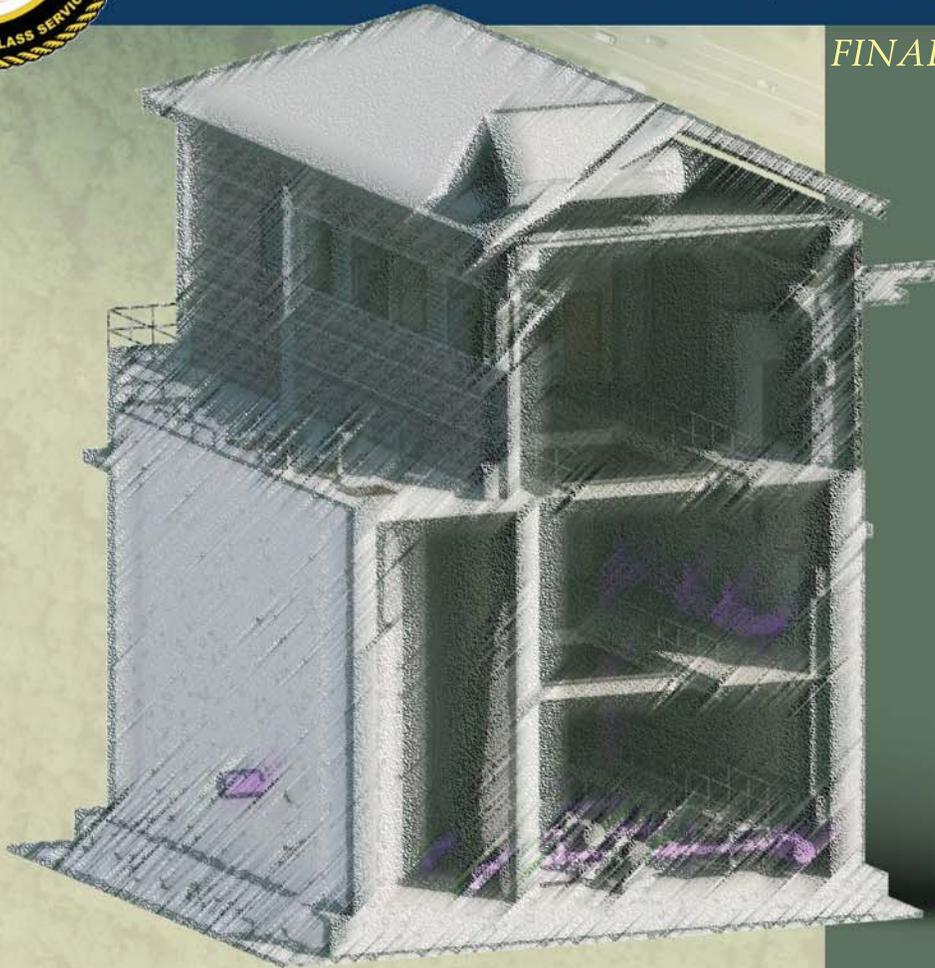


# ENVIRONMENTAL ASSESSMENT

## FORT MEADE RECLAIMED WATER PROJECT

### FORT GEORGE G. MEADE, MARYLAND

*FINAL - December 2012*



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**FINAL ENVIRONMENTAL ASSESSMENT**  
**FORT MEADE RECLAIMED WATER PROJECT**  
**FORT GEORGE G. MEADE, MARYLAND**

*Prepared by*

**Whitman, Requardt & Associates, LLP**  
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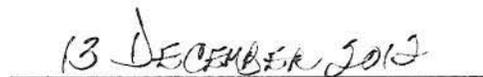
*Approved by*

**Fort George G. Meade**



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EDWARD C. ROTHSTEIN  
Colonel, Military Intelligence  
Commanding



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Date

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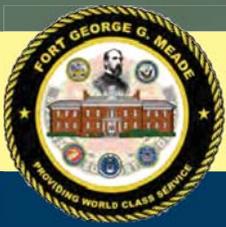


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**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

# EXECUTIVE SUMMARY



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## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

Pursuant to the National Environmental Policy Act of 1969, Federal agencies are required to consider the environmental consequences of their proposed actions. This Environmental Assessment (EA) has been prepared to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed construction and operation of a reclaimed water system at Fort George G. Meade (hereinafter “FGGM”).

This EA documents the purpose and need, the site selection process, the alternatives developed, and the analysis of potential environmental impacts considered to select a Preferred Alternative. Construction for the proposed project will begin once all studies and design are complete and all permits are secured.

### **BACKGROUND AND SETTING**

FGGM is a permanent U.S. Army installation located between Baltimore, Maryland, and Washington, DC, in northwestern Anne Arundel County. FGGM supports a number of military service organizations and several federal agencies. With more than 56,000 employees and thousands more residents of both civilian and military personnel, FGGM is Maryland’s largest employer and a key center of economic activity.

### **PROPOSED ACTION**

The National Security Agency (NSA), in coordination with Howard County’s Department of Public Works, proposes to construct a reclaimed water delivery system on FGGM for the purpose of providing reclaimed water to cooling towers located on NSA’s main and east campuses (hereinafter “Proposed Action”). Construction of the Proposed Action would include activities such as excavation, trenchless pipe installation technologies (i.e. directional drilling or jack and bore), site grading, paving, and pipe installation.

The Proposed Action includes the following design features:

- Effluent Diversion Structure
- Pump Station
- Elevated Water Storage Tank
- Interconnected Pipe Distribution System

Construction of the reclaimed water system is needed to achieve the water demand for use within the cooling towers on the NSA campus that would otherwise use drinking water resources (i.e. potable water) that could better serve future water resource needs in the region.

Construction of the Proposed Action is to be accomplished in two phases. Phase 1 consists of the full system design and construction of all system components to deliver reclaimed water to the East Campus. The County has decided that all construction activities on this portion of the project must be completed no later than May 1, 2014 and fully operational by September 2014. Phase 2 includes the completion of the



distribution system serving the existing campus. In order to meet demands, construction of the second phase shall be completed no later than May 1, 2015.

## **PURPOSE AND NEED**

The purpose of the Proposed Action is to provide a source of water for use within cooling towers located on a recently redeveloped area of NSA's main and east campuses. Based on the average daily demand of water required to service the cooling towers and the close proximity of NSA's redeveloped area in relation to Howard County's Little Patuxent Water Reclamation Plant, use of the reclaimed water system would meet the water demand requirements that would otherwise use drinking water resources for the region (i.e. potable water). In addition, use of reclaimed water would satisfy one of the initiatives set forth as part of Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*.

## **ALTERNATIVES**

The No Action Alternative, prescribed by the Council on Environmental Quality, reflects the status quo and serves as a benchmark against which the alternatives are evaluated. Under the No Action Alternative, FGGM would forgo the proposed reclaim water delivery system and its related facilities and would be required to evaluate infrastructure that would use potable water resources.

Prior to selecting the Preferred Alternative, two alternate locations for both the Pump Station site and Elevated Water Storage Tank were evaluated and eventually dismissed. These options presented a number of obstacles in comparison with the Preferred Alternative that included access issues, increased impacts to natural resources, and design challenges such as the elevation of the water tank with respect to the end user. A detailed analysis of each alternative and the reasons for its elimination are discussed in the body of this EA.

The Preferred Alternative consists of the Pump Station location, Elevated Water Storage Tank location and Interconnecting Pipe Distribution System that presented the fewest adverse impacts on the surrounding environment and were the most feasible to construct. The Preferred Alternative Pump Station location provides better access than the alternative options for maintenance of the pump station, diversion structure, and the new influent line from the diversion structure to the Pump Station, due to its proximity to Maryland Route 198. The higher elevation of the Preferred Alternative Elevated Water Storage Tank site is adequate for the tank siting and would meet project purpose and need by providing the necessary water demands and pressures to both the cooling towers proposed for the East Campus and existing cooling towers within the NSA campus. No alternate locations for the Effluent Diversion Structure were considered due to its proximity to the Little Patuxent Water Reclaim Plant Effluent Line.

## **ENVIRONMENTAL CONSEQUENCES**

This EA evaluates that potential long and short term effects on land use, air quality, noise, aesthetics and visual resources, geology and soils, water resources, biological resources, cultural resources, socioeconomics, transportation, infrastructure and utilities, hazardous materials, and environmental justice.

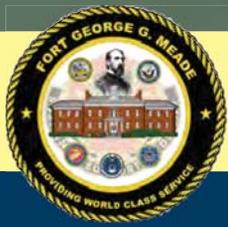


Implementation of the Proposed Action is expected to result in a mixture of short- and long-term minor adverse and beneficial effects on environmental resources and conditions. Table ES-1 summarizes the findings discussed in the body of this EA.

**Table ES-1: Summary of Impacts**

<b>Resource</b>	<b>Proposed Action</b>	<b>No-Action</b>
Land use	No Impacts	No Impacts
Air quality	Short- and Long-Term Minor Adverse Impacts	No Impacts
Noise	Short-Term Minor Adverse Impacts	No Impacts
Aesthetics and Visual Resources	Long-Term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-Term Minor Adverse Impacts	No Impacts
Wetlands	Short- and Long-Term Minor Adverse Impacts	No Impacts
Water Resources	Short- and Long-Term Minor Adverse Impacts	No Impacts
Biological Resources	Short-Term Minor Adverse Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts
Socioeconomics	Short-Term Minor Adverse and Beneficial Impacts	No Impacts
Transportation	Short-Term Minor Adverse Impacts	No Impacts
Infrastructure and Utilities	Short-Term Minor Adverse Impacts	No Impacts
Hazardous Materials	No Impacts	No Impacts
Environmental Justice	No Impacts	No Impacts





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**1.0**

**PURPOSE, NEED, AND SCOPE**



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## 1.0 PURPOSE, NEED, AND SCOPE

### 1.1 Introduction and Background

Fort George G. Meade (FGGM), Maryland is a permanent U.S. Army installation located between Baltimore, Maryland, and Washington, DC, in northwestern Anne Arundel County. FGGM (Figure 1) supports a number of military service organizations and several federal agencies. With more than 56,000 employees and thousands more residents of both civilian and military personnel, FGGM is Maryland's largest employer and a key center of economic activity.

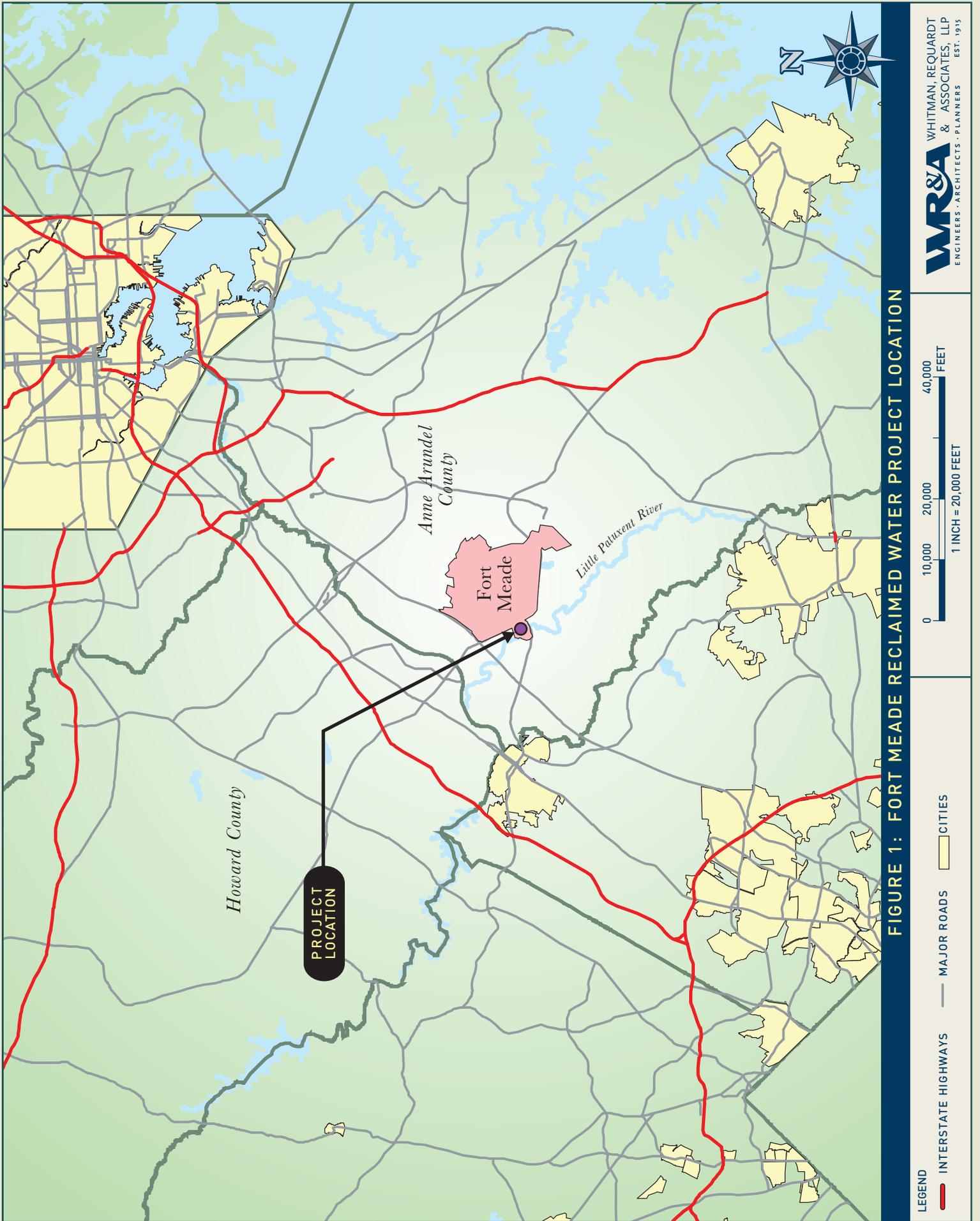
The National Security Agency (NSA), a tenant of FGGM, prepared a *Final Environmental Impact Statement Addressing Campus Development at Fort Meade, Maryland*, dated September 2010, which documented improvements in an area known as Site M. Site M consists of development infrastructure that would support additional personnel and new facilities including high performance computing centers that would be cooled by a closed loop chilled water system requiring the use of high capacity cooling towers (herein referenced as “cooling towers”). An initiative set forth as part of Executive Order 13514, *Federal Leadership in Environmental, Energy, And Economic Performance*, dated October 5, 2009, directs Federal agencies to improve water use efficiency and management. NSA identified the close proximity of the existing Little Patuxent Water Reclamation Plant (LPWRP) Effluent Line in relation to the Site M improvements and determined that use of reclaimed water may be a more suitable option to meet the water demand associated with the development of the cooling towers, rather than the use of potable water. Furthermore, additional coordination with FGGM's Water and Wastewater Service provider, American Water Enterprises, Inc. (herein referenced as “American Water”), indicated that conserving the use of potable water for such use would be preferable so that future increased demands for potable water could be met.

Currently, Howard County's Department of Public Works - Bureau of Utilities operates the LPWRP which is located approximately 3.2 miles north west of the American Water Waste Water Treatment Plant and approximately 4,500 feet south of the US Route 1/Maryland Route 32 intersection. In August 2012, the NSA proposed the use of reclaimed water to the cooling towers which would require the construction of an Effluent Diversion Structure and Pump Station that would connect to the existing LPWRP Effluent Line. In order to provide this service to NSA, the overall design of the water system will consist of a Pump Station, Elevated Water Storage Tank, and Interconnected Piping Distribution System (herein referenced as “Proposed Action”) (Figure 2).

### 1.2 Purpose and Need

In order to meet the average daily water demands to service the cooling towers, American Water would require a modification to their existing groundwater appropriation permit from the Maryland Department of the Environment (MDE) as well as additional Army funding in order to upgrade the existing water system infrastructure. The purpose of the Proposed Action is to provide a source of water, other than potable water, for use within the cooling towers to Site M. Based on the average daily demand of water required to service the cooling towers and the close proximity of the Site M improvements to Howard County's LPWRP, use of the reclaimed water system would meet the water demand requirements that would otherwise use critical drinking water resource for the region. In addition, use of reclaimed water





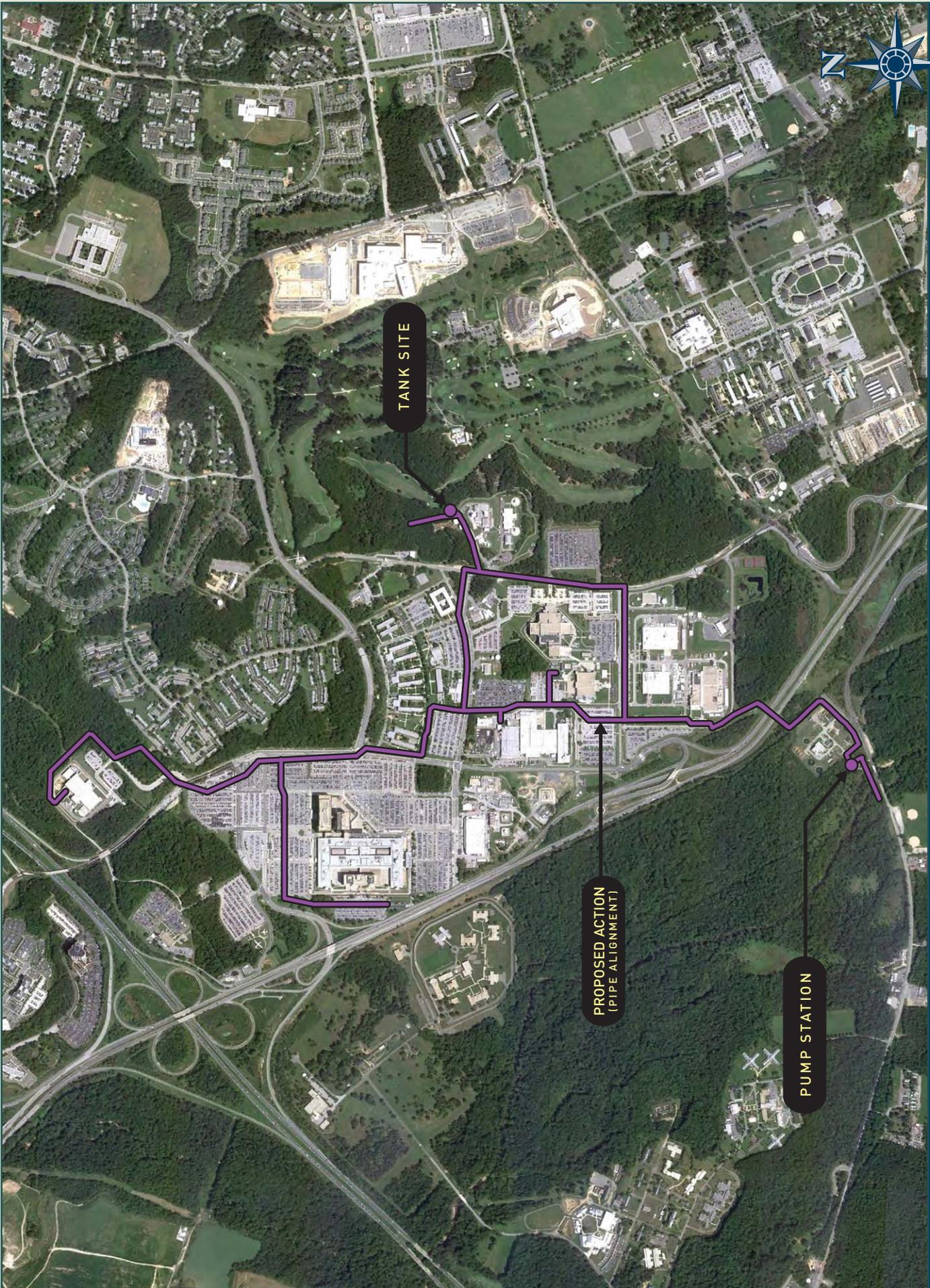
**FIGURE 1: FORT MEADE RECLAIMED WATER PROJECT LOCATION**

LEGEND

— INTERSTATE HIGHWAYS

— MAJOR ROADS

■ CITIES



**FIGURE 2: PROPOSED ACTION**

would satisfy one of the initiatives set forth as part of Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*.

### **1.3 Scope of the Environmental Assessment**

In accordance with the National Environmental Policy Act (NEPA) of 1969 and regulations issued by the Council on Environmental Quality (CEQ) and the Army (32 CFR Part 651), this Environmental Assessment identifies, documents, and evaluates the environmental effects likely to occur as a result of the project. An interdisciplinary team of scientists, engineers, planners, archaeologists, and military technicians reviewed the findings discussed in this document, which acts to inform Federal agencies and the public of any direct environmental consequences likely to occur as a result of implementing the Proposed Action. Also included is the development of alternatives, analyses of any secondary, or indirect, effects and the cumulative effects of other known or foreseeable actions.

The environmental effects include those related to construction and operation of the Proposed Action. In addressing environmental considerations, the Army is guided by relevant state and federal statutes as well as by Executive Orders that establish standards and provide guidance on environmental and natural resources management and planning.

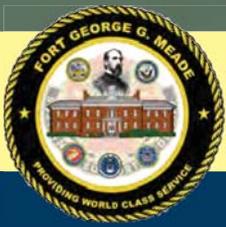
### **1.4 Public Involvement and Agency Coordination**

The Army encourages public participation in the NEPA process. Agencies, organizations, and members of the general public with an interest in the Proposed Action are requested to review and comment on these decisions as they are made.

Coordination with Federal and state agencies for the proposed project was initiated in August 2012 to solicit applicable comments related to the corresponding areas of jurisdiction and to obtain concurrence with the initial findings. Agencies contacted include the U.S. Fish and Wildlife Service, Maryland Department of Natural Resources, Maryland Department of Planning, Maryland Division of Historic Trust, Anne Arundel County Office of Planning and Zoning, and the FGGM Regional Growth Management Committee. Copies of the coordination letter and mailing list, as well as agency responses and public comments are located in Appendix A.

Public participation with respect to this EA is guided by 32 CFR Part 651. If the EA concludes that the Proposed Action will not result in significant environmental effects, the Army may issue a draft Finding of No Significant Impact (FNSI). The EA and draft FNSI will be made available to the public for review and comment for 30 days. At the end of the 30-day public review period, the Army will consider any comments submitted on the Proposed Action. As appropriate, they may then choose to execute the FNSI and continue with implementation of the Proposed Action. If it is determined that the implementation of the Proposed Action will have significant impacts, the Army will either publish a notice of intent in the *Federal Register* to prepare an environmental impact statement, commit to mitigation actions to reduce impacts below levels of significance, or cancel the action.





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
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# 2.0

## DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES



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## 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

The Proposed Action consists of the construction of a reclaimed water delivery system on FGGM that includes the following design features:

- Effluent Diversion Structure
- Pump Station
- Elevated Water Storage Tank
- Interconnected Pipe Distribution System

The use of the reclaimed water system is needed to achieve the water demand for use within the cooling towers on a recently redeveloped area of NSA's main and east campuses. Based on the average daily demand of water required to service the cooling towers, and the close proximity of NSA's redeveloped area in relation to Howard County's LPWRP, use of the reclaimed water system would meet the water demand requirements that would otherwise use drinking water resources for the region (i.e. potable water). NSA provided Howard County an analysis that determined their peak-day reclaimed water demand based on a 15-year forecast for the anticipated growth of NSA FGGM campus, which includes the Site M Improvements. A copy of the peak-day water demand and 15-year water demand forecast is included in Appendix B.

NSA's water demand forecast determined the following:

1. American Water's existing Waste Water Treatment Plant (WWTP) does not have sufficient effluent volumes to meet the peak-day reclaimed water demand or the 15-year forecast.
2. The overall design of the Proposed Action, specifically the footprint of the Pump Station and the need for construction of the Elevated Water Storage Tank.

In accordance with Federal and State regulations as they pertain to institutional facilities that discharge wastewater to surface waters of Maryland, modifications to Howard County's existing National Pollutant Discharge Elimination System (NPDES) permit is required for the Proposed Action. In order to meet the water demand requested by NSA, Howard County has submitted a renewal request for their existing NPDES permit 06-DP-1421 that would transfer nutrient discharge allocations from the LPWRP's NPDES effluent allocation to American Water's Wastewater Treatment Plant effluent allocation based on actual flow and nutrient concentrations delivered by the County's reclaimed water system to the NSA as measured at the County's reclaimed water pumping station. These permit renewals will ultimately trade off nutrients and the resulting surface water discharge to the Little Patuxent River will be the same.

The site selection process attempted to identify the most feasible, cost effective, minimally invasive and least environmentally sensitive location for the design features described above. The following is the site selection criteria used to evaluate the feasibility of each alternative location:

#### *Land Use*

- Reasonably close to the NSA Campus which is located in the southwest portion of FGGM
- Reasonably close to the LPWRP effluent line, the water source, as it is a water dependent use



- Developable, with no zoning or environmental and permitting hindrances

### ***Effluent Diversion Structure***

- Use of existing site access to the LPWRP effluent into the Little Patuxent
- Use of previously disturbed land
- Avoidance and Minimizing Impacts to Natural Resources

### ***Pump Station***

- Compliance with Howard County Design Criteria for pump stations that determines configuration
- Satisfy required flow rate and water pressure dictated by NSA
- Proximity to existing LPWRP effluent line
- Avoidance and Minimizing Impacts to Natural Resources

### ***Water Tank***

- Elevation in relationship to the East Campus and NSA Main Campus cooling towers, as the tank must be sited at a higher elevation.

### ***Interconnecting Pipe Distribution System***

- Avoidance and Minimizing Impacts to Natural Resources
- Constructability
- Consideration of proposed utilities projects in the site vicinity
- Avoidance of existing utilities

## **2.2 Alternative Sites Considered**

For proposed actions that require the preparation of an EA, the CEQ regulations, NEPA, and Army guidance and policy require that appropriate alternatives for the proposed action be described and evaluated. A reasonable range of alternatives that meet the underlying purpose and need for the proposed action should be analyzed for their environmental impacts to support a fully informed decision. An EA must include an evaluation of the No Action Alternative as a reference for the comparison of potential environmental impacts associated with the proposed action. Additionally, the EA should identify any alternatives eliminated from detailed analysis and indicate the reasons for their elimination.

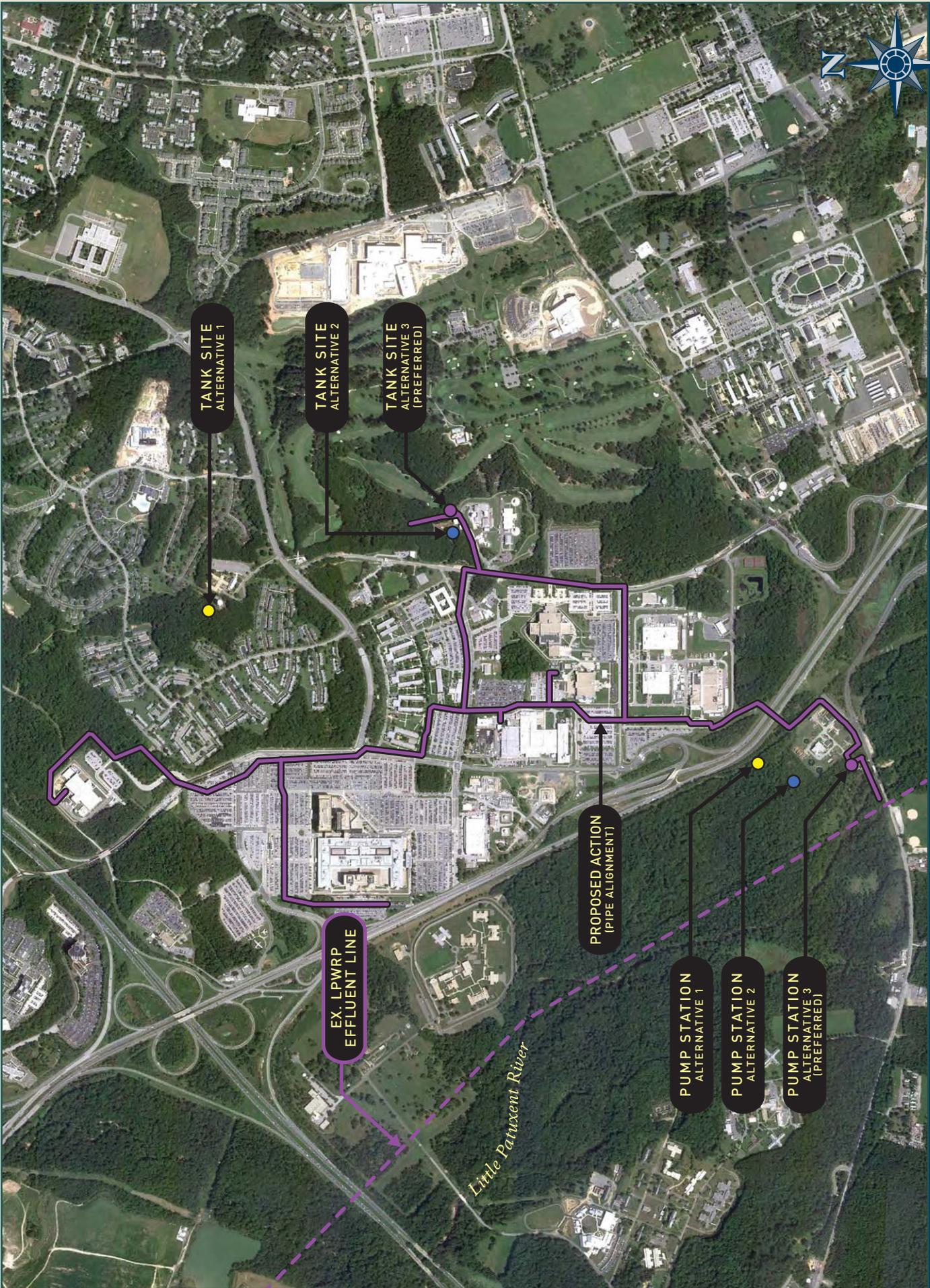
Alternatives which did not meet the screening criteria were not analyzed in this EA. The sections below discuss alternatives evaluated for the siting of the Pump Station and Elevated Water Storage Tank (Figure 3). A Conceptual Plan Set, including maps of the project site and piping distribution system, are included in Appendix C.

### **2.2.1 Pump Station**

#### ***Alternative 1***

Pump Station Alternative 1 is located just west of Route 32 and approximately 300 feet northwest of American Water's existing WWTP. Construction of the effluent diversion structure and associated pipework to the pump station would result in significant and permanent impacts to wetlands and forested





**FIGURE 3: SITE ALTERNATIVES**

- LEGEND**
- PIPE ALIGNMENT
  - ALTERNATIVE 1
  - ALTERNATIVE 2
  - ALTERNATIVE 3 - (PREFERRED)
  - - - EXISTING LPWRP EFFLUENT LINE



areas, as it is located in an undisturbed, lightly wooded location along the Little Patuxent. In addition, a longer access road would need to be constructed from Maryland Route 198 to the pump station at this location, resulting in significantly more impervious surface than other alternatives considered. Therefore, this location was removed from further consideration as a viable site and is not analyzed in detail in this EA.

### ***Alternative 2***

Pump Station Alternative 2 is located adjacently west of American Water's WWTP and was originally identified by NSA in the Request for Proposal for this project. However, there are approved plans to expand American Water's WWTP in this location. While not located within prime forest land identified in previous studies, the construction of the Pumping Station Alternative 2 would require significant tree removal. Similarly, this alternative would not require the pump station be constructed with direct wetland impacts; however the construction of the ancillary components, such as the effluent diversion structure and influent line, would require significant permanent wetlands disturbance to provide access. Therefore, this location was removed from further consideration and is not analyzed in detail in this EA.

### ***Alternative 3 (Preferred Alternative)***

The Pump Station associated with the Preferred Alternative is located between the existing American Water WWTP and the out of service water pump station (Figure 4). An abandoned water pumping station, also owned by American Water, abuts the Pump Station site to the west. This parcel was cleared in the 1930s and maintained as open land, by means of rough cuts and meadow mows, until at least the year 2000. This location provides the best access for maintenance of the pump station, diversion structure, and the new influent line from the diversion structure to the pump station, due to its proximity to Maryland Route 198. Two areas of the piping distribution system will require the use of trenchless drilling technologies (i.e. directional drilling or jack and bore) (Figure 5):

1. Approximately 500 feet of the influent line beginning at the proposed effluent diversion structure at the existing LPWRP effluent outfall to the proposed pump station site. This effort will be drilled under the Little Patuxent River to minimize environmental impacts to the river and adjacent natural resources
2. Approximately 450 feet under the east and west bound lanes of Maryland Route 32, as required by the Maryland State Highway Association (SHA). The remaining pipe installation will be open-trench.

Approximately 2,800 square feet of temporary impacts to wetlands will occur as a result of construction staging areas. Construction of the Pump Station will permanently disturb 1,435 square feet of the 25' nontidal wetland buffer zone. There are no permanent impacts to wetlands.

Construction of the Proposed Action would be accomplished in two phases. Phase 1 (also known as "Priority 1") would consist of the full system design and construction of all system components to deliver reclaimed water to the East Campus. All construction activities on this portion of the project must be completed no later than May 1, 2014 and be fully operational by September 2014. Phase 2 (also known as "Priority 2") includes interconnecting pipework from the Priority 1 pipework to the NSA Campus. In order to meet demands, construction of the second phase shall be completed no later than May 1, 2015.



