



**CALL TO ORDER**

**MINUTES**

**A. Minutes of March 11, 2025**

**OLD BUSINESS**

**A. Rezoning**

- 1) Request from **Gainesville Housing Authority** to rezone a 2.6± acres tract located on the southwest side of the intersection of Jesse Jewell Parkway and Downey Boulevard and the southeast side of the intersection of Jesse Jewell Parkway and Summit Street (a/k/a **1120 Jesse Jewell Parkway, SE**) from Residential-II (R-II) to Planned Unit Development (P-U-D).

Ward Number: Three  
Tax Parcel Number(s): 01-035-002-004  
Request: Multi-family housing

**NEW BUSINESS**

**A. Variance**

- 1) Request from **Capstone Acquisitions, LLC** to vary the front yard setback requirement, frontage landscape strip requirement and minimum number of parking spaces required on a 1.475± acres tract located on the east side of White Sulphur Road, north of the intersection of White Sulphur Road and Huntington Drive (a/k/a **622 White Sulphur Road**), having a zoning of General Business (G-B).

Ward Number: Two  
Tax Parcel Number(s): 09-123-000-031  
Request: Residence Inn extended stay hotel

- 2) Request from **Brown Haven Homes** to vary the stream buffer requirement on a 1.35± acres tract located on the west side of Chattahoochee Trace, north of Laurel Springs Drive (a/k/a **3089 Chattahoochee Trace, NW**), having a zoning classification of Residential-I-A (R-I-A).

Ward Number: One  
Tax Parcel Number(s): 01-107-001-043  
Request: Single-family home

**B. Annexation**

- 1) Request from **GWAR Gainesville Landfill, LLC** to annex a 105.076± acres tract located on the south side of the intersection of Athens Highway, Old County Dump Road and Athens Street, including all of Old County Dump Road (a/k/a **0 Athens Highway; 0, 2033 and 2045 Old County Dump Road;**) and to establish a zoning of Heavy Industrial (H-I), with a special use.

Ward Number: Three  
Tax Parcel Number(s): 15-032-000-038, 070, 071 and 081  
Request: Landfill (Construction & Demolition) and composting facility

**C. Rezoning**

- 1) Request from the **City of Gainesville** to rezone a 134.0± acres tract located on the east side of

Monroe Drive, north of Allen Creek Road (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Planned Unit Development (P-U-D) to Heavy Industrial (H-I) with a special use.

Ward Number: Three

Tax Parcel Number(s): 15-023-000-167 (Part)

Request: Landfill (Construction & Demolition) and composting facility

- 2) Request from **Gainesville Housing Authority** to rezone a 4.13± acres tract located on the northwest side of the intersection of Myrtle Street and Osborne Street and the northeast side of the intersection of Myrtle Street and Wall Street, south of Jesse Jewell Parkway (a/k/a **1197 and 1235 Myrtle Street, SE; 452, 474 and 492 Osborne Street, SE; 465, 471 and 481 Wall Street, SE**) from Residential-II (R-II) to Planned Unit Development (P-U-D).

Ward Number: Three

Tax Parcel Number(s): 01-035-001-005, 007, 008, 013, 013A, 017, 019 and 020

Request: Multi-family housing

## MISCELLANEOUS

## ADJOURNMENT



## CITY OF GAINESVILLE

### Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 21, 2025  
**Final Approval Date:** March 21, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Minutes of March 11, 2025  
**Meeting Date:** April 8, 2025

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**Purpose of Request:**

The purpose of this request is to allow the Planning and Appeals Board to approve the minutes from the referenced meeting.

**Facts & Issues / History & Background:**

**Department Recommendation:**

Approval of the minutes as presented.

**Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. DRAFT Minutes

**GAINESVILLE PLANNING AND APPEALS BOARD**  
**DRAFT MINUTES OF MEETING**  
**MARCH 11, 2025**

**CALL TO ORDER** Chairman Doug Carter at 5:30 p.m.

**Members Present:** Chairman Doug Carter and Board Members Jane Fleming, Kelvin Simmons, Rick Young and Ellen DeFoor

**Members Absent:** Vice-Chair Ryan Thompson and Board Member Eddie Martin

**Staff Present:** Community & Economic Director Rusty Ligon and Recording Secretary Gwen Fleming

**Others Present:** None

**MINUTES OF FEBRUARY 11, 2025**

**There was a motion to approve the minutes as presented.**

Motion made by Board Member Fleming  
Motion seconded by Board Member Young  
**Vote – 5 favor, 2 absent (Thompson, Martin)**

**OLD BUSINESS**

**NEW BUSINESS**

**A. Variance Request**

- 1) Request from **Aneesh Patel** to vary the minimum lot size requirement, buffer width and minimum number of parking spaces required on a 1.92± acres tract located northwest of the intersection of Dawsonville Highway and Beechwood Boulevard, at the terminus of a private cul-de-sac (a/k/a **1181 Dawsonville Highway, NW**), having a zoning of General Business (G-B).

Ward Number: One  
Tax Parcel Number(s): 00-115-002-085  
Request: Extended stay hotel

**Staff Presentation:** Director Rusty Ligon gave the following staff presentation:

The applicant is requesting special use for a 1.92± acres property zoned General Business (G-B) for an 80-room, Home2 Suites by Hilton extended stay hotel. In addition, the applicant is asking to vary three development standards that are specific to extended-stay hotels which include varying:

- Minimum lot size requirements from 2.0 acres to 1.92 acres.
- Minimum buffer width from 100 feet to a minimum of 35 feet in width.
- Minimum number of parking spaces from 120 spaces to 87 spaces.

The applicant is basing their physical hardship on the size of the property and the steep topography which limits the developable area.

The subject property is the remaining undeveloped lot within the commercial subdivision created in 2010 that includes Cheddar's restaurant, Olive Garden restaurant, Buffalo Wild Wings restaurant and the Holiday Inn & Suites hotel. The subject property is currently padded out with mounded fill dirt and contains a storm water pond. Over half of the property steeply slopes down toward the southerly and westerly property lines. Other adjacent uses include the Beechwood estates subdivision and the Lake Forest Apartments.

The proposed extended stay hotel is 62,310± square feet in size and is 4-stories in height over a parking garage that is below street grade. A total of 87 parking spaces are proposed (41 garage spaces and 46 surface level spaces), and access is proposed from the existing private cul-de-sac. Amenities include an outdoor pool, outdoor grills, fitness center restaurant open for breakfast, coffee bar and beer and wine with small bites during evening social hours.

The subject property is located within the Commercial Future Land Use category and within the Suburban Commercial Character Area which includes areas focused on retail, office, or other commercial service areas such as grocery stores, banks, restaurants, theaters, hotels and automotive-related businesses which may be located as a single use in one building or grouped together in a shopping center.

Staff is recommending **approval** of the proposed special use request within **General Business (G-B) zoning**, based on the Comprehensive Plan and the adjacent nonresidential land uses, with **9 conditions**.

In addition, staff is recommending **approval** of the variance request based on the size of the subject property and sloping topography with the same **9 conditions**.

**Applicant Presentation: Aneesh Patel**, 809 Jesse Jewell Parkway, stated the reason for purchasing the property was it was zoned for a hotel but was unaware at that time changes to the code created obstacles regarding parking and site requirement. Mr. Patel stated the hotel won the JD Associates number one mid segment to upper scale segment award two years ago and will compete with higher end rates starting at \$150 and above. Most guests stay three to six days at a time but enjoy the flex space which is a healthier option being able to cook rather than eating out. His opinion was the project will benefit the city and county by helping facilitate the growth. The room images and details were explained by Mr. Patel stating only twenty percent will have a range/oven / dishwasher and no paper products being used only china-ware will be used in order to help with conservation and recycling.

**FAVOR: None**

**OPPOSE: Christine Osasu**, 1738 Lanier Springs Drive, stated she lives in the Beechwood Estates and appreciates all work by the staff and understands it would be a nice hotel. The main concern was the existing traffic issue, only one exit for the neighborhood and seems no concern regarding traffic issues for the people in the neighborhood. She then spoke about extended stays having a bad reputation in Gainesville and concerned with it being a high end extended stay in years to come. Ms. Osasu would prefer for the extended stay not be near her home and it affecting the property value of the homeowners.

**Chairman Carter** advised the property was zoned in 2010 for a hotel and the only reason for the public hearing was for an extended stay hotel but with no changes a hotel could be built.

Ms. Osasu again expressed an extended stay has a different spirit and concerned about living next to an extended stay.

**Rebuttal: Mr. Patel** stated the customer base would be around eighty at maximum and not every parking space will be occupied. He mentioned traffic from the hotel would not be much of a concern with the restaurants having around 300 vehicles per day. His commented since it is Hilton property, a leader in the market along with Marriott, trending in the \$200's and always positive reviews. Mr. Patel advised there seems to be a misconception in Gainesville regarding extended stay hotels due to some hotels deciding to become an extended stay but with the rates being in the range of \$150 to \$200 and the type of property would not be an issue for the future and remaining a high-end hotel. Also mentioned, people traveling in town for ballgames and events usually stay at Holiday Inn Express, Hampton Inn or Super 8, not at an extended stay hotel.

**Chairman Carter** asked Mr. Ligon to remind everyone how long ago the standards were raised for an extended stay hotel and was advised approximately 4 years ago. Chairman Carter replied it was addressed due to some problems with some existing extended stay hotels in the community.

**Board Member Young** asked if it were older hotels which were single occupancy being turned into extended which was confirmed. There was discussion of the proposed project being different and designed for an extended stay.

**There was a motion to conditionally approve the request to vary the minimum lot size requirement, buffer width and minimum number of parking spaces for an extended stay hotel with the following conditions:**

**Conditions**

1. The special use approval shall be limited to the operation of a Home2 Suites by Hilton extended stay hotel or any other hotel brand that is considered upper midscale or upper scale extended stay hotel.
2. The proposed development shall be generally consistent with the concept plan and architectural renderings provided with this application per the approval of the Community & Economic Development.
3. Prohibited uses for the subject property shall include adult novelty stores, group homes, crisis centers, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, hookah lounge, tobacco or vaping stores, gas station/convenience stores, tire stores, auto parts stores, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like.
4. The existing trees located within the proposed 35 foot wide buffer shall remain except for those areas that may interfere with stormwater facilities. In addition, a mixture of evergreen trees shall be planted at the top of the retaining wall, as well as, between the 35 foot wide buffer area and the proposed building. The minimum install height of the trees shall be 10 feet. The location, spacing, size and type of trees planted shall be subject to the approval of the Community and Economic Development Department Director.

5. All service areas, dumpster enclosures, loading areas, ground or roof top HVAC equipment shall be screened from view from all adjacent properties and roads.
6. Outdoor lighting used in this development shall be of non-spill design and placed in a manner so as to minimize direct visibility by the adjacent properties.
7. The subject property shall be limited to one monument sign not to exceed 10-feet in height and 100 square feet of total sign structure area with internal or external lighting. Building signage shall be permitted as regulated within the Gainesville Unified Land Development Code and shall be limited to the north and east sides of the building. Electronic message board signs or electronic changeable copy signs are not permitted.
8. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access / traffic / sidewalk improvements associated with the proposed development shall be at the full expense of the owner/developer.
9. The proposed variance request shall be contingent upon City Council approving the special use for the proposed Home2 Suites by Hilton extended stay hotel.

Motion made by Board Member Fleming  
Motion seconded by Board Member Simmons  
**Vote – 5 favor, 2 absent (Thompson, Martin)**

#### **B. Special Use Request**

- 1) Request from **Aneesh Patel** for a special use on a 1.92± acres tract located northwest of the intersection of Dawsonville Highway and Beechwood Boulevard, at the terminus of a private cul-de-sac (a/k/a **1181 Dawsonville Highway, NW**), having a zoning of General Business (G-B).  
Ward Number: One  
Tax Parcel Number(s): 00-115-002-085  
Request: Extended stay hotel

**There was a motion to recommend conditional approval of the special use request for an extended stay hotel having a zoning of General Business (G-B) with the following conditions:**

#### **Conditions**

1. The special use approval shall be limited to the operation of a Home2 Suites by Hilton extended stay hotel or any other hotel brand that is considered upper midscale or upper scale extended stay hotel.
2. The proposed development shall be generally consistent with the concept plan and architectural renderings provided with this application per the approval of the Community & Economic Development Director.
3. Prohibited uses for the subject property shall include adult novelty stores, group homes, crisis centers, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, hookah lounge, tobacco or vaping stores, gas station/convenience stores, tire stores, auto parts stores, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car

washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like.

4. The existing trees located within the proposed 35 foot wide buffer shall remain except for those areas that may interfere with stormwater facilities. In addition, a mixture of evergreen trees shall be planted at the top of the retaining wall, as well as, between the 35 foot wide buffer area and the proposed building. The minimum install height of the trees shall be 10 feet. The location, spacing, size and type of trees planted shall be subject to the approval of the Community and Economic Development Department Director.
5. All service areas, dumpster enclosures, loading areas, ground or roof top HVAC equipment shall be screened from view from all adjacent properties and roads.
6. Outdoor lighting used in this development shall be of non-spill design and placed in a manner so as to minimize direct visibility by the adjacent properties.
7. The subject property shall be limited to one monument sign not to exceed 10-feet in height and 100 square feet of total sign structure area with internal or external lighting. Building signage shall be permitted as regulated within the Gainesville Unified Land Development Code and shall be limited to the north and east sides of the building. Electronic message board signs or electronic changeable copy signs are not permitted.
8. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access / traffic / sidewalk improvements associated with the proposed development shall be at the full expense of the owner/developer.
9. The proposed variance request shall be contingent upon City Council approving the special use for the proposed Home2 Suites by Hilton extended stay hotel.

Motion made by Board Member Simmons  
Motion seconded by Board Member Young  
**Vote – 5 favor, 2 absent (Thompson, Martin)**

### **C. Rezoning Request**

- 1) Request from **Gainesville Housing Authority** to rezone a 2.6± acres tract located on the southwest side of the intersection of Jesse Jewell Parkway and Downey Boulevard and the southeast side of the intersection of Jesse Jewell Parkway and Summit Street (a/k/a **1120 Jesse Jewell Parkway, SE**) from Residential-II (R-II) to Planned Unit Development (P-U-D).  
Ward Number: Three  
Tax Parcel Number(s): 01-035-002-004  
Request: Multi-family housing

Chairman Carter stated Director Ligon received notification the applicant would like to table their request to the April 8, 2025, Planning and Appeals Board meeting.

**There was a motion to table the rezoning request to the April 8, 2025, Planning and Appeals Board meeting.**

Motion made by Board Member DeFoor  
Motion seconded by Board Member Simmons  
**Vote – 5 favor, 2 absent (Thompson, Martin)**

## ADJOURNMENT

**There was a motion to adjourn the meeting at 5:53 p.m.**

Motion made by Board Member Simmons  
Motion seconded by Board Member Young  
**Vote – 5 favor, 2 absent (Thompson, Martin)**

Respectfully submitted,

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Doug Carter, Chairman

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Gwen Fleming, Recording Secretary



# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 24, 2025  
**Final Approval Date:** March 24, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Request from **Gainesville Housing Authority** to rezone a 2.6± acres tract located on the southwest side of the intersection of Jesse Jewell Parkway and Downey Boulevard and the southeast side of the intersection of Jesse Jewell Parkway and Summit Street (a/k/a **1120 Jesse Jewell Parkway, SE**) from Residential-II (R-II) to Planned Unit Development (P-U-D).  
**Meeting Date:** April 8, 2025

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### **Purpose of Request:**

This zoning was previously tabled at the March 11<sup>th</sup> Planning and Appeals Board meeting. The applicant is proposing to rezone the subject property from Residential-II (R-II) to Planned Unit Development (P-U-D) for 65 multi-family housing units consisting of market rate housing and affordable housing units for families. The project will use public and private financing, relying heavily on the Low Income Housing Tax Credit (LIHTC) program through the Department of Community Affairs. The proposed development will consist of a 4-story apartment building with 1, 2 and 3 bedroom units that will serve a variety of income levels, but primarily is with an income of around 60% of the area's median income. A total of 65 parking spaces are proposed with access from Downey Boulevard and Summit Street. Amenities are to include a leasing office, community center, fitness center, on-site laundry for interior amenities, and an outdoor gathering space consisting of a covered porch, gazebo and playground.

The property is located within the Gateway Corridor Overlay Zone and contains 25 public housing units within five structures that were constructed in 1971. Adjacent and nearby properties include the Lanier Terrace Apartments, NEGA Medical Center campus, Wee Willy's retail/gas station, Boys & Girls Clubs and Fair Street Elementary School.

### **Facts & Issues / History & Background:**

#### **Department Recommendation:**

Planning staff recommended approval with seven conditions. See the Staff Recommendation report for details.

#### **Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Plat
4. Site plan
5. Architectural rendering

**GAINESVILLE PLANNING and APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant and Property Owner**..... Gainesville Housing Authority  
**Location**..... 1120 Jesse Jewell Parkway, SE  
**Request**..... Rezone from R-II to P-U-D  
**Total Acres** ..... 2.6± acres  
**Ward**..... Three  
**Proposed Use**..... Multi-family housing (65 units)  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date**..... March 11, 2025

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▪ **Applicant’s Proposal and Background Information**

The applicant is proposing to rezone the subject property from Residential-II (R-II) to Planned Unit Development (P-U-D) for 65 multi-family housing units consisting of market rate housing and affordable housing units for families. The project will use public and private financing, relying heavily on the Low-Income Housing Tax Credit (LIHTC) program through the Department of Community Affairs. The proposed development will consist of a 4-story apartment building with 1-, 2- and 3-bedroom units that will serve a variety of income levels but primarily is with an income of around 60% of the area’s median income. A total of 65 parking spaces are proposed with access from Downey Boulevard and Summit Street. It is anticipated that the community will include a leasing office, community center, fitness center, and on-site laundry for interior amenities. Exterior amenities include an outdoor gathering space consisting of a covered porch, gazebo and playground.

Phase 1	Number of Units	Unit Size
1 Bedroom	32	850± sf
2 Bedroom	25	934± sf
3 Bedroom	8	1,290± sf

The property is located within the Gateway Corridor Overlay Zone and contains 25 public housing units within five structures that were constructed in 1971.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Northeast Georgia Medical Center Campus	Planned Unit Development (P-U-D)
South	Lanier Terrace Apartments (110-Units)	Residential-II (R-II)
East	Wee Willy’s Retail/Gas Station	Planned Unit Development (P-U-D)
West	Northeast Georgia Health Systems Storage/Maintenance Lot	General Business (G-B)

Other properties nearby include the Boys & Girls Clubs and Fair Street Elementary School.

- **Other Departmental Comments**

There were no departmental comments at this time.

- **Zoning History**

*The following zoning actions have taken place in the immediate area during the last ten years:*

**2024-** A request by the City of Gainesville to annex a 2.81± acres tract located at 3 and 4 Carolina Street; 0 Spring Street; 10 Myrtle Drive; 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19 and 20 Victory Street with a zoning of Residential and Office (R-O) for existing uses.

**2022 –** A request by Brand Properties to rezone 69.18± acres located at 515 Lakeview Drive, NE; 2065 Limestone Parkway and 1881 Jesse Jewell Parkway from Planned Unit Development (P-U-D) and Residential-II (R-II) to Planned Unit Development (P-U-D) for a mixed-use development was approved with conditions.

**2021-** A request by Northeast Georgia Medical Center to rezone 48.997± acres tract located at 743 Spring Street, NE; 1227 Sherwood Park Drive, NE; 200 Wisteria Drive, NE and 1075 Jesse Jewell Parkway, SW from Planned Unit Development (P-U-D) and Office and Institutional (O-I) to Planned Unit Development (P-U-D) to expand the hospital campus.

**2020-** A request by Jennifer Walter to rezone 0.48± acre tract located at 522 South Enota Drive from Office and Institutional (O-I) to Neighborhood Business (N-B) for a retail store was approved with conditions.

**2018 –** A request by Atlas Development, LLC to rezone a 1.13± acres tract located at 1351 Park Hill Drive from Residential-II (R-II) to Office and Institutional (O-I) for a medical office was approved with conditions.

**2017 –** A request by JH Homes, Inc. to rezone a 21.87± acres tract located at 1024, 1030 and 1037 Pearce Way, NE; and 0 South Enota Drive, NE from Office and Institutional (O-I) to Residential-II (R-II) for 65 residential townhomes was approved with conditions.

**2017 –** A request by Hanh My Thi Doan for a special use within Office and Institutional (O-I) on a 0.52± acre tract located at 502 South Enota Drive for a nail salon was denied.

**2017 –** A request by the City of Gainesville to rezone a 53.177± acres tract located at 1514, 1515, 1545, 1560 and 1581 Community Way, NE from Residential-II (R-II) to Office and Institutional (O-I) for existing uses was approved.

**Staff Analysis**

**(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?**

The subject property contains 25 multi-family public housing apartment units. The adjacent properties consist of the Lanier Terrace apartment complex, multi-family apartments, NEGA Medical Center, NEGA Health Systems storage lot and Wee Willy's Retail/Gas Station. The adjacent properties are zoned P-U-D, R-II and G-B. The proposed rezoning appears suitable, and the proposed use is similar to the current use of the property and the adjacent apartment complex but at a higher residential density.

**(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?**

The proposed use should have minimal impacts on the adjacent and nearby properties but will generate more traffic than the current 25 public housing units. An existing traffic signal is in place at the intersection of Jesse Jewell Parkway and Summit Street and a secondary access drive is proposed off of Downey Boulevard which will help disperse traffic.

**(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?**

The Future Development Map for the City of Gainesville places the property within the *Commercial* land use category which includes areas with focused retail, office, or other commercial service activities such as grocery stores, banks, restaurants, theaters, hotels and automotive-related businesses. Commercial uses may also be a single use in one building or grouped together in a shopping center.

According to the Character Area map for the City of Gainesville, most of the subject property is located within the *Traditional Neighborhoods* Character Area which includes Parks and recreation, single-family residential, multi-family residential, limited general mixed-use, commercial (retail and office), and public and institutional uses. Although the area is mostly built-out, opportunities for infill development should be promoted as they arise, and neighborhood-serving businesses are encouraged.

It is staff's opinion the properties fronting the intersection of Jesse Jewell Parkway and Downey Boulevard should be master planned, which may include a mixture of office, commercial, medical and residential uses. Coordination with NEGA Health System, Gainesville Housing Authority and the City of Gainesville is needed to determine how to best serve the community.

**(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?**

The property is currently zoned R-II which would allow for a residential density 12 du/ac which would currently permit 31 units. The applicant desires to rezone the property to P-U-D for 65 dwelling units at a density of 25 du/ac. The proposed plan would upgrade the property and provide for additional quality, affordable mixed income housing, but it is more than double the units currently permitted on the property. Of comparison, the adjacent 97-unit Lanier Terrace Apartments have a residential density of 15.0 du/ac. Staff believes a maximum of 40 dwelling units (15.38 du/ac) is more compatible.

**(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?**

Surrounding properties currently utilize City water and sewer services and there is sufficient capacity to serve the development.

Existing public safety services respond to the adjacent and nearby properties. Gainesville Fire Station #1 located off Queen City Parkway is approximately 1.5 miles away. Gainesville Police currently patrols the subject property.

According to the Institute of Transportation Engineers (ITE) Trip Generation Handbook (9th Edition), the proposed 65-unit, apartment development could generate 432± new trips per weekday and 36± A.M. and 44± P.M. peak hour trips during the weekday. The existing road network appears sufficient to accommodate the proposal and it is anticipated most of the turning movements will occur at Summit Street, Jesse Jewell Parkway which is signalized and provides for full turning movements. Access on Downey Street is limited to right-in/right-out turning movements.

It is unknown at this time how many children will be living within the development to know what the impact will be on the school system. Of the proposed 65 units, there are 32 one-bedroom, 25 two-bedroom and 8 three-bedroom units.

**(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?**

The subject property is zoned for multi-family purposes and has historically been developed as such. The Comprehensive Plan anticipates the subject property to be developed for commercial purposes but is located within a Traditional Neighborhood Character Area which supports a mixture of housing types including multi-family attached and detached housing.

**(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?**

The proposed use is consistent with the Comprehensive Plan and would bring needed quality, and affordable residential development to Gainesville-Hall County. However, the residential density is much higher than the current use of the property, and adjacent residential development. The proposal, at a lower density, appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this rezoning request with **P-U-D zoning**, based on the Comprehensive Plan and the adjacent and nearby mixture of residential uses.

**Conditions**

1. The subject property shall be limited to a maximum of 40 residential units.
2. The development standards within the narrative, site plan and architectural rendering submitted with the applicant's rezoning application shall be made part of the zoning ordinance and shall be subject to the approval of the Director of the Community and Economic Development Department.
3. The owner/developer shall plant a minimum 10-foot-wide landscape buffer along Summit Street, Jesse Jewell Parkway and Downey Boulevard. The location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.
4. The owner/developer shall construct an internal, minimum 5-foot-wide sidewalk to connect to the existing sidewalks on Summit Street, Downey Boulevard and Jesse Jewell Parkway.
5. Any proposed dumpster shall be enclosed and screened from view from the adjoining properties, roads and parking areas.
6. All access point design for the subject property shall require review and approval by the Gainesville Public Works Department Director. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner.
7. An updated as-built survey/plat of the subject property, indicating all improvements shall be recorded prior to obtaining a Certificate of Occupancy for the use.



# GAINESVILLE

NGPG Radiation Oncology

Wisteria Building (PUD)

Laurelwood

O-I

G-B

L-I

Wee Willy's

NGHS Wellness Department

JESSE JEWELL PARKWAY

OSBORNE STREET

SPRING STREET

G-B

R-II

Lanier Terrace Apartments

DOWNEY BOULEVARD

WALL STREET

FAIR STREET

R-II

BOONE STREET

N-C

SUMMIT STREET

POSITIVE PLACE

Fair Street IB World School

Boys & Girls Club of Lanier

MYRTLE STREET

**Applicant:**  
**GAINESVILLE HOUSING AUTHORITY**

**REZONING REQUEST**

**Request:**  
 Rezone +/- 2.60 AC currently zoned Residential-II (R-II) to Planned Unit Development (PUD) for multi-family housing.

**Subject Property Address:**  
 1120 Jesse Jewell Parkway, SE

**Tax Parcel:**  
 01-035-002-004

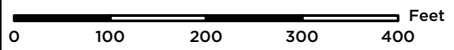


Subject Property



**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025



Scale: 1" = 200'



# GAINESVILLE

NGPG Radiation Oncology

Wisteria Building

Laurelwood

Wee Willy's

NGHS Wellness Department

JESSE JEWELL PARKWAY

WISTERIA DRIVE

DOWNEY BOULEVARD

OSBORNE STREET

SPRING STREET

Lanier Terrace Apartments

WALL STREET

FAIR STREET

SUMMIT STREET

POSITIVE PLACE

Boys & Girls Club of Lanier

BOONE STREET

CENTER STREET

Fair Street IB World School

MYRTLE STREET

**Applicant:**  
**GAINESVILLE HOUSING AUTHORITY**

**REZONING REQUEST**

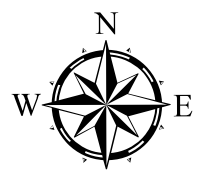
**Request:**  
 Rezone +/- 2.60 AC currently zoned Residential-II (R-II) to Planned Unit Development (PUD) for multi-family housing.

**Subject Property Address:**  
 1120 Jesse Jewell Parkway, SE

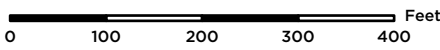
**Tax Parcel:**  
 01-035-002-004

 Subject Property

Aerial from 2023



**Meeting Date:** 04/08/2025      **Map Prepared:** 03/10/2025



Scale: 1" = 200'      Page 17 of 129

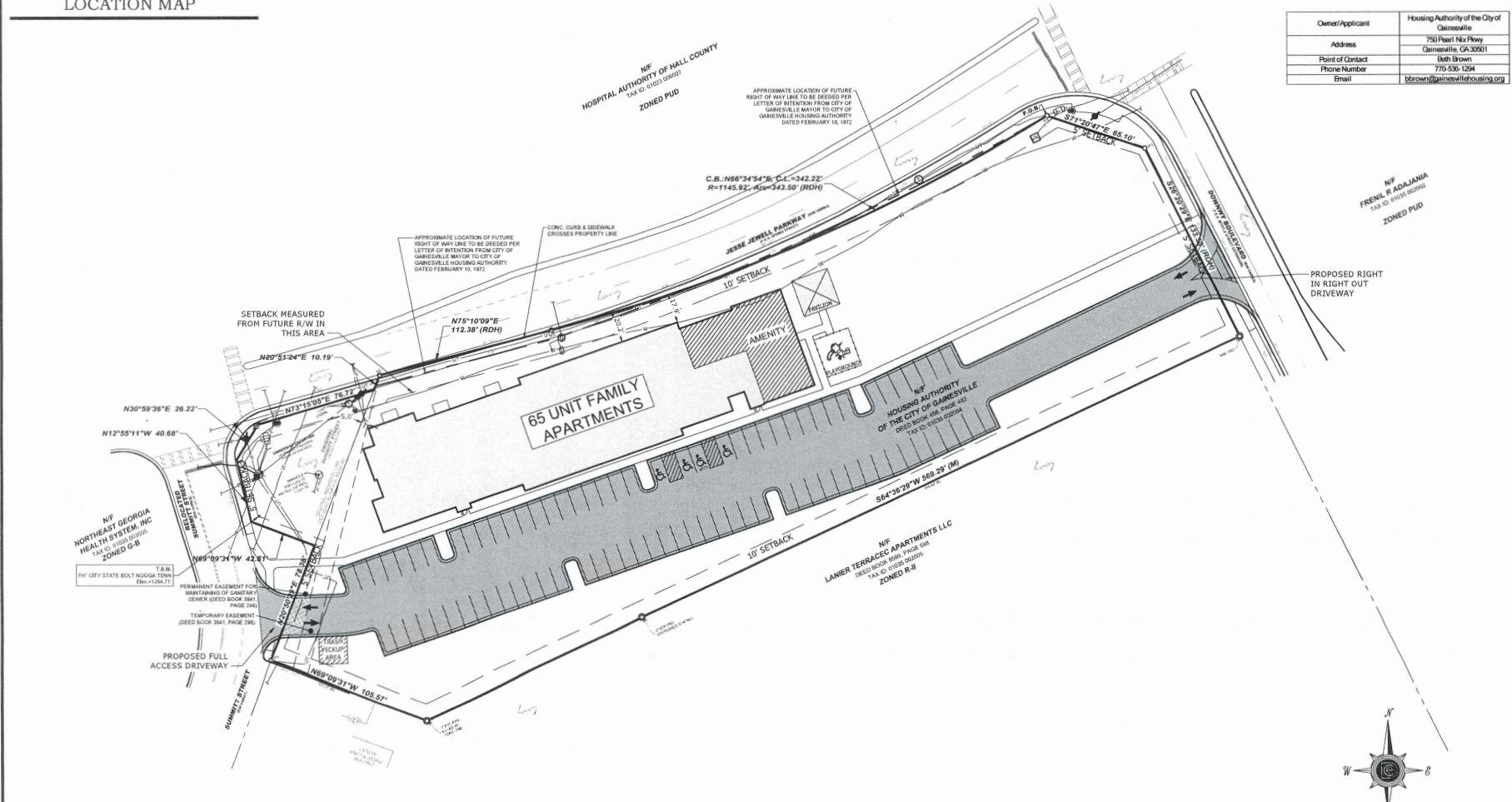




LOCATION MAP

Site Data:	
Current Zoning	R-11
Proposed Zoning	PUD
Overlay Zones	Gateway Corridor Overlay Zone Airport Overlay Zone Fair Street IFU
Site Area (total both phases)	2.57
Existing Use	Multi-Family Apartments
Proposed Use:	Multi-Family Apartments
Maximum # of Units	65
Minimum Parking Ratio	1.0 per unit
Maximum # of Building Stories	5
Proposed Building Setbacks:	
Front (Jesse Jewell Pkwy)	10 ft
Front (Summit St)	5 ft
Front (Downey Blvd)	5 ft
Rear/Side	10 ft

Owner/Applicant	Housing Authority of the City of Gainesville
Address	750 Pearl Nix Pkwy Gainesville, GA 32601
Point of Contact	Beth Brown
Phone Number	770-536-1294
Email	bbrown@gainesvillehousing.org



- NOTES:
- BOUNDARY AND EXISTING IMPROVEMENTS SHOWN PER SURVEY BY TRAVIS PRUITT & ASSOCIATES, INC. DATED 1-21-25.
  - SOURCE OF DOMESTIC WATER SUPPLY: CITY OF GAINESVILLE.
  - SOURCE OF SANITARY SEWERAGE DISPOSAL: CITY OF GAINESVILLE.

## Zoning Site Plan

DOUGLASS R. ADAMS, CONSULTING ENGINEERS, INC.  
 Planning • civil engineering • sanitary engineering  
 100 Abbey Court, Alpharetta, Georgia 30004, phone: 770-133-8800

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### Jesse Jewell Redevelopment

Located in Land Lot 137, 9th District, City of Gainesville, Hall County, Georgia

### The Housing Authority of the City of Gainesville

750 Pearl Nix Parkway, Gainesville, GA 32601

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NO.	DATE	REVISION

SCALE: 1" = 30'  
 DATE: 1-28-25  
 JOB NO. 2024-29  
 SHEET. 1 of 1

NOT FOR CONSTRUCTION





# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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<b>Item Created:</b>	March 21, 2025
<b>Date Submitted:</b>	March 24, 2025
<b>Final Approval Date:</b>	March 24, 2025
<b>Presenter:</b>	Matt Tate, Community & Economic Development Dept Deputy Director
<b>Item of Business:</b>	Request from <b>Capstone Acquisitions, LLC</b> to vary the front yard setback requirement, frontage landscape strip requirement and minimum number of parking spaces required on a 1.475± acres tract located on the east side of White Sulphur Road, north of the intersection of White Sulphur Road and Huntington Drive (a/k/a <b>622 White Sulphur Road</b> ), having a zoning of General Business (G-B).
<b>Meeting Date:</b>	April 8, 2025

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### **Purpose of Request:**

The applicant is proposing to develop a 5-story, 99 room Residence Inn extended stay hotel that will total 76,098 square feet in size. Access is proposed from an existing internal driveway with shared access to White Sulphur Road. Parking is proposed mostly behind the proposed building and adjacent to the Southern Railroad right-of-way. Amenities within the hotel will include a pool, meeting rooms, fitness center, restaurant open for breakfast, and grab and go food. The property is located within the Limestone Corridor Overlay Zone and the adjacent uses include the Southern Railroad, Xtreme Clean Auto Spa, New Haven Church and New Holland Market. The applicant is requesting to vary the following standards:

- Front yard setback from 30 feet to 0 feet.
- Frontage landscape strip from 10 feet to 0 feet.
- Minimum number of parking spaces from 148 spaces to 100 spaces (90 onsite and 10 offsite).

In January of 2024, the applicant received special use approval for the subject property to construct a larger 6-story, 112 room, 98,178 square foot in size Residence Inn by Marriott extended-stay hotel. In addition, the following variances were approved by the Planning and Appeals Board.

- Minimum lot size requirements from 2.0 acres to 1.47 acres.
- Building height requirements from 5 stories to 6 stories.
- Maximum impervious surface area from 60% to 85%.
- Minimum number of parking spaces from 134 spaces to 115 spaces.

### **Facts & Issues / History & Background:**

### **Department Recommendation:**

Planning staff recommended approval with seven conditions. See the Staff Recommendation report for details.

**Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget? No**

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Narrative
4. Statement of Hardship
5. Site plan
6. Architectural Rendering

**GAINESVILLE PLANNING AND APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant and Property Owner**..... Capstone Acquisitions, LLC  
**Property Owner** ..... Lareve Properties, LLC  
**Location**..... 622 White Sulphur Road, NE  
**Request**..... Vary front yard setback, landscape strip,  
and parking spaces  
**Size** ..... 1.47± acres  
**Zoning**..... General Business (G-B)  
**Ward**..... Two  
**Proposed Use**..... Residence Inn extended stay hotel  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date**..... April 8, 2025

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▪ **Request**

The applicant is proposing to vary three standards within the Unified Land Development Code to construct a Residence Inn by Marriott extended stay hotel. Specifically, the variances include the following:

- Front yard setback from 30 feet to 0 feet.
- Frontage landscape strip from 10 feet to 0 feet.
- Minimum number of parking spaces from 148 spaces to 100 spaces (90 onsite and 10 offsite).

According to the applicant the extended stay hotel is intended to provide upscale lodging for area tourism. The proposed extended stay hotel is 5-stories, 99 rooms and will total 76,098± square feet in size. Access is proposed from an existing internal driveway with shared access to White Sulphur Road. Parking is proposed mostly behind the proposed building and adjacent to the Southern Railroad right-of-way. Amenities within the hotel will include a pool, meeting rooms, fitness center, restaurant open for breakfast, and grab and go food. The exterior facade of the building will consist of a mixture of brick and EFIS materials designed to meet the Limestone Parkway Overlay Zone standards. Construction is anticipated to begin within 90 days and completion within 16 months.

The property is located within the Limestone Corridor Overlay Zone and the adjacent uses include the Southern Railroad, Xtreme Clean Auto Spa, New Haven Church and New Holland Market.

▪ **Background Information and Existing Conditions**

The subject property has been graded and padded out and is part of a commercial subdivision that includes five lots of which the subject property has remained undeveloped. Most of the

property is relatively flat but eastern side slopes down toward the railroad right-of-way which is approximately 14 feet below the subject property.

In January of 2024, the applicant received special use approval for the subject property to construct a larger 6-story, 112 room, 98,178 square foot in size Residence Inn by Marriott extended-stay hotel. The following variances were approved by the Planning and Appeals Board.

- Minimum lot size requirements from 2.0 acres to 1.47 acres.
- Building height requirements from 5 stories to 6 stories.
- Maximum impervious surface area from 60% to 85%.
- Minimum number of parking spaces from 134 spaces to 115 spaces.

▪ **Significant Factors**

The Ordinance requires the applicant's claim for hardship must be based on the size or shape of the lot, its topography, or other physical characteristics inherent in the lot itself and not on the desired aesthetics. Further, the Code states that a variance shall not be granted as a convenience to the applicant or as a way to gain any advantage or interest over similarly zoned properties.

The applicant is basing the hardship on the irregular shape of the lot and the steep topography on the western side of the property which slopes down to the adjacent railroad right-of-way. In addition, the applicant states the right-of-way grassed median along White Sulphur Road is very wide (60± feet) which limits the area to build the extended stay hotel. A 14 ft drop on the back side of the property going to railroad tracks that further limits the buildable area.

▪ **Other Departmental Comments**

There are no other departmental comments for this request.

▪ **Supporting Documents**

Statement of Hardship, Concept Plan and Architectural Rendering.

▪ **Analysis**

**(1) Are there extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape or topography?**

The abnormal triangle shaped property makes the subject property difficult to develop. Except for fill dirt that has been mounded on the property, the property is relatively flat except that the eastern side of the property aggressively slopes downward 14± feet to the adjacent railroad right-of-way. The existing inter-parcel access drive located at the southern end of the property also effects where the building and parking can be located. The grass median within White Sulphur Road is 60± feet wide which would appear to help offset any negative impacts from the reduced front yard setback.

**(2) Would the application of the Unified Land Development Code to this particular piece of property create an unnecessary hardship?**

The Unified Land Development Code provides for standards that promote responsible growth that is economically sound and stable land development while providing for secure safety from fire and health dangers. The code also encourages rear parking where possible. The proposal appears to support these standards, but as presented could not be developed on the subject property without a variance.

**(3) Are there conditions that are peculiar to the property which adversely affect its reasonable uses or usability as currently zoned?**

The property is zoned General Business (G-B) which allows for office, commercial retail, restaurant, hotel and service uses. The property could be developed for the use if reduced in size, but the applicant desires to maximize the site for the development of the proposed extended stay hotel to better support the tourism industry within Gainesville and greater Hall County. Staff believes there is a need for hotel space due to its proximity to Exit 24 / I-985 and nearby regional facilities such as Northeast Georgia Medical Facility, Lake Lanier Olympic Park, Coop Athletic facility and Atlanta Botanical Garden, Gainesville.

**(4) Would relief, if granted, cause substantial detriment to the public good or impair the purposes and intent of this ordinance?**

Overall, the proposal may not cause detriment to the public good, but will be unique to the immediate area and will provide much needed quality lodging within Gainesville. The existing lot size cannot be increased based on the location of the railroad, White Sulphur Road and the adjacent commercial use. The proposed extended stay hotel is 5 stories and approximately 57 feet in height and will be setback further from the existing residential homes located just east of the railroad right-of-way. The previously proposed hotel was much closer to the railroad right-of-way and was 6 stories and 75 feet height.

A stormwater management plan including sedimentation control, stormwater detention, run-off reduction and water quality measures will be required to address the additional proposed impervious surface areas.

**(5) There must be a proved hardship by showing beyond a doubt the inability to make a reasonable use of the land if the zoning ordinance were applied literally.**

The unusual shape of the property, sloping topography on the eastern edge of the property and the width of White Sulphur Road right-of-way appear to limit how the property can be developed. The proposed location of the building is also influenced by the location of the inter-parcel access drive on the adjacent commercial property. The applicant's concept plan maximizes the developable area by building vertical and locating the structure directly adjacent to the railroad right-of-way.

**(6) The hardship cannot be self-created; e.g., as in a case where the lot was purchased with the knowledge of an existing restriction.**

The property was previously graded prior to the applicant owning the property. During the design process the applicant has encountered unanticipated challenges to meet the standards required from Marriott while adhering to the requirements of the Unified Land Development Code.

▪ **Staff Recommendation**

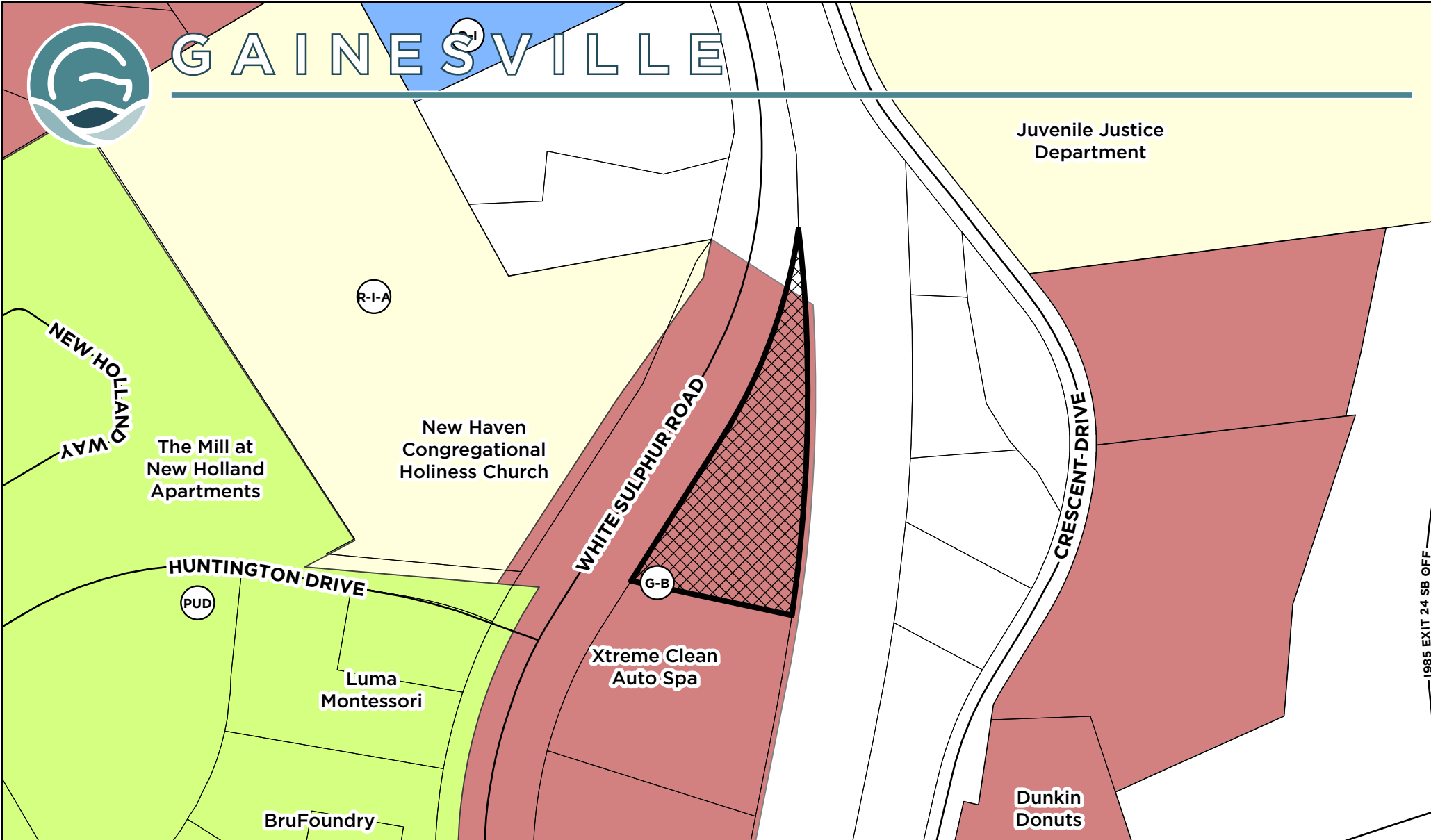
The Planning Division staff is recommending **conditional approval** of this variance request based on the shape of the property, adjacent railroad right-of-way and width of White Sulphur Road.

**Conditions**

1. The proposed use approval shall be limited to the operation of a Residence Inn by Marriott extended stay hotel. No other use on the subject property for “Extended Stay Lodging Services,” as that term is defined in Section 9-10-6-16 of the Gainesville Unified Land Development Code, shall be permitted.
2. The proposed development shall be generally consistent with the concept plan and architectural renderings provided with this application. The exterior wall materials shall include a mixture of brick or stone and EFIS per the approval of the Community & Economic Development Director.
3. Prohibited uses for the subject property shall include adult novelty stores, group homes, crisis centers, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, hookah lounge, tobacco or vaping stores, gas station/convenience stores, tire stores, auto parts stores, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like.
4. The frontage landscape areas and right-of-way areas along White Sulphur Road shall be sodded with grass. Additional landscaping shall be allowed within the right-of-way area subject to the approval of the Public Works Director. The landscape islands within the parking lot shall contain minimum 3-inch caliper size hardwood trees subject to the Community & Economic Development Director approval.
5. All service areas, dumpster enclosures, loading areas, ground or roof top HVAC equipment shall be screened from view from all adjacent uses and roads.
6. The subject property shall be limited to one (1) monument sign not to exceed 10-feet in height, 80 square feet of sign face area, 120 square feet of total sign structure area with internal or external lighting. Building signage shall be permitted as regulated within the Gainesville Unified Land Development Code. An electronic message board sign or electronic changeable copy sign shall not be permitted for the subject property.
7. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access / traffic / sidewalk improvements associated with the proposed development shall be at the full expense of the owner/developer.



# GAINESVILLE



**Applicant:** **CAPSTONE ACQUISITIONS, LLC**

## VARIANCE REQUEST

**Subject Property Address:**  
622 White Sulphur Road

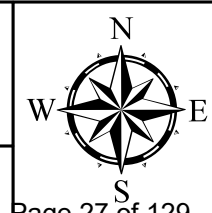
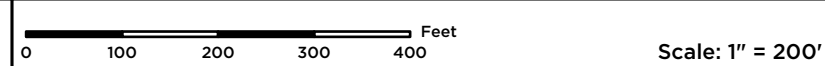
**Tax Parcel:**  
09-123-000-031

**Request:**  
Vary the front yard setback requirement, frontage landscape strip requirement and minimum number of parking spaces required on +/- 1.475 AC within General Business (G-B) zoning for an extended stay hotel.

 **Subject Property**

**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025



1985 EXIT 24 SB OFF



# GAINESVILLE



Juvenile Justice Department

NEW HOLLAND WAY

The Mill at New Holland Apartments

New Haven Congregational Holiness Church

WHITE SULPHUR ROAD

Xtreme Clean Auto Spa

Luma Montessori

BruFoundry

HUNTINGTON DRIVE

CRESCENT DRIVE

Dunkin Donuts

1985 EXIT 24 SB OFF

**Applicant:** CAPSTONE ACQUISITIONS, LLC

## VARIANCE REQUEST

**Request:** Vary the front yard setback requirement, frontage landscape strip requirement and minimum number of parking spaces required on +/- 1.475 AC within General Business (G-B) zoning for an extended stay hotel.

