a foundation at least 1 foot below ground level. ▪ Vegetation, especially woody vegetation, should be removed from the pumping station berm to help retain its structural integrity.
Alternative 2 – Relocation of Pumping Station (Proposed Action)	▪ The Applicant must follow all applicable local, state, and federal laws, regulations, and requirements. They must obtain and comply with all required permits and conditions from MDEQ prior to initiating work on the project. No staging of equipment or construction activities shall begin until all permits are obtained. ▪ Best management practices such as placing silt fences and hay bales, and seeding and mulching exposed soils shortly after disturbance would be used to prevent soil erosion and degradation of water quality in Swartz Creek ▪ If project activities include the stockpiling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and soil erosion. ▪ Any excess excavated material would be removed for disposal at an appropriately permitted facility. No material would be deposited in floodplain or wetland areas. ▪ To reduce temporary impacts to air quality, the applicant would be required to water down construction areas when necessary. ▪ Running time of fuel-burning equipment would be minimized and engines would be maintained to reduce the emission of criteria pollutants. ▪ If required by MDEQ during permitting, site-specific wetland delineations would be conducted to evaluate wetland conditions and boundaries to avoid disturbance of these areas during construction. Wetland areas would

Alternatives	Permit/Mitigation Requirements
	be avoided during the removal of the pumping station from its current site. • Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled by the county in accordance with applicable local, state, and federal regulations. ▪ Careful siting and adequate screening of the pumping station would ensure compatibility with adjacent uses and minimize visual impacts. ▪ All construction activities would be conducted by trained personnel in compliance with the standards and regulations of OSHA to protect worker safety. ▪ If artifacts or human remains are encountered during construction, work in the vicinity would be discontinued, and the applicant would immediately notify FEMA and the SHPO.
Alternative 3 – Elevation of Berm	▪ The Applicant must follow all applicable local, state, and federal laws, regulations, and requirements. They must obtain and comply with all required permits and conditions from MDEQ prior to initiating work on the project. No staging of equipment or construction activities shall begin until all permits are obtained. ▪ Best management practices such as placing silt fences and hay bales, and seeding and mulching exposed soils shortly after disturbance would be used to prevent soil erosion and degradation of water quality in Swartz Creek. ▪ If project activities include the stockpiling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and soil erosion. ▪ An MDEQ permit must be obtained under the State Floodplain Regulatory Authority, Part 31, Water Resources Protection, of the NREPA. ▪ To reduce temporary impacts to air quality, the applicant would be required to water down construction areas when necessary. ▪ Running time of fuel-burning equipment would be minimized and engines would be maintained to reduce

Alternatives	Permit/Mitigation Requirements
	the emission of criteria pollutants. ▪ To minimize impacts to trees, the applicant would place temporary fences around the tree driplines to prevent damage from the encroachment of personnel and equipment on root systems. ▪ Vegetation, especially woody vegetation, should be removed from the pumping station berm to help retain its structural integrity. ▪ Protective measures to deter burrowing mammals should be considered to reduce the potential for damage to the berm. Such measures include using stone materials, riprap, or a chain link fence with a foundation at least 1 foot below ground level. ▪ If required by MDEQ during permitting, site-specific wetland delineations would be conducted to evaluate wetland conditions and boundaries to avoid disturbance of these areas during construction. Wetland areas would be avoided during the construction of the berm and the electrical upgrades. ▪ The project would be reviewed and a MDEQ permit may be required under Part 303, Wetlands Protection, of the NREPA. ▪ Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled by the county in accordance with applicable local, state, and federal regulations. ▪ All construction activities would be conducted by trained personnel in compliance with the standards and regulations of OSHA to protect worker safety. ▪ If artifacts or human remains are encountered during construction, work in the vicinity would be discontinued, and the applicant would immediately notify FEMA and the SHPO.

The following agencies were consulted during the preparation of this Environmental Assessment:

Federal Agencies Consulted

U.S. Department of the Interior, Fish and Wildlife Service

State, City, and Local Agencies Consulted

Michigan Department of Environmental Quality

Michigan Department of Natural Resources

Michigan Historical Center

Hannahville Indian Community

Keweenaw Bay Indian Community

Lac Vieux Desert Band of Lake Superior Chippewa

Sault Ste. Marie Tribe of Chippewa Indians

Pokagon Band, Potawatomi Indian Nation, Inc.

Genesee County Drain Commissioner - Division of Water & Waste Services

Genesee County Planning Commission

Flint Township, Building Department

Spaulding Township Offices

Distribution List

Brent Paul, FEMA Headquarters

Bruce Menerey, Michigan Department of Environmental Quality

Matt Schnepp, Michigan Department of State Police, Emergency Management Division

References

Environmental Protection Agency (EPA). 2002a. Surf Your Watershed. Retrieved April 4, 2002 from http://cfpub.epa.gov/surf/.

EPA. 2002b. Air quality. Retrieved April 4, 2002 from http://www.epa.gov/oar/oaqps/greenbk/astate.html.

Farrand, W.R. and D.L. Bell. 1982. Michigan Department of Environmental Quality (MDEQ), Geological Survey Division. *Quaternary Geology of Southern Michigan.* 1:500,000 map.

Federal Emergency Management Agency (FEMA). 1979. Flood Insurance Rate Map (FIRM): Township of Flint, Michigan. Community Panel #260395 0010 B.

FEMA. 1996. National Environmental Policy Act: FEMA Desk Reference. Version III.

Flint Township, Michigan. 2002. Zoning Ordinance & Map.

Flint Township. 2000. Fire Department. Retrieved April 5, 2002 from http://www.flinttownship.com/fire.html.

Flint Township Police Department. 2001. Retrieved April 5, 2002 from http://www.flinttownshippolice.org/default.asp.

Genesee County Health Department. 2002. *Health News: E.Coli Bacteria Levels in Swartz Creek and Flint River*. Retrieved March 25, 2002 from http://health.co.genesee.mi.us/.

MDEQ. 2002. *General Geology of Michigan*. Retrieved March 23, 2002 from http://www.Michigan.gov/deq/1,1607,7-135-3308_3582-9680--,00.html and http://www.Michigan.gov/deq/1,1607,7-135-3308_3582-96840--,00.html.

Michigan Department of Transportation. 2002. State Road Map. Scale: 1 inch=14.5 miles.

Michigan State Historic Preservation Office (SHPO). 2002. Listing of National and State Registers of Historic Places. Retrieved March 25, 2002 from http://michsite.state.mi.us/voyager.cfm.

Milstein, Randall L. 1987. MDEQ, Geological Survey Division. *Bedrock Geology of Southern Michigan.* 1:500,000 map.

National Wetland Inventory (NWI) Map. Flint South, Michigan. 1:80,000 map.

Native American Research in Michigan - Lesson Three-Addresses and URLS. 2002. Retrieved March 25, 2002 from http://hometown.aol.com/RoundSky/Lesson3.html.

U.S. Census Bureau. 1990. Retrieved March 23, 2002 from http://factfinder.census.gov.

U.S. Census Bureau. 2000. Retrieved March 23, 2002 from http://quickfacts.census.gov.

United States Department of Agriculture (USDA) Soil Conservation Service. 1993. *Soil Survey of Genesee County, Michigan.*

United States Geological Survey (USGS). 1983. *Swartz Creek, Michigan* 7.5 Minute Topographic Quadrangle.

USGS. 2002a. Earthquake Hazards Program (EHP): National Earthquake Information Center. *Seismicity of the United States, 1568-present – East United States.* Retrieved March 23, 2002 from http://geohazards.cr.usgs.gov/usqk/east.html.

USGS. 2002b. EHP: National Seismic Hazard Mapping Project. Hazard Lookup by Zip Code. Retrieved March 23, 2002 from http://eqint.cr.usgs.gov/eq/html/zipcode.shtml.

USGS. 2002c. NWIS Web Data for the Nation. Retrieved April 4, 2002 from http://waterdata.usgs.gov/nwis.