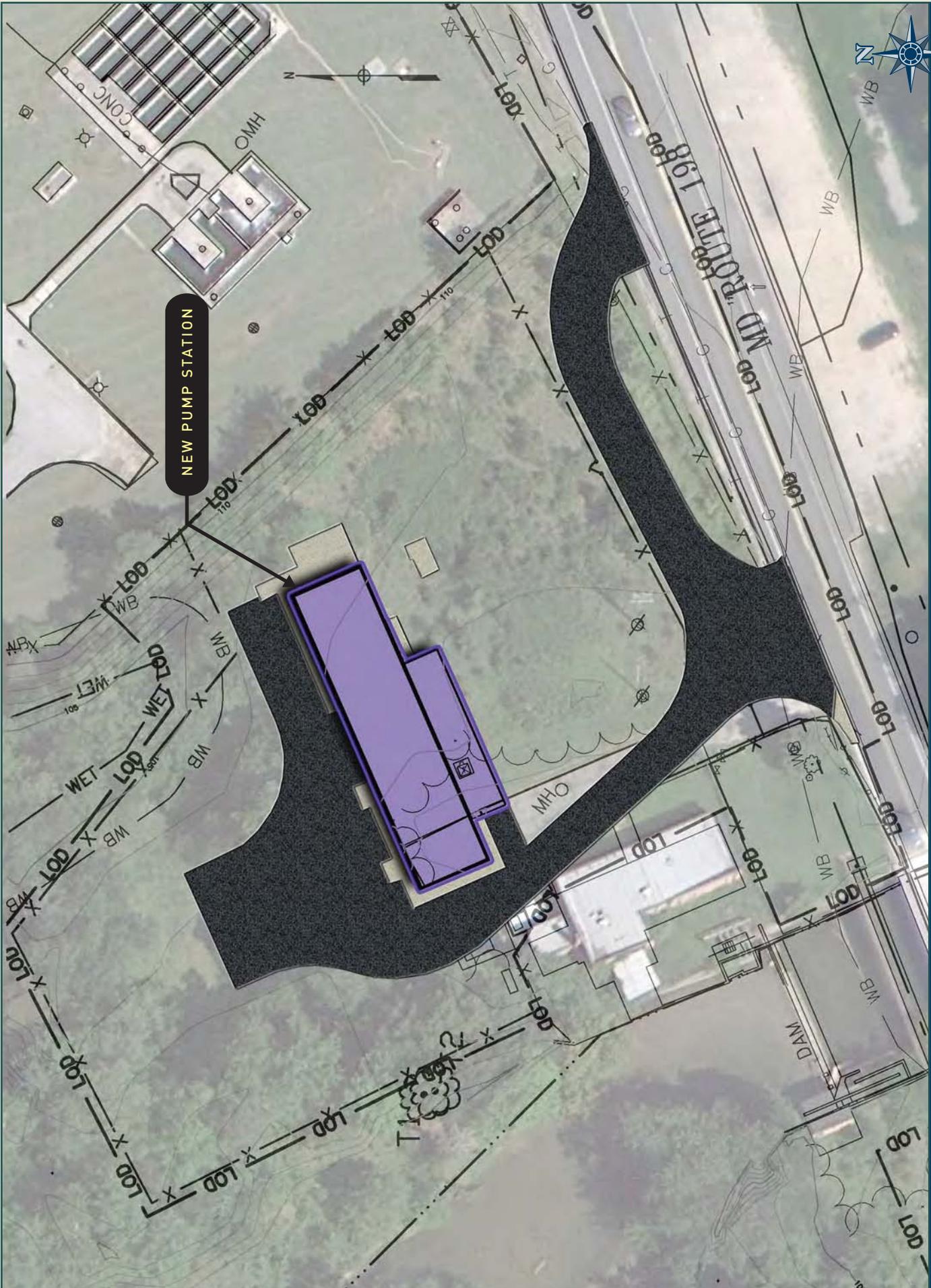


FIGURE 4: PUMP STATION SITE

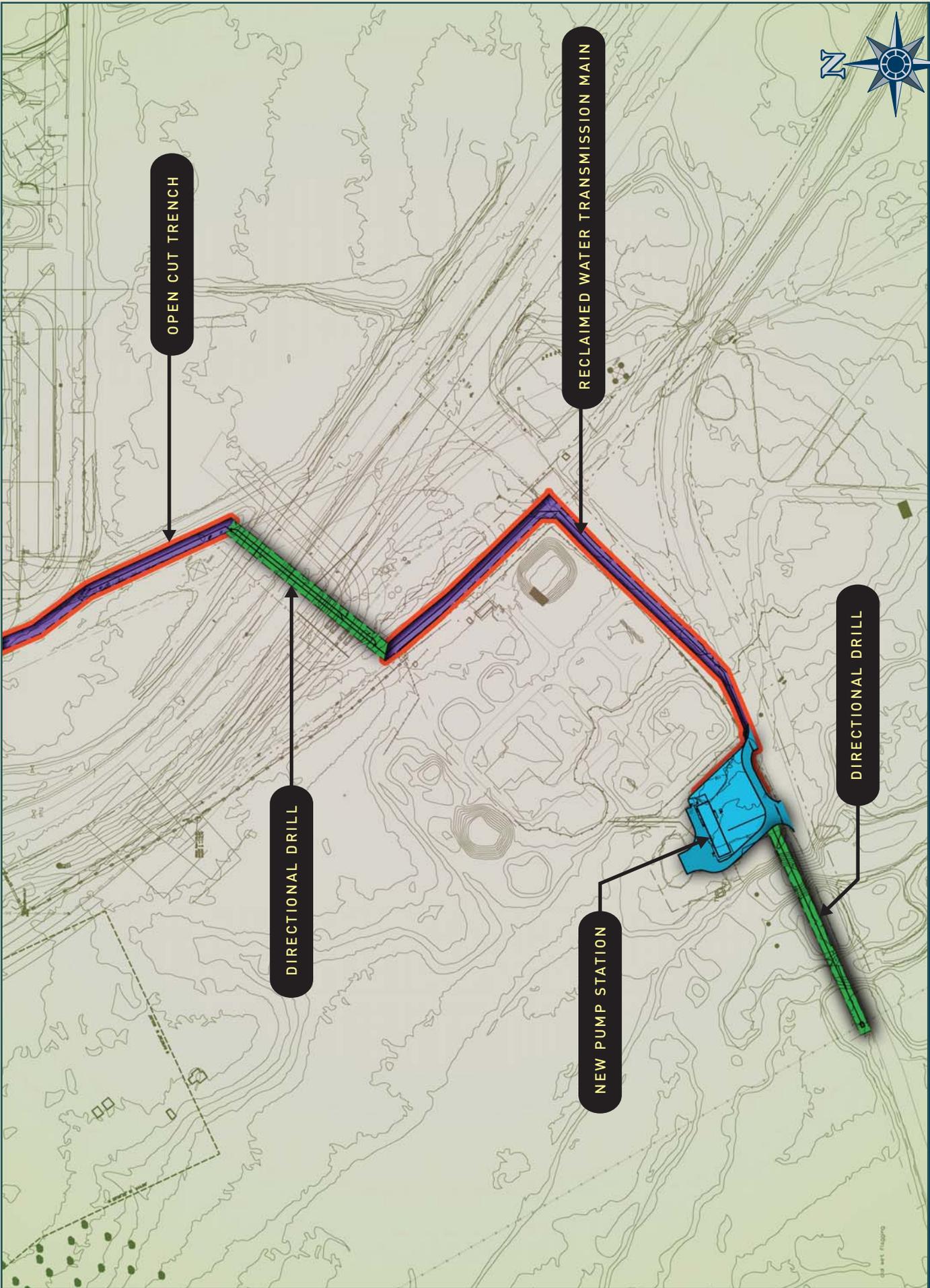


FIGURE 5: AREAS OF TRENCHLESS PIPE INSTALLATION

NOT TO SCALE

- LEGEND
- █ NEW PUMPING STATION
  - █ DIRECTIONAL DRILL
  - █ 18" RECLAIMED WATER MAIN
  - █ OPEN CUT TRENCH

## **2.2.2 Tank Site**

### ***Alternative 1***

The Alternative 1 Tank Site is located at the Pershing Hill site. Positioned in a residential area, it was removed from consideration due to potential impacts on the surrounding residential community. Therefore, this location is not analyzed in further detail in this EA.

### ***Alternative 2***

Alternative 2 is located directly to the north of the existing Chaffee Hill Tank. A closely considered option, this alternative would interfere with maintenance access to existing tanks and is not acceptable for long term use. Therefore, this location was removed from further consideration as a viable site is not analyzed in detail in the EA.

### ***Alternative 3 (Preferred Alternative)***

The water tank for the Preferred Alternative is located at the Chaffee Hill tank, directly adjacent to existing water storage tanks operated by American Water (Figure 6). The higher elevation of this site is adequate for the tank siting and would meet project purpose and need by providing the necessary water demands and pressures to both the cooling towers proposed for the East Campus and existing cooling towers within the NSA campus.

## **2.2.3 Effluent Diversion Structure**

The location for the Effluent Diversion Structure is the same for each Alternative discussed above. This is necessarily based on its proximity to the LPWRP Effluent Line, just southwest of the Preferred Alternative Pump Station. This is where the Interconnecting Piping Distribution System begins.

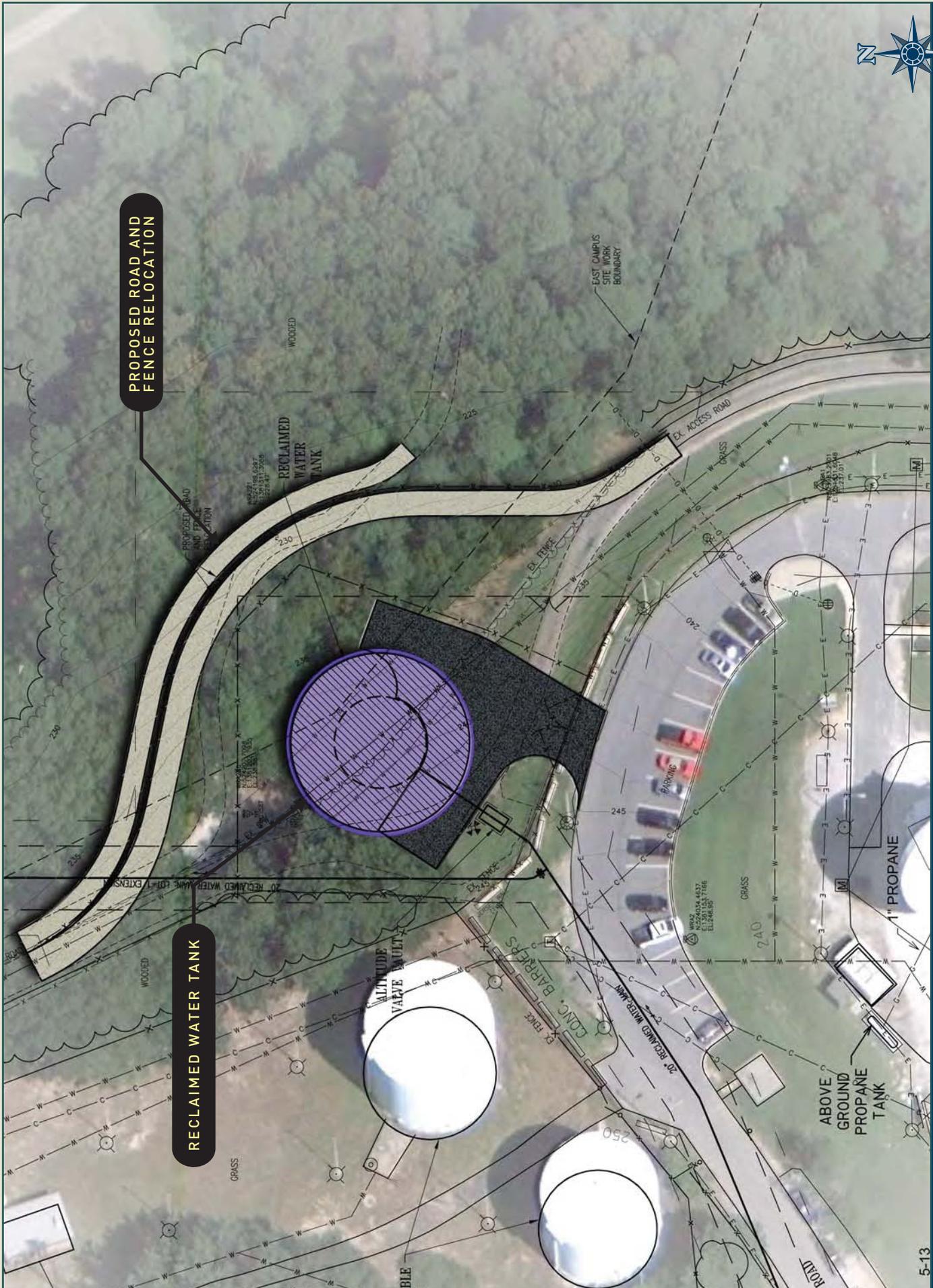
## **2.2.4 Interconnecting Piping Distribution System**

Alternatives 1 and 2 would require clearing of undisturbed forested land as a result of the installation of the interconnecting piping distribution system and the connection to the proposed Effluent Diversion Structure.

## **2.3 No Action Alternative**

The No Action Alternative is the continuation of existing conditions without implementation of the Proposed Action. Prescribed by CEQ and Army regulations, the No Action Alternative serves as a baseline against which the impacts of the Proposed Action and alternatives can be evaluated. Under the No Action Alternative, NSA would forgo the proposed reclaimed water delivery system associated with the LPRWP effluent line and would be required to expand the water capacity of American Water's existing WTP by designing additional infrastructure and modifying related permits, which will exceed the time that the Site M improvements are in operation. Furthermore, without water available for the cooling towers, the buildings on the campus cannot be operated.





**FIGURE 6: ELEVATED WATER TANK SITE**

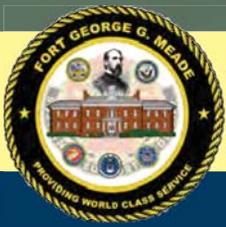


The following presents a comparative summary of overall areas of land disturbance for each alternative evaluated:

**Table 2-1: Summary of Land Disturbance (acres)**

<b>Design Feature</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Preferred Alternative</b>
Pump Station	2.5	2.5	1.5
Interconnecting Pipe Distribution System	24.5	23.0	23.0
Elevated Water Storage Tank	1.0	1.0	1.0
<b>Total</b>	<b>28.0</b>	<b>26.5</b>	<b>25.5</b>





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**3.0**

**AFFECTED ENVIRONMENT  
AND CONSEQUENCES**



**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
ENGINEERS · ARCHITECTS · PLANNERS

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### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

#### 3.1 Introduction

The information provided in this section of the EA serves as a point of reference for understanding any potential impacts resulting from the construction and operation of the proposed new infrastructure within the project area. The project study area is defined as the property of FGGM to various points throughout NSA’s East and existing main campuses, most of which are contained along the western boundaries of the installation.

Table 3-1 provides a summary of the potential environmental changes associated with the Preferred Alternative, in comparison to the No Action Alternative under consideration. No effects on any of the following environmental resources are anticipated under the No Action Alternative. Under the No Action Alternative, NSA would forgo construction of the proposed reclaimed water delivery system associated with the LPRWP effluent line; therefore the No Action Alternative would not cause changes to any of FGGM’s environmental assets. The affected environment and anticipated impacts associated with the Proposed Action are further detailed in the sections that follow.

**Table 3-1: Summary of Potential Environmental and Socioeconomic Consequences**

Resource	Preferred Alternative	No-Action
Land use	No Impacts	No Impacts
Air quality	Short- and Long-Term Minor Adverse Impacts	No Impacts
Noise	Short-Term Minor Adverse Impacts	No Impacts
Aesthetics and Visual Resources	Long-Term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-Term Minor Adverse Impacts	No Impacts
Wetlands	Short- and Long –Term Minor Adverse Impacts	No Impacts
Water Resources	Short-Term and Long-Term Minor Adverse Impacts	No Impacts
Biological Resources	Short-Term Minor Adverse Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts
Socioeconomics	Short-Term Minor Adverse and Beneficial Impacts	No Impacts
Transportation	Short-Term Minor Adverse Impacts	No Impacts
Infrastructure and Utilities	Short- Term Minor Adverse Impacts	No Impacts
Hazardous Materials	No Impacts	No Impacts
Environmental Justice	No Impacts	No Impacts



## 3.2 Land Use

### 3.2.1 Affected Environment

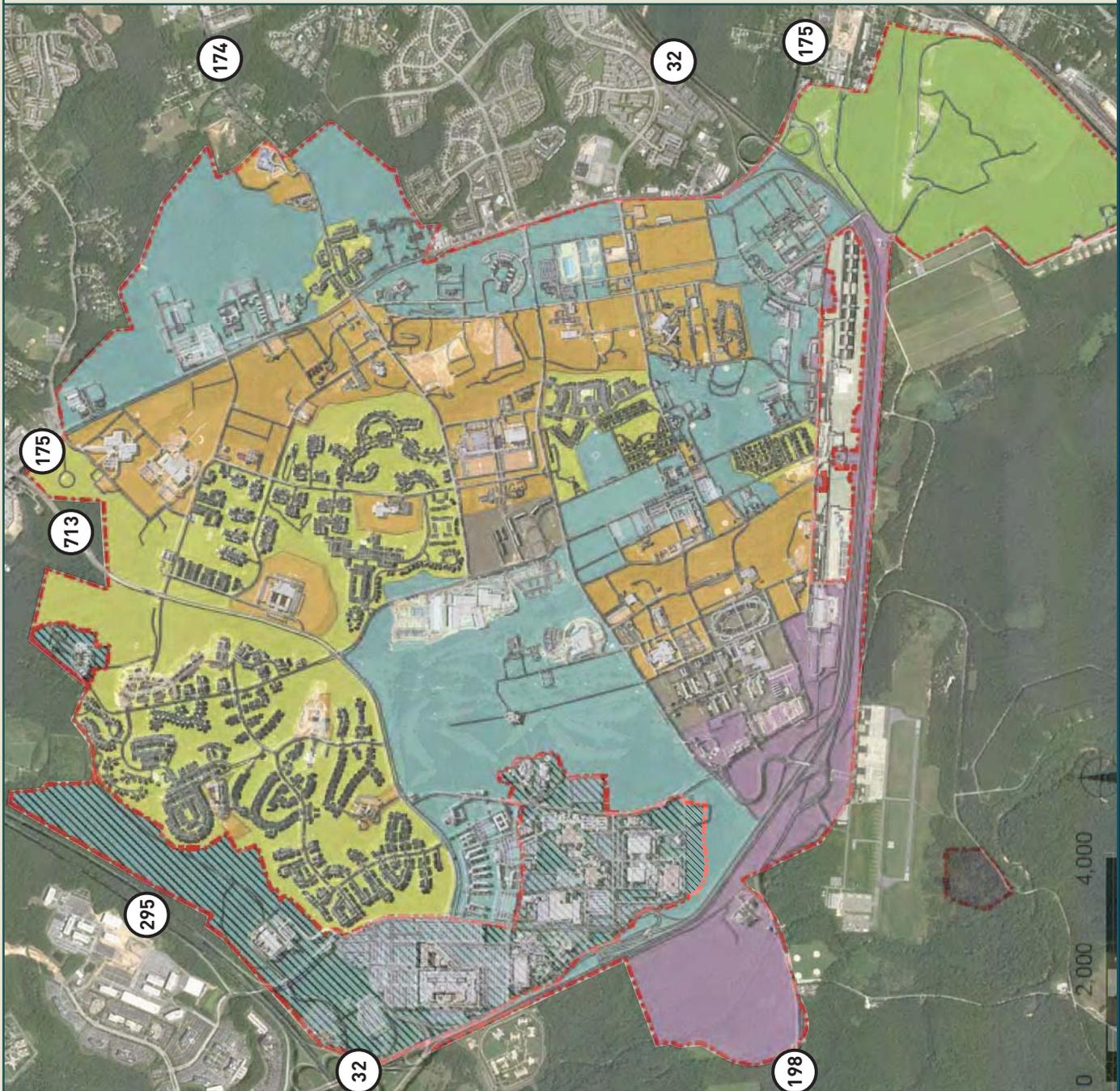
This section addresses existing and proposed land use patterns within FGGM and the surrounding vicinity, as well as the areas associated with the Preferred Alternative. Current land use at FGGM includes housing, administrative, recreational, open space, and industrial. Similar to other large military installations, FGGM has distinct zones based on prominent use. The installation is predominantly surrounded by residential areas, commercial centers, light industrial use, and open space. The NSA Campus constitutes nearly one-third of the western portion of FGGM property. According to the *Real Property Master Plan- Long Range Component, Fort Meade, MD*, the Proposed Action consists of land zoned as ‘Industrial’ along the north side of Maryland Route 198 on FGGM property where the Effluent Diversion Structure, Pump Station and a portion of the Piping Distribution System will be located. The remaining Piping Distribution System is located on the NSA Campus within an area referred to as the “NSA Exclusive Use” and is zoned as ‘Professional/Institutional’ land uses. In addition, an Elevated Water Storage Tank is proposed adjacently east to the NSA Campus, outside the “NSA Exclusive Use” fence line on FGGM property and is zoned ‘Professional/Institutional’ (Figure 7).

Land Uses in the immediate vicinity of the proposed Effluent Diversion Structure and Pump Station consist of undeveloped wooded land to the north, forested land, the Little Patuxent and an out of service water pump station to the west-southwest, Route 198 followed by forested area to the south, and American Water’s existing WWTP to the east. The proposed Piping Distribution System alignment is located primarily in previously disturbed areas that contain other utility service providers both on FGGM property and on the NSA Campus. The proposed Elevated Water Storage Tank is located just east of two existing elevated water storage tanks currently used for on-site potable water.

### 3.2.2 Environmental Consequences

Impacts to land use, as a result of implementing the Proposed Action, were evaluated based on potential incompatibility with existing, proposed, or future land use designations as well as conflicts with zoning, adjacent land use, and other planning regulations. The Preferred Alternative consists of disrupting approximately 4 acres of the ‘Industrial’ land use and 10.5 acres of land designated as ‘Professional/Institutional’. An additional 11 acres of temporary easements are anticipated for use during construction of the utilities, Elevated Water Storage Tank, and Pump Station. Based on the current land uses impacted by implementing the Proposed Action, there would be no zoning or development conflicts, such as expansion of existing facilities. Furthermore, the Preferred Alternative project area is consistent with the existing land use designation. Table 3-2 summarizes the permanent easements associated with the Preferred Alternative’s permanent area of disturbance.





**LEGEND**

- INSTALLATION BOUNDARY
- NSA EXCLUSIVE USE
- COMMUNITY
- INDUSTRIAL
- PROFESSIONAL/INSTITUTIONAL
- RANGES AND TRAINING
- RESIDENTIAL
- TROOP
- RAIL LINE
- ROAD AND PARKING AREA
- EXISTING STRUCTURE



**FIGURE 7: FGGM LAND USE**

**SOURCE**

Land Use data defined using descriptions contained in Real Property Master Plan - Long Range Component Fort Meade, MD. R&K Engineering (2005)

**Table 3-2: Fort Meade Reclaimed Water System-Permanent Easements (acres)**

Summary	FGGM	Restricted Use (NSA)	Total
Pump Station	1.5	0.0	1.5
Elevated Water Storage Tank	0.4	0.0	0.4
Interconnecting Pipeline Distribution System	2.0	10.6	12.6
<b>Total</b>	<b>3.9</b>	<b>10.6</b>	<b>14.5</b>

### 3.3 Air Quality

#### 3.3.1 Affected Environment

Air quality is dependent upon a combination of many factors, including the type and amount of pollutants emitted, the size and topography of the air basin, and prevailing meteorological conditions. The significance of the pollutant concentration is determined by comparing a certain area’s conditions with federal and state ambient air quality standards. Air Quality in Maryland is regulated by the U.S. Environmental Protection Agency (EPA) Region 3 and the MDE. The Clean Air Act and its amendments grant the EPA responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for the protection of the public health and welfare, allowing for an adequate margin of safety. They have set the acceptable concentration levels for six criteria air pollutants: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM) less than 10 microns (PM<sub>10</sub>) and PM less than 2.5 microns (PM<sub>2.5</sub>), and lead (Pb). Federal actions may be exempt from conformity determinations if they do not exceed the designated *de minimis* threshold levels for criteria pollutants (40 CFR Part 51.853[b]). Federal regulations designate Air Quality Control Regions (AQCRs) in violation of the NAAQS as *nonattainment* areas.

Monitoring data indicate poor regional ambient air quality. Specifically, Anne Arundel County is among the worst of 24 counties in Maryland for emissions of criteria air pollutants. Located within the Metropolitan Baltimore Interstate AQCR, this region is classified as non-attainment for PM<sub>2.5</sub> and for 8-hour ozone (USEPA, 2010).

#### 3.3.2 Environmental Consequences

Numerous activities associated with the large urban corridors connecting Washington, DC and Baltimore contribute to the current state of air quality within the region. It is anticipated that, as a result of the Proposed Action, there will be a *de minimis* increase in air emissions. By employing best management practices, contractors may lessen the already minor air quality impacts of construction.

Based on the air quality designations for FGGM, maintenance plans have been developed for 8-hour ozone levels, annual fine particulate matter, and carbon monoxide. As a result, a *General Conformity Rule* applicability analysis has been conducted for the Fort Meade Reclaimed Water Project to determine if the Proposed Action would exceed *de minimis* thresholds for these air quality contaminants. Table 3-3 compares the calculated emissions and *de minimis* thresholds. Because ozone forms from other



emissions, the analysis focuses on ozone precursors that include volatile organic compounds (VOCs), sulfur oxides (SOx), and nitrogen oxides (NOx).

**Table 3-3: Comparison of Construction and Operation Emissions to General Conformity Rule *de minimis* Thresholds**

Activity	Emissions (tons/year)			
	VOCs	NOx	SOx	PM2.5
2015 Construction Emissions	0.266	17.169	0.024	0.640
Annual Operation Emissions	0	0	0	0
<i>De Minimis</i> Thresholds	50	100	100	100
<b>Threshold Exceeded</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

The result of the analysis concludes that the Proposed Action is exempt from the requirements of the General Conformity Rule. FGGM is in attainment for all other criteria pollutants (carbon monoxide, lead, PM10, 24-hour PM2.5, and sulfur dioxide); therefore, these pollutants are not subject to conformity review. Emissions associated with operations will be included in applicability determinations performed by NSA under their Air Compliance program and will not be included in FGGM's Air Compliance program. A copy of the signed RONA, supporting documents, and emission estimates are included in Appendix D.

Minor short- and long-term adverse effects on the air quality are expected as a result of implementing the Proposed Action. The amount of emissions generated during the construction and subsequent operation of the reclaimed water system are small and will not substantially affect regional air quality in or around Anne Arundel County. Air quality impacts are considered minor unless the emissions are greater than the General Conformity Rule applicability threshold or contribute to a violation of any federal, state, or local air regulation. Emissions associated with construction activities will include airborne dust from ground disturbance, operations, combustion byproducts from construction equipment, and construction worker vehicle miles traveled during construction.

### 3.4 Noise

#### 3.4.1 Affected Environment

Noise is defined as unwanted sound that interferes with normal activities in a way that reduces the quality of the environment or is otherwise intrusive. The two primary types of sound sources are stationary and transient. Sounds produced by these sources can be intermittent or continuous. Stationary sources are immobile sources usually associated with a specific location, such as the noise generated at a construction site. Transient sound sources, such as vehicles or aircraft, move through the area. The loudness of sound as heard by the human ear is measured on the A-weighted decibel (dBA) scale. Examples can be found in Table 3-4 that follows.



**Table 3-4: Common Noise Levels**

Source	Decibel Level	Exposure Concern
Soft Whisper	30	Normal, safe levels
Average Home	50	
Conversational Speech	65	
Highway Traffic	75	May affect hearing in some individuals
Average Factory	80-90	
Automobile Horn	120	
Jet Plane	140	Noises at or over 140dB may cause pain
Gunshot Blast	140	

Source: EPA Pamphlet, "Noise and Your Hearing," 1986.

According to COMAR (Code of Maryland Regulations) 26.02.03.03, a person may not cause or permit noise levels emanating from construction or demolition site activities which exceed 90 dBA during daytime hours. From 7pm to 10am, noise levels may not surpass 75 dBA on Industrial land.

### 3.4.2 Environmental Consequences

Minor short-term adverse impacts on noise levels in the vicinity of the Project Area are expected. Short-term increases in noise may result from the delivery and use of construction equipment. Table 3-5 provides a representation of noise levels in dBA associated with new construction. With multiple pieces of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred (400-800) feet of active construction sites. Limiting construction activities to within normal working hours and employing noise-control methods to the greatest extent possible would mitigate noise impacts during the construction phase, ensuring they comply with COMAR.

No long-term increases in the overall noise environment are anticipated from implementing the Proposed Action.

**Table 3-5: Typical Noise Levels of Construction Equipment**

Type of Equipment	dBA (at 50 feet)
Bulldozer	80
Backhoe/Bobcat	72-93
Jack Hammer	81-98
Crane	75-77
Pick-Up Truck	83-94
Dump Truck	83-94



### **3.5 Aesthetics and Visual Resources**

#### **3.5.1 Affected Environment**

Visual resources include the natural and artificial features that give a particular location its aesthetic qualities. These features form the overall impression a viewer obtains of an area, or its landscape character. FGGM has six visual zones based on the architectural character and land use patterns of a given location. These are: Administrative, Unaccompanied Personnel Housing, Residential, Recreational, Community Support, and Industrial Zones. The Preferred Alternative is located within the Industrial visual zone.

##### ***Pump Station***

The Preferred Alternative Pump Station will be located between the existing out of service water pumping station and the American Water WWTP.

##### ***Interconnecting Pipe Distribution System***

The Preferred Alternative Pipe Distribution System will extend from Howard County's existing LPWRP to the cooling towers on the East Campus and existing main NSA campus. This land begins woody and undeveloped until the limits of the NSA property, where it becomes urbanized, with buildings and impervious parking surfaces.

##### ***Water Tank***

The Preferred Alternative Water Tank will be located at the Chaffee Hill tank, directly adjacent to existing water storage tanks which stand approximately 300 ft. in height and are operated by American Water.

#### **3.5.2 Environmental Consequences**

##### ***Pump Station***

Construction of the proposed Pump Station is consistent with the overall visual aesthetics in the area, which consists of American Water's WWTP to the east and an additional out of service water pump station to the west.

##### ***Interconnecting Pipe Distribution System***

The proposed Pipe Distribution System is concealed entirely underground and will cause only temporary, minor impacts to visuals during the construction process.

##### ***Water Tank***

Construction of the proposed Elevated Water Tank would not significantly alter visual aesthetics of the area. It is sited just east of two existing water storage tanks, similar in nature and use. While the proposed Water Tank will stand approximately 350 ft. in height, it is unobtrusive of its visual surroundings. As a result, the Proposed Action will create few visual consequences. Temporary disturbance as construction occurs will be restored following construction activities.

### **3.6 Geology and Soils**

Geology and soils include aspects of the natural environment related to the earth, which may be affected by the Proposed Action. Some features include the presence/availability of mineral resources, soil



condition and capabilities, potential for natural hazards, topography, physiology and geologic units and their structure.

### **3.6.1 Affected Environment**

FGGM lies within the Atlantic Coastal Plain Physiographic province. Beneath the surface lies a wedge shaped mass of unconsolidated sediment that thickens to the southeast. The unconsolidated sediments overlie crystalline rock of Precambrian to early Cambrian age. The crystalline bedrock underlying FGGM consists of gabbro, diorite, and other igneous and metamorphic rocks. The surface of these rocks dips to the southeast and acts as a lower confining layer for the Potomac Group.

The topography around FGGM is gently rolling, with approximately 210 feet of topographic relief. Slopes exceeding 10 percent are rare and occur primarily in pockets in the north-central and central parts of the installation and along stream corridors. The low elevation point occurs along the Little Patuxent River (USACE Mobile District 2007).

The majority of the land on FGGM property is suitable for building. The Project Area is primarily comprised of Urban Land (Uz) and Downer- Hammonton- Urban land complex (DwB) soil. DwB, prevalent in urban areas, is a sandy loam soil (Figure 8). Such soils are easily worked over a wide range of moisture content but are subject to erosion, particularly soil blowing, when their surface becomes dry and is not held in place with vegetation.

### **3.6.2 Environmental Consequences**

Short-term minor adverse effects on soils are expected with implementation of the Proposed Action. Construction of the Interconnected Pipe Distribution System would involve the removal of protective vegetation and disturbance of soils to the depth required for installation. Erosion and Sediment Control, Storm water Management, and NPDES permits will be obtained from MDE for the Proposed Action. Best management practices (BMPs) would be incorporated and maintained as part of the Proposed Action. BMPs at construction sites typically consist of various erosion and sediment control measures. Temporary measures such as silt fences or straw bales may be placed around the perimeter to control erosion until insertion of the Pipe Distribution System is complete, the replanted site vegetation is firmly established, and the soil has been stabilized.

Disturbed areas would be fully stabilized and re-vegetated with native species following construction activities. Re-seeding will adhere to MDE requirements for sediment control. No adverse effects are expected to impact site specific geology or general topography as a result of implementing the Proposed Action.

## **3.7 Water Resources**

This section describes the existing water resources that may be impacted as a result of implementing the Proposed Action, including strategies to avoid and minimize those impacts.

### **3.7.1 Affected Environment**

#### ***Surface Water***

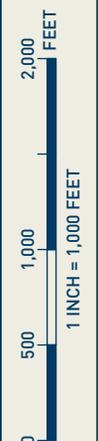
FGGM is primarily located in the Little Patuxent drainage basin, which is a tributary of the Patuxent River, of the Western Shore Uplands region of the Atlantic Coastal Plain Physiographic Province. Within





- DvB Downer-Hampton
- DvC Downer-Hampton
- DwB Downer-Hampton-Urban Land
- EVC Evesboro and Galestown
- FaA Fallington
- PfC Patapsco-Fort Mott
- PgB Patapsco-Fort Mott-Urban Land
- PgD Patapsco-Fort Mott-Urban Land
- SfB Saasafra
- ShA Saasafra-Ham Brook
- SME Saasafra and Croom
- SnB Saasafra-Urban Land
- UoB Udothents
- UpC Udothents
- UZ Urban Land
- W Water
- WdA Woodstown
- WdB Woodstown
- WfB Woodstown-Urban Land
- ZBA Zekiah and Issue

Source: NRCS



- LEGEND
- SOILS
  - PROPOSED ALIGNMENT
  - STREAMS

FIGURE 8: SOILS MAP

the FGGM boundaries, there are approximately 38,000 linear feet of perennial stream channels, as well as other intermittent channels. The two major tributaries on the installation, Midway Branch and Franklin Branch, are both tributaries to the Little Patuxent River.

Whitman, Requardt and Associates, LLP (WR&A) conducted a wetland delineation between late August and early September 2012, subject to regulation under Section 404 of the Clean Water Act. During the delineation, intermittent and perennial streams were identified and flagged in the field, while ephemeral streams were excluded or included on a case-by-case basis depending on the determination of a “significant nexus” per the Rapanos Supreme Court decision (guidance). The delineation identified three streams located within or immediately adjacent to the study area, which includes the Little Patuxent River, an oxbow of the Little Patuxent River, and an unnamed tributary to the Little Patuxent River. Results of WR&A’s fieldwork are summarized in a Wetlands Identification and Delineation Report dated September 2012.

Currently, Howard County’s existing NPDES discharge permit 06-DP-1421 for the LRWRP is approximately 29 million gallons per day (MGD) of treated effluent into the Little Patuxent River. In addition, LRWRP is currently permitted to discharge 304,556 lbs/yr of Total Nitrogen and 22,842 lbs/yr of Total Phosphorus as part of their effluent discharge.

The American Water WWTP currently has a permitted discharge volume of treated effluent into the Little Patuxent River is 4.5 MGD. Current flows average 1.8 MGD. Additionally, American Water is permitted to discharge 54,820 lbs/yr of Total Nitrogen and 4,112 lbs/year for Total Phosphorus

### **Groundwater**

The primary sources of potable water at Fort Meade are six groundwater wells located on the south side of FGGM property. Three aquifers lie beneath the installation; the Upper Patapsco Aquifer, the Lower Patapsco Aquifer, and the Patuxent Aquifer. American Water Enterprises, Inc. owns and operates the potable water system on FGGM and complies with standards in the Safe Drinking Water Act and Code of Maryland Regulations.

### **Wetlands**

The Chesapeake Bay supports some of the most ecologically and commercially important wetland areas in the country. FGGM has approximately 271 acres of wetland resources across the base, the majority of which are situated on the floodplain of the Little Patuxent River, in the southwest section of the installation.

Information concerning the potential nature and extent of wetlands within and adjacent to the Preferred Alternative was obtained by performing a routine wetlands delineation of the potential project area. Field inspections were performed from March to July, 2008. Delineation studies referred to the U.S. Army Corps of Engineer’s 1987 *Wetlands Delineation Manual*. As established by this manual, the routine On-site Determination Method was used to assess the site. Wetland data collection involves an assessment of existing conditions of the wetland, an inventory of the dominant vegetative species, an assessment of the hydrological influences of an area, and an evaluation of the substrate soil profile.

Wetland delineation also occurred between late August and early September 2012 to determine the non-tidal wetland boundaries of the area, subject to regulation under Section 404 of the Clean Water Act. Hydrology was determined using visual observation of permanent or periodic inundation of the soil, soil



saturation in the upper 12 inches, oxidized root channels, and any other related features specified in the 1987 *Wetlands Delineation Manual*. There are three streams located within or immediately adjacent to the study area which includes the Little Patuxent River, an oxbow of the Little Patuxent River, and an unnamed tributary to the Little Patuxent River. Four wetlands were identified within the study area as described in Table 3-6 (Figure 9). All hydrology eventually flows to the Little Patuxent River.

The Atlantic and Gulf Coast Plain Regional Supplement was used in the delineation of this project. In November of 2010, the U.S. Army Corps of Engineers provided a Regional Supplement to several regions for the 1987 *Wetlands Delineation Manual*. Information from this Supplement was applied while identifying hydrology and hydrophytic vegetation during the wetland delineation.

