

# OMI, Inc.

## **STORM WATER MANAGEMENT PROGRAM PLAN**

### **PHASE II MUNICIPAL SEPARATE STORM SEWER SYSTEM**

#### **FOR**

**UNIVERSITY OF ALABAMA IN HUNTSVILLE  
301 SPARKMAN DRIVE  
HUNTSVILLE, ALABAMA 35899**

**NPDES PERMIT NO. ALR040059**

#### **PREPARED BY**

**OMI, INC.  
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April 1, 2022

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OMI Job No. 9793

# OMI, Inc.

April 1, 2022

University of Alabama in Huntsville  
301 Sparkman Drive  
Huntsville, Alabama 35899

ATTN: Ms. Hannah Upton

SUBJECT: Storm Water Management Program Plan  
Phase II Municipal Separate Storm Sewer System  
University of Alabama in Huntsville  
Huntsville, Alabama 35899  
NPDES Permit No. ALR040059  
OMI Job No. 9793

Ladies and Gentlemen:

OMI, Inc. (OMI) is pleased to present this Storm Water Management Program Plan (SWMPP) for the University of Alabama's Phase II Municipal Separate Storm Sewer System (MS4). OMI was authorized to prepare this SWMPP by Todd Barr of the University of Alabama in Huntsville on March 15, 2022. This SWMPP was completed in general accordance with OMI Proposal No. P-6386B, dated February 1, 2022.

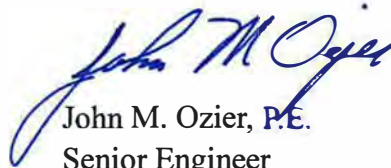
OMI appreciates this opportunity to be of service to the University of Alabama in Huntsville. Should you have any questions, please feel free to contact the undersigned.

Very truly yours,

OMI, Inc.



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## 1.0 CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Robert Lindquist, PhD  
Interim Provost

\_\_\_\_\_  
Date

## **2.0 INTRODUCTION**

The University of Alabama in Huntsville (UAH) is designated as a Phase II Municipal Separate Storm Sewer System (MS4) in accordance with the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) Permit No. ALR040059 (hereinafter the “permit”). UAH (hereinafter the “Permittee”) is required to develop, revise, implement, maintain, and enforce a Storm Water Management Program (SWMP) which shall include controls necessary to reduce the discharge of pollutants from its MS4 consistent with Section 402(p)(3)(B) of the Clean Water Act (CWA) and 40 Code of Federal Regulations (CFR) Parts 122.30-122.37. These requirements shall be met by the development and implementation of a Storm Water Management Program Plan (SWMPP) which addresses the best management practices (BMP), control techniques, and other appropriate provisions designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP).

## **3.0 SITE INFORMATION**

### **3.1 Facility Location**

UAH is located at 301 Sparkman Drive within the City of Huntsville, Alabama. Most of the campus is immediately east of Sparkman Drive. The northern portion of the facility, located north of Holmes Avenue, is located in the southwest ¼ of Section 33, Township 3 South, Range 1 West. The southern portion of the facility, located south of Holmes Avenue, is located in the northwest ¼ of Section 4, Township 4 South, Range 1 West.

Robert (Bud) Cramer Research Hall and the Severe Weather Institute – Radar and Lighting Laboratories (SWIRLL) are located at the southwest quadrant of the intersection of Bradford Drive and Sparkman Drive and located in the northeast ¼ of the northeast ¼ of Section 5, Township 4 South, Range 1 West.

Shelbie King Hall and Olin B. King Technology Hall are located at the southwest quadrant of the intersection of Technology Drive and Sparkman Drive and located in the northeast ¼ of the southeast ¼ of Section 5, Township 4 South, Range 1 West.

Executive Plaza Office Park is located at the southwest quadrant of the intersection of University Drive and Sparkman Drive and located in the southeast ¼ of Section 21, Township 3 South, Range 1 West. A topographic map identifying the MS4 permitted area is included in Appendix A (Drawing 9793-1).

### **3.2 Facility Description**

UAH is a public national university and offers several degree programs of study at undergraduate and graduate level. The university's campus is approximately 500-acres and includes seventeen (17) high-tech research centers and laboratories. The university employs skilled trades, grounds, and custodial staff for daily operations.

### **3.3 Surface Drainage**

Surface drainage generally flows towards stormwater inlets via sheet flow, which directs flow towards two engineered retention ponds near the southwestern portion of the site. The retention ponds ultimately discharge into the City of Huntsville's MS4 which directs flow towards an unnamed tributary of McDonald Creek along Sparkman Drive.

### **3.4 Sensitive Waters**

The 303(d) listing of impaired waters is routinely reviewed to ensure that local bodies of water which receive storm water runoff are not listed.

## **4.0 PROGRAM PLAN OVERVIEW**

The permit requires the Permittee to develop and implement a SWMPP which addresses the following five storm water control measures:

1. Public Education and Public Involvement on Storm Water Impacts;
2. Illicit Discharge Detection and Elimination (IDDE) Program;

3. Construction Site Storm Water Runoff Control;
4. Post-Construction Storm Water Management in New Development and Redevelopment; and,
5. Pollution Prevention/Good Housekeeping for Municipal Operations.

## **5.0 PUBLIC EDUCATION AND PUBLIC INVOLVEMENT**

### **5.1 Control Measure Overview**

The goal of the public education and outreach program is to inform the public about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff to the MEP. In addition, the permit requires the Permittee to implement a minimum of four BMPs: two BMPs emphasizing public education and two BMPs emphasizing public involvement. The control measure is intended to:

- Seek and consider public input in the development, revision, and implementation of the SWMPP;
- Address targeted pollutant sources and reduction of litter, floatables, and debris;
- Inform and involve individuals and organizations about steps they can take to reduce storm water pollution; and
- Establish a program for engaging volunteer groups.

#### **5.1.1 Responsible Party**

The UAH Office of Environmental Health and Safety (OEHS) is the responsible party for implementing and coordinating the BMPs of this control measure.

#### **5.1.2 Target Audiences**

The following list identifies the target audiences and subject areas identified in the permit.

1. **General Public**
  - a. General impacts litter has on water bodies, how trash is delivered to streams via the MS4, and ways to reduce litter;
  - b. General impacts of storm water flows into surface water from impervious surface; and,
  - c. Source control BMPs in areas of pet waste, vehicle maintenance, landscaping, and rain water reuse.



2. General Public, Businesses (Home-Based and Mobile Business)
  - a. BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials; and,
  - b. Impacts of illicit discharge and how to report them.
  
3. Homeowners, Landscapers, and Property Managers
  - a. Yard care techniques that protect water quality;
  - b. BMPs for use and storage of pesticides and fertilizers;
  - c. BMPs for carpet cleaning and auto repair and maintenance;
  - d. Runoff reduction techniques, which may include but not limited to site design, pervious paving, retention of forests, and mature trees; and,
  - e. Storm water pond maintenance.
  
4. Engineers, Contractors, Developers, Review Staff, and Land Use Planners
  - a. Technical standards for construction site sediment and erosion control;
  - b. Storm water treatment and flow control BMPs;
  - c. Impacts of increased storm water flows into receiving water bodies; and,
  - d. Runoff reduction techniques and low impact development (LID)/green infrastructure (GI) practices that may include, but not limited to, site design, pervious pavement, alternative parking lot design, retention of forest and mature trees to assist in storm water treatment and flow control BMPs, and maintenance required for LID/GI.

## **5.2 Public Input**

Information related to storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff to the MEP continues to be provided on several of UAH's websites. The OEHS Storm Water website is the main web resource specific to the SWMPP and the requirements of the MS4 permit. The website discusses targeted pollution sources, participation, litter reduction, and reducing storm water pollution. The website lists the OEHS's email address to provide the public a platform to report storm water concerns and violations. The storm water website and additional UAH website's providing information relating to storm water include:

- Office of Environmental Health and Safety <https://www.uah.edu/oehs>
- Dept. of Atmospheric Science: [www.uah.edu/science/departments/atmospheric-science](http://www.uah.edu/science/departments/atmospheric-science)
- Earth System Science: [www.nsstc.uah.edu/ess/ess\\_bs.html](http://www.nsstc.uah.edu/ess/ess_bs.html)
- Civil and Environmental Engineering: [www.uah.edu/eng/departments/cee](http://www.uah.edu/eng/departments/cee)
- Office of Sustainability; [www.uah.edu/sustainability](http://www.uah.edu/sustainability)

- Facilities and Operations: [www.uah.edu/facilities-and-operations](http://www.uah.edu/facilities-and-operations)

### **5.3 Volunteer Groups**

UAH has contacted volunteer groups on campus and received voluntary assistance with stormwater pollution prevention events.

## **6.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM**

### **6.1 Control Measure Overview**

The goal of the Illicit Discharge Detection and Elimination (IDDE) program is to identify any discharges to the MS4 that are not entirely composed of storm water, except discharges listed under Part I.B.2 of the permit.

#### **6.1.1 Responsible Party**

UAH OEHS is the responsible party for implementing and coordinating the BMPs of this control measure.