**Subject Property Address:**  
622 White Sulphur Road

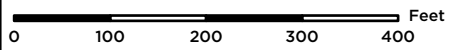
**Tax Parcel:**  
09-123-000-031

 Subject Property



**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025



Aerial from 2023

Scale: 1" = 200'

## **622 White Sulphur Road Narrative**

Capstone Acquisitions, LLC is proposing to develop a 99 room Residence Inn by Marriott extended stay hotel. The property is located just west of Exit 24 / I-985 and is walkable to the neighboring New Holland Market mixed-use development. The proposed hotel will provide upscale lodging for tourism including the Northeast Georgia Medical Center, Lake Lanier Rowing Venue, Coop Athletic Facility and other area destinations.

The proposed extended stay hotel will be 5 stories and will total approximately 76,098 square feet in size. Surface level parking will be provided and access will be from a common access driveway that currently has access on White Sulphur Road. The proposed building Amenities within the hotel will include a pool, meeting rooms, fitness center, restaurant open for breakfast, and grab and go food. The exterior facade of the building will consist of a mixture of brick and EFIS materials designed to meet the Limestone Parkway Overlay Zone standards. We anticipate beginning construction within 90 days and completion within 16 months. We respectfully ask for your approval of this special use request.

## Statement of Hardship

1. The property is an irregular shape which makes development very difficult. There is also a 14 foot drop on the back side of the property going to railroad tracks that further burdens the property for development.
2. Without the variances, the property will not accommodate a hotel. This site has great potential with walkability to restaurants and proximity to the hospital, the rowing venue and the Coop Athletic fields.
3. The size and shape of the lot and the large right of way in front makes it difficult for development.
4. Relief would not cause any damage to the public. It will serve the public good by providing upscale lodging for tourism including the Northeast Ga Medical Center, the Lake Lanier Rowing Venue and the Coop Athletic Facility under construction by the City of Gainesville.
5. We would only be able to build a very small single story motel which is not in the best interest of the city and would not be approved by Marriott.
6. The lot was developed with an unknown purpose in mind. A hotel was not considered for this site when the lot was developed.





**LIFANG**  
www.lifang-cg.com  
works still in progress



# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 24, 2025  
**Final Approval Date:** March 24, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Request from **Brown Haven Homes** to vary the stream buffer requirement on a 1.35± acres tract located on the west side of Chattahoochee Trace, north of Laurel Springs Drive (a/k/a **3089 Chattahoochee Trace, NW**), having a zoning classification of Residential-I-A (R-I-A).  
**Meeting Date:** April 8, 2025

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**Purpose of Request:**

The applicant is requesting to vary the stream buffer standards in order to construct a 1.5 story home consisting of 2,053 square feet of heated floor space and an attached two-car garage. The property is heavily wooded, steeply sloped and contains two creeks that intersect on the property. The adjacent and nearby uses include single-family homes and undeveloped property.

The proposed variance includes approximately 682± square feet of disturbed area, including a small portion of the home within the 50’ undisturbed buffer and 1,393± square feet of impervious area within the 75’ non-impervious buffer. No land disturbance or impervious area is proposed within the State 25’ undisturbed buffer except for the driveway accessing Chattahoochee Trace, which is permitted. The applicant states the stream buffer severely limits the area to construct a home and septic system.

**Facts & Issues / History & Background:**

**Department Recommendation:**

Planning staff recommended approval with two conditions. See the Staff Recommendation report for details.

**Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Mitigation narrative
4. Statement of Hardship

5. Site Plan
6. Survey
7. Architectural renderings

**GAINESVILLE PLANNING AND APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant** ..... Brown Haven Homes  
**Property Owner** ..... Donald Sam  
**Location**..... 3089 Chattahoochee Trace, NW  
**Request**..... Vary the stream buffer requirement  
**Size** ..... 1.35± acres  
**Zoning**..... Residential-I-A (R-I-A)  
**Ward**..... One  
**Proposed Use**..... Single-family home  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date**..... April 8, 2025

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▪ **Request**

The applicant is requesting to vary the stream buffer standards to construct a 1 1/2 story home consisting of 2,053 square feet of heated floor space and an attached two-car garage. The proposed variance includes approximately 682± square feet of disturbed area including a small portion of the home within the 50' undisturbed buffer and 1,393± square feet of impervious area within the 75' non-impervious buffer. No land disturbance or impervious area is proposed within the State 25' undisturbed buffer except for the driveway accessing Chattahoochee Trace which is permitted. The applicant states the stream buffer severely limits the area to construct a home and septic system.

The Gainesville Unified Land Development Code (ULDC) requires a 75-foot protection buffer to be maintained against all streams to minimize the impact of development and to maintain stream water quality. The buffer is measured horizontally from the top of the stream bank. Of the 75-foot buffer requirement, the first 25-feet of the buffer closest to the stream is a State mandated *undisturbed/non-impervious* buffer. The second 25-feet of the buffer is a local buffer that is mandated by the City of Gainesville that is to remain undisturbed and does not allow for hard surface (impervious) materials such as buildings or concrete/asphalt parking areas. The third and outermost 25-feet of the buffer is mandated by the City of Gainesville and may be minimally disturbed but must be kept free of all impervious cover.

▪ **Background Information and Existing Conditions**

The property is heavily wooded, steeply sloped and contains two creeks that intersect on the property. The adjacent and nearby uses include single-family homes and undeveloped property.

▪ **Significant Factors**

The Ordinance states the Planning and Appeals Board may grant a variance where the shape, topography or other existing physical condition prevents land development, provided such variance requires mitigation measures to offset the effects of any proposed land development on the parcel. The Code also states that a variance shall not be granted as a convenience to the applicant or as a way to gain any advantage over similarly zoned properties.

The applicant states the intersecting streams and topography on the lot severely limits the developable area. The topography and location of the stream buffers create less than 0.18+

acres of usable land for the proposed residence, parking and septic system. The property was recorded as a lot of record prior to the local stream ordinance being adopted.

- **Other Departmental Comments**

There are no other departmental comments for this request.

- **Supporting Documents**

Statement of Hardship, Site Plan, Architectural Elevation, Floor Plan

- **Analysis**

**(1) Are there extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape or topography?**

The property is heavily wooded, steeply sloped and contains two creeks that intersect on the property. The topography and buffers create less than 0.18 acres of developable area.

**(2) Would the application of the Unified Land Development Code to this particular piece of property create an unnecessary hardship?**

Given the required stream buffer, more than three quarters of the property would be deemed unbuildable. The location of the stream requires the proposed structure to be shifted to the rear of the property while locating a portion of the proposed single-family home within the local 50' and 75' stream buffer.

**(3) Are there conditions that are peculiar to the property which adversely affect its reasonable uses or usability as currently zoned?**

The location of the streams in relation to the slope of the property appears to limit the full development potential under the property's current zoning. A zoning of R-I-A allows for a maximum of 50% impervious coverage area of the lot and a maximum building coverage area of 25%. The applicant proposes a maximum impervious area of 11.5% and a maximum building coverage area of 5.2% which are well below what is currently permitted.

**(4) Would relief, if granted, cause substantial detriment to the public good or impair the purposes and intent of this ordinance?**

The purpose of the stream buffer ordinance is to protect the public health, safety, environment and general welfare; minimize public and private losses due to erosion, siltation and water pollution; maintain stream water quality; and minimize development within buffer areas by establishing buffer zone requirements and by requiring authorization for any such activities.

The proposed development requires a building permit to be pulled. During the permitting process all erosion control will be reviewed and inspected for compliance. Appropriate soil and erosion measures are vital toward the protection of the nearby streams. Best Management Practices (BMP) will be required for all land-disturbing activities, as well as their proper design, installation and maintenance. Sediment run-off must be trapped using debris basins, sediment basins, silt fences, silt traps or similar measures until the disturbed area is stabilized with permanent vegetation. Post construction, all disturbed surfaces will be replanted with natural vegetation and coverings.

If relief were granted, the proposal should not cause substantial detriment to the public good or impair the purposes and intent of this ordinance upon an effective stormwater management plan being approved for the proposed development.

**(5) There must be a proved hardship by showing beyond a doubt the inability to make reasonable use of the land if the zoning ordinance were applied literally.**

The lot is severely impacted by the intersecting streams and the buffer requirements. If the stream buffer variance request were to be denied, it appears there would not be enough room for a single-family home with parking and a required septic system.

**(6) The hardship cannot be self-created, e.g., as in a case where the lot was purchased with the knowledge of an existing restriction.**

The property was recorded prior to the local stream buffer ordinance was adopted. At the time the property was created, a home could have been constructed within the 25-foot state buffer.

▪ **Staff Recommendation**

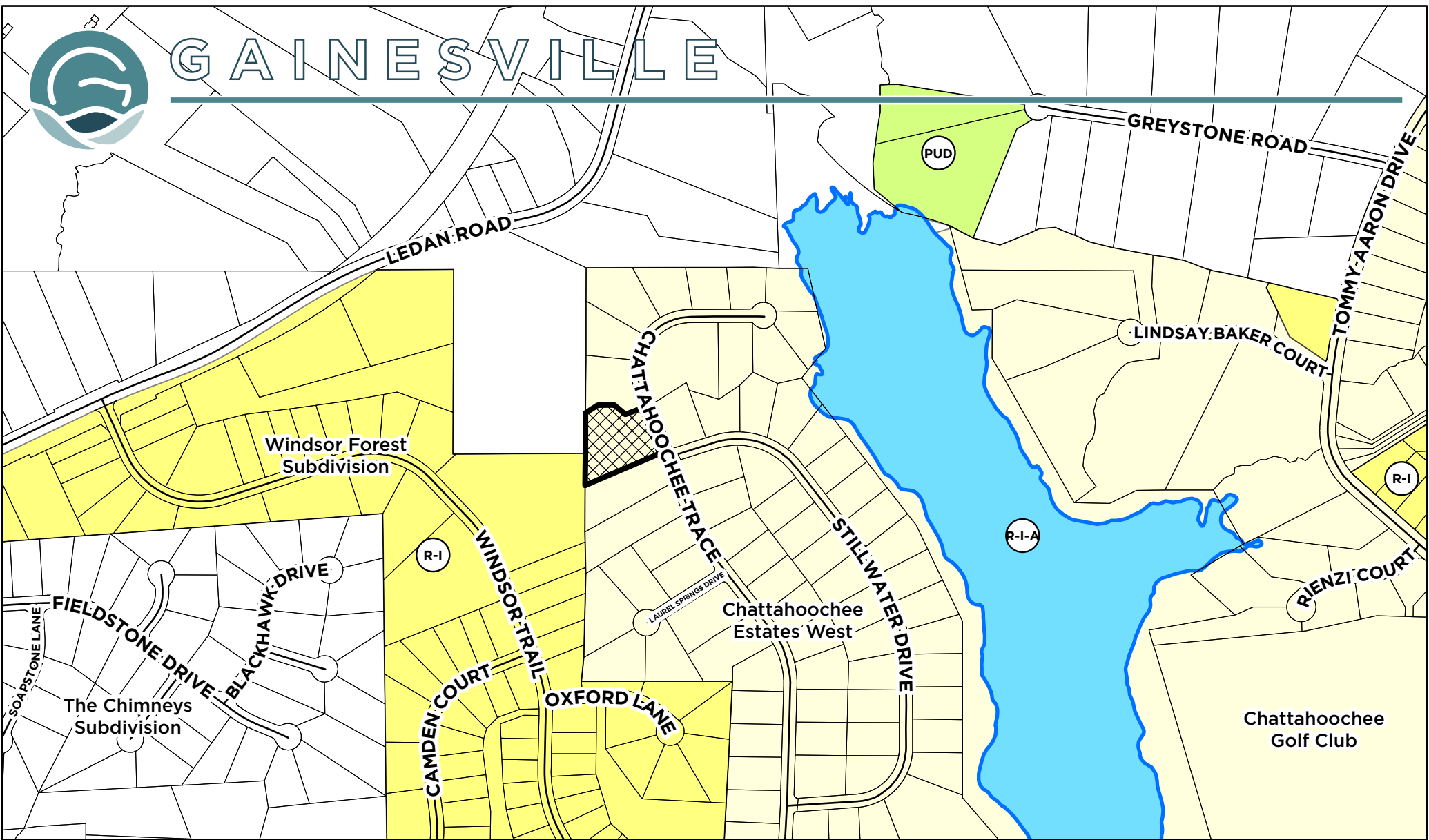
The Planning Division staff is recommending **conditional approval** of the proposed stream buffer variance request based on the topography and location of the streams within the property.

**Conditions**

- 1. The applicant shall be required to adhere to the concept plan and mitigation standards as proposed by the applicant.**
- 2. Prior to a permit being issued, all proposed soil and erosion measures must be reviewed and approved by the Gainesville Community and Economic Development Department and the Gainesville Department of Water Resources.**



# GAINESVILLE



**Applicant:** **BROWN HAVEN HOMES**

**Request:** Vary the stream buffer requirement on +/- 1.35 AC within Residential-I-A (R-I-A) zoning for a single family home.

## VARIANCE REQUEST

**Subject Property Address:**  
3089 Chattahoochee Trace, NW

**Tax Parcel:**  
01-107-001-043

 **Subject Property**



**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025

 **Feet**  
0 300 500 800 1,000

**Scale:** 1" = 500'



# GAINESVILLE



**Applicant:**  
**BROWN HAVEN HOMES**

**VARIANCE REQUEST**

**Request:**  
 Vary the stream buffer requirement on +/- 1.35 AC within Residential-I-A (R-I-A) zoning for a single family home.

**Subject Property Address:**  
 3089 Chattahoochee Trace, NW

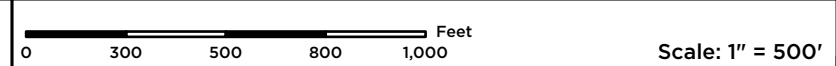
**Tax Parcel:**  
 01-107-001-043

 Subject Property

Aerial from 2023



**Meeting Date:** 04/08/2025      **Map Prepared:** 03/10/2025



Mitigation measures that will be taken per Statement of Hardship question #7.

Property: 3089 Chattahoochee Trace , NW Gainesville, Ga 30506 / Donald Sam

Mitigation measures for the proposed project will include double rows of type sensitive silt fence. Additionally, an impervious setback swap and undisturbed buffer swap is proposed to provide an offset of square footage being encroachment upon in each instance. Grading and land disturbance will be practiced to the minimum extent possible with special regards to creeks onsite.

Thank you,  
**Nick Pesola, Project Manager**

**\*\*For Stream Protection Buffer Variance Request Only\*\***

**STREAM PROTECTION VARIANCE BUFFER CRITERIA  
(Sec. 9-16-3-7)**

**STATEMENT OF HARDSHIP**

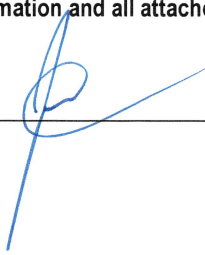
The Gainesville Planning and Appeals Board has the authority, in specific cases, to grant variances from the terms of the Unified Land Development Code of the City of Gainesville, Georgia, when the variance will not be contrary to the public interest where, owing to special conditions, a literal enforcement of the Unified Land Development Code will, in specific cases, result in unnecessary hardship and so that the resolution shall be observed, public safety and welfare secured, and substantial justice done. The authority to grant such variances shall be limited to those instances where a hardship is clearly established as required by the Unified Land Development Code. Variances may be granted only upon a finding by the Gainesville Planning and Appeals Board that:

Describe in sequence and in narrative format how each statement/question listed below relates to your application.

<p>1) Provide the locations of all streams on the property, including along property boundaries. There is a creek running the northern end of the property as well as a creek that runs the eastern side of the property running parallel to the road. The two creeks meet at a culvert running under Chattahoochee Trace.</p>
<p>2 Does the property's shape, size, topography, slope, soils, vegetation or other physical conditions existing at the time of the adoption of this chapter prevent land development unless a stream buffer protection variance is granted? Yes, the topography and buffers creates less than 0.18 acres of usable land for parking, a residence and septic.</p>
<p>3) Show the location and extent of the proposed buffer or setback intrusion. Buffer encroachments are hatched on the site plan.</p>
<p>4) Are there unusual circumstances that would create extreme hardship when there is strict adherence to the minimal buffer requirements in the ordinance? Yes, the existing buffers and setbacks onsite end up creating an unbuildable lot.</p>
<p>5) Variances are not to be considered when, following original adoption of this chapter, actions of any property owner of a given property have created conditions of a hardship on that property. Does this apply? No hardship has been created by the current or previous owner.</p>
<p>6) Are there alternative designs possible which require less intrusion or no intrusion? No achievable alternative not requiring an intrusion was created.</p>
<p>7) Are there long-term and construction water-quality impacts of the proposed variance? Explain. No significant water quality impacts anticipated in the long term. Proposed intrusions are to the minimum extent possible and mitigation measures will be taken.</p>
<p>8) Would the issuance of the variance be at least as protective of natural resources and the environment? Explain. Yes, the variance still adheres to the state waters buffer as well as largely keeps intact the 50' undisturbed buffer and 75' impervious setback.</p>

I hereby certify that the above information and all attached information is true and correct.

Signature of Applicant: \_\_\_\_\_



Date: \_\_\_\_\_

2-26-25

**PROJECT INFORMATION:**  
CURRENTLY, THIS 1.35 ACRE PROPERTY IS MAINLY WOODED WITH TWO STREAMS RUNNING THROUGH THE SITE

THE PROPOSED DEVELOPMENT WILL CONSIST OF A SINGLE FAMILY RESIDENCE WITH A DRIVE, SEPTIC, AND ANY OTHER NECESSARY IMPROVEMENTS.

PROPERTY/PARCEL INFORMATION:  
ADDRESS: 3089 CHATTAHOOCHEE TRACE, GAINESVILLE, GA 30506  
PARCEL NUMBER: 01107-001043  
JURISDICTION: CITY OF GAINESVILLE

SITE DISTURBANCE:  
TOTAL AREA= 1.35 ACRES  
DISTURBED AREA= TBD ACRES

BOUNDARY INFORMATION OBTAINED FROM A SURVEY FOR CHATTAHOOCHEE ESTATES WEST DATED 12/31/1984 COMPLETED BY FARLEY-COLLINS ASSOCIATES, (PB 100, PG 78)

CONTOUR DATA OBTAINED FROM HALL COUNTY GIS DEPARTMENT.  
CONTOUR INTERVAL: 2'

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVEGROUND MARKS FOUND. DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES.

ACCORDING TO AN INTERPRETATION OF THE FEMA NATIONAL FLOOD HAZARD LAYER, THIS PROPERTY DOES NOT LIE WITHIN A FEDERAL FLOOD HAZARD AREA PER FIRM PANEL 13139C0175G DATED 4/4/2018.

ZONING INFORMATION:  
CITY OF GAINESVILLE  
ZONING: R-1-A  
FRONT: 40'  
SIDE: 15'  
REAR: 25'

**GENERAL NOTES:**

- ALL CONSTRUCTION WORK, MATERIALS, AND IMPROVEMENTS AT THIS SITE SHALL CONFORM WITH CITY OF GAINESVILLE, GEORGIA REQUIREMENTS.
- ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODES HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND AMENDED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS. CONTRACTORS SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- ALL CONSTRUCTION STAKING ON THIS SITE SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A GEORGIA REGISTERED LAND SURVEYOR.
- MATTERS OF RECORD NOT SHOWN HEREON ARE EXCEPTED.
- THE UTILITIES AND STRUCTURES AS SHOWN ON THIS PLAN WERE FOUND PER ABOVE GROUND EXAMINATION OF THIS SITE, BASED ON VISIBLE INDICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION ON THIS PROJECT.
- IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL UTILITIES ARE AS NOTED IN THE PLANS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- TOILET FACILITIES SHALL BE MADE AVAILABLE TO CONSTRUCTION WORKERS WITHIN 300' OF SITE.
- NO MATERIAL CAN BE BURIED ON SITE WITHOUT THE APPROVAL OF THE OWNER AND GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER.
- CONTRACTOR IS TO REMOVE ALL ROCK, TOPSOIL, AND UNSUITABLE MATERIALS.
- MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
- THIS SITE DOES NOT CONTAIN WETLANDS.
- THIS SITE DOES HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS.
- EXISTING FEATURES SHOWN BY DASHED LINES OR SHADED. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
- CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
- ALL HDPE PIPE TO CONFORM TO PIPE MANUFACTURER REQUIREMENTS AND GEOTECHNICAL RECOMMENDATIONS.
- CONTRACTOR SHALL COORDINATE BUILDING CONSTRUCTION WITH ARCHITECTURAL PLANS (BY OTHERS).
- ALL SIGNAGE AND STRIPING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- ALL EXISTING MANHOLE COVERS, METER BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLUSH WITH FINISHED GRADE.
- ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

**SEPTIC CALCULATIONS:**

3 BEDROOM HOUSE  
PERC RATE= 45 MIN/IN  
300 SQ/FT PER BEDROOM  
900 SQ/FT / 3 FT TRENCH = 300 LF  
300 LF \* 0.65 REDUCTION= 195 LF REQUIRED  
208 LF PRIMARY PROVIDED  
300 LF BACKUP PROVIDED

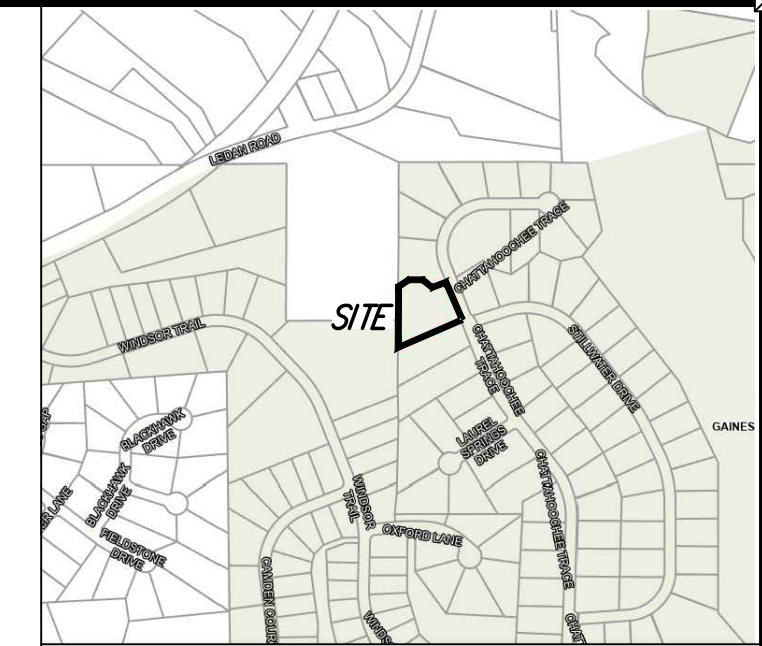
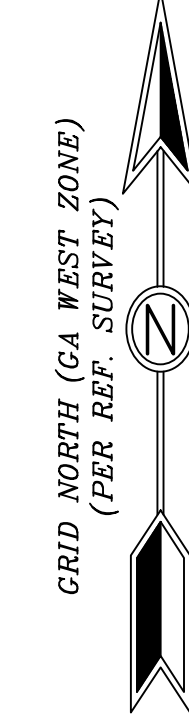
**VARIANCE REQUESTS:**

- REQUEST TO CROSS 50' UNDISTURBED BUFFER AND 75' IMPERVIOUS SETBACK AT GREATER THAN 25 DEGREE ANGLE.
- REQUEST TO ENROACH INTO THE 75' IMPERVIOUS BUFFER AS SHOWN BELOW.
- REQUEST TO PLACE SEPTIC TANKS WITHIN THE 75' IMPERVIOUS SETBACK.

**PROJECT NOTES:**

- MITIGATION MEASURES TO INCLUDE DOUBLE ROW OF TYPE-S SILT FENCE.
- BUFFER SWAP PROPOSED FOR BOTH THE 50' UNDISTURBED BUFFER AND 75' IMPERVIOUS SETBACK AS ADDITIONAL MITIGATION MEASURE.
- THE STREAM CROSSING IS EXEMPT FROM REQUIRING A STREAM BUFFER VARIANCE AS NOTED IN SEC. 9-16-3-6 (1)a.

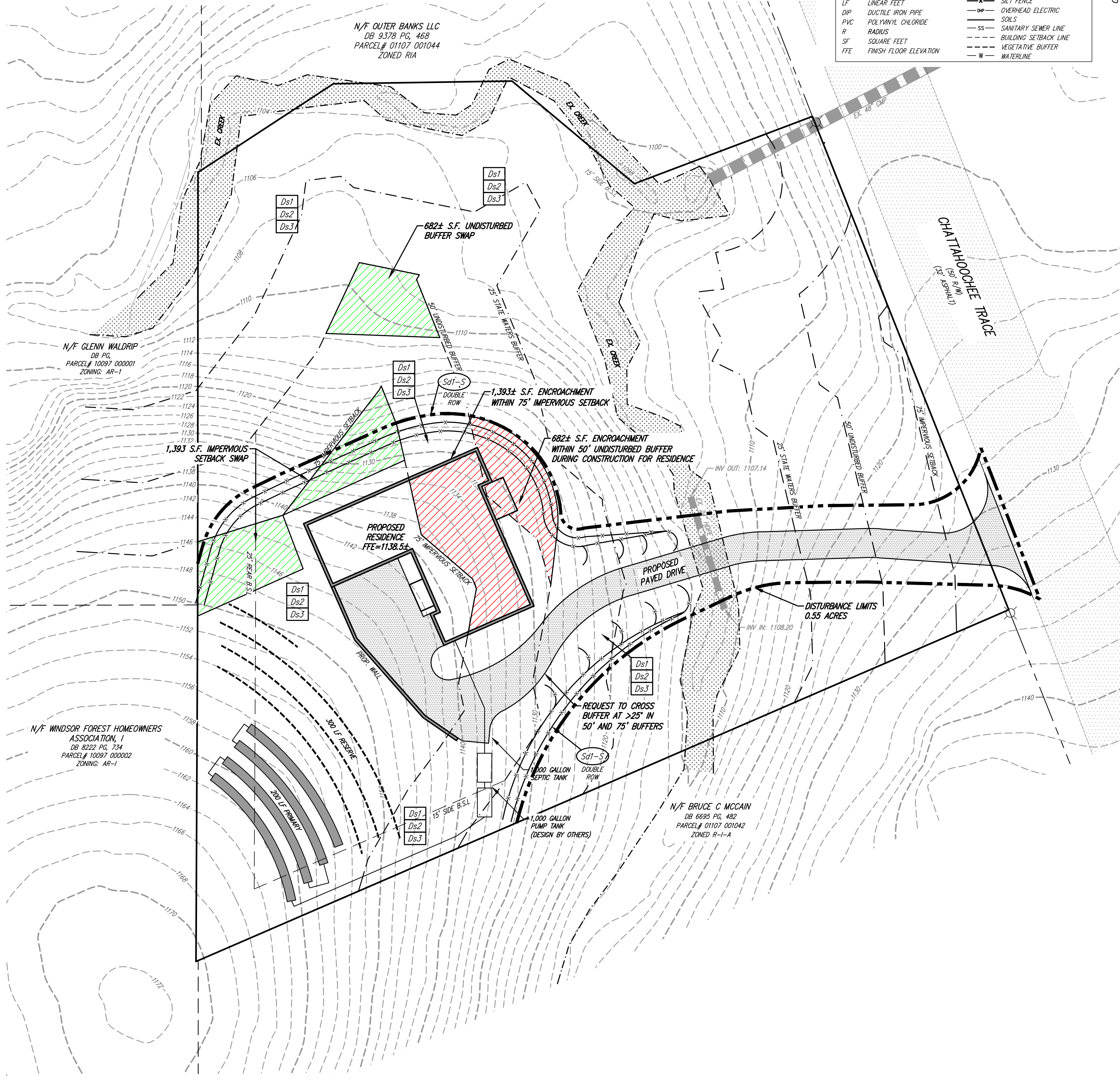
LEGEND	
○	POWER POLE (PP)
HP	HIGH POINT
DI	DROP INLET
JB	JUNCTION BOX
OCS	OUTLET CONTROL STRUCTURE
DWCB	DOUBLE WING CATCH BASIN
HW	HEADWALL
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
UGD	UNDERGROUND DETENTION
TM	TEMPORARY BENCHMARK
EX	EXISTING
PROP.	PROPOSED
FH	FIRE HYDRANT
WM	WATER METER
LF	LINEAR FEET
DIP	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE
R	RADIUS
SF	SQUARE FEET
FTE	FINISH FLOOR ELEVATION
C&G	CURB AND GUTTER
IP	IRON PIN
P/L	PROPERTY LINE
F.E.S.S.	FLARED END SAFETY SECTION
PT	POINT OF TANGENT
PC	POINT OF CURVATURE
OCS	OUTLET CONTROL STRUCTURE
ELEV.	ELEVATION
N/F	NOW OR FORMERLY
R/W	RIGHT OF WAY
LLL	LAND LOT LINE
CONC.	CONCRETE
INV	INVERT
EOP	EDGE OF PAVEMENT
TYP.	TYPICAL
-x-	FENCE
-x-	SILT FENCE
○	OVERHEAD ELECTRIC
○	SOILS
---	SANITARY SEWER LINE
---	BUILDING SETBACK LINE
---	VEGETATIVE BUFFER
---	WATERLINE



LOCATION MAP  
N.T.S.

OWNER  
DONALD SAM  
TISHA SAM  
5292 BLUE MOUNTAIN DR  
AUBURN, GA 30011

DEVELOPER  
BROWN HAVEN HOMES  
ATTN: JONATHAN WHITE  
837 GA 400 SUITE 105  
DAWSONVILLE, GA 30534  
24-HOUR CONTACT  
JONATHAN WHITE  
(706) 300-6525  
jwhite@brownhavenhomes.com



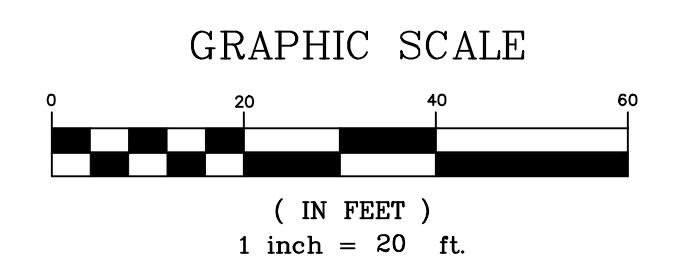
REVISION	DATE	DESCRIPTION
1	2/25/2025	STREAM BUFFER VARIANCE REQUEST

**STREAM BUFFER VARIANCE PLAN**  
BROWN HAVEN HOMES- SAM RESIDENCE  
LAND LOT 106  
10th DISTRICT  
CITY OF GAINESVILLE  
HALL COUNTY, GEORGIA

DRAWN BY:	NAP
CHECKED BY:	RD
LAND LOT:	106
DISTRICT:	10TH
SECTION:	-
CITY:	GAINESVILLE
COUNTY:	HALL
DATE:	2/25/2025



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



SHEET NO.  
1 of 1  
PROJECT NO.  
25-024

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**PROJECT INFORMATION:**  
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THE PROPOSED DEVELOPMENT WILL CONSIST OF A SINGLE FAMILY RESIDENCE WITH A DRIVE, SEPTIC, AND ANY OTHER NECESSARY IMPROVEMENTS.

**PROPERTY/PARCEL INFORMATION:**  
ADDRESS: 3008 CHATTAHOOCHEE TRACE, GAINESVILLE, GA 30508  
PARCEL NUMBER: 0107-0010A  
JURISDICTION: CITY OF GAINESVILLE

**SITE DISTURBANCE:**  
TOTAL AREA= 1.35 ACRES  
DISTURBED AREA= 120 ACRES

BOUNDARY INFORMATION OBTAINED FROM A SURVEY FOR CHATTAHOOCHEE ESTATES  
NEEDS BEST AVAILABLE COMPILED BY FARLEY-COLLINS ASSOCIATES, (PB 100, PG 78)

CONTOUR DATA OBTAINED FROM HALL COUNTY GIS DEPARTMENT.  
CONTOUR INTERVAL: 2'

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVEGROUND MARKS  
FOUNDED, DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE  
LOCATION OF UNDERGROUND UTILITIES.

ACCORDING TO AN INTERPRETATION OF THE FEMA NATIONAL FLOOD HAZARD LAYER, THIS  
PROPERTY DOES NOT LIE WITHIN A FEDERAL FLOOD HAZARD AREA PER FIRM PANEL  
1318300175G DATED 4/4/2010.

**ZONING INFORMATION:**  
CITY OF GAINESVILLE  
ZONING: R-1-A  
FRONT: 40'  
SIDE: 15'  
REAR: 25'

- GENERAL NOTES:**
1. ALL CONSTRUCTION WORK, MATERIALS, AND IMPROVEMENTS AT THIS SITE SHALL CONFORM WITH CITY OF GAINESVILLE, GEORGIA REQUIREMENTS.
  2. ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODES HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND APPROVED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS.
  3. CONTRACTORS SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
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  6. THE UTILITIES AND STRUCTURES AS SHOWN ON THIS PLAN WERE FOUND PER THE CONTRACTOR'S EXAMINATION OF THIS SITE, BASED ON VISUAL INDICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION ON THIS PROJECT.
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  8. TOILET FACILITIES SHALL BE MADE AVAILABLE TO CONSTRUCTION WORKERS WITHIN 300' OF SITE.
  9. NO MATERIAL CAN BE BURIED ON SITE WITHOUT THE APPROVAL OF THE OWNER AND GEOTECHNICAL ENGINEER.
  10. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER.
  11. CONTRACTOR IS TO REMOVE ALL ROCK, TOPSOIL, AND UNSUITABLE MATERIALS.
  12. MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
  13. THIS SITE DOES NOT CONTAIN WETLANDS.
  14. THIS SITE DOES HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS.
  15. EXISTING FEATURES SHOWN BY DASHED LINES OR SHADING. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
  16. CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
  17. ALL HOPE PIPE TO CONFORM TO PIPE MANUFACTURER REQUIREMENTS AND GEOTECHNICAL RECOMMENDATIONS.
  18. CONTRACTOR SHALL COORDINATE BUILDING CONSTRUCTION WITH ARCHITECTURAL PLANS (IF OTHERS).
  19. ALL SIGNAGE AND STAKING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS (LATEST EDITIONS).
  20. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
  21. ALL EXISTING MANHOLE COVERS, WELLS, BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLOUSH WITH FINISHED GRADE.
  22. ALL TEMPORARY STAKING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
  23. MUTED SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC OBSTRUCTION.

**SEPTIC CALCULATIONS:**  
2 BEDROOM HOUSE  
PERC RATE= 45 AN/IN  
300 SQ FT PER BEDROOM  
300 SQ FT / 1.5 FT TRENCH = 300 LF  
300 LF \* 0.65 REDUCTION= 195 LF REQUIRED  
200 LF PRIMARY PROVIDED  
300 LF BACKUP PROVIDED

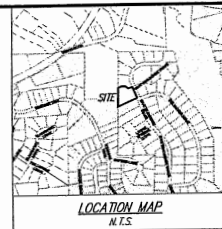
- VARIANCE REQUESTS:**
1. REQUEST TO CROSS 50' UNDISTURBED BUFFER AND 75' IMPERVIOUS SETBACK AT GREATER THAN 25 DEGREE ANGLE.
  2. REQUEST TO ENCRUMB INTO THE 75' IMPERVIOUS BUFFER AS SHOWN BELOW.
  3. REQUEST TO PLACE SEPTIC TANKS WITHIN THE 75' IMPERVIOUS SETBACK.

**PROJECT NOTES:**

1. WATERTIGHT MEASURES TO INCLUDE DOUBLE ROW OF TYPE-S SILT FENCE.
2. BUFFER SWAMP PROPOSED FOR BOTH THE 50' UNDISTURBED BUFFER AND 75' IMPERVIOUS SETBACK AS ADDITIONAL MITIGATION MEASURE.
3. THE STREAM CROSSING IS EXEMPT FROM REQUIRING A STREAM BUFFER VARIANCE AS NOTED IN SEC. 9-16-3-4 (1)(a).

**LEGEND**

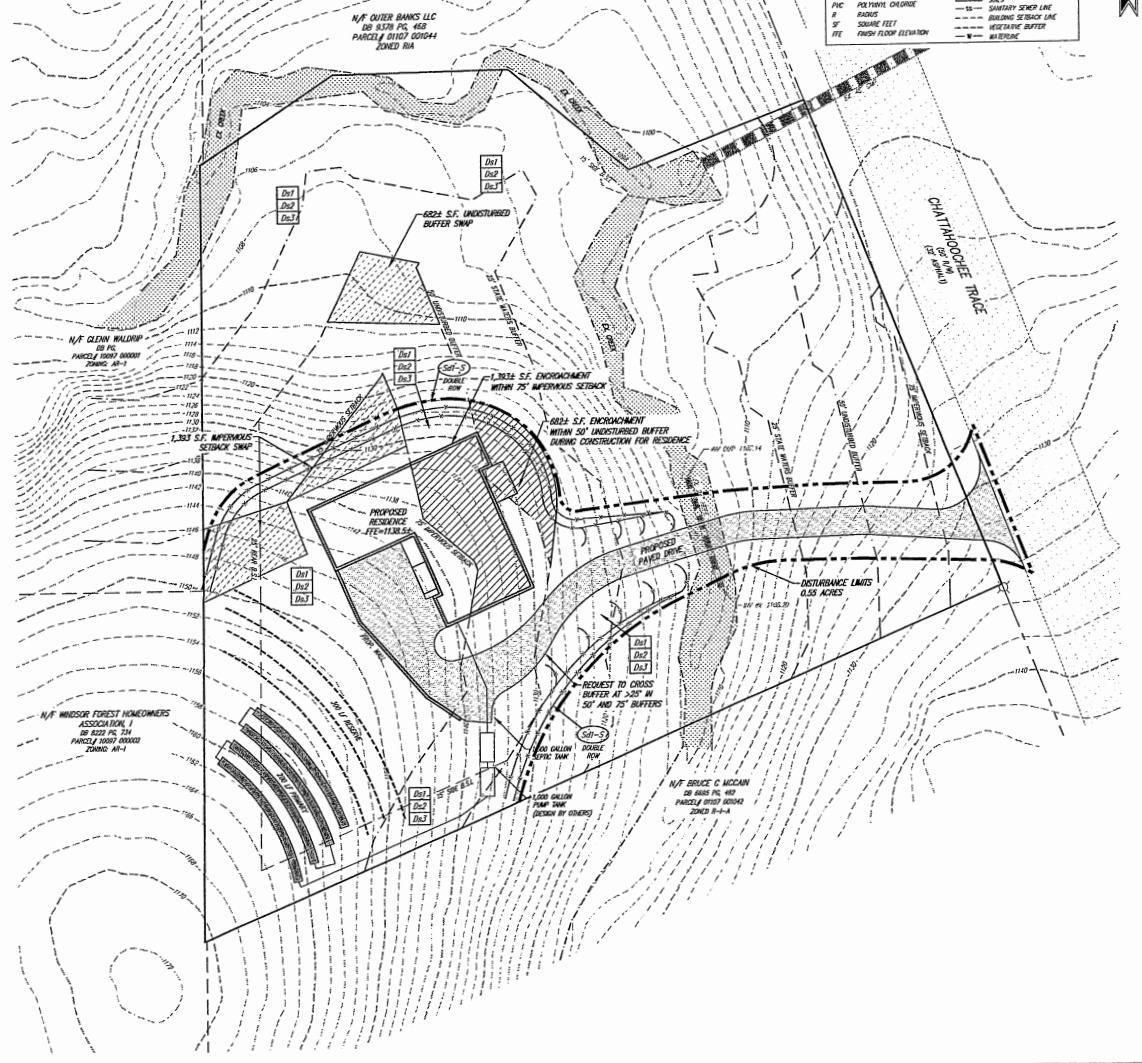
CP	POWER POLE (40')	CD	CURB AND GUTTER
HP	HIGH POINT	HW	HOUSING
JP	JUMP POINT	PA	PROPERTY LINE
JB	JUNCTION BOX	FL	FLANGE END SAFETY SECTION
CS	CABLE CONTROL STRUCTURE	F.E.S.S.	FENCE END SAFETY SECTION
DM	DOUBLE WIND CATCH BASIN	PC	POINT OF CONCERN
RF	RECEIVED CONCRETE PIPE	CC	CURB CURBING STRUCTURE
RP	RECEIVED POLYETHYLENE PIPE	ELEV	ELEVATION
CM	CORRODED METAL PIPE	N/A	NOT APPLICABLE
HW	HIGH COUNTRY PIPE REINFORCE	LL	LAND LOT LINE
UD	UNDERGROUND DRAINAGE	CONC	CONCRETE
SW	SEWAGE WELLS	RV	RAMP
EL	ELEVATION	ED	EDGE OF PAVEMENT
FR	FRONT	TR	TRUCK
IN	INLET	W	WATER
LF	LEAKY FEET	W	WATER
DP	DOUBLE END	W	WATER
PC	POLYETHYLENE PIPE	W	WATER
W	WATER	W	WATER
S	SILT FENCE	W	WATER
ST	SQUARE FEET	W	WATER
FE	FRESH FLOOR ELEVATION	W	WATER



**OWNER:**  
DONALD SAM  
TISHA SAM  
5292 BLUE MOUNTAIN DR  
AUBURN, GA 30011

**DEVELOPER:**  
BROWN HAVEN HOMES  
ATTN: JONATHAN WHITE  
837 GA 400 SUITE 105  
DAWSONVILLE, GA 30534  
(706) 300-6525

**24-HOUR CONTACT:**  
JONATHAN WHITE  
(706) 300-6525  
jwhite@brownhavenhomes.com

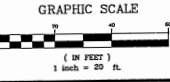


REVISION	DATE	DESCRIPTION
1	3/25/2025	STREAM BUFFER VARIANCE REQUEST

**STREAM BUFFER VARIANCE PLAN**  
BROWN HAVEN HOMES - SAM RESIDENCE  
LAND LOT 10B  
10th DISTRICT  
CITY OF GAINESVILLE  
HALL COUNTY, GEORGIA



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, OTHER THAN THE CONSTRUCTION DISTURBANCES OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATIONS UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

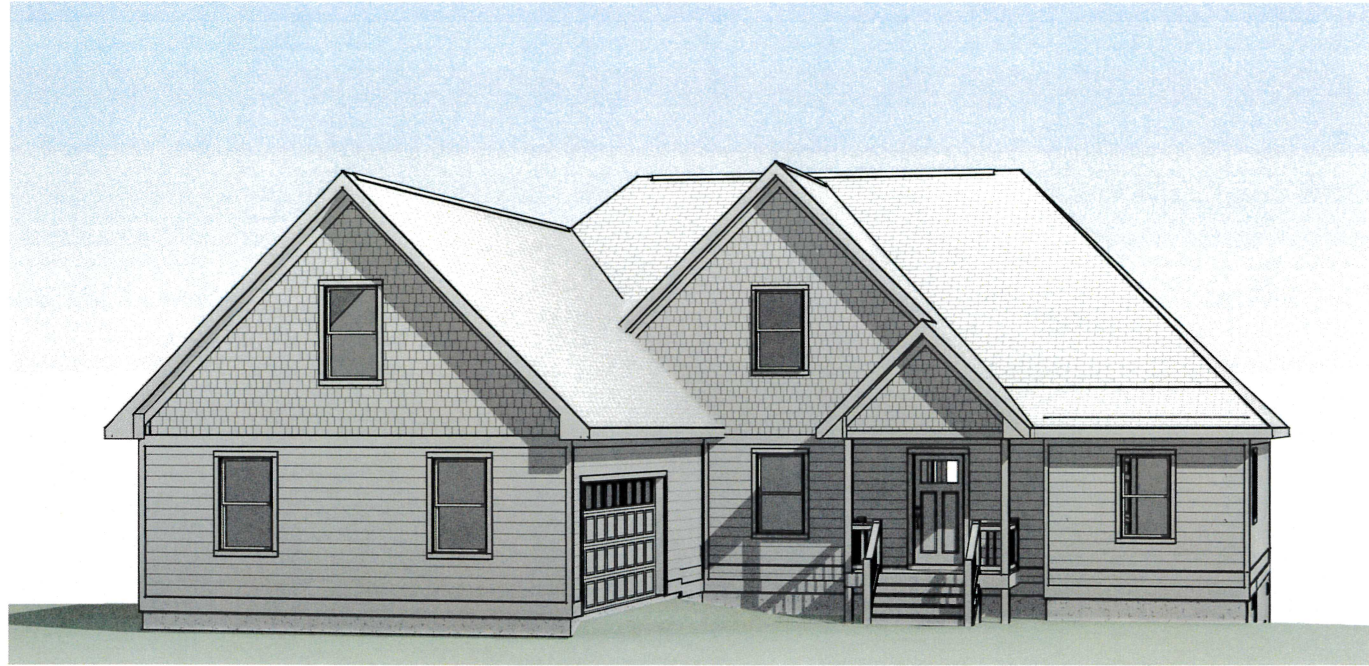


DRAWN BY: MAP  
CHECKED BY: JND  
LAND LOT: 10B  
DISTRICT: 10th  
SECTION: -  
CITY: GAINESVILLE  
COUNTY: HALL  
DATE: 3/25/2025

SHEET NO.  
1 of 1  
PROJECT NO.  
25-024

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# CEDAR CLIFF

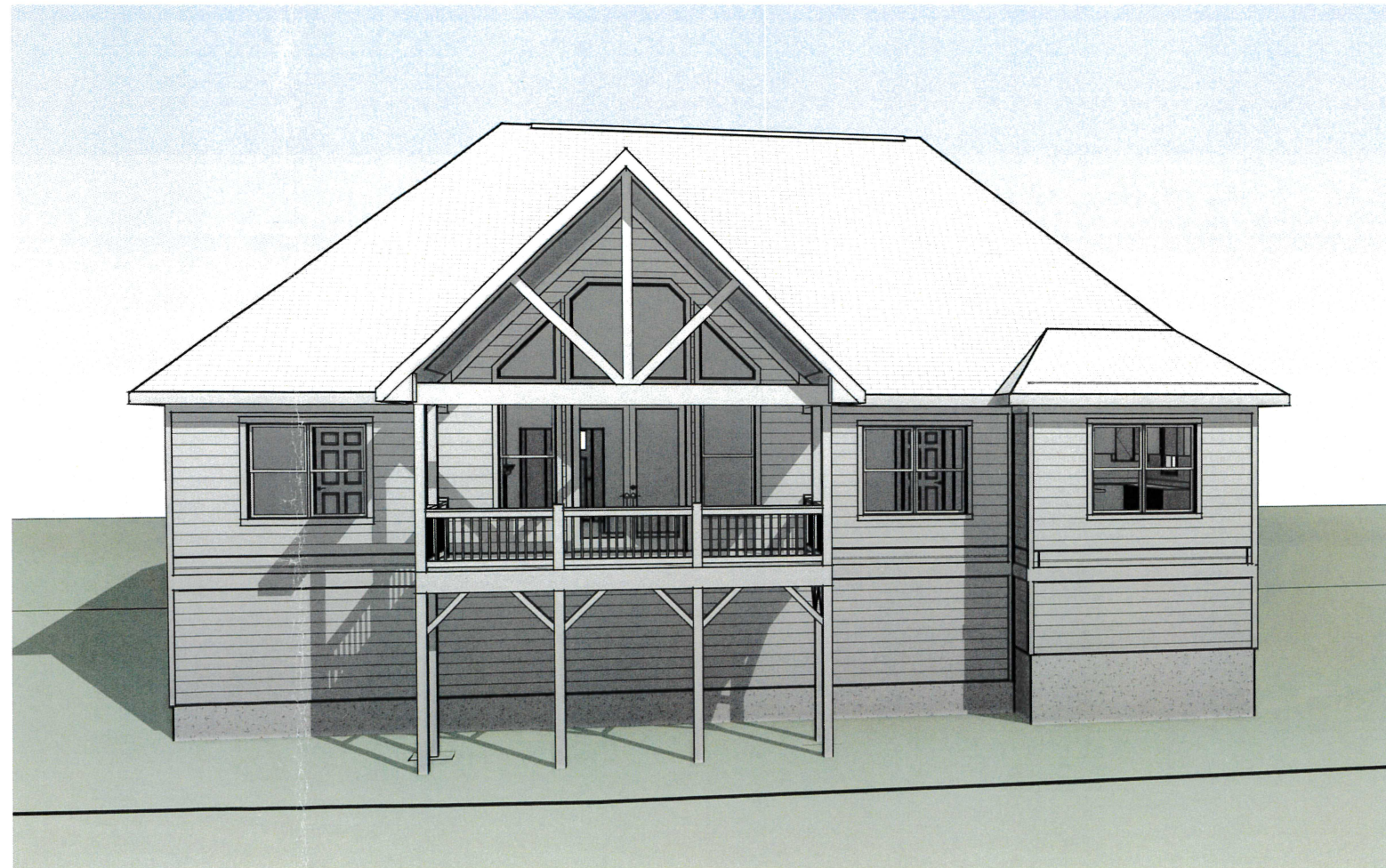


**FRONT VIEW**

HOUSE SPECS	
BEDROOMS	3
FULL BATHS	3
HALF BATHS	0
GARAGE BAYS	2

SQUARE FOOTAGES	
Area of 1st Floor	2,053 SF
Conditioned Area	2,053 SF
Area of Front Porch	50 SF
Area of Rear Vaulted Porch	197 SF
Porches & Decks	247 SF
Area of Garage	576 SF
Unconditioned Area	576 SF