Determination of hydrology during field investigations was based on visual observation of permanent or periodic inundation of the soil, soil saturation in the upper 12 inches, oxidized root channels, and any other related features specified in the 1987 *Wetlands Delineation Manual*. These features are indicative of a near surface water table and/or wetland hydrology occurring for at least seven (7) consecutive days during the growing season. Wetland Hydrology indicators were determined using the Atlantic and Gulf Coastal Plain Regional Supplement.

Most native species of hydrophytic vegetation identified within a wetland are assigned a regional indicator status based on their statistical likelihood to occur within a wetland environment. The wettest indicator status is “obligate” (OBL); these species tend to occur within wetlands with a 99% to 100% frequency. The next status is “facultative wetland” (FAC); these species tend to occur within wetlands with a 34% to 65% frequency. The next status rank is “facultative upland” (FACU, occurring within wetlands with a 2% to 33% frequency. The final, driest status is “upland” (UPL); these species occur within wetlands with 0% to 1% frequency. The table below includes the number of dominant species found in each wetland and their designated status.





**FIGURE 9: ENVIRONMENTAL RESOURCES**

- LEGEND**
- WETLAND BOUNDARY
  - WATERS OF THE US
  - STREAMS
  - PROPOSED ALIGNMENT
  - FLOODWAY
  - 100 YEAR FLOOD PLAIN
  - 500 YEAR FLOOD PLAIN
  - 2011 WETLAND
  - JD WETLAND
  - DNR WETLANDS
  - NWI WETLANDS
  - EXISTING LPWRP
  - EFFLUENT LINE

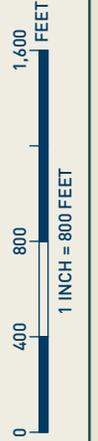


Table 3-6: Wetlands within the Study Area

Designation	Square Feet	Primary Hydraulic Indicators	Type	Dominant Vegetative Species	Number of Dominant Vegetative Species (OBL, FACW, or FAC)
Wetland 1	1,993	Surface water, Saturation in the upper 12", water marks	Palustrine, scrub/shrub-forested, split, broad-leaved, temporary flooded	Boxelder/ Green Ash/ Slippery Elm Canadian Rush/ Sweet Woodreed/ Deer Tongue Grass	100%
Wetland 2	24,154	Drift deposits, presence of reduced iron	Palustrine, forested, broad-leaved, temporary flooded	Boxelder/ Red Maple/ Slippery Elm/ Sweet Woodreed/ False Nettle	100%
Wetland 3	12,039	Drift deposits, presence of reduced iron	Palustrine, scrub-shrub, broad-leaved, emergent, persistent, temporary flooded	Green Ash/ Red Maple/ Callery Pear/ Soft Rush	100%
Wetland 4	3,783	Presence of reduced iron	Palustrine, emergent, persistent, temporary flooded	Canadian Rush/ Marshpepper Knotweed	100%

**Floodplains**

Executive Order 11988, Floodplain Management, instructs federal agencies to consider the risks, danger, and potential impacts of locating projects within floodplains. Floodplains are typically described as areas likely to be inundated by a particular flood. For example, a flood that has a one percent change of occurring in a year span is the 500-year floodplain.

In October 2012, the Federal Emergency Management Agency (FEMA) published a Flood Insurance Study (FIS), for Anne Arundel County, MD. The FIS studied the Little Patuxent River adjacent to the proposed site and its regulatory 100- year floodplain elevation. The Preferred Alternative Pump Station site is located in a partially wooded area between the existing American Water WWTP and the out of service water pump station. The area is characterized by an undulating micro-topography with numerous



active and abandoned stream channels, natural levees, scour and deposition of alluvial sediments and the effects of anthropogenic grading activity. The majority of this area has been previously disturbed.

### ***Coastal Zone***

FGGM is entirely within Maryland's Coastal Zone Management (CZM) Program area, which includes the Chesapeake Bay. Established by an Executive Order, the CZM Program is a network of state laws and policies designated to protect coastal and marine estuaries. The MDE regulates activities proposed within Maryland's CZM through federal consistency requirements. Federal agencies are required to determine whether their activities are reasonably likely to affect any coastal use or resource and to conduct such activities in a manner consistent to the maximum extent practicable with the goals and objectives of Maryland's Coastal Zone Management Program.

## **3.7.2 Environmental Consequences**

### ***Surface Water***

General construction impacts associated with the Proposed Action could have a short-term effect on water resources by increasing storm water runoff from the site and carrying sediment and contamination loads into the water during heavy rain. Construction activities will comply with the *Maryland Erosion and Sediment Control Guidelines for State and Federal Projects* (MDE 2004) and *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE 2010b) to avoid and minimize erosion.

Of the three streams identified during the wetland delineation, two flow through the project area. These two streams are actually a fork in the Little Patuxent River and total 2,912 sq. ft. Trenchless pipe installation technologies (i.e. directional drilling or jack and bore) will be employed underneath the Little Patuxent River where it intersects with the alignment of the interconnected piping distribution system in order to avoid adverse impacts to the river. All three streams identified within the project area are perennial streams.

In order to meet the water demand for cooling water requested by NSA, Howard County has submitted a renewal request for their existing NPDES permit 06-DP-1421 that would transfer nutrient discharge allocations from the LPWRP NPDES effluent allocation to American Water's WWTP effluent allocation. Transfer of nutrients will be based on actual flow delivered by the County's reclaimed water system to the NSA as measured at the County's reclaimed water pumping station and nutrient concentrations measured in the LPWRP effluent. The difference of the Total Nitrogen and Total Phosphorus would be traded and accounted for under American Water's WWTP NPDES permit, in addition to their existing nutrient allocation.

The reclaimed water is being used in a cooling tower application, where some of the water will ultimately be evaporated and the remaining water will be sent to the wastewater treatment plant through periodic blow down processes. Consequently, the Proposed Action will ultimately reduce the amount of treated wastewater discharged into the Little Patuxent River. Based on flows recorded at USGS gaging station #01594000, located at Savage, Maryland, the annual mean flow in the Little Patuxent River, adjusted to the project's site, is approximately 144 cubic feet per second. At build-out design conditions, the Reclaimed Water project will reduce flows to the river by up to 3.75 MGD. The reduction of flow into the river will not significantly impact the flow volume in the Little Patuxent.



The proposed reclaimed water system is almost entirely underground and will add approximately 20,400 square feet (0.47 acres) of permanently impervious surfaces to the site, as summarized in Table 3-7. No long-term impacts to surface water from on-going operations are likely.

**Table 3-7: Summary of Additional Impervious Surfaces (Preferred Alternative)**

<b>Total Impervious Surface (square feet)</b>		
<b>Surface Type</b>	<b>Pump Station Site</b>	<b>Tank Site</b>
Impervious Pavement	8,486	4,892
Building	3,564	1,078
Sidewalk	2,397	N/A
<b>Total Impervious</b>	<b>14,400.00</b>	<b>6,000.00</b>

Best Management Practices will be implemented in order to consider the additional impervious services as a result of the Proposed Action. Stormwater Management will be provided for the project at the Pump Station and Storage Tank sites. The pipeline installation is exempt from stormwater management requirements since disturbed areas will be returned to the pre-construction hydrologic condition. At the Pump Station and Storage Tank sites, Environmental Site Design (ESD) practices will be implemented in accordance with the Maryland Stormwater Management Act of 2007.

For the Pumping Station site, ESD requirements will be met through the use of permeable pavements, micro-bio retention, landscape infiltration, and a grass swale. At the Storage Tank site, permeable pavements will be implemented to fulfill the ESD requirements.

***Groundwater***

General construction activities such as fueling equipment or equipment leaking fluids have the potential to occur as with any project and could percolate into the groundwater. Site specific construction specifications will be in place to respond to construction activities that may pose a threat to the groundwater.

***Wetlands***

Construction of the Proposed Action is necessary to provide reclaimed water to NSA operations and could impact approximately 13,888 square feet of wetlands and the 25’ nontidal wetland buffer zone (Figures 10, 11, and 12). Wetland delineation determined that construction of the Proposed Action could cause both temporary and permanent impacts to wetlands and wetland buffers within the project area. A nontidal wetland buffer, as defined by MDE, is the 25’ radius surrounding the wetland. Construction is expected to result in approximately 2,800 square feet of temporary wetland impacts, and 9,653 square feet of temporary 25’ nontidal wetland buffer zone impacts. An additional 1,435 square feet of the 25’ nontidal wetland buffer zone will be permanently impacted as a result of the alignment.

Proposed impacts to wetlands or wetland buffer zones require a Joint-Permit Application be submitted to MDE and USACE. These applications serve to demonstrate avoidance and minimization efforts to justify any potential impacts to wetland resources. Mitigation is generally not required for impacts occurring on less than 5,000 square feet of wetland resources in a Use I-P watershed designation. Mitigation for impacts spanning greater than 5,000 square feet is required and can be completed either by creating new



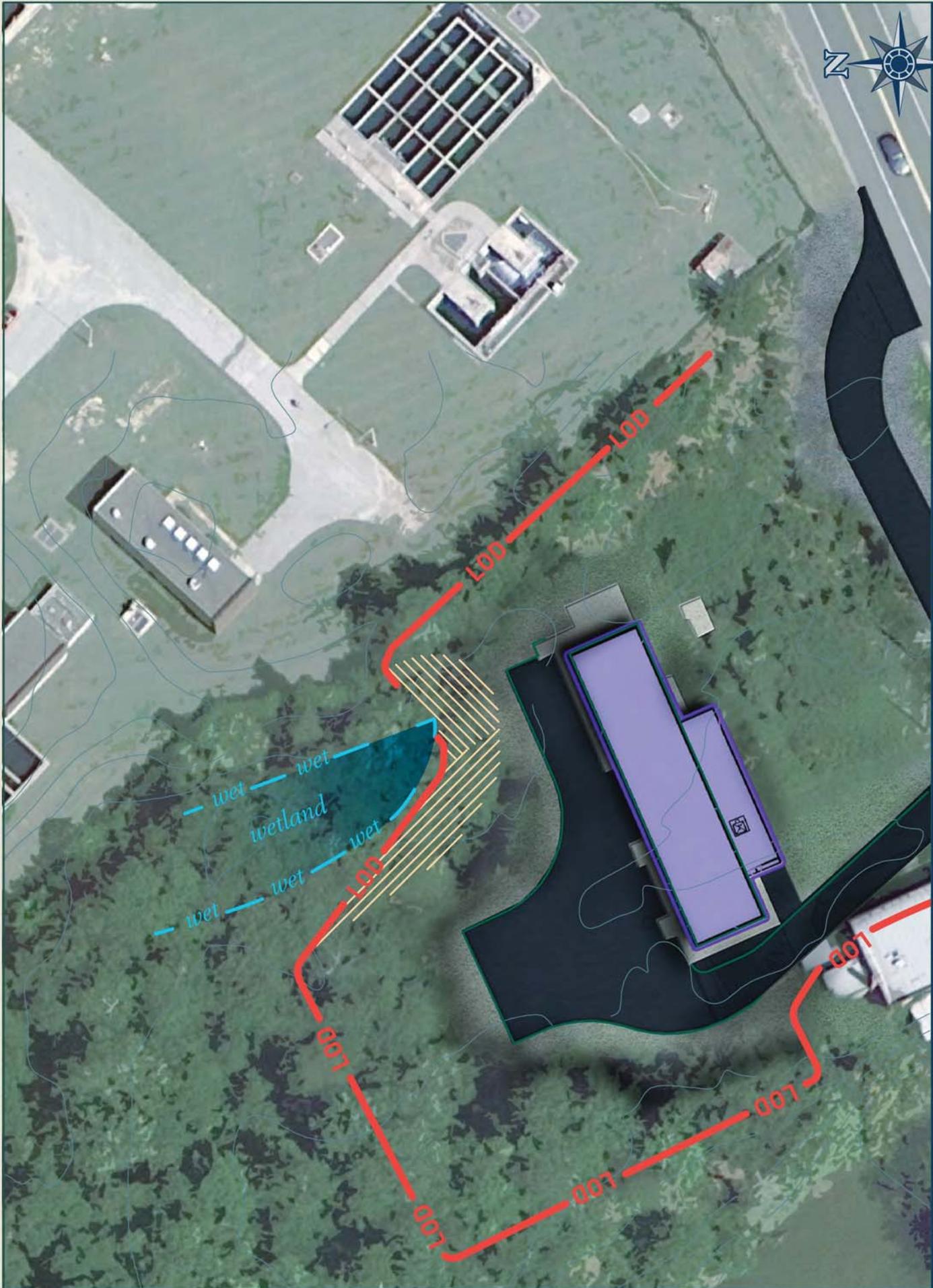
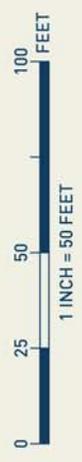


FIGURE 10: WETLAND 1



LEGEND

- 14,35 SQ. FT. PERMANENT BUFFER IMPACT
- 9,69 SQ. FT. TEMPORARY BUFFER IMPACT



**FIGURE 11: WETLAND 2**

LEGEND

19036 SQ FT TEMPORARY FLOODPLAIN IMPACT

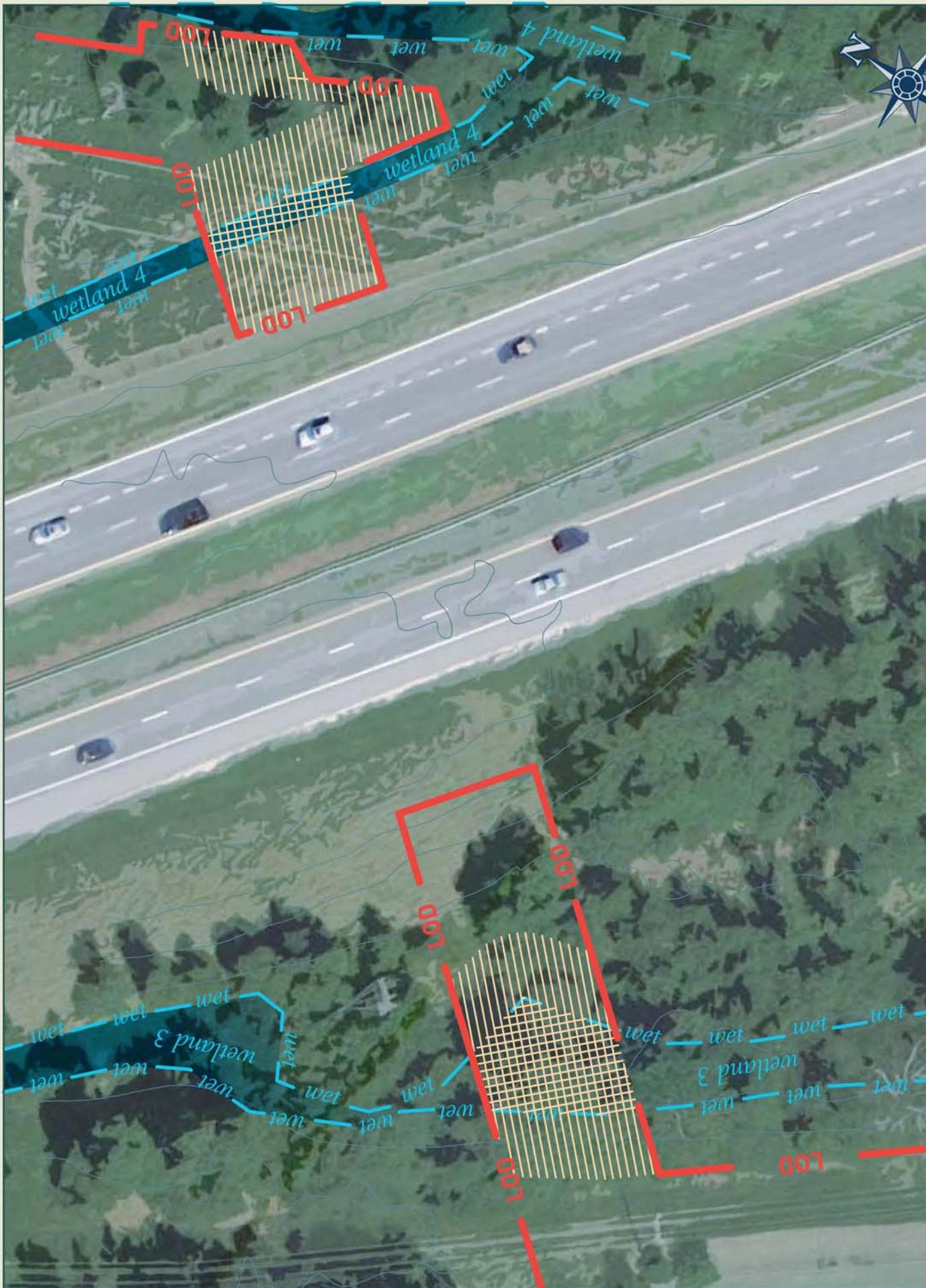


FIGURE 12: WETLANDS 3 & 4



LEGEND	
<b>WETLAND 3</b>	<b>WETLAND 4</b>
[Yellow hatching symbol]	[Yellow hatching symbol]
2117 SQ FT TEMPORARY WETLAND IMPACT	2117 SQ FT TEMPORARY WETLAND IMPACT
3039 SQ FT TEMPORARY BUFFER IMPACT	3039 SQ FT TEMPORARY BUFFER IMPACT

wetlands on FGGM property, purchasing credit in an existing wetland mitigation bank, or paying into the MDE Nontidal Wetland Compensation Fund. The Hydrologic Features and Impacts (Table 3-8) is a summary of the wetland and stream features found within the given project area, as well as a summary of the projected impacts to those areas.

**Table 3-8: Hydrologic Features and Impacts (Preferred Alternative)**

Hydrologic Feature	Square Feet within the Project Area		Impacted (Square Feet)			
	Wetland	Wetland buffer	Wetland		Wetland buffer	
			Temporary	Permanent	Temporary	Permanent
Wetlands						
Wetland 1 (PSS/PFO split)	1798	4029	0	0	969-PSS	1435-PSS
Wetland 2 (PFO)	0	2591	0	0	0	0
Wetland 3 (PSS/PEM split)	2117	3039	2117-PSS	0	3039-PSS	0
Wetland 4 (PEM)	683	5645	683-PEM	0	5645-PEM	0
<b>Total</b>	<b>4598</b>	<b>15304</b>	<b>2800</b>	<b>0</b>	<b>9653</b>	<b>1435</b>
<b>Streams</b>						
Streams	Within the Project Area		Impacted			
	Square Feet	Linear Feet	Square Feet		Linear Feet	
Stream 1 (Perennial)	1194	25	0		0	
Stream 2 (Perennial)	1718	25	0		0	
Stream 3 (Perennial)	Just outside of project area		0		0	
<b>Total</b>	<b>2912</b>	<b>50</b>	<b>0</b>		<b>0</b>	
<b>Floodplains</b>						
Floodplains	Impacted (Square Feet)					
	Temporary			Permanent		
Impact Plate 1	19036			0		
Impact Plate 2	11508			0		
Impact Plate 3	0			74049		
<b>Total</b>	<b>30544</b>			<b>74049</b>		
					<b>Combined Total</b>	<b>104593</b>

**Floodplains**

The Preferred Alternative Pump Station sits in a depressed site, the result of previous grading activities. The proposed encroachment into the flood plain consists of fill to elevate the proposed Pump Station and its associated driveway, parking, electrical generator, stormwater management, and associated structures above the regulatory flood plain. Temporary impacts will occur due to construction of the proposed diversion structure and associated piping from the plant down to the river. Comparison of the computational results for the existing condition versus the proposed conditions shows increases to the regulatory 100-year flood plain elevation by approximately 0.02 feet. MDE policy states that a difference between existing and proposed conditions of 0.10 foot is the threshold for impacts of concern; computational results equal to or less than 0.10 feet are negligible.



The floodplain study determined that construction of the Preferred Alternative Pump Station will cause both temporary and permanent impacts to the 100-year floodplain. 27,923 square feet of floodplain will be temporarily impacted, and another 74,049 square feet will be permanently affected. The foregoing analysis demonstrates that the proposed project has an insignificant impact on the regulatory (100- year) flood plain.

**Coastal Zone**

To abide by the policies set forth within the Maryland Coastal Zone Program, a consistency determination and supporting materials will be provided to MDE prior to the start of construction. The displays will show that impacts to wetlands are being avoided and impacts to floodplains and forested areas are being minimized and preserved to the maximum extent possible.

**3.8 Biological Resources**

This section describes native or naturalized vegetation and wildlife, and the habitats in which they occur.

**3.8.1 Affected Environment**

**Vegetation**

Extensive development at FGGM has resulted in few areas retaining their native vegetation. The vegetation within and adjacent to the Preferred Alternative is a mix of forest, developed areas, and mowed lawn. It is currently comprised of early successional species in the riparian area. The project area abuts mature wetland forest ecosystems that have not been disturbed since the Army purchased the land almost 100 years ago.

A simplified Forest Stand Delineation was performed from late August to early September 2012. No forest stands were identified within the study area limits. Characteristics indicative in defining a forest stand include size and width of canopy coverage, defined stratified forest layers and a stem density greater than 100 stems/acre with over 50% of the trees over 2” in diameter at breast height. The wooded portions within the study area lacked these features and display characteristics of a tree group/hedgerow comprised of scattered individual trees. Individual tree species found on the project site are listed in Table 3-9.

**Table 3-9: Individual Tree Species Found in Project Area**

Common Name	Binomial Name
Willow Oak	<i>Quercus phellos</i>
Sweet Gum	<i>Liquidambar styraciflua</i>
Tulip Poplar	<i>Liriodendron tulipifera</i>
Green Ash	<i>Fraxinus pennsylvanica</i>
Boxelder	<i>Acer negundo</i>
American Sycamore	<i>Platanus occidentalis</i>
Slippery Elm	<i>Ulmus rubra</i>



Common Name	Binomial Name
Paw-Paw	<i>Cinna arundinacea</i>
Black Haw	<i>Viburnum prunifolium</i>
Red Maple	<i>Acer rubrum</i>
American Hornbeam	<i>Carpinus caroliniana</i>
Spicebush	<i>Lindera benzoin</i>

Common herbaceous species within the wooded portions of the project site are listed in Table 3-10.

**Table 3-10: Common Herbaceous Species Found in Project Area**

Common Name	Binomial Name
Sweet Wood Reed	<i>Cinna arundinacea</i>
Small Spike False Nettle	<i>Boehmeria cylindrica</i>
Japanese Honeysuckle	<i>Lonicera japonica</i>
Nepalese Browntop	<i>Microstegium vimineum</i>
Canadian Rush	<i>Juncus canadensis</i>
Eastern Poison Ivy	<i>Toxicodendron radicans</i>

### **Wildlife Resources**

Wildlife species found within the vicinity of the project area are typical of those found in most urban-suburban areas. Species known to frequent the area include white-tailed deer, gray squirrel, rabbit, groundhogs, raccoons, chipmunks, red fox, and a variety of wild birds that have adapted to an urban-suburban habitat, such as the house sparrow.

No federally listed or proposed endangered or threatened species are known to occur on FGGM property, besides the occasional transient animal, such as migrating birds (USASMDC 2011). Rare, threatened and endangered species habitat searches performed in 1993–1994 (EcoScience Professionals and C.A. Davis 1994) and in 2001 (Eco-Science Professionals 2001), as well as a 2009 Flora and Fauna Survey (USACE Baltimore District 2009), did not identify federally listed endangered or threatened species on FGGM. It is important to note, however, that state listed species are known to live in the areas nearby the Little Patuxent River. Table 3-11 depicts the state list of rare, threatened, or endangered flora and fauna species that can be found within the vicinity of FGGM.



**Table 3-11: State List of Rare, Threatened, and Endangered Species in the Vicinity FGGM**

Scientific Name	Common Name	MD Natural Heritage Program
<b>Flora</b>		
<i>Aronia prunifolia</i>	Purple Chokeberry	Watch List
<i>Lespedeza stuevei</i>	Downy Bushclover	Watch List
<i>Panicum leucothrix</i>	Roughish Panicgrass	Possibly rare, but status uncertain
<b>Fauna</b>		
<i>Etheostoma vitreum</i>	Glassy Darter	Threatened

Source: Maryland Department of Natural Resources, 2007

State-listed species are not protected under the Endangered Species Act; however, the installation cooperates with State authorities in an effort to identify and conserve them whenever feasible (Army and Air Force Exchange Service, 2006). This goal is furthered by the voluntary maintenance of four habitat protection areas on the installation. These are Army-designated natural areas which are desirable to maintain, although development is not prohibited if deemed beneficial.

### 3.8.2 Environmental Consequences

#### **Vegetation**

Minor short-term effects on biological resources are anticipated from implementation of the Proposed Action. Vegetation will be temporarily cleared to allow for the construction and installation of the subterranean Interconnected Pipe Distribution System and permanently on the site locations of the Elevated Water Storage Tank and Pump Station. Construction would disturb the plant ecology in the immediate vicinity of the project site. After the Pipe Distribution System and necessary infrastructure are in place, disturbed areas will be revegetated with native species. Tree preservation practices will be incorporated into construction plans to minimize damage to any trees that are to be preserved. Native plants will be used when re-landscaping the property after construction. There will be no significant impacts on forests, as there are no forest stands within the project area limits.

FGGM intends to maintain a campus like environment and conserve forested areas, while continuing to sustain and support current and future missions. The installation manages its forest conservation program in accordance with the Maryland Forest Conservation Act (FCA) and the Maryland Department of Natural Resources (MDNR) to the maximum extent practical.

Impacts on FGGM land will be mitigated on the installation in accordance with the current FGGM Forest Conservation Act (FCA) and Tree Management Policy. In keeping with the FCA standards, FGGM requires that the equivalent of 20% of the project area be forested. All projects 40,000 square feet or larger must comply with the FGGM policy. The project area will be defined as the area within the potential limit of disturbance. As per the FCA it does not matter if trees were there or not, 20% will be preserved or established. Preference is also given to contiguous areas of forest. Forestation that cannot feasibly be performed within the project area shall be performed on other designated land areas within



FGGM. Additional mitigation activities include protecting existing trees against construction activities. All construction equipment will be treated according to BMPs in a manner that would minimize the spread of invasive species.

FGGM participates in the Army's conservation reimbursable and fee collection programs for forestry. This program exists to provide ecosystem-level management that supports and enhances the land's ability to support each installation's respective military missionscape, while simultaneously obtaining ecologically responsible results that satisfy all federally mandated requirements for natural resources. Program revenues are generated through the sale of forest products. The fair market value of all forest products removed for the development of the reclaimed water delivery system shall be deposited into the Army's Forestry Account which will be utilized for natural resource activities and ecosystem management at Army Installations.

### ***Wildlife Resources***

There are no federally listed or threatened and endangered species on the Project Site or on FGGM property; therefore no significant impacts to Wildlife Resources are expected. Additionally, with the incorporation of proper erosion and sediment controls and BMPs to negate sediment runoff and increased storm water flow, impacts to rare, threatened and endangered species that may be located downstream from the Preferred Alternative site will be avoided.

Removal of vegetative habitat may have a short-term minor adverse effect on wildlife at the site due to displacement. Noise, dust, and destruction of habitat from construction and personnel would temporarily disturb wildlife on and directly around the immediate area of the project location. Some animals may gradually re-enter the area once construction of the Proposed Action is complete and succession has begun. Overall, the effects on wildlife will be short-term, minor effects, as habitat will be only temporarily disturbed and most wildlife species may avoid the disturbance by relocating to adjacent undisturbed areas.

## **3.9 Cultural Resources**

### **3.9.1 Affected Environment**

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to consider the effects of their programs, projects, and actions on historic properties and allow the Advisory Council on Historic Preservation an opportunity to comment. Qualifying properties include any prehistoric or historic district, site, building, structure or object eligible for inclusion in the National Register of Historic Places (NRHP). If adverse effects on historic, archaeological, or cultural properties are located within the project's Area of Potential Effect (APE), then agencies must attempt to avoid, minimize, or mitigate the impacts to resources that are significant in our nation's history.

Cultural resources at FGGM are managed according to the 2006 FGGM Integrated Cultural Resources Management Plan (ICRMP). The ICRMP provides guidelines and procedures to enable FGGM to meet its legal responsibilities pertaining to cultural resources and includes the process for moving forward when these are identified within project site boundaries.

Currently, an inactive pump station, owned by American Water, is located just west of the location of the proposed Pump Station. This structure has not been evaluated for its eligibility for inclusion in the



National Register of Historic Places (NRHP). However, it is anticipated to be recommended 'Not Eligible' for inclusion in the NRHP for purposes of this assessment.

### **3.9.2 Environmental Consequences**

A response received from the Maryland Historical Trust, dated September 10, 2012, indicated that, "The MHT has determined that this proposed undertaking will have no adverse effect on historic properties." However, the location of the pumping station was changed since the coordination was requested and the proposed location is adjacent to the inactive water pump station located along the banks of the Little Patuxent River. FGGM is conducting a Determination of Eligibility on this structure and the results will be made available to the Maryland Historic Trust when completed. Should the inactive water pump station be determined eligible for listing as a historic property, additional coordination with the Maryland Historic Trust will be initiated.

### **3.10 Socioeconomics**

#### **3.10.1 Affected Environment**

Socioeconomics describes a community by examining its social and economic characteristics. Demographic variables such as population size, level of employment, and income range assist in analyzing the fiscal condition of a community and its government, school system, public services, healthcare facilities and other amenities. For the purposes of this project, the socioeconomic Region of Influence (ROI) consists of Anne Arundel County, Howard County, Montgomery County, and Prince George's County, Maryland. These counties comprise the area in which the predominant socioeconomic effects of the Proposed Action would occur and are based on residential distribution of the installation's military, civilian, and contracting personnel and the location of businesses that provide goods and services to the installation and its employees (USACE, 2007). While FGGM provides only a small percentage of the ROI's total employment, the stability of its workforce has become an integral component of the economy.

The regional economy is dominated by non-farming industries such as Government and Government enterprises, retail trade, professional and technical services, and health care. FGGM is the number one employer in Anne Arundel County and is estimated to have a \$5 billion-per-year economic impact on the regional economy.

Table 3-12 presents housing characteristics and median housing income for the ROI, based on 2010 Census data. The housing units identified in the table include all types (e.g. single family homes, apartments, townhomes, etc.).



**Table 3-12: 2010 Housing Units and 2010 Median Household Income**

Classification	Anne Arundel County	Howard County	Montgomery County	Prince George's County
Total Housing Units (2010)	212,562	109,282	375,905	328,182
Median Household Income	\$83,456	\$103,273	\$93,373	\$71,260

Source: U.S. Census Bureau, 2010

### 3.10.2 Environmental Consequences

Implementation of the Proposed Action will result in no significant impacts to socioeconomics in both the short- and long-terms. Each phase of construction for the Proposed Action is expected to last about a year. The construction phase could have a temporarily positive effect on the local economy through the employment of local construction workers in the community. Impacts to FGGM and NSA employees are not expected to occur with the implementation of the Proposed Action. As such, no profound impacts on socioeconomic conditions are predicted.

### 3.11 Transportation

Transportation in and around FGGM consists mainly of road and street networks, pedestrian walkways, trails, and bike paths. The transportation system serves installation traffic consisting of everyday work, living, and recreation trips.

#### 3.11.1 Affected Environment

FGGM is located in the western part of Anne Arundel County and is served by the surrounding roadway network. Access to FGGM is obtained through 10 control points, 8 of which are open and staffed on a regular basis. The installation can be directly accessed (via secured gates) from Maryland Route 32, Maryland Route 175, Maryland Route 198, and the Baltimore-Washington Parkway (which is designated as MD 295 north of Maryland Route 175). On-installation access routes through FGGM include Rockenbach Road, which extends from Maryland Route 175 south and west through FGGM, Canine Road, Samford Road, Maryland Route 32, and Mapes Road, which extends east from MD 32 through FGGM to Maryland Route 175. Baltimore Washington National-Thurgood Marshall Airport (BWI) is within close proximity to FGGM.

#### 3.11.2 Environmental Consequences

Transportation-related impacts at FGGM with enactment of the Proposed Action would be negligible. Lane closures may occur intermittently where the Interconnected Pipe Distribution System crosses Route 32 in order to gain temporary access for drilling. Construction and operational traffic is expected along Route 198. No full roadway closures are anticipated. Construction and worker vehicles are expected to have sufficient parking space.



### **3.12 Infrastructure and Utilities**

Infrastructure and utilities include the systems and facilities that provide water, wastewater treatment, collection and disposal of solid waste, communications, and power.

#### **3.12.1 Affected Environment**

##### ***Potable Water Systems***

American Water Enterprises, Inc. owns and operates FGGM's potable water through a water treatment plant (WTP) located within the FGGM boundary, which receives its potable water from groundwater sources. Three aquifers underlie FGGM, the lowest of which, the Patuxent Aquifer, provides potable water for the installation. Six groundwater wells on the south side of the installation are the Fort's primary sources of potable water and pump into the WTP, located near the intersection of Mapes and O'Brien Roads.

The water treatment plant is a multimedia filtration plant that contains three above-ground clear well storage tanks and seven active water storage tanks. The treated water distribution system transports the water, approximately 2.2 million gallons per day (MGD) from the WTP to the installation for domestic, industrial, and fire protection use. Capacity upgrade plans for this water treatment facility are currently being designed.

##### ***Wastewater***

All wastewater generated by FGGM is conveyed to American Water's WWTP via gravity sewers and force mains. American Water's WWTP currently has the capacity to process and treat 4.5 MGD of wastewater. Once treatment of wastewater is complete, the majority of treated water is discharged into the Little Patuxent River, just downstream of the lower dam and north of the Simonds Bridge.

In order to be compliant with its MDE permit, discharged water is required to meet specific parameters. These include, but are not limited to, a nitrogen load cap of 54,800 lbs. /year, a total phosphorous cap of 4,112 lbs. /year, a minimum dissolved oxygen level of 5.0 mg/l, and a pH range of 6.5-8.5, as well as Biological Oxygen Demand and fecal coliform levels. American Water's WWTP is currently in compliance with all of its discharge standards and permit requirement (FGGM, 2010).

##### ***Stormwater System***

FGGM's storm drainage system consists of two major defined watersheds and one minor undefined watershed. These natural drainage areas are supplemented with an extensive network of storm drain pipes and attendant drainage structures among others. These drainage areas ultimately discharge into the Little Patuxent River, a tributary of the upper Chesapeake Bay. Maryland has stringent standards to protect the Chesapeake Bay watershed and its valuable resources and requires that all jurisdictions implement a stormwater management program to control the quality of stormwater runoff resulting from new development. FGGM furthers these efforts by maintaining a Stormwater Pollution Prevention Plan that establishes BMP's for controlling and preventing contaminants associated with construction and industrial activity from reaching area surface waters (USASMDC 2011).



### ***Solid Waste***

No active landfills are located on FGGM. All solid waste is transported to a permitted facility located off of the installation. Solid wastes are collected and disposed of in accordance with FGGM recycling policies under a contract with Melwood.

### **3.12.2 Environmental Consequences**

#### ***Potable Water Systems***

Because the Proposed Action will be using water from reclaimed sources, potable water supplies will not be affected. It is possible that short-term, localized disruptions to water service could result from construction activities. No other effects are anticipated with the implementation of the Proposed Action.

#### ***Wastewater***

In accordance with Federal and State regulations as they pertain to institutional facilities that discharge wastewater to surface waters of Maryland, modifications to Howard County's existing National Pollutant Discharge Elimination System (NPDES) permit is required for the Proposed Action. In order to meet the water demand requested by NSA, Howard County has submitted a renewal request for their existing NPDES permit 06-DP-1421 that would transfer nutrient discharge allocations from the LPWRP's NPDES effluent allocation to American Water's WWTP effluent allocation based on actual flow and nutrient concentrations delivered by the County's reclaimed water system to the NSA as measured at the County's reclaimed water pumping station. These permit renewals will ultimately trade off nutrients and the resulting surface water discharge to the Little Patuxent River will be reduced by up to 3.75 MGD.