VISTA Information Solutions, Inc. (VISTA). 2002. Site Assessment Report. Generated March 8, 2002.

Personal Communications

Corrigan, Mari. 2001. Township of Flint, Building Department. Personal Communication with Sara Doane, Dewberry-Goodkind, Inc. Environmental Planner (First). April 4, 2002.

Crespo, Mike. 2002. Genesee County Division of Water and Waste Services. Personal communication with Anthony Lee, Goodkind & O'Dea, Inc., Environmental Planner (Master). April 4, 2002.

Davidek, Tim. 2002. Chief of Operations and Maintenance for Genesee County Division of Water and Waste Services. Personal communication with William Marsh, Dewberry & Davis Senior Hydrologist and with Damiano Albanese, Dewberry-Goodkind, Inc. Environmental Planner (Master). March 8, 2002 and March 18, 2002.

O'Brien, John. 2002. Director, Genesee County Division of Water and Waste Services. Personal communication with Anthony Lee, Goodkind & O'Dea, Inc., Environmental Planner (Master). April 4, 2002.

Seaman, Richard N. 2002. Genesee County Drain Commission – Division of Water and Waste Services. Personal communication with Anthony Lee, Goodkind & O'Dea, Inc., Environmental Planner (Master). April 5, 2002.

Robert W. Rooks, P.E.
Civil Engineer (Master)
Dewberry & Davis, LLC
8401 Arlington Blvd.
Fairfax, VA 22031-4666
(703) 289-4782

Mr. Rooks is a registered professional engineer with 16 years of environmental consulting experience. His areas of professional practice have included contaminant site investigation and remedial design, broad-based environmental assessments, alternatives analysis, constructability review, and construction management. He has provided NEPA services on Department of Defense, Department of Transportation, Department of Labor, and Federal Emergency Management Agency projects since 1997.

Ileana Ivanciu, P.G.
Environmental Planner (Master)
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Ms. Ivanciu has over 20 years experience in the environmental field including design and implementation of environmental analysis studies in compliance with NEPA requirements. She has managed and prepared CED, EA and EIS documents and conducted numerous studies associated with project development in environmentally sensitive areas.

Anthony Lee, AICP
Environmental Planner (Master)
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Mr. Lee has 12 years of planning and environmental analysis experience including the management of environmental analyses and documentation for compliance with NEPA, New York Sate Environmental Quality Review Act (SEQRA) and California Environmental Quality Review Act (CEQA). He has managed and written Environmental Assessments and Environmental Impact Statements.

Steven Wheeler
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Mr. Wheeler has over 19 years of environmental experience in consulting and assisting in the management of environmental projects. He has worked on numerous wetland related projects under NEPA, USACE and other regulatory compliance projects.

William Marsh
Senior Hydrologist
Dewberry & Davis, LLC
8401 Arlington Blvd.
Fairfax, VA 22031-4666
(703) 849-0442

Mr. Marsh has 5 years of experience in performing or reviewing hydrologic and hydraulic analyses. He has worked on FEMA projects supporting flood insurance and disaster assistance programs, and on Virginia Department of Transportation stormwater management projects.

Damiano Albanese
Environmental Planner (Master)
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Mr. Albanese has 10 years of diverse experience, including the performance of technical environmental studies as part of environmental analysis projects conducted under NEPA; comprehensive preliminary assessments used in the evaluation of potential liabilities associated with hazardous materials/waste storage, handling, and disposal; evaluation of a facility's compliance with regulatory requirements, and the evaluation of on-site contaminated areas.

Jessica Prockup
Environmental Planner (First)
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Ms. Prockup specializes in the biology and management of wetland systems. Her experience includes fish and aquatic invertebrate studies and avian and aquatic plant habitat management. Her responsibilities have included NEPA Checklist preparation, Ecological Assessments, Cultural Resource Assessments, and Phase I Environmental Site Assessments.

Sara N. Doane
Environmental Planner (First)
Dewberry-Goodkind, Inc.
299 Webro Road
Parsippany, NJ 07054-3701
(973) 428-4909

Ms. Doane specializes in Quaternary geology and coastal geomorphology. Her experience includes soil sampling and analysis, wetlands studies, GPS surveying, and technical and scientific writing. In addition, she has over 2 years of experience in Geographic Information Systems and Remote Sensing technology.

URS Group, Inc.

Tom Hay, Senior Environmental Scientist

Angela Chaisson, NEPA and Natural Resources Group Leader

Appendix A

Figures and Photographs

LIST OF FIGURES

Figure 1 Regional Map

Figure 2 Existing and Relocated Site Locations (USGS 7.5 Minute Topographic Quadrangle Map)

Figure 3 Sanitary Trunk Line Locations

Figure 4 Soil Survey

Figure 5 Flood Insurance Rate Map (FIRM) Community Panel No. 2603950010B

Figure 6 Flood Boundary and Floodway Map (FBFM) Community Panel No. 2603950010

Figure 7 National Wetlands Inventory (NWI) Map

LIST OF PHOTOGRAPHS

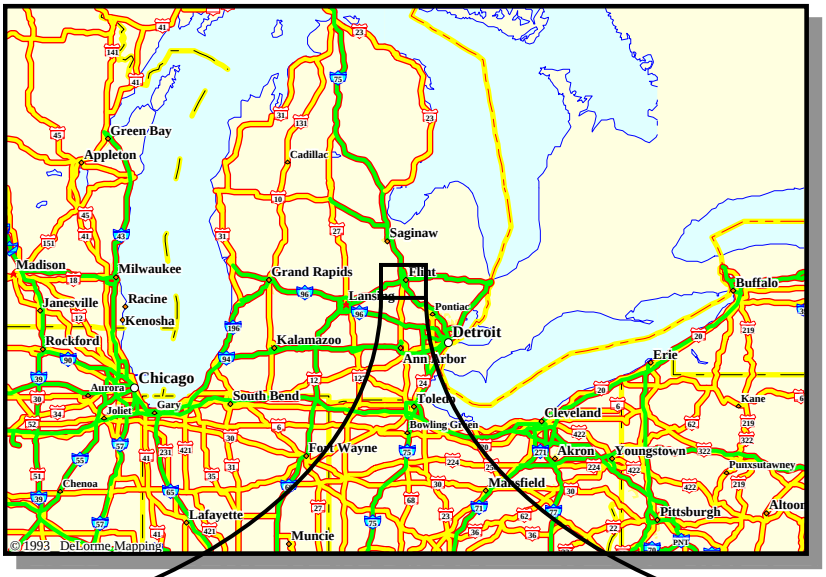
Photograph 1 View of existing Pumping Station Number 1, looking south.