### **6.2 Outfalls**

The following table lists the known outfalls within the coverage of the permitted area:

<b>Outfall</b>	<b>Lat/Long</b>
OF001	34.735037/-86.653622
OF002	34.734371/-86.679360
OF003	34.734682/-86.636921
OF004	34.734839/-86.635913
OF005	34.730448/-86.654428
OF006	34.717954/-86.646958
OF007	34.716709/-86.642813

Drawing 9793-2 titled Outfall Location Map is provided in Appendix A. Receiving waters are listed in Section 3.3.

### **6.3 Adjacent Outfalls**

The following table lists the known adjacent outfalls from the City of Huntsville's MS4 that discharges into the Permit coverage area:

<b>Outfall</b>	<b>Lat/Long</b>
AOF001	34.728533/-86.643756
AOF002	34.727710/-86.636462
AOF003	34.725661/-86.644205
AOF004	34.723743/-86.644276
AOF005	34.723322/-86.633381
AOF006	34.723112/-86.633464
AOF007	34.720050/-86.645057
AOF008	34.717741/-86.644101
AOF009	34.718500/-86.636373
AOF010	34.717265/-86.643969

Drawing 9793-8 title Adjacent Outfall Location Map is provided in Appendix A.

### **6.4 Regulatory Mechanism**

This control measure is part of UAH Policy No. 07.07.25. This policy shall be followed by all members of the UAH community including staff, faculty, and students at all times.

## **6.5 Dry Weather Screening Program**

### **6.5.1 Program Overview**

The Permittee shall develop a dry weather screening program to detect and address non-storm water discharges to the MS4. Dry weather screening shall consist of a minimum of fifteen percent (15%) of the outfalls once per year. All outfalls (100%) shall be screened at least once per five years.

The City of Huntsville's MS4 completely surrounds UAH's MS4 and has approximately 10 adjacent outfalls that discharge into the permitted area. UAH will include these additional adjacent outfalls to the dry weather screening program. The adjacent outfall inspections will consist of fifteen (15%) of the adjacent outfalls once per year with all adjacent outfalls (100%) screened at least once per five years.

### **6.5.2 Screening Conditions**

Dry weather screening shall be conducted at least 72-hours after runoff producing events with less than 0.1-in of cumulative rainfall.

### **6.5.3 Outfall Reconnaissance Inventory Program**

Outfall Reconnaissance Inventory (ORI) is designed to fix geospatial location and record basic characteristics of individual storm drain outfalls, evaluate suspect outfalls, and assess the severity of illicit discharge problems in a community.

Approximately 2-miles of open channels with perennial and intermittent flow. The Permittee will complete the ORI during this period of permit coverage (2021 through 2026). The results of the ORI will assist in guiding future outfall monitoring and discharge prevention efforts.

#### 6.5.4 Inspection Procedure

##### 6.5.4.1 Dry Weather Screening

Dry weather screening inspections will focus on any structures that function to prevent storm water pollution, as well as the facility in general, to identify illicit discharges. Illicit discharges noted during inspections will be addressed or repaired in a timely manner.

The Permittee will review the inspection log to ensure that this plan is continually implemented.

Comprehensive inspections will include the following information:

1. Inspection date;
2. Name and signature of inspector;
3. Location of illicit discharge;
4. Owner/operator of source;
5. Visual inspection of illicit discharge including material and volume;
6. Qualitative assessment of any flow present including examination of water color, odor, turbidity, floatables, and sedimentation; and,
7. Measure flow rate (if applicable).

An example Dry Weather Screening Inspection Form is included in Appendix B for use in recording the required inspections. This form is available as a template, and copies should be made before use. In addition, an example inspection log is included in Appendix C for use in logging the required inspections. The log shall be maintained containing records of all inspections performed in the preceding three years and retained in Appendix C. Each inspection log entry will be signed by the person performing the inspection. The inspection log shall be available for inspection by ADEM. If these records are stored in an alternate location, the location will be noted in the respective appendices.

##### 6.5.4.2 Outfall Reconnaissance Inventory

ORI inspections will focus on any structures that function to prevent storm water pollution, as well as the facility in general, to identify illicit discharges. Any illicit discharges noted during inspections will be addressed or repaired in a timely manner as detailed in Section 6.4.4.1.

The Permittee will review the inspection log to ensure that this plan is continually implemented.

Comprehensive inspections will include the following information:

1. Inspection date;
2. Name and signature of inspector;
3. Location (latitude and longitude);
4. Land use in drainage area;
5. Outfall description (material, shape, dimensions, etc.);
6. Quantitative characterization (flow rate, temperature, pH, etc.); and,
7. Physical indicators (odor, color, turbidity, etc.).

An example Outfall Reconnaissance Inventory Field Sheet is included in Appendix E for use in recording the required inspections. This form is available as a template, and copies should be made before use. Field sheets will be signed by the person performing the inspection. The inspection log shall be available for inspection by ADEM. If these records are stored in an alternate location, the location will be noted in the respective appendices.

## **6.6 Suspect Illicit Discharge Source Tracing Procedures**

Illicit discharges are often the result of an interaction or inadvertent cross connection between the sanitary sewer and separate storm sewer systems. Once an illicit discharge is detected at an outfall or stream, one of three types of illicit discharge investigations is triggered to track down the individual source.

1. Storm drain network investigations;
2. Drainage area investigations; and,
3. On-site investigations.

### **6.6.1 Storm Drain Network Investigations**

Storm drain or “trunk” investigations narrow the source of a discharge problem to a single segment of a storm sewer. Work should be performed progressively up the trunk from the outfall and split into equal segments. Common investigation methods include:

- Visual inspection at manholes;
- Sandbagging or damming the trunk;
- Dye testing;
- Smoke testing; and,
- Video testing.

6.6.2 Drainage Area Investigations

Drainage area investigations are most appropriate when the drainage area to the outfall is complex or large, and when the flow type in the discharge appears to be specific to a certain type of land use or generating site. Common investigation methods include:

- Land use investigations;
- Permit review;
- As-built review;
- Aerial photograph analysis;
- Infrared aerial photography analysis; and,
- Property ownership certification.

6.6.3 On-site Investigations

Once the illicit discharge has been isolated to a specific section of storm drain, an on-site investigation can be performed to find the specific source of the discharge. On-site investigations are typically performed by dye testing the plumbing systems of residential housing units and buildings.

**6.7 Suspect Illicit Discharge Elimination Procedures**

The following table lists methods to eliminate illicit discharges:

<b>Technique</b>	<b>Application</b>	<b>Description</b>
Service lateral disconnection, reconnection	Lateral is connected to wrong line	Lateral is disconnected and reconnected to appropriate line
Cleaning	Line is blocked or capacity diminished	Flushing (sending a high pressure water jet through the line); pigging (dragging a large rubber plug through the lines); or rodding
Excavation and replacement	Line is collapsed, severely blocked, significantly misaligned, or undersized	Existing pipe is removed, new pipe placed in same alignment; Existing pipe abandoned in place, replaced by new pipe in parallel alignment
Manhole repair	Decrease ponding; prevent flow of surface water into manhole; prevent groundwater infiltration	Raise frame and lid above grade; install lid inserts; grout, mortar or apply shotcrete inside the walls; install new precast manhole.
Corrosion control coating	Improve resistance to corrosion	Spray- or brush-on coating applied to interior of pipe.
Grouting	Seal leaking joints and small cracks	Seals leaking joints and small cracks.



<b>Technique</b>	<b>Application</b>	<b>Description</b>
Pipe bursting	Line is collapsed, severely blocked, or undersized	Existing pipe used as guide for inserting expansion head; expansion head increases area available for new pipe by pushing existing pipe out radially until it cracks; bursting device pulls new pipeline behind it
Slip lining	Pipe has numerous cracks, leaking joints, but is not continuous and not misaligned	Pulling of a new pipe through the old one.
Fold and formed pipe	Pipe has numerous cracks, leaking joints	Similar to sliplining but is easier to install, uses existing manholes for insertion; a folded thermoplastic pipe is pulled into place and rounded to conform to internal diameter of existing pipe

## **6.8 Regulatory Notification**

### **6.8.1 Identified Illicit Discharges within MS4**

UAH shall report to the ADEM identified illicit discharges and/or connections only if enforcement measures imposed by UAH demonstrate to be ineffective at attaining compliance. An example Agency Notification Form is included in Appendix.

### **6.8.2 Identified Illicit Discharges from Adjacent MS4**

The University's MS4 is bordered on all property boundaries by the City of Huntsville's Phase I MS4. Identified adjacent outfalls from the City of Huntsville's MS4 that discharges into UAH's MS4 are listed in Section 6.3. Should UAH identify a suspect illicit discharge originating outside the boundaries of the Permit coverage area, the following information should be provided and submitted to ADEM:

1. Inspection date;
2. Name and signature of inspector;
3. Location of illicit discharge;
4. Owner/operator of source;
5. Visual inspection of illicit discharge including material and volume;
6. Qualitative assessment of any flow present including examination of water color, odor, turbidity, floatables, and sedimentation; and,
7. Measure flow rate (if applicable).



## **6.9 Public Report of Illicit Discharges**

The public can submit complaints regarding illicit discharges discovered within the Permittee's MS4 via storm water website.

## **6.10 Training Program**

UAH personnel are trained annually on IDDE by the facility or an outside contractor. Training materials include presentations, notifications, field activities, mitigation, cleanup, incident, and elimination reporting. Training sessions are conducted annually and recorded. Training records shall be kept at the facility for a minimum of three years. Example training logs are included in Appendix D.