As discussed in 3.7.2.1, American Water will request a permit modification to add the nutrients received from Howard County to its own nutrient loads. MDE has approved a similar arrangement for BGE's Brandon Shores power plant, which receives reclaimed water from Anne Arundel County's Cox Creek WWTP.

#### ***Stormwater System***

Development projects typically increase stormwater runoff to surrounding surface waters and ground water temporarily during construction when sedimentation is increased. However, because this project does not require a large increase in impervious surfaces, it is likely to have a negligible effect on FGGM's stormwater system. As always, BMPs will be applied to mitigate any effects.

#### ***Electricity and Gas***

The Preferred Alternative Interconnected Pipe Distribution System follows an alignment designed to avoid existing utilities, as well as coordinate with ongoing projects within the utility corridor, such as the Baltimore Gas and Electric (BG&E) Substation – 9500 Area project. Implementation of the Proposed Action will not affect power supplies or utilities.

The primary electrical service for the Pump Station will be provided by a BG&E switchgear located at the entrance to the Wastewater Treatment Plant. The electrical service will be run in an underground duct bank at a pad mounted transformer located in front of the Reclaimed Water Pump Station. The transformer Pad will be located above the 500 year floodplain elevation. Backup power will be provided by an emergency generator. The diesel fuel for the generator will be contained in a double wall concrete tank. All piping between the generator and tank will be double walled for spill protection. Implementation of the Proposed Action is not likely to generate a significant amount of waste during



construction or operation. All non-hazardous wastes generated on FGGM would be transported off the installation by a contractor and disposed of in permitted landfills.

### **3.13 Hazardous Materials**

#### **3.13.1 Affected Environment**

FGGM generates relatively small quantities of a variety of hazardous wastes, and is regulated as Hazardous Waste Generator. Procedures for handling, storage, transportation, and disposal of hazardous materials and wastes are outlined in the Installation Hazardous Waste Management Plan, Fort George G. Meade (FGGM, 2011). The plan also outlines command responsibilities, identification procedures, inspections, personnel training, and spill response and emergency procedures. Hazardous wastes are maintained at satellite accumulation areas on FGGM. After these facilities have reached regulated capacities (55-gallon drum for hazardous waste, 1 quart for acutely hazardous waste), the hazardous waste is transported to the Controlled Hazardous Substance Storage Facility (Building 2250). In accordance with USEPA and MDE regulations, a running inventory of hazardous waste is maintained at the storage facility. Sludge disposed of from the American Water WWTP requires a Sewage Sludge Utilization Permit (SSUP) to be obtained from the MDE by the contractor handling the sludge. SSUPs are required for any person who collects, incinerates, stores, treats, applies to land, transports, or disposes of sewage sludge or seepage. The purpose of the permit is to maintain a degree of safety, since sludge contains pathogens that can be harmful to human health. The process to obtain a sewage sludge utilization permit typically lasts at least 10 months. It involves regular testing, monitoring, and paperwork (Freij, 2006). Non-hazardous solid waste generated on FGGM is transported off the installation by a contractor and disposed of at permitted landfills.

The Department of Defense (DoD) established the Installation Restoration Program (IRP) in 1975 to provide guidance and funding for the investigation and remediation of hazardous waste sites caused by historical disposal activities at military installations. The fundamental goal of the FGGM IRP is to protect human health, safety and the environment. The IRP is carried out in accordance with all federal, state and local laws. The primary federal laws are Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA). In 2009, FGGM signed a Federal Facility Agreement (FFA) with the U.S. Environmental Protection Agency, U.S. Department of the Interior (DoI) and U.S. Architect of the Capitol (AoC). This document establishes the role that FGGM and the EPA each play in the restoration of the installation and the formal mechanisms of this process. The IRP's staff works closely with the EPA, MDE and local government agencies to ensure that cleanup processes are conducted properly and efficiently. The staff also receives input from community groups and nearby residential areas.

The DoD recognizes its responsibility to protect the public from the potential hazards associated with military operations, both past and present. This is particularly true with regard to the DoD's use of military munitions in training and testing. To address munitions-related issues and the potential hazards munitions pose on property that the DoD once used, DoD developed the Military Munitions Response Program (MMRP). The MMRP addresses non-operational range lands that are suspected or known to contain unexploded ordnance (UXO), discarded military munitions (DMM) or munitions constituent (MC) contamination.



### **3.13.2 Environmental Consequences**

The site for the Elevated Water Storage Tank, the connecting pipeline, and all of East Campus are located within a MMRP site, the former Mortar Range Munitions Response Area (MRA). The MRA is made up of the Training Area and the Mortar Area Munitions Response Sites (MRSs). Based on previous investigations, the entire MRA is considered a 'low risk' for munitions of explosive concern (MEC) and material potentially presenting an explosive hazard (MPPEH). A golf course existed on the MRA since approximately 1956 before recently being developed as East Campus.

According to the September 2012 Final Record of Decision, the selected remedial action for the MRA is Land Use Controls (LUCs) with Long Term Management (LTM). Existing LUCs at the MRA will be maintained and enhanced including requirements to obtain dig permits from DPW for any intrusive activity; Master Plan Regulations; and the FGGM GIS Database. UXO Construction Support is required for all intrusive construction projects, and UXO avoidance procedures are required for any other intrusive activity.

Additionally, an education program will be initiated for potential future site workers, users, and emergency responders; and residential land use at the MRA is prohibited. Signage (warning signs) specific to both the Mortar Area MRS and the Training Area MRS, describing restrictions on site use at key locations of the site will be installed. Annual inspections of each MRS will be performed to establish that all on-site LUCs are in good condition; to confirm that the land use of the site had not changed; and, through an instrument-assisted surface sweep, that no MEC / MPPEH or munitions debris had been exposed through erosion or frost heave. The LUCs and LTM will be incorporated into CERCLA required procedures in the forthcoming Remedial Design.

The Pump Station and all pipelines leading up to the western boundary of the MRA are not within any MMRP sites, and the presence of MEC and MPPEH are not suspected. Additionally, there are no active IRP sites within the current proposed path of the water lines associated with the Howard County-NSA Water Reclamation Project. However, there are active IRP sites nearby. Should the proposed path change, the re-evaluation of active IRP sites would be required.

Sodium hypochlorite, used to maintain chlorine residual in the reclaimed water system, will be introduced to the project area throughout operation of the reclaimed water delivery system. The sodium hypochlorite system will consist of two 3,000 gallon tanks and metering pumps located in a secondary containment area within the pump station. The metering pumps will discharge sodium hypochlorite into the reclaimed water at the head of the pipe. Tanks will be refilled from tanker trucks via a remote filling station. The filling station will be complete with spill containment and all underground pipework will be double-walled for leak protection.

Construction activities will include the use of hazardous materials and hazardous waste generation (i.e. solvents, oil) and therefore have a potential to result in adverse impacts on the environment. The intensity and duration of impacts would vary greatly depending on the substances involved and conditions of the accident. With implementation of safety measures and proper procedures for the handling, storage, and disposal of hazardous materials and wastes, no adverse impacts are anticipated during construction.



### **3.14 Environmental Justice**

In February, 1994 President Clinton signed Executive Order 12898, titled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” This EO 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 programs, policies, and activities on minority populations and low income populations in the United States”. The goal of this order is to avoid the disproportionate placement of adverse environmental economic, social, or health impacts from Federal actions and policies on minority and low-income populations that might be affected by the implementation of a Proposed Action or alternative.

As defined by the “Environmental Justice Guidance Under NEPA” (CEQ, 1997), “minority populations” include persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, black (not of Hispanic origin), or Hispanic. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. Low-income populations are identified using the Census Bureau’s statistical poverty threshold, which is based on income and family size.

The 2010 Census poverty thresholds defines the poverty level as \$11,136 of annual income, or less, for an individual, and \$22,314 of annual income, or less, for a family of four. In 2009, the median household income was \$81,824 for Anne Arundel County residents compared to \$71,696 for Prince George’s County, \$93,895 for Montgomery County and \$101,867 for Howard County (U.S. Census 2010).

According to the 2010 Census, minority populations composed 45 percent of the ROI’s total population (U.S. Census Bureau 2010). That is the same as the Maryland minority population percentage but higher than the national minority population of 36 percent. The ROI poverty level was 11 percent, higher compared to the Maryland poverty rate of 9 percent but lower than the national poverty rate of 14 percent (U.S. Census Bureau 2010).

Because the limits of disturbance for the proposed project are not within a residential community and will not influence access to transportation or utilities, minority and low-income populations on the installation will not be disproportionately adversely affected as a result of the Proposed Action.





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**4.0** | **CONCLUSION**



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## 4.0 CONCLUSION

The Proposed Action consists of the construction of a reclaimed water delivery system on Fort Meade that includes an Effluent Diversion Structure, Pump Station, Elevated Water Storage Tank, and Interconnected Pipe Distribution System, needed to achieve the water demand for use within cooling towers located on NSA’s east and main campuses. After a comparison of three Build Alternatives and the No Action Alternative, a Preferred Alternative was selected that presented the least adverse effects to natural resources in the area, including wetland ecosystems, mature forests, and a variety of plant and animal species. The Preferred Alternative provides better access to the Pump Station diversion structure, and the new influent line from the diversion structure to the Pump Station for maintenance, due to its proximity to Maryland Route 198. The higher elevation of the Preferred Alternative Elevated Water Storage Tank site is adequate for the tank siting in order to meet necessary water demands and pressures to the cooling towers. No alternate locations of the Effluent Diversion Structure were considered due to its proximity to the Little Patuxent Water Reclaim Plant Effluent Line.

Overall, the Preferred Alternative meets project purpose and need by providing the necessary reclaimed water demands to service both the cooling towers on NSA’s east and main campuses.

Table 4-1 describes the summary of permanent easements necessary to implement the Preferred Alternative. A total of 14.5 acres are anticipated for permanent use. The Preferred Alternative would not displace any residences or businesses, nor would it require private right-of-way acquisition. Impacts on infrastructure and utilities within the project area are expected to be minimal.

**Table 4-1: Fort Meade Reclaimed Water System-Permanent Easement (acres)**

Summary	FGGM (acres)	Restricted Use (NSA) (acres)	Total (acres)
Pump Station	1.5	0.0	1.5
Elevated Water Storage Tank	0.4	0.0	0.4
Interconnecting Pipeline Distribution System	2.0	10.6	12.6
<b>Total</b>	<b>3.9</b>	<b>10.6</b>	<b>14.5</b>

As a result of implementing the Proposed Action, temporary and permanent impacts to wetlands, wetland buffers, and floodplains are expected and summarized in Table 4-2. A permit will be secured from MDE for all temporary and permanent impacts to wetlands and their buffers.



**Table 4-2: Summary of Environmental Impacts for Fort Meade Water Reuse (square feet)**

Resource	Influent Line	Pump Station	Interconnecting Pipe Distribution System		Elevated Water Storage Tank	Totals
			Priority 1 Piping	Priority 2 Piping		
Wetlands Temporary	0	0	2,800	0	0	<b>2,800</b>
25' Nontidal Wetlands Buffer Temporary	0	969	8,684	0	0	<b>9,653</b>
25' Nontidal Wetlands Buffer Permanent	0	1,435	0	0	0	<b>1,435</b>
100-year Floodplain Impact Temporary	16,415	1,443	10,065	0	0	<b>27,923</b>
100-year Floodplain Impact Permanent	0	74,049	0	0	0	<b>74,049</b>
100 year-Floodplain Fill (cubic yard)	0	14,448	0	0	0	<b>14,448</b>
Wooded Area	0	30,000	17,000	24,000	20,000	<b>91,000</b>

Other potential short-term impacts, primarily from construction activities, are anticipated to occur to traffic, air quality, geology and soils, noise levels and biological resources. No adverse impacts to cultural resources or environmental justice are expected within the project area as a result of the reclaimed water delivery system’s construction activities or ongoing operations. There were no forest stands identified within the study area limits. Long-term beneficial effects on socioeconomics are likely, due to the overall improved quality and use of the cooling tower facilities.

No significant adverse effects resulting from implementation of the Preferred Alternative have been identified. All agency coordination and permitting requirements are to be completed prior to construction of the project. Mitigation measures in association with the Proposed Action include a variety of applicable BMPs to be implemented both during and after construction to avoid and minimize adverse environmental effects. These include:

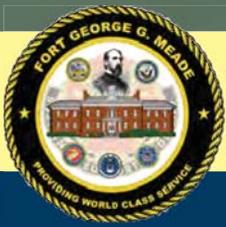
- Compliance with an MDE-approved stormwater management plan and erosion and sediment control plan, using stormwater management and erosion control BMPs required by MDE.



- FGGM will comply with the MD FCA to the maximum extent practical. Impacts on FGGM land will be mitigated on the installation in accordance with the current FGGM FCA and Tree Management Policy. Tree preservation measures will be incorporated into construction plans.
- Compliance with a Clean Water Act Section 404 permit and Maryland's Nontidal Wetland Protection Act. Any required mitigation measures in the permit will be complied with.
- All construction equipment will be treated according to BMPs, in a manner that would minimize the spread of invasive species.
- Compliance with all applicable federal, state, and local air regulations.
- Conducting construction activities during normal weekday work hours (generally 7 a.m. to 5 p.m.) and avoiding conducting construction activities on evenings and weekends to the extent practical.
- Using native vegetation to stabilize soil and preservation of natural areas where possible.

Based on the evaluation of environmental consequences accomplished by this EA, an EIS is not necessary and a FNSI will be prepared.





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

# 5.0 | REFERENCES



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## 5.0 REFERENCES

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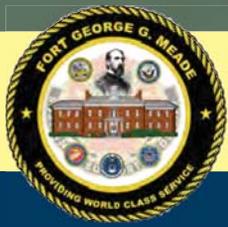


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**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**6.0**

**PERSONS CONSULTED**



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## **6.0 PERSONS CONSULTED**

**Michael P. Butler**

Chief, Environmental Division  
Directorate of Public Works, Environmental Division

**Suzanne Teague**

NEPA Program Manager  
Directorate of Public Works, Environmental Division

**John Houchins**

Natural Resources Program Manager  
Directorate of Public Works, Environmental Division

**George Knight**

Installation Restoration Program Manager Directorate of Public Works, Environmental Division

**Jerry Glodek**

Cultural Resource Program Manager  
Directorate of Public Works, Environmental Division

**Sheila Chambers**

Air Program Manager  
Directorate of Public Works, Environmental Division

**Denise Tegtmeier**

Installation Restoration Program  
Military Munitions Response Program  
Versar

**Raymond Rehrer**

Chief, Master Planning Division  
Directorate of Public Works

**Amanda Baxter**

Vice President, Environmental  
Whitman, Requardt & Associates, LLP.

**Halie Stannard**

Environmental Planner  
Whitman, Requardt & Associates, LLP.





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

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## 7.0 DISTRIBUTION LIST

### State and Federal Agencies

Ms. Mary Ratnaswamy  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Dr  
Annapolis, MD 21401

Ms. Lori Byrne  
Environmental Rev. Specialist  
Maryland Department of Natural Resources  
Tawes State Office Building E-1  
580 Taylor Ave  
Annapolis, MD 21401

Ms. Linda Janey  
Asst. Secretary, Clearinghouse  
Maryland Department of Planning  
Capital Planning and Review Division  
301 West Preston St, Suite 1104  
Baltimore, MD 21201-2305

Mr. J. Rodney Little  
SHPO  
Maryland Historic Trust  
Division of Historical and Cultural Programs  
100 Community Place  
Crownsville, MD 21032-2023

Mr. George G. Cardwell  
Anne Arundel County  
Office of Planning and Zoning  
Heritage Office Complex  
2664 Riva Rd, MS 6403  
Annapolis, MD 21401

Mr. Jean Friedberg  
Fort Meade RGMC  
6751 Columbia Gateway Drive  
Suite 500  
Columbia, MD 21046

### Libraries

Anne Arundel County Public Library  
West County Area Library  
1325 Annapolis Rd  
Odenton, MD 21113

Medal of Honor Memorial Library  
Fort Meade  
4418 Llewellyn Avenue  
Fort Meade, MD 20755

### Newspapers

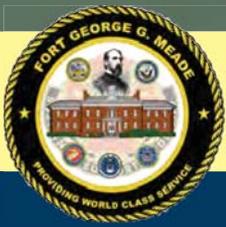
The Baltimore Sun  
501 N. Calvert Street  
P.O. Box 1377  
Baltimore, MD 21278

The Capital Gazette- Annapolis  
2000 Capital Drive  
Annapolis, MD 21401

The Gazette- Laurel  
13501 Virginia Manor Rd Laurel  
MD 20707

The Fort Meade Sound Off !



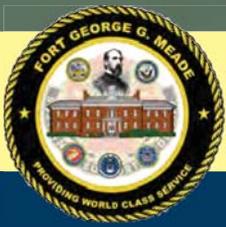


**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**APPENDICES**



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**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

# APPENDIX A: AGENCY COORDINATION



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## Agency Coordination List

---

The following agencies and individuals will be sent agency coordination letters as part of the EA process:

Ms. Mary Ratnaswamy  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Dr  
Annapolis, MD 21401

Ms. Lori Byrne  
Environmental Rev. Specialist  
Maryland Department of Natural Resources  
Tawes State Office Building E-1  
580 Taylor Ave  
Annapolis, MD 21401

Ms. Linda Janey  
Asst. Secretary, Clearinghouse  
Maryland Department of Planning  
Capital Planning and Review Division  
301 West Preston St, Suite 1104  
Baltimore, MD 21201-2305

Mr. J. Rodney Little  
SHPO  
Maryland Historic Trust  
Division of Historical and Cultural Programs  
100 Community Place  
Crownsville, MD 21032-2023

Mr. George G. Cardwell  
Anne Arundel County  
Office of Planning and Zoning  
Heritage Office Complex  
2664 Riva Rd, MS 6403  
Annapolis, MD 21401

Mr. Jean Friedberg  
Fort Meade RGMC  
6751 Columbia Gateway Drive  
Suite 500  
Columbia, MD 21046



NATIONAL SECURITY AGENCY  
CENTRAL SECURITY SERVICE  
Fort George G. Meade, Maryland 20755

6 August, 2012

Ms. Mary Ratnaswamy  
U.S. Fish and Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Dr  
Annapolis, MD 21401

**Subject: Environmental Assessment for Reclaimed Water Supply System**

Dear Ms. Ratnaswamy

In accordance with the National Environmental Policy Act (NEPA), the National Security Agency (NSA) is announcing its intent to prepare an Environmental Assessment (EA) addressing the construction and operation of a reclaimed water system for use on the NSA campus at Fort George G. Meade (FGGM).

NSA has previously prepared a *Final Environmental Impact Statement (EIS) Addressing Campus Development at Fort Meade, Maryland*, dated September 2010, for the development described in the Real Property Master Plan on what is now known as East Campus. Since that time, NSA has worked with local utility providers to identify an alternative source of water other than potable water for the cooling towers on East Campus, as well as the existing main NSA campus. Based on the quantity of water required, and accounting for proximity, that alternative source would be reclaimed water from the Howard County Little Patuxent Water Reclamation Plant (LPWRP). The outfall of that water is close to the location of the discharge of the FGGM Advanced Wastewater Treatment Plant.

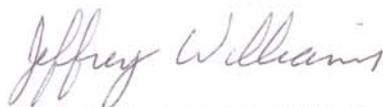
Under this EA, the NSA, working with Howard County Department of Public Works, will examine the environmental consequences of the proposed pumping station, piping distribution system, and storage tank installation that would be required to deliver reclaimed water from the Howard County outfall to NSA operations on East Campus and the main campus.

The purpose of this correspondence is to solicit your comments regarding environmental aspects of the proposed project. To assist us in complying with NEPA and Executive Order 12372, *Intergovernmental Review of Federal Programs*, and to aid in identifying environmental issues that might affect the design or implementation of the project, we request that you provide comments within your area of expertise by September 10, 2012 to the following address:

Jeffrey Williams  
Department of Defense  
9800 Savage Road, Suite 6404  
Fort Meade, MD 20755-6404  
jdwill2@nsa.gov

Your input and comments are greatly appreciated. If you have any questions, please contact me at (301) 688-2970. Thank you for your interest.

Sincerely,



Jeffrey Williams, REM, LEED-AP  
Senior Environmental Engineer  
Occupational Health, Environmental, and Safety Services

Enclosure:  
Figure 1: Site Location



# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230

410-537-3000 • 1-800-633-6101 • <http://www.mde.state.md.us>

Martin O'Malley  
Governor

Robert M. Summers, Ph.D  
Secretary

Anthony G. Brown  
Lieutenant Governor

September 4, 2012

Mr. Jeffrey Williams  
Department of Defense  
9800 Savage Road, Suite 6404  
Fort Meade, MD 20755-6404

RE: State Application Identifier: MD20120814-0603  
Project: Construction and Operation of a Reclaimed Water Supply System to Use on the NSA Campus at Fort George G. Meade

Dear Mr. Williams:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.

1. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.
2. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.
3. This project should be discussed in both the Anne Arundel County water and sewer plan and the Howard County water and sewer plan.

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Amanda Degen  
MDE Acting Clearinghouse Coordinator  
Office of Communications

cc: Linda Janey, State Clearinghouse



Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

August 16, 2012

Mr. Jeffrey Williams
Senior Environmental Engineer, National Security Agency
Department of Defense
Occupational Health, Environmental, and Safety Services
9800 Savage Road, Suite 6404
Fort Meade, MD 20755-6404

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: MD20120814-0603
Reviewer Comments Due By: September 2, 2012
Project Description: Environmental Assessment (EA): Construction and Operation of a Reclaimed Water Supply System to
Use on the NSA Campus at Fort George G. Meade (FGGM)(see MD20100930-0935)
Project Location: County(ies) of Anne Arundel
Clearinghouse Contact: Sophia Richardson

Dear Mr. Williams:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and
Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local
governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project
implementation.

The following agencies and/or jurisdictions have been forwarded a copy of your project for their review: the Maryland
Department(s) of the Environment, Natural Resources, Transportation; the County(ies) of Anne Arundel, Howard; and the
Maryland Department of Planning; including Maryland Historical Trust. They have been requested to contact your agency directly
by September 2, 2012 with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for
Intergovernmental Assistance. Please be assured that after September 2, 2012 all MIRC requirements will have been met in
accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06). The project has been assigned a unique State
Application Identifier that should be used on all documents and correspondence.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at
srichardson@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

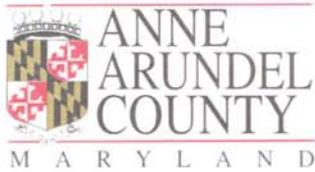
Sincerely,
Linda C. Janey
Linda C. Janey, J.D., Assistant Secretary

P.S. Great News!! Your project may be eligible to be "FastTracked" through the State permitting processes. For more information, go to:
http://easy.maryland.gov/wordpress/fasttrack/.

LCJ:SR
Enclosure(s)

cc: Joane Mueller - MDE Debra Falconer - ANAR Peter Conrad - MDPL
Greg Golden - DNR Kate Bolinger - HOWD Beth Cole - MHT
Melinda Gretsinger - MDOT

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County Executive John R. Leopold  
P.O. Box 2700, Annapolis, MD 21404

September 4, 2012

Jeffrey Williams  
Environmental and Safety Services  
Department of Defense  
9800 Savage Road, Suite 6404  
Fort George G. Meade, Maryland 20755-6404

Dear Mr. Williams:

Thank you for providing Anne Arundel County, Maryland with the opportunity to offer comments regarding the Notice of Intent to prepare a DRAFT Environmental Assessment (EA) addressing the construction and operation of a reclaimed water system for use on the National Security Agency (NSA) campus at Fort George G. Meade, Maryland. We understand the continuous, substantial and increasing demand for water that is required for the cooling towers located on the NSA campus.

We have contacted our Department of Public Works branches for Utilities and the Watershed Ecosystem and Restoration, along with the Office of Planning and Zoning regarding scoping and potential impact comments. These County agencies offered no comments, other than their belief that this is a prudent use of resources.

If you have any questions or concerns regarding these comments, please contact George Cardwell, Planning Administrator, Office of Planning & Zoning by phone at (410) 222-7440, or via email at [pzcard44@aacounty.org](mailto:pzcard44@aacounty.org)

Sincerely,

A handwritten signature in dark ink that reads "Robert C. Leib".

Robert C. Leib  
Special Assistant to the County Executive for BRAC/Education

cc: Larry R. Tom, Planning & Zoning Officer  
Ronald Bowen, Director, Department of Public Works  
Bruce Wright, Assistant Chief Engineer, Utilities, DPW  
Ginger Ellis, Planning Administrator, WERS, DPW  
Carole Sanner, Assistant Planning & Zoning Officer, OPZ  
George Cardwell, Planning Administrator, OPZ



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NATIONAL SECURITY AGENCY  
CENTRAL SECURITY SERVICE  
Fort George G. Meade, Maryland 20755

F  
NSA  
DLH/ACA  
RECEIVED  
AUG 10 2012

BY: \_\_\_\_\_

6 August, 2012

Mr. J. Rodney Little  
SHPO  
Maryland Historic Trust  
Division of Historical and Cultural Programs  
100 Community Place  
Crownsville, MD 21032-2023

**Subject: Environmental Assessment for Reclaimed Water Supply System**

ANC

Dear Mr. Little

In accordance with the National Environmental Policy Act (NEPA), the National Security Agency (NSA) is announcing its intent to prepare an Environmental Assessment (EA) addressing the construction and operation of a reclaimed water system for use on the NSA campus at Fort George G. Meade (FGGM).

NSA has previously prepared a *Final Environmental Impact Statement (EIS) Addressing Campus Development at Fort Meade, Maryland*, dated September 2010, for the development described in the Real Property Master Plan on what is now known as East Campus. Since that time, NSA has worked with local utility providers to identify an alternative source of water other than potable water for the cooling towers on East Campus, as well as the existing main NSA campus. Based on the quantity of water required, and accounting for proximity, that alternative source would be reclaimed water from the Howard County Little Patuxent Water Reclamation Plant (LPWRP). The outfall of that water is close to the location of the discharge of the FGGM Advanced Wastewater Treatment Plant.

Under this EA, the NSA, working with Howard County Department of Public Works, will examine the environmental consequences of the proposed pumping station, piping distribution system, and storage tank installation that would be required to deliver reclaimed water from the Howard County outfall to NSA operations on East Campus and the main campus.

Arched  
JLH  
9/4/12  
Dua

Printed on



Recycled Paper

1a AREA  
9/10/12

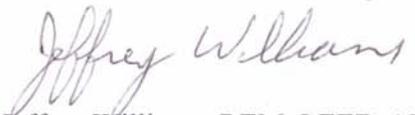
cfm 106 of  
Historic Present.

The purpose of this correspondence is to solicit your comments regarding environmental aspects of the proposed project; To assist us in complying with NEPA and Executive Order 12372, *Intergovernmental Review of Federal Programs*, and to aid in identifying environmental issues that might affect the design or implementation of the project, we request that you provide comments within your area of expertise by September 10, 2012 to the following address:

Jeffrey Williams  
Department of Defense  
9800 Savage Road, Suite 6404  
Fort Meade, MD 20755-6404  
jdwill2@nsa.gov

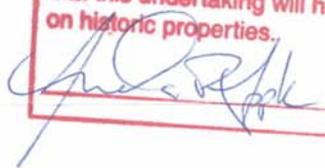
Your input and comments are greatly appreciated. If you have any questions, please contact me at (301) 688-2970. Thank you for your interest.

Sincerely,



Jeffrey Williams, REM, LEED-AP  
Senior Environmental Engineer  
Occupational Health, Environmental, and Safety Services

Enclosure:  
Figure 1: Site Location

The Maryland Historical Trust has determined that this undertaking will have no adverse effect on historic properties.  
 Date 9/10/12

**From:** "Williams, Jeffrey"  
**Date:** September 13, 2012 6:26:59 AM EDT  
**To:** "Baxter, Amanda"  
**Subject:** FW: MD20120814-0603

**From:** Sophia Richardson  
**Sent:** Wednesday, September 12, 2012 4:38 PM  
**To:** Williams, Jeffrey  
**Subject:** MD20120814-0603

Good afternoon Mr. Williams,  
I am providing you with all of the comments received by the Clearinghouse for MD20120814-0603 - Environmental Assessment (EA): Construction and Operation of a Reclaimed Water Supply System to Use on the NSA Campus at Fort George G. Meade (FGGM)(see MD20100930-0935). This concludes the review of this project. Thanks  
Sophia

1. Maryland Department of Planning:

Project supports MD BRAC

2. Maryland Department of Natural Resources:

C1 - It is Consistent with our plans, programs, and objectives

3. Maryland Department of the Environment:

See attached

4. Howard County:

C6 - It is **Consistent** with the Economic Growth, Resource Protection, and Planning Visions (Planning Act of 1992), State Finance and Procurement Article 5-7B – Smart Growth and Neighborhood Conservation (Priority Funding Areas), **and** our plans, programs, and objectives.



*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Joseph P. Gill, Deputy Secretary*

September 19, 2012

Jeffrey Williams  
Department of Defense  
9800 Savage Rd., Suite 6404  
Fort Meade, MD 20755-6404

**RE: Environmental Review for EA for Reclaimed Water Supply System at Fort George G. Meade, Anne Arundel County, MD.**

Dear Mr. Williams:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

A handwritten signature in black ink that reads "Lori A. Byrne".

Lori A. Byrne,  
Environmental Review Coordinator  
Wildlife and Heritage Service  
MD Dept. of Natural Resources

ER# 2012.1125.aa



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, Maryland 21401  
<http://www.fws.gov/chesapeakebay>

October 23, 2012

National Security Agency  
Central Security Service  
Fort George G. Meade, MD 20755

*RE: Environmental Assessment for Reclaimed Water Supply System*

Dear Jeffrey Williams:

This responds to your letter, received August 6, 2012, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald



Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities.

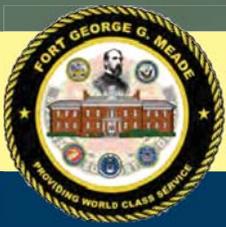
An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Trevor Clark at (410) 573-4527.

Sincerely,



Genevieve LaRouche  
Supervisor



**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**APPENDIX B: NSA WATER DEMAND**



**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
ENGINEERS · ARCHITECTS · PLANNERS  
EST. 1915

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November 21, 2011

Mr. Stephen Gerwin  
Chief, Bureau of Utilities  
Howard County Government, Department of Public Works  
8250 Old Montgomery Rd.,  
Columbia, MD 21045

Dear Mr. Gerwin,

As a follow-up to the recent conversations that NSA technical personnel have been having with Howard County regarding NSA's reclaimed water needs on our Ft. Meade campus the attached Load Letter provides a more detailed forecast of our expected needs.

Also attached is a suggested preliminary routing that we have developed for the service main to and through our campus that would provide service to various campus facilities. We are available at your convenience to discuss this routing to coordinate and further develop it.

NSA understands that water supply projects can take time. Given the short time frame, your prompt review and analysis of the attached reclaimed water demand forecast is appreciated. Please perform the studies as required and provide a proposal to supply NSAW, Ft. Meade with reclaimed water to meet the schedule above

Please contact Mr. Jim Ducey at 443-654-8235 or in his absence, Ms. Corey Stacy at 240-373-5790 for questions, clarifications, and also with your response to this letter.

Thank you for your continued cooperation in supporting our vital mission.

Respectfully,



Jeffrey Rutt, P.E.

Installations and Facilities Services

cc: Ms. Amy Hart, Engineering Specialist, Bureau of Utilities

**Note: Government Proprietary – Do not disclose without prior permission.**

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**Load Letter**

**Forecast of Reclaimed Water Demand  
National Security Agency  
Ft. Meade, Maryland**

**November 21, 2011**

The National Security Agency located at Ft. Meade, Maryland (NSAW) is forecasting significant reclaimed water demand for process water needs over the next fifteen years.

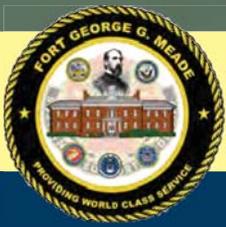
NSAW wishes to have Howard County propose to provide an adequate supply of reclaimed water to meet this demand in a timely fashion.

The following **peak-day** reclaimed water demand is forecast for the anticipated growth of the NSAW Ft. Meade campus including the East Campus expansion. We expect the average daily demand to be approximately 80% of the peak-day listed below.