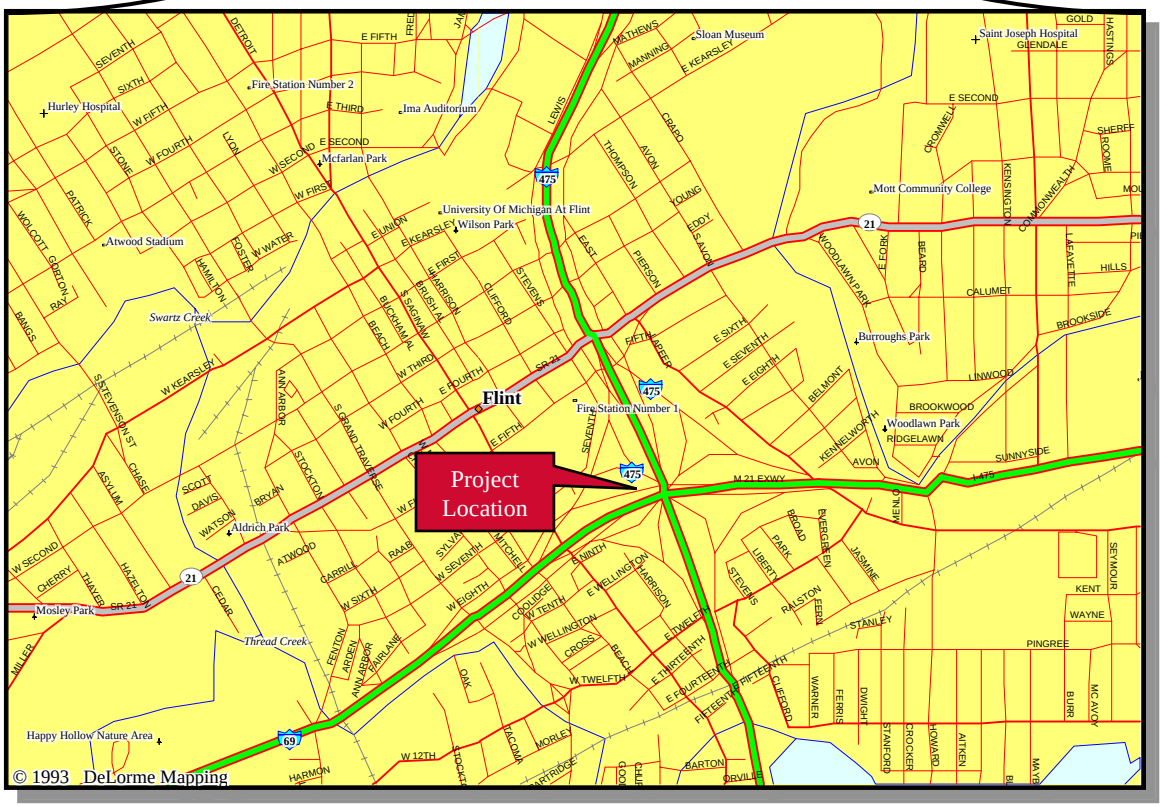
Photograph 2 View of proposed relocation site for Pumping Station Number 1, looking north.

Photograph 3 View of proposed relocation site for Pumping Station Number 1, looking north.

Photograph 4 View of existing Pumping Station Number 1 and area of excavation for new force main, looking southwest.

Photograph 5 View of existing Pumping Station Number 1, looking west.





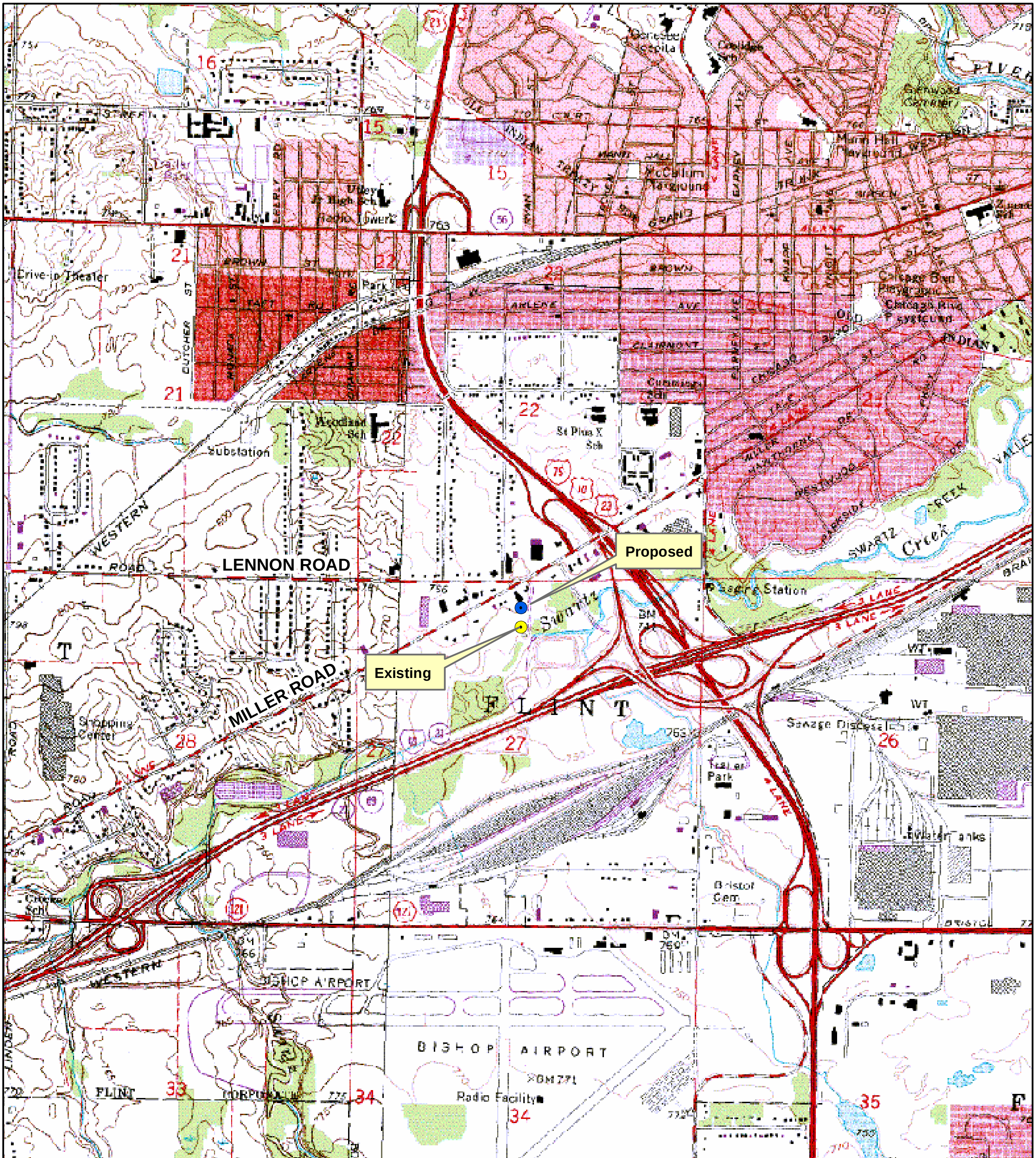
CLIENT FEMA			
PROJ A1348.82 Genesee County – Pumping Station No. 1			
REVISION NO	DES BY		
SCALE NOT TO SCALE	DR BY	DK	9-25-03
FILE 89-FEMA4138.00\Reports\Draft\100.82\Revised PDEA\Figures\Figure 1.PPT	CHK BY	RT	9-25-03