SITE CONDITIONS  
MAY VARY



**REAR VIEW**

SELECTION PLANS

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102 Town Square,  
Blairsville, GA 30512  
Phone: 706-896-0891  
brownhavenhomes.com

**BrownHaven**  
H O M E S

THE RIGHT CHOICE

CEDAR CLIFF  
DONALD & TISHA SAM

CREATED:	02/10/2025
REV. DATE:	2/10/2025 3:33:52 PM
JOB NUMBER:	10360021
SELECTIONS SET:	J. DALESSIO
PRE-CON SET:	
FINAL SET:	

**01**

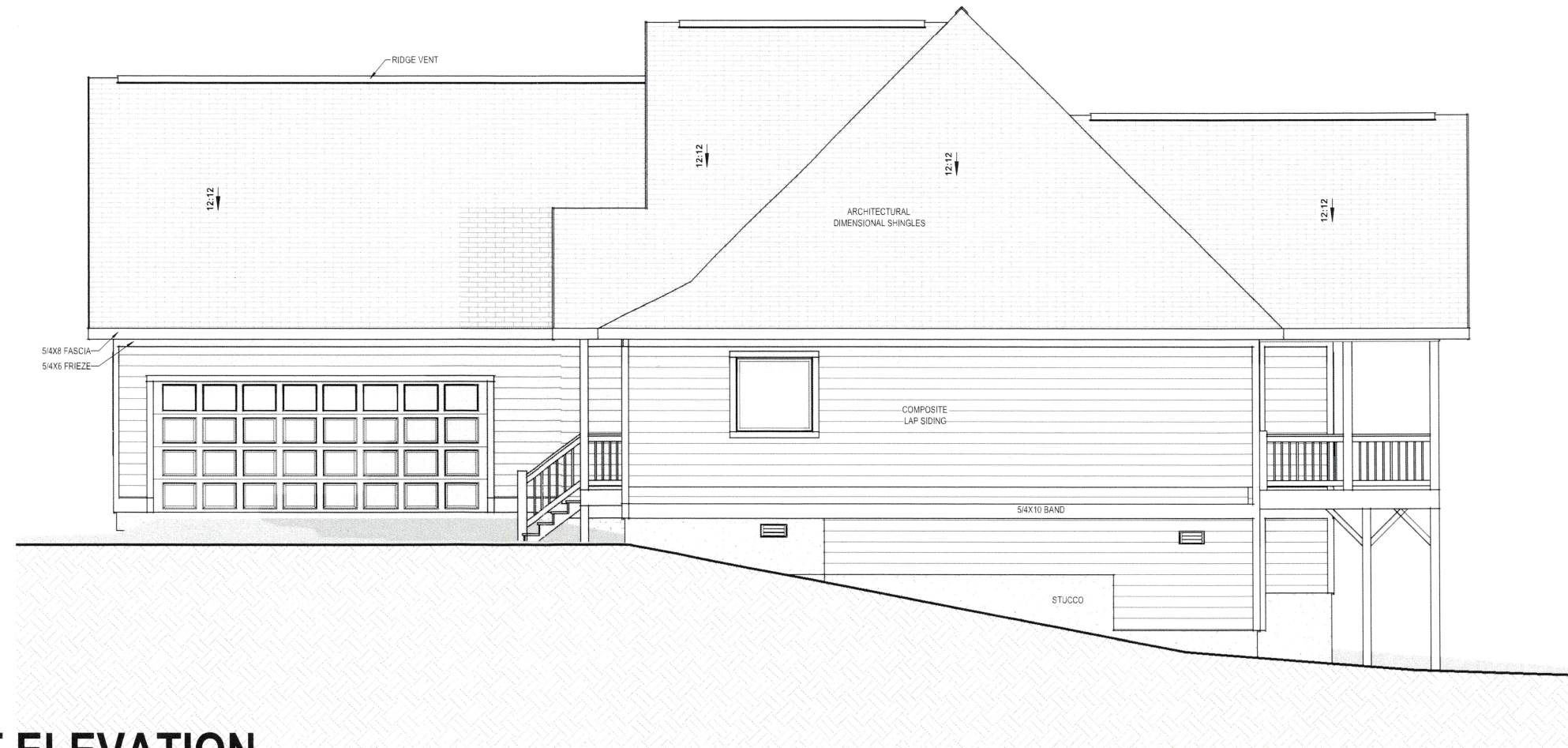
COVER SHEET

SQUARE FOOTAGES	
Area of 1st Floor	2,053 SF
Conditioned Area	2,053 SF
Area of Front Porch	50 SF
Area of Rear Vaulted Porch	197 SF
Porches & Decks	247 SF
Area of Garage	576 SF
Unconditioned Area	576 SF



## FRONT ELEVATION

SCALE: 1/8" = 1'-0"



## RIGHT ELEVATION

SCALE: 1/8" = 1'-0"

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**BrownHaven**  
 HOMES  
 THE RIGHT CHOICE

102 Town Square,  
 Blairsville, GA 30512  
 Phone: 706-896-0891  
 brownhavenhomes.com

CEDAR CLIFF  
 DONALD & TISHA SAM

CREATED: 02/10/2025  
 REV. DATE: 2/10/2025 3:33:55 PM  
 JOB NUMBER: 10350021  
 SELECTIONS SET: J. DALESSIO  
 PRE-CON SET:  
 FINAL SET:

**02**  
 FRONT & RIGHT



## REAR ELEVATION

SCALE: 1/8" = 1'-0"



## LEFT ELEVATION

SCALE: 1/8" = 1'-0"

SQUARE FOOTAGES	
Area of 1st Floor	2,053 SF
Conditioned Area	2,053 SF
Area of Front Porch	50 SF
Area of Rear Vaulted Porch	197 SF
Porches & Decks	247 SF
Area of Garage	576 SF
Unconditioned Area	576 SF

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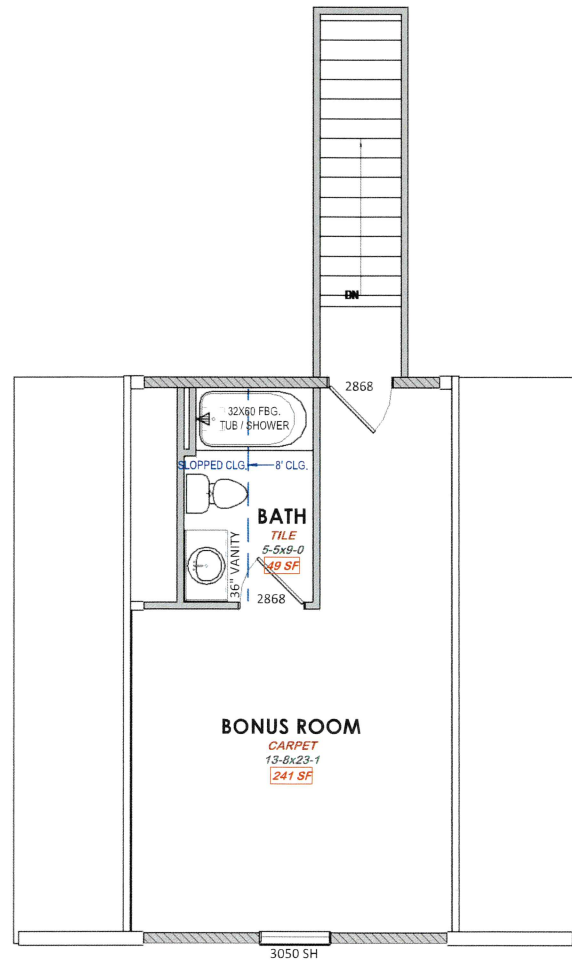
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 THE RIGHT CHOICE

CEDAR CLIFF  
 DONALD & TISHA SAM

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 PRE-CON SET:  
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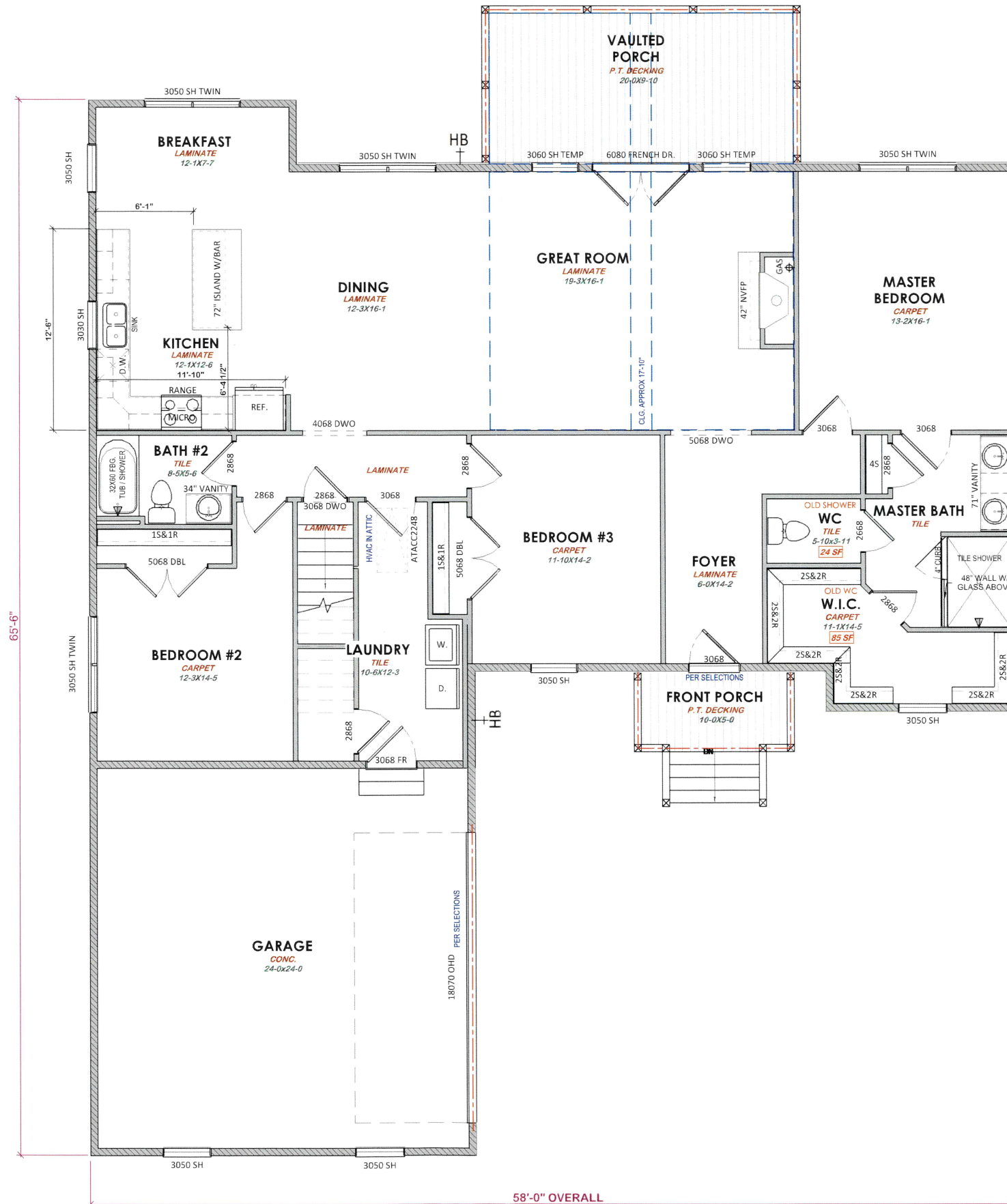
03

REAR & LEFT



# BONUS ROOM

SCALE: 1/8" = 1'-0"



# FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

SQUARE FOOTAGES	
Area of 1st Floor	2,053 SF
Conditioned Area	2,053 SF
Area of Front Porch	50 SF
Area of Rear Vaulted Porch	197 SF
Porches & Decks	247 SF
Area of Garage	576 SF
Unconditioned Area	576 SF

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JOB NUMBER:	10350021
SELECTIONS SET:	J. DALESSIO
PRE-CON SET:	
FINAL SET:	

**05**  
 MAIN LEVEL PLAN





# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 24, 2025  
**Final Approval Date:** March 24, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Request from **GWAR Gainesville Landfill, LLC** to annex a 105.076± acres tract located on the south side of the intersection of Athens Highway, Old County Dump Road and Athens Street, including all of Old County Dump Road (a/k/a **0 Athens Highway; 0, 2033 and 2045 Old County Dump Road;**) and to establish a zoning of Heavy Industrial (H-I), with a special use.  
**Meeting Date:** April 8, 2025

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### **Purpose of Request:**

The applicant known as Waste Eliminator is proposing to annex the subject property with a zoning of Heavy Industrial (H-I) with a special use for an existing construction and demolition landfill and a composting facility. The property is currently zoned Planned Industrial Development (P-I-D) in Hall County and was approved in 2012 as a construction and demolition solid waste inert landfill and composting facility. The existing facility operates Monday through Friday, from 7:00 a.m. to 4:00 p.m. with 14 full time employees. The facility also conducts operations outside of the business hours open to the public to include placing “cover” and composting. Access will remain from Old County Dump Road. Waste Eliminator is not proposing any change in operations on the property as part of this application. The request will provide the City a greater degree of oversight with respect to Waste Eliminator’s operations and an additional source of revenue, both in the form of ad valorem property taxes and the “hosting” fee now being paid to Hall County.

The city limits are contiguous to the property along portions of easterly, westerly and southerly boundary lines. Part of the property is located within the Gateway Corridor Overlay Zone and there are two streams within the property. Adjacent uses include Copart -Atlanta North auto salvage, Family Dollar, 129 Tire & Auto, Capital Material building supply and Green Box Mushrooms.

### **Facts & Issues / History & Background:**

### **Department Recommendation:**

Planning staff recommended approval with eight conditions. See the Staff Recommendation report for details.

### **Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Narrative
4. Survey
5. Odor Management Plan (Updated June 2024)
6. Design and Operation Plans

**GAINESVILLE PLANNING and APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant and Property Owner**..... GWAR Gainesville Landfill, LLC  
**Location**..... 0 Athens Highway;  
 0, 2033 and 2045 Old County Dump Road  
**Request**..... Annex with H-I zoning, with a special use  
**Total Acres** ..... 105.076± acres  
**Ward**..... Three  
**Proposed Use**..... Landfill (Construction & Demolition) and  
 composting facility  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date**..... April 8, 2025

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▪ **Applicant’s Proposal and Background Information**

The applicant is proposing to annex the subject property with a zoning of Heavy Industrial (H-I) with a special use for an existing construction & demolition landfill and composting facility. The property is currently zoned Planned Industrial Development (P-I-D) in Hall County and was approved in 2012 as a construction and demolition solid waste inert landfill and composting facility. The Property has been continuously operated since then as a Construction and Demolition Landfill and composting operation in accordance with zoning requirements established by Hall County and the EPD Permit. The existing facility operates Monday through Friday, from 7:00 a.m. to 4:00 p.m. with 14 full time employees. The facility also conducts operations outside of the business hours open to the public to include placing “cover” and composting. Approximately 90 inbound loads arrive at the facility throughout the day during normal operating hours, totaling approximately 350 tons of materials for disposal in the C&D Landfill or composting. Access will remain from Old County Dump Road. Waste Eliminator is not proposing any change in operations on the property as part of this application. The request will provide the City a greater degree of oversight with respect to Waste Eliminator’s operations and an additional source of revenue, both in the form of ad valorem property taxes and the “hosting” fee now being paid to Hall County.

The city limits are contiguous to the property along portions of easterly, westerly and southerly boundary lines. Part of the property is located within the Gateway Corridor Overlay Zone and there are two streams within the property.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Copart -Atlanta North Auto Salvage; Flores Diesel Service & Trailer Repair; Vacant Land; Family Dollar;	Planned Industrial Development (P-I-D) -County Light Industrial-1 (I-1) - County Agricultural Residential-1 (AR-1) - County General Business (G-B) - City
South	City of Gainesville Property; Gainesville 85 Business Park	Residential-I-A (R-I-A) – City Planned Unit Development (P-U-D)
East	Vacant Land; Go Pull-It Junkyard	Light Industrial (I-1) - County

West	City of Gainesville Property; BDC Gainesville, LLC; (Future Bioenergy site)	Residential-I-A (R-I-A) - City Heavy Industrial (H-I) -City
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▪ **Other Departmental Comments**

There were no departmental comments for this request.

According to the Department of Water Resources, there is adequate water and sanitary sewer capacity for the proposed use.

▪ **Zoning History**

*The following zoning actions have taken place in the immediate area during the last ten years:*

**2023-** A request from BDC Gainesville, LLC to annex a 50.711± acres tract located at 2544 Monroe Drive and 1570 Athens Highway with a zoning of Heavy Industrial (H-I) with a special use was approved with conditions for an enclosed anaerobic digestion facility (Bioenergy center).

**2020-** A request by City of Gainesville to annex 4.4± acres located at 0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway with a zoning of Planned Unit Development (P-U-D) was approved with conditions for the 85 Business Park.

**2020-** A request by City of Gainesville to rezone 1,320± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Planned Unit Development (P-U-D) was approved with conditions for the 85 Business Park.

**2019-** A request by City of Gainesville to rezone 395.69± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Heavy Industrial (H-I) was approved with conditions for future industrial uses.

**Analysis**

**(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?**

The subject property is located within a nonresidential area primarily consisting of established heavy industrial, light industrial and commercial uses. There are residential uses located within unincorporated Hall County along Athens Highway 950± feet from the existing operations. It appears the existing C & D landfill and composting facility is suitable given the adjacent industrial uses and current operations.

**(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?**

The existing construction & demolition landfill and composting facility will operate in the same manner as currently approved in Hall County and EPD. Prior to the existing landfill operations being approved in 2002, the property was a salvage yard and have been expanded since that time. The proposed annexation would not appear to adversely affect the adjacent or nearby properties. Given the number of heavy industrial uses located off Highway 129 (E. E. Butler Pkwy and Athens Hwy), odors must be properly mitigated so as to not impact the nearby businesses and residential uses. An odor management plan is currently in place for current operations and was submitted with this request. Minimum 75-foot side buffers are required on both sides of all streams and property soil erosion and water quality measures are required as well.

**(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?**

It is staff's opinion that the proposal is consistent with the Comprehensive Plan.

The Future Development Map for the City of Gainesville places the property within the *Industrial* land use category. This industrial land use category includes a wide range of office, business, light industrial, manufacturing, research and development uses; and commercial uses that directly support or are otherwise linked to the dominant business use.

According to the Character Area map for the City of Gainesville, the subject property is located within the *Economic Development Gateways* character area. This character area represents the industrial, warehousing and other commercial enterprises that parallel the I-985 and Norfolk-Southern railroad corridor. The primary vision for the area is to continue to support economic development while preserving and strengthening important natural and cultural resources. Appropriate land uses and development types include commercial, general mixed-use, industrial, limited multi-family residential, parks and recreation, public and institutional uses.

**(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?**

The property is currently zoned Planned Industrial Development (P-I-D) in Hall County and was specifically approved in 2002 as a construction and demolition landfill and compositing facility. The existing facility is also in conformance with the supplemental requirements for landfills within Section 9-10-10-2 of the Unified Land Development Code. Given the history of the property, it's highly unlikely a different use would be proposed. The property currently utilizes City water services and is contiguous to the city limits. The request will provide the City a greater degree of oversight with respect to Waste Eliminator's operations and an additional source of revenue, both in the form of ad valorem property taxes and the "hosting" fee now being paid to Hall County.

**(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?**

According to Gainesville Water Resources there is sufficient water and sewer capacity for the proposed use. A traffic Impact Study was not required for the existing use as traffic generated from the proposed use is considered minimal given that there will be only 14 employees and approximately 90 inbound truck loads a day. The Gainesville Fire and Police Departments currently respond to the adjacent and nearby property. Gainesville Fire Station #1 is located off of Queen City Parkway and is 3.0± miles from the existing Old County Dump Road. There will be no impacts to the City school system as the proposed use is nonresidential purposes.

**(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?**

It is staff's opinion the proposed use is consistent with the Comprehensive Plan. The subject property and much of the surrounding area have been planned for public and industrial uses for many years. As well, the surrounding area has experienced mostly industrial growth due to nearby Exit 22 /I-985 and the availability of water and sewer. Gainesville 85 Business Park was recently established just south and east of the subject property which has access from Fulenwider Road, Allen Creek Road, Monroe Drive and Athens Highway.

**(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?**

Based on the Comprehensive Plan and the adjacent industrial properties, the proposal with the zoning conditions recommended by staff appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare, and the right to unrestricted use of property.

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▪ **Additional Special Use Criteria**

**(1) The type of street providing access to the subject property is adequate to serve the proposed Special Use.**

Athens Highway and Old County Dump Road is a signalized intersection and is adequate to serve additional operations. Old County Dump Road is privately maintained by the applicant/owner and consists of asphalt and gravel. A 300± foot long segment of Old County Dump Road as measured from the Athens Highway intersection should be repaved and striped to further improve access.

**(2) Access into and out of the property adequately provides for traffic and pedestrian safety, the anticipated volume of traffic flow, and access by emergency vehicles.**

Vehicular access is sufficient in and out of the property based on the anticipated traffic flow. There are no sidewalks along Old County Dump Road or Athens Highway.

**(3) Public facilities such as schools, water or sewer utilities, and police or fire protection are adequate to serve the Special Use.**

The existing public facilities are adequate.

**(4) Refuse, service, parking and loading areas on the property are located and screened to protect other properties in the area from such adverse effects as noise, light, glare or odor.**

The current operations within the property are not visible from Athens Highway which is a gateway corridor. A ground and surface water monitoring plan, methane gas monitoring program and an odor management plan are in place and are required/monitored by the EPD. In addition, the EPD requires a minimum of 150 feet wide buffer between the landfill/composting operations and the property lines. The applicant currently provides for a 200-foot wide buffer which will not change.

**(5) The hours and manner of operation of the Special Use have no adverse effects on other properties in the area.**

The existing facility operates Monday through Friday, from 7:00 a.m. to 4:00 p.m. with 14 full time employees. The facility also conducts operations outside of the business hours open to the public to include placing "cover" and composting. Operational impacts will be minimized due to the natural buffers. The adjacent uses are all non-residential except for established housing located to the north across Athens Highway.

**(6) The height, size and location of the buildings or other structures proposed on the property are compatible with the height, size or location of buildings or other structures on neighboring properties.**

The property contains a small office and metal storage building on site which are not visible from Athens Highway or the boundary of the property. Any future structure such as a

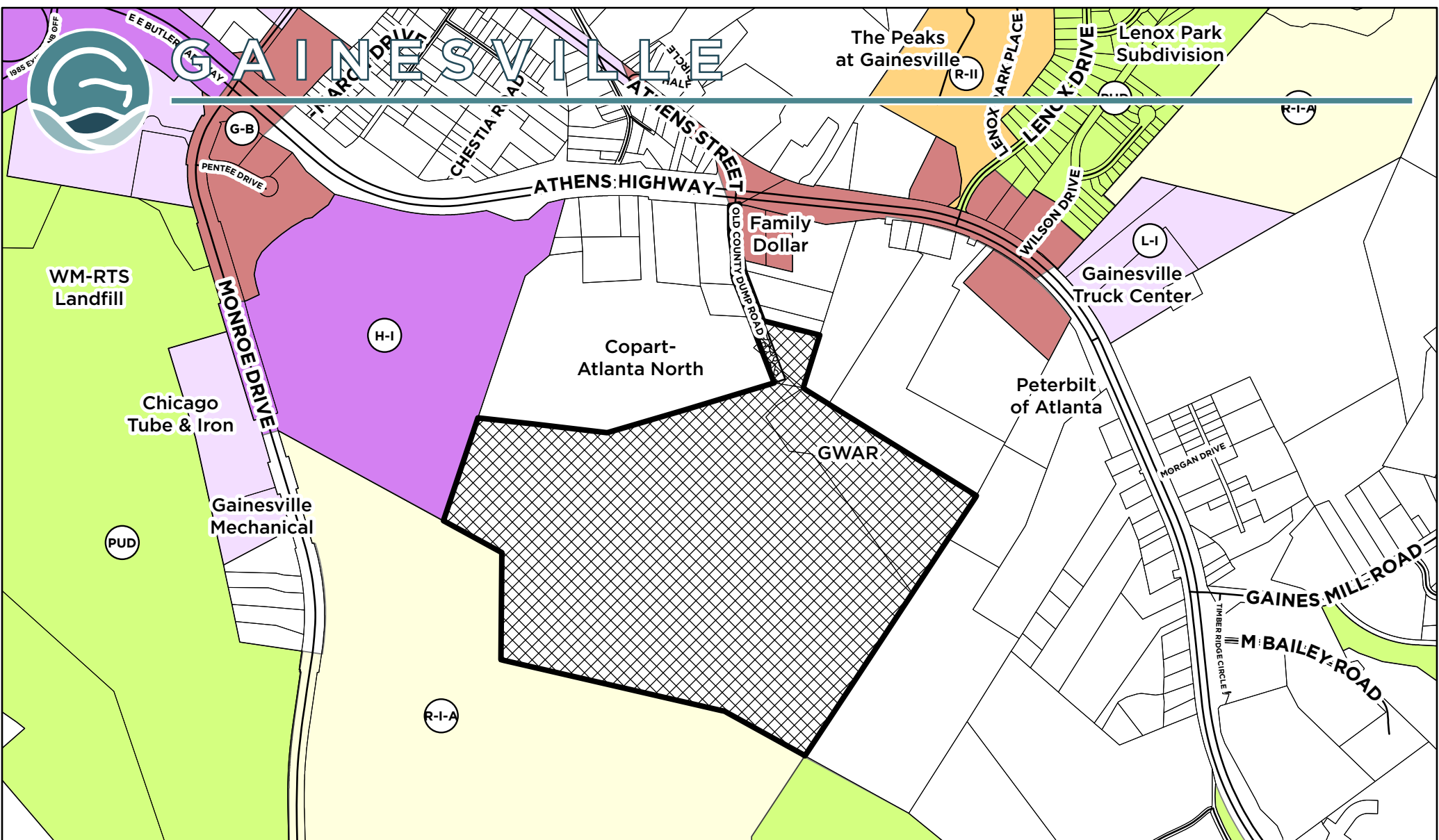
Materials Recovery Facility (MRF) would not be of a significant height so as to be visible from Athens Highway or adjacent properties.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this annexation request with Heavy Industrial (H-I) zoning with a special use based on the Comprehensive Plan, the existing use of the property and the adjacent industrial properties.

**Conditions**

1. **The development standards within the narrative and approved site plan submitted with the applicant's annexation application shall be made part of the zoning ordinance and shall be subject to the approval of the Community and Economic Development Director.**
2. **The use of the subject property shall be restricted to the Landfill (Construction & Demolition) and composting facility. A metal recycling facility is not an approved use for the property.**
3. **The size of the Landfill (Construction & Demolition) and composting facility shall be in substantial conformance with the Design and Operation Plan submitted with this annexation application.**
4. **Landfill activity height shall not exceed 100 feet above existing grade.**
5. **A detailed odor control plan and ground and surface water monitoring plan shall be required per the review and approval of the Environmental Protection Division (EPD) and the Gainesville Department of Water Resources.**
6. **A minimum 200-foot wide natural buffer shall be maintained around the perimeter of the property as depicted on the site plan in accordance with Environmental Protection Division approval.**
7. **Access to any landfill or composting facility shall be limited to Old County Dump Road.**
8. **Within one year from the annexation date, the property owner shall repave and stripe Old County Dump Road for a distance 300 linear feet as measured from the Athens Highway right-of-way, per the review and approval of the Gainesville Public Works Director.**



**Applicant:**  
**GWAR GAINESVILLE LANDFILL, LLC**

**ANNEXATION REQUEST**

**Request:**  
 Annex +/- 105.076 AC and establish zoning of Heavy Industrial (H-I) with a special use, for a C & D landfill and composting facility.

**Subject Property Address:**  
 0 Athens Highway  
 0, 2033 and 2045 Old County Dump Road

**Tax Parcel:** 15-032-000-071  
 15-032-000-038  
 15-032-000-070  
 15-032-000-081

 **Subject Property**

 **Private Road**



**Meeting Date:** 04/08/2025      **Map Prepared:** 03/04/2025

0      400      800      1,000      2,000      Feet

Scale: 1" = 800'



# GAINESVILLE

The Peaks at Gainesville

Lenox Park Subdivision

WM-RTS Landfill

Chicago Tube & Iron

Gainesville Mechanical

Family Dollar

Copart-Atlanta North

GWAR

Peterbilt of Atlanta

Gainesville Truck Center



**Applicant:**  
**GWAR GAINESVILLE LANDFILL, LLC**

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**ANNEXATION REQUEST**

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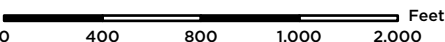
**Tax Parcel:** 15-032-000-071  
 15-032-000-038  
 15-032-000-070  
 15-032-000-081

 Subject Property & Private Road

Aerial from 2023



**Meeting Date:** 04/08/2025      **Map Prepared:** 03/04/2025

 Feet  
 Scale: 1" = 800'

Narrative in Support of Annexation (with Establishment of Zoning)  
by  
GWAR Gainesville Landfill LLC

GWAR Gainesville Landfill LLC ("Waste Eliminator") seeks to annex Hall County tax parcel nos. 15032-000081, 15032-000038, 15032-000070, and 15032-000071, as described on the attached Exhibits "A" and "B" (the "Property"), into the City of Gainesville and to establish a zoning classification therefor consistent with current Hall County zoning applicable to the Property, under which Waste Eliminator presently operates a landfill (construction and demolition) and composting facility.

The Property was historically used as the Hall County "dump" and is today surrounded by a variety of heavy industrial uses consistent with its present character and use as a construction and demolition landfill and composting operation under permit issued by the Georgia Environmental Protection Division ("EPD"). The Property is bounded on the north by an auto-salvage operation; to the west by an anaerobic bio-digestion operation; to the south and west by undeveloped property of the City of Gainesville, future use of which has been designated as industrial; and to the east by undeveloped property, the topography of which forms a natural barrier to the Property. A history of zoning actions by Hall County with respect to the Property is attached as Exhibit "C" (the "Current Zoning"). As shown by the Current Zoning, on April 24, 2003, Hall County approved the Property to be developed as a construction/demolition landfill (inert only), with mixed industrial/commercial uses, atop the former "dump" in accordance with plans to be approved by the EPD, which did in fact subsequently issue its approval of the Design and Operation Plan for the Property, a copy of which is attached as Exhibit "D" ("EPD Permit"). The Property has been continuously operated since then as a Construction and Demolition Landfill and composting operation in accordance with zoning requirements established by Hall County and the EPD Permit.

The Property is accessed via Old County Dump Road off U.S. Highway 129 (Athens Highway), and is open to the public Monday through Friday, from 7:00 a.m. to 4:00 p.m. Approximately 90 inbound loads arrive at the facility throughout the day during normal operating hours, totaling approximately 350 tons of materials for disposal in the C&D Landfill or composting. The facility has approximately 14 full time employees, who for the most part arrive in their own vehicles; the facility also conducts operations outside of the hours during which it is open to the public, to include placing "cover" and composting.

The EPD Permit requires (and all operations are conducted within) a 150-foot buffer between landfill/composting operations and the property lines. In addition, the EPD Permit contains a detailed Water Monitoring Plan for both ground and surface waters (see pages 29-30 of Exhibit "D"), a Methane Gas Monitoring Program (see page 31 of Exhibit "D"), and an Odor Minimization Plan (see page 37 of Exhibit "D"). The EPD regularly monitors Waste Eliminator's compliance with the EPD Permit – including adherence to the water monitoring, methane monitoring, and odor management plans. Waste Eliminator implemented an updated Odor Management Plan per EPD requirements last year, a copy of which is attached as Exhibit "E" ("Odor Management Plan"). In summary, the Water Monitoring Plan includes groundwater monitoring wells and sampling and chain of custody procedures (for ground and surface waters); the methane monitoring program sets forth detailed sampling methods and procedures; and the odor management plan sets forth detailed

monitoring, record-keeping (including with respect to complaints received), and prevention requirements. The specific requirements of those plans are set forth in detail in the EPD Permit and Odor Management Plans submitted with this application.

Waste Eliminator maintains its principal office in the City of Gainesville, and shows the Property is adjacent to property of the City of Gainesville. The anaerobic bio-digestion operation of BioEnergy Devco (“BDC”) on adjacent property along Monroe Drive, which received the support of the State Agriculture Commissioner, are consistent with those on the Property; indeed, Waste Eliminator’s composting activities accept outputs from BDC and are essential to BDC’s successful operations. As the City continues its eastward expansion on the Highway 129 corridor, Waste Eliminator believes it is in the long-term best interests of the City and Waste Eliminator for Waste Eliminator’s operations to be within the City’s limits. Being in the City limits will further the ability of Waste Eliminator to provide a long-term strategic solution to the City’s waste management needs, which will only increase with the City’s growth. Composting operations by Waste Eliminator on the Property are in furtherance of policy initiatives of the Georgia General Assembly, see O.C.G.A. § 12-8-21,<sup>1</sup> provides “green” solutions for much of the City’s wastes, and also provides a source of revenue for the City in the form of the “hosting” fee chargeable under O.C.G.A. § 12-8-39.

Waste Eliminator submits that the Property should be annexed under a Heavy Industrial (“H-I”) zoning classification and approved for Special Uses as both a composting facility and construction and demolition landfill on the same conditions as imposed by current County zoning and co-extensive with approvals in the EPD Permit. Under the City’s zoning code, a “Composting Facility” is defined as a “facility where compost or organic matter that is derived primarily from off-site is processed by composting and/or processed for commercial purposes. Activities of a composting facility may include management, collection, transportation, staging, composting, curing, storage, marketing, or use of compost.” The City’s zoning code also defines a “Landfill, construction and demolition” as a “disposal facility accepting waste building materials and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings, and other structures. Such wastes include, but are not limited to, asbestos containing waste, wood, bricks, metal, concrete, wall board, paper, cardboard, inert waste landfill material and other inert wastes which have a low potential for groundwater contamination.” Waste Eliminator’s present operations fall within both descriptions and are already performed adjacent to the City’s limits. Waste Eliminator is not proposing any change in operations on the Property as part of this application. The only effect of granting Waste Eliminator’s request will be to provide the City a greater degree of oversight with respect to Waste Eliminator’s operations and an additional source of revenue, both in the form of ad valorem property taxes and the “hosting” fee now being paid to Hall County.

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<sup>1</sup> It is “the policy of the State of Georgia to educate and encourage generators and handlers of solid waste [e.g., the City of Gainesville] to reduce and minimize to the greatest extent possible the amount of solid waste which requires collection, treatment, or disposal through . . . composting, recycling, and other methods . . .” O.C.G.A. § 12-8-21(b) (emphasis supplied).



**ODOR MANAGEMENT PLAN**

**1. INTRODUCTION**

This plan was prepared to provide Waste Eliminator, LLC a guide for addressing odors at the Hall County – Gainesville Waste and Recycling Construction/Demolition Landfill and Compost Facility (facility). Odors originating from the landfill and composting operations can be considered a nuisance to the surrounding community. This plan will direct facility operations on how to optimize odor management and minimize offsite odor migration. Odor management will be achieved through a combination of the following:

- Monitoring the landfill, composting facility and surrounding community for odor;
- Identifying the sources of any odor detected;
- Repairing or mitigating the source(s) of odor;
- Responding to and verifying odor complaints;
- Minimizing the potential for odor migration;
- Following best management practices for controlling odors in landfill operations; and
- Following best management practices for controlling odors in composting operations.

**2. POTENTIAL ODOR SOURCES**

**2.1 Potential sources that may generate odor at the facility**

- Working face (daily waste handling and placement);
- Areas of uncovered waste (due to soil erosion or lack of cover);
- Historical waste excavation and processing;
- Incoming compost feedstocks;
- Compost windrows;
- Compost contact water basin; and
- An odor masking system.

**2.2 Alternate sources of odor in the vicinity of the facility**

- Trucks hauling waste to and from the landfill and composting facility;
- Neighboring Industrial Operations;
- Poultry farms;
- Use of chicken litter as fertilizer on pasture land; or
- Large roadkill.

**3. ODOR MONITORING**

**3.1 General**

Early detection of odors can ensure that a potential odor problem is resolved as quickly as possible. On each working day, facility personnel will monitor onsite landfill and composting operations, and the perimeter of these onsite operations, for the presence of odors. Additionally, odor monitoring will be performed during working hours, within one (1) hour of receiving an odor complaint. If an odor complaint is received outside of working hours, odor monitoring will be performed in the promptest manner possible, but no later than three (3) hours from the time the odor complaint is received. The locations to be monitored are shown in Figure 1. The monitoring may be part of a daily routine inspection program. The odor monitoring and record keeping will be the responsibility of the Facility Manager.

During the odor monitoring, if an odor is observed, odor data will be collected at the selected monitoring locations and recorded on the Odor Monitoring Form (see example this Sheet). If an odor is detected, an olfactometer (i.e., "Nasal Ranger" or engineer approved equivalent) will be used to determine the Dilution to Threshold (D/T) value of the odor. Select individuals of the Facility staff have been trained in the proper use of the olfactometer in accordance with manufacturer's recommendations. The trained staff will identify the nature of the odor using the following odor descriptors:

- Working Face (daily waste handling and placement);
- Areas of uncovered waste (due to soil erosion or lack of cover);
- Historical Waste Excavation Processing;
- Composting Facility mixing area;
- Composting Facility windrows;
- Compost Contact Water Basin; or
- Other (e.g., odor masking system, haul trucks, chicken litter, wildlife, burning wood, etc.)

If odors are measured at a D/T value larger than 31, the source of the odors will be investigated, and short-term mitigation efforts (e.g., placing additional cover material, increased controls for odoriferous waste/feedstocks, etc.) will be taken to control the odors. If odors are measured at D/T value less than 31, the source of the odor will be investigated and long-term measures (improving daily operations, aeration of contact basin, better mixing of compost feedstocks, etc.) will be taken. These improvements will continue to be made until a D/T value of 15 or lower is measured. Currently, there is no single industry accepted minimum D/T value to determine when odors have been mitigated. However, some reports have identified a D/T value of 15 as the limit of a "nuisance" odor. Therefore, as a baseline, corrective actions will continue until a D/T value of 15 or less is measured.

**3.2 Odor Surveys at Perimeter and Community Locations**

Odor surveys will be conducted at selected monitoring locations outside the perimeter of the landfill and composting facility and within adjacent neighborhoods, as shown in Figure 2. The Facility has established these offsite monitoring locations in the neighboring community denoted by the prefix "VMP" (vicinity monitoring point). These locations are subject to change and selected based on historical records of odor complaints and the potential for an odor impact from the Facility. Monitoring locations or frequency of these surveys can be modified during the implementation of this plan if there is an increase or decrease in odor detections or verified complaints or if the location of odor complaints shifts. Monitoring of these offsite locations is discretionary and will be performed when needed, as determined by the Facility Manager.

**3.3 Odor Surveys within Landfill and Composting Facility Property**

Odor surveys will be conducted at selected monitoring locations within the landfill and composting facility property as shown on Figure 1. The Facility has established these onsite monitoring locations denoted by the prefix "OMP" (onsite monitoring point). These locations are subject to change and selected based on historical records of odor generation and the potential for an offsite odor impact. Onsite odor monitoring will be performed during working hours, within one (1) hour of receiving an odor complaint. If an odor complaint is received outside of working hours, odor monitoring will be performed in the promptest manner possible, but no later than three (3) hours from the time the odor complaint is received.

**3.4 Onsite Meteorological Data**

The Facility maintains a meteorological station onsite. The meteorological station continuously records time, wind speed, wind direction, temperature, humidity, barometric pressure, and rainfall. This weather data is used in the evaluation of potential off-site impacts from landfill and composting facility odor sources and for investigating odor complaints.

**3.5 Record Keeping**

The field inspector will record each survey including survey location, a measured D/T value (or non-detect), date, time of observation, and description of odor character (if odor is present). Meteorological data for the time of each observation will be extracted from the on-site meteorological station and will be added to the recorded information. Meteorological data will include, at a minimum: wind direction and wind speed, barometric pressure, and precipitation. For odor surveys conducted within the landfill and composting facility property, a response action, based on the detection level as described in Section 3.1, will be determined and implemented.

The odor monitoring information will be recorded on the Odor Monitoring Form (see example this Sheet) and kept with the Odor Management Plan which will be maintained on-site and be available for review upon EPA request.

**3.6 Schedule**

Routine onsite odor monitoring will be conducted each working day. Monitoring will be performed at various times of the day, ranging from early in the morning when the landfill and composting facility opens through the end of the day. In addition, onsite odor monitoring will be performed during working hours, within one (1) hour of receiving an odor complaint. If an odor complaint is received outside of working hours, odor monitoring will be performed in the promptest manner possible, but no later than three (3) hours from the time the odor complaint is received.

**3.7 Data Analysis**

Data collected from the odor monitoring and in response to odor complaints will be evaluated to determine the odor impact of the landfill and composting facility to the community. Each monitoring location will be evaluated as being upwind or downwind of the landfill and composting facility during the monitoring. Frequency and strength of odor detection will be evaluated. This data will be used to mitigate possible odor sources and to determine if any changes are necessary to this plan.

Data analysis will be performed on a semi-annual basis. Within 60 days of the end of the first and second half of the calendar year, the Facility Manager will review the data to determine the average D/T value measured in response to odor complaints. If it is noted that the average D/T values measured in response to the odor complaints is lower than 31, then the plan will be modified to adjust the "threshold" value to the measured average.

**4. ODOR COMPLAINT RESPONSE**

If the Facility receives an odor complaint, facility personnel will:

- Conduct follow up odor monitoring at the onsite monitoring location closest to the location of the complaint;
- Conduct follow up odor monitoring at the location of the odor complaint; and
- Document the complaint with the "Complaint/ Response Form" (see example this Sheet)

The follow up odor monitoring will be performed during working hours, within one (1) hour of receiving an odor complaint. If an odor complaint is received outside of working hours, odor monitoring will be performed at the beginning of the next working day.

**4.1 Record Keeping**

If an odor complaint is received, a follow up odor verification will be conducted at the location of the complaint at the earliest availability of the field inspector. The "Complaint/ Response Form" will be completed (see example this Sheet) to document the complaint. The form includes a description of the complaint, time of the complaint and local meteorological data at the time of the complaint. Odor measurements conducted during the follow up odor survey will be recorded on the form as well. For each Complaint Form completed, provide a copy (emailed PDF) to the following distribution list:

- Chief Operating Officer
- Facility Manager

If the odor complaint is submitted to EPA directly by the complainant, then the EPA Solid Waste Program and the EPA NE District Office will be added to the distribution list. The odor monitoring and complaint response records will also be maintained on-site in the facility's Operating Record and made available for review upon EPA request.

**4.2 Response Actions to Odor Complaints**

To determine if a detected off-site odor is originating from the Facility, the following screening criteria will be utilized:

- Was the location of the complaint downwind of the landfill and composting facility at the time of the complaint?
- Were odors detected during the onsite follow up odor monitoring?
- Are there other sources that could be causing the odor (neighboring chicken farms, agricultural activities, industrial operations, etc.)?
- Are similar odors detected upwind of the landfill and composting facility?

If answers to the above questions indicate that the odor is confirmed and the landfill and/or composting operations are the likely source of the odor, the facility will inspect the landfill and composting operations for possible odor sources. Actions implemented to address the odor problem will depend on the source of the odor. Appropriate odor control actions may include, but are not limited to, the following:

- Placement of additional cover material;
- Interim cover and slope repair;
- Aeration and improved control of Contact Water Basin levels;
- Minimizing areas that pond on the composting pad;
- Daily use of odor suppressants; or
- Minimize or temporarily cease acceptance of offensive smelling feedstocks.

If it is determined that the odors are coming from the composting operations, it will be investigated whether a specific feedstock is the cause. If a specific feedstock is causing the odor, actions will be taken to adjust how the feedstock is accepted and placed in the mixing and windrow areas. Examples of actions that could be taken are:

- Scheduling mixing times to not occur during periods of higher potential for offsite migration;
- Use of a portable odor control system; or
- Adjustment of the volume of feedstock.

If it is determined that the odor source is something other than a specific feedstock, then additional sources will be investigated. Based on the determined source, the appropriate actions will be taken to reduce the odorous conditions.

Once the selected response actions are implemented, the Facility Manager will evaluate their effectiveness and determine if additional actions need to be implemented to address the odor.

**5.0 ODOR PREVENTION**

Odor minimization and control is a priority at the Facility. The following is a discussion of the efforts that will be made to prevent or minimize odors in the landfill and composting operations.

**5.1 Covering of Waste**

Odors will be minimized by keeping the active landfill working face as small as practical and placing cover as required. Facility personnel will cover the working face with a minimum of 6 inches of cover soil or alternate cover materials as required.

Certain types of incoming feedstocks may have stronger odors than others. Facility personnel will be trained to identify feedstock types that typically have strong odors. These feedstocks will be placed in the mixing area and immediately mixed with bulking agent materials. An odor panel on these special feedstocks can be performed to determine odor threshold. Possible odor control measures will be evaluated to determine if pre-treating this feedstock will reduce odor potential.

**5.2 Minimize areas of ponding**

The areas of landfill and composting operations will be graded and drained to prevent ponding of stormwater.

**5.3 Aeration of Contact Water Basin**

The Facility will provide for aerating the Contact Water Basin on a regular basis and ensure equipment is available and operational at all times.

**5.4 Control of Contact Water Basin levels**

Levels of the Contact Water Basin will be controlled in accordance with the facility's D&O Plan. Available freeboard may be increased as necessary to minimize odors.

**5.5 Mixing Ratios of Bulking Materials**

Adjustment of mixing ratios by increasing the volume of bulking materials may become necessary to minimize odors.

**5.6 Odor Suppressants**

In the event that monitoring reveals that the above-mentioned odor controls are not adequate to control the migration of landfill and composting facility-associated odors, odor suppressants or masking agents may be used to enhance odor control. The Landfill and composting facility intend to continue to operate and maintain an odor suppressant system.

**6. PROVISIONS FOR PLAN AMENDMENT**

This Odor Management Plan has been developed as a guide to address potential odor issues at GWAR. This plan will be amended as needed.