<b>Year</b>	<b>Reclaimed Water Peak-Day Demand [GPD]</b>	<b>Reclaimed Water Peak-Day Cumulative Demand [GPD]</b>
2011	0	0
2012	0	0
2013	0	0
2014	1,615,000	1,615,000
2015	900,000	2,515,000
2016	1,975,000	4,490,000
2017	0	4,490,000
2018	70,000	4,560,000
2019	0	4,560,000
2020	70,000	4,630,000
2021	0	4,630,000
2022	70,000	4,700,000
2023	0	4,700,000
2024	70,000	4,770,000
2025 / Beyond	150,000	4,920,000
<b>Total</b>	<b>4,920,000</b>	

**Note: Government Proprietary – Do not disclose without prior permission.**

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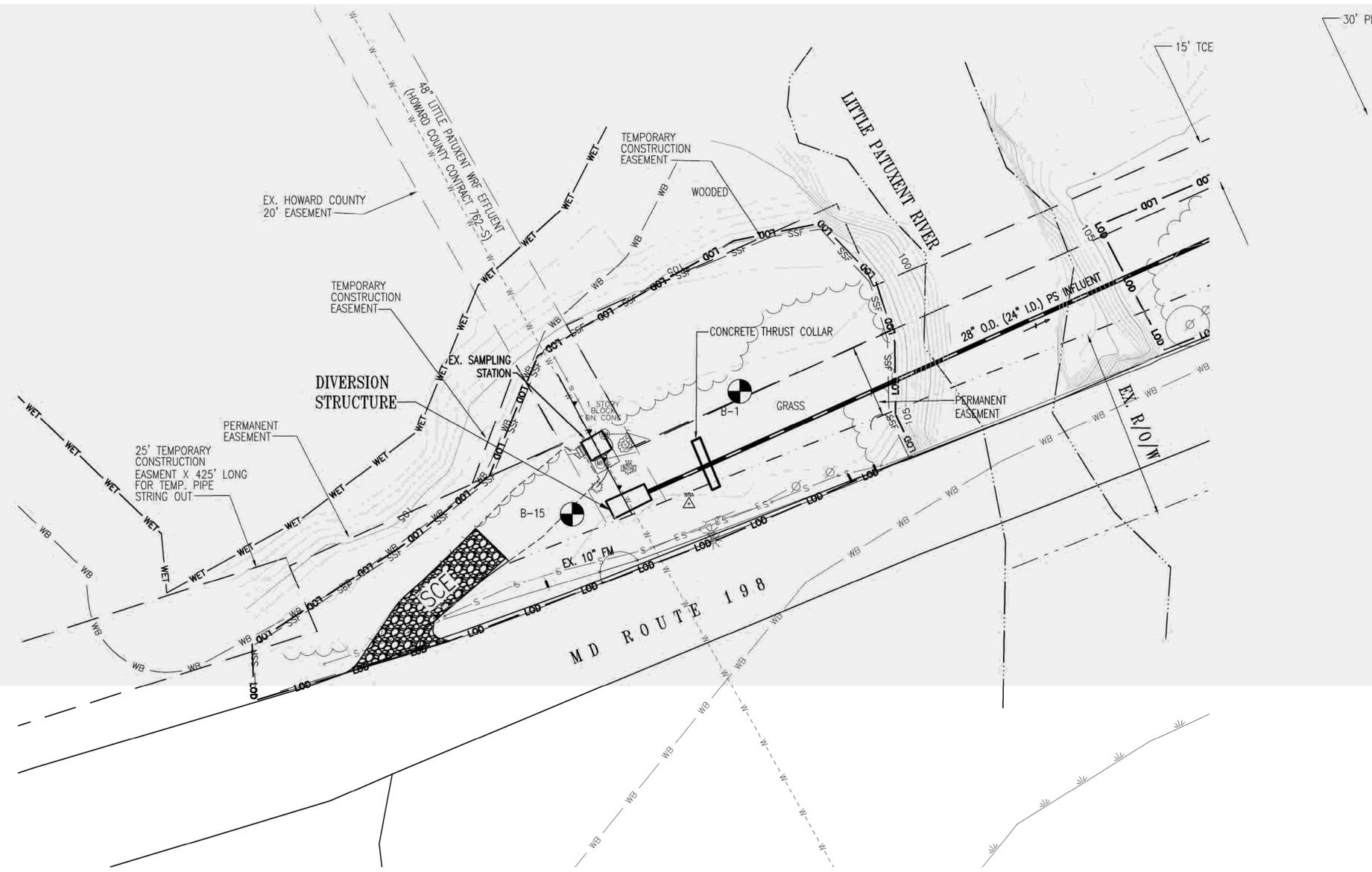
**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**APPENDIX C: CONCEPTUAL PLAN SET**

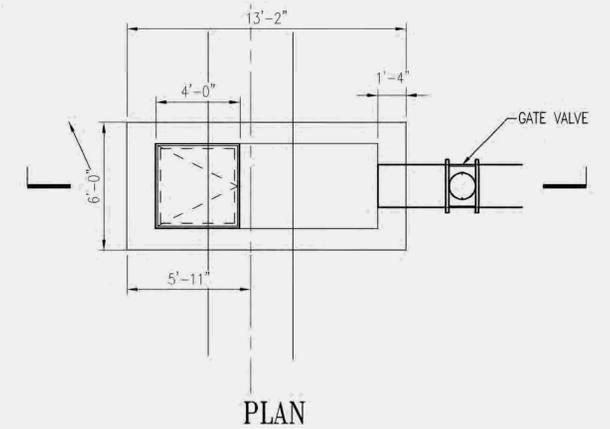


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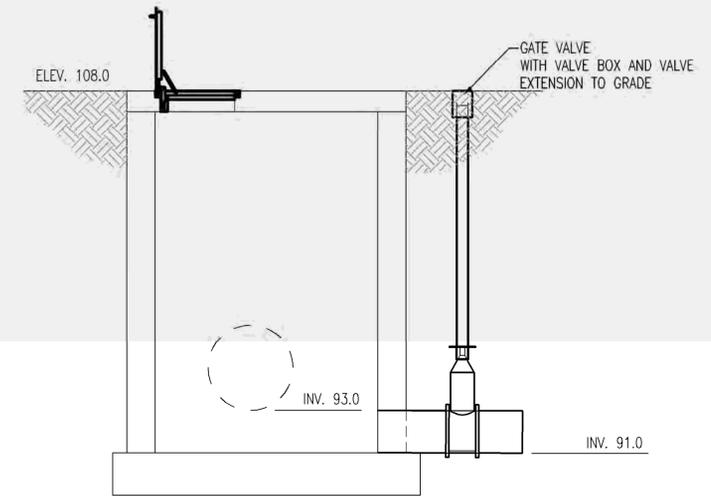
EST. 1915



PLAN  
SCALE: 1" = 20'

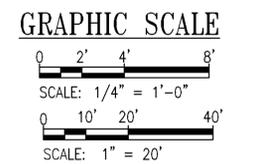


PLAN



SECTION A-A

DIVERSION STRUCTURE DETAIL  
SCALE: 1/4" = 1'-0"



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.			
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

**WR&A**  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

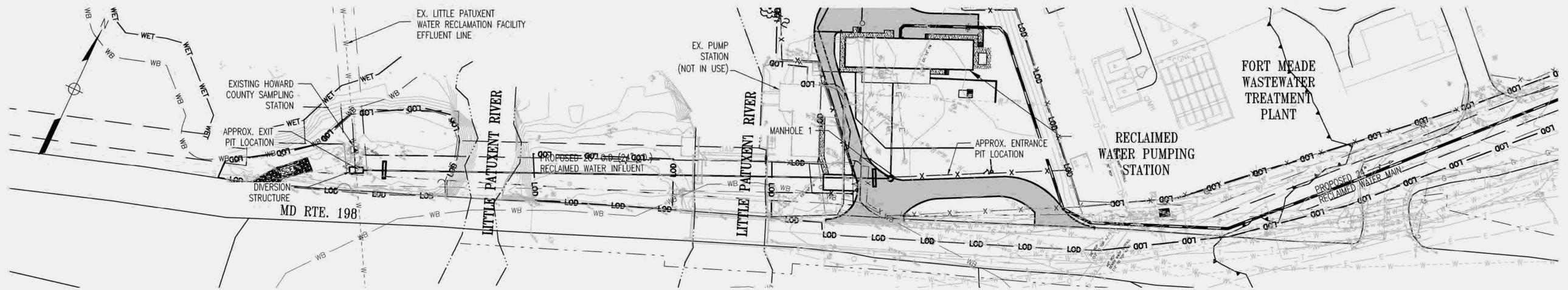
NOT FOR CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

**DIVERSION STRUCTURE  
SITE, EROSION/SEDIMENT CONTROL  
PLAN AND DETAILS**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX  
ELECTION DISTRICT X  
HOWARD COUNTY, MARYLAND

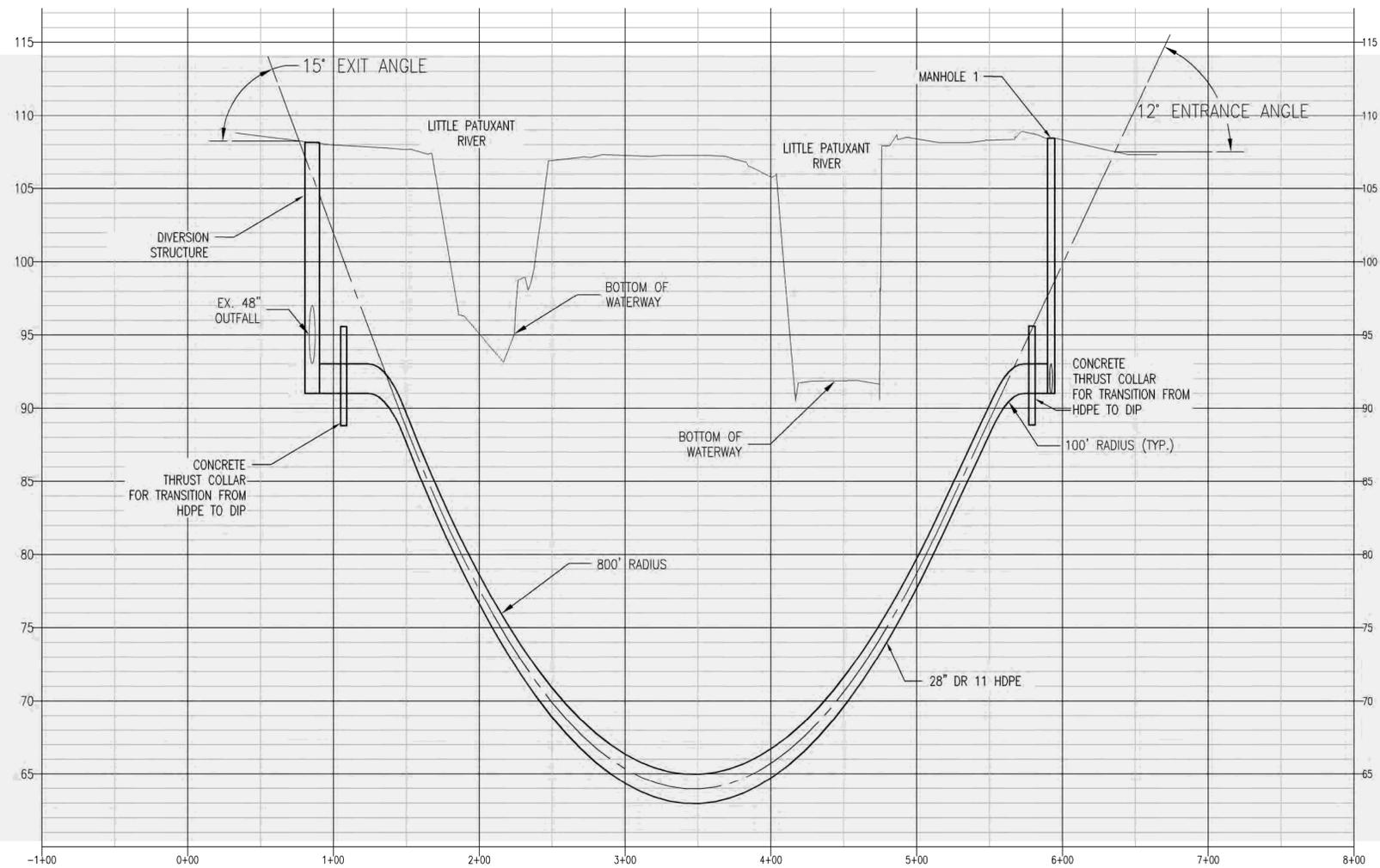
DWG. **1C-02**  
SCALE AS SHOWN  
SHEET \_\_\_ OF XX



**PROFILE**  
SCALE: 1" = 50'

**CONSTRUCTION NOTES:**

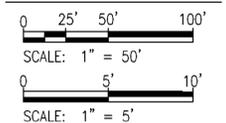
1. THE COMPOSITION OF ALL DRILLING FLUID USED SHALL BE SUBMITTED FOR APPROVAL PRIOR TO UTILIZATION. THE FLUIDS SHALL BE INERT AND OF NO RISK TO THE ENVIRONMENT. NO FLUID SHALL BE USED THAT DOES NOT COMPLY WITH PERMIT REQUIREMENTS AND ENVIRONMENTAL REGULATIONS.
2. DISPOSAL OF DRILLING FLUID AND ALL OTHER SPOILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONDUCTED IN COMPLIANCE WITH ALL RELATIVE ENVIRONMENTAL REGULATIONS, RIGHT-OF-WAY AND WORK SPACE AGREEMENTS AND PERMIT REQUIREMENTS.
3. DRILLING FLUID RETURNS AT LOCATIONS OTHER THAN THE ENTRY AND EXIT POINTS SHALL BE MINIMIZED. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY DRILLING FLUID THAT INADVERTENTLY SURFACES. CONTRACTOR SHALL HAVE A VACUUM TRUCK AVAILABLE ON A DAILY BASIS TO CLEAN UP ANY AREAS WHERE DRILLING FLUID HAS SURFACED.
4. EXCESS DRILLING FLUID SHALL BE DISPOSED OF AT AN APPROPRIATE DISPOSAL SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING ALL EXCESS FLUIDS AND OTHER SPOILS TO THE DISPOSAL SITE AND PAYING ALL DISPOSAL COSTS.
5. DRILLING FLUID SHALL NOT BE DISCHARGED INTO SANITARY OR STORM DRAIN SYSTEMS, DITCHES, CANALS, OR WATERWAYS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTAINMENT AND PREVENTION OF FRAC OUTS ASSOCIATED WITH DIRECTIONAL DRILL ACTIVITIES. THE CONTRACTOR SHALL SUBMIT A DETAILED FRAC OUT RESPONSE PLAN TO BE IMPLEMENTED BY THE CONTRACTOR IN THE EVENT THAT A FRAC OUT SHOULD OCCUR, INCLUDING PERMITTING MODIFICATIONS IF NECESSARY.



**PROFILE**

HORZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR CONSTRUCTION

DES:			
DRN:			
CHK:			
DATE: XX/XX/XX	BY	NO.	REVISION

**INFLUENT MAIN  
DIRECTIONAL DRILL  
PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

DWG.  
**1C-03**

SCALE AS SHOWN

SHEET OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

**SWM / ESD SUMMARY**

- EXISTING SITE IMPERVIOUS AREA = 9.4%, THEREFORE, PROJECT IS CONSIDERED "NEW DEVELOPMENT".
- TARGET ESDv REQUIREMENT = 2,065 C.F.

FACILITY DESIGNATION	ESD TYPE	REFER TO PLAN	ESDv PROVIDED
MB-1*	MICRO-BIORETENTION	1C-12	878 CF
PP-1*	PERMEABLE PAVEMENTS	1C-13	1,290 CF
LI-1	LANDSCAPE INFILTRATION	1C-14	1,085 CF
GS-1	GRASS SWALE	1C-13	195 CF
TOTAL ESDv PROVIDED			3,448 CF
DIFFERENCE TO REQUIRED ESDv			+1,383 CF ADDITIONAL**

--> REQUIREMENTS ARE MET.

\* MB-1 AND PP-1 ARE DESIGNED AND LOCATED ABOVE THE 100-YR FLOOD PLAN ELEVATION OF 113.5.

\*\* ADDITIONAL EXCESS VOLUME PROVIDED FOR QUANTITY MANAGEMENT OF THE 10-YEAR STORM.

**GENERAL GRADING & SWM NOTES**

- EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED. REFER TO DWG 1C-09 FOR THE PUMPING STATION EROSION AND SEDIMENT CONTROL PLAN, AND DWG SC-01 FOR THE STANDARD EROSION AND SEDIMENT CONTROL NOTES.
- ALL DISTURBED AREAS WITHIN THE LIMIT OF DISTURBANCE THAT ARE NOT RECEIVING HARDSCAPE OR STRUCTURES SHALL BE STABILIZED IN ACCORDANCE WITH THE VEGETATIVE STABILIZATION SPECIFICATIONS ON DWG SC-04.
- ALL DRAINAGE CHANNELS AND SWALES SHALL BE STABILIZED USING PERMANENT SOIL STABILIZING MATTING.

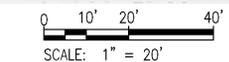
**SPECIFIC PLAN NOTES**

- STABILIZED VEHICLE PULL-OFF FOR AMERICAN WATER: CONSTRUCTED OF CELLULAR CONFINEMENT SYSTEM, WITH GRASS SURFACE.
- CONCRETE ENDWALL AND CULVERT PIPE
- RETAINING WALL 'A': CAST-IN-PLACE CONCRETE WALL, LENGTH = 112 L.F. WALL HEIGHT:
  - (A1) TOP EL. 108.8 / BOT EL. 107.8 / EXPOSED HEIGHT = 1.0 FT
  - (A2) TOP EL. 116.3 / BOT EL. 108.8 / EXPOSED HEIGHT = 7.5 FT
  - (A3) TOP EL. 113.2 / BOT EL. 112.0 / EXPOSED HEIGHT = 1.2 FT
- RETAINING WALL 'B': CAST-IN-PLACE CONCRETE WALL, LENGTH = 94 L.F. WALL HEIGHT:
  - (B1) TOP EL. 115.5 / BOT EL. 115.0 / EXPOSED HEIGHT = 0.5 FT
  - (B2) TOP EL. 115.5 / BOT EL. 106.8 / EXPOSED HEIGHT = 8.7 FT
  - (B3) TOP EL. 115.5 / BOT EL. 106.8 / EXPOSED HEIGHT = 8.7 FT
  - (B4) TOP EL. 115.5 / BOT EL. 107.5 / EXPOSED HEIGHT = 8.0 FT

**LEGEND**

-  NEW ASPHALT PAVEMENT SEE DWG 1C-06
-  PERMEABLE PAVEMENT SEE DWG 1C-13

**GRAPHIC SCALE**



DWG. **1C-08**

**GRADING AND STORMWATER MANAGEMENT PLAN**

1" = 20'

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

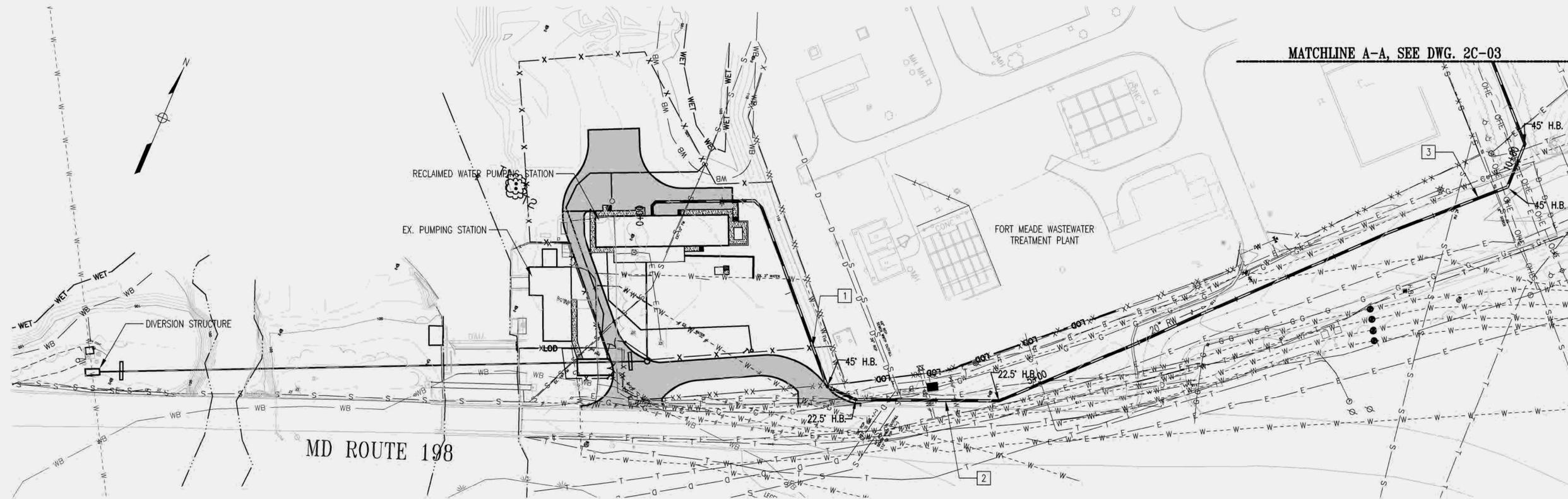
**PUMPING STATION  
GRADING AND STORMWATER  
MANAGEMENT PLAN**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

SCALE  
SHEET \_\_\_ OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

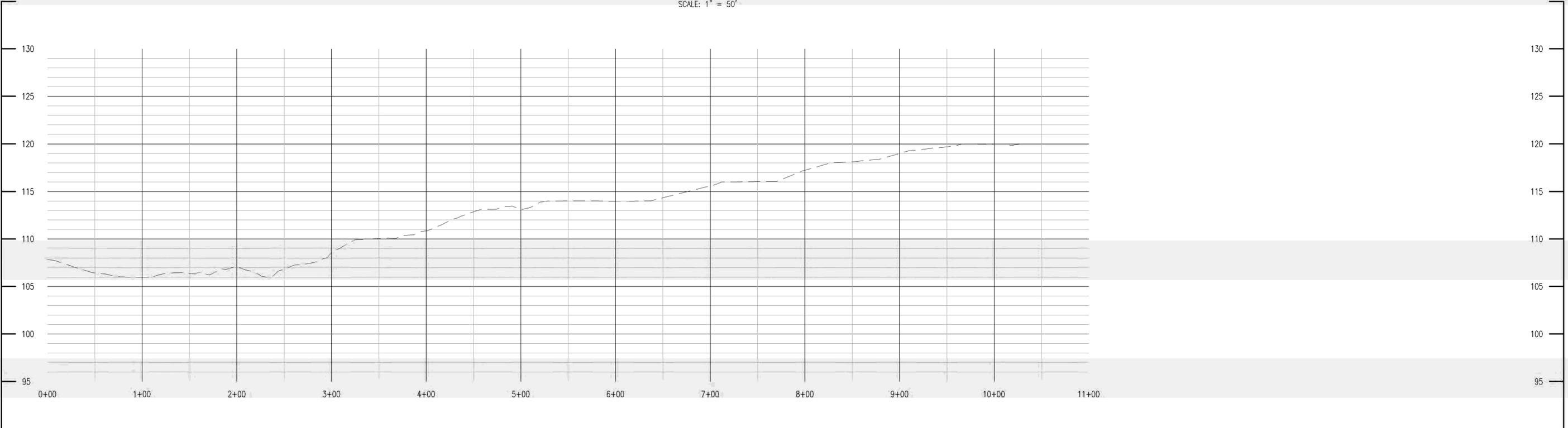
600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



PLAN  
SCALE: 1" = 50'

CONSTRUCTION NOTES

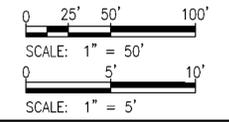
- 1 LINE OF DEMARCATION BETWEEN HOWARD COUNTY AND AMERICAN WATER OWNERSHIP IS AT THE PUMP STATION EASEMENT LINE.
- 2 AREA OF ALIGNMENT TO BE REVIEWED WITH AMERICAN WATER FOR RELOCATION WITHIN WWTP BOUNDARY.
- 3 FROM STATION 7+00 TO 10+00, CONTRACTOR TO COORDINATE WITH AMERICAN WATER FOR RELOCATION OF MATERIALS/TRAILERS BY OTHERS WITHIN EX. AMERICAN WATER STAGING AREA



PROFILE

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

GRAPHIC SCALES



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.			
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE



NOT FOR CONSTRUCTION

DES:			
DRN:			
CHK:			
DATE: XX/XX/XX	BY	NO.	REVISION

PRIORITY 1:  
UTILITY PLAN AND PROFILE

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

DWG.  
2C-02

SCALE AS SHOWN

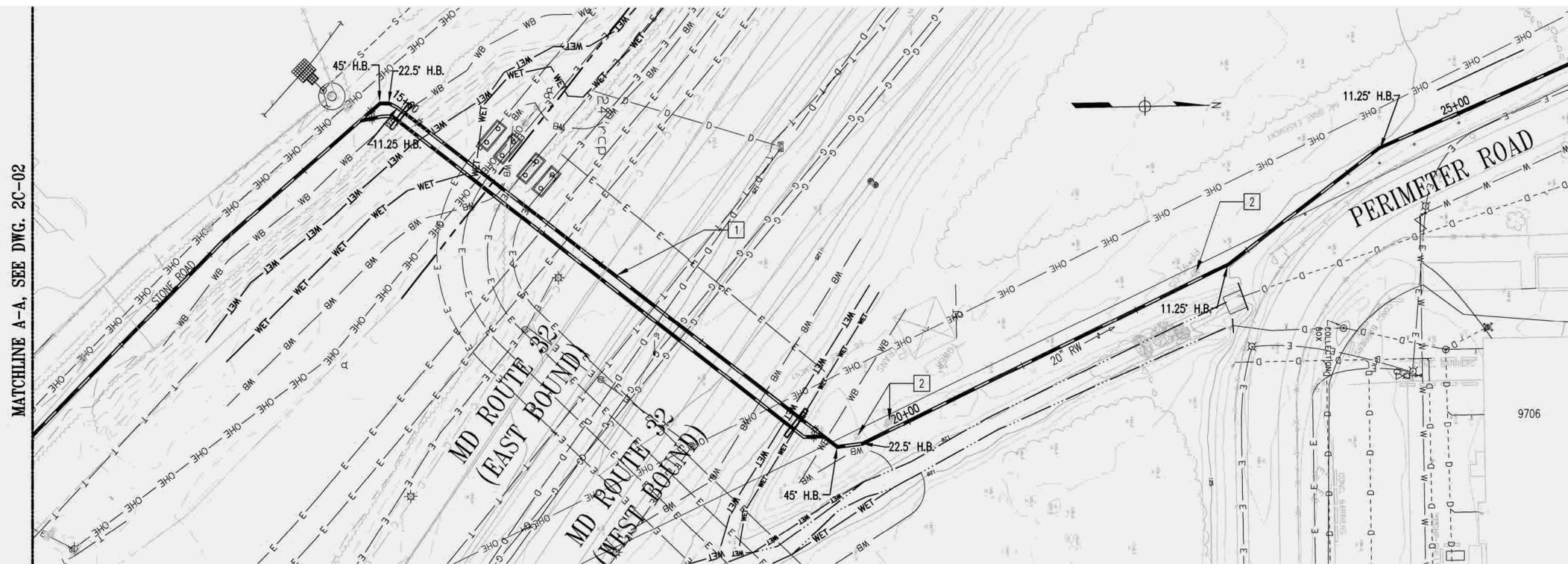
SHEET \_\_\_ OF XX

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

PLOT DATE: 10/15/2012 1:12:57 PM PAGE SETUP: W-8323-02.dwg PLOT STYLE: W-8323.ctb PAPER SIZE: 36x48

FILENAME: N:\14230-000\CADD\142300002C-02-07.dwg

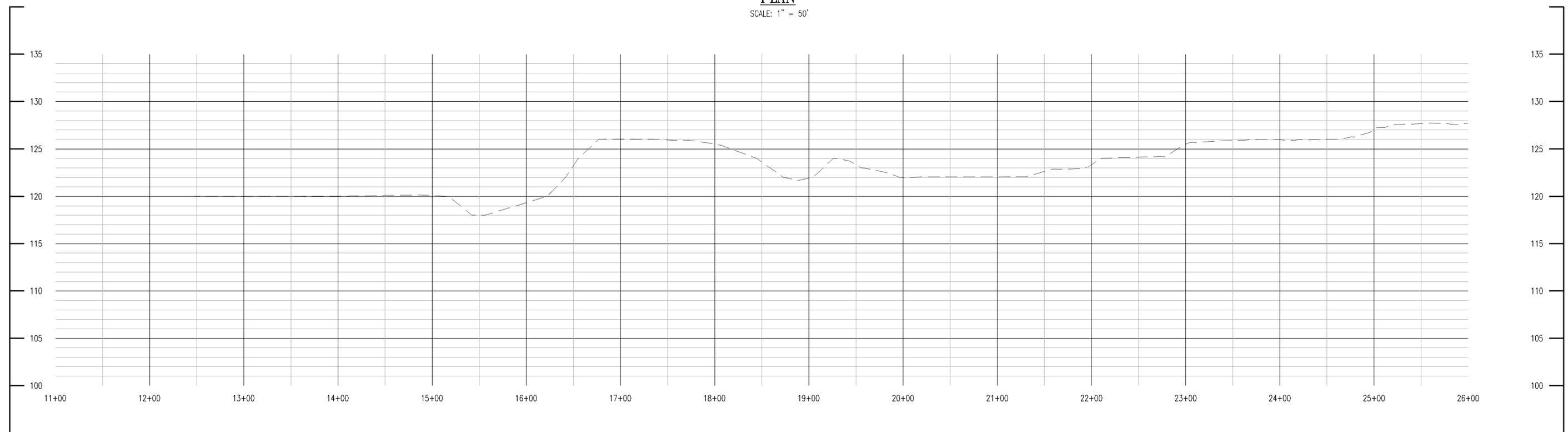
N:\14230-000\CADD\142300002C-02-07.dwg  
Oct 15, 2012 - 1:12pm



- CONSTRUCTION NOTES**
- 1 SEE DWG. 2C-18 FOR DIRECTIONAL DRILL DETAILS.
  - 2 EX. POWER POLES ARE NO LONGER IN USE

**PLAN**

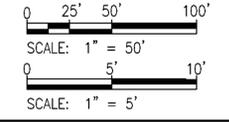
SCALE: 1" = 50'



**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND.	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE
CHIEF, UTILITY DESIGN DIVISION	DATE

**WR&A**  
 WHITMAN, REQUARDT & ASSOCIATES, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR CONSTRUCTION

DES:	
DRN:	
CHK:	
DATE: XX/XX/XX	
BY	NO.
REVISION	
DATE	

**PRIORITY 1:  
UTILITY PLAN AND PROFILE**

600' SCALE TAX MAP NO. XX BLOCK NO. X

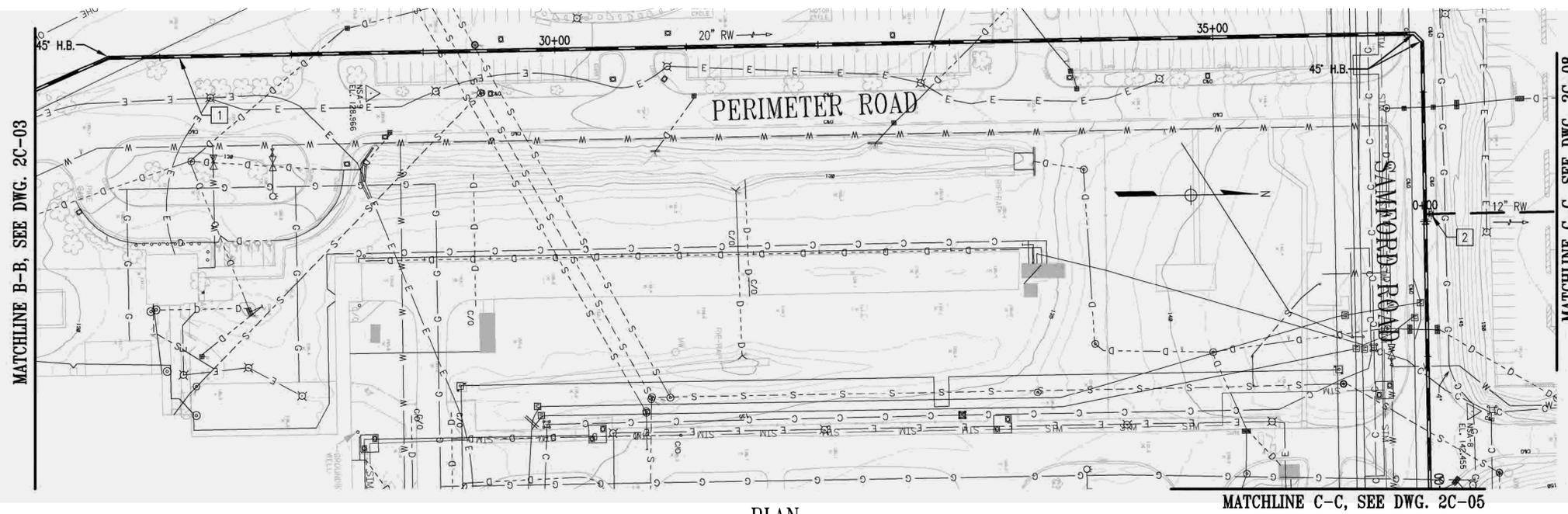
FORT MEADE RECLAIMED WATER PROJECT  
 CAPITAL PROJECT NO. W-8323  
 CONTRACT NO. XXXXX

ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

DWG. **2C-03**

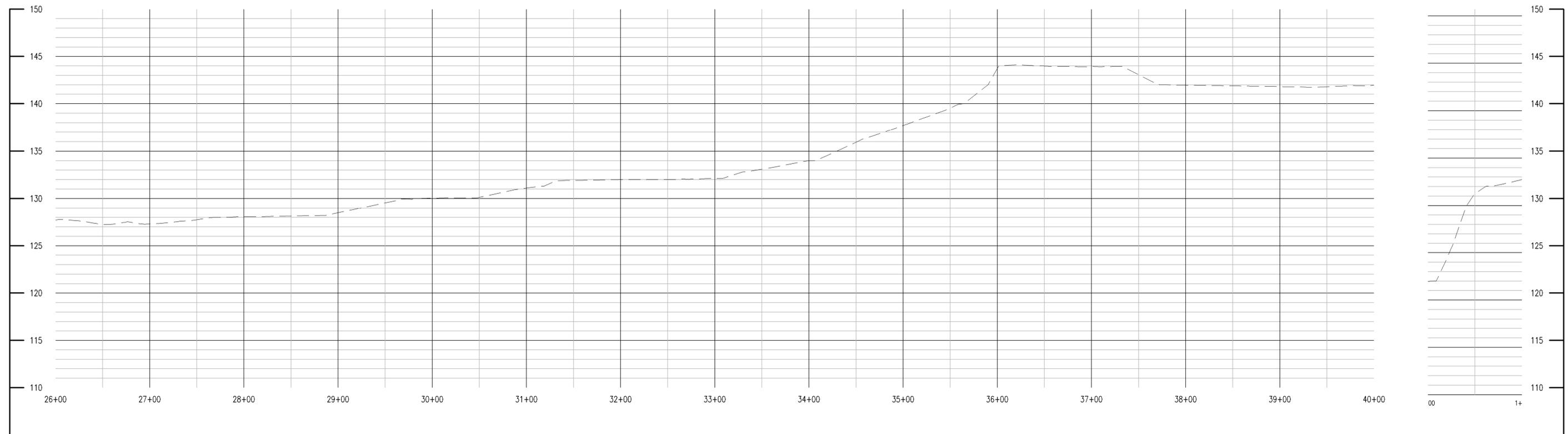
SCALE AS SHOWN

SHEET \_\_\_ OF XX

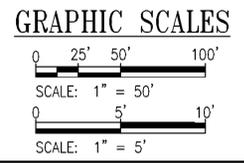


- CONSTRUCTION NOTES**
- 1 EX. SECURITY FENCE TO BE REMOVED AND REPLACES AS REQUIRED FOR RW CONSTRUCTION.
  - 2 INSTALL 20"x20" TEE WITH 5' SPOOL PIECE TO ISOLATION VALVE WITH RESTRAINED M.J. CAP. LIMIT OF PRIORITY 1 RW.