TITLE **REGIONAL MAP**

URS

PROJ NO 15292443

FIGURE **1**



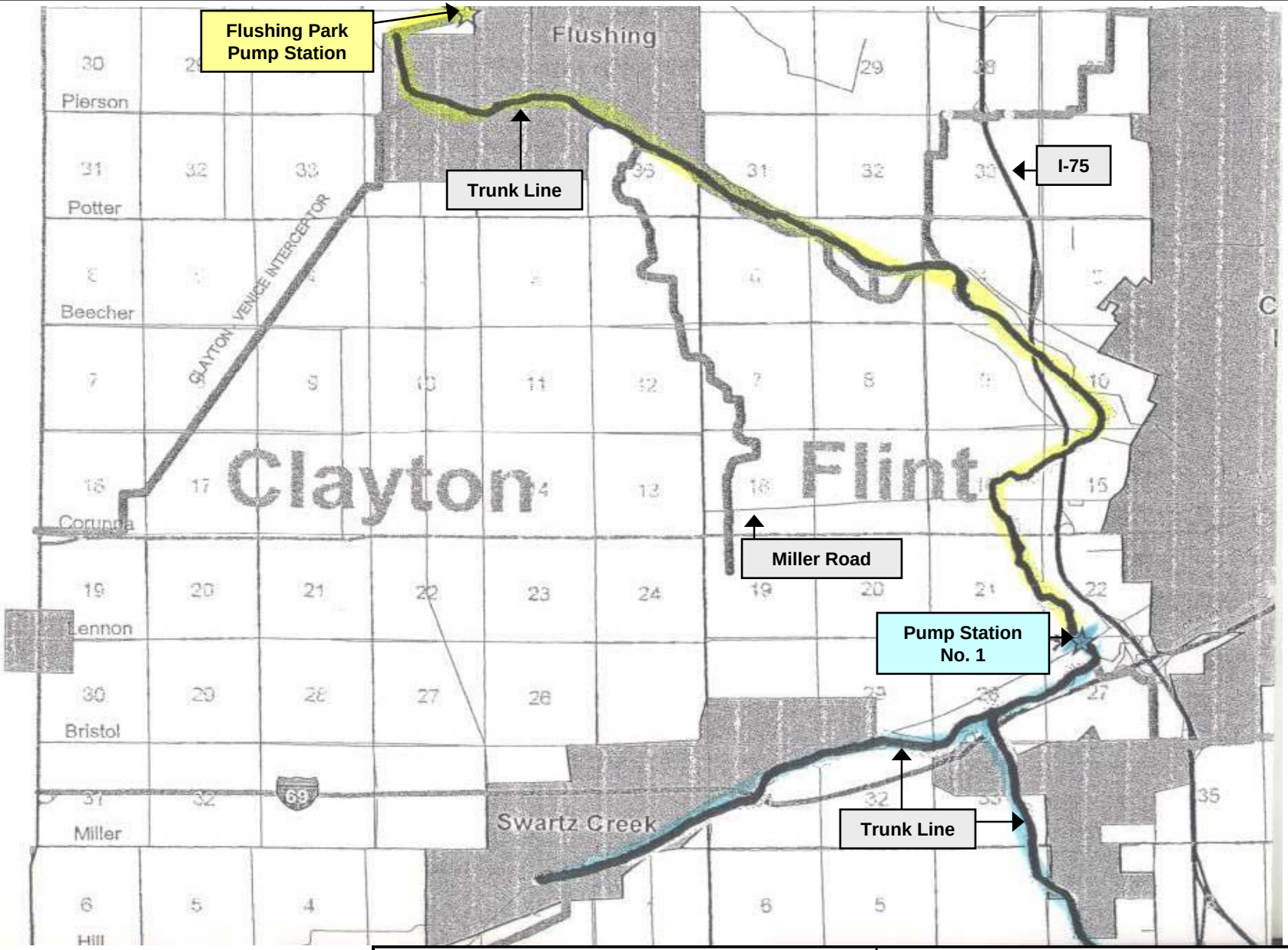
Source: USGS 7.5 Minute Quadrangle
Swartz Creek, MI

Client:	FEMA
Proj:	A1346.82 Genesee County - Pumping Station No. 1
Scale:	1 inch equals 2,000 feet
File:	G:/15292488/projects/swartzcreek_site2.mxd

Title:
Existing Pumping Station and Proposed Site Locations

URS

Figure:
2



CLIENT	FEMA			
PROJ	Genessee County Pumping Station No. 1			
REVISION NO	1 1/05/04	DES BY		
SCALE	NOT TO SCALE	DR BY	AS	1/05/04
		CHK BY	JF	1/05/04

TITLE Sanitary Trunk Line Locations

URS

PROJ NO 15295539

FIGURE 3

P:\89-FEMA4138.00\Rpts\Draft\100.82\Rev PDEA\Figs\Fig3.ppt

USDA, 1993.

Proposed Location

Existing Location

CLIENT	FEMA	TITLE	GENESEE COUNTY SOIL SURVEY
PROJ	Genesee County – Pumping Station No. 1	URS	PROJ NO 15295539.00100
FILE	P:\89-FEMA4138.00\Reports\Draft\10082\Fig 4 Soils Map		FIGURE 4

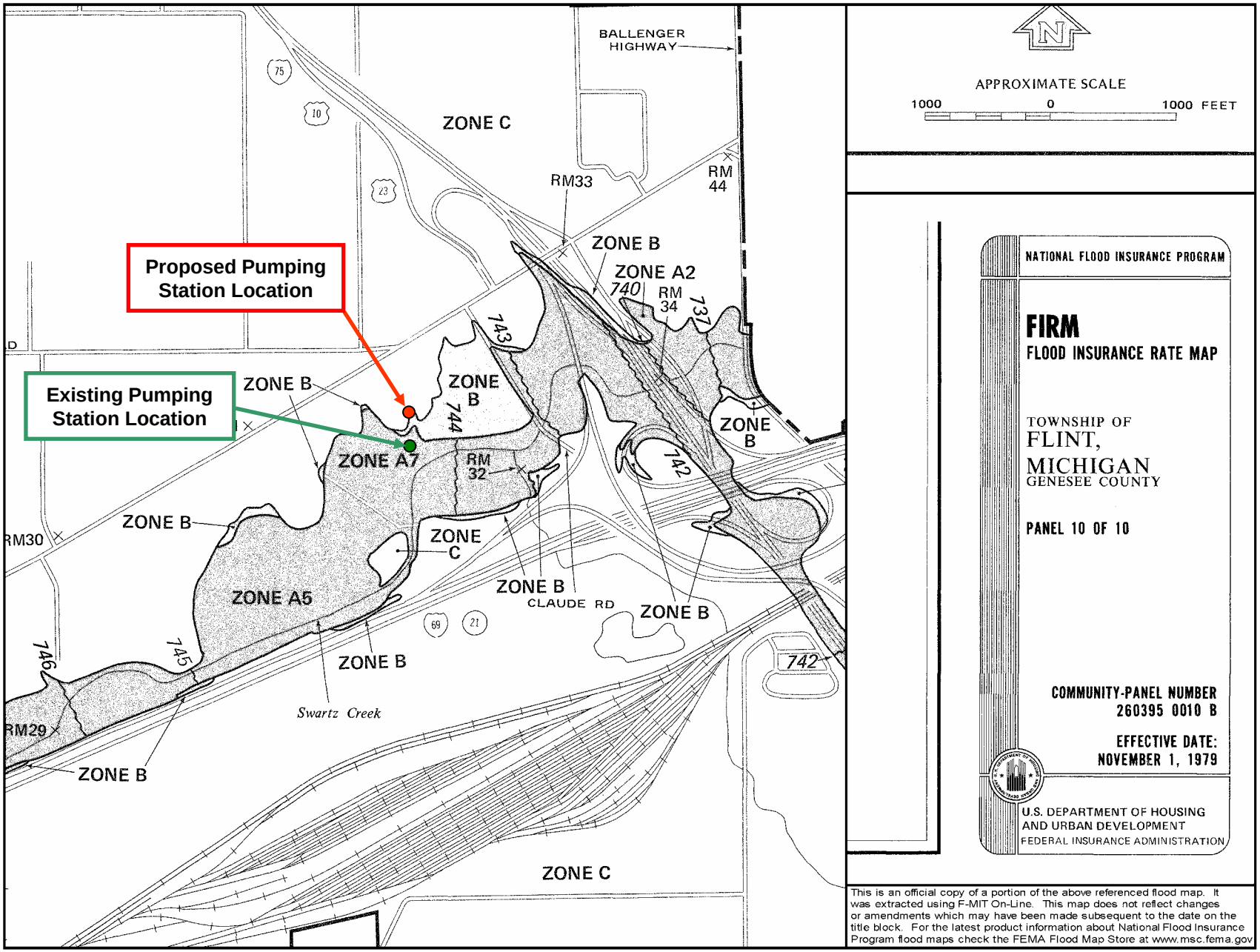
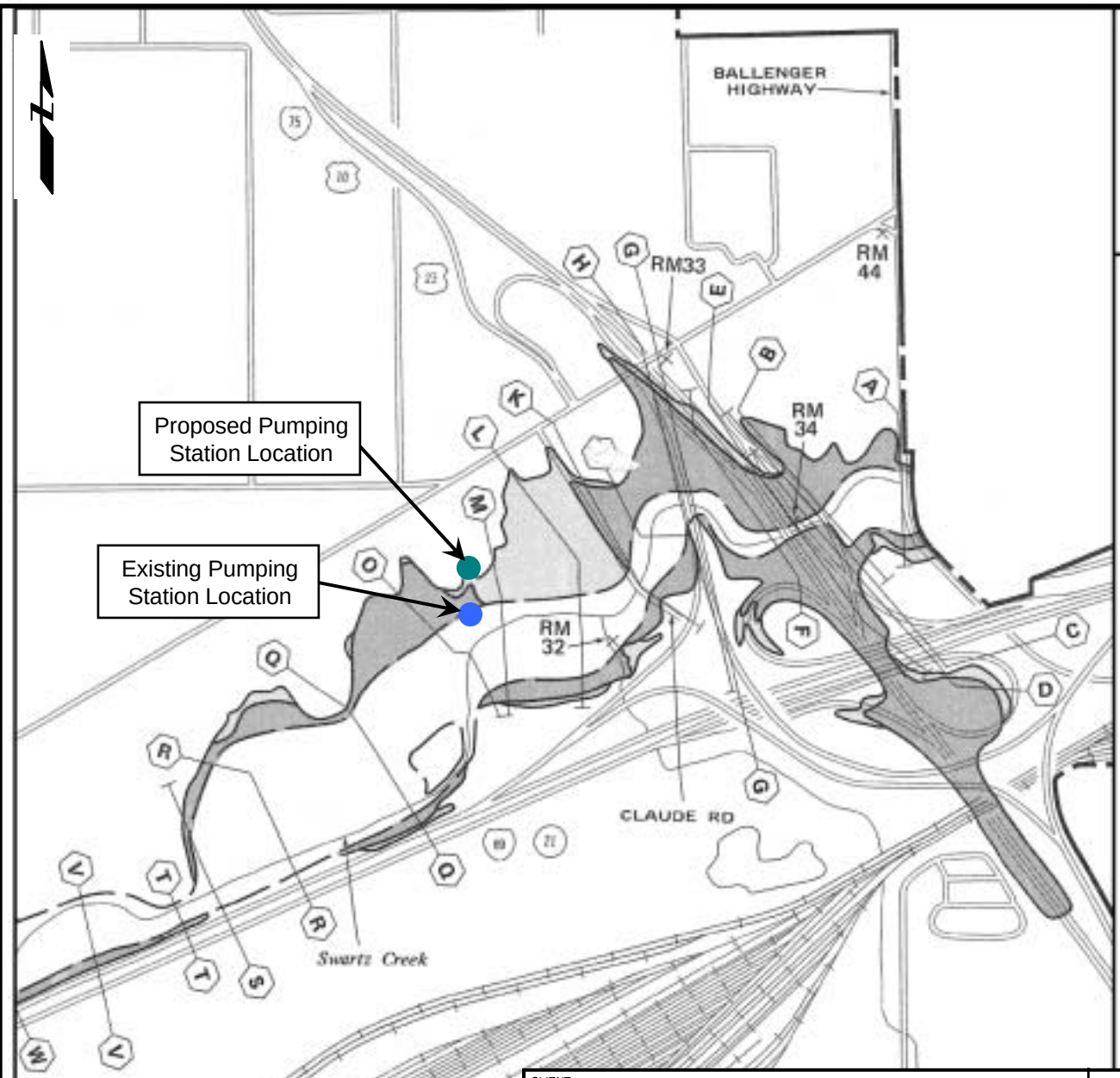