**COMPLAINT / RESPONSE FORM**

**COMPLAINANT INFORMATION**

Name: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Address: \_\_\_\_\_

**COMPLAINT DETAILS**

Date/Time Complaint Received: \_\_\_\_\_  
 Date of Incident (if different): \_\_\_\_\_  
 Time of Incident (if different): \_\_\_\_\_  
 Reporting Method: \_\_\_\_\_  
 Location of Odor Complaint: \_\_\_\_\_  
 Nature of Complaint: \_\_\_\_\_

**WEATHER AT TIME OF COMPLAINT**

Temperature: \_\_\_\_\_  
 Wind Speed and Direction: \_\_\_\_\_  
 Precipitation (past 24 hours): \_\_\_\_\_  
 Barometric Pressure: \_\_\_\_\_

**RESPONSE FOLLOW UP ODOR SCAN**

Date and Time of Follow up Odor Scan: \_\_\_\_\_  
 Nasal Ranger Reading: \_\_\_\_\_  
 If Odor is present, source is: \_\_\_\_\_  
 Temperature: \_\_\_\_\_  
 Wind Speed and Direction: \_\_\_\_\_  
 Precipitation (past 24 hours): \_\_\_\_\_  
 Barometric Pressure: \_\_\_\_\_

**COMPLAINT / RESPONSE FORM**

**GWAR C&D LANDFILL & COMPOSTING FACILITY  
 ODOR MONITORING FORM**

**Weather Conditions:**

Date of Monitoring: \_\_\_\_\_ Barometric Pressure (inches Hg): \_\_\_\_\_  
 Weather Data Source: \_\_\_\_\_ Rising, Falling, Steady?: \_\_\_\_\_  
 Temperature (°F): \_\_\_\_\_ Percent Humidity (%): \_\_\_\_\_  
 Wind Direction (Blowing From): \_\_\_\_\_ Wind Velocity (mph): \_\_\_\_\_

Station ID	Time of Monitoring	Odor Present (Y/N)	D/T Value	Description of Odor
On-Site Landfill Monitoring Locations	OMP - 1			
	OMP - 2			
	OMP - 3			
	OMP - 4			
	OMP - 5			
Off-Site Landfill Monitoring Locations	VMP - 1			
	VMP - 2			
	VMP - 3			
	VMP - 4			
	VMP - 5			
	VMP - 6			
	VMP - 7			

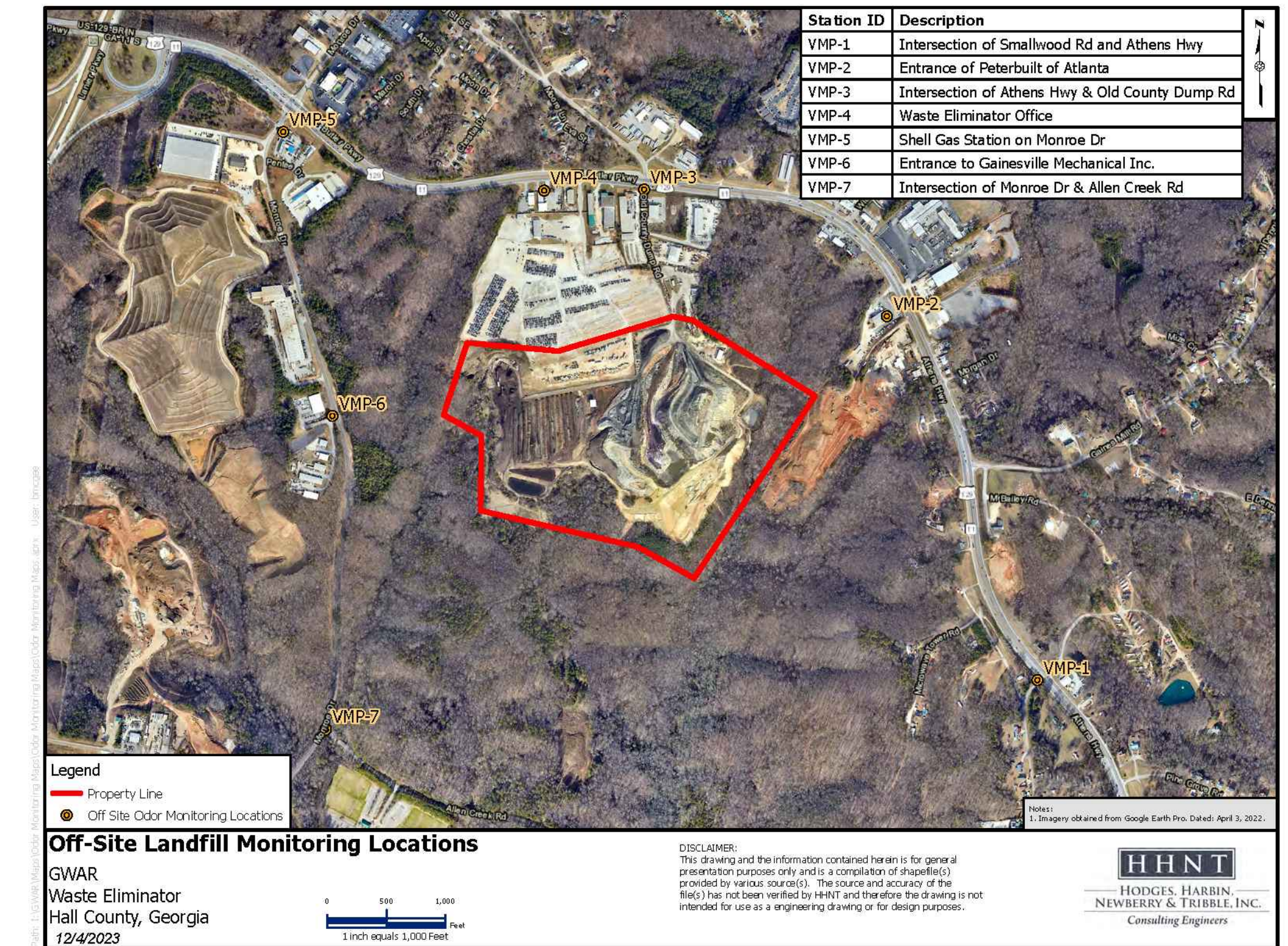
Comments: \_\_\_\_\_

**Monitoring Location Descriptions:**

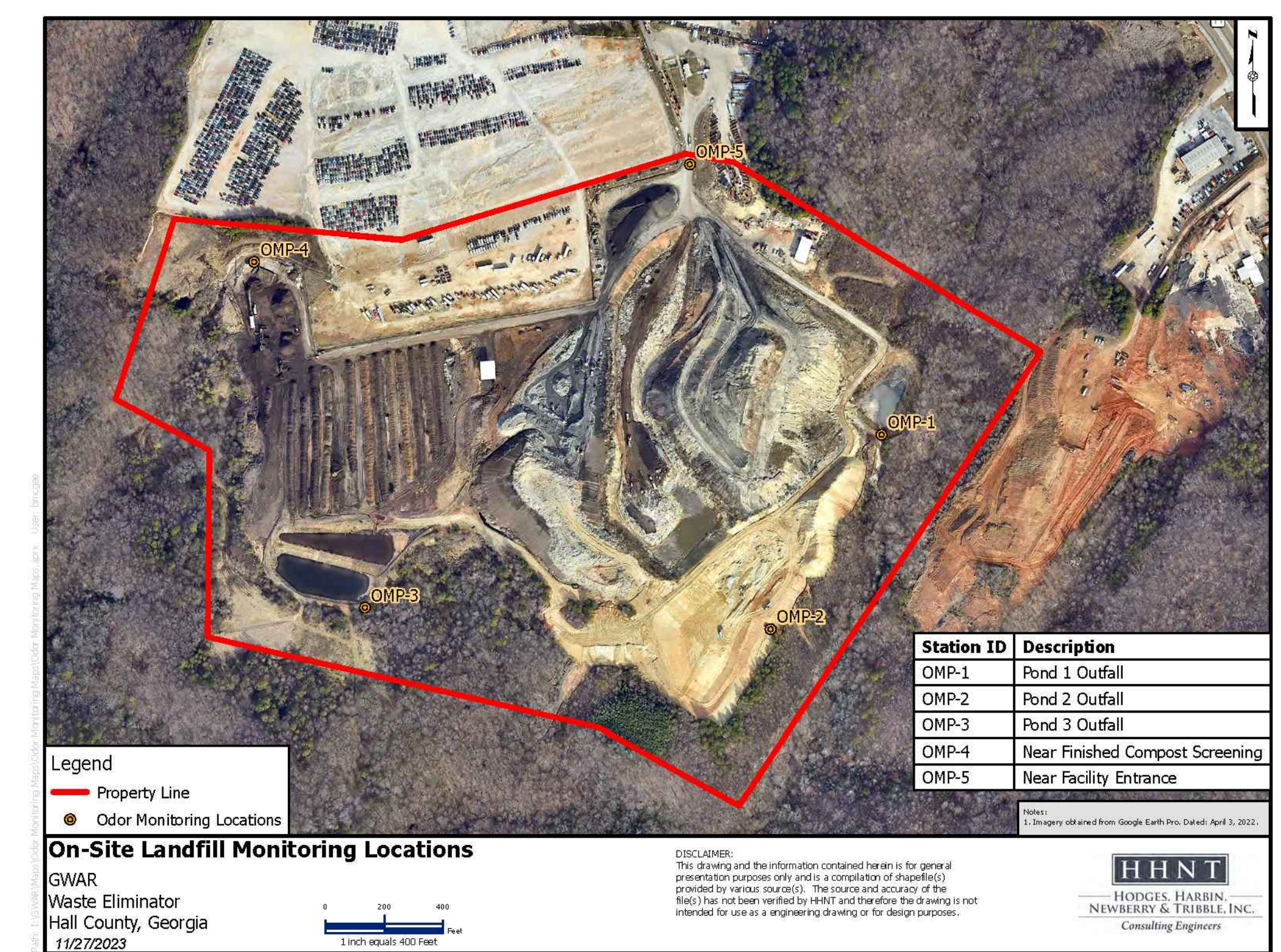
On-Site	Off-Site	Description
OMP - 1	VMP - 1	Intersection of Smallwood Rd and Athens Hwy
OMP - 2	VMP - 2	Entrance of Peterbuilt of Atlanta
OMP - 3	VMP - 3	Intersection of Athens Hwy and Old County Dump Rd
OMP - 4	VMP - 4	Waste Eliminator Office
OMP - 5	VMP - 5	Shell Gas Station on Monroe Dr
	VMP - 6	Entrance to Gainesville Mechanical Inc.
	VMP - 7	Intersection of Monroe Dr and Allen Creek Rd

Inspector Name: \_\_\_\_\_  
 Inspector Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

**ODOR MONITORING FORM**



**FIGURE 1: OFF-SITE LANDFILL MONITORING LOCATIONS**



**FIGURE 2: ON-SITE LANDFILL MONITORING LOCATIONS**



06/03/24

ODOR MANAGEMENT PLAN

**DESIGN AND OPERATION PLAN**  
 FIVE-YEAR PERMIT REVIEW  
 PERMIT NO. 069-017K&D  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY  
 FOR  
 WASTE ELIMINATOR, LLC  
 HALL COUNTY, GEORGIA

**HHNT**  
 HODGES, HARRIN,  
 NEWBERRY & TRIBBLE, INC.  
 Consulting Engineers

**Innovative Engineering Strategies, LLC**  
 CIVIL - ENVIRONMENTAL

IES PROJECT NO.: 3130401041      DWG: 3130401041-01      EDITION: 06/03/24  
 SCALE: AS SHOWN  
 INITIAL SUBMITTAL: APRIL 2024      SHEET 33A OF 33

# DESIGN AND OPERATION PLAN

FOR

# GWAR, LLC.

## HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY

HALL COUNTY, GEORGIA

SEPTEMBER 2012

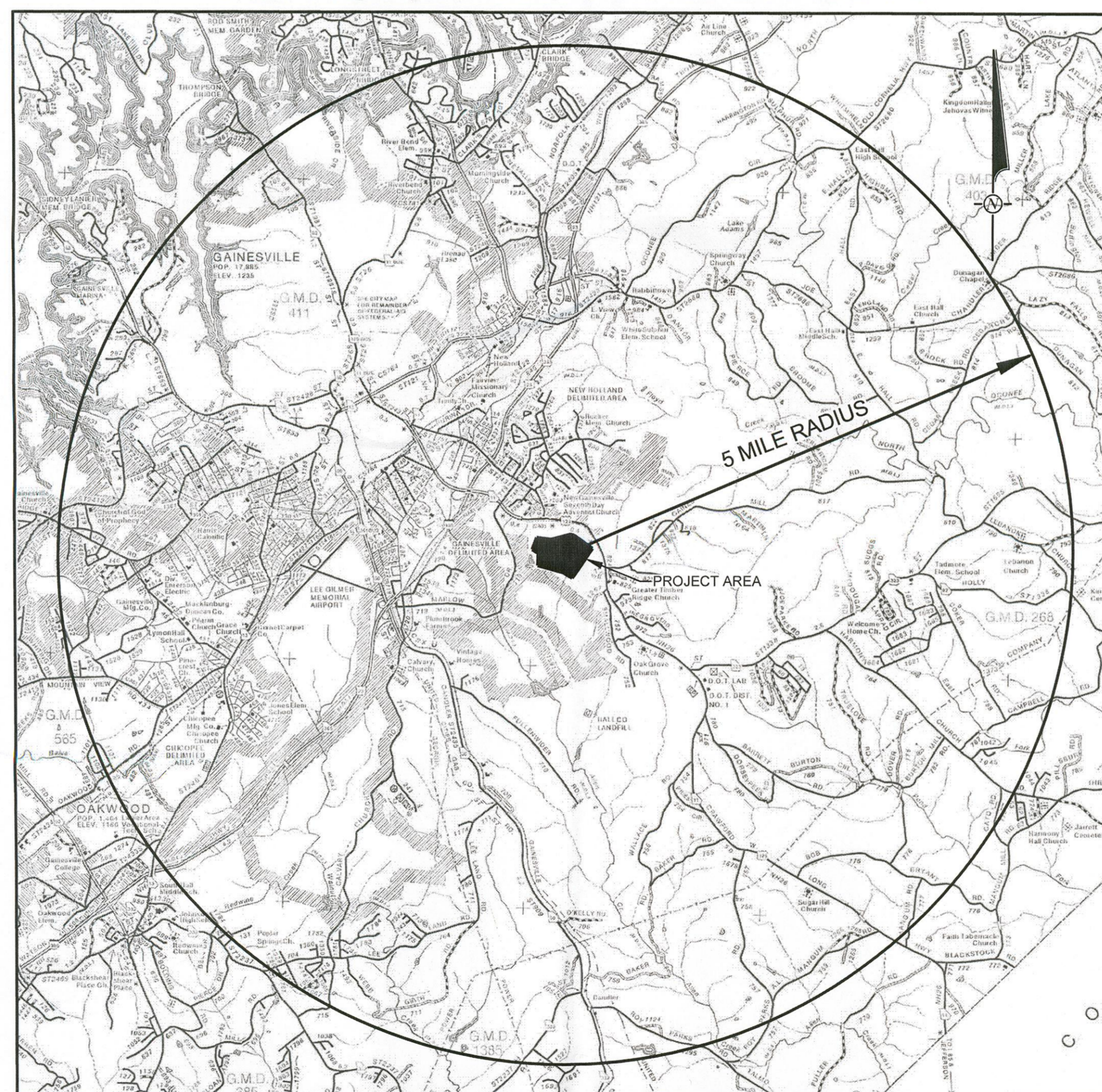
REVISED: NOVEMBER 2016

### OWNER/OPERATOR

GWAR, LLC  
2033 OLD COUNTY DUMP ROAD  
GAINESVILLE, GEORGIA 30507  
(678) 696-2080

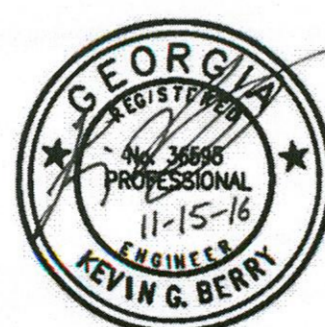
### RESPONSIBLE OFFICIAL

MR. KEN CRONAN  
P.O. BOX 1256  
GAINESVILLE, GEORGIA 30503  
(678) 696-2080



PROJECT SITE LOCATION

SCALE: 1" = 1 MILE



3920 ARKWRIGHT ROAD, SUITE 101 - MACON, GEORGIA 31210  
(478) 743-7175



### REVISION HISTORY

DATE	REVISIONS	REQUESTED BY:
SEPTEMBER 7, 2012	TS, 6, 11 & 12	OWNER
MARCH 20, 2013	ALL SHEETS	NEW SITE SUITABILITY
APRIL 15, 2013	TS, 1, 3, 4, 6-23, 25, 27-29, 34 & 35	GEORGIA EPD
SEPTEMBER 16, 2016	TS, 3, 23, 24, 34 & 35	GEORGIA EPD
NOVEMBER 10, 2016	TS, 34 & 35	GEORGIA EPD

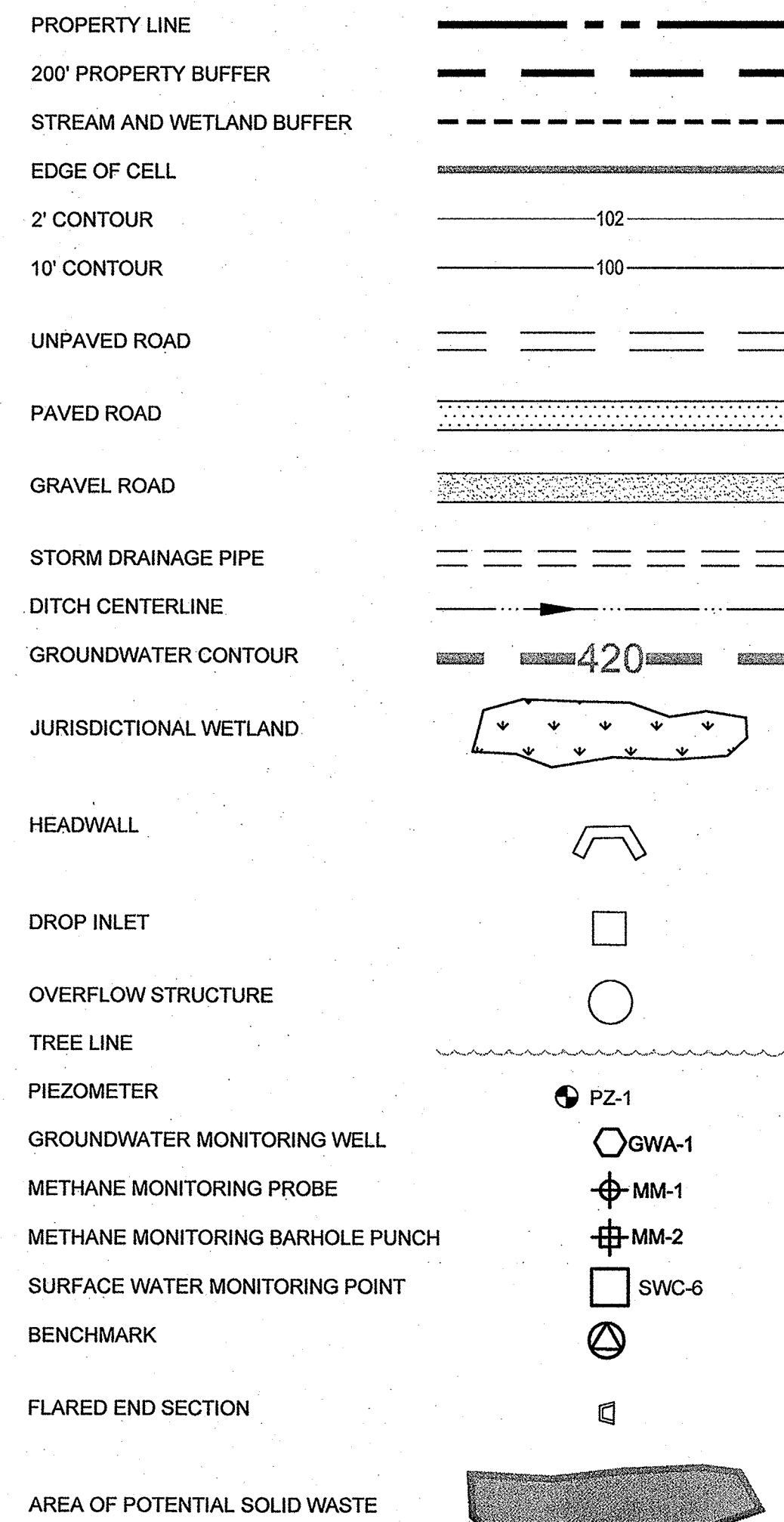
#### FACILITY OVERVIEW

THE GWAR CONSTRUCTION AND DEMOLITION LANDFILL AND COMPOST FACILITY IS CONSTRUCTED ON THE SITE OF THE HISTORIC GAINESVILLE LANDFILL. THE FACILITY IS DEVELOPED TO FIRST CONSTRUCT A C&D CELL ON AN AREA WITH NO KNOWN HISTORIC WASTE, THEN TO BEGIN THE PROCESS OF REMOVING AND PROPERLY DISPOSING OF THE HISTORIC SANITARY WASTE. PROPER DISPOSAL WILL BE OFF-SITE AT A PERMITTED MSW LANDFILL OR IN THE ON-SITE COMPOST FACILITY. ANY OF THE HISTORIC SANITARY WASTE THAT CAN BE RECYCLED SHOULD BE RECYCLED. BY REMOVING THIS HISTORIC SANITARY WASTE, THE SOURCE OF ANY POTENTIAL CONTAMINATION CAN BE REMOVED FROM THE SITE PRIOR TO C&D LANDFILL DEVELOPMENT ON THAT PORTION OF THE FOOTPRINT. THE GOAL OF THIS FACILITY DEVELOPMENT IS TO REUSE OR RECYCLE THIS HISTORIC SANITARY LANDFILL AS A NEW C&D LANDFILL. CONCURRENT WITH C&D LANDFILL ACTIVITIES, COMPOSTING WILL ALSO BE CONDUCTED AT THE FACILITY.

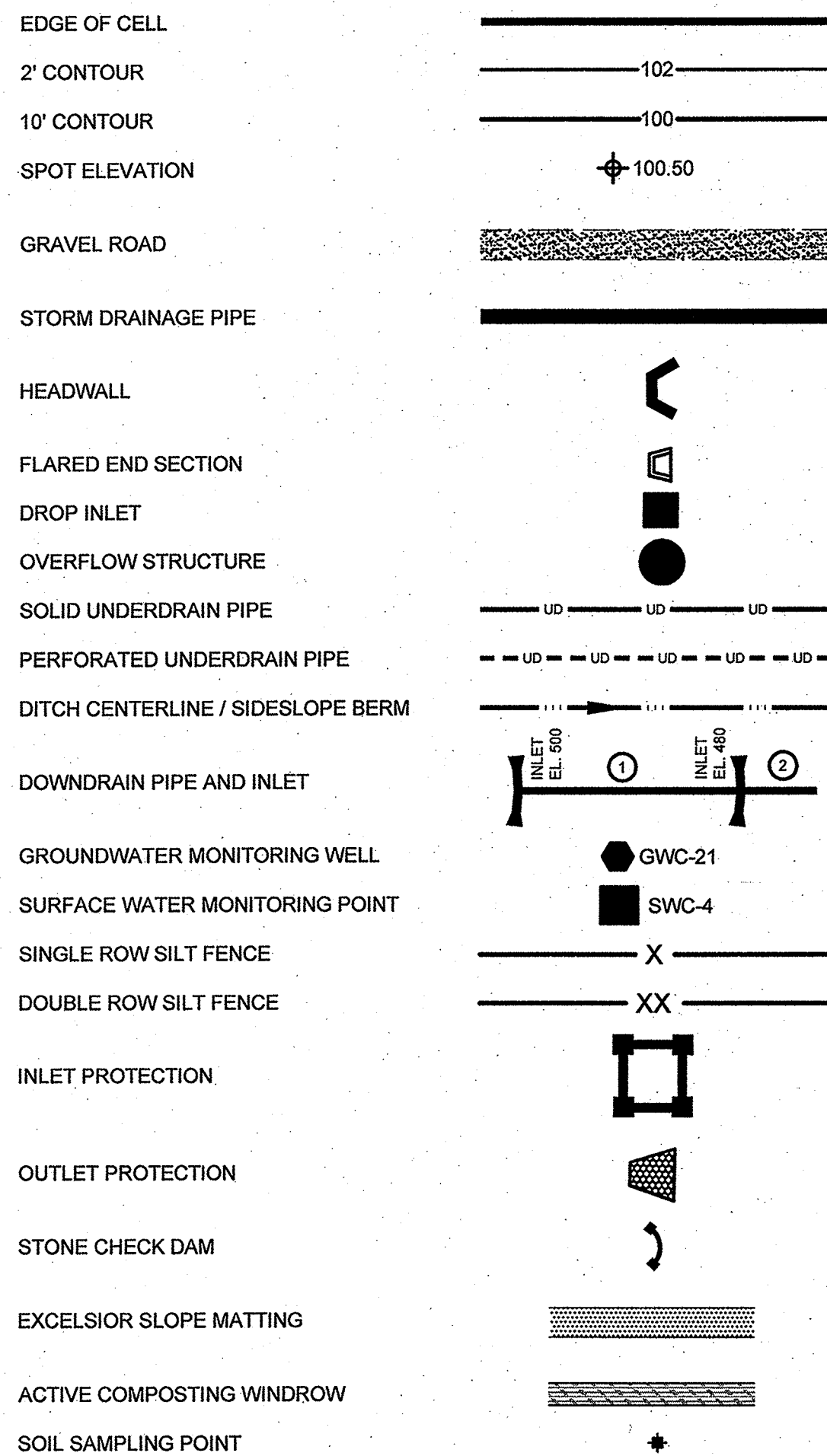
GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MINOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017D(C+D)  
APPROVED BY: *[Signature]* DATE: 12/7/2016

RECEIVED  
NOV 18 2016  
SOLID WASTE  
MANAGEMENT PROGRAM

**EXISTING**



**PROPOSED**



**INDEX TO DRAWINGS**

SHEET NO.	DESCRIPTION
-	TITLE SHEET
1	INDEX TO DRAWINGS AND LEGEND
2	BOUNDARY SURVEY
3	EXISTING TOPOGRAPHICAL SURVEY
4	WASTE EXCAVATION PLAN
5	SCHEMATIC MINING PLAN
6	UNDERDRAIN PLAN
7	INITIAL GRADING PLAN
8	FINAL GRADING PLAN
9	FINAL DRAINAGE PLAN
10	EROSION CONTROL PLAN
11	CROSS SECTION A
12	CROSS SECTION B
13	MINING AND CONSTRUCTION OF CELL NO. 1C AND FILLING OF CELL NO. 1A & 1B
14	MINING AND CONSTRUCTION OF CELL NO. 2 AND FILLING OF CELL NO. 1C
14A	CELL NO. 2 SEQUENCE SCHEMATICS
15	MINING AND CONSTRUCTION OF CELL NO. 3 AND FILLING OF CELL NO. 2
16	MINING AND CONSTRUCTION OF CELL NO. 4 AND FILLING OF CELL NO. 3
17	MINING AND CONSTRUCTION OF CELL NO. 5 AND FILLING OF CELL NO. 4
18	MINING AND CONSTRUCTION OF CELL NO. 6 AND FILLING OF CELL NO. 5
19	MINING AND CONSTRUCTION OF CELL NO. 7 AND FILLING OF CELL NO. 6
20	MINING AND CONSTRUCTION OF CELL NO. 8 AND FILLING OF CELL NO. 7
21	MINING AND CONSTRUCTION OF CELL NO. 9 AND FILLING OF CELL NO. 8
22	FILLING OF CELL NO. 9 - FINAL COVER SYSTEM GRADING PLAN
23	OPERATIONS PLAN AND PROHIBITED WASTE EXCLUSION PLAN
24	RECYCLING FACILITY LAYOUT AND FLOW DIAGRAM
25	CLOSURE / POST CLOSURE CARE PLANS
26	ENVIRONMENTAL MONITORING PLAN
27-28	WATER MONITORING PLAN
29	METHANE GAS MONITORING PLAN
30	CONSTRUCTION QUALITY ASSURANCE PLAN
31-33	MISCELLANEOUS DETAILS
34	COMPOSTING FACILITY LAYOUT
35	COMPOSTING FACILITY OPERATIONS PLAN

**GENERAL NOTES:**

- SOIL IS NOT TO BE STOCKPILED WITHIN 25 FEET OF THE EDGE OF ANY TRENCH EXCAVATION .
- SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
- ANY MODIFICATION TO THE CONTENT OF THESE PLANS SHALL BE APPROVED BY GEORGIA EPD PRIOR TO IMPLEMENTATION.
- PROPOSED CONTOURS SHOWN IN CELL AREAS ARE EQUAL TO BOTTOM OF WASTE (FLOOR OF CELL).
- BASE TOPOGRAPHIC INFORMATION PROVIDED BY BECKOM AERIAL MAPPING - DATE OF PHOTOGRAPHY: APRIL 20, 2007.
- AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
- THE BOUNDARY SURVEY WAS PREPARED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC AND ENTITLED BOUNDARY SURVEY FOR HODGES, HARBIN, NEWBERRY & TRIBBLE, INC. OF GVAR C&D LANDFILL, DATED DECEMBER 31, 2008.
- NO PORTION OF THE PROPOSED LANDFILL IS LOCATED WITHIN A 100-YEAR FLOODPLAIN AS DETERMINED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC ON THE ABOVE REFERENCED BOUNDARY SURVEY.
- SOLID WASTE DISPOSAL AREAS ARE NOT LOCATED WITHIN THE 100 YEAR FLOOD PLAN.
- NO WASTE SHALL BE PLACED IN A NEWLY CONSTRUCTED CELL BEFORE THAT CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
- IMPACTS TO THE WETLANDS AND STREAMS WITHIN THE EASTERN PORTION OF THE PROPERTY ARE PART OF A FEDERAL SECTION 404, OF THE CLEAN WATER ACT PERMIT, APPLICATION WITH THE U.S. ARMY CORPS OF ENGINEERS (REG. BRANCH NO.: SAS-2012-00679).
- IMPACTS TO THE STREAM BUFFER ZONES WITHIN THE EASTERN PORTION OF THE PROPERTY ARE PART OF A STATE OF GEORGIA ENVIRONMENTAL PROTECTION DIVISION WATERS OF THE STATE STREAM BUFFER VARIANCE APPLICATION.

GEORGIA  
 Environmental Protection Division  
 Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-077D (C-D)  
 REVIEWED BY: CPH DATE: 5/13/13  
 APPROVED BY: MML DATE: 5/13/13

REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013

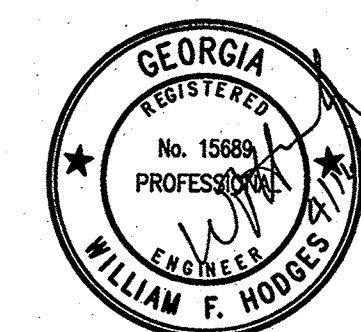
INDEX TO DRAWINGS AND LEGEND

**DESIGN AND OPERATION PLAN**

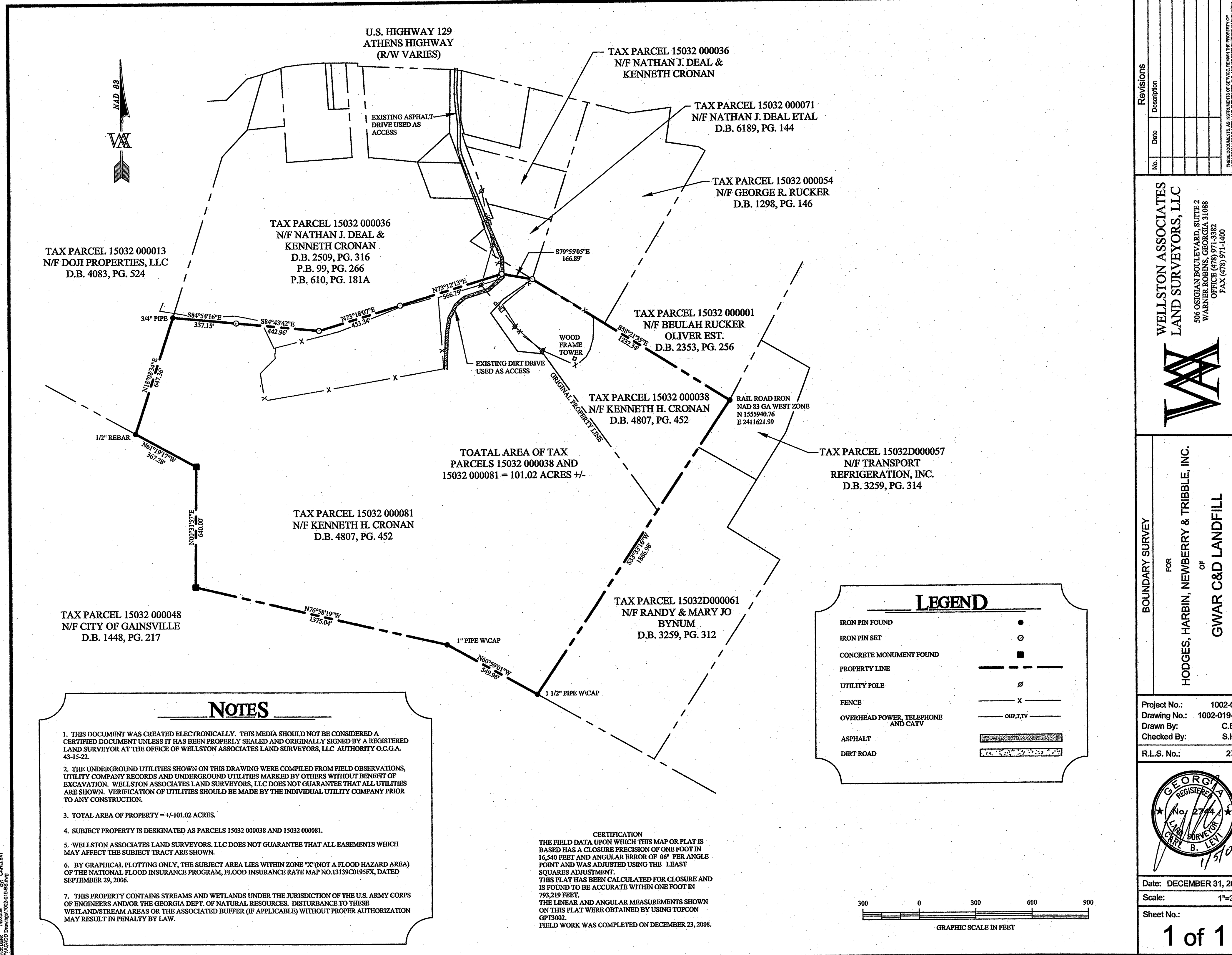
FOR  
**GVAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA



HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
 Consulting Engineers  
 3920 ARKWRIGHT RD. SUITE 101  
 MACON, GEORGIA 31210  
 (478) 743-7175  
 (478) 743-1703(FAX)



PROJ. NO. 3150-015-01 DWG. GVAR-EXP-1-NT-R EDIT 4-15-13  
 SCALE NOT TO SCALE SHEET 1 OF 35  
 DATE SEPTEMBER, 2012



NOTE: THE LEGAL DESCRIPTION FOR THE LANDFILL PROPERTY IS SHOWN ON SHEET 25, SECTION 15.

Revisions	No.	Date	Description

WELLSTON ASSOCIATES  
LAND SURVEYORS, LLC  
506 OCEAN BOUTEVILLE SUITE 2  
WARNER ROBINS, GEORGIA 31088  
OFFICE (478) 971-3382  
FAX (478) 971-1460

BOUNDARY SURVEY  
FOR  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
OF  
GWAR C&D LANDFILL

GEORGIA  
TADMORE (0M-548) DISTRICT  
HALL COUNTY

Project No.: 1002-019  
Drawing No.: 1002-019-C1  
Drawn By: C.B.L.  
Checked By: S.H.J.  
R.L.S. No.: 2744

GEORGIA REGISTERED LAND SURVEYOR  
11/27/09

Date: DECEMBER 31, 2008  
Scale: 1"=300'  
Sheet No.: 1 of 1

BOUNDARY SURVEY

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARK WRIGHT RD.  
SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO.	3150-015-01	DWG.	GWAR-2-BS	EDIT
SCALE	AS SHOWN			
DATE	SEPTEMBER, 2012			

SHEET 2 OF 35

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017 D(C4)

REVIEWED BY: CFB DATE: 5/17/12

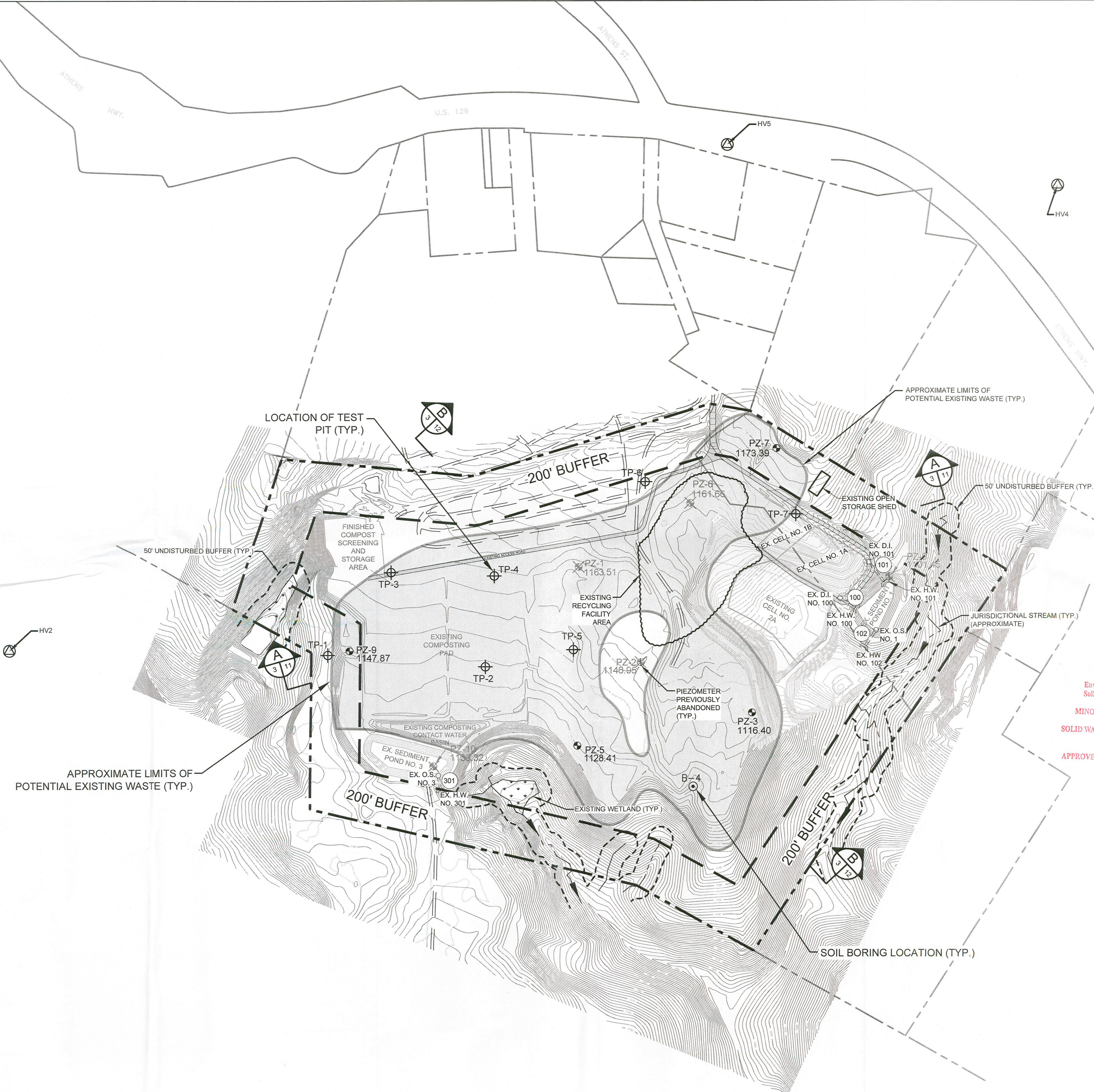
APPROVED BY: HMC DATE: 5/13/13

- GENERAL NOTES:
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. AS-BUILT TOPOGRAPHIC SURVEY FOR CELLS 1 AND 2 WAS PROVIDED BY JORDAN-PARKER LAND SURVEYING ON 3/5/2014 AND BY PATTON LAND SURVEYING ON 9/2/2014.
  4. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  5. PIEZOMETER LOCATIONS WITH CORRESPONDING GROUND WATER ELEVATIONS WERE PROVIDED BY BUNNELL - LAMMONS ENGINEERING, INC. IN DRAWING ENTITLED "GROUNDWATER ELEVATION CONTOUR MAP - JUNE 19, 2007 (FIGURE 12)," DATED 08-01-07.
  6. PER DRAWING TITLED "AREA RECONNAISSANCE" PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. IN A REPORT TITLED "UPDATE OF SITE HYDROGEOLOGIC ASSESSMENT - PROPOSED LATERAL CELL EXPANSION" DATED AUGUST 30, 2012, NO WELLS WERE IDENTIFIED WITHIN 500' OF THIS SITE.
  7. THERE ARE NO RESIDENCES WITHIN 500' OF THE PROPOSED WASTE DISPOSAL BOUNDARY.
  8. THE LOCATIONS OF THE TEST PITS, SOIL BORINGS AND APPROXIMATE LIMITS OF EXISTING WASTE SHOWN ARE BASED ON A DRAWING PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. ENTITLED "EXISTING WASTE LIMITS, PROPOSED GWAR C&D LANDFILL, HALL COUNTY, GEORGIA" DATED AUGUST, 2007.
  9. WETLAND INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.

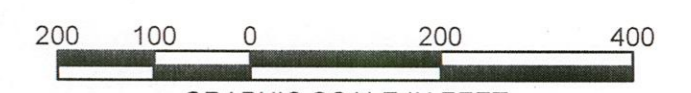
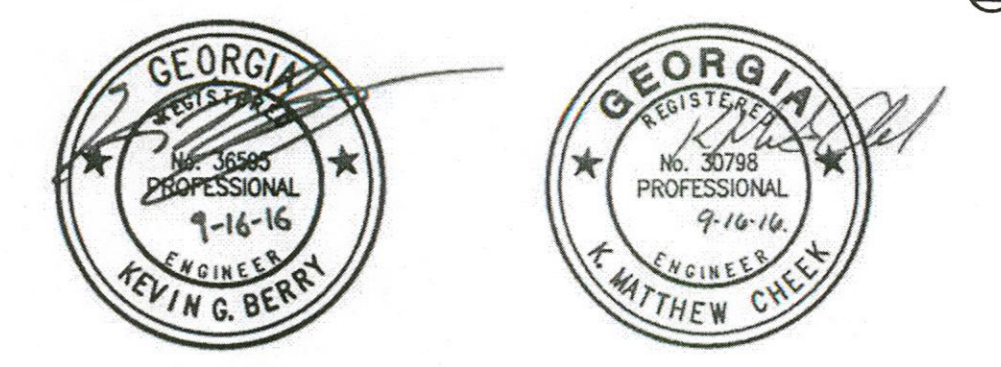
**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,874.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.



GEORGIA  
 Environmental Protection Division  
 Solid Waste Management Program  
 MINOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-071(CD)  
 APPROVED BY: CEA DATE: 12/1/2014



REVISED: SEPTEMBER 16, 2016  
 REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013

EXISTING TOPOGRAPHICAL SURVEY  
**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA

**HHNT**  
 HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
 Consulting Engineers  
 3920 ARKWRIGHT RD., SUITE 101  
 MACON, GEORGIA 31210  
 (478) 743-7175  
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PROJ. NO. 3150-010-01 DWG. GWAR-EXP-3-TP-R4 EDIT 9-16-2016  
 SCALE 1" = 200'  
 DATE AUGUST, 2016 SHEET 3 OF 35

# WASTE EXCAVATION PLAN

**I. PILOT STUDY**  
Prior to starting full scale mining, GVAR will initially conduct a pilot study. The pilot study will begin in the proposed location of Cell No. 1C. The location of Cell No. 1C is shown on the Initial Grading Plan (Sheet 7 of 35). The pilot study area will be restricted to not exceed an approximate 200' long x 100' wide area so the mining area can be easily maintained. The size of the excavation may vary as the finding of waste may dictate a different size excavation. All the steps outlined in Section II, entitled Waste Excavation Plan will be followed. Once the pilot study is complete, a written report prepared by a Professional Engineer registered in the State of Georgia will be submitted to EPD summarizing the steps and results of the pilot study.

## II. WASTE EXCAVATION PLAN

### A. General Background and Procedures

GVAR plans to remove, by mining, all wastes from the Closed Gainesville Landfill. GVAR Landfill will adhere to the following procedures when mining and relocating the buried waste from the closed landfill. Areas assumed to contain waste from the closed landfill are outlined on the Existing Topographical Survey (Sheet 3 of 35).

The purpose of this waste mining activity is:

- to remove all wastes from the closed landfill; thereby, eliminating the wastes as a possible source of future contamination of the groundwater; and
- to allow the rehabilitation of this area, so GVAR may develop a Construction/Demolition Landfill for the environmentally sound disposal of C&D solid waste.

The waste will be excavated, processed, relocated, and properly disposed off-site in a permitted MSW Landfill in conformance with the Rules for Solid Waste Management. Two (2) working faces will be maintained on the landfill property. Working Face 1 will be the normal working face of the Construction/Demolition Landfill. All C&D waste will be buried in this working face. Working Face 2 will be the waste excavation face.

#### 1. Excavation Procedures

Excavation will begin in Cell No. 1C, which means mining the waste in the cell footprint, buffer, and access road. The excavation will proceed by moving from south to north across an excavated working face which will be approximately 100 feet in width. Only one area will be opened at one time. The waste removed from the closed landfill will be placed in trucks and hauled to a permitted MSW landfill. Storm water drainage from the excavated area will be directed to temporary sediment ponds or sediment traps at all times. These sediment ponds and traps are to be located down gradient of the mined area, and will be constructed in accordance with the "Manual for Erosion and Sediment Control in Georgia". Other Best Management Practices (BMP's) will also be utilized as needed.

Excavation will begin by removal of the existing final cover soils on the closed landfill by bulldozer, front-end loader, or excavator. This material will be used to construct a series of storm water diversion berms to prevent storm water runoff from entering the excavation working face and direct the storm water into the new sediment ponds or traps. Excess removed soil will be stockpiled. All exposed waste in an excavated area will be covered with six (6) inches of soil or a tarp at the end of each day. A tarp will only be used, if mining ceases no longer than three (3) days. If mining of waste will not occur within three (3) days, six (6) inches of soil will be used. In no way will more solid waste be exposed than can be covered by the end of each operating day. While there are no anticipations of changes in the actual order, direction, and sequence of mining, the procedures may vary based on field conditions, once mining begins and as may be necessary to facilitate proper leachate control, if encountered, provide erosion and sediment control, and control surface water run-off / run-on. EPD will be notified of any changes in the sequencing and/or procedures.

A Schematic Mining Plan (sheet 5 of 35) shows the typical mining sequence. This sequence shows mining of all waste from the entire permitted landfill. Mining will start in Area 1 and will be complete when Area 9 is mined.

#### 2. Waste Processing Procedures

GVAR plans to process the excavated waste by using a trommel or similar screening device. Processing of excavated waste will be at the discretion of GVAR. The steps are outlined below for the trommeling process.

Voluntary processing of the excavated waste and soil covers to recover any marketable recyclables and the soil component would be beneficial. These activities would result in less waste disposed and more materials recycled, thus meeting the overall intent of good resource management. If the waste and soil components are processed, the material in the closed landfill will be excavated using an excavator, and moved to the trommel area. In the trommel area, the waste will be first rough sorted with magnets to remove any ferrous metal from the old waste. The ferrous metal will be stored on site in 20 to 40 cubic yard steel rolloff boxes. These boxes will be hauled to the steel recycler as necessary for the sale of this metal.

The remainder of the waste may be run through a trommel fitted with a 1.5 - 2.5 inch screen to remove dirt or soil from the waste material itself. Water may be misted over the trommel to reduce dust and airborne contaminants, when waste is not moist enough to prevent dust. Material that passes through the screen represents the soil and composted organic component of the excavated material. The clean material will be stockpiled adjacent to the Landfill and used for cover. Only clean soils that are unstained with no odor or coloration will be used as cover. The waste retained on the trommel screen, may be directed down a removal platform where recyclable materials including aluminum, additional ferrous metals, glass, and plastic containers may be manually or automatically removed from the waste stream. If manual removal is utilized, personnel shall use respirators, safety gloves, and other appropriate safety equipment, as may be deemed necessary. Any recovered materials requiring additional treatment will be placed in containers and shipped off-site for further processing.

The remaining waste will be placed into either a pile or a box for short term (under 24 hours) storage prior to being transported to a permitted Subtitle D landfill or the onsite composting facility.

Some of the excavated waste may not be suitable for composting. Such waste will be placed in separate piles or boxes and transported to a permitted Subtitle D landfill. This separation will occur prior to composting or transport off-site.

Based on test pit excavation, recyclables may be too contaminated with soil and other waste products, and may therefore, not be economically feasible to recover.

Any hazardous waste discovered during the mining process will be removed and properly disposed of in accordance with EPD regulations by a permitted hazardous materials hauler and disposal facility.

Any mined waste will be processed or disposed of within 24 hours. Unprocessed excavated material will be covered with a tarp at the end of each working day.