**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'



FILENAME: N:\14230-000\CADD\142300002C-02-07.dwg

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

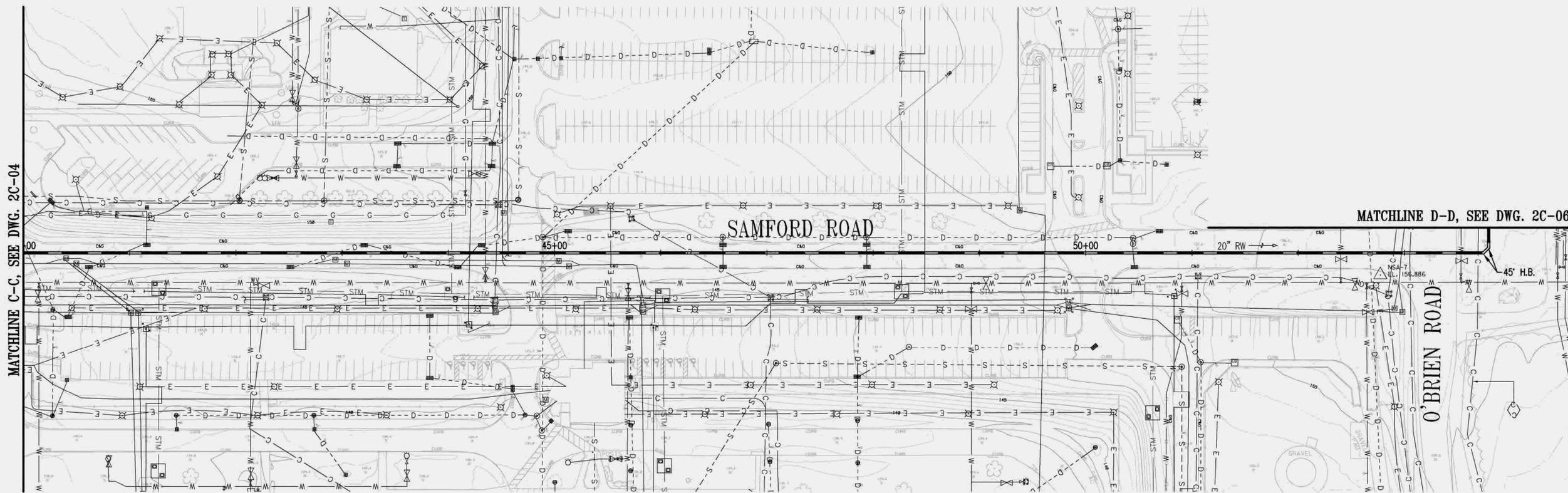
<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND.		 <b>WHITMAN, REQUARDT &amp; ASSOCIATES, LLP</b> 801 South Caroline Street, Baltimore, Maryland 21231	NOT FOR CONSTRUCTION	DES:		DATE: XX/XX/XX	BY NO.	REVISION	DATE	600' SCALE TAX MAP NO. XX	BLOCK NO. X	ELECTION DISTRICT X	HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS	DATE			CHIEF, BUREAU OF ENGINEERING	DATE								

**PRIORITY 1:**  
**UTILITY PLAN AND PROFILE**

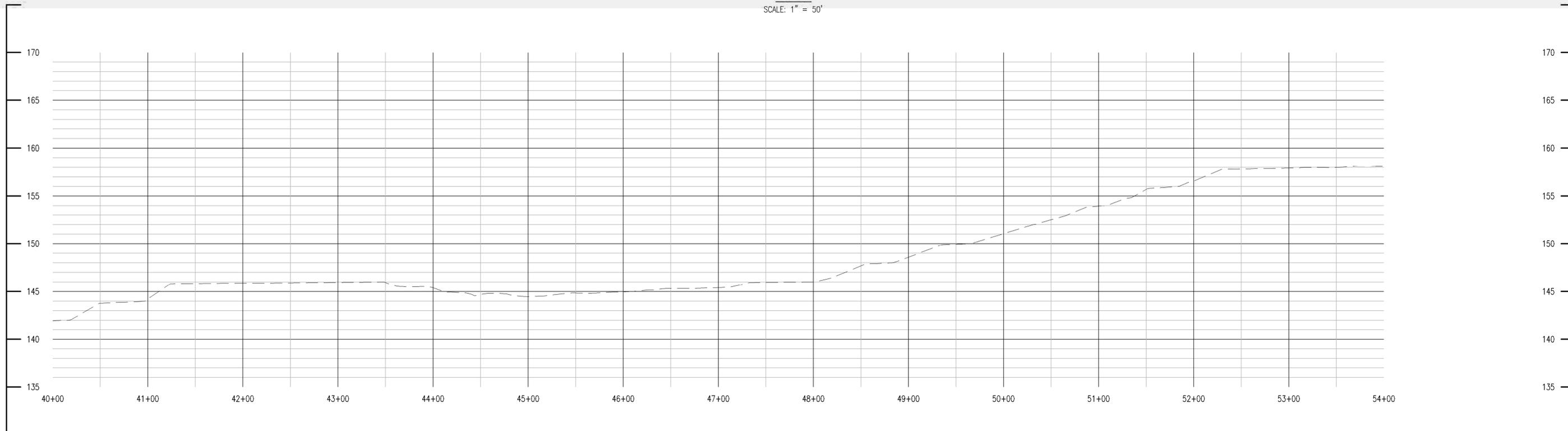
FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

DWG. **2C-04**  
SCALE AS SHOWN  
SHEET \_\_\_ OF XX

CONSTRUCTION NOTES

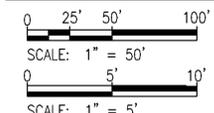


**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

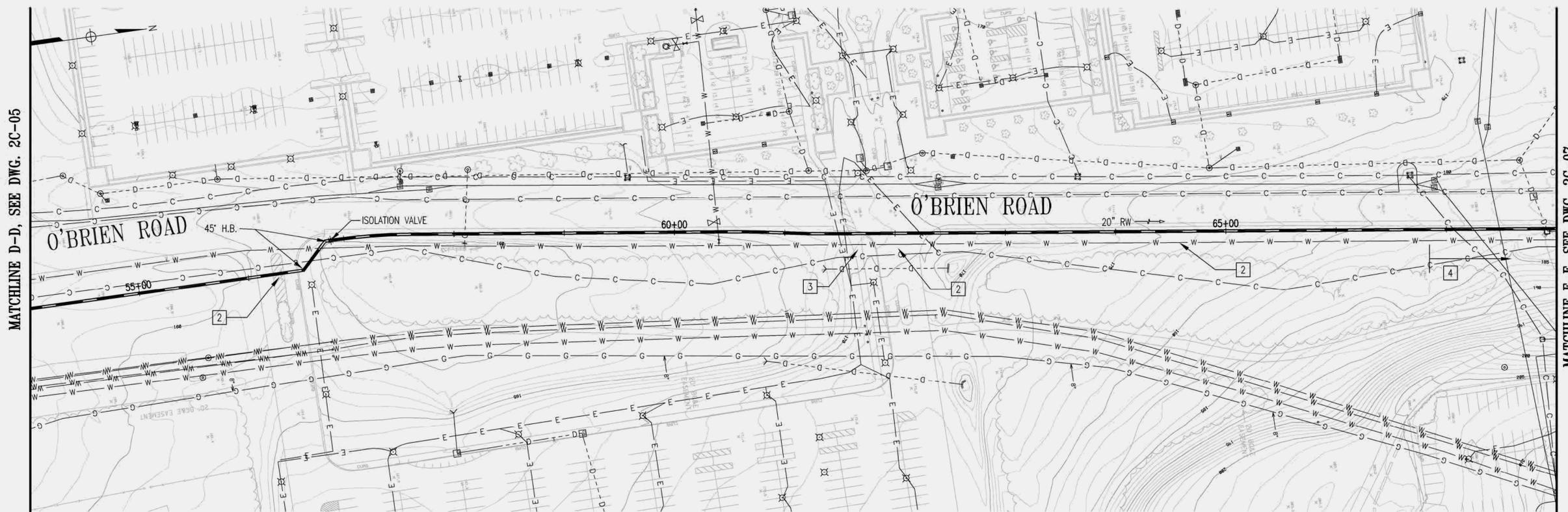
**GRAPHIC SCALES**



FILENAME: N:\14230-000\CADD\142300002C-02-07.dwg

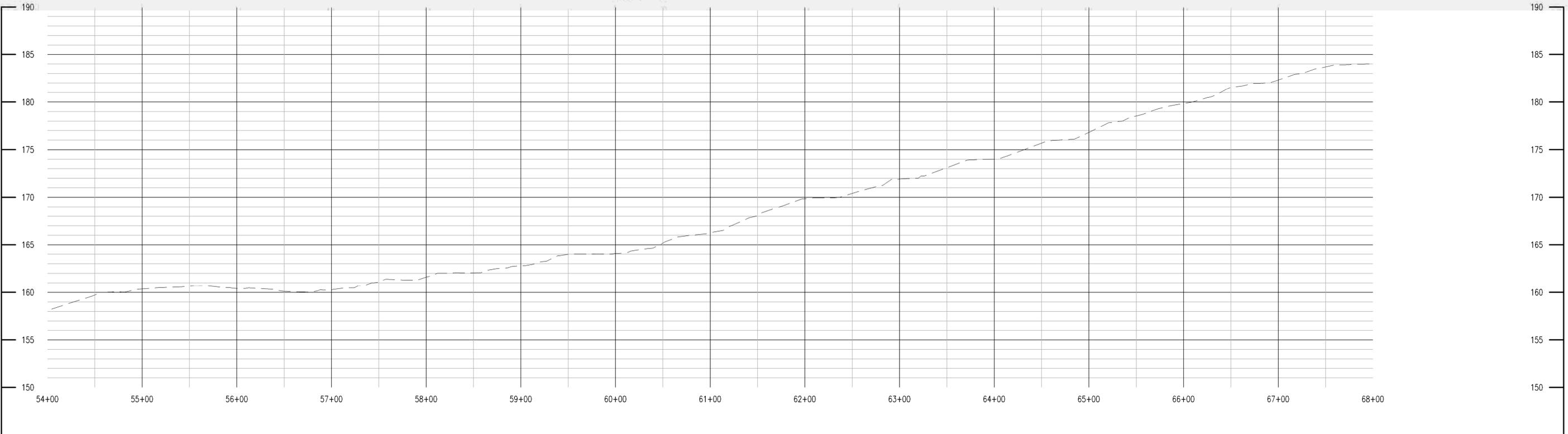
"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_."

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.		WHITMAN, REQUARDT & ASSOCIATES, LLP 801 South Caroline Street, Baltimore, Maryland 21231	NOT FOR CONSTRUCTION	DES:		PRIORITY 1: UTILITY PLAN AND PROFILE	FORT MEADE RECLAIMED WATER PROJECT CAPITAL PROJECT NO. W-8323 CONTRACT NO. XXXXX	SCALE AS SHOWN SHEET ___ OF XX							
DIRECTOR OF PUBLIC WORKS	DATE			CHIEF, BUREAU OF ENGINEERING	DATE				DRN:		DATE: XX/XX/XX	BY	NO.	REVISION	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE	CHK:											

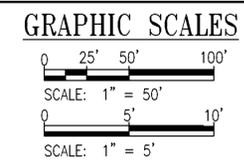


- CONSTRUCTION NOTES**
- 1 PEDESTRIAN ACCESS FROM R&E OVERFLOW LOT MUST BE MAINTAINED AT ALL TIMES.
  - 2 ACCESS TO EITHER NORTH OR SOUTH ENTRANCE TO THE R&E OVERFLOW LOT SHALL BE MAINTAINED AT ALL TIMES.
  - 3 EX. WATER MAIN TO BE ABANDONED IN PLACE BY OTHERS PRIOR TO CONSTRUCTION OF NEW RW.
  - 4 DIRECTIONAL DRILL RW.

**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND.	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE
CHIEF, UTILITY DESIGN DIVISION	DATE



NOT FOR CONSTRUCTION

DES:	
DRN:	
CHK:	
DATE: XX/XX/XX	
BY	NO.
REVISION	
DATE	

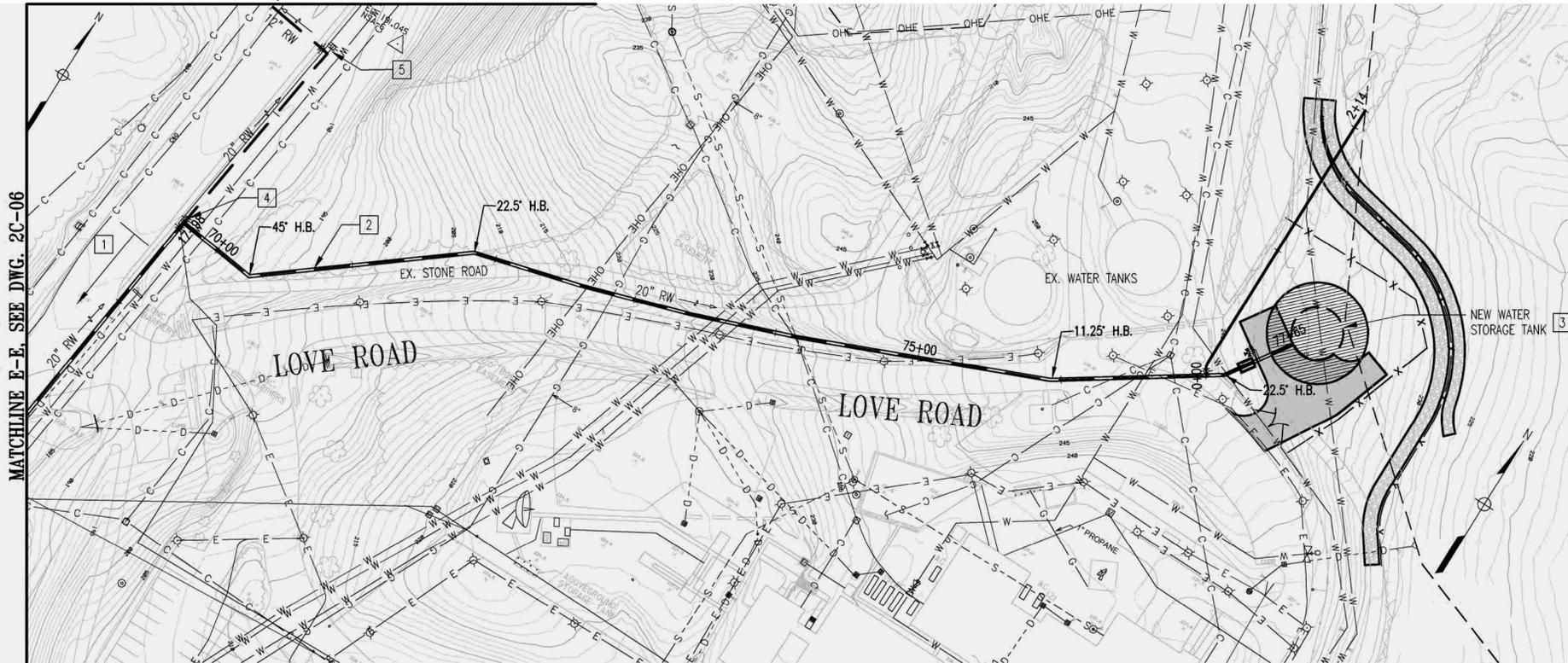
**PRIORITY 1:**  
**UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
 CAPITAL PROJECT NO. W-8323  
 CONTRACT NO. XXXXX

DWG. **2C-06**  
 SCALE AS SHOWN  
 SHEET OF XX

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

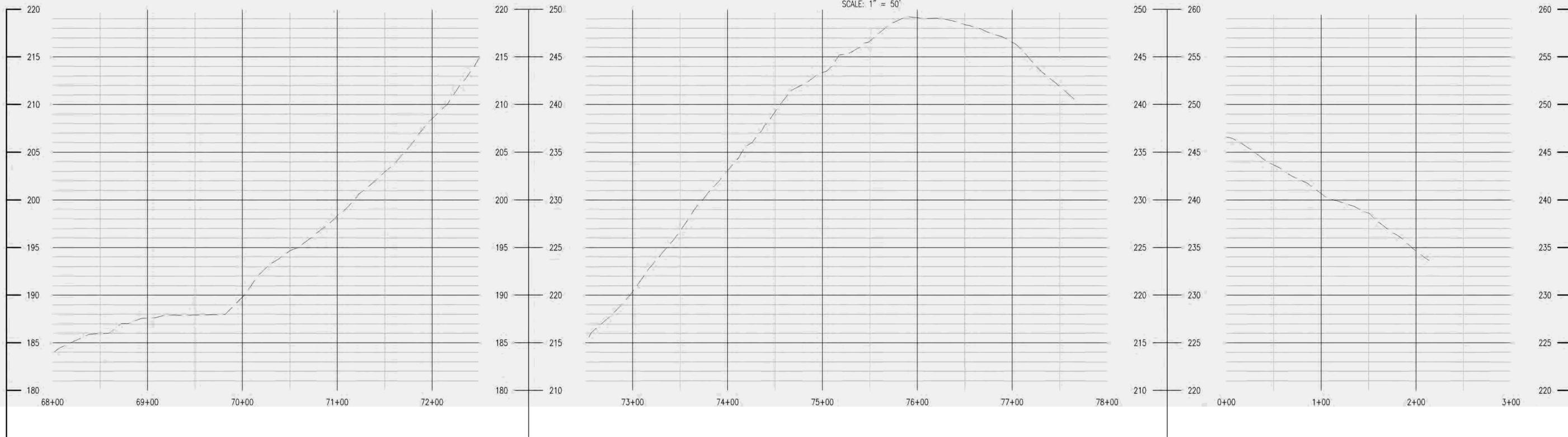
MATCHLINE E-E, SEE DWG. 2C-16



- CONSTRUCTION NOTES**
- 1 DIRECTIONAL DRILL RW.
  - 2 LOCATION OF NEW RW ADJACENT TO EX. STONE ROAD TO BE COORDINATED WITH LOCATION OF REPLACEMENT WATER MAINS TO BE INSTALLED BY AMERICAN WATER.
  - 3 SEE DWG. 2C-23 FOR WATER STORAGE TANK SITE PLAN.
  - 4 INSTALL 20"x20" MJ TEE WITH 5' SPOOL AND 20" ISOLATION VALVE WITH RESTRAINED MJ CAP. 20" VALVE IS LIMIT OF PRIORITY 1 RW.
  - 5 INSTALL 20"x12" MJ TEE WITH 5' SPOOL AND 20" ISOLATION VALVE WITH RESTRAINED MJ CAP FOR FUTURE EXTENSION.

**PLAN**

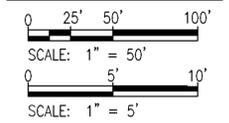
SCALE: 1" = 50'



**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE
CHIEF, UTILITY DESIGN DIVISION	DATE

**WR&A**  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR CONSTRUCTION

DES:	
DRN:	
CHK:	
DATE: XX/XX/XX	
BY	NO.
REVISION	
DATE	

**PRIORITY 1:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

DWG. **2C-07**

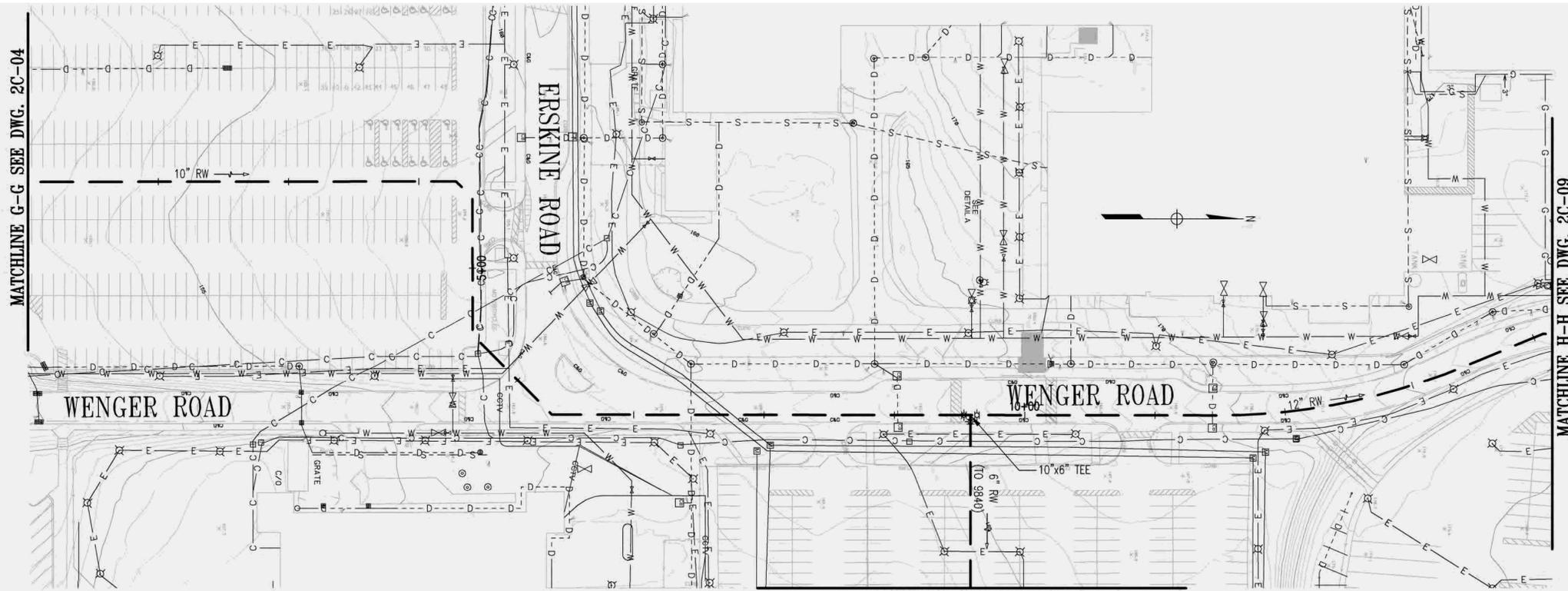
SCALE AS SHOWN  
SHEET \_\_\_ OF XX

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

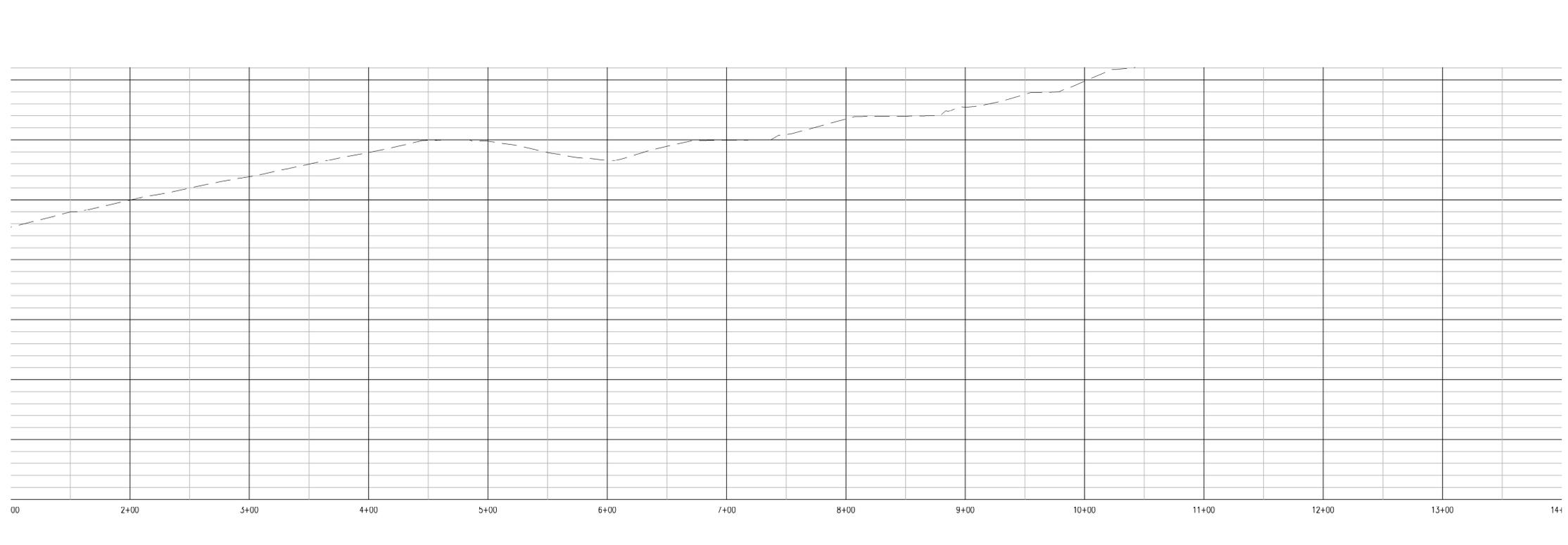
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FILENAME: N:\14230-000\CADD\142300002C-02-07.DWG

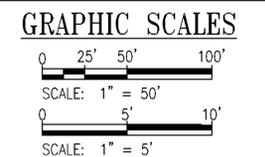
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Oct 15, 2012 - 1:15pm



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR CONSTRUCTION

DES:			
DRN:			
CHK:			
DATE: XX/XX/XX	BY	NO.	REVISION

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

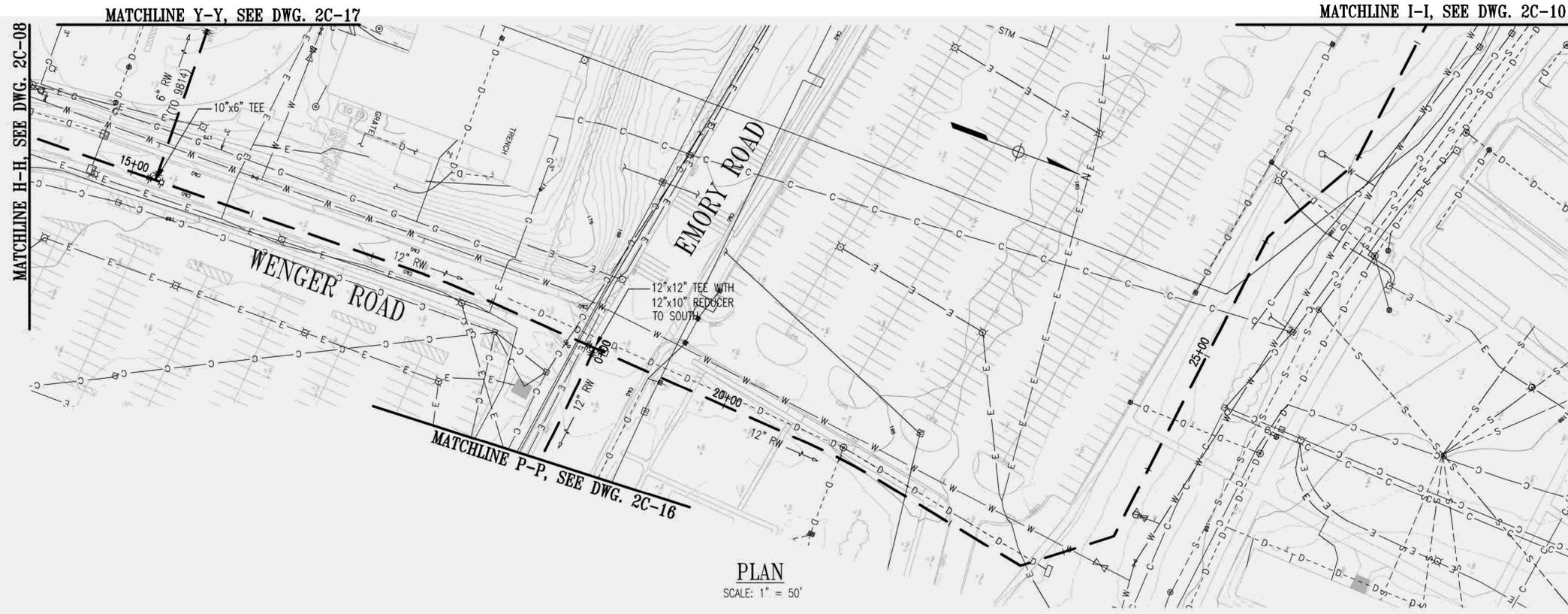
DWG.  
**2C-08**

SCALE AS SHOWN

SHEET OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

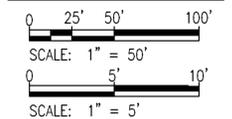
600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR CONSTRUCTION

DES:	
DRN:	
CHK:	
DATE: XX/XX/XX	
BY	NO.
REVISION	
DATE	

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

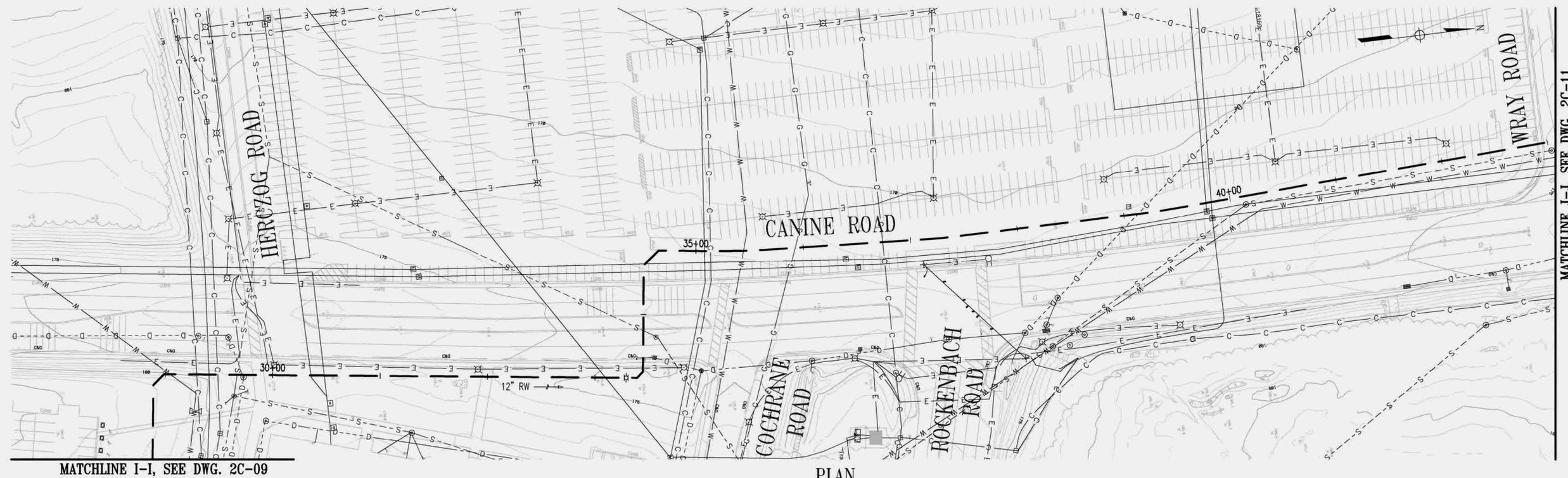
DWG.  
**2C-09**

SCALE AS SHOWN

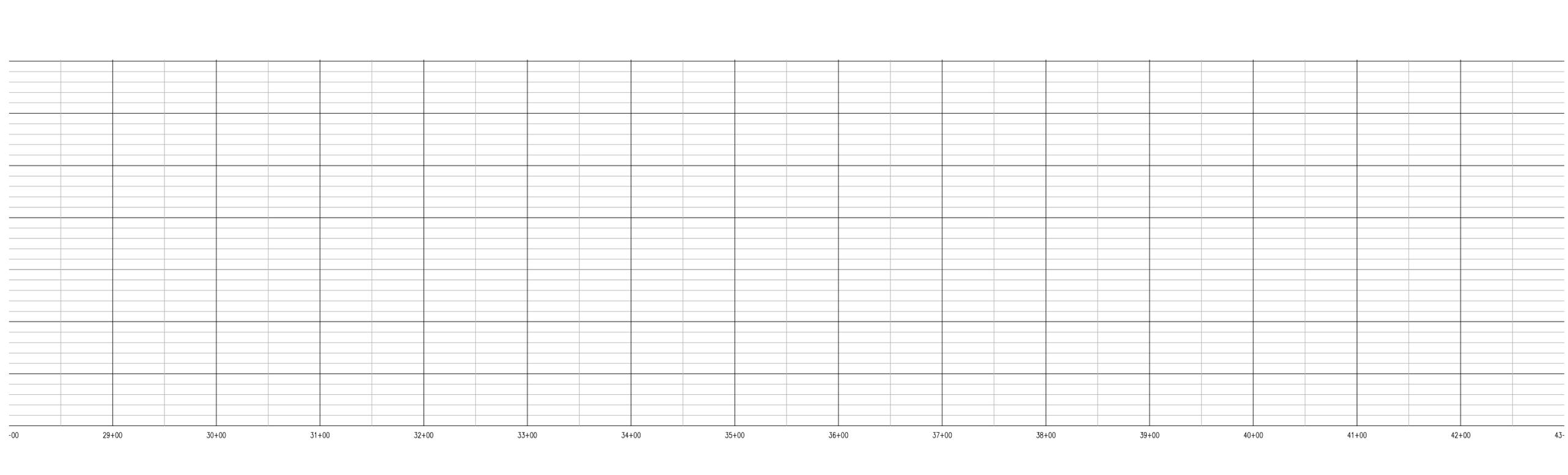
SHEET OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



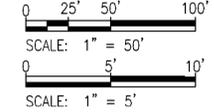
PLAN  
SCALE: 1" = 50'



**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_."

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.			
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE



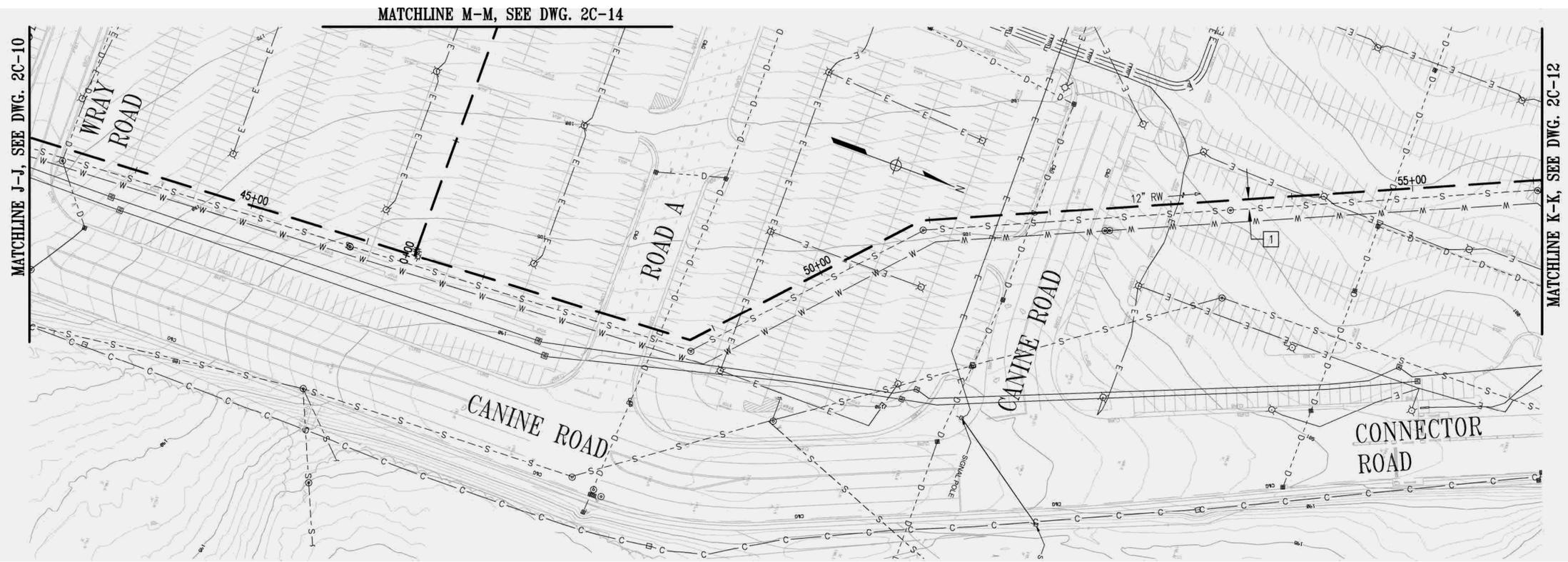
NOT FOR  
CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX  
ELECTION DISTRICT X  
HOWARD COUNTY, MARYLAND

DWG.  
**2C-10**  
SCALE AS SHOWN  
SHEET \_\_\_ OF XX



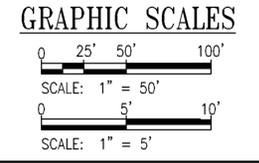
CONSTRUCTION NOTES

1 INSTALL 8' OFF EX. SEWER (TYP.)

PLAN  
SCALE: 1" = 50'