Figure 5
Flood Insurance Rate Map



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND FLOODWAY MAP

TOWNSHIP OF
FLINT,
MICHIGAN
GENESEE COUNTY

PANEL 10 OF 10

COMMUNITY-PANEL NUMBER
260395 0010

EFFECTIVE DATE:
NOVEMBER 1, 1979

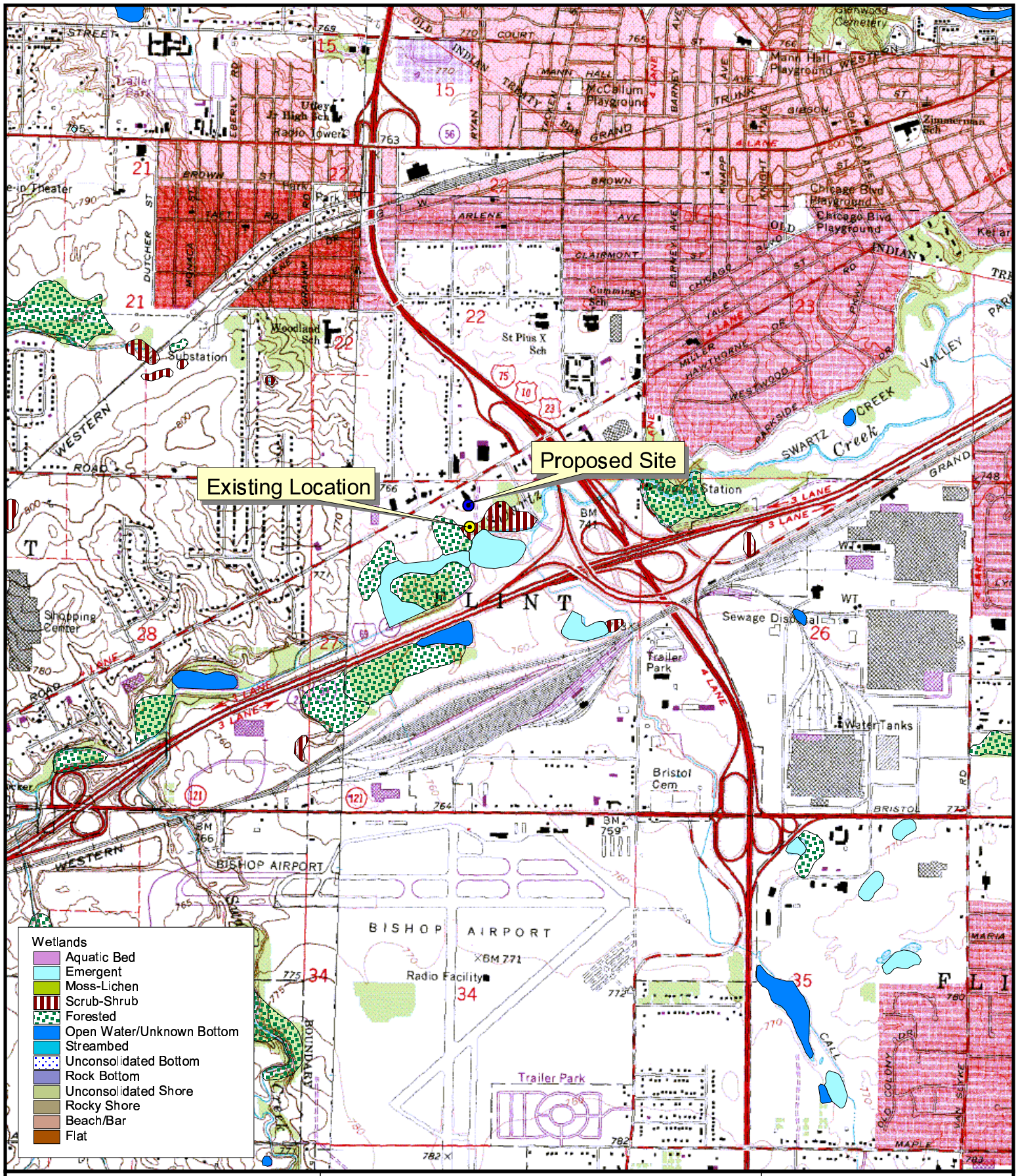
CLIENT	FEMA			
PROJ	A1348.82 Genesee County – Pumping Station No. 1			
REVISION NO		DES BY		
SCALE	NOT TO SCALE	DR BY	BR	12-31-03
FILE P:/GTB/89-FEMA4138/rpts/dft/Fig 5 FBFM.PPT		CHK BY	KC	12-31-03