#### 3. Landfilling Procedure

The waste component of the excavated material will be disposed of off-site at a permitted MSW Landfill or managed in the on site composting facility. Any mined waste will be processed or disposed of within 24 hours. Unprocessed excavated material will be covered with a tarp at the end of each working day.

#### 4. Excavation and Hauling Equipment

The excavation of waste will be performed by an excavator. The material will be transported from the excavation face to a permitted MSW landfill or the on site composting facility by truck.

#### 5. Safety Practices During Excavation of Waste

The following safety procedures shall be followed during excavation:

##### a. Explosive Gas Testing

At the beginning of each day during initial excavation and after noon, the Operator of the excavation equipment shall test the gases within six (6) inches from the working face. Excavation may proceed if the methane gas is less than 50% of the lower explosive limit (LEL). If methane gas is more than 50% of the LEL, the Operator shall wait five (5) minutes and test the working face again. The Operator will continue testing every five (5) minutes until the gases within six (6) inches from the working face are less than 50% of the LEL. Once the gases are less than 50% of the LEL, then excavation may proceed. Personnel who operate equipment in the excavation area shall be provided personal methane detectors set to alarm at 50% of the LEL.

A log showing a test result and time of each test shall be kept in the cab of the excavating equipment. This information shall also be made part of the landfill's operating record.

##### b. Fire Safety

One hundred (100) cubic yards of clean earth shall be stockpiled no further than 200 feet from the excavation face to be used in case of fire. In the event of a fire, normal landfill fire suppression procedures should be followed. Smoking is prohibited on site.

#### c. Excavation of Dangerous Chemicals

Within the closed landfill, waste should be limited to residential and commercial municipal solid waste. No unusual chemical, explosive, or corrosive elements are anticipated to be encountered. In the event suspicious material is encountered during excavation, the Landfill Operator shall be called to the excavation face for identification of the waste. If the suspicious material is identified as hazardous, explosive, or unidentified, the appropriate regulatory personnel shall be notified and the appropriate technical personnel (Professional Engineer, Professional Geologist, or Certified Hazardous Materials Manager) shall be called to the site to identify the material and ensure that the material is removed and disposed of in a manner that meets the appropriate regulations. Waste excavation shall be halted until the suspicious material is either determined to be non-hazardous, or removed from the working face and properly disposed.

#### d. Leachate Management

As the excavation proceeds, leachate may be encountered in the bottom of the waste areas, even though previous excavation has revealed no measurable amounts of leachate with no run-off. If leachate is encountered, a pit shall be excavated no more than three (3) feet deep to capture any leachate from the excavation operation at the lower ends of each excavated area. Accumulated leachate shall be removed from the pit at least every 3rd working day, or sooner if an odor nuisance has been caused, or prior to anticipated wet weather.

Accumulated leachate shall be removed by pumps and tank truck, and hauled to the on site composting facility, used as a wetting agent, or hauled to a waste water treatment facility.

It is the intent of the GVAR Landfill staff to limit mining operation during the winter, and/or wet-weather season, in order to minimize leachate production.

#### e. Odor Control

Odor will be controlled at the site by use of daily soil cover, tarpaulin and/or other approved alternate daily covers. If major odor problems are encountered, the landfill will investigate the possibility of using odor masking or neutralizing agents and/or reducing the size of the excavation working face.

#### f. Excavation Equipment Operator Safety

Excavation of the waste may cause the equipment operator to be exposed to dust, mold, mildew, bacteria, and gases which might be harmful. Even though landfill excavation projects at other landfills have not recorded any equipment operator problems, equipment operators involved in the mining of waste from this site shall have safety glasses and a respirator available during the excavation process. Other normal safety equipment typically used at construction sites, such as hard hats, gloves, safety shoes, etc. shall be worn. As mining progresses, the landfill will review the need to modify or supplement the safety equipment necessary to protect the operators. In no case shall the use or the availability of safety equipment be reduced without EPD approval.

#### g. Employee Air Safety

The Landfill Operator will be alerted to the presence of hydrogen sulfide, ammonia, and aromatic hydrocarbons which may occur at the excavation site. The Operator will use a portable gas detector to monitor these gases at the beginning of each day during initial excavation and afternoon. If these gases present a problem, then excavation will be stopped until wind velocities dissipate the gases. Artificial ventilation may be introduced by use of fans to expedite the dissipation.

#### h. Anticipated Mining Schedule

It is projected that all of the wastes and accompanying soils can be removed, processed and properly disposed of, or stockpiled on-site within 60 - 72 months of initial excavation, though this cannot be assured due to weather, recycle markets and other constraints on timing.

#### 6. Testing for Determination of Clean Site Condition

Once mining has been completed, which includes the removal of all stained soils and soils which exhibit olfactory evidence of potential contamination, a minimum of one (1) soil sample per acre will be obtained from the soils underlying each mined area. The soil sampling and confirmation that all waste has been removed will be determined by a third-party environmental professional.

The soil samples will be analyzed for Appendix I volatile organic compounds (VOC's) and total metals. The results of the tests will be compared to the Notification Standards listed in the Rules for Hazardous Site Response (Appendix I).

If a soil sample is found to be above the HSRA Notification Standard, per the sampling referenced above, or if areas of soil staining are identified on the floor of the excavation, the following additional steps will be taken:

- Soil sampling will be performed to determine the horizontal extent of the contamination. Once the soil is delineated, the contaminated soil will be excavated and the underlying soil will be re-tested for contamination.
  - If the stained or otherwise contaminated area is less than ten feet in diameter and one foot deep, one sample should be collected from the bottom of the excavation.
  - If the stained or otherwise contaminated area is greater than ten feet wide or one foot deep, soil samples should be collected on a 20-foot grid across the floor of the stained soil excavation, and on a 20-foot spacing along the walls of the excavation.
  - Soil excavation around a contaminate area will be complete when all samples around the excavation are below the notification concentrations.
- A boring will be drilled to the first water zone / confining layer 10 feet down-gradient of the contaminated area. This will also include split spoon sampling (every two (2) feet for 10 feet, then every five (5) feet thereafter) while noting any signs of contamination. If visible signs of contamination are noted, the soil will be sampled for Appendix I VOC's and metals for use in vertical delineation of the contamination. One (1) groundwater sample will be taken and analyzed for Appendix I VOC's and metals.

- The boring may be discontinued if 10 feet of continuous clayey soil is encountered before water. The soil of the soil-clay interface will be sampled and analyzed for Appendix I VOC's and metals.

During soil sampling the following quality control procedures will be implemented:

- Any equipment used for soil sampling will be decontaminated prior to reuse.
- A new pair of nitrile gloves will be used at each sampling location.
- Care will be taken to obtain a representative soil sample. The appropriate equipment (En Core or Terra Core sampler) and method (EPA SW-846 Method 5035) will be used.
- Samples for VOC's and total metals will be taken as a grab sample.
- An analytical laboratory, certified in accordance with EPD's rules, will perform the analysis.
- All samples will be packed on ice and delivered to the laboratory in accordance with the QA/QC procedures.
- A minimum of one (1) duplicate sample per ten (10) soil samples will be analyzed for metals and VOC's.

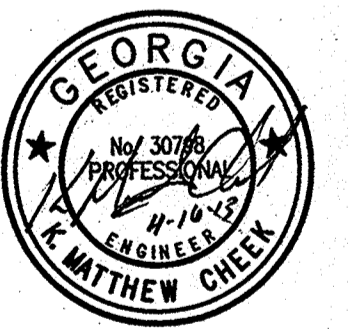
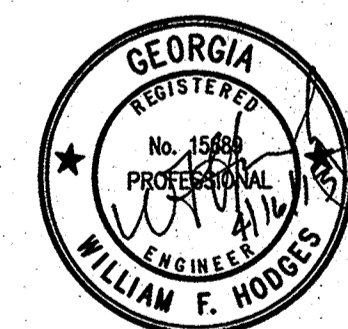
#### III. WASTE EXCAVATION CERTIFICATION OF COMPLETION

After the GVAR has completed mining the entire closed landfill, a comprehensive report of mining activities will be prepared which will include, but not be limited to, any daily reports, any analytical / testing data, photographs and procedures followed. The report will detail any contaminants found, the extent of contamination (horizontal and vertical), removal and documentation that the remaining soil is clean. This report will be Certified by a Professional Engineer, registered in the State of Georgia, that the mining activities were completed in accordance with this Plan and the area mined has been tested according to this Plan and has been deemed to be classified as a "clean" site. The waste excavation certification must also be approved by EPD prior to placement of fill material or clay liner soils.

#### IV. USE OF CONTAMINATED SOILS

Contaminated soils which are separated from the mined waste will be hauled off site to a permitted MSW landfill or to the on site composting facility. The contaminated soil cannot be used for cover on the landfill. Uncontaminated soils excavated on the site may be used for cover on the landfill. The definition of uncontaminated soils are those with no discoloration, odor or other evidence of contamination.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017D(C&D)  
REVIEWED BY: *CRH* DATE: 5/13/13  
APPROVED BY: *MANC* DATE: 5/13/13



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

WASTE EXCAVATION PLAN			
<b>DESIGN AND OPERATION PLAN</b>			
FOR <b>GVAR, LLC.</b>			
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY HALL COUNTY, GEORGIA			
<b>HHNT</b>		3920 ARKWRIGHT RD.	
HODGES, HARBIN, TRIBBLE, INC. Consulting Engineers		SUITE 101 MACON, GEORGIA 31210	
(478) 743-7175	(478) 743-1703(FAX)		
PROJ. NO.	3150-015-01	DWG. GVAR-EXP-4-WEP-R	EDIT 4-15-13
SCALE	NOT TO SCALE	<b>SHEET 4 OF 35</b>	
DATE	SEPTEMBER, 2012		

- NOTES:
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. THE LOCATIONS OF THE TEST PITS, SOIL BORINGS AND APPROXIMATE LIMITS OF EXISTING WASTE SHOWN ARE BASED ON A DRAWING PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. ENTITLED "EXISTING WASTE LIMITS, PROPOSED GVAR C&D LANDFILL, HALL COUNTY, GEORGIA" DATED AUGUST, 2007.
  5. WETLAND INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  6. AREAS MINED WITHIN 200' BUFFER SHALL BE RECONSTRUCTED WITH CLEAN EARTHEN FILL TO EXISTING ELEVATIONS, AND PLANTED WITH GRASSES.
  7. MINING OF EXISTING WASTE MAY VARY SOME DUE TO THE ACTUAL WASTE DISCOVERED ON THE FACILITY.

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,556,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,556,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

- TYPICAL MINING**
- AREA 1 BEGIN MINING AT SOUTH END AND PROCEED NORTH, EXCAVATING ALL WASTE AS DETAILED IN THE WASTE EXCAVATION PLAN. USE BMP'S TO CONTROL EROSION.
- AREAS 2-9 FOLLOW THE SAME PROCEDURES AND BEGIN MINING IN THE DIRECTION SHOWN ON THIS SHEET. USE BMP'S TO CONTROL EROSION.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 09-017D(GD)

REVIEWED BY: CEH DATE: 5/13/13

APPROVED BY: MAR DATE: 5/13/13

GRAPHIC SCALE IN FEET

200 100 0 200 400

REVISED: MARCH 20, 2013

SCHEMATIC MINING PLAN

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
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PROJ. NO. 3150-015-01 DWG. GWAR-EXP-5-MP-R EDIT 3-20-13

SCALE 1" = 200'

DATE SEPTEMBER, 2012

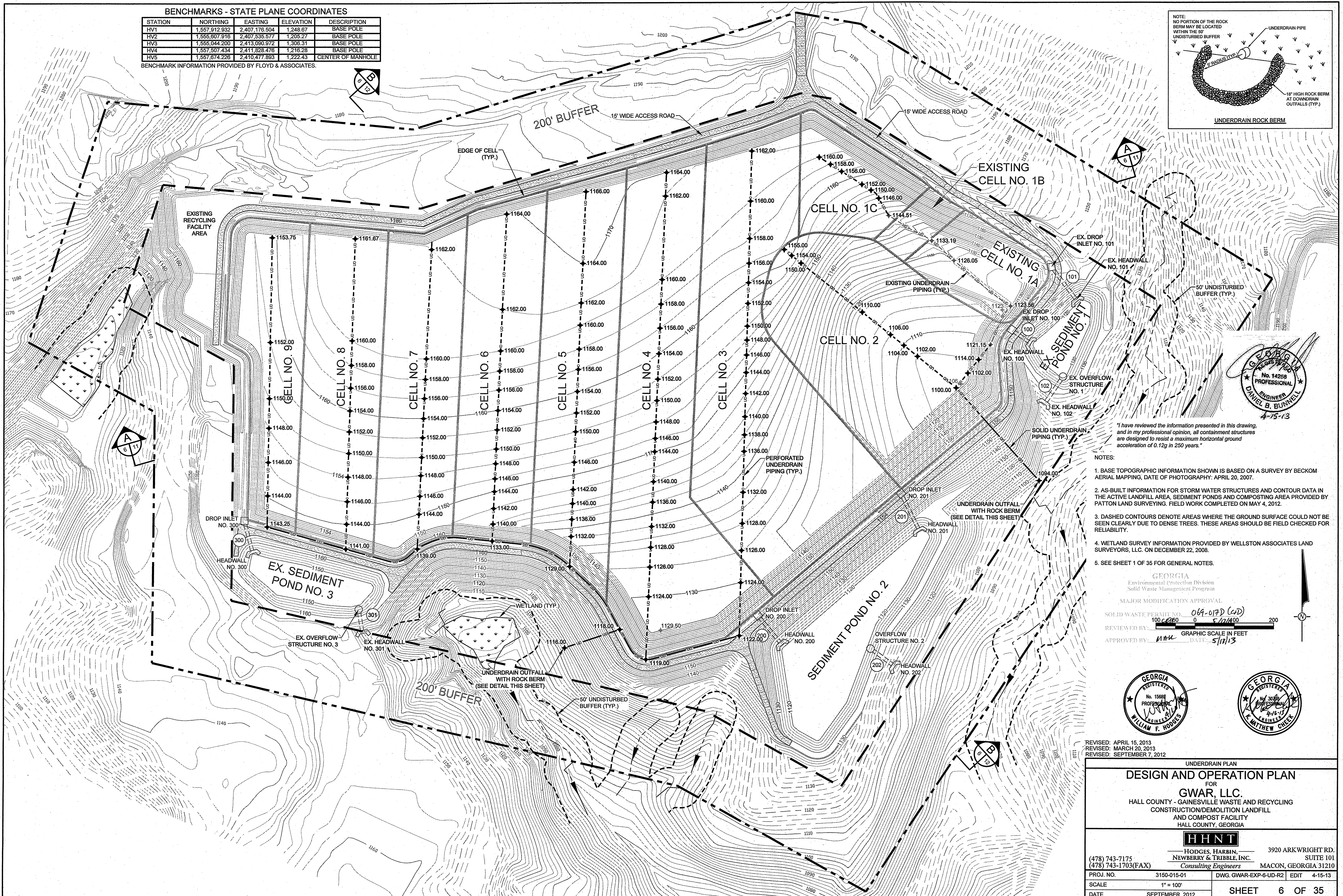
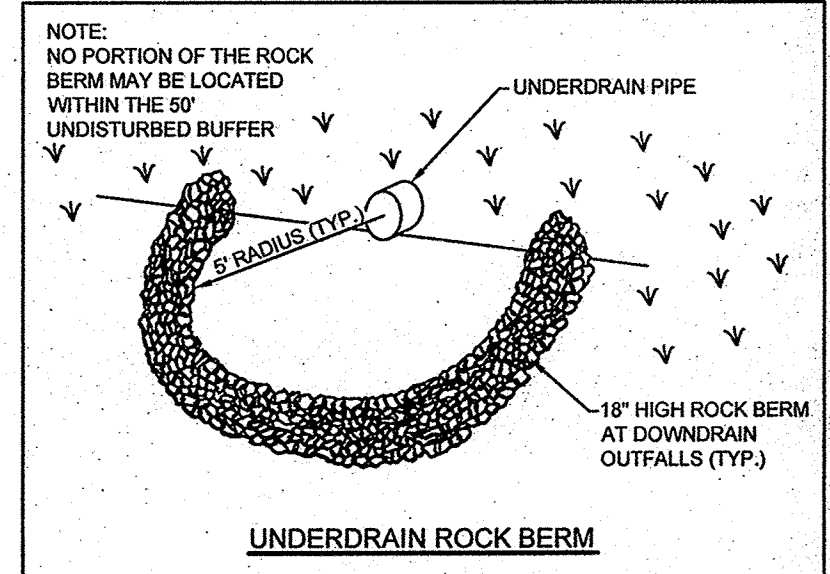
SHEET 5 OF 35



**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.



**Professional Engineer Seal:**  
 No. 14258  
 DANIEL B. BURNELL  
 ENGINEER  
 4-15-13

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

- NOTES:
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

GEORGIA Environmental Protection Division  
 Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D (eod)  
 100 06/09 0 5/12/10 200

REVIEWED BY: [Signature]  
 APPROVED BY: [Signature] DATE: 5/13/13

GRAPHIC SCALE IN FEET

**Professional Engineer Seal:**  
 No. 15888  
 WILLIAM F. HODGES  
 REGISTERED PROFESSIONAL ENGINEER  
 4-16-13

**Professional Engineer Seal:**  
 No. 30789  
 MATTHEW CREEK  
 REGISTERED PROFESSIONAL ENGINEER  
 4-16-13

REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013  
 REVISED: SEPTEMBER 7, 2012

UNDERDRAIN PLAN  
**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA

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 (478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-6-UD-R2 EDIT 4-15-13  
 SCALE 1" = 100'  
 DATE SEPTEMBER, 2012 **SHEET 6 OF 35**

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,206.27	BASE POLE
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HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

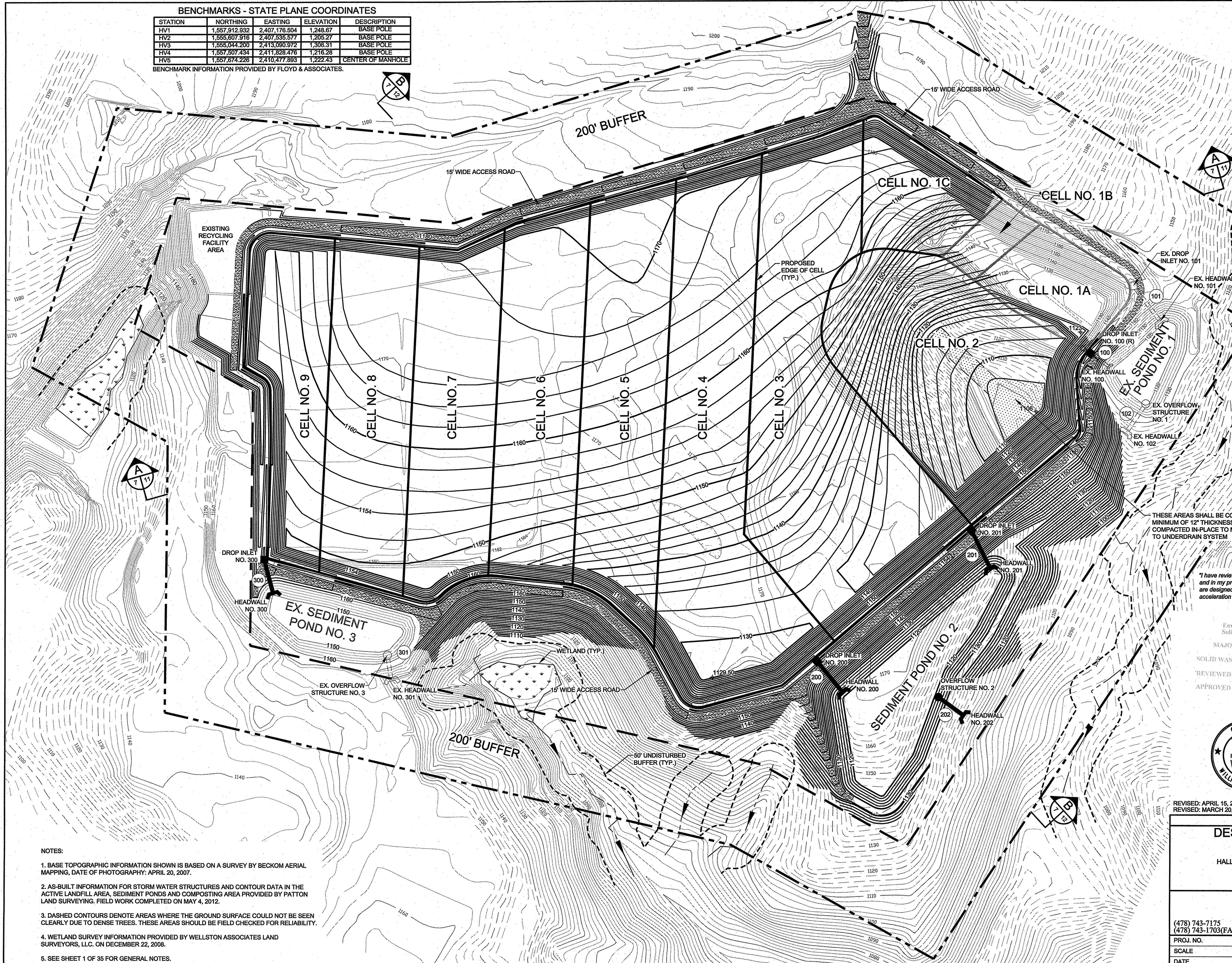
**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200	42"	95'	22.11%	RCP
201	24"	96'	17.32%	RCP
202	30"	69'	2.90%	RCP
300	36"	82'	2.44%	RCP
301(E)	36"	52'	3.27%	RCP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200	1154.00	1152.00	1144.00
201	1151.63	1149.63	1139.63
300	1165.00	1163.00	1155.00

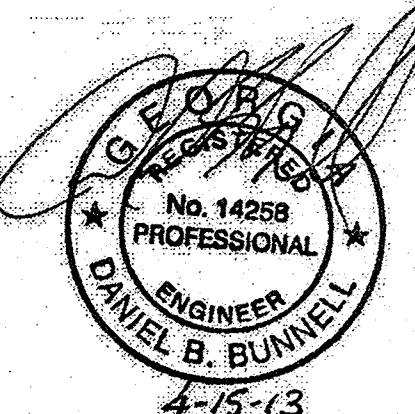
HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	201	1123.00
101(E)	1123.64	202	1121.00
102(E)	1118.38	300	1153.00
200	1123.00	301(E)	1150.23

(E) - DENOTES EXISTING STRUCTURE TO REMAIN  
(R) - DENOTES EXISTING STRUCTURE TO BE REPLACED



THESE AREAS SHALL BE CONSTRUCTED WITH A MINIMUM OF 12" THICKNESS OF CLAYEY SOIL COMPACTED IN-PLACE TO MINIMIZE INFILTRATION TO UNDERDRAIN SYSTEM

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."



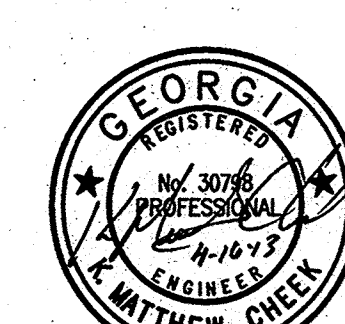
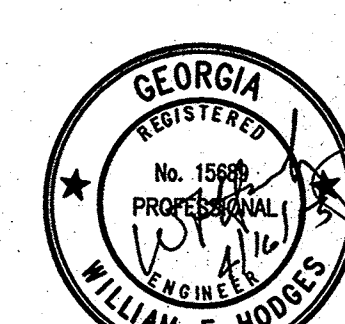
GEORGIA Environmental Protection Division - Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D (C/D)

REVIEWED BY: [Signature]

APPROVED BY: [Signature] DATE: 5/13/13



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

INITIAL GRADING PLAN

**DESIGN AND OPERATION PLAN**

FOR

**GWAR, LLC.**

HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY

HALL COUNTY, GEORGIA

**HHNT**

HODGES, HARBIN, NEWBERRY & TRIBBLE, INC. Consulting Engineers

3920 ARKWRIGHT RD. SUITE 101 MACON, GEORGIA 31210

(478) 743-7175 (478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-7-IG-R EDIT 4-15-13

SCALE 1" = 100'

DATE SEPTEMBER, 2012

**SHEET 7 OF 35**

- NOTES:**
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

BENCHMARKS - STATE PLANE COORDINATES				
STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,007.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

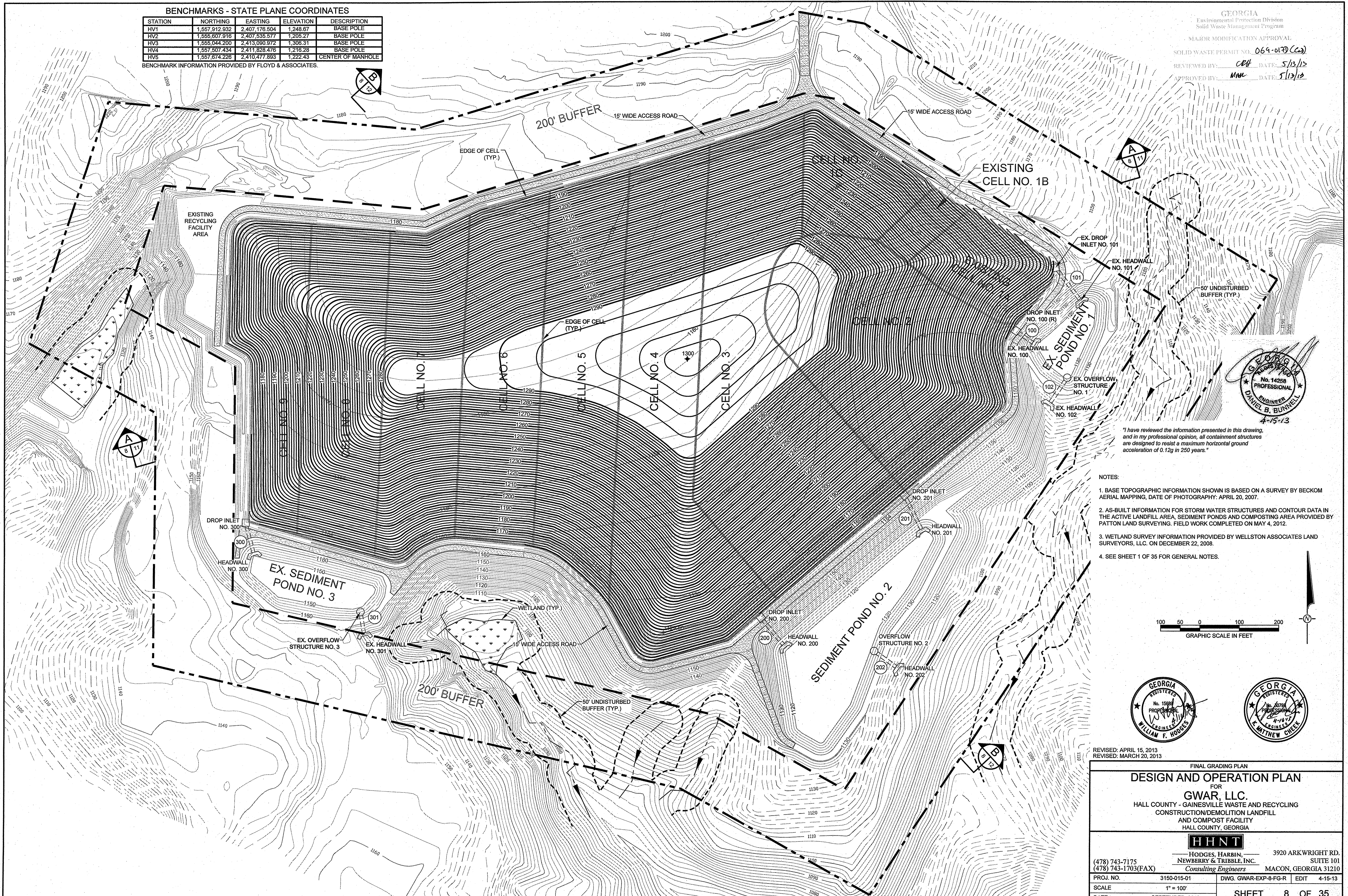
GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-0177 (C3)

REVIEWED BY: CEH DATE: 5/13/13

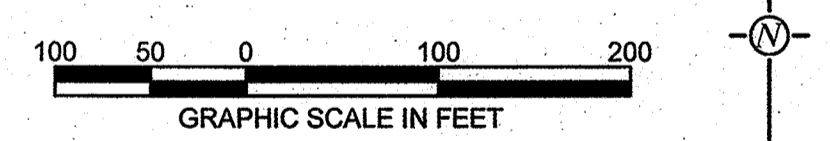
APPROVED BY: MM DATE: 5/13/13



**Professional Engineer Seal:**  
No. 14258  
PROFESSIONAL  
DANIEL B. BUNNELL  
4-15-13

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

- NOTES:
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  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  4. SEE SHEET 1 OF 35 FOR GENERAL NOTES.



**Professional Engineer Seal:**  
No. 15688  
PROFESSIONAL  
WILLIAM F. HODGES

**Professional Engineer Seal:**  
No. 2079  
PROFESSIONAL  
K. MATTHEW CHECK

REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

FINAL GRADING PLAN  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD. SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-8-FG-R EDIT 4-15-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012 SHEET 8 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,206.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

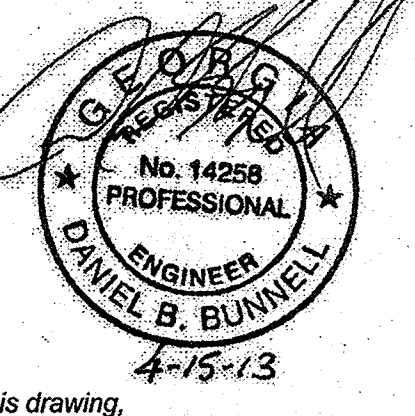
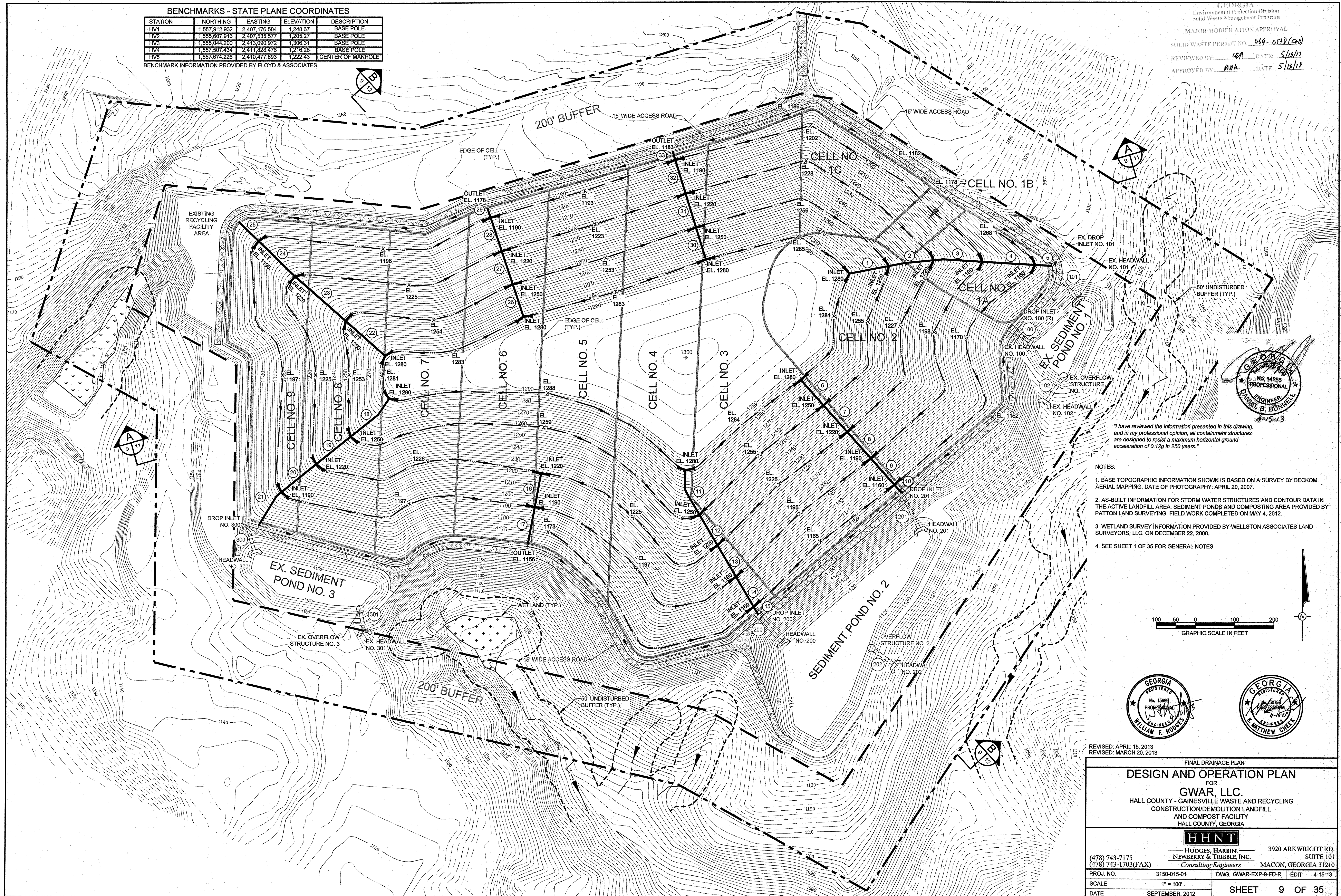
GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-0177(CAD)

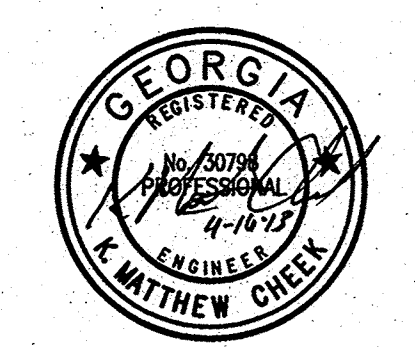
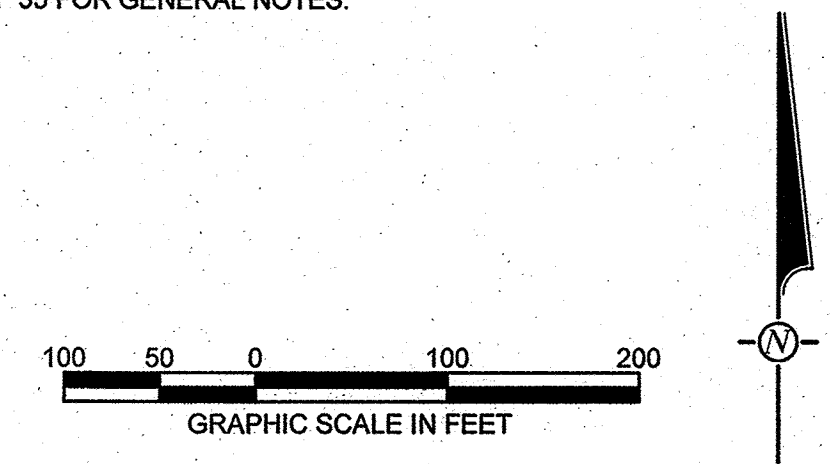
REVIEWED BY: *WH* DATE: 5/13/13

APPROVED BY: *MMA* DATE: 5/13/13



"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

- NOTES:
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  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  4. SEE SHEET 1 OF 35 FOR GENERAL NOTES.



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

FINAL DRAINAGE PLAN

**DESIGN AND OPERATION PLAN**

FOR

**GWAR, LLC.**

HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**

HODGES, HARBIN, 3920 ARKWRIGHT RD.  
NEWBERRY & TRIBBLE, INC. SUITE 101  
Consulting Engineers MACON, GEORGIA 31210

(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-9-FD-R EDIT 4-15-13

SCALE 1" = 100'

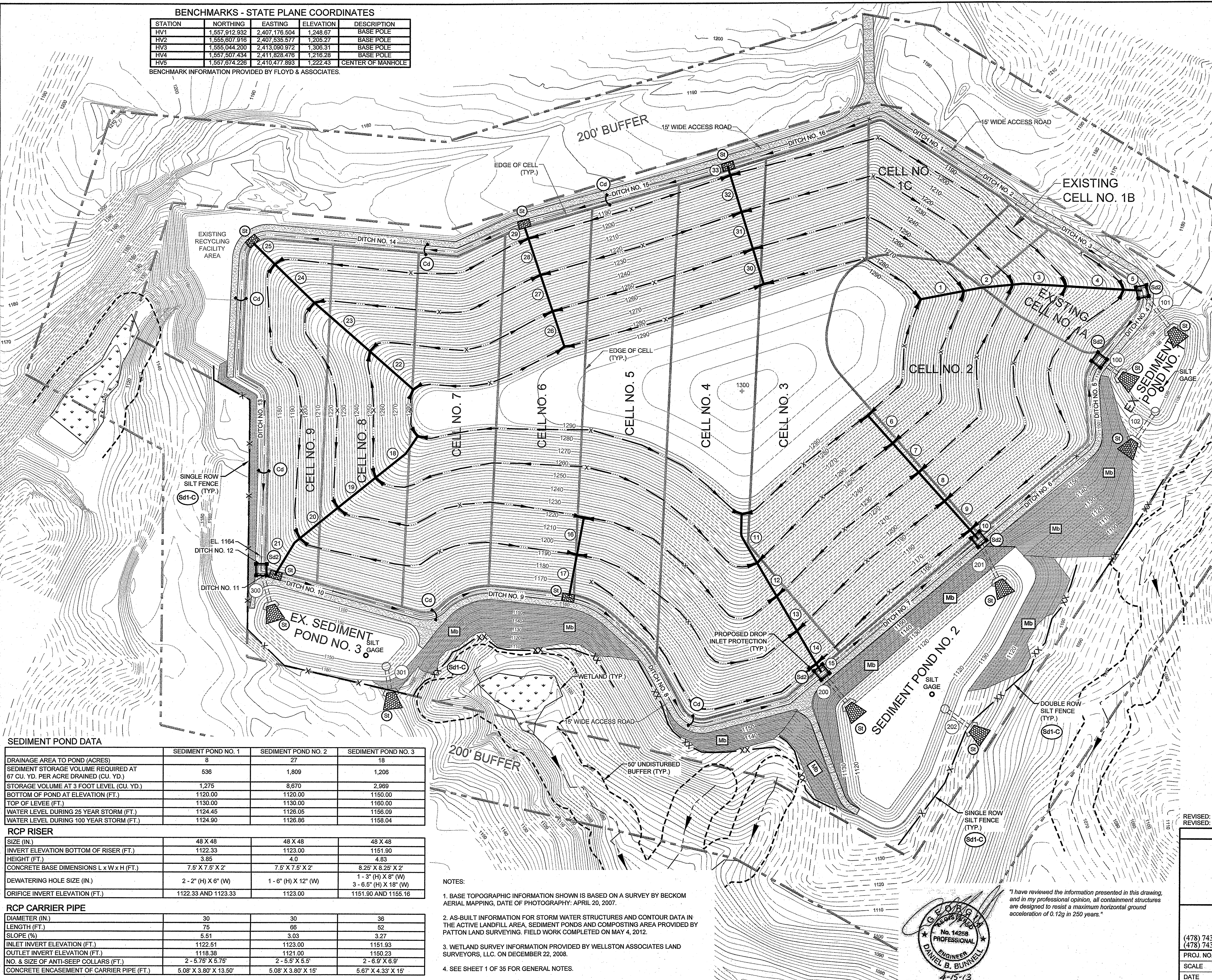
DATE SEPTEMBER, 2012 SHEET 9 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
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HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 064-017D(CD)  
REVIEWED BY: *CEH* DATE: 5/13/12  
APPROVED BY: *HBC* DATE: 5/13/12



**EROSION CONTROL DEVICES**

X	SILT FENCE (Sd1-C)
XX	DOUBLE ROW SILT FENCE (Sd1-C)
□	DROP INLET OR PIPE INLET PROTECTION (Sd2)
▨	EXCELISOR SLOPE MATTING (Mb)
⌒	ROCK CHECK DAM (Cd)

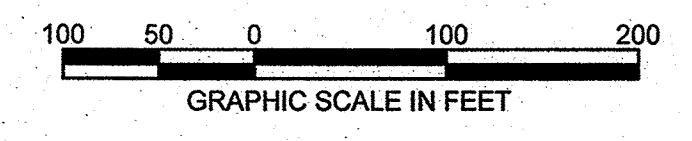
W2	PIPE NO.	RIP-RAP SIZE	LENGTH(L)	W1	W2
L	100(E)	6"	16'	7.5'	18.5'
	101(E)	9"	22'	6'	24'
	102(E)	9"	18'	7.5'	20.5'
	200	12"	29'	10.5'	32.5'
	201	12"	24'	6'	26'
	202	9"	22'	7.5'	25.5'
	300	12"	30'	10.5'	33.5'
	301(E)	9"	24'	9'	27'
	DD 17	6"	18'	9'	9'
	DD 21	6"	18'	12.5'	12.5'
	DD 25	6"	18'	9'	9'
	DD 29	9"	18'	16.5'	16.5'
	DD 33	9"	18'	21'	21'

\* DD = DOWNDRAIN PIPE NUMBER REQUIRING OUTLET PROTECTION

GRASSED LINED DITCH WITH EXCELISOR MATTING (INSTALL LINING AT CLOSURE)	DITCH NO.	LENGTH	SLOPE
1	292'	1.37%	
2	92'	4.35%	
6	300'	0.80%	
7	480'	0.50%	
8	754'	0.53%	
9	575'	0.70%	
10	140'	1.43%	
11	34'	2.94%	
13	777'	1.03%	
14	653'	0.92%	
15	495'	1.01%	
16	348'	0.86%	

RIP-RAP LINED DITCH (INSTALL LINING AT CLOSURE)	DITCH NO.	RIP-RAP SIZE	LENGTH	SLOPE
3	9"	360'	8.61%	
4	6"	198'	6.57%	
5	9"	244'	7.38%	
12	12"	32'	3.13%	

NOTE:  
1. OPERATOR MAY USE A MORE RESISTANT LINING MATERIAL IN LIEU OF RIP-RAP LINED DITCHES AT HIS DISCRETION.

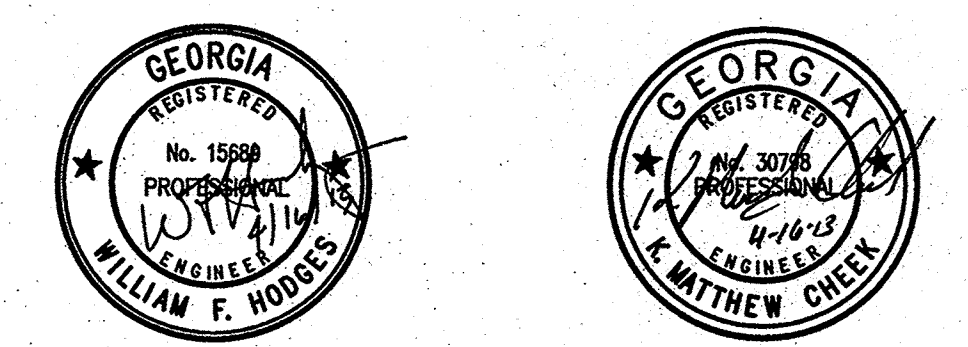
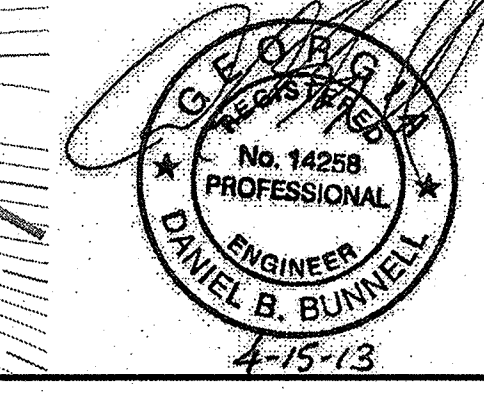


**SEDIMENT POND DATA**

	SEDIMENT POND NO. 1	SEDIMENT POND NO. 2	SEDIMENT POND NO. 3
DRAINAGE AREA TO POND (ACRES)	3	27	18
SEDIMENT STORAGE VOLUME REQUIRED AT 67 CU. YD. PER ACRE DRAINED (CU. YD.)	536	1,809	1,206
STORAGE VOLUME AT 3 FOOT LEVEL (CU. YD.)	1,275	8,670	2,969
BOTTOM OF POND AT ELEVATION (FT.)	1120.00	1120.00	1150.00
TOP OF LEVEE (FT.)	1130.00	1130.00	1160.00
WATER LEVEL DURING 25 YEAR STORM (FT.)	1124.45	1126.05	1156.09
WATER LEVEL DURING 100 YEAR STORM (FT.)	1124.90	1126.86	1156.04
<b>RCP RISER</b>			
SIZE (IN.)	48 X 48	48 X 48	48 X 48
INVERT ELEVATION BOTTOM OF RISER (FT.)	1122.33	1123.00	1151.90
HEIGHT (FT.)	3.85	4.0	4.83
CONCRETE BASE DIMENSIONS L x W x H (FT.)	7.5' X 7.5' X 2'	7.5' X 7.5' X 2'	8.25' X 8.25' X 2'
DEWATERING HOLE SIZE (IN.)	2 - 2" (H) X 6" (W)	1 - 6" (H) X 12" (W)	1 - 3" (H) X 6" (W) 3 - 6.5" (H) X 18" (W)
ORIFICE INVERT ELEVATION (FT.)	1122.33 AND 1123.33	1123.00	1151.90 AND 1155.16
<b>RCP CARRIER PIPE</b>			
DIAMETER (IN.)	30	30	36
LENGTH (FT.)	75	68	52
SLOPE (%)	5.51	3.03	3.27
INLET INVERT ELEVATION (FT.)	1122.51	1123.00	1151.93
OUTLET INVERT ELEVATION (FT.)	1118.38	1121.00	1150.23
NO. & SIZE OF ANTI-SLEEP COLLARS (FT.)	2 - 5.75" X 5.75"	2 - 5.5" X 5.5"	2 - 6.0" X 6.0"
CONCRETE ENCASUREMENT OF CARRIER PIPE (FT.)	5.08' X 3.80' X 13.50'	5.08' X 3.80' X 15'	5.67' X 4.33' X 15'

- NOTES:
- BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  - AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  - WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  - SEE SHEET 1 OF 35 FOR GENERAL NOTES.

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."