# **7.0 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL**

## **7.1 Control Measure Overview**

The goal of the construction site storm water runoff control measure is to develop, implement, and enforce an ongoing program to reduce, to the MEP, the pollutants in any storm water runoff to the MS4 from qualifying construction sites.

UAH relies upon the ADEM's state-wide NPDES construction storm water regulatory program and is covered under ADEM NPDES Permit No. ALR109729 (hereinafter "CSW permit"). The construction site storm water runoff inspections listed in this section are complementary to the required inspections of the CSW permit.

A qualifying construction site is defined by the CSW permit as *"any construction activity that results in a total land disturbance of one or more acres and activities that disturb less than one acre but are part of a larger common plan of development or sale that would disturb one or more acres. Qualifying construction sites do not include land disturbance conducted by entities under the jurisdiction and supervision of the Alabama Public Service Commission."*

### 7.1.1 Responsible Party

UAH OEHS is the responsible party for implementing and coordinating the BMPs of this control measure.

### 7.2 Site Plan Review and Approval

The Permittee shall review construction site plans (including erosion prevention and sediment controls) prior to ground disturbance. Construction site plans will be reviewed for:

- a) Nature and sequence of construction activity;
- b) Erosion and sediment control BMPs;
- c) Groundskeeping BMPs;
- d) Post-construction BMPs;
- e) Final stabilization of project;
- f) Operation and maintenance of all BMPs;
- g) Compliance with ADEM regulations; and,
- h) Compliance with UAH's construction storm water permit.

### 7.3 Regulatory Mechanism

This control measure is part of UAH Policy No. 07.07.25. This policy shall be followed by all members of the UAH community including staff, faculty, and students at all times.

### 7.4 Training Program

UAH personnel are trained annually on construction storm water runoff by the facility or an outside contractor. Training materials include presentations, notifications, field activities, mitigation, cleanup, incident, and elimination reporting. Training sessions are conducted annually and recorded. Training records shall be kept at the facility for a minimum of three years. Example training logs are included in Appendix D.

### 7.5 Construction Site Inventory

The Permittee maintains an inventory of qualifying construction sites with the following information:

- a) Site contact information;
- b) Size of project;
- c) Date project submitted for permit coverage; and,
- d) Date MS4 Permittee approved plan.

Inventory of qualifying construction sites is maintained by the Director of OEHS.

**7.6 Construction Site Inspection Program**

Procedures for the inspection of qualifying construction sites are consistent with the *Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas*, prepared by the Alabama Soil and Water Conservation Committee (herein after the “Alabama Handbook”).

**7.6.1 Evaluation of Water Quality**

The following factors must be considered in evaluating the threat to water quality, if applicable:

- Soil erosion potential;
- Site slope;
- Project size and type;
- Sensitivity of receiving water bodies including 303d or total maximum daily load (TMDL) status;
- Proximity to receiving waterbodies;
- Non-storm water discharges;
- Past record of non-compliance by the operators of the construction site; and,
- Other factors deemed relevant to the MS4.

**7.6.2 Inspection Frequency**

Inspection of construction sites to verify use and proper maintenance of appropriate BMPs shall be performed in general accordance with the frequency described in the table below:

<b>Site</b>	<b>Inspection Frequency</b>
Priority construction sites	Monthly
Construction sites determined to be a significant threat to water quality <sup>1</sup>	
All qualifying construction sites not meeting the criteria specified above	Every three (3) months

<sup>1</sup> Determined by factors listed in Section 7.6.1

### 7.6.3 Inspection Procedures

Construction site inspections will focus on any structures that function to prevent storm water pollution, as well as the facility in general, to verify the use of appropriate erosion and sediment control practices are consistent with the Alabama Handbook. Deficiencies noted during the inspections will be addressed or repaired in a timely manner.

The Permittee will review the inspection log to ensure that this plan is continually implemented.

Comprehensive inspections will include the following information:

1. Facility type;
2. Inspection date;
3. Name and signature of inspector;
4. Location of construction project;
5. Owner/operator information;
6. Description of storm water BMP conditions; and,
7. Photographic documentation of any issues and/or concerns.

An example Construction Site Storm Water Runoff Inspection Form is included in Appendix B for use in recording the required inspections. This form is available as a template, and copies should be made before use. In addition, an example inspection log is included in Appendix C for use in logging the required inspections. The log shall be maintained containing records of all inspections performed in the preceding three years and retained in Appendix C. Each inspection log entry will be signed by the person performing the inspection. The inspection log shall be available for inspection by ADEM. If these records are stored in an alternate location, the location will be noted in the respective appendices.

### 7.6.4 Follow-up Inspection Procedures

For sites determined to have ineffective BMPs, a follow-up inspection shall be conducted and documented. Follow-up inspections shall follow the inspection procedures described in Section 7.6.3.

### 7.6.5 Regulatory Notification Procedures

The Permittee is required to notify ADEM of construction sites that do not have coverage under UAH's Construction Storm Water NPDES permit or ineffective BMPs that are discovered during periodic inspections. Regulatory notifications will include the following information:

- a) Name of owner/operator;
- b) Location of construction project;
- c) Description of violation;
- d) Required schedule of returning to compliance;
- e) Description of enforcement response used;
- f) Accompanying documentation of enforcement responses (e.g. notice of non-compliance); and,
- g) Photographic documentation of any issues and/or concerns.

An example Agency Notification Form is included in Appendix B.

### 7.6.6 Public Report Complains

The public can submit report complaints regarding discharges from qualifying construction site on UAH's storm water website.

## **8.0 POST-CONSTRUCTION STORM WATER MANAGEMENT**

### **8.1 Control Measure Overview**

Post-construction storm water management refers to the activities that take place after construction occurs and includes structural and non-structural controls including LIG/GI practices to obtain permanent storm water management over the life of the property's use. Post-construction controls should be considered during the initial site development planning phase. The goal of the post-construction storm water management control measure is to develop, implement, and enforce a program to address storm water runoff from qualifying new development and redevelopment projects to the MEP.

### 8.1.1 Responsible Party

UAH OEHS is the responsible party for implementing and coordinating the BMPs of this control measure.

## **8.2 Site Plan Review, Approval, and Re-Approval Process Procedures**

The Permittee shall review post-construction site plans for:

- a) Preserving pre-construction hydrology;
- b) Effectiveness of post-construction BMPs;
- c) Description of permanent stabilization;
- d) Agreement for long-term operation and maintenance of BMPs; and,
- e) Evaluation of green infrastructure.

## **8.3 Pre-Construction Hydrology**

UAH requires that proposed developments utilize nonstructural storm water control BMPs to the MEP in order to meet the required criteria for long-term runoff control. A nonstructural BMP checklist is included in Appendix B.

### 8.3.1 Preservation of Undisturbed Areas

This BMP involves designating undisturbed natural areas within the MS4 as preservation areas. These areas must be clearly marked and remain undisturbed during construction. Areas that provide the greatest storm water benefits through their preservation include:

- Wetlands;
- Areas with high infiltration rates; and,
- Streams and Natural Drainageways.

### 8.3.2 Minimization of Disturbance

This BMP involves using construction sequencing and limiting disturbance to minimize the total area of land disturbance. In addition, construction site entrances/exits are used to reduce soil compaction from construction traffic. Roadways should be designed to conform with the topography of a site which helps preserve pre-construction hydrology.

### 8.3.3 Reduction of Impervious Cover

This BMP involves modifying the designs, as much as practical, of permanent structures to reduce the overall surface area of impervious surfaces while achieving development objectives.

Specific items to consider may include but not limited to:

- Reducing roadway lengths and widths to the minimum size needed to meet traffic and safety needs;
- Reducing building footprints;
- Integrating porous areas such as landscaping islands, swales;
- Using alternative paving techniques (i.e., gravel, coarse sand, wood or barkchips, etc., for all or parts of driveways and walkways); and,
- Using vegetated swales instead of curb and gutter to convey storm water runoff.

### 8.3.4 Routing Runoff to Pervious Areas

This BMP involves routing the runoff from impervious areas to pervious areas. This allows runoff to infiltrate and percolate for groundwater recharge or uptake of pollutants. Some of the methods for disconnecting impervious areas include:

- Designing roof drains to flow to pervious areas;
- Diverting and channeling flow directions from large, paved surfaces and rooftops; and,
- Strategically develop impervious areas and landscaped areas to discharge storm water runoff via sheet flow runoff to pervious areas.

## **8.4 Encouragement of Green Infrastructure**

The Permittee encourages the implementation of green infrastructure practices for new development and redevelopment for post-construction BMPs.

## **8.5 Regulatory Mechanism**

This control measure is part of UAH Policy No. 07.07.25. This policy shall be followed by all members of the UAH community including staff, faculty, and students at all times.

## **8.6 Long-Term Operation and Maintenance**

The Permittee must require adequate long-term operation and maintenance of BMPs. One or more of the following as applicable:

- The developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; and/or,

- Written condition in the sales or lease agreement that require the recipient to assume responsibility for maintenance; and/or,
- Any other legally enforceable agreement that assigns permanent responsibility for maintenance of structural or treatment control management practices.

**8.7 Post-Construction Site Inspection Program**

Procedures for the inspection of qualifying construction sites are consistent with the Alabama Handbook. The post-construction inspection procedures shall demonstrate and document that post-construction storm water measures have been installed per design specifications.