TITLE **FLOOD BOUNDARY AND FLOODWAY MAP (FBFM)**

URS

PROJ NO 15295539

FIGURE **6**



SOURCE: USGS 7.5 MINUTE QUADRANGLE
Swartz Creek, MI 1983

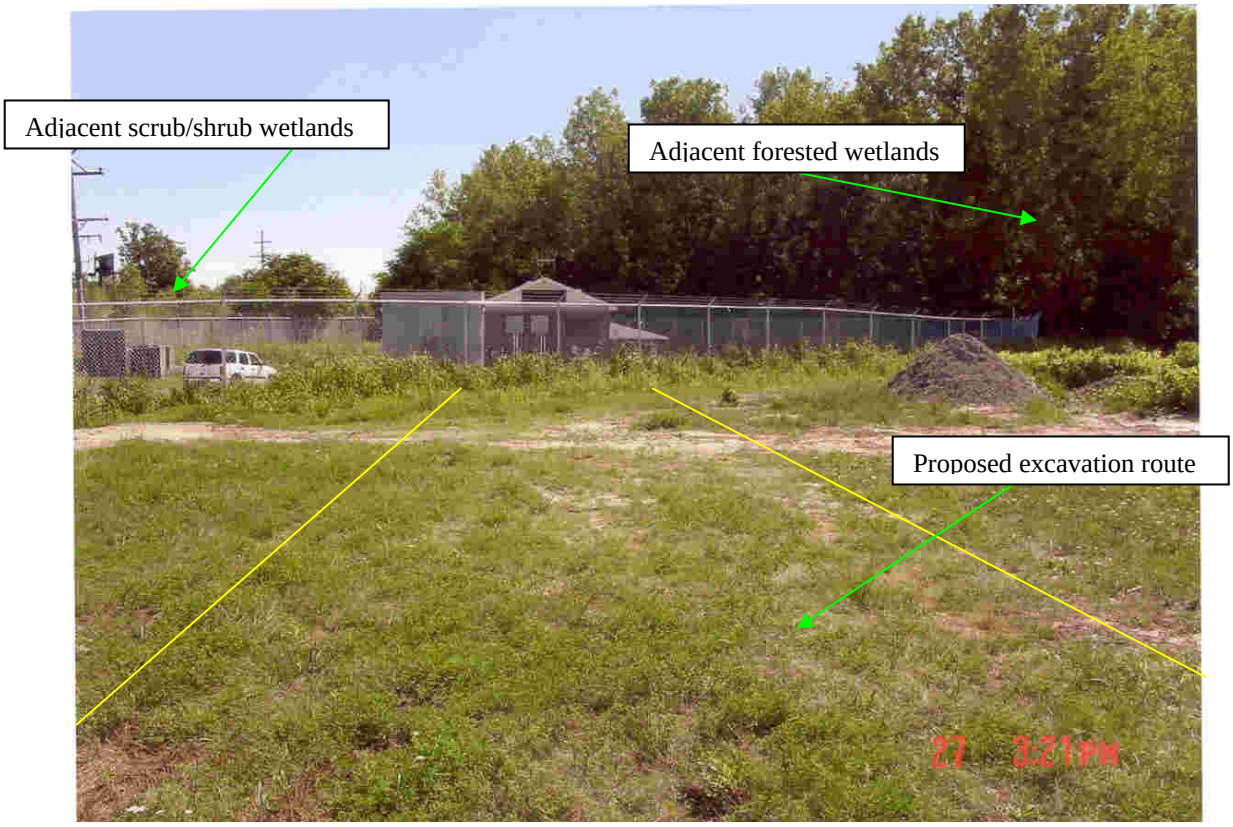
N

CLIENT:	FEMA
PROJ:	A1346.82 Genesee County - Pumping Station No. 1
SCALE:	1 inch equals 2,000 feet
FILE:	G:\15292488\project\NWI.apr