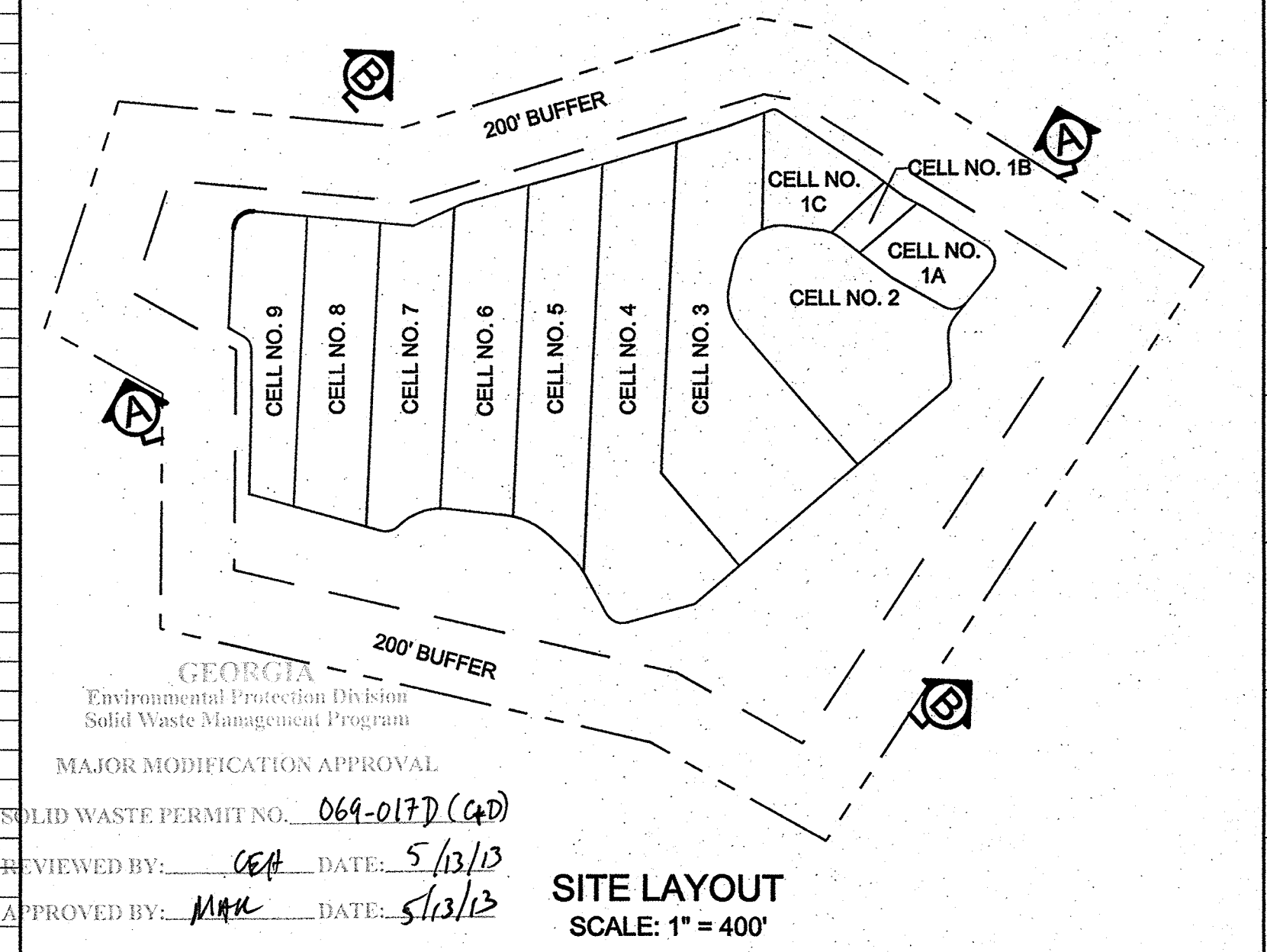
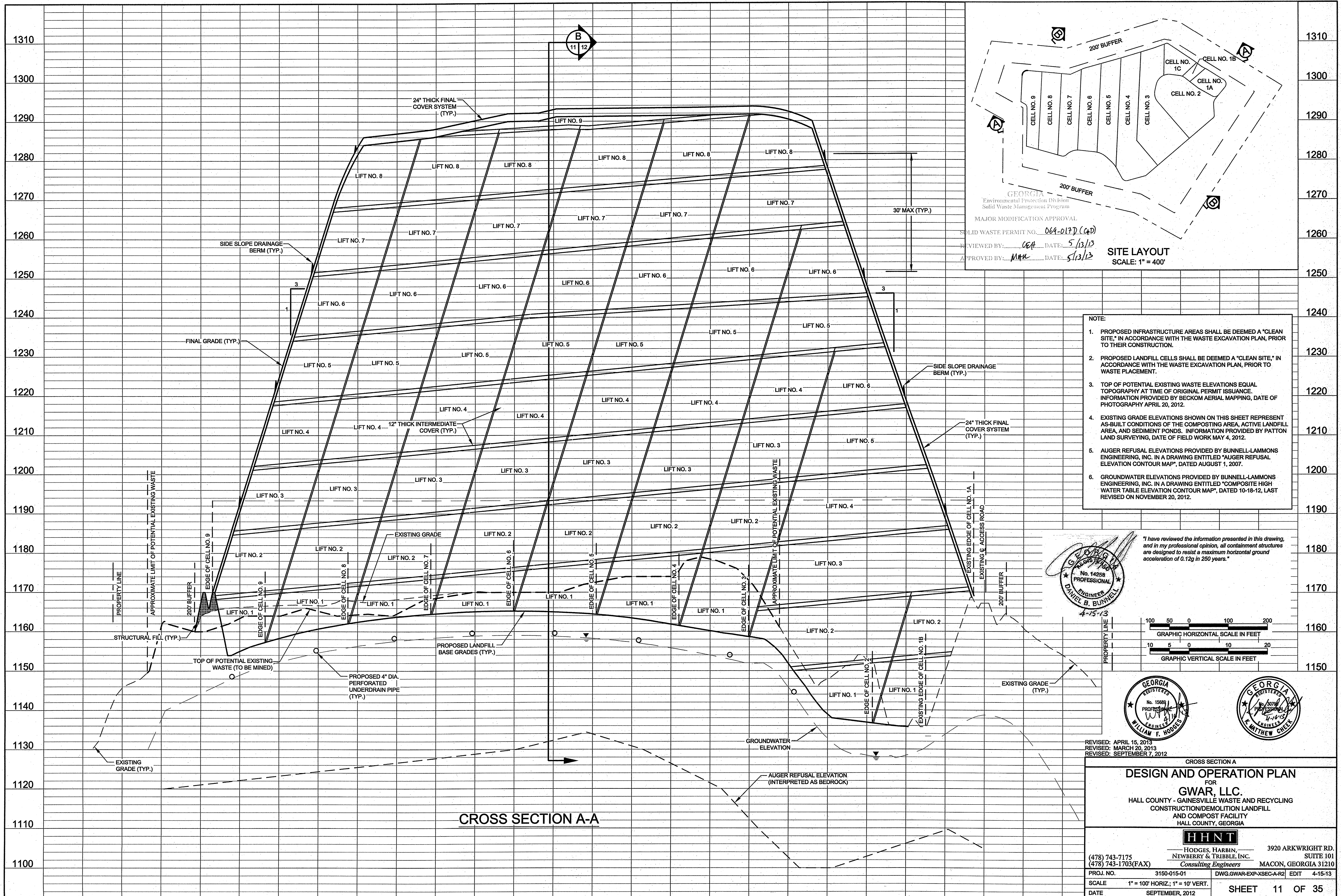
REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

EROSION CONTROL PLAN  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
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Consulting Engineers  
3920 ARK WRIGHT RD. SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

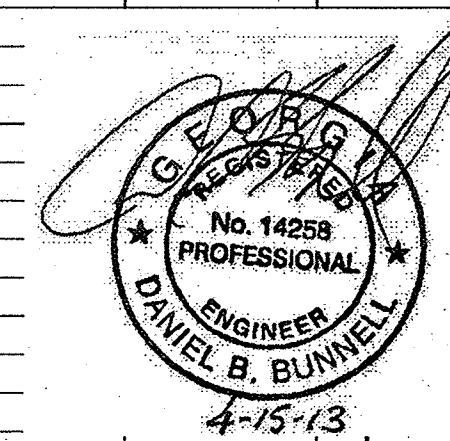
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SCALE 1" = 100'  
DATE SEPTEMBER, 2012

**SHEET 10 OF 35**

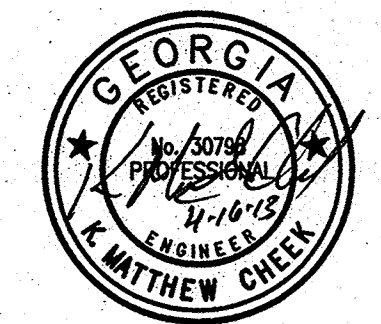
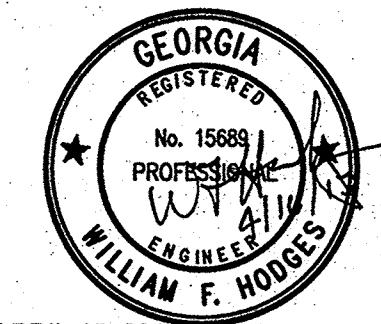
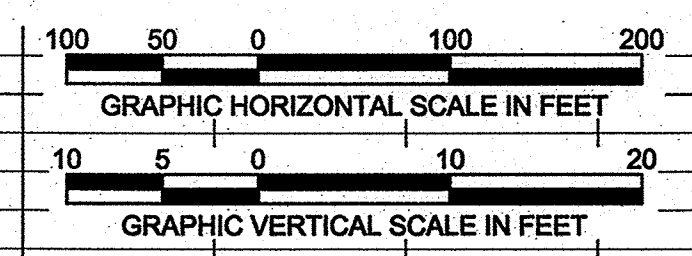


GEORGIA  
 Environmental Protection Division  
 Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-017D (40)  
 REVIEWED BY: *CEH* DATE: 5/13/13  
 APPROVED BY: *MAN* DATE: 5/13/13

- NOTE:
- PROPOSED INFRASTRUCTURE AREAS SHALL BE DEEMED A "CLEAN SITE," IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN, PRIOR TO THEIR CONSTRUCTION.
  - PROPOSED LANDFILL CELLS SHALL BE DEEMED A "CLEAN SITE," IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN, PRIOR TO WASTE PLACEMENT.
  - TOP OF POTENTIAL EXISTING WASTE ELEVATIONS EQUAL TOPOGRAPHY AT TIME OF ORIGINAL PERMIT ISSUANCE. INFORMATION PROVIDED BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY APRIL 20, 2012.
  - EXISTING GRADE ELEVATIONS SHOWN ON THIS SHEET REPRESENT AS-BUILT CONDITIONS OF THE COMPOSTING AREA, ACTIVE LANDFILL AREA, AND SEDIMENT PONDS. INFORMATION PROVIDED BY PATTON LAND SURVEYING, DATE OF FIELD WORK MAY 4, 2012.
  - AUGER REFUSAL ELEVATIONS PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. IN A DRAWING ENTITLED "AUGER REFUSAL ELEVATION CONTOUR MAP", DATED AUGUST 1, 2007.
  - GROUNDWATER ELEVATIONS PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. IN A DRAWING ENTITLED "COMPOSITE HIGH WATER TABLE ELEVATION CONTOUR MAP", DATED 10-18-12, LAST REVISED ON NOVEMBER 20, 2012.



"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."



REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013  
 REVISED: SEPTEMBER 7, 2012

CROSS SECTION A

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

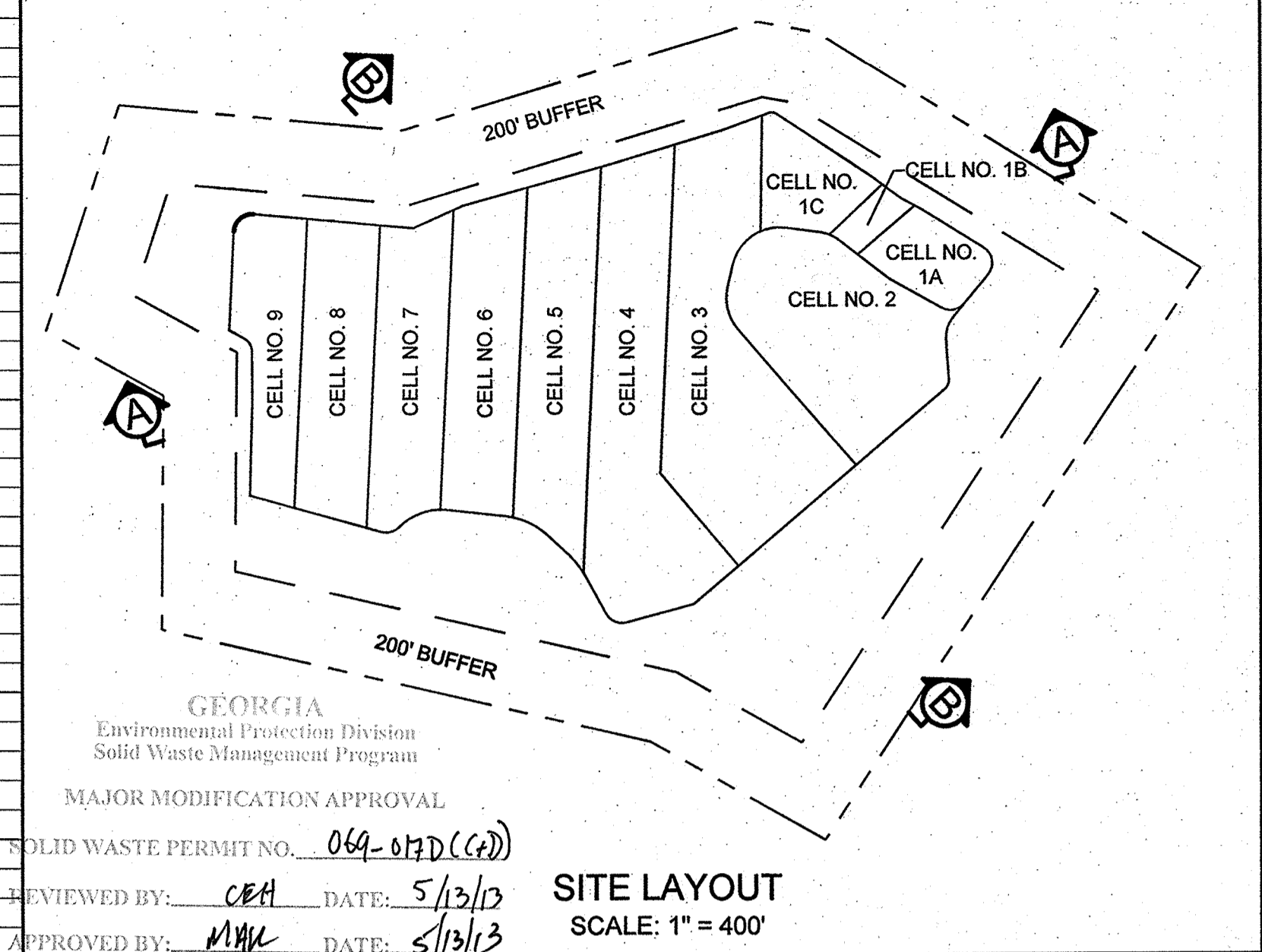
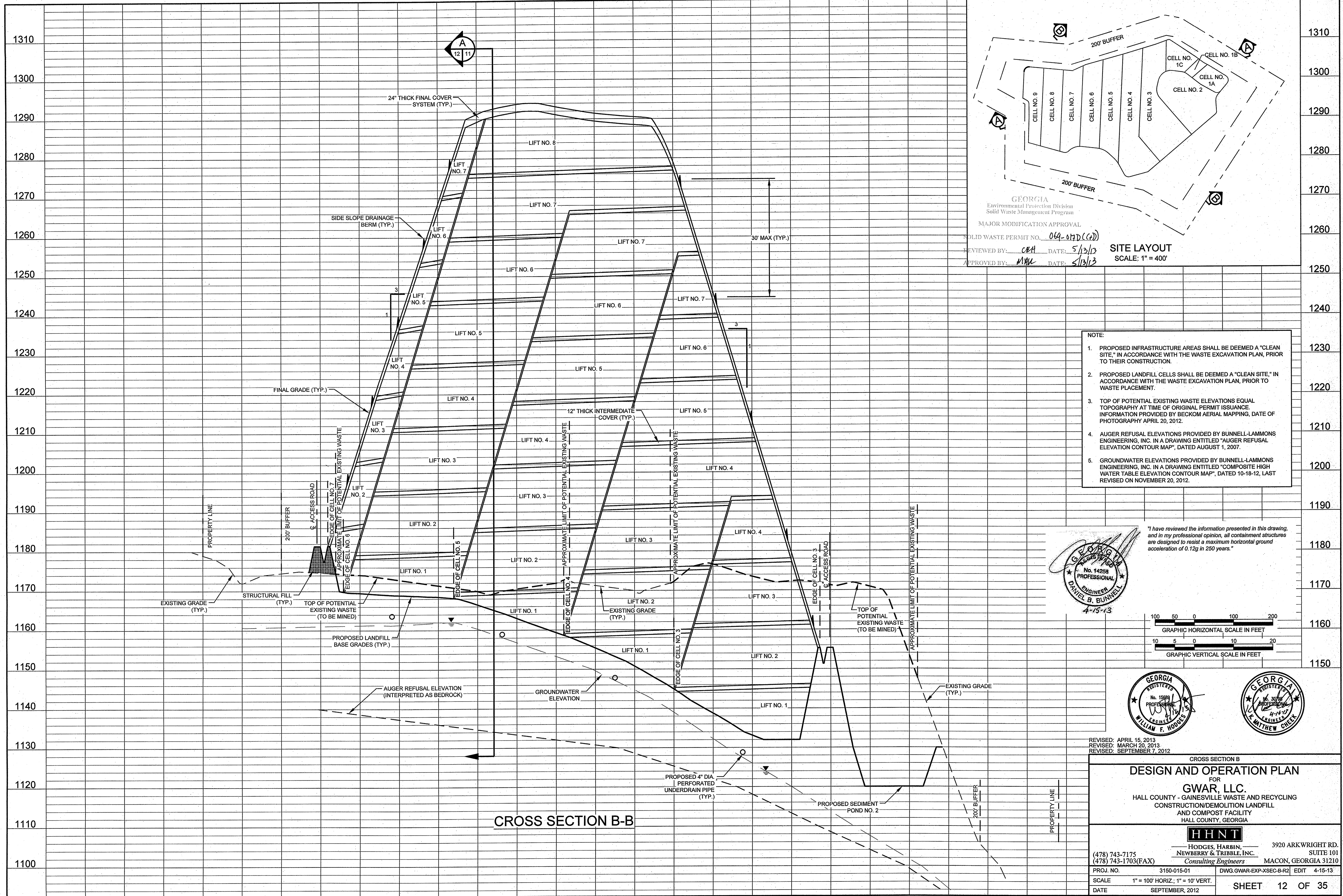
**HHNT**  
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Consulting Engineers  
3920 ARKWRIGHT RD., SUITE 101  
MACON, GEORGIA 31210

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PROJ. NO. 3150-015-01 DWG. GWAR-EXP-XSEC-A-R2 EDIT 4-15-13  
SCALE 1" = 100' HORIZ.; 1" = 10' VERT.  
DATE SEPTEMBER, 2012

**SHEET 11 OF 35**

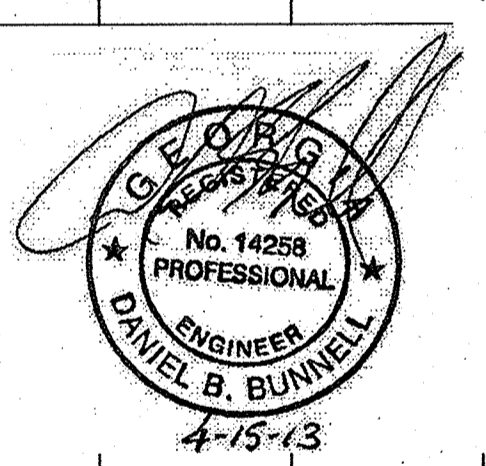
CROSS SECTION A-A



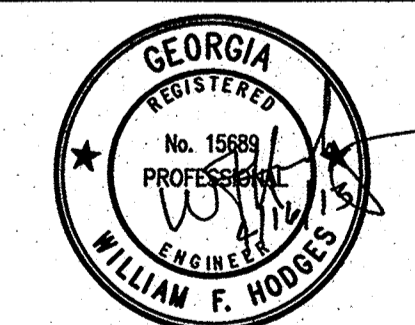
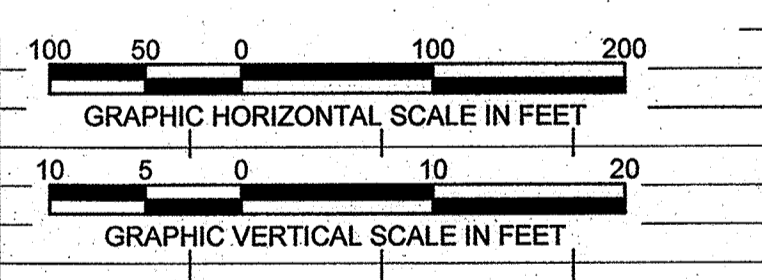
GEORGIA  
 Environmental Protection Division  
 Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-017D(CP)  
 REVIEWED BY: CEM DATE: 5/13/13  
 APPROVED BY: MMH DATE: 5/13/13

**SITE LAYOUT**  
 SCALE: 1" = 400'

- NOTE:
1. PROPOSED INFRASTRUCTURE AREAS SHALL BE DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN, PRIOR TO THEIR CONSTRUCTION.
  2. PROPOSED LANDFILL CELLS SHALL BE DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN, PRIOR TO WASTE PLACEMENT.
  3. TOP OF POTENTIAL EXISTING WASTE ELEVATIONS EQUAL TOPOGRAPHY AT TIME OF ORIGINAL PERMIT ISSUANCE. INFORMATION PROVIDED BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY APRIL 20, 2012.
  4. AUGER REFUSAL ELEVATIONS PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. IN A DRAWING ENTITLED "AUGER REFUSAL ELEVATION CONTOUR MAP", DATED AUGUST 1, 2007.
  5. GROUNDWATER ELEVATIONS PROVIDED BY BUNNELL-LAMMONS ENGINEERING, INC. IN A DRAWING ENTITLED "COMPOSITE HIGH WATER TABLE ELEVATION CONTOUR MAP", DATED 10-18-12, LAST REVISED ON NOVEMBER 20, 2012.



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REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013  
 REVISED: SEPTEMBER 7, 2012

CROSS SECTION B

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

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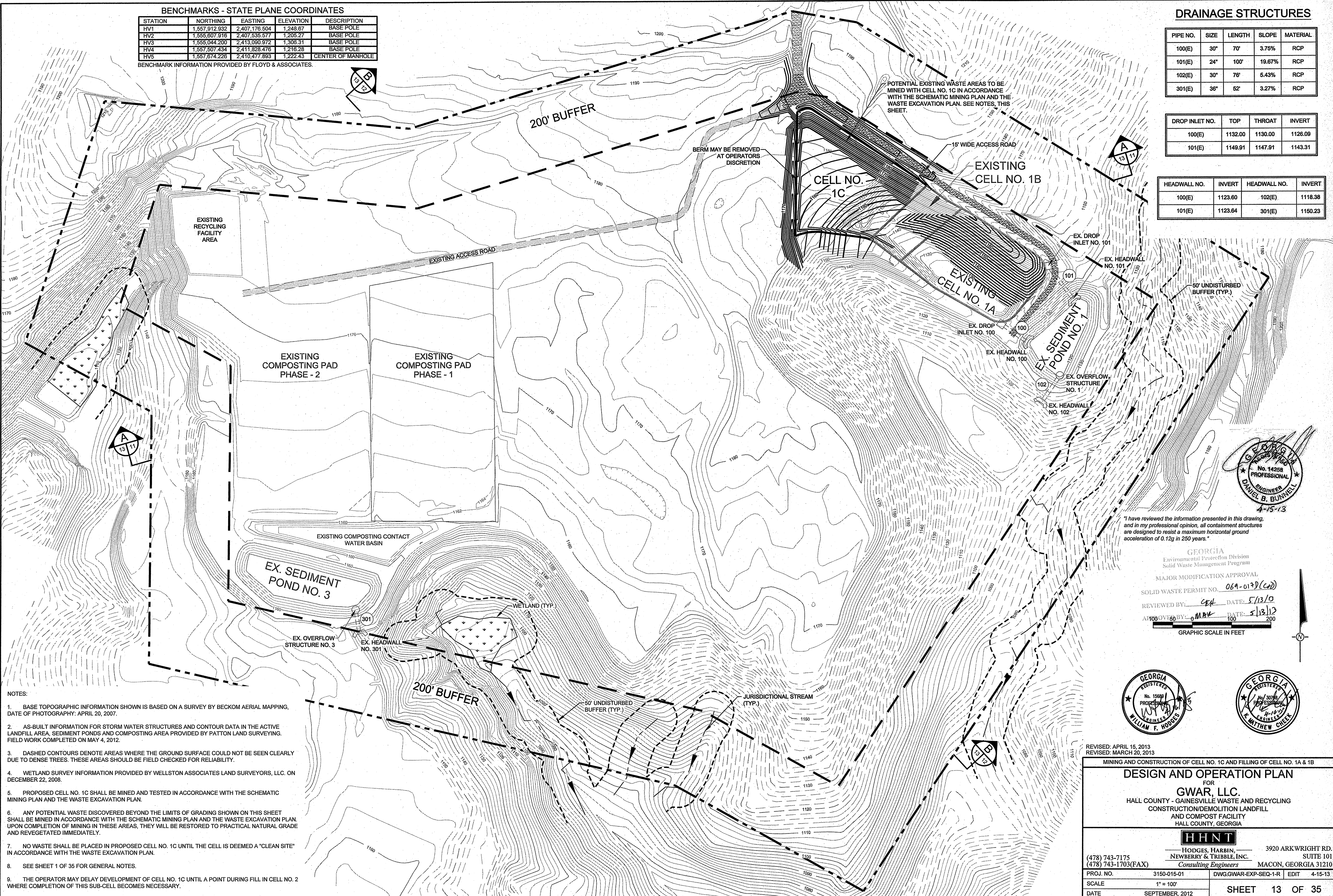
PROJ. NO. 3150-015-01 DWG. GWAR-EXP-XSEC-B-R2 EDIT 4-15-13  
SCALE 1" = 100' HORIZ.; 1" = 10' VERT.  
DATE SEPTEMBER, 2012

**SHEET 12 OF 35**

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
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HV2	1,555,507.916	2,407,535.577	1,205.27	BASE POLE
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HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.



**DRAINAGE STRUCTURES**

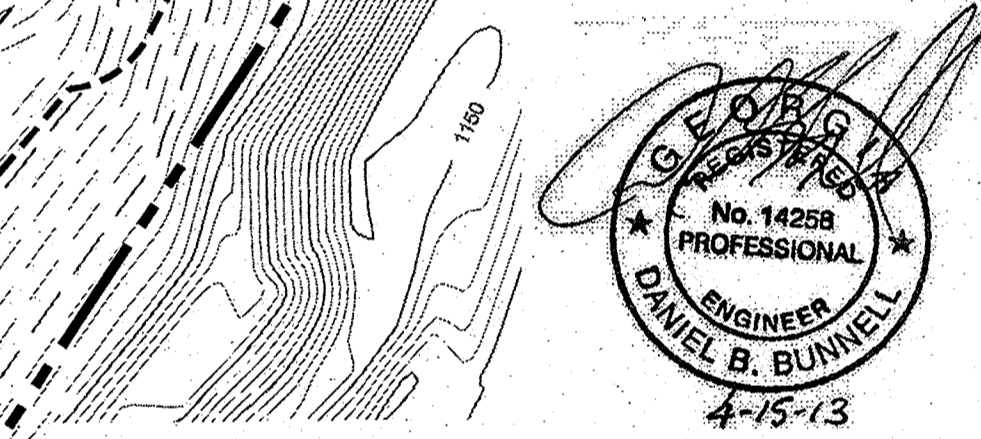
PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
301(E)	36"	52'	3.27%	RCP

DROP INLET NO.	TOP	THROAT	INVERT
100(E)	1132.00	1130.00	1126.09
101(E)	1149.91	1147.91	1143.31

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	102(E)	1118.38
101(E)	1123.64	301(E)	1150.23

**NOTES:**

1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING, FIELD WORK COMPLETED ON MAY 4, 2012.
3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
5. PROPOSED CELL NO. 1C SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 1C UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.
9. THE OPERATOR MAY DELAY DEVELOPMENT OF CELL NO. 1C UNTIL A POINT DURING FILL IN CELL NO. 2 WHERE COMPLETION OF THIS SUB-CELL BECOMES NECESSARY.



"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

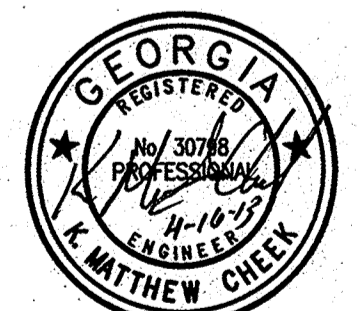
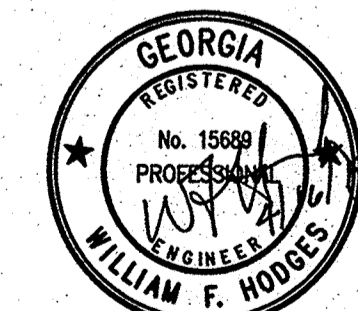
GEORGIA Environmental Protection Division Solid Waste Management Program

MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-0127(C-2)

REVIEWED BY: *CEH* DATE: 5/13/10

APPROVED BY: *MBW* DATE: 5/13/12

GRAPHIC SCALE IN FEET



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 1C AND FILLING OF CELL NO. 1A & 1B

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD. SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175 (FAX) (478) 743-1703 (FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-SEQ-1-R EDIT 4-15-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012

**SHEET 13 OF 35**

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,567,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,565,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,565,044.200	2,413,060.972	1,306.31	BASE POLE
HV4	1,567,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,567,674.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200	42"	95'	22.11%	RCP
201	24"	96'	17.32%	RCP
202	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T1	42"	158'	0.47%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200	1154.00	1152.00	1144.00
201	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T1	1123.75
200	1123.00	F.E.S. T2	1123.00
201	1123.00	-	-

**OPERATIONS SEQUENCE - CELL NO. 2**

- ALL STORMWATER FROM CELL NO. 2 SHALL BE ROUTED TO EITHER SEDIMENT POND NO. 1 OR SEDIMENT POND NO. 2. NO STORMWATER FROM THIS CELL CAN BE DISCHARGED WITHOUT BEING ROUTED THROUGH THESE SEDIMENT PONDS.
- IT IS ANTICIPATED THAT ONLY A PORTION OF CELL NO. 2 WILL BE CONSTRUCTED INITIALLY. THE SCHEMATIC SEQUENCE DRAWINGS SHOWN ON THE INSET OF SHEET 14A GENERALLY DESCRIBE THIS SEQUENCE. THIS SEQUENCE INCLUDES:
  - INITIALLY, THE DIKE ON THE SOUTHEAST END OF CELL NO. 2 WILL BE CONSTRUCTED TO AN ELEVATION OF 1120 MSL. THIS DIKE WILL REQUIRE PUMPING STORMWATER TRAPPED BY THIS DIKE TO SEDIMENT POND NO. 1.
  - C&D WASTE FILL WILL BEGIN ADJACENT TO THE CELL NO. 1 (NORTHEAST) SIDE OF CELL NO. 2 ABOVE THE PROPOSED 1114 CONTOUR. AREAS BELOW THIS CONTOUR WILL NOT BE FILLED INITIALLY.
  - THE DIKE WILL NEXT BE RAISED 10 FEET TO ELEVATION 1130 MSL AND CONSTRUCTION WILL BEGIN ON SEDIMENT POND NO. 2. CONSTRUCTION ON THE REMAINDER OF CELL NO. 2 SHALL PROCEED CONCURRENT WITH SEDIMENT POND NO. 2.
  - WHEN SEDIMENT POND NO. 2 IS COMPLETE, A DRY WEATHER PERIOD SHALL BE UTILIZED TO FLOOR IN CELL NO. 2 WITH C&D WASTE FILL TO ELEVATION 1130 MSL. WHEN THIS CELL IS FLOORED IN TO THIS ELEVATION WITH C&D WASTE FILL, INTERMEDIATE COVER WILL BE PLACED OVER THIS C&D WASTE FILL AND STORMWATER PUMPING WILL CEASE. ALL STORMWATER FROM THIS CELL SHALL THEN BE DIRECTED TO FLARED END SECTION (FES) 1 FOR ROUTING THROUGH SEDIMENT POND NO. 2.
- WHEN STORMWATER IS BEING PUMPED, CARE SHOULD BE USED TO NOT SURCHARGE SEDIMENT POND NO. 1. THIS CAN BEST BE ACCOMPLISHED BY KEEPING THE LOWER AREA IN CELL NO. 2 PUMPED DOWN BETWEEN STORMS, AND THEN ALLOWING STORMWATER TO STORE IN THE CELL DURING THE STORM EVENT. IMMEDIATELY FOLLOWING THE STORM EVENT, THE STORMWATER STORED IN THE CELL SHALL BE PUMPED DOWN AND TO SEDIMENT POND NO. 1.
- AT NO TIME SHALL C&D WASTE FILL BE PLACED IN STANDING WATER IN CELL NO. 2.
- SEE SHEET 14A FOR SCHEMATIC SKETCHES OF THIS SEQUENCE.

**NOTES:**

- BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
- AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
- DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
- WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
- PROPOSED CELL NO. 2 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. PORTIONS OF CELL NO. 2 CAN BE UTILIZED WITHOUT WASTE EXCAVATION. A PARTIAL CELL MAY BE PUT INTO USE. IF ONLY A PARTIAL CELL IS OPENED, THEN A MINOR MODIFICATION FOR THAT AREA MAY BE SUBMITTED TO GEORGIA EPD FOR APPROVAL. SEDIMENT POND NO. 2 SHALL BE FULLY CONSTRUCTED PRIOR TO THE COMPLETION OF FILL IN CELL NO. 2 BEFORE WASTE DISPOSAL MOVES INTO CELL NO. 3.
- ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
- NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 2 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN (SEE NOTE 5 ABOVE).
- THE LOWER PORTIONS OF CELL NO. 2 WILL REQUIRE TEMPORARY STORM WATER PUMPING UNTIL THAT AREA IS FILLED TO AN ELEVATION CAPABLE OF DRAINING INTO THE SEDIMENT POND. THE OPERATOR SHALL USE BERMS TO SEGREGATE THE C&D WASTE FROM THE STORM WATER TO BE PUMPED.
- SEE SHEET 1 OF 35 FOR GENERAL NOTES.

THESE AREAS SHALL BE CONSTRUCTED WITH A MINIMUM OF 12" THICKNESS OF CLAYEY SOIL COMPACTED IN-PLACE TO MINIMIZE INFILTRATION TO UNDERDRAIN SYSTEM

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D (C&D)

REVIEWED BY: *CEH* DATE: 5/13/13

APPROVED BY: *MHR* DATE: 5/13/13

GRAPHIC SCALE IN FEET



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

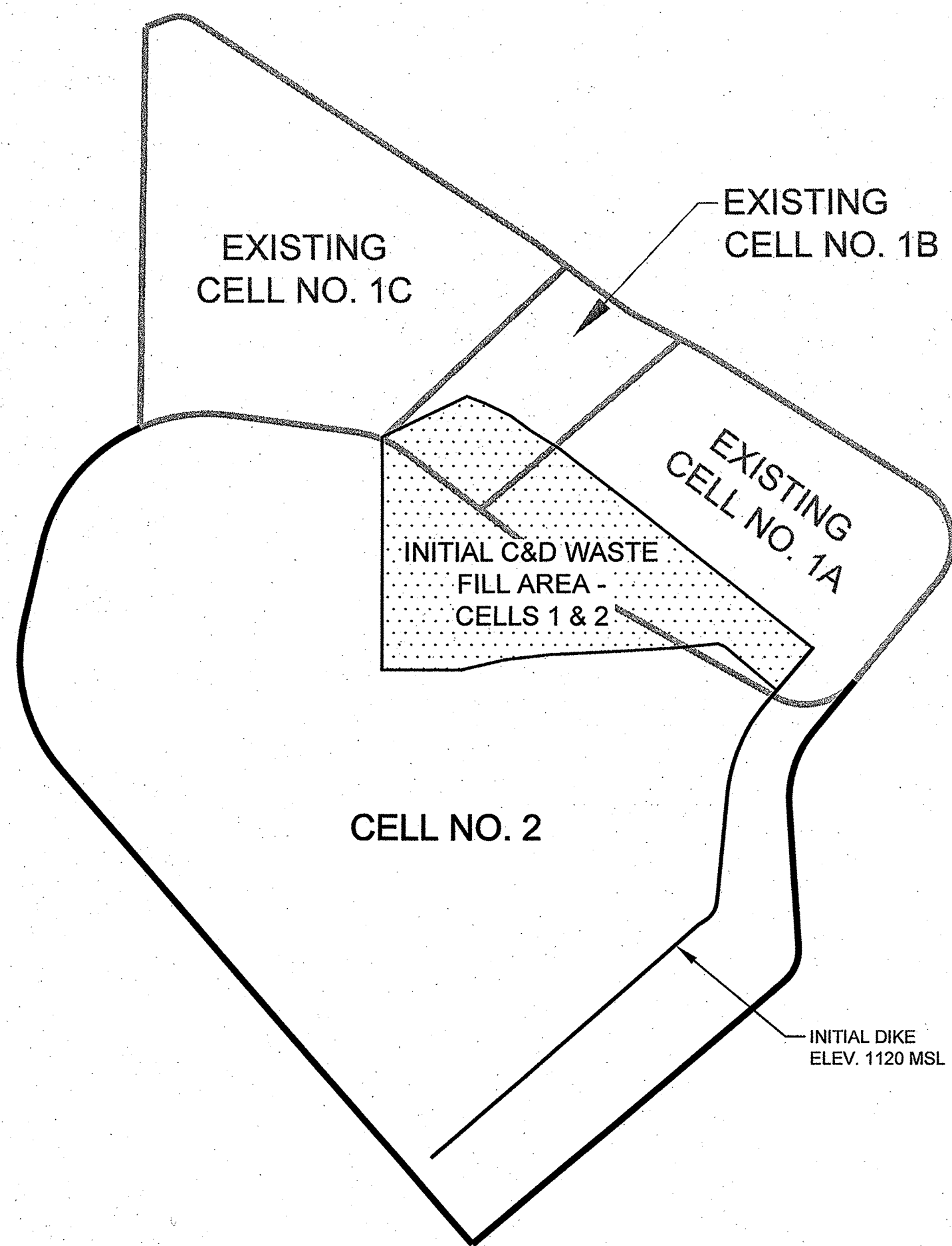
MINING AND CONSTRUCTION OF CELL NO. 2 AND FILLING OF CELL NO. 1C

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

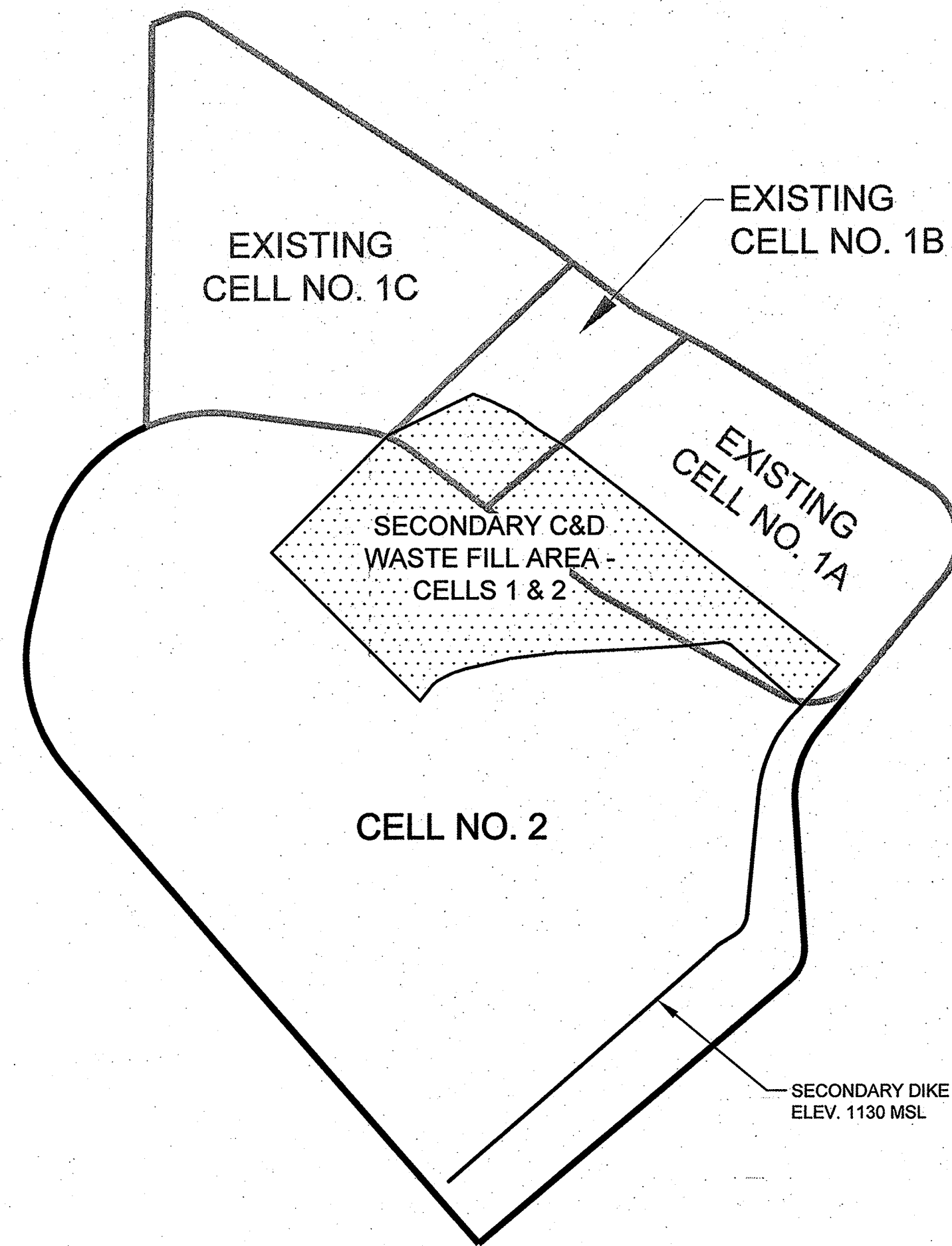
**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD., SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-SEQ-2-R EDIT 4-15-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012

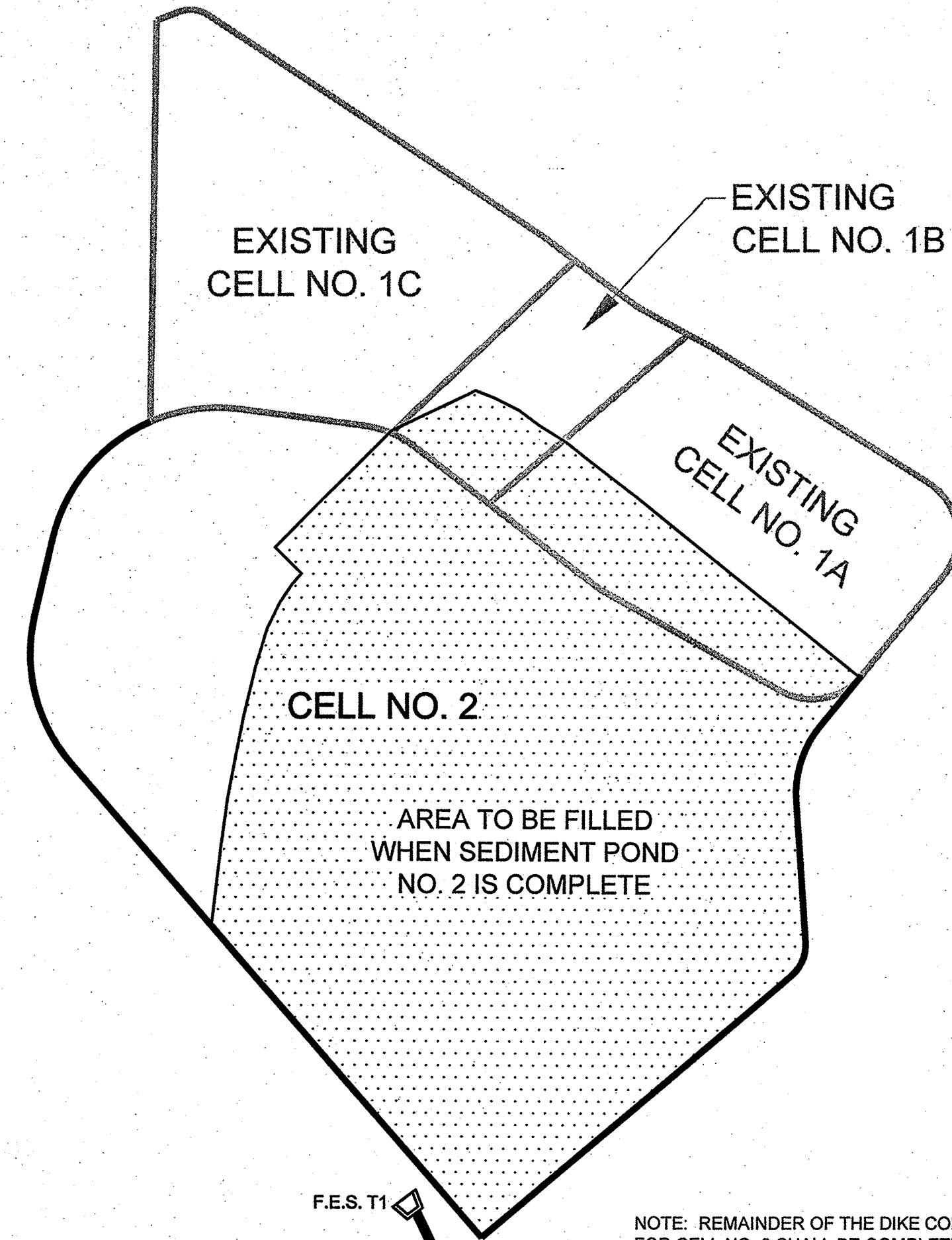
**SHEET 14 OF 35**



SEQUENCE SKETCH NO. 1



SEQUENCE SKETCH NO. 2



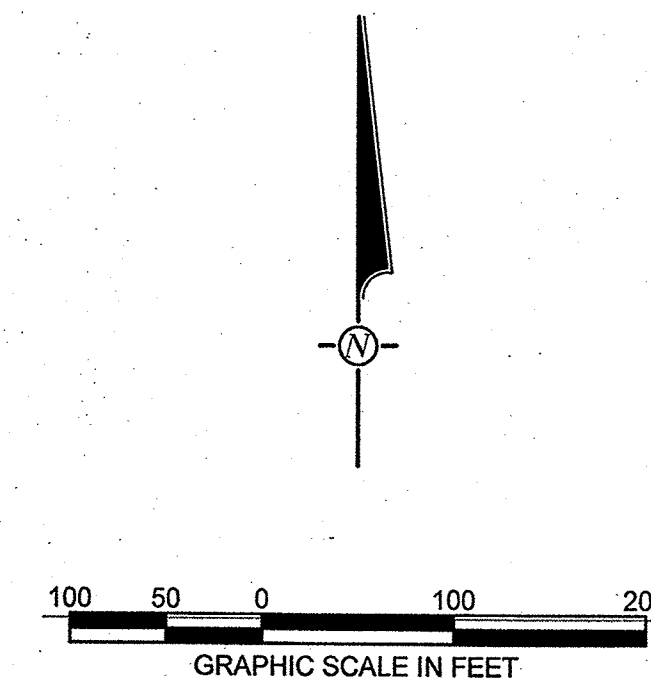
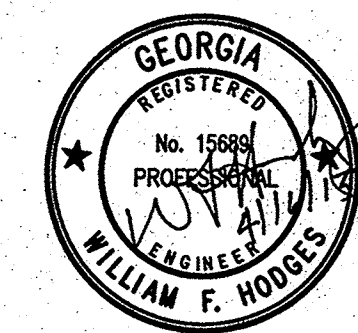
SEQUENCE SKETCH NO. 3

NOTE: REMAINDER OF THE DIKE CONSTRUCTION FOR CELL NO. 2 SHALL BE COMPLETED AFTER SEDIMENT POND NO. 2 IS COMPLETE.