**8.7.1 Post-Construction Inspection Frequency**

Inspection of post-construction sites to verify use and proper maintenance of appropriate BMPs shall be performed in general accordance with the frequency described in the table below:

Site	Inspection Frequency
Post-Construction Sites	Once per year

**8.7.2 Post-Construction Inspection Procedures**

Post-construction inspections will focus on any structures that function to prevent storm water pollution, as well as the facility in general, to ensure adequate long-term operation and maintenance BMPs. The inspection will evaluate the effectiveness of post-construction BMPs with the approved plans. Deficiencies noted during the inspections will be addressed or repaired in a timely manner.

The Permittee will review the inspection log to ensure that this plan is continually implemented. Comprehensive inspections will include the following information:

- a) Facility type;
- b) Inspection date;
- c) Name and signature of inspector;
- d) Site location;
- e) Owner/operator information;
- f) Description of storm water BMP conditions;
- g) Comparison of BMPs to design specifications;
- h) Photographic documentation of all critical storm water BMP components;



- i) Specific maintenance items or violations that need to be corrected by the owner/operator of the storm water control BMP; and,
- j) Maintenance agreements for long-term BMP operation and maintenance.

An example Post-Construction Inspection Form is included in Appendix B for use in recording the required inspections. This form is available as a template, and copies should be made before use. In addition, an inspection log is included in Appendix C for use in logging the required inspections. The log shall be maintained containing records of all inspections performed in the preceding three years and retained in Appendix C. Each inspection log entry will be signed by the person performing the inspection. The inspection log shall be available for inspection by ADEM. If these records are stored in an alternate location, the location will be noted in the respective appendices.

## 9.0 POLLUTION PREVENTION/GOOD HOUSKEEPING

### 9.1 Control Measure Overview

The goal of the pollution prevention/good housekeeping control measure is to develop, implement, and enforce an ongoing program to reduce, to the MEP, the pollutants in any storm water runoff to the MS4 from municipal operations.

#### 9.1.1 Responsible Party

UAH OEHS is the responsible party for implementing and coordinating the BMPs of this control measure.

### 9.2 Potential Pollutant Sources

The following table lists potential pollutant sources identified within coverage of the permitted area:

Activity Source	Pollutant of Concern
Building maintenance (washing, graffiti, abatement)	Wash water, paint chips, cleaning products, dirt and sediment

<b>Activity Source</b>	<b>Pollutant of Concern</b>
Chemical spills	Various cleaning compounds, diesel, paint, hazardous materials, vehicle fluids
Construction activities	Concrete, drywall, paint, sediment
Erosion	Sediment, organic matter
Fleet maintenance and repair	Oil, grease, antifreeze
Food service operations	Wash-water, food residue, oil and grease
Grounds maintenance	Green waste, fuel, oil, pesticides, herbicides, sediment
Impervious areas	Increased flows and pollutant loading
Litter and debris	Litter and debris
Loading/unloading areas	Petroleum products, fertilizers, herbicides, pesticides
Outdoor storage of raw materials	Sand, asphalt, soil, pesticides, herbicides, fertilizer, paint, solvents, fuel
Painting	Paint or rinse water (oil and water based), paint thinner
Parking lot runoff	Oil and grease, heavy metals
Roof runoff	Particulate matter and associated pollutants
Sewer line blockages	Raw sewage
Sewer line seepage	Raw sewage
Trash storage areas	Organic materials, litter and debris
Vehicle and equipment washing	Cleaning products, oil and grease, vehicle fluids
Utility line maintenance and repairs (water/irrigation/sewer)	Chloramines, chlorine, sediment, adhesive cement and fire protection system water

### **9.3 Facilities Inventory**

The Permittee maintains records of all facilities and pollutant sources.

### **9.4 Control Measure Strategies**

#### **9.4.1 Litter and Debris Removal Plan**

The Permittee shall observe ponds, inlets, and/or culverts to remove and dispose of litter, floatables, and debris material from entering the MS4.

### **9.5 Standard Operating Procedures**

The Permittee has developed Standard Operating Procedures (SOP) detailing good housekeeping practices to be employed at facilities that have the potential to discharge pollutants via storm water runoff and during operations for the following:

<b>Policy Name</b>	<b>Policy Number</b>
Vehicle safety management program	06.08.02
Emergency management plan	06.08.03
Emergency notification system (UAlert)	06.08.05
Chemical hygiene plan	07.07.07
Chemical waste management guidelines	07.07.08
Hazardous materials management plan	07.07.10
Universal waste management plan	07.07.11
Biological waste handling guide	07.07.14
Facilities operations safety manual	07.07.15
Spill prevention, control, and countermeasures (SPCC) plan	07.07.24

## **9.6 Facility Inspection Program**

The pollution prevention/good housekeeping inspection program is developed for inspecting municipal operations within the MS4.

### **9.6.1 Inspection Frequency**

The Permittee performs pollution prevention/good housekeeping inspections once per year.

### **9.6.2 Inspection Procedures**

These inspections will focus to ensure that good housekeeping practices are continually in use, including BMPs. Deficiencies noted during the inspections will be addressed or repaired in a timely manner.

The Permittee will review the inspection log to ensure that this plan is continually implemented.

Comprehensive inspections will include the following information:

- a) Chemical storage type and amount;
- b) Container type and capacity; and,
- c) Location of nearest outfall.

An example Housekeeping Inspection Form is included in Appendix B for use in recording the required inspections. This form is available as a template, and copies should be made before use. In addition, an inspection log is included in Appendix C for use in logging the required inspections. The log shall be maintained containing records of all inspections performed in the preceding three years and retained in Appendix C. Each inspection log entry will be signed by the person performing the inspection. The inspection log shall be available for inspection by ADEM. If these records are stored in an alternate location, the location will be noted in the respective appendices.

## **9.7 Training Program**

UAH personnel are trained annually for pollution prevention/good housekeeping by the facility or an outside contractor. Training materials include presentations, notifications, storage methods, prevention, mitigation, abatement, cleanup, incident, and disposal reporting. OEHS staff are trained in the proper operation and maintenance of equipment to prevent discharges, discharge procedure protocols, applicable pollution control rules and regulations, and general facility

operations. Discharge prevention meetings are conducted annually and recorded. Training records shall be kept at the facility for a minimum of three years. Training logs are included in Appendix D.

### **9.8 Regulatory Mechanism**

This control measure is part of UAH Policy No. 07.07.25. This policy shall be followed by all members of the UAH community including staff, faculty, and students at all times.

## **APPENDICES**

## **APPENDIX A**

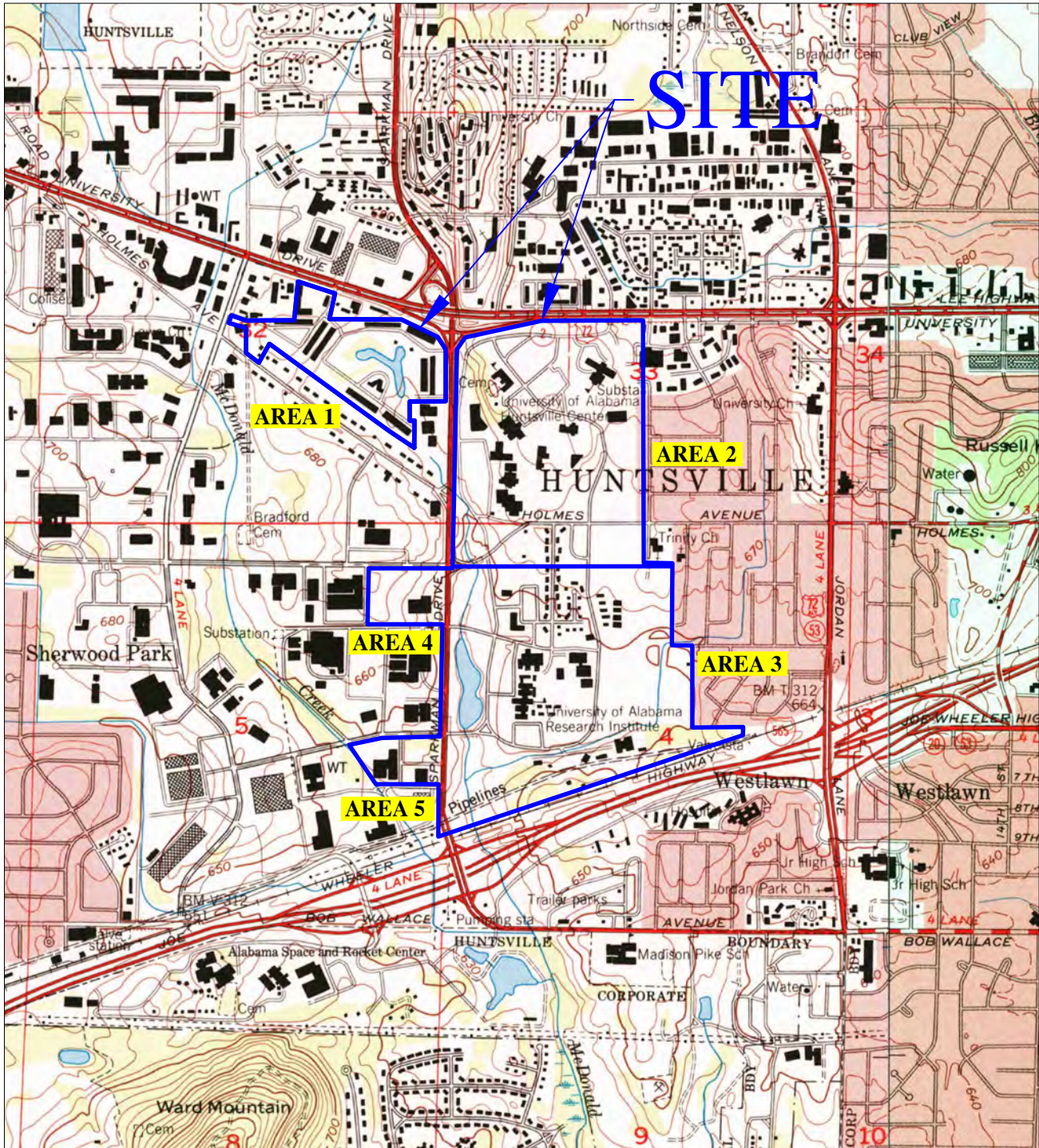


# OMI, Inc.

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Huntsville, AL 35805

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FAX: (256) 837 - 7677



MADISON QUAD  
7.5 MINUTE SERIES  
TOPOGRAPHIC  
1975 REVISED 1991

HUNTSVILLE QUAD  
7.5 MINUTE SERIES  
TOPOGRAPHIC  
1975 REVISED 1991

JOB NAME:

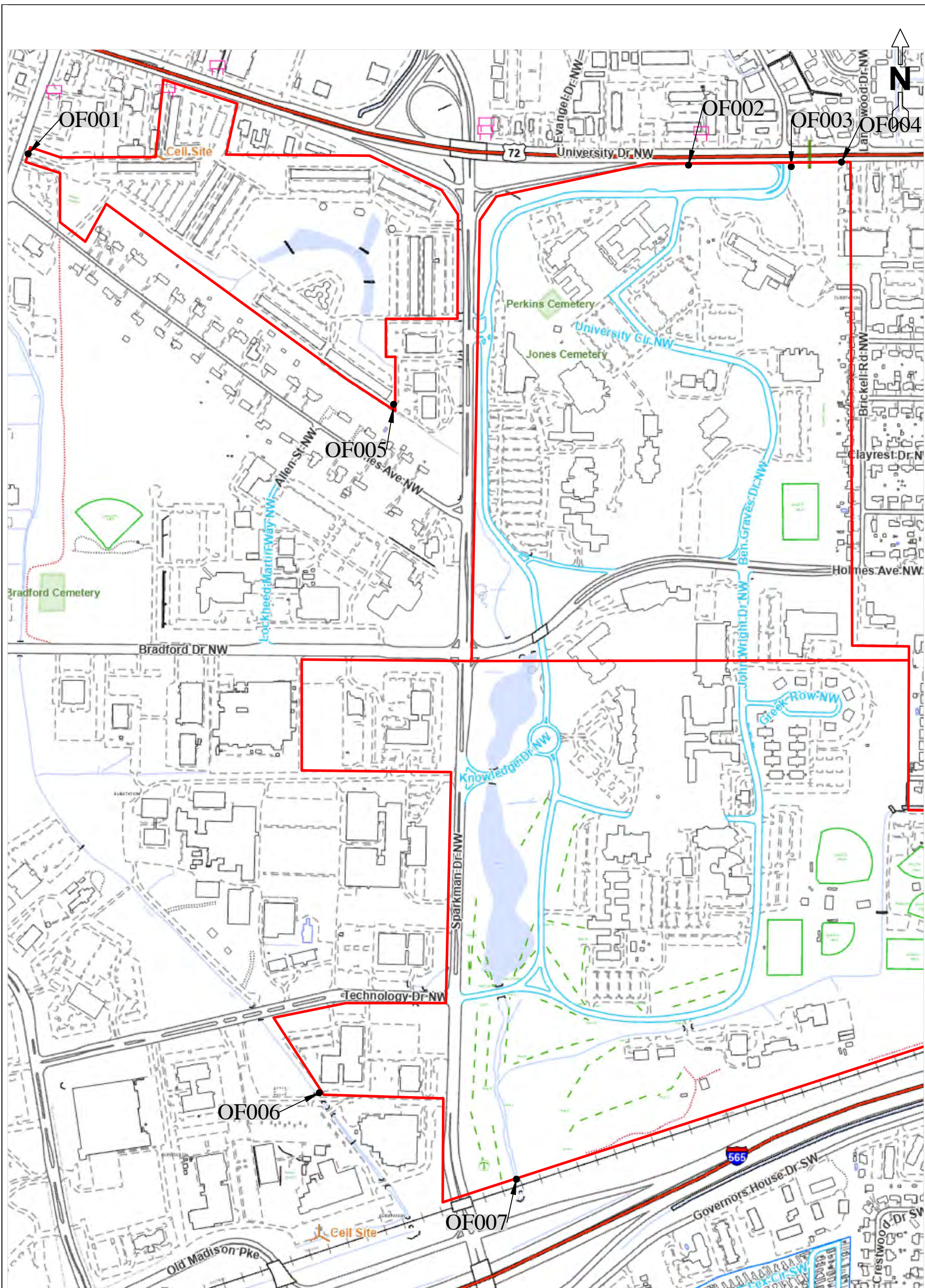
UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