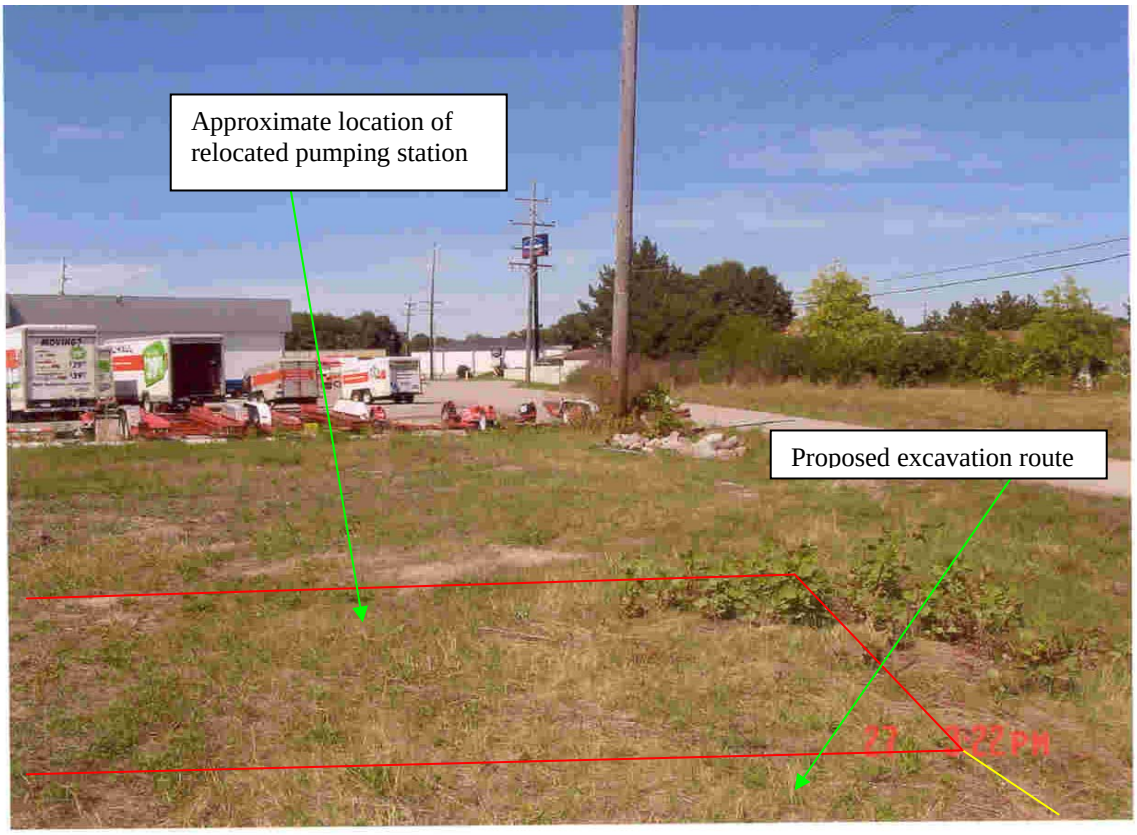
TITLE:
Wetlands Map

URS

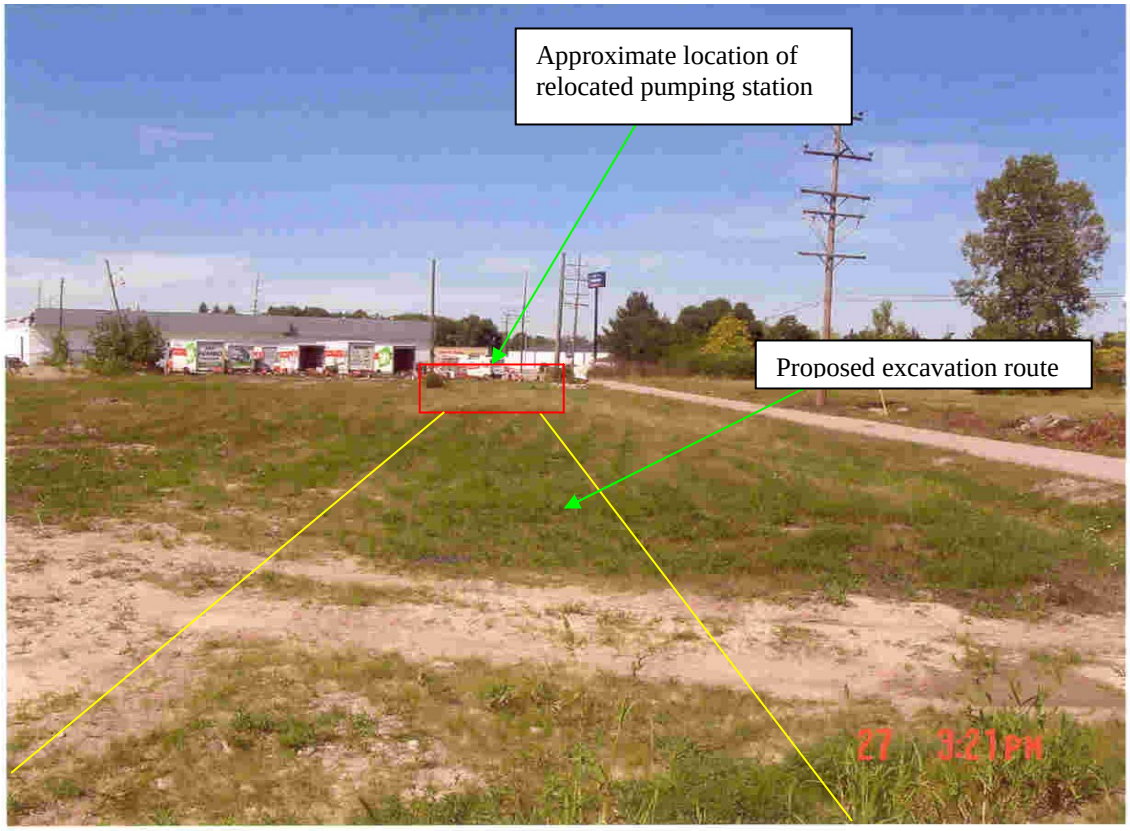
Figure:
7



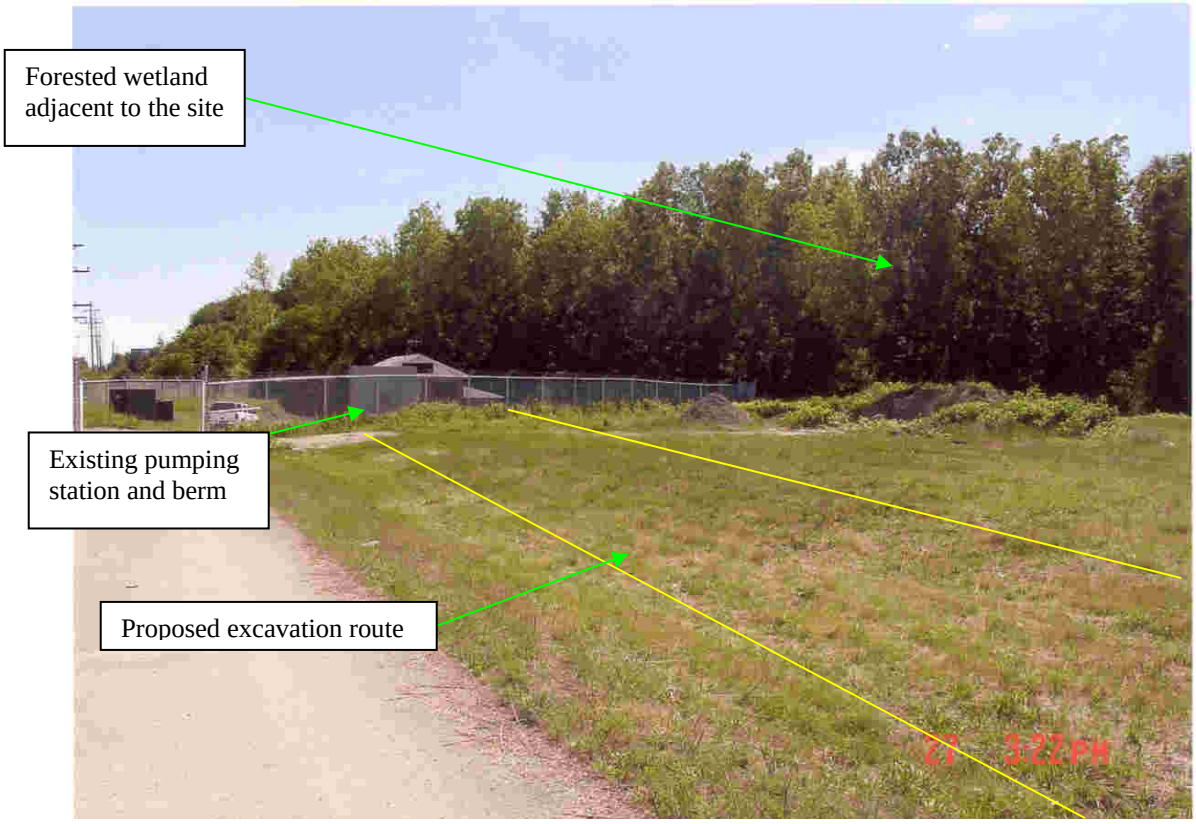
Picture #1: View to existing pumping station looking south along route of proposed excavation. View shows spatial relation of proposed activities to adjacent wetlands. Indicated excavation is approximate.



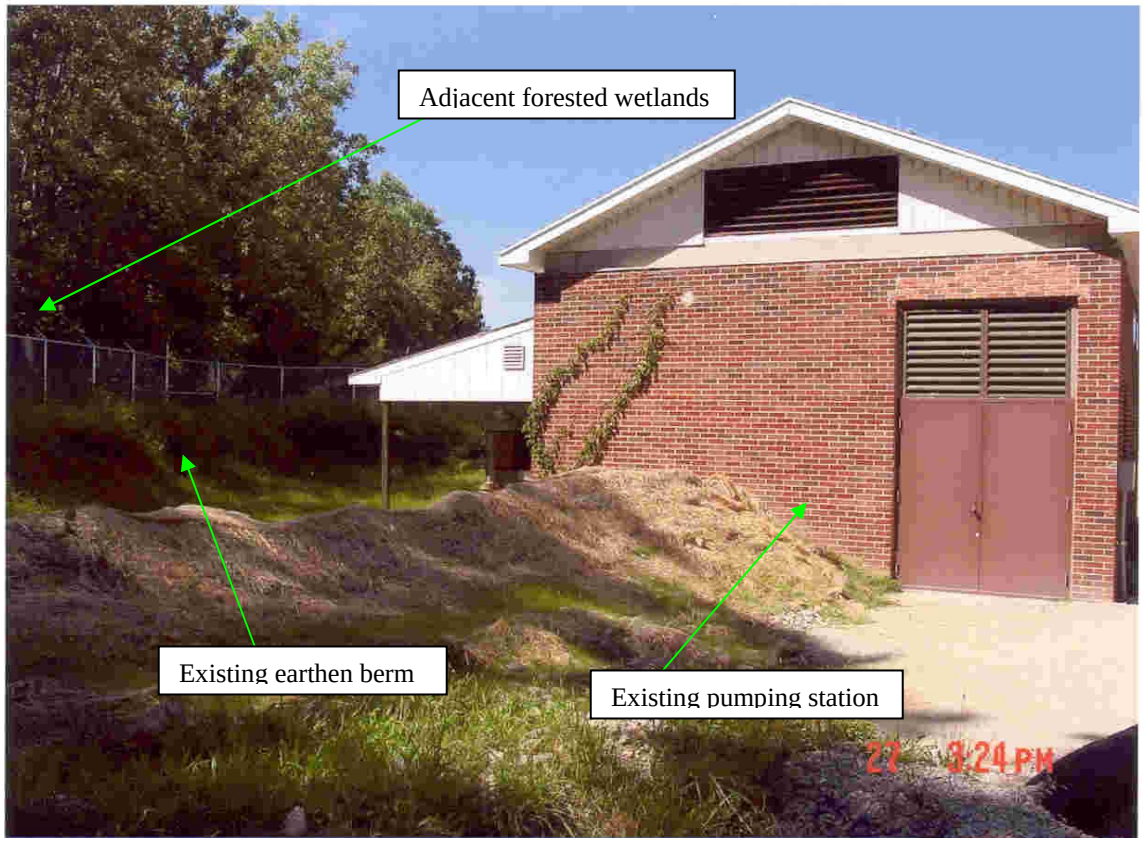
Picture #2: View of footprint of new pumping station looking north. Indicated footprint is approximate.