PROFILE  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

DIRECTOR OF PUBLIC WORKS DATE

CHIEF, BUREAU OF ENGINEERING DATE

CHIEF, BUREAU OF UTILITIES DATE

CHIEF, UTILITY DESIGN DIVISION DATE



NOT FOR CONSTRUCTION

DES:					
DRN:					
CHK:					
DATE: XX/XX/XX	BY	NO.	REVISION	DATE	

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

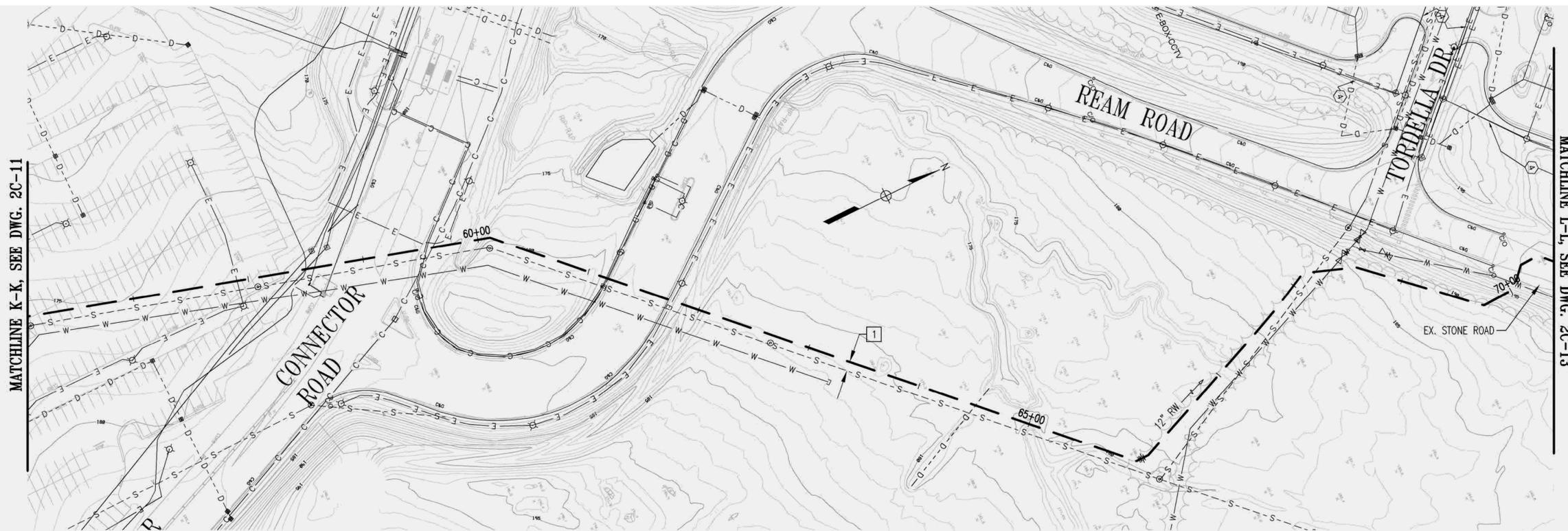
DWG. 2C-11

SCALE AS SHOWN  
SHEET \_\_\_ OF XX

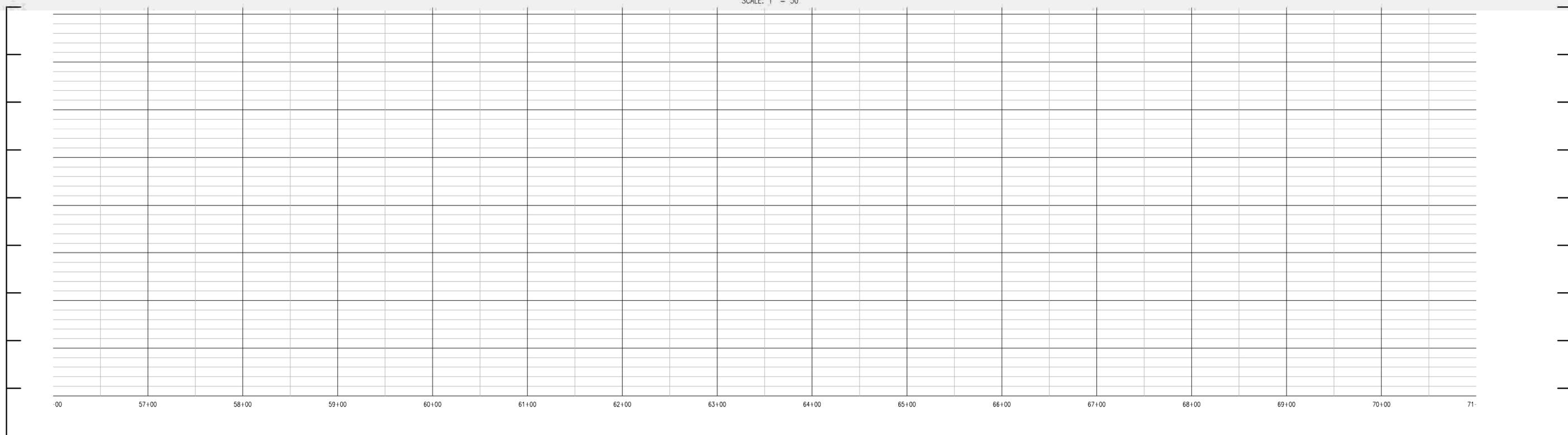
600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND

CONSTRUCTION NOTES

1 INSTALL 8" OFF EX. SEWER (TYP.)



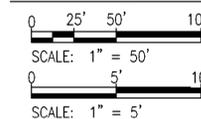
PLAN  
SCALE: 1" = 50'



PROFILE

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

GRAPHIC SCALES



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

PRIORITY 2:  
UTILITY PLAN AND PROFILE

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

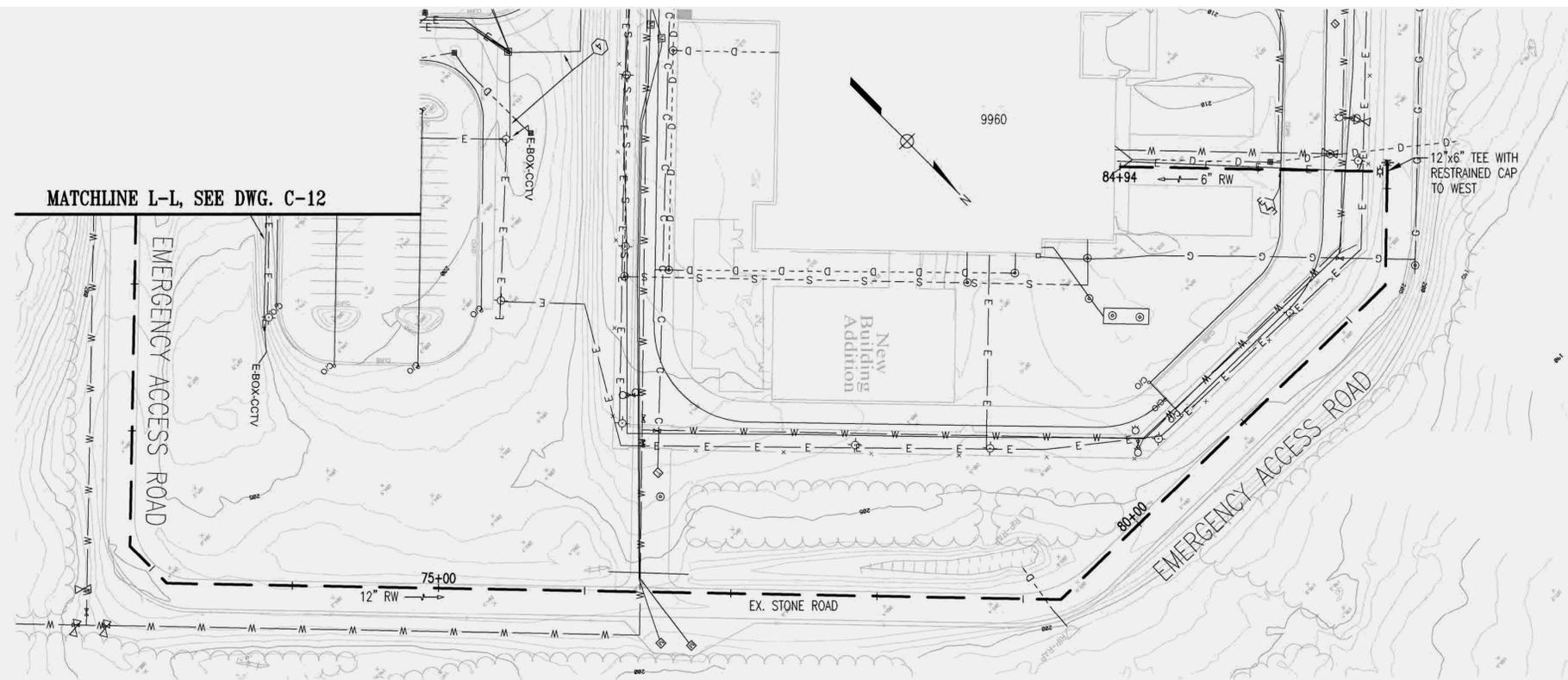
DWG.  
2C-12

SCALE AS SHOWN

SHEET OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



**PLAN**

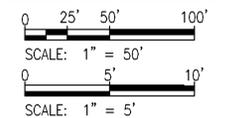
SCALE: 1" = 50'



**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



FILENAME: N:\14230-000\CADD\142300002C-08-16.DWG

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR  
CONSTRUCTION

DES:					
DRN:					
CHK:					
DATE: XX/XX/XX	BY	NO.	REVISION	DATE	

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

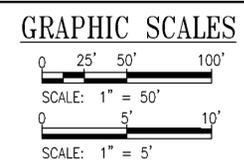
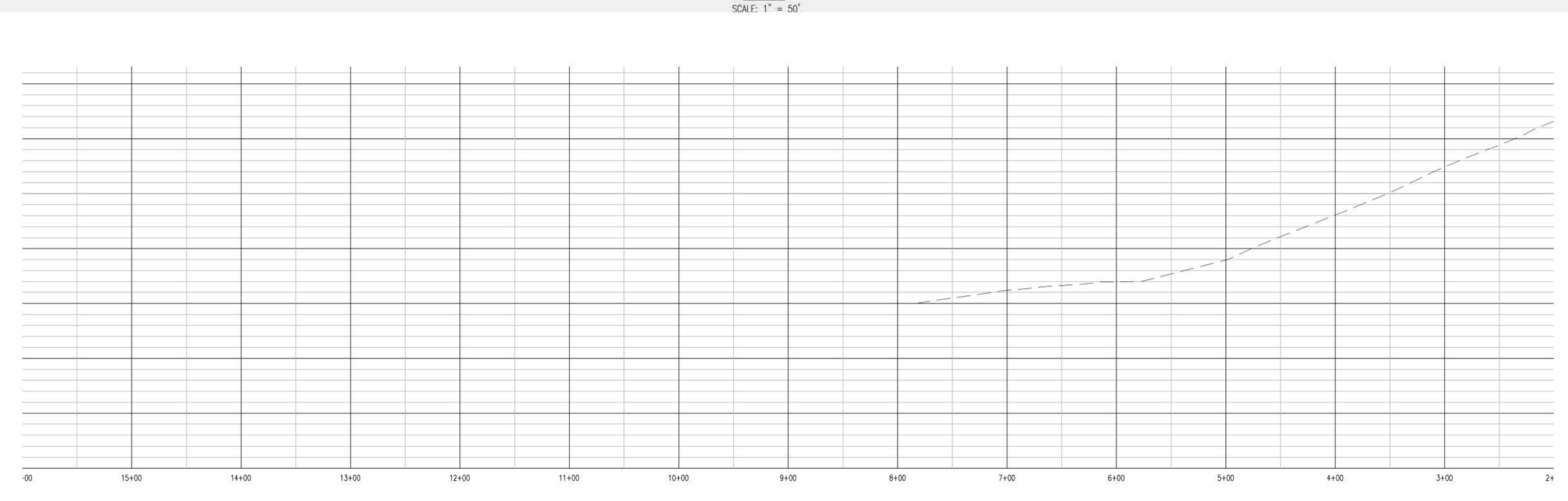
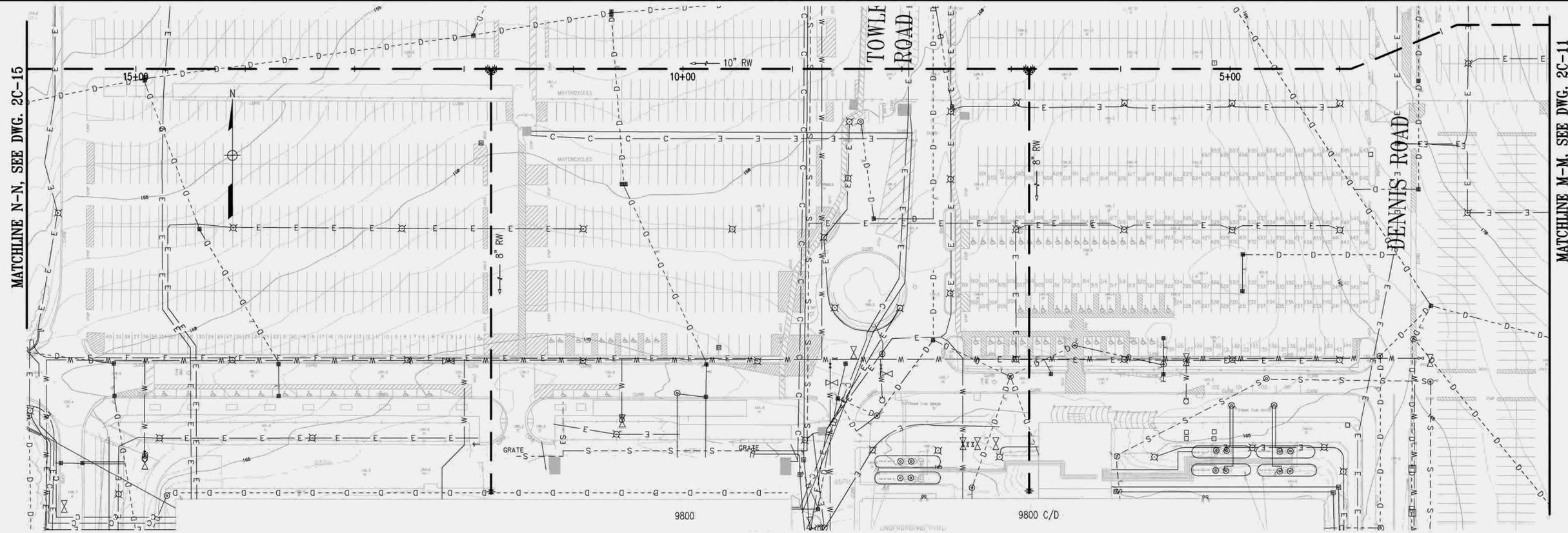
DWG.  
**2C-13**

SCALE  
AS  
SHOWN

SHEET  
OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



FILENAME: N:\423000\CADD\42300002C-08-16.DWG

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

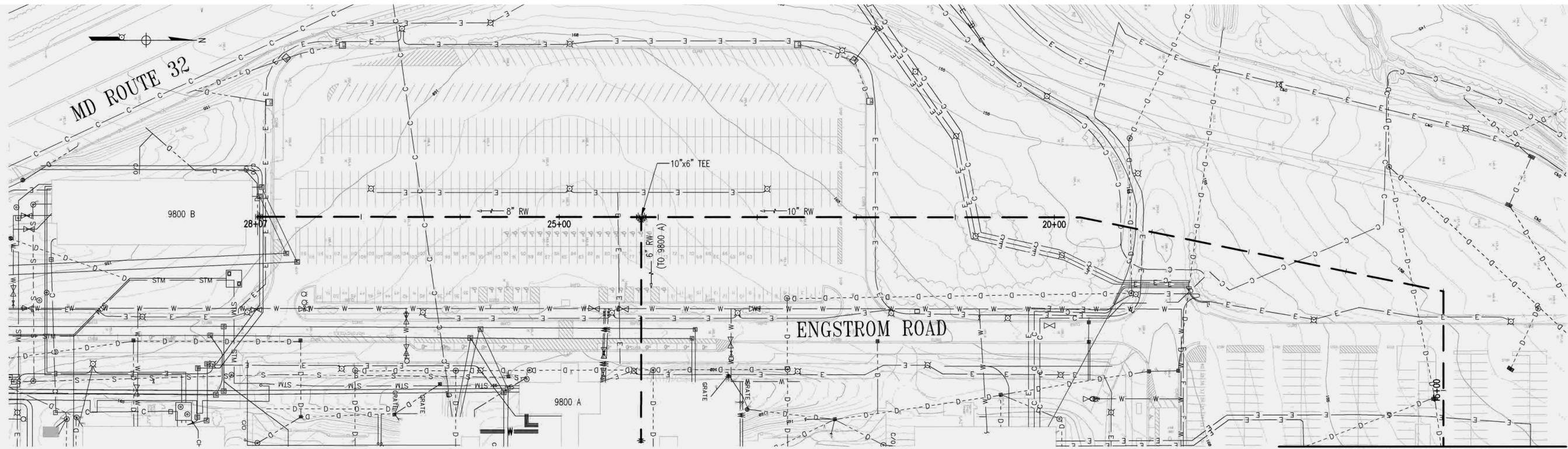
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.		 <b>WHITMAN, REQUARDT &amp; ASSOCIATES, LLP</b> 801 South Caroline Street, Baltimore, Maryland 21231	NOT FOR CONSTRUCTION	DES:																
DIRECTOR OF PUBLIC WORKS	DATE			CHIEF, BUREAU OF ENGINEERING	DATE	DRN:														
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE	CHK:																
				DATE: XX/XX/XX	BY	NO.														

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

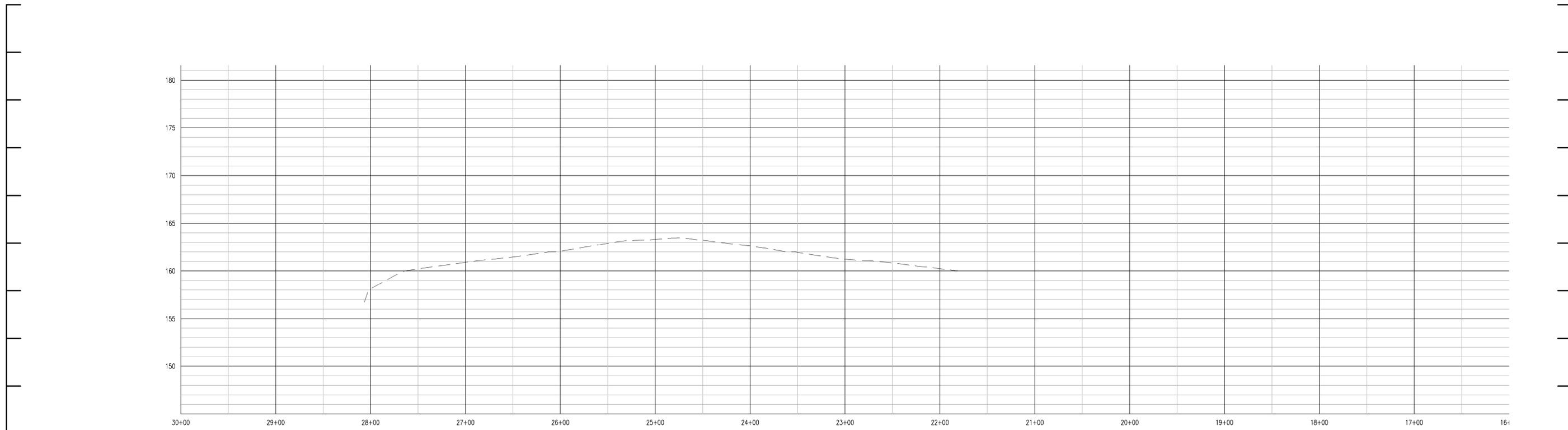
DWG.  
**2C-14**

SCALE AS SHOWN  
SHEET OF XX



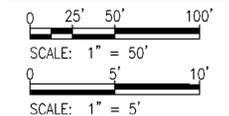
**PLAN**  
SCALE: 1" = 50'

MATCHLINE M-M, SEE DWG. 2C-14



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



FILENAME: N:\1423000\CADD\142300002C-08-16.DWG

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

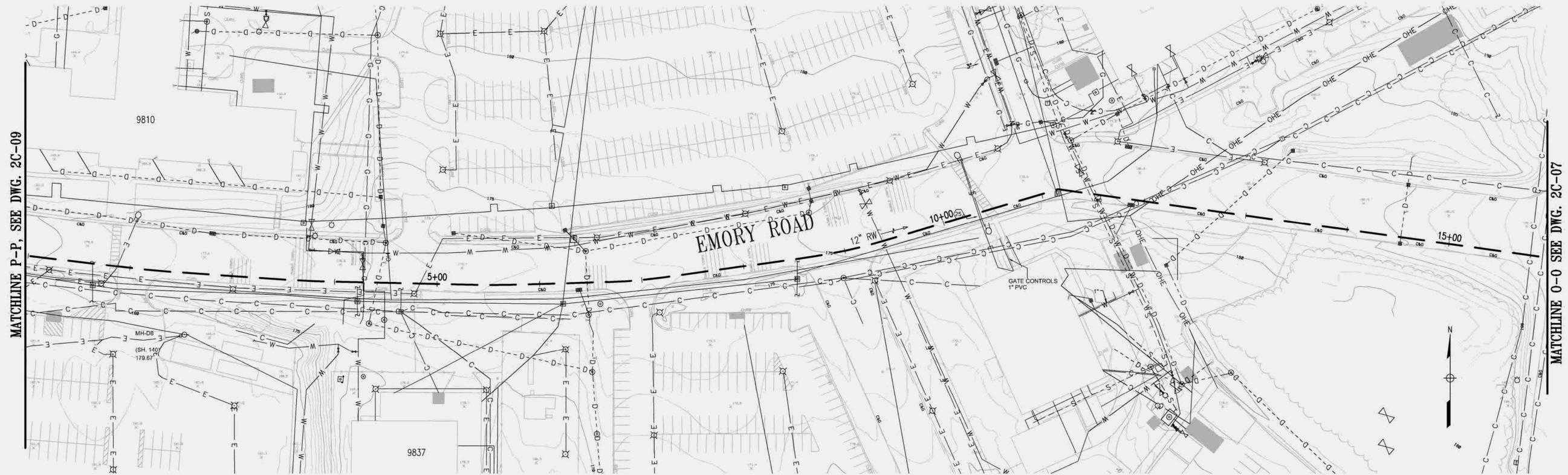
DWG.  
**2C-15**

SCALE AS SHOWN

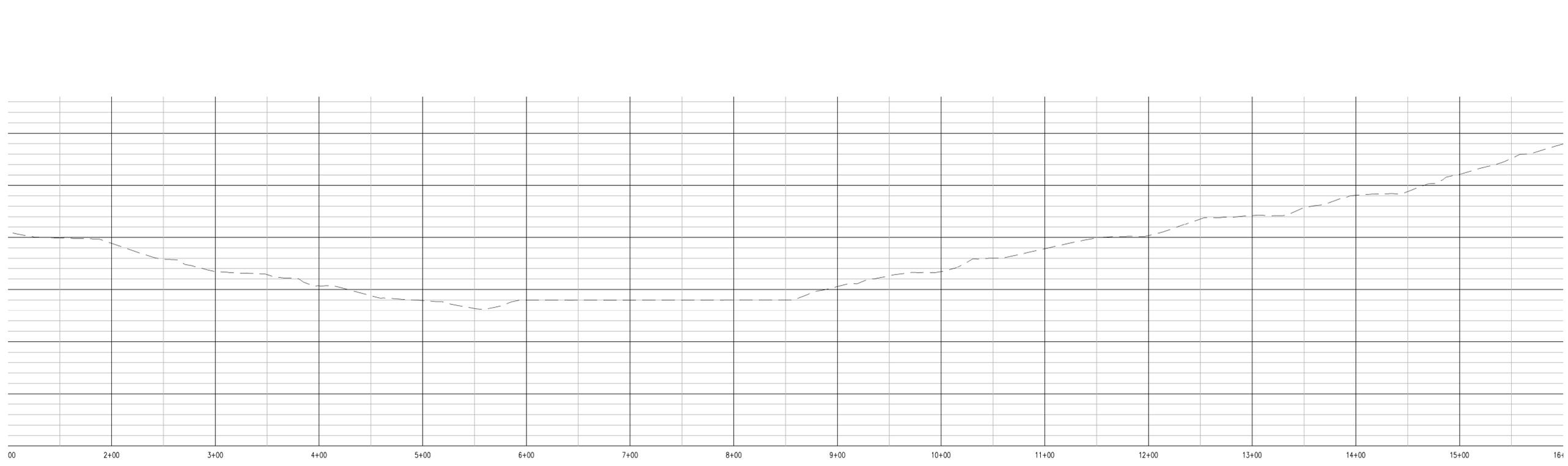
SHEET OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

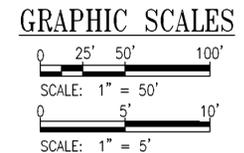
600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

**DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.**

DIRECTOR OF PUBLIC WORKS \_\_\_\_\_ DATE \_\_\_\_\_  
CHIEF, BUREAU OF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_

CHIEF, BUREAU OF UTILITIES \_\_\_\_\_ DATE \_\_\_\_\_  
CHIEF, UTILITY DESIGN DIVISION \_\_\_\_\_ DATE \_\_\_\_\_



**NOT FOR CONSTRUCTION**

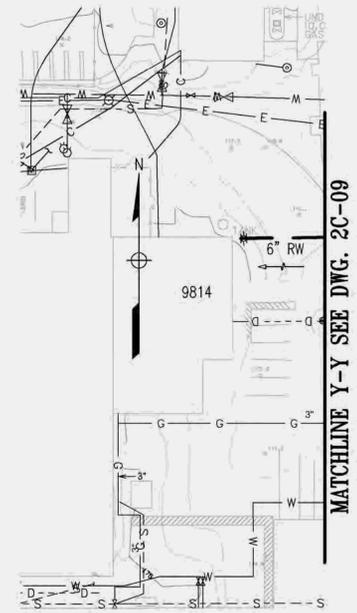
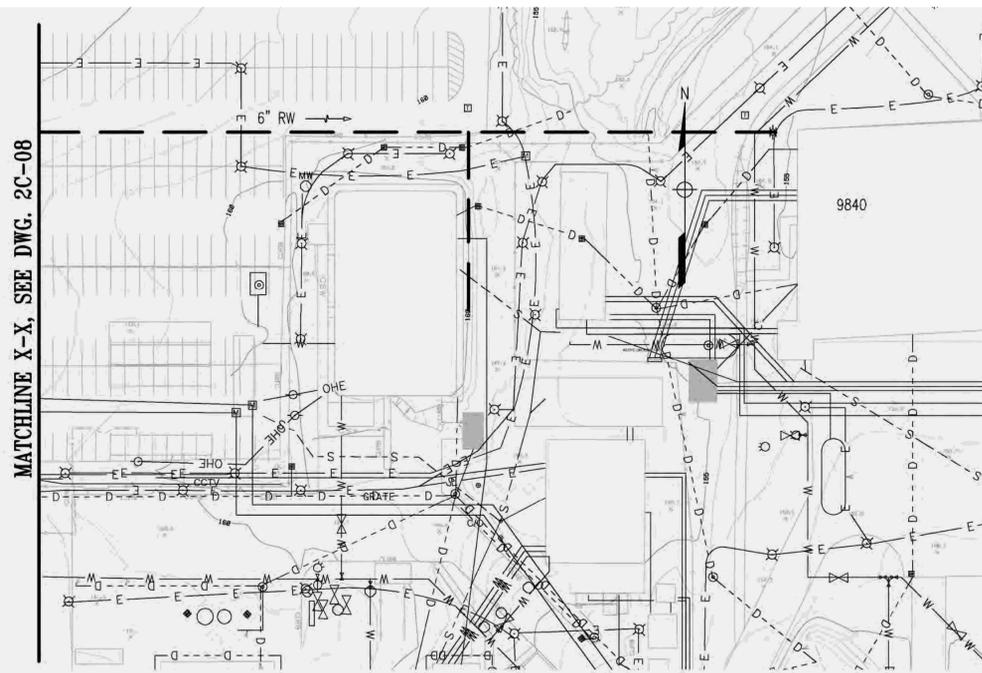
DES:					
DRN:					
CHK:					
DATE: XX/XX/XX	BY	NO.	REVISION	DATE	

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

ELECTION DISTRICT X  
HOWARD COUNTY, MARYLAND

DWG. **2C-16**  
SCALE AS SHOWN  
SHEET \_\_\_ OF XX

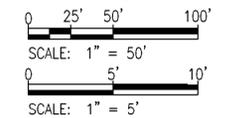


**PLAN**  
SCALE: 1" = 50'

**PROFILE**

HORIZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR CONSTRUCTION

DES:				
DRN:				
CHK:				
DATE: XX/XX/XX	BY	NO.	REVISION	DATE

**PRIORITY 2:  
UTILITY PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

DWG.  
**2C-17**

SCALE AS SHOWN

SHEET \_\_\_ OF XX

DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



PIPE LAYDOWN  
25' TEMP.  
EASEMENT  
500' INTO WWTP

APPROX. EXIT  
PIT LOCATION

BGE DUCTBANK TO BE  
DIRECTIONALLY DRILLED

MD RTE. 32  
(EAST BOUND)

MD RTE. 32  
(WEST BOUND)

EX. BGE EASEMENT

BGE DUCTBANK TO BE  
CONCRETE ENCASED AT  
5' MIN. BURY DEPTH  
(TYP. OF 6)

PROPOSED 24"  
RECLAIMED WATER MAIN

BGE DUCTBANK TO BE  
DIRECTIONALLY DRILLED

APPROX. ENTRANCE  
PIT LOCATION

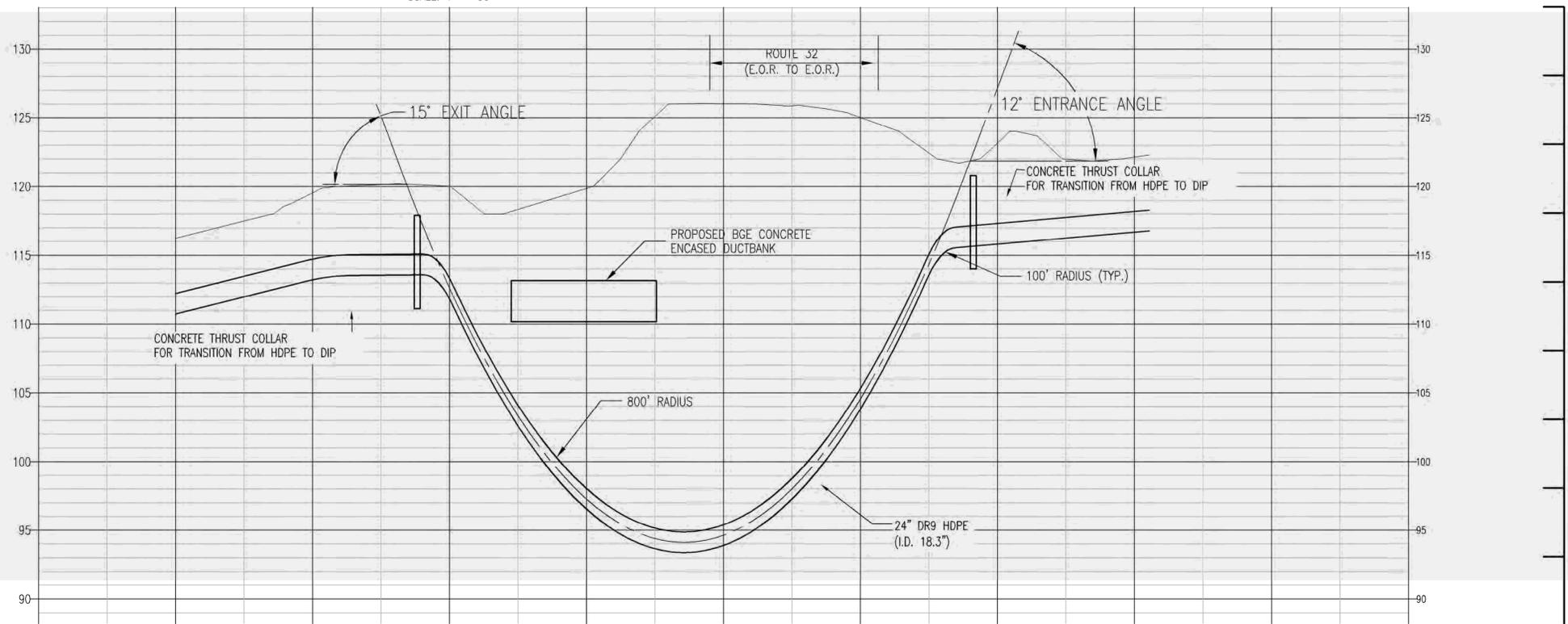
PERIMETER ROAD

**PLAN**

SCALE: 1" = 50'

**CONSTRUCTION NOTES:**

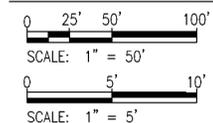
1. THE COMPOSITION OF ALL DRILLING FLUID USED SHALL BE SUBMITTED FOR APPROVAL PRIOR TO UTILIZATION. THE FLUIDS SHALL BE INERT AND OF NO RISK TO THE ENVIRONMENT. NO FLUID SHALL BE USED THAT DOES NOT COMPLY WITH PERMIT REQUIREMENTS AND ENVIRONMENTAL REGULATIONS.
2. DISPOSAL OF DRILLING FLUID AND ALL OTHER SPOILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONDUCTED IN COMPLIANCE WITH ALL RELATIVE ENVIRONMENTAL REGULATIONS, RIGHT-OF-WAY AND WORK SPACE AGREEMENTS AND PERMIT REQUIREMENTS.
3. DRILLING FLUID RETURNS AT LOCATIONS OTHER THAN THE ENTRY AND EXIT POINTS SHALL BE MINIMIZED. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY DRILLING FLUID THAT INADVERTENTLY SURFACES. CONTRACTOR SHALL HAVE A VACUUM TRUCK AVAILABLE ON A DAILY BASIS TO CLEAN UP ANY AREAS WHERE DRILLING FLUID HAS SURFACED.
4. EXCESS DRILLING FLUID SHALL BE DISPOSED OF AT AN APPROPRIATE DISPOSAL SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING ALL EXCESS FLUIDS AND OTHER SPOILS TO THE DISPOSAL SITE AND PAYING ALL DISPOSAL COSTS.
5. DRILLING FLUID SHALL NOT BE DISCHARGED INTO SANITARY OR STORM DRAIN SYSTEMS, DITCHES, CANALS, OR WATERWAYS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTAINMENT AND PREVENTION OF FRAC OUTS ASSOCIATED WITH DIRECTIONAL DRILL ACTIVITIES. THE CONTRACTOR SHALL SUBMIT A DETAILED FRAC OUT RESPONSE PLAN TO BE IMPLEMENTED BY THE CONTRACTOR IN THE EVENT THAT A FRAC OUT SHOULD OCCUR, INCLUDING PERMITTING MODIFICATIONS IF NECESSARY.



**PROFILE**

HORZ. SCALE: 1" = 50'  
VERT. SCALE: 1" = 5'

**GRAPHIC SCALES**



"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_, EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.