## SITE LOCATION MAP

DRAWING NO: 9793 - 1

JOB NO: 9793  
DATE: 04-01-2022  
SCALE: 1" = 2000'  
DRAWN BY: DAH





JOB NAME:  
 UAH MS4  
 SPARKMAN DRIVE NW  
 HUNTSVILLE, ALABAMA

**OMI, Inc.**  
 5151 Research Dr. NW  
 Huntsville, AL 35805  
 Ph: (256) 837-7664  
 Fax: (256) 837-7677

**OUTFALL  
 LOCATION MAP**

JOB NO.: 9793  
 DATE: 04-01-2022  
 SCALE: 1" = 600'  
 DRAWN BY: DAH  
 DWG NO: 9793-2

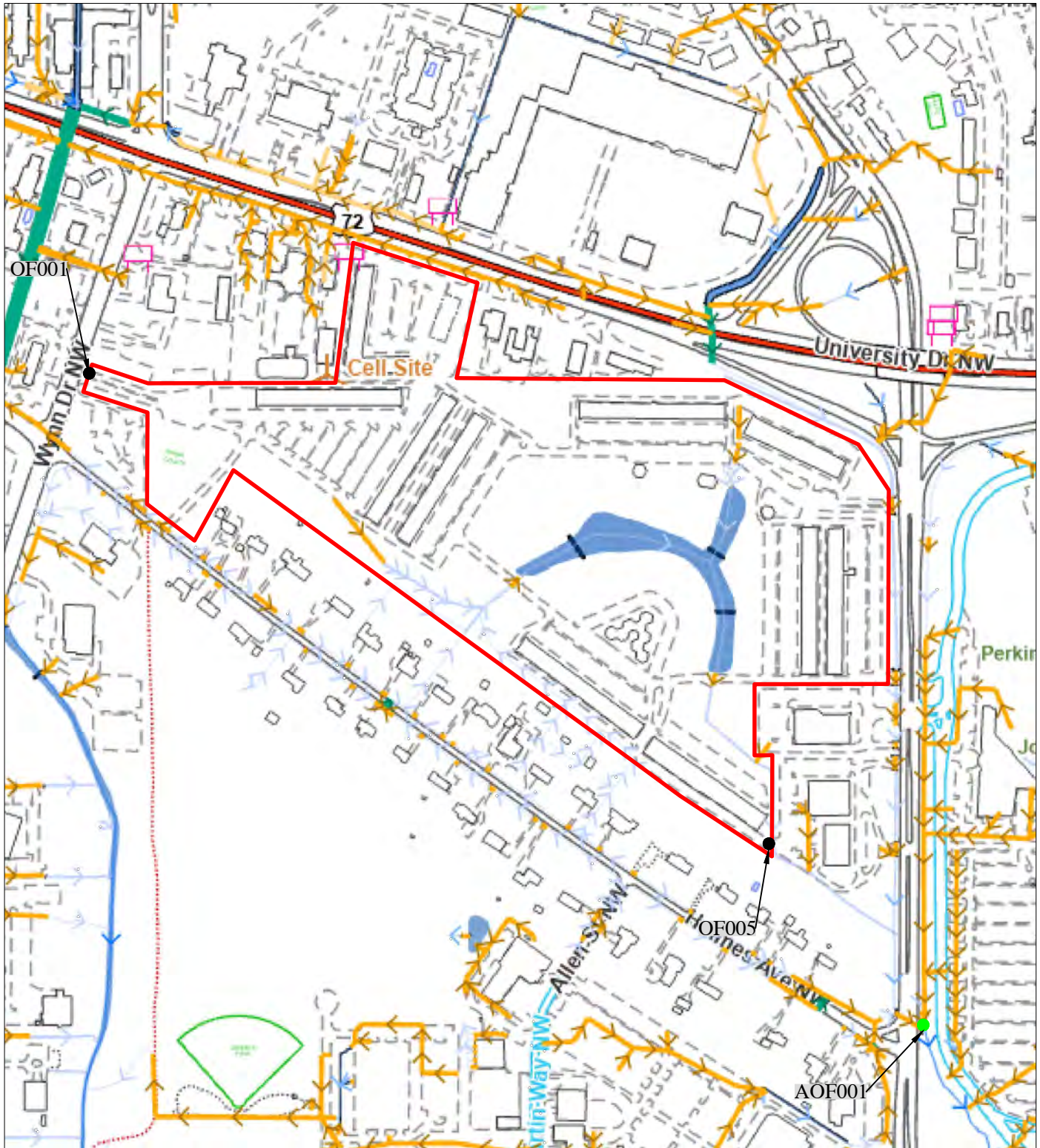


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**JOB NAME:**

UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

**STORMWATER MANAGEMENT PROGRAM PLAN  
AREA 1**

DRAWING NO: 9793 - 3

JOB NO: 9793  
DATE: 04-01-2022  
SCALE: 1" = 500'  
DRAWN BY: DAH

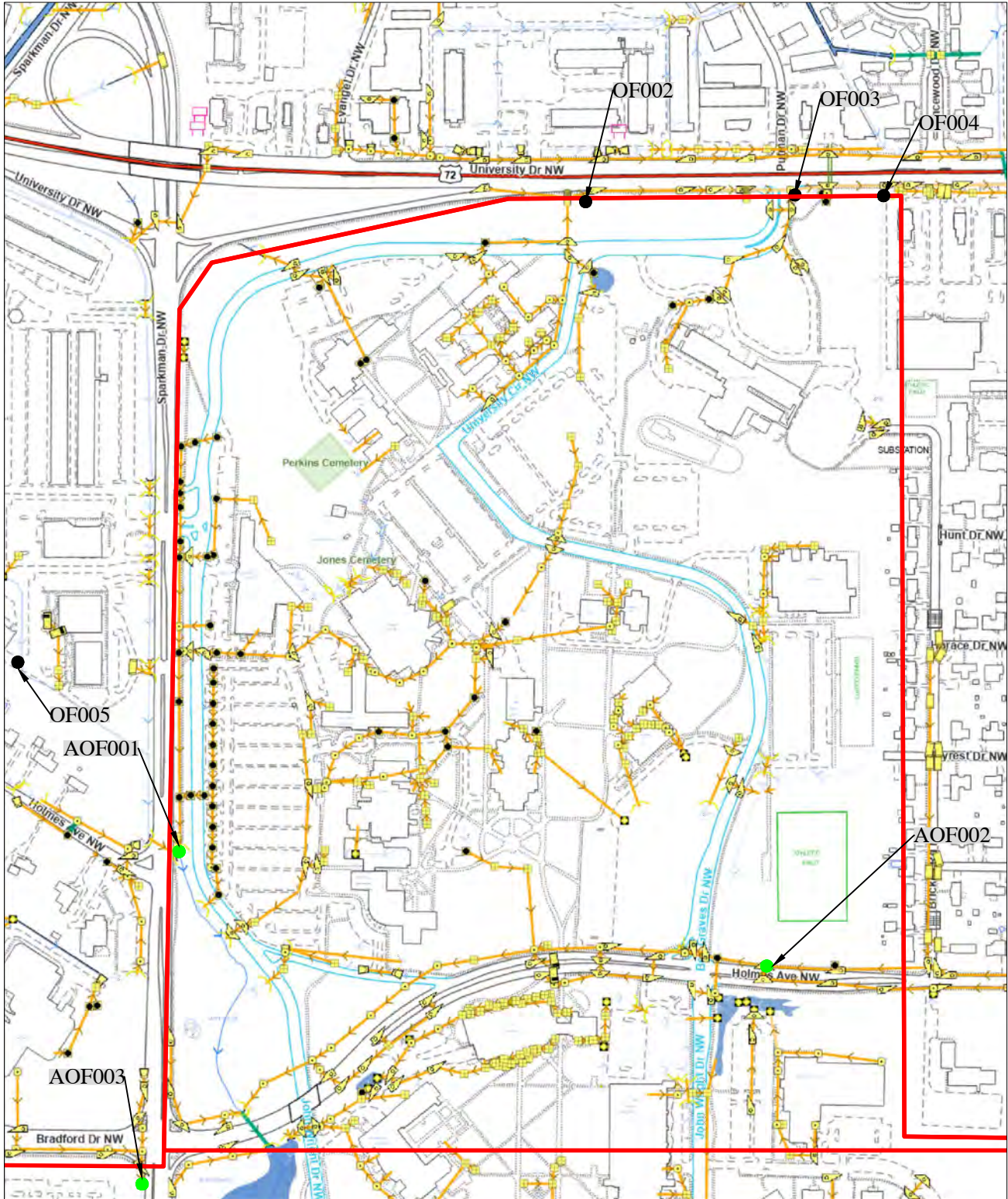


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JOB NAME:

UAH MS4  
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STORMWATER MANAGEMENT PROGRAM PLAN  
AREA 2

DRAWING NO: 9793 - 4

JOB NO: 9793  
DATE: 04-01-2022  
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DRAWN BY: DAH

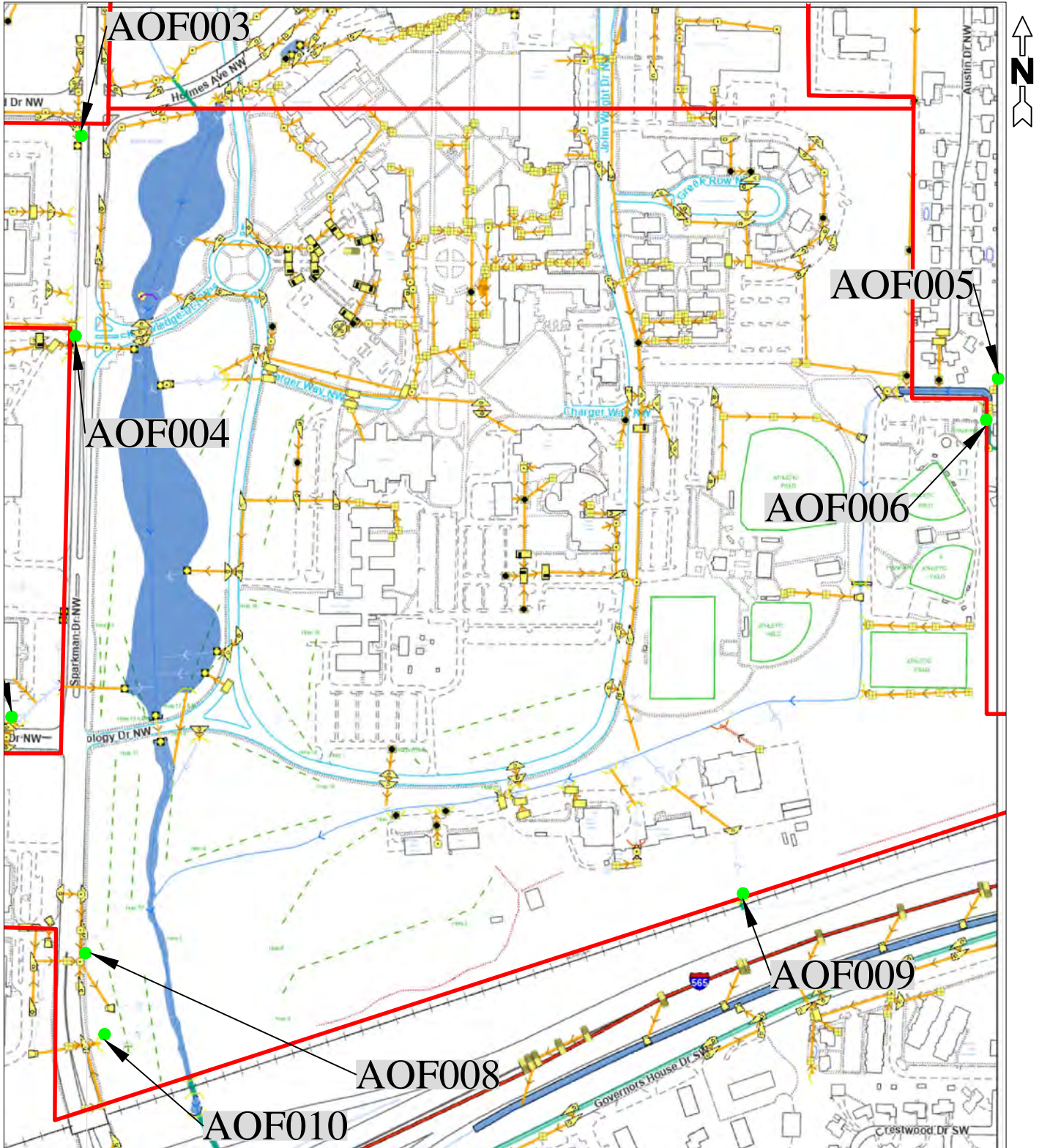


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JOB NAME:

UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

STORMWATER MANAGEMENT PROGRAM PLAN  
AREA 3

DRAWING NO: 9793 - 5

JOB NO: 9793  
DATE: 04-01-2022  
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DRAWN BY: DAH