Picture #3: View from midpoint of proposed excavation looking north to proposed pumping station relocation. Indicated excavation and footprint are approximate.



Picture #4: View of existing pumping station and proposed excavation route looking southwest from midpoint of excavation route. Indicated excavation is approximate.



Picture #5: View of pumping station and berm looking west.

Appendix B

E.O. 11988 Floodplain Management

Eight-Step Planning Process

Executive Order 11988 Floodplain Management Executive Order 11990 Wetland Protection Eight-Step Planning Process Summary	
Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.	**Project Analysis:** Flint Township participates in the NFIP, and the project area is located on FIRM Community Panel No. 2603950010B, effective November 1, 1979. According to the FIRM and the Flood Boundary and Floodway Map (FBFM), the project site is located within the 100-year floodplain and floodway of Swartz Creek. Although the project site is depicted within the effective floodway for Swartz Creek on the FBFM, the site is actually located on an island of high ground and surrounded by floodway. According to NWI mapping and a site visit, scrub-shrub and forested wetlands exist adjacent to the project site. No wetlands are present in the area immediately surrounding the pump station building and areas appear to be confined to the bottomlands and floodplain zone, and the Swartz Creek stream corridor. There are no wetlands in the vicinity of the relocation site.
Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making	**Project Analysis:** Initial publication was provided by FEMA on October 29, 2000 in the Detroit Free Press. The public will be provided an opportunity to review and comment on the Draft EA.
Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.	**Project Analysis:** The Proposed Action would relocate the pumping station outside of the 100-year floodplain. The alternatives under consideration include: Alternative 1: No Action Alternative 2: Proposed Action. The pumping station would be relocated to a site outside of the 100-year floodplain which is about 300 feet north of the current location and near Miller Road. Alternative 3: The existing berm would be elevated above the base flood elevation (BFE) by 1 foot around the perimeter of the pumping station, and the pumping station's electrical components would be replaced and upgraded to withstand future flood damage.

Executive Order 11988 Floodplain Management Executive Order 11990 Wetland Protection Eight-Step Planning Process Summary	
Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.	**Project Analysis:** Under the No Action Alternative, the pumping station would still be vulnerable to the 100-year storm event and the floodplain and wetlands would continue to be periodically inundated with sewage overflow. Under Alternative 2, the existing pumping station would be relocated outside of the 100-year and 500-year floodplains. The removal of the existing pumping station and earthen berm would increase the capacity of the floodplain, potentially decreasing flood elevations and velocities. This would be a beneficial effect. No effects to wetlands are anticipated under this alternative. Under Alternative 3, the berm would be raised 1 foot above the BFE. A hydrologic and hydraulic analysis of the Alternative 3 concluded that the new berm height would protect the pumping station from the 100-year event, while causing only minimal localized flood elevation increases in the vicinity of the pump station. There would be no impact to the floodway or to flood elevations upstream or downstream of the pumping station. Since there are no wetlands in the immediate vicinity of the pumping station, there would be no direct impact to wetlands. There would be an indirect benefit to the wetlands (and floodplains) because of the reduction of sewage overflow from the pumping station.
Step 5: Minimize the potential adverse impacts to work within floodplains and wetlands to be identified under Step 4, restore and preserve the natural and beneficial values served by wetlands.	**Project Analysis:** The MDEQ would review the project under Part 303, Wetlands Protection and Part 31, Water Resources Protection of the Natural Resources and Environmental Protection Act (NREPA), as amended. The applicant must comply with the terms and conditions of any permit issued by MDEQ, including any mitigation measures identified by MDEQ. The applicant must follow all applicable local, state, and federal laws, regulations, and requirements and obtain and comply with all required permits and approvals prior to initiating work on this project. No staging of equipment or construction activities shall begin until all permits are obtained. The Applicant must apply best management practices

Executive Order 11988 Floodplain Management Executive Order 11990 Wetland Protection Eight-Step Planning Process Summary	
	for soil erosion prevention and containment during staging of equipment and construction activities. Any excess excavated material would be taken off-site and disposed of at a properly permitted facility.. No excess material would be disposed of in a floodplain or wetland. Wetland areas would be avoided during the relocation of the pumping station.
Step 6: Re-evaluate the Proposed Action to determine 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; and 3) its potential to disrupt floodplain and wetland values.	**Project Analysis:** The Proposed Action remains practicable based on the flood prevention objective. It will not disrupt floodplain or wetland values.
Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.	**Project Analysis:** The Proposed Action will not take place in wetlands or the 100-year floodplain so public notification is not necessary.
Step 8: Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.	**Project Analysis:** This step is integrated into the NEPA process and FEMA project management and oversight functions.

Appendix C
Agency Correspondence

For copies of agency correspondence, contact:

Janet Frey
URS Group, Inc.
200 Orchard Ridge Drive
Suite 101
Gaithersburg, MD 20878

Appendix D

Public Notice

Federal Emergency Management Agency
PUBLIC NOTICE

Notice of Availability of the Draft Environmental Assessment for the Genesee County Drain Commission – Division of Water and Waste Services in Flint Township, Genesee County, Michigan

Environmental Assessment for Pumping Station No. 1 Flood Mitigation, Genesee County Drain Commissioner, Genesee County, Michigan. FEMA DR-1346-MI

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA) is proposing to assist in the funding of flood mitigation measures for a sewage pumping station located in Flint Township. In accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA, an Environmental Assessment (EA) is being prepared to assess the potential impacts of the proposed action on the human and natural environment. This also provides public notice to invite public comments on the proposed project in accordance with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. In addition, this notice and the draft EA provide information to the public on potential impacts to historic and cultural resources from the proposed undertaking, as outlined in the National Historic Preservation Act of 1966.

The EA evaluates alternatives that provide for compliance with applicable environmental laws.

The alternatives to be evaluated include (1) No Action; (2) The Proposed Action, which would relocate the pumping station outside of the 100-year floodplain; and (3) Elevation of Berm which would raise a berm surrounding the pumping station to approximately one foot above the base flood (100-year) elevation and replace and upgrade electrical systems.

The draft Environmental Assessment is available for review between January 25, 2004 and February 23, 2004, at the Flint Public Library at 1026 E. Kearsley Street in Flint, MI 48503, between the hours of 9 a.m. to 9 p.m., Monday thru Thursday, and from 9 a.m. to 6 p.m. on Friday and Saturday. The draft Environmental Assessment is also available for review online at the FEMA website http://www.fema.gov/ehp/docs.shtm.

Written comments regarding this environmental action should be received no later than 5 p.m. on February 23, 2004, by Jeanne Millin, Regional Environmental Officer, 536 Clark Street, 6th Floor, Chicago, IL 60605-1521 or at Jeanne.Millin@fema.gov.

If no comments are received by the above deadline, the draft EA will be considered final and a Finding of No Significant Impact will be published by FEMA.

Appendix E

Public Comments

No public comments were received during the public review period.