WHITMAN, REQUARDT  
& ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

NOT FOR  
CONSTRUCTION

DES:	
DRN:	
CHK:	
DATE: XX/XX/XX	
BY	NO.
REVISION	
DATE	

**MD 32 DIRECTIONAL DRILL  
PLAN AND PROFILE**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

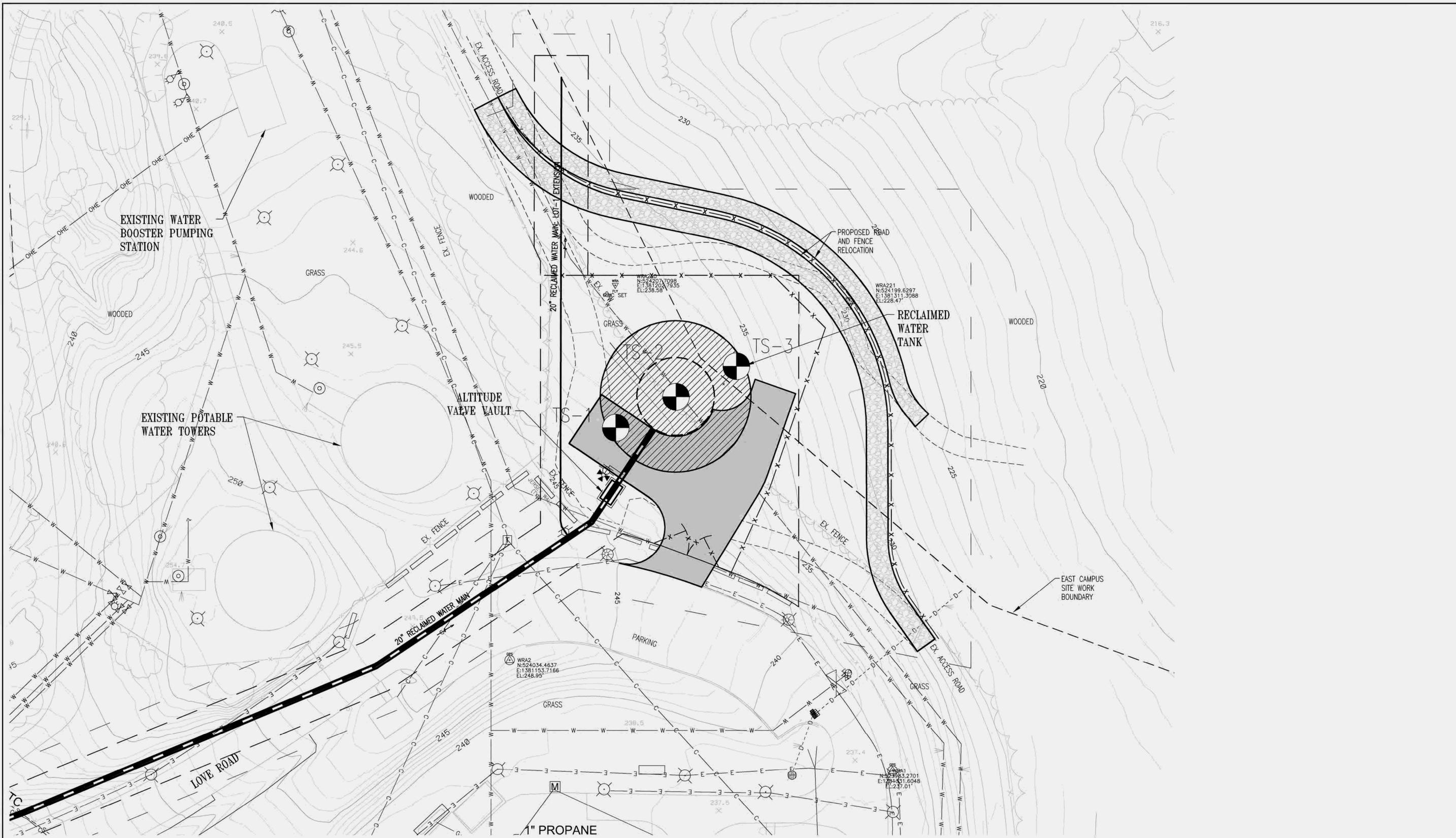
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**2C-18**

SCALE  
AS  
SHOWN

SHEET  
OF XX

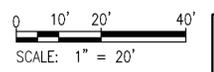
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

600' SCALE TAX MAP NO. XX BLOCK NO. X ELECTION DISTRICT X HOWARD COUNTY, MARYLAND



PLAN  
SCALE: 1" = 20'

GRAPHIC SCALE



DWG.  
**2C-23**

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_"

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.	
DIRECTOR OF PUBLIC WORKS	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
CHIEF, BUREAU OF UTILITIES	DATE
CHIEF, UTILITY DESIGN DIVISION	DATE

**WR&A**  
WHITMAN, REQUARDT & ASSOCIATES, LLP  
801 South Caroline Street, Baltimore, Maryland 21201

NOT FOR CONSTRUCTION

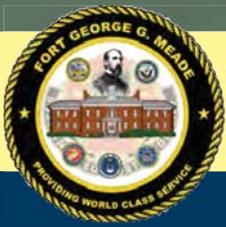
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DRN:	
CHK:	
DATE: XX/XX/XX	
BY NO.	
REVISION	
DATE	

**STORAGE TANK  
SITE AND UTILITY PLAN**

FORT MEADE RECLAIMED WATER PROJECT  
CAPITAL PROJECT NO. W-8323  
CONTRACT NO. XXXXX

FILENAME: N:\14230-000\CADD\142300002C-23.dwg  
PLOT DATE: 10/15/2012 1:24:18 PM PAGE SETUP: WRA-PDF CS8x8.5 PLOT STYLE: WRA\_PLOT.ctb PAPER SIZE: 36x60





**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**APPENDIX D: RECORD OF  
NON-APPLICABILITY**



**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
ENGINEERS · ARCHITECTS · PLANNERS  
EST. 1915

# RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

## Fort George G. Meade, Anne Arundel County, Maryland

The proposed action falls under the Record of Non-Applicability (RONA) category and is documented with this RONA.

The National Security Agency (NSA), in coordination with Howard County's Department of Public Works, proposes to construct a water Pump Station, Elevated Water Storage Tank, and Interconnecting Pipeline Distribution System for the purposes providing reclaimed water to cool existing and future data center facilities at NSA's main and east campuses in Fort George G. Meade, Maryland. The pump station would be located between the Little Patuxent Water Reclamation Plant (LPWRP) Effluent Line, which is operated by Howard County, and an abandoned pump station, owned by American Water Enterprises, Inc., just west of the installation's boundary fence. Construction of the Proposed Action would include activities such as excavation, directional drilling, site grading, paving, and pipe installation.

In accordance with the *General Conformity Rule* of the Clean Air Act, Section 176(c)(4), the proposed project has been evaluated for the potential air emissions associated with its construction to determine if the maximum annual emissions would result in any violations of National Ambient Air Quality Standards (NAAQS) or maintenance plans established for the project area. The Clean Air Act requires the Environmental Protection Agency to set NAAQS for principal pollutants considered to be harmful to public health and the environment, which include carbon monoxide (CO), lead, nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particle pollution (PM), and sulfur dioxide (SO<sub>2</sub>).

Regulated under 40 CFR 93 (Subpart B), the *General Conformity Rule* states that no department, agency, or instrumentality of the Federal Government shall engage in, provide financial assistance for, approve, or support any activity that does not conform to applicable implementation plans designated as being in non-attainment for established NAAQS or any established maintenance plans (maintenance areas). Threshold (*de minimis*) rates of emissions have been determined for Federal actions with the potential to have significant air quality impacts. If a proposed action located in an area designated as non-attainment or maintenance exceeds these *de minimis* threshold levels, a general conformity determination is required to show that the project would not interfere with the area's NAAQS goals.

Fort Meade is located within the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR), as defined in 40 CFR 81.28. The Metropolitan Baltimore Intrastate AQCR is classified in Subpart C, Section 81.321 as

- better than national standards for SO<sub>2</sub>;
- unclassifiable/attainment for CO;
- cannot be classified or better than national standards for NO<sub>2</sub>;
- subpart 2/moderate nonattainment for O<sub>3</sub> (8-hour);
- nonattainment for PM<sub>2.5</sub> (annual NAAQS);
- unclassifiable/attainment for PM<sub>2.5</sub> (24-hour NAAQS); and
- not designated for Pb or PM<sub>10</sub>.

Based on the air quality designations for Fort Meade, maintenance plans have been developed for 8-hour ozone levels, annual fine particulate matter, and carbon monoxide. As a result, a *General Conformity* applicability analysis has been conducted for the Ft. Meade Water Reclamation Pump Station to determine if the proposed action would exceed *de minimis* thresholds for these air quality contaminants. Table 1 compares the calculated emissions and *de minimis* thresholds. Because ozone forms from other emissions, the analysis focuses on ozone precursors that include volatile organic compounds (VOCs), sulfur oxides (SOx), and nitrogen oxides (NOx).

**Table 1: Comparison of Construction and Operation Emissions to General Conformity Rule *de Minimis* Thresholds**

Activity	Emissions (tons/year)				
	VOCs	NOx	SOx	PM2.5	CO
2015 Construction Emissions	0.266	17.169	0.024	0.640	6.774
Annual Operation Emissions	0	0	0	0	0
<i>De Minimis</i> Thresholds	50	100	100	100	100
Threshold Exceeded?	No	No	No	No	No

The result of the analysis concludes that the proposed action is exempt from the requirements of the General Conformity Rule.

Fort Meade is in attainment for all other criteria pollutants (carbon monoxide, lead, PM10, 24-hour PM2.5, and sulfur dioxide); therefore, these pollutants are not subject to conformity review.



MICHAEL P. BUTLER  
 Chief, Environmental Division  
 Directorate of Public Works

5 DEC 2012

Date

## **AIR QUALITY CALCULATIONS AND ANALYSIS**

Air pollutant emissions associated with the project's operational activities would be too minimal to model since the Pump Station would only require intermittent use of a backup generator during occasional power failures. The Elevated Water Storage Tank and Interconnecting Pipeline Distribution System would not result in any emissions of criteria pollutants during operation.

Construction emissions have been calculated based on two separate phases necessary to implement the Proposed Action: Priority One and Priority Two. Priority One would consist of the design and construction of all system components required to deliver reclaimed water to NSA's East Campus data centers. This phase of construction is anticipated to begin in February of 2013 and would be completed by June 2014. The second construction phase, Priority Two, would begin in May 2014 and be finished the following year. Priority Two construction would involve connecting the pipework from Priority One into the NSA Campus. A more detailed description of each construction phase, and the specific tasks included in each, is provided below.

### ***Phase 1: Priority One***

#### **Task 1: Diversion Vault Construction**

This task will involve the construction of a diversion chamber over the existing effluent line and the construction of an influent main from the diversion structure to the pump station under the Little Patuxent River. This construction duration is anticipated to last 30 working days. Construction activities associated with this task includes dewatering for proposed excavation, excavation and installation of cast in place diversion structure, directional drill of pump station influent line, and tie-ing in the new line effluent line into the Diversion Vault.

#### **Task 2: Pump Station**

This task will involve the construction of the reclaimed water pump station. This construction duration is anticipated to last 300 working days. Construction activities associated with this task includes dewatering for proposed excavation, installation of sheeting excavation and installation of cast in place wetwell, installation of on-site piping, pump station superstructure, site grading work, retaining wall installation, Site paving and restoration.

#### **Task 3: Priority one Piping**

This task will involve the construction of approximately 8,000 linear feet of 20-inch water piping from the pump station to the water storage tank. Construction activities associated with this task includes excavation, backfill and installation of the water main, site paving and restoration. Also included is a directional drill of Route 32. Anticipated duration is 200 working days.

#### **Task 4: Water Storage Tank Construction**

This task will involve the construction of the water storage tank and altitude valve vault. Construction activities associated with this task include installation of the tank foundation and water storage tank and site paving and restoration. Anticipated duration is 200 working days.

**Phase 2: Priority Two**

Task 5: Priority Two Piping

This task will involve the construction of approximately 13,500 linear feet of 6 to 12-inch water piping for the reclaimed water distribution system. Anticipated duration is 300 working days.

Air emissions associated with each construction phase are considered to directly correlate with the running of heavy equipment during construction and the delivery of construction materials (concrete and workers). The estimated construction emissions were generated by considering the duration of each construction phase, the construction equipment anticipated to be used, the estimated number of days each piece of equipment would be used, and the estimated portion of those days that the piece would be running. The construction equipment considered for each phase is listed below:

- |                        |   |
|------------------------|---|
| 1. Front End Loader    | 13. Hydro Seeder                        |
| 2. Dump Truck          | 14. Crane                               |
| 3. Water Truck         | 15. Horizontal Directional Drilling Rig |
| 4. Excavator           | 16. Light Tower                         |
| 5. Concrete Truck      | 17. Illuminated Sign                    |
| 6. Compactor           | 18. Welding Machine                     |
| 7. Concrete Truck      | 19. Diesel Generator                    |
| 8. Dozer               | 20. Stake Body Truck                    |
| 9. Slurry Truck        | 21. Shuttle Bus                         |
| 10. Water Pump         | 22. Fork Lift                           |
| 11. Pile Driving Crane | 23. Walk Behind Concrete Saw            |
| 12. Jet Grouting       |   |

**Emissions Calculations and Conclusions**

Standard emissions factors and the predicted horsepower of each listed construction implement were used to derive an approximate calculation of emissions during each phase of construction.. For several of the equipment pieces, specific emissions factors could not be obtained; therefore, some assumptions had to be made. The total emissions for each year of construction are intended to “planning level” estimates to be used for comparison to the *de minimis* thresholds (See Table D-1). The computations and assumptions are included in the calculation sheets that follow this document.

**Table D-1: Total Project Emissions**

Construction Phase	Total Emissions				
	VOC	NOx	SOx	PM <sub>2.5</sub>	CO
Phase 1: Priority 1 (tons)	0.086765	5.587271	0.008002	0.214435	2.276204
Phase 2: Priority 2 (tons)	0.073693	4.770887	0.006461	0.171393	1.810336
Total Emissions for Project (tons)	0.160458	10.35816	0.014463	0.385828	4.08654
Total Emissions per Year (tons/year)	0.265965	17.169	0.023973	0.639524	6.773581
de minimus Threshold (tons/year)	50	100	100	100	100
Exceed Threshold?	No	No	No	No	No

### Description of Units and Factors Used for Emissions Calculations

- **Equipment Power:** Rated equipment power in horsepower
- **Utilization Factor:** Anticipated portion of 8-hour workday in which equipment will be used
- **Emission Factor:** Characteristic of each piece of equipment in grams per horsepower-hour. Carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), particulate matter (PM<sub>10</sub>), carbon dioxide (CO<sub>2</sub>), and methane (CH<sub>4</sub>) were derived from 2013 average emission factors listed in SCAQMD's *Off-road Mobile Source Emission Factors* database (2008). Factors for volatile organic compounds were unavailable through this database and were obtained for 2005 (Koizumi 2005). These emissions factors are listed in Tables D-XX and D-XX
- **Quantity of Equipment Set-Ups:** Number of equipment rigs running at any given time during the work day
- **Total Project Emissions:** Sum of emissions for each phase of construction
- **Total Emissions per Year:** Total per year emissions based on the complete project duration

### Formulas for Calculating Emissions

The formulas used in the emissions calculations are provided below:

**Emissions (pounds per day)** = Equipment Power (horsepower) x Utilization Factor x Emission Factor  
(grams per horsepower-hour) x 0.00220462 (pounds per gram) x 8 (hours per day)

**Total Emissions (pounds)** = Emissions per day x Total Equipment Days

**Total Emissions per Phase (tons)** = Sum of Total Emissions/2000 (pounds)

**Total Emissions per Year (tons)** = Total Emissions in Tons x (Total Project Workdays/365)

## REFERENCES CONSULTED

- Environmental Protection Agency (EPA) (2010). *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling-Compression Ignition*. Office of Transportation and Air Quality, Assessment and Standards Division. Report No. NR-009d.
- Fort George G. Meade (2012). *Final Environmental Assessment Fort George G. Meade Construction and Operation of Single and Unaccompanied Personnel Apartments*. Fort George Meade, MD. <[http://www.ftmeade.army.mil/environment/nepa/MeadeUPA\\_Final%20EA%20APR12%20\(2\).pdf](http://www.ftmeade.army.mil/environment/nepa/MeadeUPA_Final%20EA%20APR12%20(2).pdf)> Accessed October 10, 2012.
- Fort George G. Meade (2011). *Final Environmental Impact Statement US Army Intelligence and Security Command Temporary Sensitive Compartmented Information Facility*. Fort George Meade, Anne Arundel County, MD. <<http://www.ftmeade.army.mil/environment/files/signed%20fonsi%20ea.pdf>> Accessed October 10, 2012.
- Fort George G. Meade (2010). *Final Environmental Impact Statement Addressing Campus Development at Fort Geroge G. Meade*. National Security Agency, Fort Meade, MD. <<http://www.ftmeade.army.mil/environment/nepa/Site-M-FEIS-Sept10.pdf>> Accessed October 10, 2012.
- Koizumi, J. (2005). *Sample Construction Scenarios for Projects Less than Five Acres in Size*. South Coast Air Quality Management District, Diamond Bar, CA. <<http://www.aqmd.gov/ceqa/handbook/lst/FinalReport.pdf>> Accessed October 09, 2012.
- South Coast Air Quality Management District (SCAQMD) (2008). *Off-road Mobile Source Emission Factors (Scenario Years 2007-2025)*. South Coast AQMD, Diamond Bar, CA. <<http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html>> Accessed October 10, 2012.

1 ton  
 Hours per Day 2000.00 pounds  
 Work days per Week 8.00 hours  
 Weeks in Priority 1 5.00 days  
 Days in Priority 1 67.00 weeks (22 Feb 2013-12 June 2014)  
 Weeks in Priority 2 335 days  
 Days in Priority 2 54.00 weeks (2 May 2014-1 May 2015)  
 Total Project Workdays 270 days  
 605 days

Construction Phase	Total Emissions				
	VOC	NOx	SOx	PM <sub>2.5</sub>	CO
Phase 1: Priority 1 (tons)	0.086765	5.587271	0.008002	0.214435	2.276204
Phase 2: Priority 2 (tons)	0.073693	4.770887	0.006461	0.171393	1.810336
Total Emissions for Project (tons)	0.160458	10.35816	0.014463	0.385828	4.08654
Total Emissions per Year (tons/year)	0.265965	17.169	0.023973	0.639524	6.773581
de minimus Threshold (tons/year)	50	100	100	100	100
Exceed Threshold?	No	No	No	No	No

**CALCULATION SHEET: PRIORITY 1**

1 gram  
 0.0022046 pounds  
 200000 hours  
 800 hours  
 500 days  
 6700 weeks (22 Feb 2013-12 June 2014)  
 335 days  
 Weeks in Priority 1  
 54,00 weeks (2 May 2014-1 May 2015)  
 270 days  
 Weeks in Priority 2  
 Total Project Workdays  
 605 days

Equipment	Fuel Type	Equipment Power	Utilization Factor	Emissions Factors (g/hp-hr)											Emissions (lb/Day)											Total Equipment Days	Total Emissions (lbs)										
				CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	Quantity of Equipment Set-Ups	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10		PM2.5	CO <sub>2</sub>	CH <sub>4</sub>								
				CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5		CO <sub>2</sub>	CH <sub>4</sub>									
Front End Loader	Diesel	308	0.5	1.34	0.060	1.725	0.002	0.145	0.140	195.529	0.024	1.70	0.057	1.643	0.002	0.138	0.134	186.221	0.023	254.061	11.430	328.863	0.437	27.572	26.745	37244.168	4.511										
Dump Truck	Diesel	350	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.177	0.172	762.535	0.055	356.266	14.630	1000.421	1.497	35.477	34.412	152506.962	10.962										
Water Truck	Diesel	250	0.1	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.177	0.172	762.535	0.055	50.895	2.090	142.601	0.214	5.088	4.916	21786.709	1.366										
Excavator	Diesel	335	0.5	0.693	0.022	1.951	0.003	0.058	0.056	237.570	0.020	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Generator	Diesel	384	0.5	0.693	0.022	1.951	0.003	0.058	0.056	237.570	0.020	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Generator	Diesel	384	0.5	0.693	0.022	1.951	0.003	0.058	0.056	237.570	0.020	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Generator	Diesel	384	0.5	0.693	0.022	1.951	0.003	0.058	0.056	237.570	0.020	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Concrete Pump Truck	Diesel	400	0.1	0.297	0.034	0.951	0.002	0.037	0.036	130.447	0.014	0.011	0.000	0.000	0.001	0.001	0.001	1.846	0.000	2.248	0.096	2.006	0.263	0.105	0.102	346.111	0.039										
Concrete Pump Truck	Diesel	400	0.1	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	0.407	0.017	1.143	0.002	0.041	0.039	174.284	0.013	46.895	2.006	137.203	0.205	4.805	4.719	20915.240	1.903										
Boiler	Diesel	150	0.5	1.931	0.060	3.247	0.004	0.185	0.179	314.114	0.039	2.554	0.079	4.296	0.005	0.245	0.236	415.501	0.052	510.752	15.771	859.208	0.935	48.905	47.438	83104.199	10.355										
Slurry Truck	Diesel	100	0.5	1.911	0.058	3.159	0.003	0.276	0.267	261.558	0.047	1.586	0.051	2.786	0.003	0.243	0.236	230.655	0.042	202.277	6.150	334.275	0.325	29.158	28.483	27678.568	5.005										
Water Pump	Diesel	25	0.5	1.821	0.118	1.172	0.002	0.067	0.065	129.689	0.018	0.401	0.026	0.258	0.000	0.015	0.014	28.591	0.004	48.170	3.120	31.000	0.044	1.764	1.711	3436.978	0.467										
Pile Driving Crane	Diesel	300	0.5	1.367	0.050	2.082	0.002	0.186	0.181	189.556	0.031	1.206	0.044	1.836	0.002	0.164	0.159	167.160	0.028	72.355	2.623	110.651	0.118	9.856	9.560	10029.590	1.668										
Jet Grouting	Diesel	100	0.5	1.776	0.048	1.732	0.003	0.097	0.094	291.516	0.018	1.566	0.042	1.528	0.003	0.086	0.086	257.073	0.013	62.637	1.683	61.110	0.121	3.429	3.326	10822.903	0.537										
Hydro Slicer	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.772	0.052	3.573	0.005	0.127	0.123	544.668	0.039	254.476	10.650	714.602	1.069	25.340	24.580	108933.544	7.830										
Crane	Diesel	300	0.2	0.480	0.013	1.291	0.002	0.047	0.046	163.385	0.013	0.208	0.034	1.366	0.002	0.050	0.048	172.897	0.013	69.965	1.685	163.944	0.204	5.971	5.792	20247.668	1.612										
Horizontal Directional Drilling	Diesel	300	1	0.500	0.010	1.063	0.003	0.033	0.033	282.415	0.011	2.668	0.051	5.624	0.015	0.173	0.168	349.481	0.056	317.764	6.120	674.892	1.760	20.807	20.183	17931.762	6.729										
Light Tower	Diesel	11	1	1.198	0.049	1.360	0.003	0.053	0.051	186.570	0.020	0.421	0.030	0.264	0.001	0.010	0.010	36.196	0.004	44.202	1.807	52.772	0.113	2.059	1.998	7239.384	0.700										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.754	0.030	0.715	0.001	0.225	0.225	108.934	0.088	283.319	8.603	598.872	0.928	21.366	20.893	128782.110	8.968										
Water Truck																																					

**CALCULATION SHEET PRIORITY 2**

1 gram  
 0.0022046 pounds  
 2000.000 pounds  
 8.000 hours  
 5.000 days  
 67.000 weeks (22 Feb 2013-12 June 2014)  
 335 days  
 Weeks in Priority 1  
 54.000 weeks (2 May 2014-1 May 2015)  
 270 days  
 Days in Priority 2  
 605 days  
 Total Project Workdays

Equipment	Fuel Type	Equipment Power	Utilization Factor	Emissions Factors (g/hp-hr)										Emissions (lbs/day)										Total Emissions (lbs)																																																											
				CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	Quantity of Equipment Set-ups	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>	Total Equipment Days	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5	CO <sub>2</sub>	CH <sub>4</sub>																																																						
				g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	Set-ups	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	Days	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr																																																						
Front End Loader	Diesel	108	0.5	1.334	0.060	1.725	0.002	0.145	0.140	195.529	0.024	1.170	0.057	1.643	0.002	0.138	0.134	186.221	0.023	250	317.577	14.288	410.829	0.546	34.465	33.431	46555.209	5.638																																																							
Dump Truck	Diesel	350	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.377	0.172	763.535	0.055	250	445.333	18.288	1250.553	1.871	44.306	43.015	190633.702	13.703																																																							
Water Truck	Diesel	250	0.1	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.377	0.172	763.535	0.055	120	305.537	1.254	85.521	0.128	3.041	2.950	13072.025	0.900																																																							
Excavator	Diesel	350	0.25	0.643	0.022	1.911	0.003	0.058	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.377	0.172	763.535	0.055	250	335.537	12.004	118.003	0.783	3.723	36.118	15862.783	1.740																																																							
Generator	Diesel	350	0.1	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.377	0.172	763.535	0.055	250	392.539	0.658	34.911	0.053	2.861	2.861	4928.672	0.613																																																							
Concrete Pump Truck	Diesel	8	0.1	0.797	0.034	0.951	0.002	0.037	0.036	130.447	0.014	0.011	0.000	0.003	0.001	0.001	0.001	1.845	0.000	120	1.349	0.068	0.410	0.053	0.053	0.061	220.867	0.023																																																							
Boiler	Diesel	400	0.1	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	0.407	0.017	1.143	0.002	0.043	0.039	174.294	0.013	30	12.215	0.923	34.911	0.053	1.216	1.180	5218.000	0.376																																																							
Dozer	Diesel	150	0.5	1.931	0.060	3.247	0.004	0.185	0.179	314.114	0.039	2.554	0.079	4.296	0.005	0.245	0.237	415.501	0.082	120	306.431	9.463	515.465	0.561	29.343	28.463	49860.119	6.213																																																							
Water Truck	Diesel	100	0.5	1.911	0.058	3.159	0.003	0.176	0.170	261.558	0.047	1.586	0.051	2.786	0.003	0.243	0.236	230.655	0.042	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																							
Water Pump	Diesel	25	0.5	1.821	0.118	1.172	0.002	0.067	0.065	129.689	0.018	0.401	0.026	0.258	0.000	0.015	0.014	28.591	0.004	120	48.170	3.120	31.010	0.044	1.764	1.711	3430.978	0.467																																																							
Pile Driving Crane	Diesel	100	0.5	1.367	0.050	2.082	0.002	0.186	0.181	189.556	0.031	1.506	0.044	1.856	0.002	0.164	0.159	167.160	0.028	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																							
Pile Grouting	Diesel	100	0.5	1.776	0.048	1.732	0.003	0.097	0.094	291.516	0.015	1.586	0.042	1.528	0.003	0.086	0.083	257.073	0.013	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																							
Jet Grouting	Diesel	250	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.772	0.052	3.573	0.005	0.127	0.123	544.668	0.039	30	38.171	1.568	107.190	0.160	3.801	3.687	16340.032	1.175																																																							
Crane	Diesel	300	0.2	0.480	0.013	1.291	0.002	0.047	0.046	163.385	0.013	0.208	0.014	1.366	0.002	0.050	0.048	172.897	0.013	90	45.724	1.264	127.951	0.153	4.479	4.344	15560.751	1.209																																																							
Horizontal Directional Drilling	Diesel	300	1	0.500	0.010	1.063	0.003	0.033	0.032	282.413	0.011	2.048	0.051	5.624	0.015	0.373	0.188	349.421	0.056	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																							
Light Tower	Diesel	11	1	1.139	0.049	1.360	0.003	0.053	0.051	186.570	0.020	0.221	0.010	0.284	0.001	0.010	0.010	38.136	0.004	250	52.252	2.383	65.965	0.441	2.574	2.497	8048.956	0.950																																																							
Water Pump	Diesel	25	0.5	1.821	0.118	1.172	0.002	0.067	0.065	129.689	0.018	0.401	0.026	0.258	0.000	0.015	0.014	28.591	0.004	120	48.170	3.120	31.010	0.044	1.764	1.711	3430.978	0.467																																																							
Water Pump	Diesel	25	0.5	1.821	0.118	1.172	0.002	0.067	0.065	129.689	0.018	0.401	0.026	0.258	0.000	0.015	0.014	28.591	0.004	120	48.170	3.120	31.010	0.044	1.764	1.711	3430.978	0.467																																																							
Generator	Diesel	42	0.2	2.498	0.139	2.299	0.003	0.213	0.211	235.488	0.040	0.370	0.020	1.341	0.001	0.023	0.031	34.888	0.012	50	33.335	1.860	30.460	0.041	2.899	2.832	3130.895	3.059																																																							
Stake Body Truck	Diesel	286	0.1	0.656	0.030	2.583	0.003	0.063	0.061	305.888	0.015	3.308	0.152	13.027	0.015	0.316	0.306	154.138	0.025	250	427.055	17.895	325.807	3.782	78.903	76.594	38535.601	18.763																																																							
Shuttle Bus	Diesel	350	0.5	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	1.781	0.073	5.002	0.007	0.377	0.172	763.535	0.055	270	480.900	19.251	1350.977	2.021	47.894	46.457	205845.308	14.709																																																							
Fork Lift	Diesel	250	0.2	0.577	0.024	1.621	0.002	0.057	0.056	247.057	0.018	0.509	0.021	1.429	0.002	0.051	0.049	217.857	0.016	250	127.238	5.225	357.901	0.536	12.670	12.290	54466.772	3.915																																																							
Walk Behind Saw	Diesel	95	0.1	1.854	0.040	1.054	0.001	0.091	0.088	118.028	0.015	0.311	0.007	1.177	0.000	0.015	0.015	19.776	0.003	250	77.667	1.663	44.139	0.058	3.817	3.703	4943.945	6.626																																																							
Walk Behind Saw	Diesel	65	0.5	1.828	0.071	2.704	0.003	0.224	0.217	274.053	0.036	1.048	0.041	1.550	0.002	0.128	0.124	157.088	0.021	250	261.969	10.224	387.508	0.471	32.059	31.098	39271.902	5.203																																																							
				Total Emissions for this Phase (lbs)										Total Emissions for this Phase (tons)										Total Emissions per Year (tons)																																																											
				1.810336										0.073693										4.7708872										0.006461										0.171393										627.270786										0.094589																			
				3.006594										0.122249										7.9079089										0.01071										0.292876										0.28409										1039.7223										0.074981									



**ENVIRONMENTAL ASSESSMENT**  
FORT MEADE RECLAIMED WATER PROJECT  
FORT GEORGE G. MEADE, MARYLAND

**FINDING OF NO SIGNIFICANT IMPACT  
(FNSI)**



**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
ENGINEERS · ARCHITECTS · PLANNERS

EST. 1915

## **FINDING OF NO SIGNIFICANT IMPACT**

### **CONSTRUCTION AND OPERATION OF A RECLAIMED WATER DELIVERY SYSTEM FORT GEORGE G. MEADE ANNE ARUNDEL COUNTY, MARYLAND**

Pursuant to the Council on Environmental Quality Regulations (Title 40 of the Code of Federal Regulations [CFR] Parts 1500–1508) for implementing the procedural provisions of the National Environmental Policy Act (Title 42 of the United States Code 4321 et seq.) and 32 CFR Part 651 (Environmental Analysis of Army Actions), Fort Meade, Maryland, conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with the construction and operation of a reclaimed water delivery system within and adjacent to the National Security Agency (NSA) Campus and Fort Meade (FGGM), Maryland.

#### **Proposed Action**

In August 2012, the NSA, in coordination with Howard County’s Department of Public Works, proposed to create a reclaimed water delivery system on FGGM property for the purpose of providing reclaimed water to cooling towers located on NSA’s east and main campuses (hereinafter “Proposed Action”). Construction of the Proposed Action would include activities such as excavation, trenchless pipe installation technologies (i.e. directional drilling or jack and bore), site grading, paving, and pipe installation. The Proposed Action water system will consist of an Effluent Diversion Structure at the existing Little Patuxent Water Reclamation Plant (LPWRP) Effluent Line, a Pump Station located near American Water’s existing wastewater treatment plant, an Elevated Water Storage Tank, and an Interconnected Pipe Distribution System.

Construction of the Proposed Action is to be accomplished in two phases. Phase 1 consists of the full system design and construction of all system components to deliver reclaimed water to the East Campus. The County has decided that all construction activities on this portion of the project must be completed no later than May 1, 2014 and fully operational by September 2014. Phase 2 includes the completion of the distribution system serving the existing campus. In order to meet demands, construction of the second phase shall be completed no later than May 1, 2015.

#### **Purpose and Need**

The purpose of the Proposed Action is to provide a source of water for use within cooling towers located on a recently redeveloped area of NSA’s main and east campuses. Based on the average daily demand of water required to service the cooling towers and the close proximity of NSA’s redeveloped area in relation to Howard County’s LPWRP, use of the reclaimed water system would meet the water demand requirements that would otherwise use drinking water resources for the region (i.e. potable water). In addition, use of reclaimed water would contribute to one of the initiatives set forth as part of Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, directing federal agencies to improve water use efficiency and management.

## **Alternatives Considered**

An EA was prepared to evaluate the potential environmental, cultural, transportation, and socioeconomic effects associated with the Proposed Action. A No Action Alternative, reflecting the status quo and serving as a benchmark against which the alternatives can be evaluated, was also included in the EA. Under the No Action Alternative, FGGM would forgo the proposed reclaim water delivery system and its related facilities, and would instead be required to evaluate infrastructure that would use potable water resources.

Prior to selecting the Preferred Alternative, two alternate locations for both the Pump Station site and Elevated Water Storage Tank were evaluated and eventually dismissed. These options presented a number of obstacles in comparison with the Preferred Alternative that included access issues, increased impacts to natural resources, and design challenges such as the elevation of the water tank with respect to the end user. A detailed analysis of each alternative and the reasons for its elimination are discussed in the body of this EA.

## **Factors Considered in Determining that No Environmental Impact Statement is Required**

The EA, which is attached hereto and incorporated by reference into this Finding of No Significant Impact (FNSI), examines the potential effects of the Proposed Action and the No Action Alternative on resource areas and areas of environmental and socioeconomic concern: land use, aesthetic and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics, environmental justice, transportation, utilities, and hazardous materials.

Implementing the Proposed Action would result in a combination of short- and long-term minor adverse and beneficial effects. The Preferred Alternative is expected to disturb approximately 14.5 acres of land. Minor impacts to natural resources on Fort Meade property are expected as a result of constructing the Pump Station, Effluent Diversion Structure, Elevated Water Storage Tank, and Interconnected Pipe Distribution System. These include temporary vegetation removal and impacts to wetlands and floodplains. Additionally, the Preferred Alternative is expected to create short-term, minor, adverse effects on air quality, noise, soils, and transportation, primarily associated with construction activities. Operational activities will produce few, if any, significant adverse effects. No impacts to special wetlands or rare, threatened or endangered species are anticipated. Additionally, no historic properties will be impacted within the project boundaries.

Mitigation measures will include the use of best management practices during and after construction to avoid and minimize adverse environmental effects. Construction activities would be covered under an approved plan for erosion and sediment control, using stormwater management and erosion control Best Management Practices required by Maryland Department of the Environment (MDE). Impacts on FGGM land will be mitigated on the installation in accordance with the current FGGM Forest Conservation Act and Tree Management Policy. Tree preservation measures will be incorporated into construction plans. Mitigation measures required by the Clean Water Act Section 404 permit and Maryland's Nontidal Wetland Protection Act will be complied with in full. The project will adhere to any applicable federal, state, and local air regulations, such as those for the control of fugitive dust. Disturbed areas will be revegetated with native species and re-seeding will adhere to MDE requirements for sediment control.

## Public Review

The draft EA and draft FNSI were available for public review and comment for 30 days, beginning upon the publication of notices of availability (NOA) in *The Baltimore Sun* (Baltimore, MD) on November 02, 2012, the *Annapolis Capital* (Annapolis, MD) on November 02, 2012, *The Gazette* (Laurel, MD) on November 01, 2012, and Fort Meade's *Sound Off!* on November 01, 2012. Copies of the EA and draft FNSI were available for review and comment at the Medal of Honor Library, Fort Meade; West County Area Library, 1325 Annapolis Rd, Odenton, MD and online at [www.ftmeade.army.mil](http://www.ftmeade.army.mil).

Coordination with Federal and state agencies for the proposed project was initiated in August 2012 to solicit applicable comments related to the corresponding areas of jurisdiction and to obtain concurrence with the initial findings. Agencies contacted include the U.S. Fish and Wildlife Service, Maryland Department of Natural Resources, Maryland Department of Planning, Maryland Division of Historic Trust, Anne Arundel County Office of Planning and Zoning, and the FGGM Regional Growth Management Committee. Agency responses are summarized as follows:

- Maryland Department of Planning: The project is consistent with future plans, programs and objectives of our office.
- Maryland Department of Natural Resources: The project is consistent with future plans, programs and objectives of our office.
- Howard County: The project is consistent with future plans, programs and objectives of our office.
- U.S. Fish and Wildlife Service: Except for the occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area.
- Maryland Department of the Environment: Any solid waste generated from the subject project must be recycled or properly disposed of at a permitted solid waste acceptance facility.

## Conclusion

I have reviewed the EA and considered the comments received, and find that there will be no significant impacts to the natural environment, to cultural resources, or to the human environment resulting from this Proposed Action to construct and operate a reclaimed water delivery system on FGGM property to provide buildings on the NSA campus with reclaimed water for use within their server center cooling towers. Based on the evaluation of the environmental consequences accomplished in this EA, an environmental impact statement is not necessary.



Date: 13 DECEMBER 2012

EDWARD C. ROTHSTEIN  
Colonel, Military Intelligence  
Commanding



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