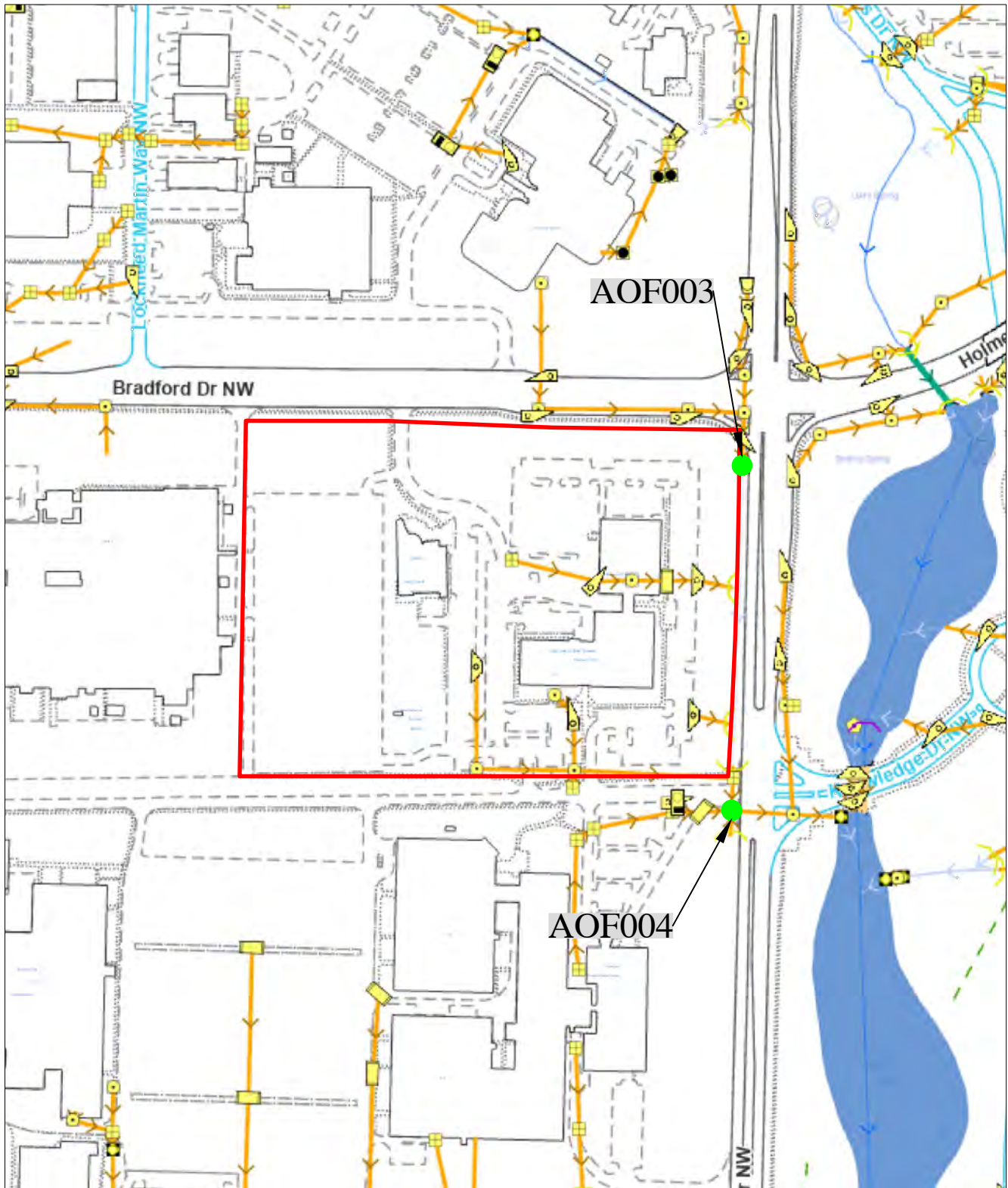


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JOB NAME:

UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

STORMWATER MANAGEMENT PROGRAM PLAN  
AREA 4

DRAWING NO: 9793 - 6

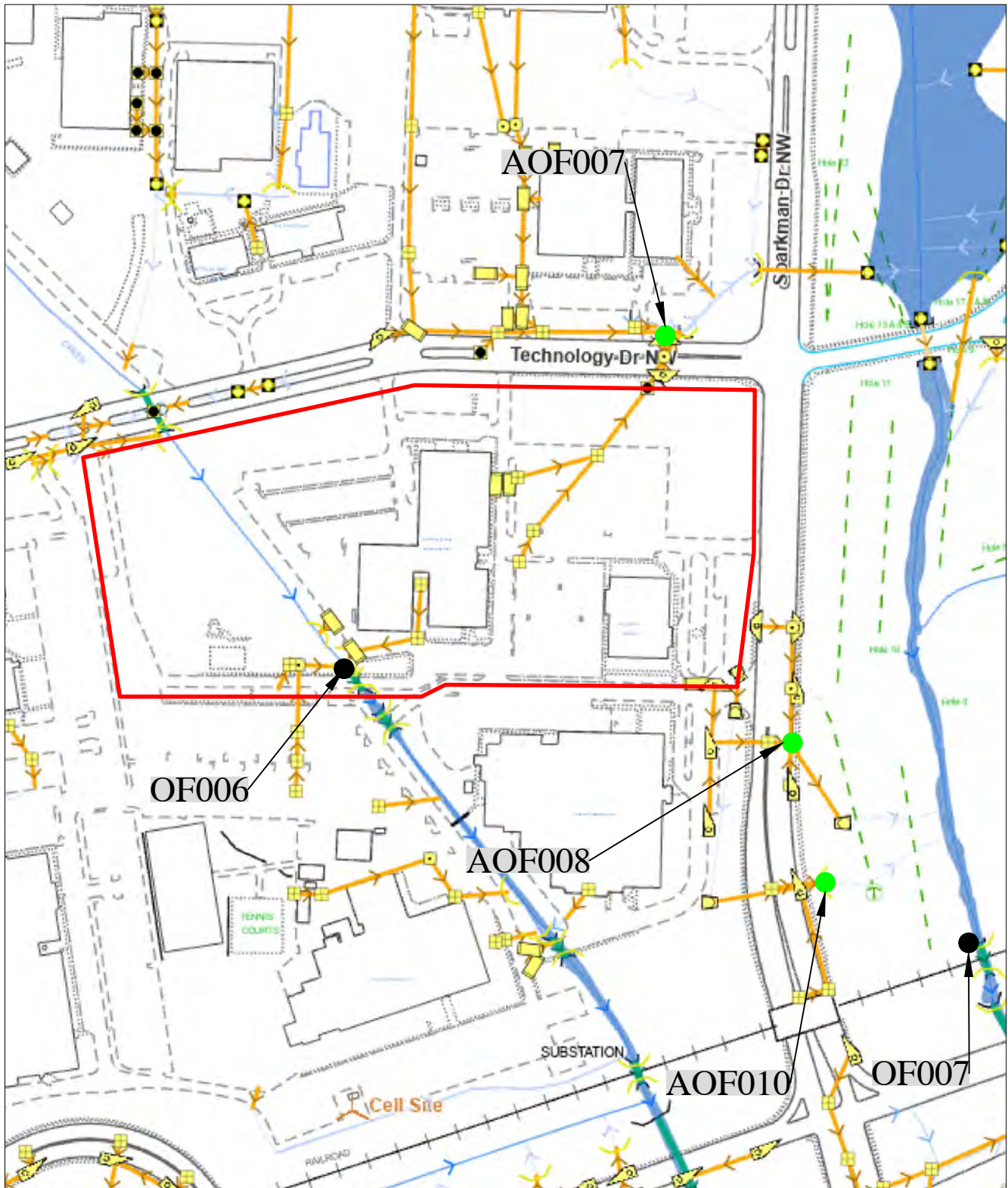
JOB NO: 9793  
DATE: 04-01-2022  
SCALE: 1" = 300'  
DRAWN BY: DAH

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JOB NAME:

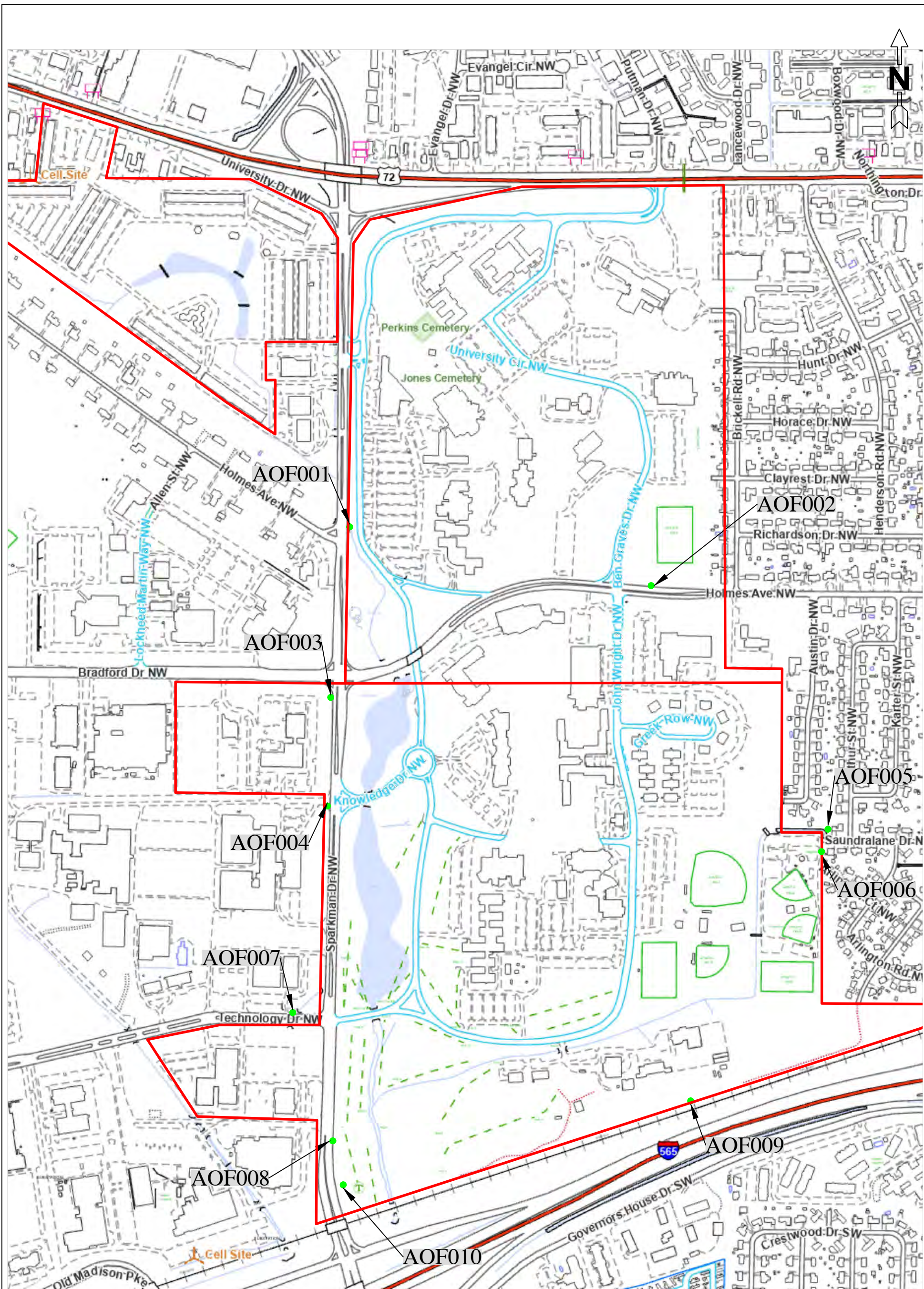
UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

STORMWATER MANAGEMENT PROGRAM PLAN  
AREA 5

DRAWING NO: 9793 - 7

JOB NO: 9793  
DATE: 04-01-2022  
SCALE: 1" = 300'  
DRAWN BY: DAH





JOB NAME:

UAH MS4  
SPARKMAN DRIVE NW  
HUNTSVILLE, ALABAMA

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Fax: (256) 837-7677

ADJACENT MS4  
OUTFALL  
LOCATION MAP

JOB NO.: 9793  
DATE: 04-01-2022  
SCALE: 1" = 600'  
DRAWN BY: DAH  
DWG NO: 9793-8



## **APPENDIX B**



## Checklist for Nonstructural BMPs

Project name:  
 Project location:  
 Contractor/builder information:  
 name:

address:

email:  
 phone/fax:

Site area (total acres):  
 Temporarily disturbed area (acres):  
 Permanently disturbed area (acres):  
 Undisturbed natural areas or preservation areas  
 (acres):

Best Management Practices (BMPs)	Yes/No	Comments (If applicable, describe actions taken or give explanation of no action)
<b>Preservation of Undisturbed Natural Areas</b>		
Specification of natural		
Clear demarcation of undisturbed areas during construction.		
<b>Minimization of disturbance</b>		
Construction sequence reduces the amount of land disturbed at one time.		
Well-defined construction access points.		
Limited site clearing.		
Site layout and roadway patterns conform to topography.		
<b>Reduction of impervious cover</b>		
Appropriate road sizing.		
Reduced building footprint.		
<b>Reduction of impervious cover</b>		
Reduced building footprint.		

Best Management Practices (BMPs)	Yes/No	Comments (If applicable, describe actions taken or give explanation of no action)
Integration of porous or infiltration areas (islands, swales etc.).		
Use of vegetated swales in place of curb and gutter.		
<b>Routing of runoff to pervious areas/Disconnection of runoff</b>		
Runoff from large impervious surfaces (including pavement and rooftops) is broken into several flow paths.		
Design so that impervious areas direct runoff to vegetated areas.		
<b>Pollution prevention/Source reduction</b>		
Litter/trash control.		
Dry sweep rather than washing or hosing off areas.		
Provide secondary spill containment for hazardous liquid if stored on- site.		

---

## **APPENDIX B**

### **Agency Notification Report - Construction Storm Water**

Information contained in this report, and any supporting documentation, must be submitted to ADEM for construction sites without permit coverage or ineffective BMPs.

<b>Facility:</b>	<i>The University of Alabama in Huntsville</i>
<b>Owner/operator:</b>	
<b>Name of person filing report:</b>	
<b>Location:</b>	
<b>Description of facility (attach maps, flow diagrams, and topographical maps):</b>	

---

<b>Agency Notification Standard Report (cont'd)</b>
<b>Cause of the discharge(s), including a failure analysis of the system and subsystems in which the failure occurred:</b>
<b>Corrective actions and countermeasures taken.</b>
<b>Additional preventive measures taken or contemplated to minimize possibility of recurrence:</b>
<b>Other pertinent information:</b>

---

## **APPENDIX B**

### **Illicit Discharge Agency Notification Report**

Information contained in this report, and any supporting documentation to be submitted to ADEM for onsite and offsite illicit discharges.

<b>Facility:</b>	<i>The University of Alabama in Huntsville</i>
<b>Owner/operator:</b>	
<b>Name of person filing report:</b>	
<b>Location:</b>	
<b>Description of facility (attach maps, flow diagrams, and topographical maps):</b>	

---

<b>Agency Notification Standard Report (cont'd)</b>
---

<b>Cause of the discharge(s), including a failure analysis of the system and subsystems in which the failure occurred:</b>
--

<b>Corrective actions and countermeasures taken.</b>
--

<b>Additional preventive measures taken or contemplated to minimize possibility of recurrence:</b>
--

<b>Other pertinent information:</b>
-------------------------------------

Post-Construction BMP  
Annual O&M Inspection  
UAH MS4

Name of Entity/Business \_\_\_\_\_ Date \_\_\_/\_\_\_/20\_\_\_

Name of Inspector \_\_\_\_\_ Contact E-mail: \_\_\_\_\_

Address of facility \_\_\_\_\_ Maintenance Responsibility \_\_\_\_\_

What is the drainage area of your facility, if known? \_\_\_\_\_


How many exterior surface storm water inlets does this facility have? #

How many exterior sub-surface or pipe outlets does this facility have? #

Are any detergents flushed or used outdoors for any reason\_?

Do any of the outlets drain directly to Waters of the US? (Runningstream) Y \_\_\_\_\_ N \_\_\_\_\_

Is the street number/address visibly displayed and can be seen from the street? Y \_\_\_\_\_ N \_\_\_\_\_

Draw a North arrow (  ) and sketch the footprint of the building, streets, parking lots, storm drains and drainage features. Natural areas, vegetative BMPs, ponds, ditches or other elements that are present around this building.





**Post-Construction BMP  
Annual O&M Inspection  
UAH MS4**

**A “BMP” (Best Management Practice) is a structural or non-structural land applied treatment to enhance, filter and protect storm water as it runs off your property, eventually contributing to the ground water supply.**

**Type of Post-BMPs measures for this site/entity:** NEW DEVELOPMENT \_\_\_\_\_ RE-Development \_\_\_\_\_  
Structural \_\_\_\_\_ Non-Structural \_\_\_\_\_ (LID) Low impact development \_\_\_\_\_ (GI) Green infrastructure \_\_\_\_\_

\_\_\_\_\_ Annual Inspection Form

*Business name*

Please take a minute to walk around the grounds of the business area and inspect the site and answer the questions below. A copy of this report should be kept on file at the OEHS office.

<b>12 Inspection Items</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Is there a routine schedule for litter pick up around your grounds?			
2. Are garbage dumpsters accessible, secure, maintained and serviced?			
3. Are litter receptacles accessible, secure, and maintained?			
4. Are the storm drains clean of debris and trash?			
5. Has there ever been any hazardous material poured into the storm drains? (oil, grease, soap, chemicals) If yes, call 705-5454 for reporting			
6. Are natural areas around the business maintained?			
7. Are there any damp or seep areas present with foul odors?			
8. Is there a detention pond on the property?			
9. If YES, is the detention pond maintained and inspected? (Call 705-5454 for assistance)			
10. Is there <b>any erosion</b> or bare soils present on the premises?			
11. Do employees know how to report hazardous spills?			
12. Do you feel that the storm water that runs off the business property is fit to enter the streams?			

Date Inspected \_\_\_\_\_ / \_\_\_\_\_ /20 \_\_\_\_\_

Signature \_\_\_\_\_

**Retain a copy for your records and file for three (3) years.**

## **APPENDIX C**









## **APPENDIX D**









## **APPENDIX E**

## OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

### Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

### Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully  With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	<b>(applicable when collecting samples)</b>			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

### Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

## Outfall Reconnaissance Inventory Field Sheet

### Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow?  Yes  No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

### Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present?  Yes  No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

### Section 6: Overall Outfall Characterization

Unlikely   
  Potential (presence of two or more indicators)   
  Suspect (one or more indicators with a severity of 3)   
  Obvious

### Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

### Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?