OPERATIONS SEQUENCE - CELL NO. 2

1. ALL STORMWATER FROM CELL NO. 2 SHALL BE ROUTED TO EITHER SEDIMENT POND NO. 1 OR SEDIMENT POND NO. 2. NO STORMWATER FROM THIS CELL CAN BE DISCHARGED WITHOUT BEING ROUTED THROUGH THESE SEDIMENT PONDS.
2. IT IS ANTICIPATED THAT ONLY A PORTION OF CELL NO. 2 WILL BE CONSTRUCTED INITIALLY. THE SCHEMATIC SEQUENCE DRAWINGS SHOWN ON THIS SHEET GENERALLY DESCRIBE THIS SEQUENCE. THIS SEQUENCE INCLUDES:
  - A. INITIALLY, THE DIKE ON THE SOUTHEAST END OF CELL NO. 2 WILL BE CONSTRUCTED TO AN ELEVATION OF 1120 MSL. THIS DIKE WILL REQUIRE PUMPING STORMWATER TRAPPED BY THIS DIKE TO SEDIMENT POND NO. 1.
  - B. C&D WASTE FILL WILL BEGIN ADJACENT TO THE CELL NO. 1 (NORTHEAST) SIDE OF CELL NO. 2 ABOVE THE PROPOSED 1114 CONTOUR. AREAS BELOW THIS CONTOUR WILL NOT BE FILLED INITIALLY.
  - C. THE DIKE WILL NEXT BE RAISED 10 FEET TO ELEVATION 1130 MSL AND CONSTRUCTION WILL BEGIN ON SEDIMENT POND NO. 2. CONSTRUCTION ON THE REMAINDER OF CELL NO. 2 SHALL PROCEED CONCURRENT WITH SEDIMENT POND NO. 2.
  - D. WHEN SEDIMENT POND NO. 2 IS COMPLETE, A DRY WEATHER PERIOD SHALL BE UTILIZED TO FLOOR IN CELL NO. 2 WITH C&D WASTE FILL TO ELEVATION 1130 MSL. WHEN THIS CELL IS FLOORED IN TO THIS ELEVATION WITH C&D WASTE FILL, INTERMEDIATE COVER WILL BE PLACED OVER THIS C&D WASTE FILL AND STORMWATER PUMPING WILL CEASE. ALL STORMWATER FROM THIS CELL SHALL THEN BE DIRECTED TO FLARED END SECTION (FES) 1 FOR ROUTING THROUGH SEDIMENT POND NO. 2.
3. WHEN STORMWATER IS BEING PUMPED, CARE SHOULD BE USED TO NOT SURCHARGE SEDIMENT POND NO. 1. THIS CAN BEST BE ACCOMPLISHED BY KEEPING THE LOWER AREA IN CELL NO. 2 PUMPED DOWN BETWEEN STORMS, AND THEN ALLOWING STORMWATER TO STORE IN THE CELL DURING THE STORM EVENT. IMMEDIATELY FOLLOWING THE STORM EVENT, THE STORMWATER STORED IN THE CELL SHALL BE PUMPED DOWN AND TO SEDIMENT POND NO. 1.
4. AT NO TIME SHALL C&D WASTE FILL BE PLACED IN STANDING WATER IN CELL NO. 2.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017D (G2)  
REVIEWED BY: CBH DATE: 5/13/13  
APPROVED BY: MMA DATE: 5/13/13



CELL NO. 2 SEQUENCE SCHEMATICS			
<b>DESIGN AND OPERATION PLAN</b>			
FOR <b>GWAR, LLC.</b>			
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY HALL COUNTY, GEORGIA			
<b>HHNT</b>			
(478) 743-7175 (478) 743-1703(FAX)		3920 ARKWRIGHT RD. SUITE 101 MACON, GEORGIA 31210	
PROJ. NO. 3150-015-01	DWG. GWAR-EXP-SEQ2-S	EDIT	4-15-13
SCALE 1" = 100'	DATE SEPTEMBER, 2012		
SHEET			14A OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,874.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

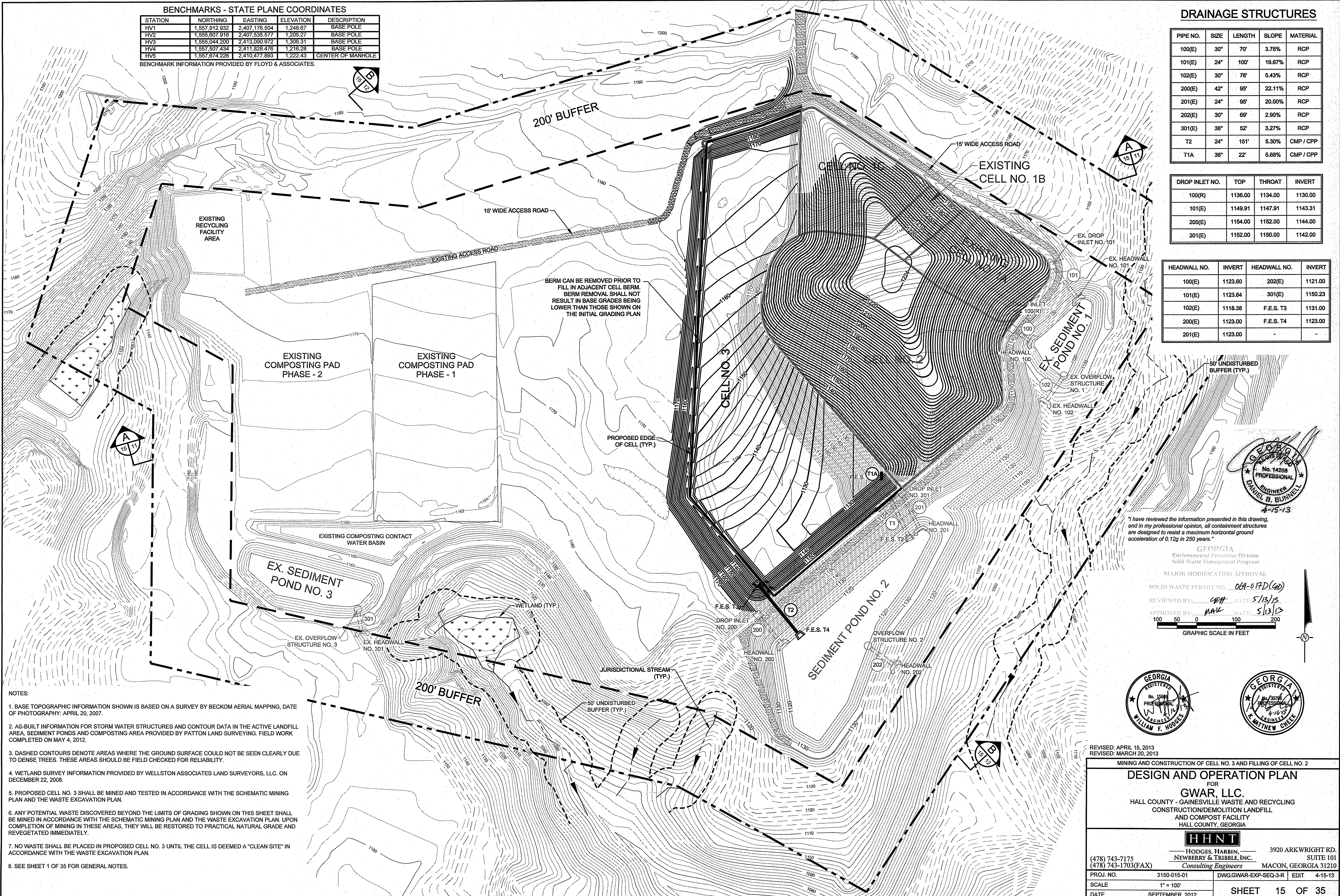
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	95'	20.00%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T2	24"	151'	5.30%	CMP / CPP
T1A	36"	22'	5.68%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1152.00	1150.00	1142.00

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T3	1131.00
200(E)	1123.00	F.E.S. T4	1123.00
201(E)	1123.00		



- NOTES:**
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. PROPOSED CELL NO. 3 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
  6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
  7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 3 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
  8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

**PROFESSIONAL ENGINEER**  
 No. 14258  
 DANIEL B. BLUNNELL  
 4-15-13

I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years.

**GEORGIA**  
 Environmental Protection Division  
 Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 06A-017D(00)  
 REVIEWED BY: *CEH* DATE: 5/13/15  
 APPROVED BY: *MAH* DATE: 5/13/15  
 100 50 0 100 200  
 GRAPHIC SCALE IN FEET

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
 No. 15588  
 WILLIAM F. HODGES

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
 No. 20776  
 K. MITCHELL CREEK

REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 3 AND FILLING OF CELL NO. 2

**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA

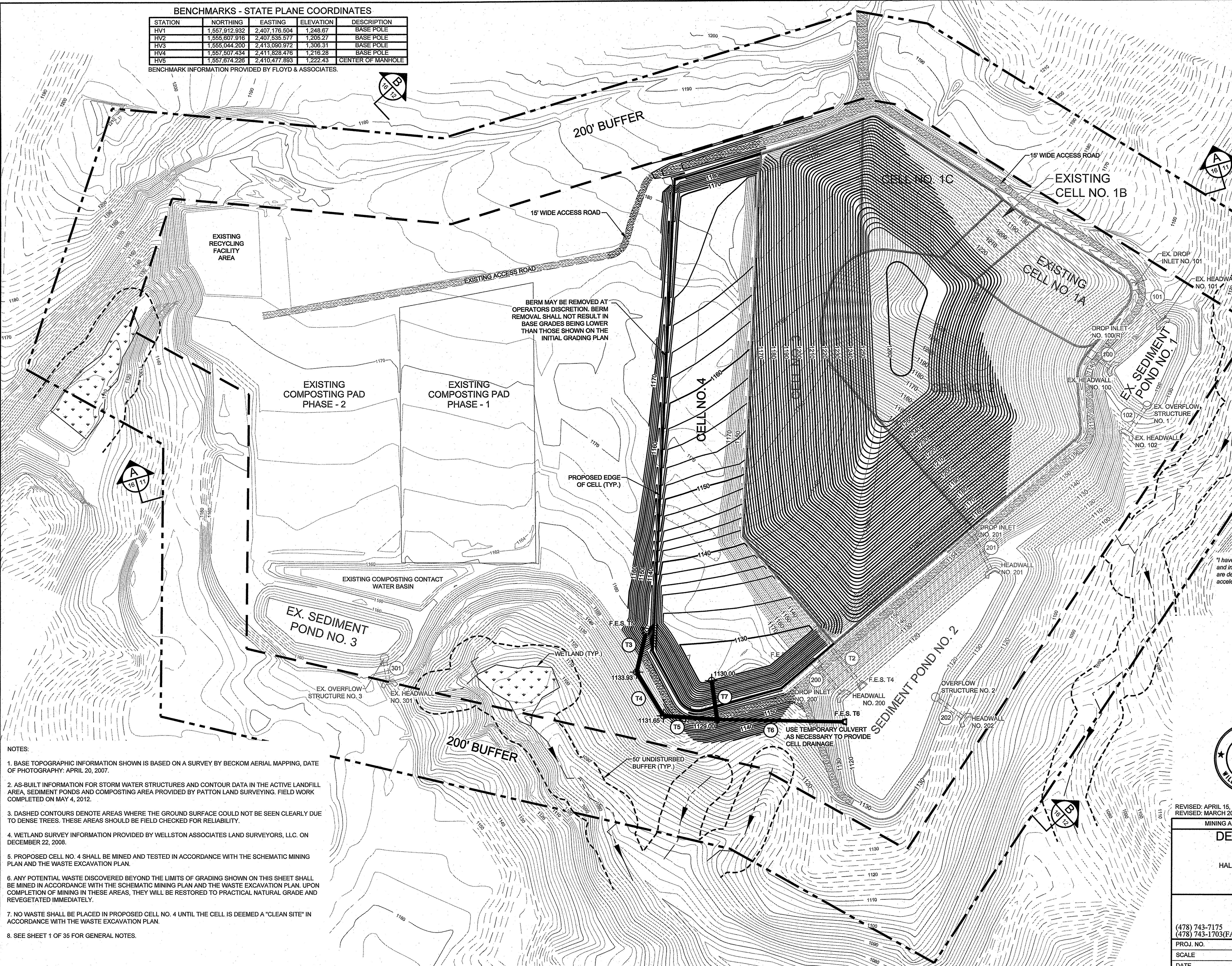
**HHNT**  
 HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
 Consulting Engineers  
 3920 ARKWRIGHT RD. SUITE 101  
 MACON, GEORGIA 31210  
 (478) 743-7175  
 (478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG.GWAR-EXP-SEQ-3-R EDIT 4-15-13  
 SCALE 1" = 100'  
 DATE SEPTEMBER, 2012 SHEET 15 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
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HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

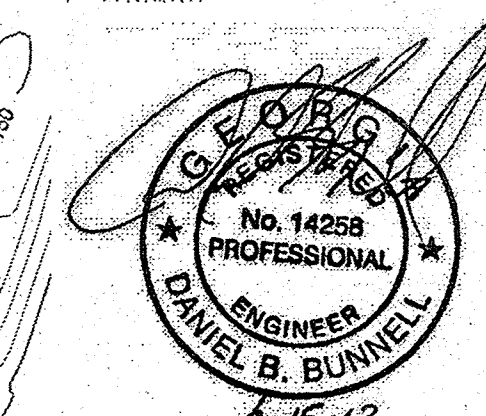


**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T3	36"	91'	1.73%	CMP / CPP
T4	36"	121'	1.90%	CMP / CPP
T5	36"	127'	2.09%	CMP / CPP
T6	36"	296'	2.03%	CMP / CPP
T7	36"	92'	1.09%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T5	1135.50
200(E)	1123.00	F.E.S. T6	1123.00
201(E)	1123.00		



I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years.

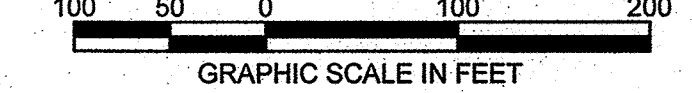
GEORGIA Environmental Protection Division Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 001-01PD(42)

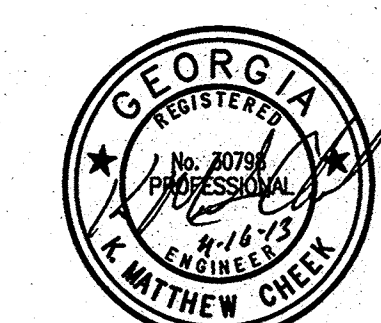
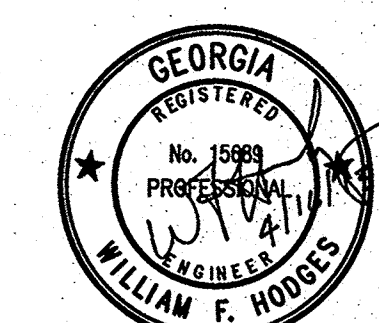
REVIEWED BY: *WFB* DATE: 5/13/13

APPROVED BY: *WFB* DATE: 5/13/13



**NOTES:**

1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING, FIELD WORK COMPLETED ON MAY 4, 2012.
3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
5. PROPOSED CELL NO. 4 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 4 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 4 AND FILLING OF CELL NO. 3

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers

3920 ARKWRIGHT RD. SUITE 101  
MACON, GEORGIA 31210

(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-SEQ-4-R EDIT 4-15-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012

**SHEET 16 OF 35**

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.478	1,216.28	BASE POLE
HV5	1,557,874.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

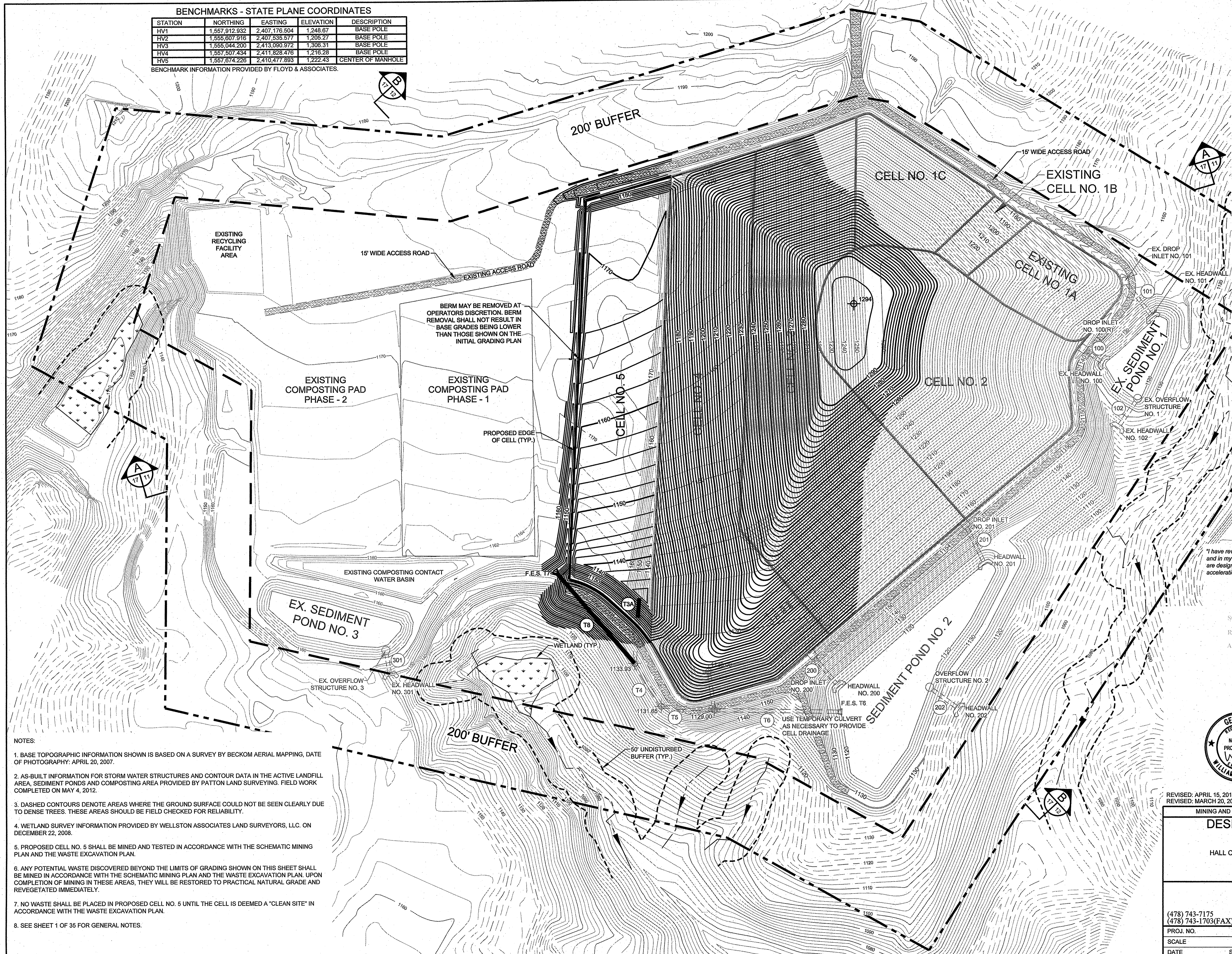
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T3(E)	36"	108'	1.90%	CMP / CPP
T4(E)	36"	121'	1.90%	CMP / CPP
T5(E)	36"	127'	2.09%	CMP / CPP
T6(E)	36"	296'	2.03%	CMP / CPP
T3A	36"	47'	0.00%	CMP / CPP
T8	30"	284'	2.49%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T6(E)	1123.00
200(E)	1123.00	F.E.S. T7	1141.00
201(E)	1123.00		



- NOTES:**
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. PROPOSED CELL NO. 5 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
  6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
  7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 5 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
  8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years.

GEORGIA Environmental Protection Division Solid Waste Management Program
   
 MAJOR MODIFICATION APPROVAL
   
 SOLID WASTE PERMIT NO. 069-017D(GAD)
   
 REVIEWED BY: *MAN* DATE: 5/13/13
   
 APPROVED BY: *MAN* DATE: 5/13/13
   
 100 50 0 100 200
   
 GRAPHIC SCALE IN FEET

REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013  
 MINING AND CONSTRUCTION OF CELL NO. 5 AND FILLING OF CELL NO. 4

**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA

HODGES, HARBIN, 3920 ARKWRIGHT RD.  
 NEWBERRY & TRIBBLE, INC. SUITE 101  
 Consulting Engineers MACON, GEORGIA 31210

PROJ. NO.	3150-015-01	DWG. GWAR-EXP-SEQ-5-R	EDIT	4-15-13
SCALE	1" = 100'			
DATE	SEPTEMBER, 2012	<b>SHEET 17 OF 35</b>		

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,049.200	2,413,090.972	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,874.228	2,410,477.893	1,222.43	CENTER OF MANHOLE

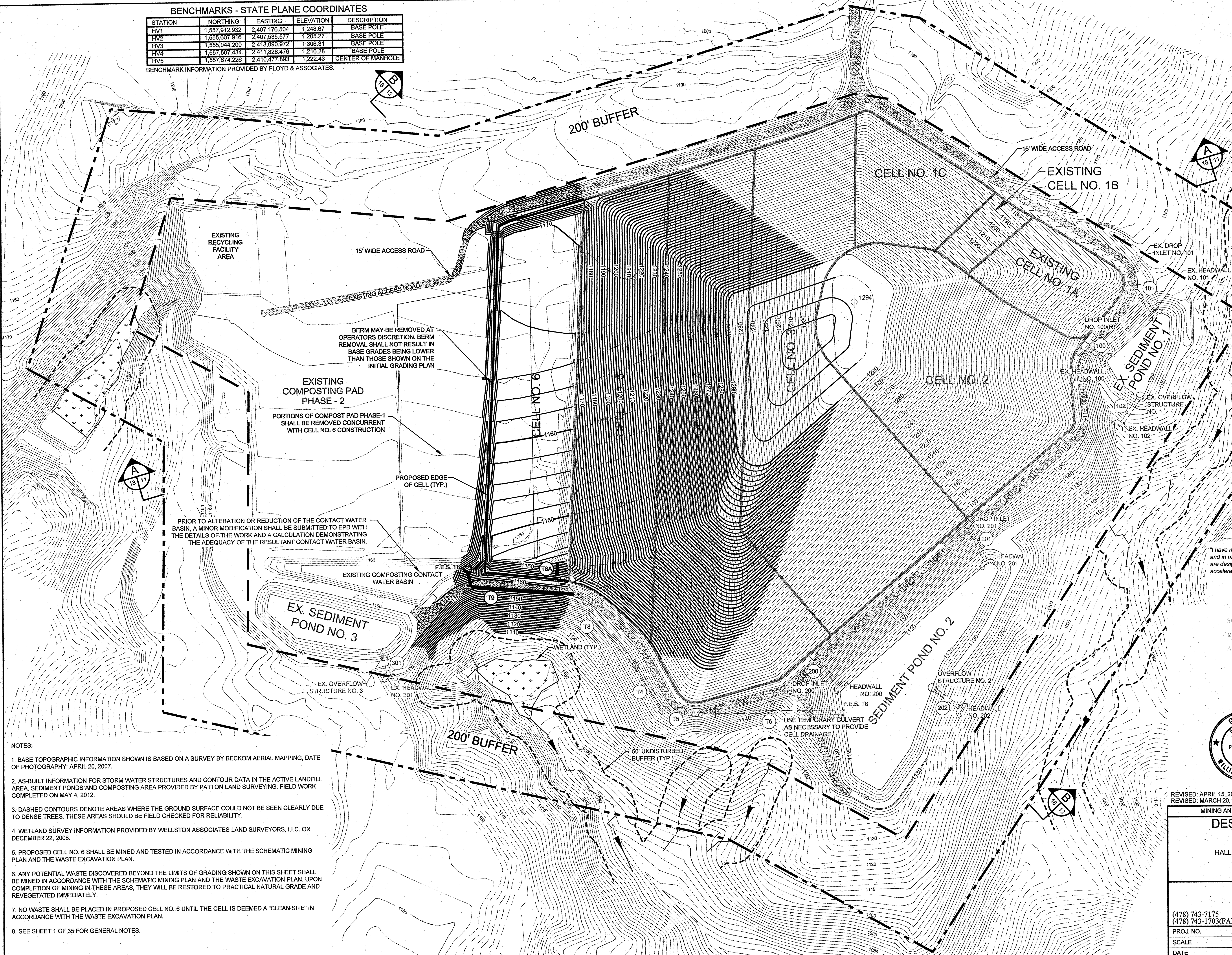
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T4(E)	36"	121'	1.90%	CMP / CPP
T5(E)	36"	127'	2.09%	CMP / CPP
T6(E)	36"	296'	2.03%	CMP / CPP
T8(E)	36"	284'	2.14%	CMP / CPP
T8A	30"	36'	3.23%	CMP / CPP
T9	24"	280'	1.90%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T6(E)	1123.00
200(E)	1123.00	F.E.S. T8	1145.00
201(E)	1123.00	-	-

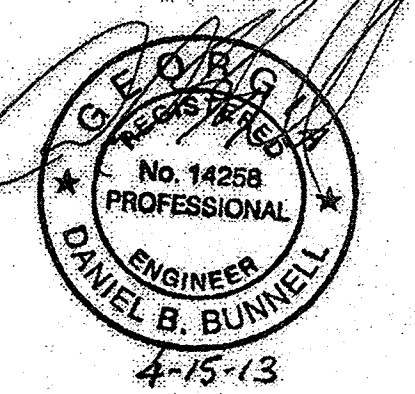


PRIOR TO ALTERATION OR REDUCTION OF THE CONTACT WATER BASIN, A MINOR MODIFICATION SHALL BE SUBMITTED TO EPD WITH THE DETAILS OF THE WORK AND A CALCULATION DEMONSTRATING THE ADEQUACY OF THE RESULTANT CONTACT WATER BASIN.

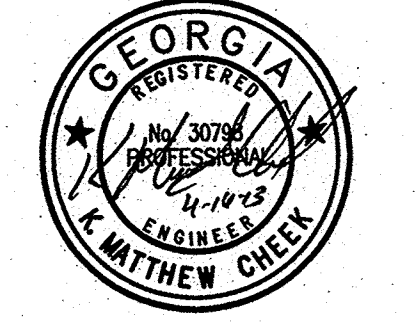
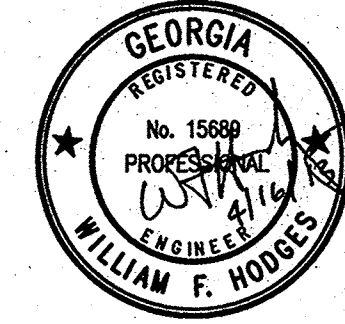
BERM MAY BE REMOVED AT OPERATORS DISCRETION. BERM REMOVAL SHALL NOT RESULT IN BASE GRADES BEING LOWER THAN THOSE SHOWN ON THE INITIAL GRADING PLAN.

EXISTING COMPOSTING PAD PHASE - 2  
PORTIONS OF COMPOST PAD PHASE-1 SHALL BE REMOVED CONCURRENT WITH CELL NO. 6 CONSTRUCTION

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."



MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017D (exp)  
REVIEWED BY: *CBH* DATE: 5/13/13  
APPROVED BY: *MAR* DATE: 5/13/13  
GRAPHIC SCALE IN FEET



- NOTES:
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. PROPOSED CELL NO. 6 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
  6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
  7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 6 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
  8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 6 AND FILLING OF CELL NO. 5

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD. SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG/GWAR-EXP-SEQ-6-R EDIT 4-15-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012

SHEET 18 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,012.332	2,407,178.504	1,248.67	BASE POLE
HV2	1,555,807.816	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.872	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

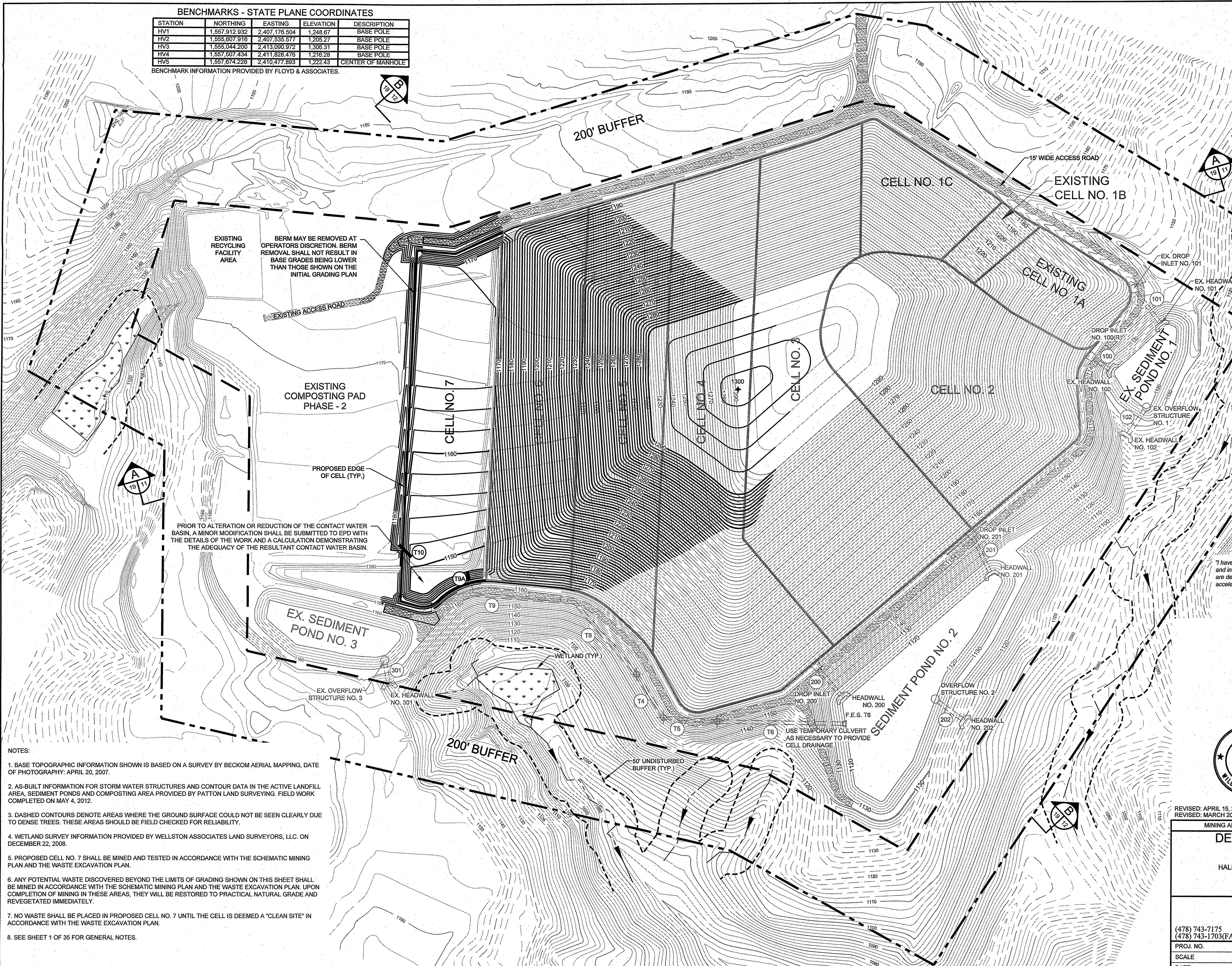
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T4(E)	36"	121'	1.90%	CMP / CPP
T5(E)	36"	127'	2.09%	CMP / CPP
T6(E)	36"	296'	2.03%	CMP / CPP
T8(E)	36"	284'	2.14%	CMP / CPP
T9(E)	30"	280'	1.90%	CMP / CPP
T9A	24"	20'	25.00%	CMP / CPP
T10	24"	41'	7.32%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T6(E)	1123.00
200(E)	1123.00	F.E.S. T9	1154.00
201(E)	1123.00		



EXISTING RECYCLING FACILITY AREA  
 BERM MAY BE REMOVED AT OPERATORS DISCRETION. BERM REMOVAL SHALL NOT RESULT IN BASE GRADES BEING LOWER THAN THOSE SHOWN ON THE INITIAL GRADING PLAN

EXISTING COMPOSTING PAD PHASE - 2

PRIOR TO ALTERATION OR REDUCTION OF THE CONTACT WATER BASIN, A MINOR MODIFICATION SHALL BE SUBMITTED TO EPD WITH THE DETAILS OF THE WORK AND A CALCULATION DEMONSTRATING THE ADEQUACY OF THE RESULTANT CONTACT WATER BASIN.

- NOTES:**
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. PROPOSED CELL NO. 7 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
  6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
  7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 7 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
  8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

**PROFESSIONAL ENGINEER**  
 No. 14258  
 DAVIEL B. BUNNELL  
 4-15-13

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

**GEORGIA**  
 Environmental Protection Division  
 Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-017D(CAD)  
 REVIEWED BY: *CH* DATE: 5/13/13  
 APPROVED BY: *WJH* DATE: 5/13/200

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
 No. 15688  
 WILLIAM F. HOBBS

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
 No. 30786  
 MATTHEW CHEEK

REVISED: APRIL 15, 2013  
 REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 7 AND FILLING OF CELL NO. 6

**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
 AND COMPOST FACILITY  
 HALL COUNTY, GEORGIA

**HHNT**  
 HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
 Consulting Engineers  
 3920 ARKWRIGHT RD. SUITE 101  
 MACON, GEORGIA 31210  
 (478) 743-7175  
 (478) 743-1703(FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-SEQ-7-R EDIT 4-15-13  
 SCALE 1" = 100'  
 DATE SEPTEMBER, 2012 SHEET 19 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,538.577	1,206.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

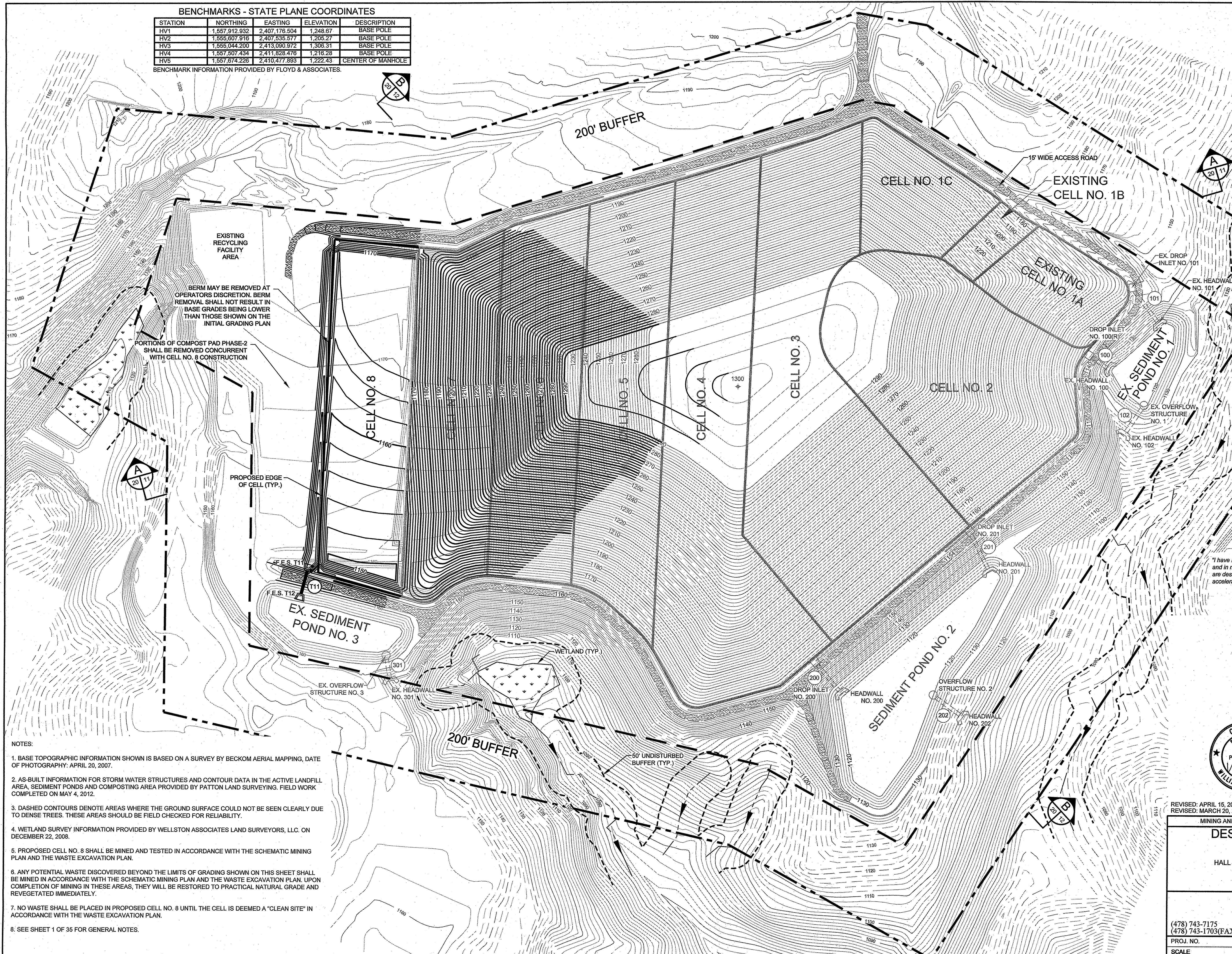
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
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200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
301(E)	36"	52'	3.27%	RCP
T11	24"	48'	2.08%	CMP / CPP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	202(E)	1121.00
101(E)	1123.64	301(E)	1150.23
102(E)	1118.38	F.E.S. T11	1153.00
200(E)	1123.00	F.E.S. T12	1152.00
201(E)	1123.00	-	-



BERM MAY BE REMOVED AT OPERATOR'S DISCRETION. BERM REMOVAL SHALL NOT RESULT IN BASE GRADES BEING LOWER THAN THOSE SHOWN ON THE INITIAL GRADING PLAN.

PORTIONS OF COMPOST PAD PHASE-2 SHALL BE REMOVED CONCURRENT WITH CELL NO. 8 CONSTRUCTION.

PROPOSED EDGE OF CELL (TYP.)

EX. SEDIMENT POND NO. 3

200' BUFFER

SEDIMENT POND NO. 2

**NOTES:**

1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, L.L.C. ON DECEMBER 22, 2008.
5. PROPOSED CELL NO. 8 SHALL BE MINED AND TESTED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN.
6. ANY POTENTIAL WASTE DISCOVERED BEYOND THE LIMITS OF GRADING SHOWN ON THIS SHEET SHALL BE MINED IN ACCORDANCE WITH THE SCHEMATIC MINING PLAN AND THE WASTE EXCAVATION PLAN. UPON COMPLETION OF MINING IN THESE AREAS, THEY WILL BE RESTORED TO PRACTICAL NATURAL GRADE AND REVEGETATED IMMEDIATELY.
7. NO WASTE SHALL BE PLACED IN PROPOSED CELL NO. 8 UNTIL THE CELL IS DEEMED A "CLEAN SITE" IN ACCORDANCE WITH THE WASTE EXCAVATION PLAN.
8. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years."

GEORGIA Environmental Protection Division Solid Waste Management Program

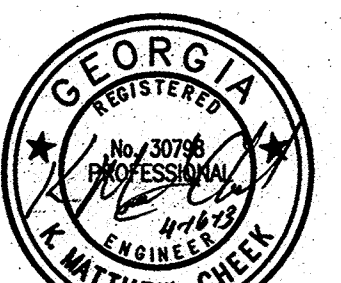
MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 06-017D(CAD)

REVIEWED BY: *CEH* DATE: 5/13/13

APPROVED BY: *MHL* DATE: 5/13/13

GRAPHIC SCALE IN FEET



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

MINING AND CONSTRUCTION OF CELL NO. 8 AND FILLING OF CELL NO. 7

**DESIGN AND OPERATION PLAN**

FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA



HODGES, HARBIN, 3920 ARKWRIGHT RD.  
NEWBERRY & TRIBBLE, INC. SUITE 101  
(478) 743-7175  
(478) 743-1703(FAX) Consulting Engineers MACON, GEORGIA 31210

PROJ. NO. 3150-015-01 DWG.GWAR-EXP-SEQ-8-R EDIT 4-15-13

SCALE 1" = 100'

DATE SEPTEMBER, 2012 SHEET 20 OF 35



**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,607.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

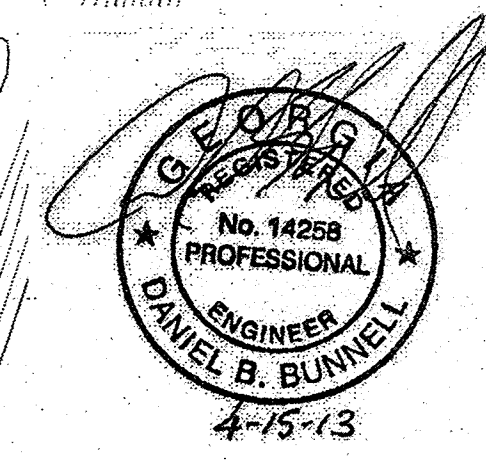
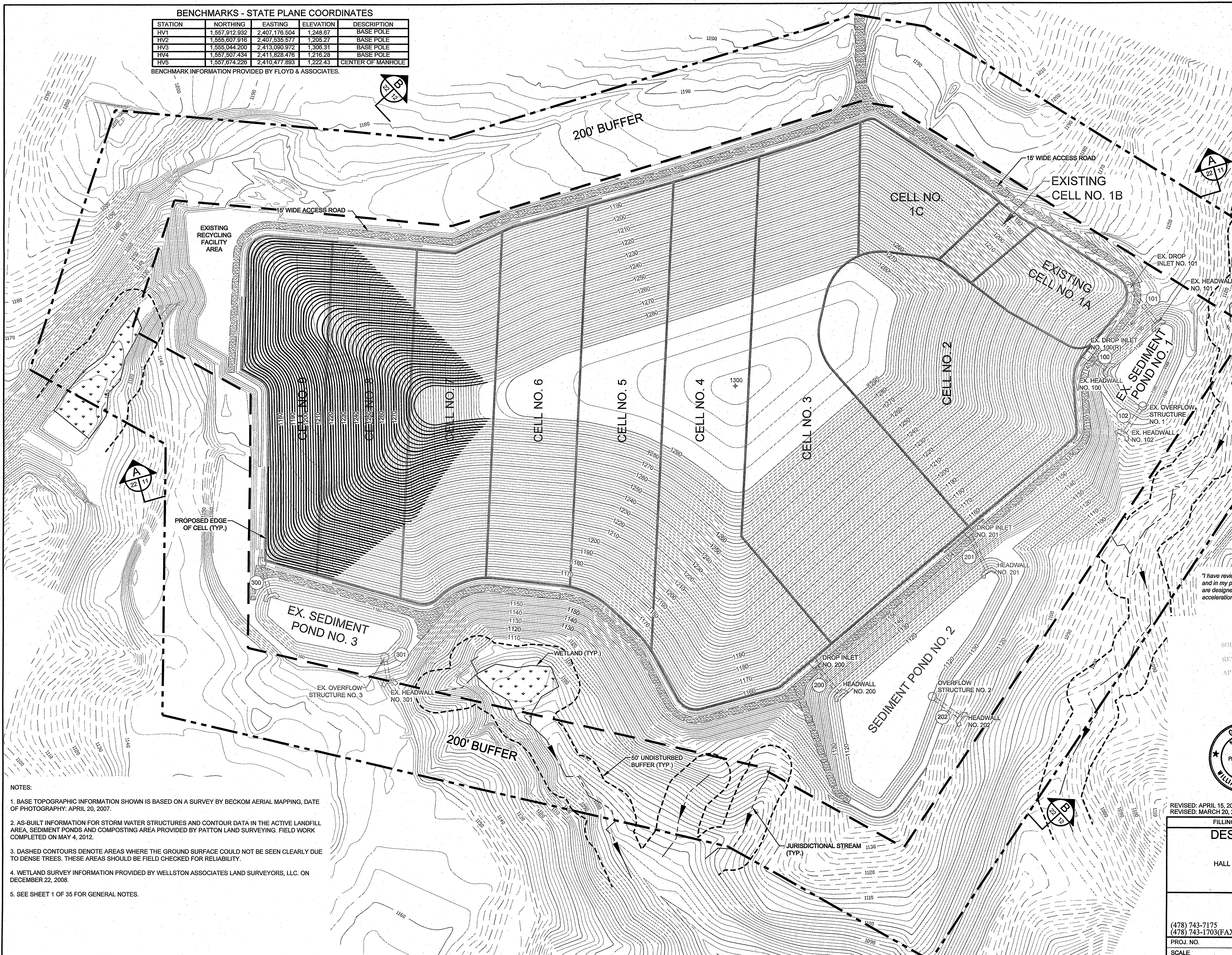
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

**DRAINAGE STRUCTURES**

PIPE NO.	SIZE	LENGTH	SLOPE	MATERIAL
100(E)	30"	70'	3.75%	RCP
101(E)	24"	100'	19.67%	RCP
102(E)	30"	76'	5.43%	RCP
200(E)	42"	95'	22.11%	RCP
201(E)	24"	96'	17.32%	RCP
202(E)	30"	69'	2.90%	RCP
300(E)	42"	82'	2.44%	RCP
301(E)	36"	52'	3.27%	RCP

DROP INLET NO.	TOP	THROAT	INVERT
100(R)	1136.00	1134.00	1130.00
101(E)	1149.91	1147.91	1143.31
200(E)	1154.00	1152.00	1144.00
201(E)	1151.63	1149.63	1139.63
300(E)	1165.00	1163.00	1155.00

HEADWALL NO.	INVERT	HEADWALL NO.	INVERT
100(E)	1123.60	201(E)	1123.00
101(E)	1123.64	202(E)	1121.00
102(E)	1118.38	300(E)	1153.00
200(E)	1123.00	301(E)	1150.23



I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 250 years.

Environmental Protection Division  
Solid Waste Management Program

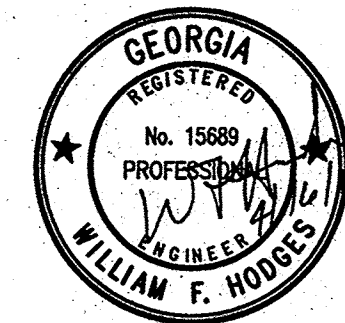
MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D(GRD)

REVIEWED BY: *MB* DATE: 5/13/13

APPROVED BY: *MB* DATE: 5/13/13

GRAPHIC SCALE IN FEET



- NOTES:**
1. BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  2. AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  3. DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  4. WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  5. SEE SHEET 1 OF 35 FOR GENERAL NOTES.

REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

FILLING OF CELL NO. 9 - FINAL COVER SYSTEM GRADING PLAN

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD. SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO.	3150-015-01	DWG. GWAR-EXP-SEQ-10	EDIT	4-15-13
SCALE	1" = 100'			
DATE	SEPTEMBER, 2012	<b>SHEET 22 OF 35</b>		

**OPERATIONS PLAN**

**1. VOLUME CALCULATIONS**

Total volume of waste & cover	5,462,487 cubic yards
Monthly cover (45)	218,499 cubic yards
Final cover (24" Thick)	141,444 cubic yards
Required soil for cover	359,943 cubic yards
Available on-site	359,943 cubic yards
Imported	0 cubic yards
Waste volume (est.)	5,102,524 cubic yards
Area of site	101.02 acres
Total Permitted Footprint	42.13 acres

Note: The volume of recyclable CAD waste will vary with the waste stream. This volume could greatly affect the amount of waste disposed on site.

- 2. CONTROLLED UNLOADING OF WASTE:** Solid waste unloading shall be restricted to the working face of the cell in such a manner that waste may be easily incorporated into the landfill with available equipment. Scavenging shall be prohibited.
- 3. SPREADING AND COMPACTION:** Solid Waste shall be placed in uniform 6-foot layers and compacted to its smallest practical volume, by 3 to 5 passes with compaction equipment, before covering with earth. The working face shall have a 4:1 slope when using a compactor and a 3:1 slope when using a track type machine.
- 4. MONTHLY COVER:** A uniform compacted 12" thick layer of clean earth shall be spread over all waste at least once per month. Clean soil from the mining operation may be used for this cover.
- 5. FINAL COVER:** The final cover system is designed to minimize erosion and is composed of a 6" thick soil capable of sustaining native plant growth underlain with a 18" thick,  $\kappa \leq 1 \times 10^{-6}$  cm/sec low permeability soil.

- 6. GRADING AND DRAINAGE:** The disposal site shall be graded and drained to minimize runoff onto the landfill, to prevent erosion and to drain water from the surface of the landfill. All construction grades will be a minimum of 2%, unless otherwise noted, to promote drainage. Final slopes shall be between 3% and 33%, shall be graded relatively smooth, and shall be vegetated.
- 7. FIRE PROTECTION:** The disposal site shall be designed, constructed, maintained and operated to prevent and minimize the potential for fire or explosion. Suitable measures to control fires that may start shall be provided. A minimum supply of one day of cover material, minimum 100 cubic yards, must be maintained within 200 feet of the working face for fire fighting purposes.
- 8. SITE SUPERVISION:** Overall site supervision will be accomplished by the Landfill Supervisor. The landfill will be supervised by a Certified Landfill Operator in accordance with O.C.G.A. 12-9-24.1. A copy of the approved Design and Operation Plan shall be kept at the site at all times. EPA shall approve any changes in the approval, terms, or implementation. The on-site supervisor shall be properly trained in the operation of municipal solid waste landfills and the implementation of design and operational plans and must be present at all times during operation.

- 9. CONTINUITY OF OPERATION:** Access to fill location areas will be maintained to insure continued operation during wet weather. All areas of the site are considered adequate for wet weather operations. Provisions shall be made for prompt equipment repair or replacement when needed.
- 10. SILTATION AND EROSION CONTROL:** Erosion and sediment control measures and devices shall be installed in accordance with the plans and detail drawings. All erosion and sediment control measures shall be maintained at all times, whether temporary or permanent, shall be continuously maintained by the operator so as to be effective. Runoff from the facility must be directed to permanent sediment control impoundments which are designed to assure discharges meeting the requirements of O.C.G.A. 12-7-61(B). Erosion and sedimentation control measures and facilities will be employed prior to and concurrent with clearing, grading, overburden removal, access or other land disturbing activities for preparation of the site for landfilling. Immediate measures must be implemented to establish vegetation on disturbed exposed soil which will not be a part of the waste disposal area or which will remain exposed for an extended amount of time, in accordance with the applicable NPDES permit.
- 11. VEGETATIVE PLAN:** All disturbed areas shall be grassed and maintained in accordance with the following schedules. Vegetative cover of the final cover must take place within two weeks after final cover placement. Any disturbed areas which will remain exposed for an extended amount of time and permanent covers which are slow to establish shall receive temporary seeding in accordance with applicable NPDES permit. The fertilizer requirements are suggested. Planting dates, fertilizer rates, and seeding rates shall meet the requirements in the Manual for Erosion and Sediment Control in Georgia.

SEEDS - PERMANENT	LBS/ACRE	DEPTH OF COVER	DATE OF PLANTING
BERMUDA, COMMON - HULLED	10	1/4" - 1/2"	2/15 - 6/30
BERMUDA, COMMON - UNHULLED	10	1/4" - 1/2"	1/01 - 3/31
FESCUE, TALL	50	1/4" - 1/2"	8/15 - 10/31
SEEDS - TEMPORARY	LBS/ACRE	DEPTH OF COVER	DATE OF PLANTING
MILLET, PEARL	50	1/4" - 1/2"	4/15 - 8/31
RYEGRASS, ANNUAL	40	1/4" - 1/2"	1/1 - 4/15 & 8/1 - 12/31

- NOTE: 1. All seeding rates are pure live seed rates.  
2. All seeding shall be mulched with clean dry hay at the rate of 2.5 tons per acre. Mulch shall be anchored by pressing the mulch into the soil immediately after the mulch is spread using a packer disk or harrow or equivalent piece of equipment.  
3. Temporary seeding should also complement permanent seeding to produce a suitable cover while the permanent grasses germinate.  
4. Undisturbed slopes greater than 3%, including soil geotextiles, are to be mulched immediately.

FERTILIZER REQUIREMENTS			
TYPE OF SPECIES	YEAR	F ANALYSIS OR EQUIVALENT N-P-K	N TOP DRESSING RATE
1. Cool season grasses	First	6-12-12	1500 lbs./ac.
	Second	6-12-12	1000 lbs./ac.
	Maintenance	10-10-10	400 lbs./ac.
2. Cool season grasses and legumes	First	6-12-12	1500 lbs./ac.
	Second	6-12-12	1000 lbs./ac.
	Maintenance	10-10-10	400 lbs./ac.
3. Ground covers	First	10-10-10	1300 lbs./ac.(3)
	Second	10-10-10	1300 lbs./ac.(3)
	Maintenance	10-10-10	1100 lbs./ac.
4. Pine seedlings	First	20-5-5	one 21-gram pellets/seeding hole
5. Shrub Lopeudeza	First	0-10-10	700 lbs./ac.
	Second	0-10-10	700 lbs./ac.(4)
	Maintenance	10-10-10	500 lbs./ac.
6. Temporary cover crops seeded alone	First	6-12-12	1500 lbs./ac.
	Second	6-12-12	800 lbs./ac.
	Maintenance	10-10-10	400 lbs./ac.
8. Warm season grasses and legumes	First	6-12-12	1500 lbs./ac.
	Second	0-10-10	1000 lbs./ac.
	Maintenance	0-10-10	400 lbs./ac.

- (1) Apply in spring following seeding.  
(2) Apply in split applications when high rates are used.  
(3) Apply in 3 split applications.  
(4) Apply when plants are pruned.  
(5) Apply to grass species only.  
(6) Apply when plants grow to a height of 2 to 4 inches.

- 12. SURVEY CONTROL:** Survey control will consist of both temporary and permanent control markers. Permanent markers will establish the "permanent," or historic horizontal and vertical control such as the edge of each cell, leachate cleanouts, and monitoring points. Horizontal control consists of northing and easting (X-Y) coordinates. The X-Y coordinate establishes a single horizontal point on the earth which can be reestablished at any time based on the single location. Vertical control is an elevation measured above a datum (Z). The datum is Mean Sea Level (MSL). Vertical control for this site is determined from a survey to a United States Geological Survey (USGS) control monument. Utilizing survey methods carried out by a Registered Land Surveyor (RLS), the permanent survey control has been established.

Temporary Survey control consists of monuments and stakes installed by an RLS. Examples of temporary control can include temporary monuments with X-Y-Z coordinates for operator guidance and construction accuracy. This will include survey control markers along the temporary edge of liner and posts within a cell which indicate the extent of fill in a particular lift. Additionally, temporary control can include construction stakeout. Construction stakeout will require the RLS to place stakes and off-set stakes at the location where specific construction elements will be installed. These stakes will be installed to designate the single specific X-Y-Z coordinate point on the earth where that construction element will be built.

The primary purpose of site survey control, as required by the rules is:  
"Site survey control shall be provided to ensure the operation will be on permitted lands."  
The rule further states:  
"Survey control will be accomplished through use of permanent, accessible benchmarks, survey control stakes, and/or boundary markers which designate and/or delineate all permitted areas. Survey control shall include the design and operational plan. Where necessary for construction or operational purposes vertical as well as horizontal survey control will be established and maintained to delineate fill boundaries, buffers, and property boundaries. For this site, survey control will be utilized for construction, operations, delineating fill boundaries, buffers, a property boundaries. Also, survey control will be utilized for other items as required by the operator."

- 13. WATER MONITORING:** The surface water and groundwater monitoring wells shall be monitored according to the approved Environmental Monitoring Plan and the Water Monitoring Plan.

- 14. METHANE GAS CONTROL:** Methane gas control shall include quarterly sampling for methane gas at the locations shown on the plans and monitoring for possible stressed vegetation due to methane gas movement. Monitoring points are based upon site geology, topography, and location of on-site or adjacent structures. Results of monitoring and sampling shall be reported to Georgia E.P.D. at 4244 International Pkwy, Suite 104, Atlanta, GA 30354-3802 within 15 days of a test. The concentration of methane generated by the facility shall not exceed 25% of the lower explosive limit for the gases in facility structures and shall not exceed the lower explosive limit for methane at the facility property boundary. Methane vents shall be installed at the frequency of one per acre of the landfill footprint. The vents shall be installed according to the detail shown on the plans. Vents shall be installed once the final cap is in place and the area is closed. At least one vent shall be tested (BMV) on an annual basis for the constituents shown above. The testing shall begin after a portion of the landfill is closed with a permanent cap. The frequency of testing will be reviewed and may be altered by way of an EPA approved modification.

Gas Constituency Analysis		
Methane	Percent by Volume	Well Data
Carbon Dioxide	Percent by Volume	Depth of Water (Ft.)
Oxygen	Percent by Volume	Depth of Water Table (Ft.)
Nitrogen	Percent by Volume	Depth of Well (Ft.)
Propane and Heavier Hydrocarbons	Percent by Volume	
Total Sulfur	PPM	
Reduced Sulfur (as H2S)	PPM	
Total Halogen	PPM	
Vinyl Chloride Monomer	PPM	
Chlorinated Organics	PPM	
Moisture Content	Percent by Volume	

- Vents serve a two-fold purpose. One, they help reduce pressure on the final cap system to help prevent the inflating of the cap which usually results in cap damage or failure. Two, controlled venting of landfill gases helps reduce and prevent off-site migration and collection in buildings, on or adjacent to the landfill. Collection of gases in buildings could result in an explosion. Therefore, the number, placement, and performance of methane gas vents will be reviewed by a professional engineer after installation. Should additional vents be needed, a proper modification will be filed and approved by EPA prior to installing any additional vents.
- 15. LEACHATE OUTBREAKS:** All leachate outbreaks and seeps shall be covered with a minimum of 12" of compacted soil and grassed in accordance with the Vegetative Plan on this sheet.
- 16. SITE EQUIPMENT:** Minimum suggested equipment to be used on the site includes:  
1 - Dozer  
1 - Excavator  
1 - Haul Truck  
Equipment shall be maintained on a regular basis and kept in good working order. From time to time, this equipment may be replaced with similar equipment or additional equipment suited for cleaning sediment from basins.
- 17. BACKUP EQUIPMENT:** Rental equipment shall be used for backup equipment and for cleaning sediment from basins.
- 18. DIRECTIONAL AND INFORMATION SIGNS:** Directional and informational signs are located at the site which indicate the days and hours of operation. Temporary information and directional signs shall be used at the operator's discretion to direct vehicles to the active working face. Access to the site is limited to those times when authorized personnel are on duty.
- 19. LITTER CONTROL:** Scattering of wastes by wind shall be controlled by fencing or other barriers and the entire site shall be inspected daily and all litter removed.
- 20. DUST CONTROL:** Dust control will be provided if deemed necessary through the use of a water wagon and shall be limited to site roadways.
- 21. ON-SITE FIRST AID:** A first aid kit will be available on the site.
- 22. SITE COMMUNICATIONS:** A telephone will be available on site.
- 23. EMPLOYEE FACILITIES:** Sanitary facilities including a potable water supply will be available on site.

- 24. TIRE AND WHITE GOODS STORAGE:** The site will store tires and white goods in a storage area. The site will cover all tires daily with a tarp to control mosquitoes. The outdoor tire storage pile will be no greater than 50 feet in length and will not exceed 15 feet in height. The total storage area will be less than 10,000 sq. feet and a 50 foot wide fire lane will be placed around the perimeter of each pile.
- 25. INERT YARD DEBRIS GRINDING:** This facility may stockpile and grind inert waste in order to save airspace. The proposed location will be adjacent to the landfill. At least 60% of the inert material by weight will be sold, reused or recycled every ninety days.
- 26. WASTE REQUIRING SPECIAL HANDLING:** Asbestos waste may be disposed of at this site at the operator's discretion. Listed below are the procedures for disposal:  
1. Asbestos containing waste shall be sealed in leak-proof containers labeled with "Caution-Contains Asbestos Fibers - Avoid Opening or Breaking Container - Breathing Asbestos is Hazardous to Your Health."  
2. Asbestos containing waste shall be disposed of in such a manner as to not destroy the integrity of the asbestos container prior to the placement of cover material. This waste shall be completely covered immediately after deposition with a minimum of six (6) inches of non-asbestos material.  
3. Disposal of asbestos is to conform to applicable sections of 40 CFR Parts 61.140 to 61.166, specifically 61.151 and 61.154(g)(1)(iii). Site should only accept asbestos that has been recovered and transported in accordance with the applicable NESHAP regulations (parts 61.140 - 61.156).  
4. Asbestos, disposed of in the landfill, shall be located according to cell, lift number and coordinate, and documented in the inspection records as well as the amount of asbestos in cubic yards or pounds.

- 27. SITE CLOSURE:** The site will not be closed until all wastes have been covered or disposed of by an adequate method of disposal so that the site will be in full compliance with section 391-3-4-11 and 12 of the Rules and Regulations for Solid Waste Management, Chapter 391-3-4. The Closure and Post-Closure Care Plan for this site is described in the attached plans attached.
- 28. ZONING:** The landfill property is zoned industrial, which provides for waste disposal.
- 29. SITE ACCEPTABILITY CONDITIONS:** The following Site Limitations for the Hall County - Gainesville Waste and Recycling (GWAR) C&D Landfill Proposed Horizontal & Vertical Expansion were issued by the Environmental Protection Division on March 1, 2013:  
1. Site acceptability is limited to the area within the property boundary shown on Hodges, Harbin, Newberry & Tribble, Inc.'s (HHNT) Sheet 1 of 1, Waste Disposal Boundary, dated January 2013.  
2. Waste shall not be placed beyond the line identified as "Proposed Waste Disposal Boundary" shown on Hodges, Harbin, Newberry & Tribble, Inc.'s (HHNT) Sheet 1 of 1, Waste Disposal Boundary, dated January 2013.  
3. A minimum 200-foot undisturbed buffer shall be maintained between the waste disposal boundary and the property boundary shown on the above-mentioned Sheet 1 of 1.  
4. A minimum 500-foot buffer shall be maintained between the waste disposal boundary and any adjacent residences and/or water supply wells.  
5. No solid waste shall be placed less than 5 feet, with an underdrain system, above the potentiometric surface shown on Figure 6 - Composite High Water Table Elevation Contour Map prepared by Lamont-Geological Engineering, Inc., dated 10/16/12 and signed and sealed on 11/20/12. If an underdrain is not to be utilized, no solid waste shall be placed less than 10 feet above the potentiometric surface. If bedrock is encountered at an elevation above groundwater in any area of the site, at least 5 feet of clean, compacted, rubble-free soil shall be placed above the bedrock prior to the placement of waste. The project engineer shall make periodic quality control inspection while the underdrain system, if utilized, is under construction, and shall certify the proper installation of the system. EPA may approve of a minor modification to the proposed bottom of waste limits in some areas based on an updated groundwater potentiometric surface map developed from subsurface data collected after the existing waste has been removed.  
6. All existing waste in the buffers and the proposed landfill footprint shall be removed. A waste excavation and soil-sampling plan shall be submitted as part of the Design and Operational Plan to be approved prior to the issuance of a solid waste handling permit. The plan shall include at a minimum the method and sequence of waste excavation, soil sampling procedures, and analytical parameters.  
7. A groundwater contamination and methane assessment investigation shall be designed and completed under the direction of a qualified professional geologist registered to practice in the State of Georgia. The investigation shall be conducted to determine the presence and extent of groundwater contamination and methane exceedances, if any, which may be associated with existing waste at the site. A work plan to implement the investigation shall be included in the Design & Operational Plan for EPA approval prior to conducting the investigation. The investigation shall be implemented as a condition of a solid waste handling permit. A report documenting the results of the groundwater contamination and methane assessment investigation shall be submitted to EPA upon its completion.  
8. Any groundwater contamination or methane exceedances identified during the investigation referenced above shall be addressed in a Corrective Action Plan (CAP) prepared by a qualified professional geologist or engineer registered to practice in the State of Georgia. The CAP shall be incorporated as a minor modification to the Design & Operational Plan for the subject site.  
9. All soil borings, monitoring wells, and piezometers shall be abandoned in accordance with the Water Well Standards Act. The borings located in the proposed waste footprint shall be overfilled and filed with a non-shrinking cement/bentonite mixture via tremie pipe to within 10 feet of the maximum depth of waste. Within 10 feet of the maximum depth of waste, the boring shall be filed with bentonite. Any remaining annular space can be backfilled with soil cuttings. Borings located outside of the proposed waste footprint may be abandoned by pulling the casing and backfilling with a cement/bentonite slurry. The abandonment of all wells shall be supervised by a professional geologist (PG) or professional engineer (PE) registered to practice in the State of Georgia. The supervising PG/PE shall submit a report of the abandonment to EPA and certify that the borings/piezometers were abandoned in accordance with the Water Well Standards Act.  
10. A minimum 50-foot undisturbed buffer shall be maintained between the waste disposal boundary and any on-site wetlands, unless otherwise permitted and allowed by the United States Army Corps of Engineers.  
11. A minimum 25-foot undisturbed buffer shall be maintained between the waste disposal boundary and any on-site springs and surface waters (perennial or intermittent). This limitation may be waived at EPA's discretion if approvable engineering measures (e.g. underdrains) are proposed.  
12. If during construction or excavation of the site any springs or seeps are discovered, EPA shall be notified immediately and protective designs shall be incorporated into the facility's Design & Operational Plan, such that the spring or seep can be integrated into the facility's groundwater monitoring system.  
13. The site is located in a seismic impact zone as defined in the Rules for Solid Waste Management, Chapter 391-3-4-(5)(1)(ii). The design engineer shall certify that all containment structures are designed to resist the maximum ground acceleration for the site. Therefore, the registered professional engineer preparing the Design and Operational Plan shall stamp and sign each engineering drawing with this accompanying notation:  
"I have reviewed the information presented in this drawing, and in my professional opinion, all containment structures are designed to resist a maximum horizontal ground acceleration of 0.12g in 200 years."

- 14. All erosion and sediment control measures and/or diversion ditches shall conform to the Erosion and Sediment Control Act and be protective of all intermittent or perennial streams.**  
**15. Groundwater, surface water, and methane monitoring systems shall be installed at the site. These systems shall be designed to differentiate between potentiometric methane and groundwater contamination related to existing waste and future methane and groundwater contamination that may occur from the new landfill. The outfall of any underdrains shall be monitored in accordance with the facility's monitoring plan including a statistical trend analysis.**

- 30. INDUSTRIAL WASTE:** The EPA allows one industrial waste to be accepted at a C&D facility provided the waste is similar to the CAD waste definition. The industrial waste for this facility will be determined and submitted for approval by EPA or at a later date.

- 31. LIMITED ACCESS:** The Georgia Rules require limited access "a gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an operator is not on duty. A fence or other suitable barrier must be provided around the site, including impoundments, leachate collection and treatment systems and gas venting and processing facilities, sufficient to prevent unauthorized access." At the Gainesville Waste and Recycling (GWAR) Landfill, this vehicular access control is accomplished by use of natural and manmade structures. The entire perimeter of the site is heavily wooded. Tree spacing and undergrowth are sufficient to prevent vehicle access. Where roads enter the facility boundary, a gate will be installed to control access. The perimeter of the site will be posted with signs notifying the public that this is a "Construction and Demolition Landfill Facility" and that access is prohibited except at the site entrance.

- The combination of a natural wooded barrier, access control gates, and adequate signage will provide a suitable barrier around the site.

- 32. ENVIRONMENTAL PROTECTION:** The landfill shall be operated in such a manner as to prevent air, land, or water pollution, and public health hazards.

- 33. HAZARDOUS WASTE:** The operator shall have a hazardous waste management plan for excluding prohibited wastes. Excluded wastes include lead acid batteries, radioactive waste, hazardous waste and liquids. The prohibited waste exclusion plan is shown on this sheet.

- 34. LIQUID WASTES:**  
(A) No liquid waste, either bulk or contained, shall be placed in the landfill.  
(B) If liquid waste is demonstrated nonhazardous and is admitted with a bleedable material that is not liquid, it may be acceptably disposed at the landfill in accordance with the Prohibited Waste Exclusion Plan.  
(C) "Liquid Waste" means any waste material that is determined to contain "free liquids" as defined by Method 9005 (Parts Filter Liquids Test), as described in "Test Methods for the Evaluation of Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

- 35. OPERATIONAL RECORDS / DAILY LOGS:** Accurate written, daily records by actual weight shall be kept of all waste received at the landfill. Copies of such records shall be maintained for a period of at least three (3) years and shall be made available to the Division upon request.

- 36. SITE USE AFTER CLOSURE:** Upon closure of the site, all areas will receive vegetative cover, and a land use study will be performed and submitted to E.P.D. A copy of the land use study shall be submitted to EPA within 90 days of closure.

- 37. CONSTRUCTION CERTIFICATION:** Upon receipt of a final and effective solid waste handling permit, construction may commence in accordance with the approved design and operational plan and permit conditions. Prior to receipt of solid waste, the Division must be provided with written certification by a professional engineer licensed to practice in Georgia, that the facility has been constructed in accordance with the approved permit. Unless notified otherwise by the Division, within 15 days of receipt by the Division of the written certification, the facility owner or operator may commence disposal of solid waste. This process shall be repeated for each subsequent major construction phase, including but not limited to, new cells or trenches, additional monitoring wells, sediment ponds, modifications adding a new solid waste handling process, and application of final cover. The approved CQA Manual and Technical Specifications shall be used for each cell construction and shall not be amended unless approved by the Georgia EPA. No construction changes shall be made unless approved by the Georgia EPA. Borrow soils must come from sites with approved land disturbing permits.

- 38. RESPONSIBLE INDIVIDUAL:** The following person shall be available 24 hours per day at the telephone number listed:  
Landfill Supervisor  
Gainesville Waste and Recycling (GWAR)  
(770)354-3650

- 39. SEQUENCE OF FILL:** The sequence of fill shall progress as described on sheets 13 through 22 of 35 in the Design and Operation Plan for the disposal areas. In general, operations will begin in Cell No. 1A.

- 40. AIR CRITERIA:** The owner and/or operator of this facility will ensure that the units not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. Environmental Protection Agency pursuant to Section 110 of the Clean Air Act, as amended.

- 41. OPEN BURNING:** There shall be no open burning of solid waste at this landfill. A plan must be submitted to and approved by the Georgia EPA prior to the incineration of agricultural wastes, silvicultural wastes, landscaping debris, diseased trees, debris from emergency cleanup operations, or debris during construction.

- 42. DISEASE VECTOR CONTROL:** The owner and/or operator of this landfill will prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

- 43. PROHIBITED ACTS:** The landfill will be operated and maintained to prevent open burning, scavenging, and the open dumping of waste.

- 44. RECYCLE MATERIAL:** The site may construct a 6" thick gravel pad for collection, storage and processing of recycle material (see sheet No. 24). Initially, the operator will collect the following:  
A. Wood and Yard Wastes: Untreated lumber, stumps and timbering slash will be recycled for use as renewable fuel.  
B. Concrete Wastes: Concrete waste will be crushed, the reinforcing steel removed, then the concrete will be re-used as an economy road base material.  
C. Asphalt Paving Wastes: Broken, cured asphalt paving material will be crushed, then re-used as an economy road base material.

- 45. HEALTH AND SAFETY PLAN:** The facility shall develop a Health and Safety Plan consistent with all relevant OSHA regulations. The health and safety of handling and exposure to asbestos and methane will be addressed in the Plan. A copy of this plan will be kept onsite and employees will be trained to follow this plan. Additionally, the facility shall operate in accordance with all applicable state and federal laws and regulations.

- 46. COMPOSTING:** Concurrent with C&D landfill activities, composting will also be conducted at the facility. Composting operations will be consistent with sheets 34 and 35 of the design and operation plan.

**PROHIBITED WASTE EXCLUSION PLAN**

- 1. General:** Pursuant to the Rules for Solid Waste Management, Chapter 391-3-4-.07-(3)-(6)(ii), the Operator has developed this plan to exclude prohibited waste from being disposed at this facility. These prohibited materials include liquids, lead acid batteries, white goods, putrescible municipal solid waste, biomedical waste, radioactive wastes, any quantities of hazardous waste, industrial waste (except as noted in paragraph 30), and scrap tires.
- 2. Non-Conforming Waste Review:** In order to ensure that incoming loads do not contain prohibited wastes, personnel who are trained to recognize prohibited wastes will make random inspections, keep records of such inspections and notify the Director of the Georgia Environmental Protection Division if prohibited wastes are discovered at the facility. These procedures will be made a part of the operating record. The random inspections will be conducted at a minimum every 4,000 tons of waste received or every ten (10) days.

Also, tipping area personnel trained to recognize prohibited wastes will be designated for the detection of non-conforming hazardous waste. They will observe each load as it is deposited on the tipping area. Records at each inspection will be made and kept as a part of the operating record. Liquids containers larger than 5 gallons in size which are not perforated and drained will be rejected. Likewise, pesticides, herbicides, lead acid batteries, biomedical wastes, corrosives, and flammables will be rejected. If the non-conforming hazardous materials are delivered by a private hauler, the inspector will make a record of the materials and the hauler and report him to the Operator. Private haulers will be required to remove these materials from the facility.

The Operator will report the private hauler to the Georgia Department of Natural Resources Solid Waste Management Division. If the same hauler is caught for a second time, he will be banned from bringing any waste to the facility. If the currier is not caught and identified, the cost of disposition of the waste will be borne by the Owner. The Operator intends to use a qualified hazardous waste handling company to properly dispose of any non-conforming materials that are brought to the facility. This waste will be immediately transported to an appropriate disposal facility.

In all cases, notification of the Director of the Georgia Environmental Protection Division will be made if a prohibited waste (liquid, Biomedical, Radioactive, Hazardous) is discovered at the facility.

- 3. Waste Acceptance or Rejection:** The acceptance or rejection of particular waste is based on the following factors:  
- Federal, State and Local regulations, laws, or permit conditions.  
- Waste characteristics.  
- Operations and equipment limitations.  
Of these three items, the regulations, laws and permit conditions affect most of the waste excluded from this site. Wastes specifically excluded by the regulations, laws, and permit conditions include liquids, lead acid batteries, white goods, putrescible municipal solid waste, biomedical wastes, radioactive wastes, any quantity of hazardous wastes, industrial waste (except as noted in paragraph 30), and scrap tires.  
Coated concrete will be examined prior to receipt to assure no unacceptable materials are delivered to the facility.

- a. Liquid Waste Restrictions at Facility (Prohibited):  
(1) Bulk or noncontainerized liquid waste will not be accepted.  
(2) Containers holding liquid waste will not be accepted.  
(3) For purposes of this section:  
a. "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9005 (Part Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).  
b. Lead Acid Batteries (Prohibited):  
Lead Acid batteries are automobile type (EPA Files, No. SW-846), items, whether from an automobile, a truck, a tractor, or other equipment are categorically excluded from this facility.  
c. Biomedical Waste (Prohibited):  
Biomedical Wastes are any type of pathological waste, biological waste, cultures, infectious wastes, contaminated animal wastes, body parts, chemotherapy waste, discarded medical equipment and parts, and any other contaminated medical device. Disposal of this waste shall be strictly prohibited from the facility.  
d. Radioactive Waste (Prohibited):  
Radioactive waste is any material which exhibits radioactive characteristics. This waste is categorically prohibited from this facility.

- e. Hazardous Waste (Prohibited):  
Hazardous wastes are those materials with characteristics, either physical or chemical, that could cause harm to health or the environment. A waste is hazardous if it is:  
\*Ignitable  
\*Corrosive  
\*Reactive  
\*Toxic (As defined by the TCLP test procedure)

A waste material is ignitable if it has a flash point of 140 degrees F or less, causes fire by friction under normal conditions, or is an oxidizer. Examples of ignitable waste include solvents, bottom material from solvent recovery, and peroxide. This waste is typically generated by automobile repair shops, machine shops, dry cleaners, and industries.

A waste is corrosive if the pH is 2 or less, or 12.5 or greater. An example of corrosive waste is spent pickle liquor from a metal plating operation or battery acid.

A waste is reactive if it is unstable under normal conditions, reacts violently with water, forms an explosive mixture with water, contains any quantity of cyanide, contains sulfur which could be released to the atmosphere, or can be easily detonated or exploded. Waste from certain chemical operations, munitions works, or fertilizer plants can be reactive.

A waste is toxic if it so tests by the TCLP procedure. The TCLP test stands for the Toxic Characteristics Leaching Procedure. For this test, a leachate is removed from the waste and this leachate is analyzed for specific constituents as listed in the Code of Federal Regulations, Chapter 40.

If a waste checks toxic, then the waste is hazardous based on the TCLP test.  
Toxic materials can cause cancer, birth defects, or illness if released to the environment. Examples of toxic waste include solvents, industrial process sludges, emission control wastes.

A waste is characterized as a listed waste if it is listed in the Code of Federal Regulations, Chapter 40 or any amendments of this document. A typical listed waste is one in which the known characteristics of that material will likely endanger the health or environment. The exhaustive list of hazardous waste is in the Part 261, of Chapter 40 of the Code of Federal Regulations.

- Hazardous waste shall be strictly prohibited from this facility.  
Household Waste (Prohibited):  
Household waste is any solid waste (including garbage, trash, and sanitary waste in septic tanks, and any other putrescible waste which have a medium or high potential for groundwater contamination) derived from households (including single and multiple residences, hotels and motels, bus/shops, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). Household waste, other than as excavated on the site, shall be strictly prohibited from this facility.  
g. White Goods and Scrap Tires (Prohibited):  
White goods are excluded from disposal at this facility. White goods are items such as refrigerators, air conditioners, hot water heaters, ovens, stoves, and other household appliances. Scrap tires are also prohibited from disposal at this facility.  
h. Industrial Waste:  
Industrial waste(s), other than the one waste type noted in paragraph 30 on this page, will be prohibited from disposal at this facility.

- 4. Site Operations:** Recognition of these wastes by the operators is imperative. The operators of the facility will be trained to detect this material and call it to the attention of management. When material of this type is detected in the daily operation, the material is immediately segregated from the remainder of the waste stream and confined. The hauler who delivered the material to the facility is then notified to return to the facility and remove the material. All hazardous material inadvertently delivered to the facility is to be removed by the hauler within 24 hours.

It is ultimately the owner's responsibility to have any hazardous waste removed from the facility within 24 hours of discovery, regardless of the actions of the hauler.

- 5. Waste Acceptance Protocol:** For those generators or haulers with waste which they are unsure of, the facility will use a protocol for testing those wastes. (Testing will be performed by a laboratory under contract to the generator or hauler.) The protocol includes:  
(Provide in the order shown in a bound report.)

1. Perform the hazardous characteristics tests for ignitability, reactivity, corrosivity, and toxicity.
2. Test the material for PCB, TPH, and pH.
3. Report all testing to the Operator in original form signed by the Laboratory Principle.
4. Provide a certification that the test results represent the waste mass.
5. Identify the waste generator and provide a complete description of the waste.
6. Provide a certification from the generator stating the waste is Non-Hazardous, and conforms to the definition of Construction and Demolition waste.
7. Provide estimates of waste volumes.
8. Provide laboratory certificates.
9. Determination that the waste is not a putrescible municipal solid waste.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MINOR MODIFICATION APPROVAL

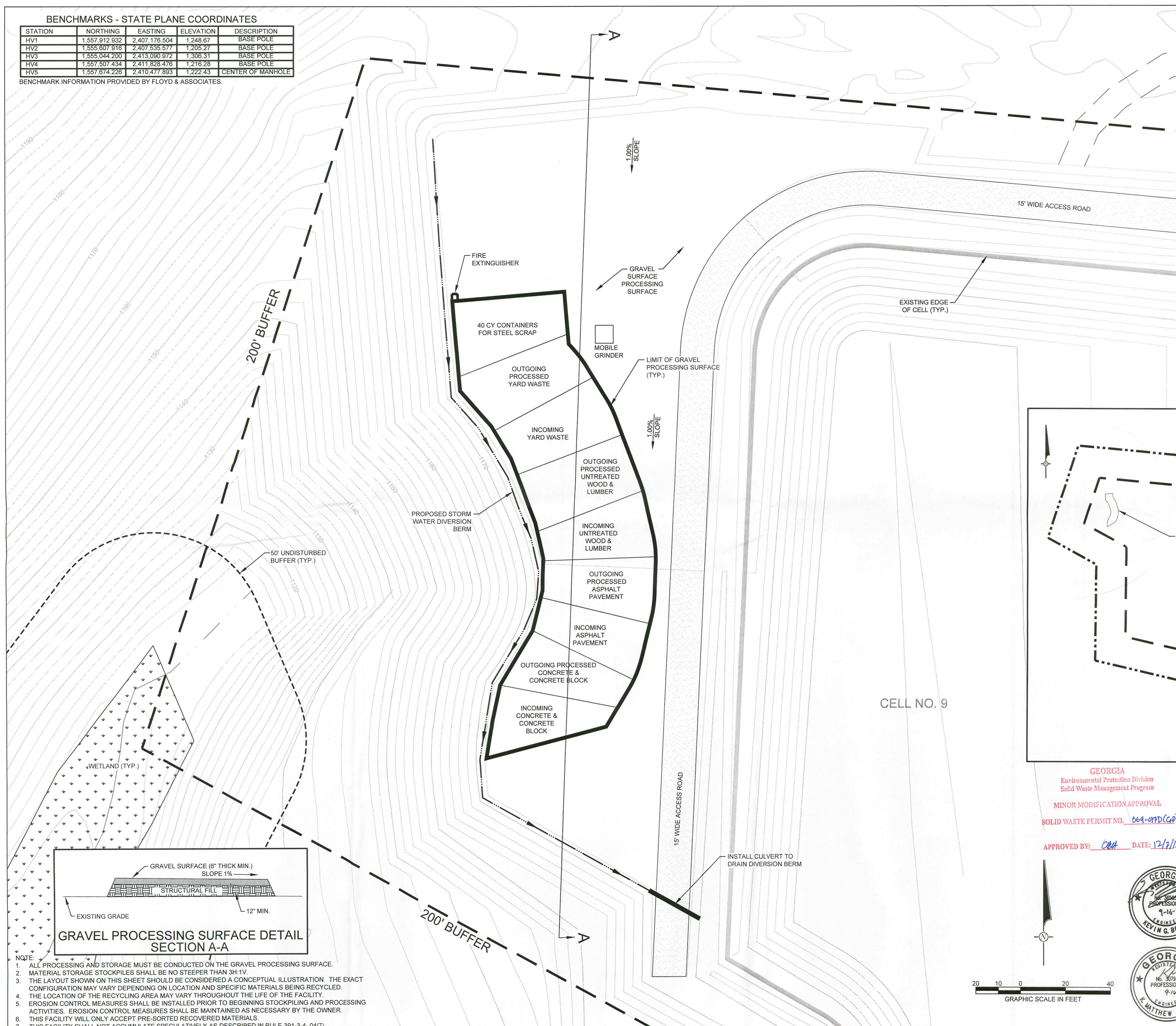
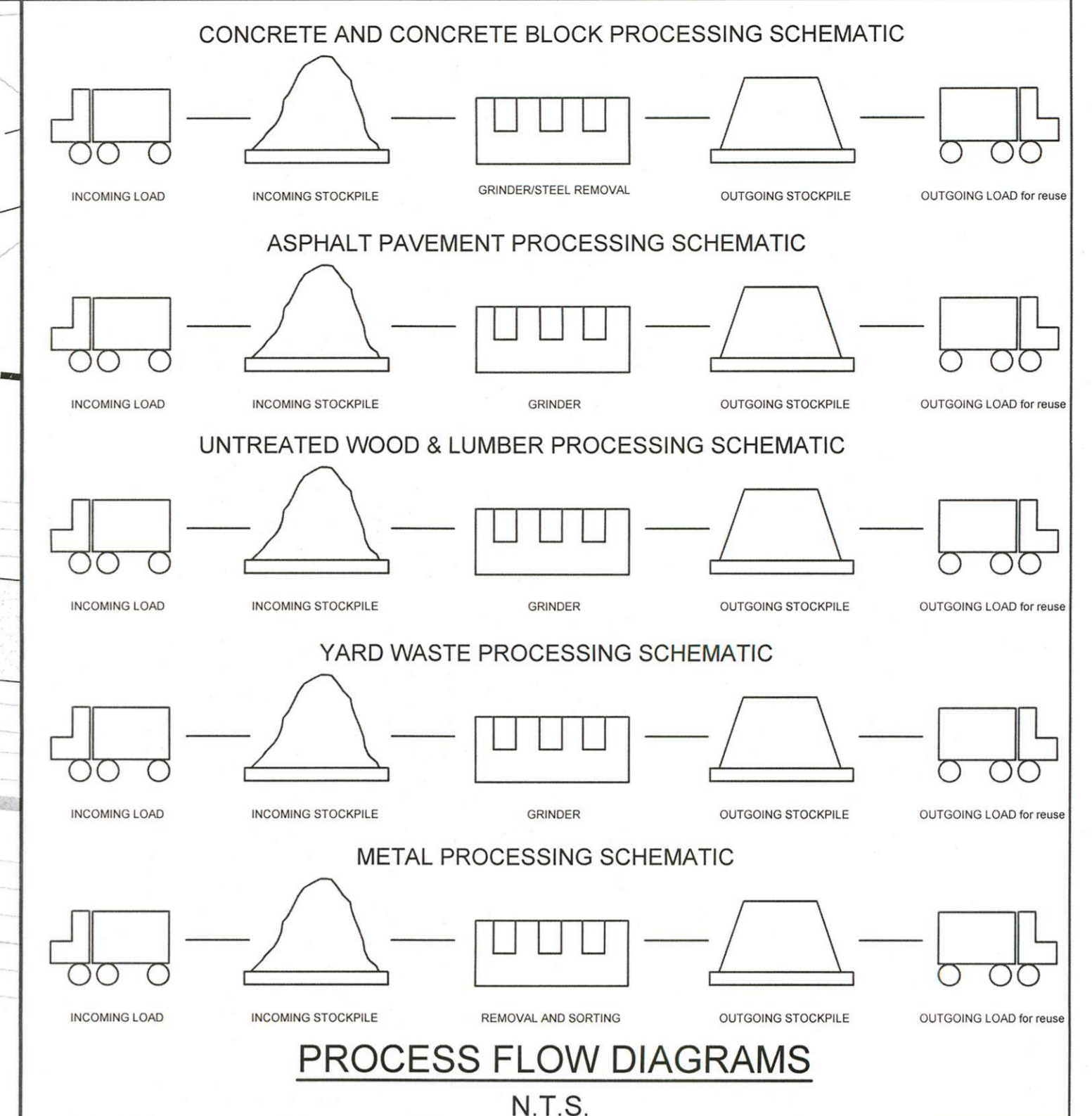
SOLID WASTE PERMIT NO. CEA-017FD(C-2)

APPROVED BY: <

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,535.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.



GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 669-077D(CD)

APPROVED BY: *CBH* DATE: 12/7/16

REVISED: SEPTEMBER 16, 2016  
REVISED: MARCH 20, 2013

RECYCLING FACILITY LAYOUT AND FLOW DIAGRAM

**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

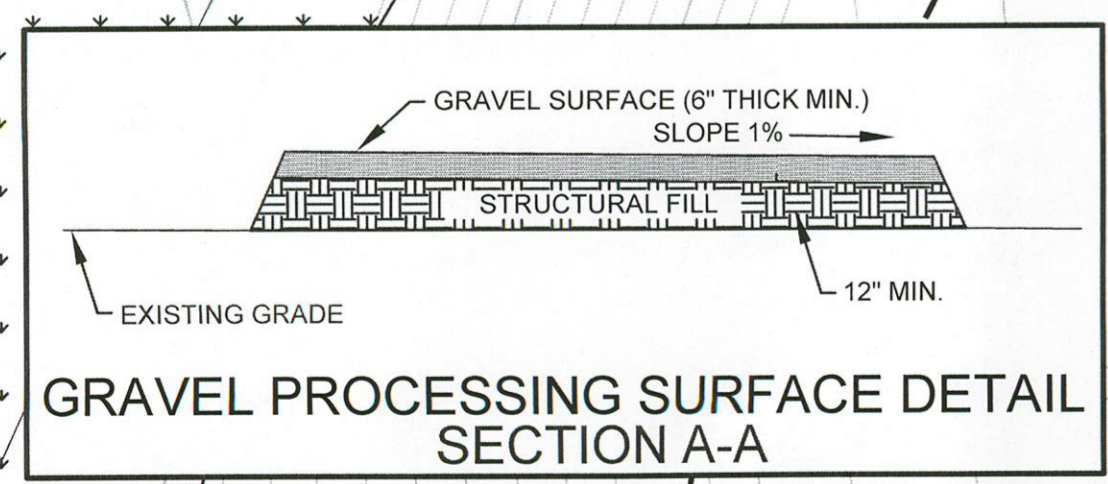
**HHNT**  
HODGES, HARRIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD., SUITE 101  
MACON, GEORGIA 31210

(478) 743-7175  
(478) 743-1703(FAX)

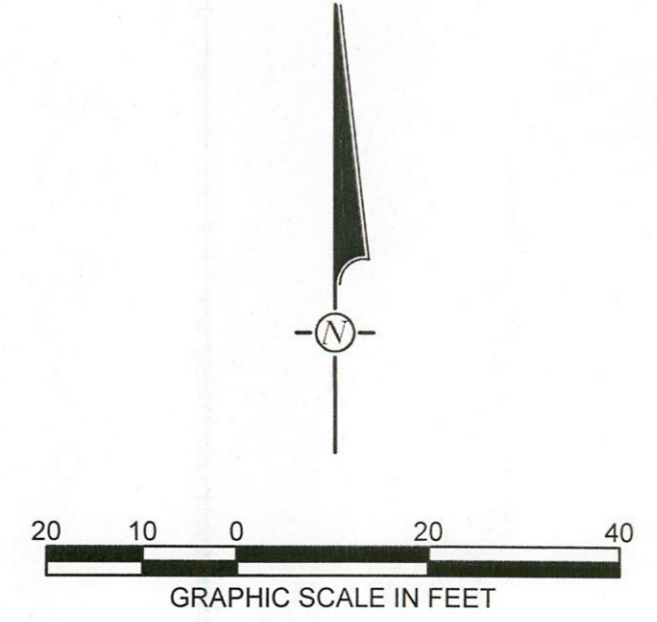
PROJ. NO. 3150-010-01  
SCALE 1" = 20'  
DATE AUGUST, 2016

DWG. GWAR-EXP-24-RF-R | EDIT 9-16-2016

**SHEET 24 OF 35**



- NOTE:
1. ALL PROCESSING AND STORAGE MUST BE CONDUCTED ON THE GRAVEL PROCESSING SURFACE.
  2. MATERIAL STORAGE STOCKPILES SHALL BE NO STEEPER THAN 3H:1V.
  3. THE LAYOUT SHOWN ON THIS SHEET SHOULD BE CONSIDERED A CONCEPTUAL ILLUSTRATION. THE EXACT CONFIGURATION MAY VARY DEPENDING ON LOCATION AND SPECIFIC MATERIALS BEING RECYCLED.
  4. THE LOCATION OF THE RECYCLING AREA MAY VARY THROUGHOUT THE LIFE OF THE FACILITY.
  5. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING STOCKPILING AND PROCESSING ACTIVITIES. EROSION CONTROL MEASURES SHALL BE MAINTAINED AS NECESSARY BY THE OWNER.
  6. THIS FACILITY WILL ONLY ACCEPT PRE-SORTED RECOVERED MATERIALS.
  7. THIS FACILITY SHALL NOT ACCUMULATE SPECULATIVELY AS DESCRIBED IN RULE 391-3-4-.04(7)



**CLOSURE PROCEDURES**

- GENERAL**  
The owner of this disposal site shall close this site in a manner that minimizes the need for further maintenance and minimizes the potential of post-closure release of contaminants to the ground or surface waters. The closure plan considers partial or contingent closure of the landfill. Facility phasing drawings provide guidance on closure at the end of any cell. Should intermediate closure be required, all components of this plan should be followed.
- CERTIFICATION**  
A Professional Engineer must certify that the site was closed in accordance with the approved Design and Operation Plan and the Rules for Solid Waste Management. Should the facility close prior to reaching permitted elevations the Engineers certification shall include an as-built plan.
- NOTIFICATION**  
The owner shall notify the Environmental Protection Division of final closure within 30 days of receiving the final load of waste, providing E.P.D. with the date of final waste receipt and an accurate legal description of the boundaries of the landfill. The Owner will complete all closure activities of each landfill unit in accordance with this Closure Plan within 180 days following the beginning of closure. Signs shall be posted at the entrance gate notifying users of the closure. Upon closure, the property deed and legal description shall be filed at the county courthouse in accordance with O.C.G.A. 8-6-3.
- SURVEY CONTROL**  
The complete legal description of the property is shown on the plans. All areas within which solid waste has been disposed shall be located to the best of the owner's ability and surveyed by a Registered Surveyor who shall provide a legal description of the waste management boundaries within 30 days of closure. Should partial closure occur, a topographic as-built survey of the site shall be developed.
- CLOSURE SUPERVISION**  
Closure of the site shall be under supervision of the current landfill supervisor.
- DIRECTIONAL AND INFORMATIONAL SIGNS**  
Signs shall be posted at the entrance gate notifying users of the landfill of the closure and providing the location of the nearest landfill in the area. A telephone number for emergencies shall be printed on the sign.
- REMOVAL OF WASTES**  
If the owner/operator of this facility wishes to remove wastes, waste residue, or any contaminated soils, from the landfill covered under this Design and Operation Plan the owner/operator shall request and receive written approval from EPD prior to conducting any such activity. Waste will be mined from the closed landfill in accordance to Site Acceptability Condition No. 6 and the Waste Excavation Plan.
- FINAL COVER**  
Upon closure, all waste received at the site shall be spread, compacted and capped with the final cover system as shown on Item No. 5 of Sheet 23, and on Detail 20 of Sheet 31 of the D&O Plans. Should the site be closed prior to attaining final grades, all uncovered and intermittently covered areas shall be capped with the system described above. The minimum slope of the final cap shall be 3% and the maximum slope shall be 33%, and methane vents shall be installed. Final cover shall be secured from on-site excavation of cell areas, stockpiles or other EPD approved borrow source areas as necessary. The final cap system shall meet the following standards:  
  - The cover must be capable of preventing attraction of disease vectors, minimizing production of odors, and preventing blowing litter, and;
  - Must be capable of completely covering the solid waste without change in the cover's properties by rain, heat, cold and other climatic conditions; and
  - Must be substantially free of rock fragments that are greater than six inches in diameter.
  - Must be capable of supporting the germination and propagation of vegetative cover.
  - Must compact well and preclude the excessive infiltration of surface water.

- VEGETATIVE PLAN**  
All disturbed areas shall be grassed and maintained in accordance with the following schedules. A vegetative cover shall be established within two weeks after final cover placement. Permanent covers which are slow to establish shall receive temporary seeding. The fertilizer requirements are suggested. The operator will submit soil samples to the County Extension Agent for analysis and determination of proper soil conditioners including lime. This analysis will become part of the operational records. Planting dates, fertilizer rates, and seeding rates shall meet the requirements in the Manual for Erosion and Sediment Control in Georgia.

SEEDS - PERMANENT	LBS/ACRE	DEPTH OF COVER	DATE OF PLANTING
BERMUDA, COMMON - HULLED	10	1/4" - 1/2"	3/1 - 6/30
BERMUDA, COMMON - UNHULLED	10	1/4" - 1/2"	10/1 - 3/1
FESCUE, TALL	50	1/4" - 1/2"	8/15 - 10/31
SEEDS - TEMPORARY	LBS/ACRE	DEPTH OF COVER	DATE OF PLANTING
MILLET, PEARL	50	1/4" - 1/2"	4/15 - 9/31
RYEGRASS, ANNUAL	40	1/4" - 1/2"	1/1 - 4/15 & 8/1 - 12/31

- NOTES:**
- All seeding rates are pure live seed rates.
  - All seeding shall be mulched with clean dry hay at the rate of 2.5 tons per acre. Mulch shall be anchored by pressing the mulch into the soil immediately after the mulch is spread using a packer disk or disk harrow or equivalent piece of equipment.
  - Temporary seeding should also complement permanent seeding to produce a suitable cover while the permanent grasses germinate.
  - Undisturbed slopes greater than 3%, including soil stockpiles, are to be mulched immediately.

FERTILIZER REQUIREMENTS			
TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE
1. Cool season grasses	First	6-12-12	1500 lbs./ac.
	Second	6-12-12	1000 lbs./ac.
2. Cool season grasses and legumes	First	6-12-12	1500 lbs./ac.
	Second	0-10-10	1000 lbs./ac.
3. Ground covers	First	10-10-10	1300 lbs./ac.(3)
	Second	10-10-10	1100 lbs./ac.
4. Pine seedlings	First	20-10-5	one 21-gram pellet/seedling placed in closed hole
	Maintenance	0-10-10	700 lbs./ac.(4)
5. Shrub Leavedeza	First	0-10-10	700 lbs./ac.
	Maintenance	0-10-10	700 lbs./ac.(4)
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.
	Maintenance	0-10-10	30 lbs./ac.(5)
7. Warm season grasses	First	6-12-12	1500 lbs./ac.
	Second	6-12-12	800 lbs./ac.
8. Warm season grasses and legumes	First	6-12-12	1500 lbs./ac.
	Second	0-10-10	1000 lbs./ac.

- Apply in spring following seeding.
- Apply in split applications when high rates are used.
- Apply in 3 split applications.
- Apply when plants are pruned.
- Apply to grass species only.
- Apply when plants grow to a height of 2 to 4 inches.

- SITE EQUIPMENT NEEDED**  
The owner shall make adequate equipment available at the landfill to ensure that closure requirements are executed correctly and efficiently. Should said equipment not be available, back up equipment may be obtained from the rental companies. Below is a minimum list of equipment which shall be required.  
  - Dozer/Compactor
  - Scraper/Pan
- SEDIMENT REMOVAL**  
Accumulated sediment shall be removed from drop inlets, drainage pipes, diversion ditches, and other drainage structures.
- EROSION AND SEDIMENTATION CONTROL**  
Upon closure, all ditches, diversion berms, culverts, rip-rap, silt fence and other drainage structures serving disturbed areas, but not already built, shall be constructed and placed according to the Operations Plan.
- ENVIRONMENTAL MONITORING WELL RE-INSPECTION**  
In accordance with the Water Well Standards Act, a re-inspection of all groundwater wells and methane probes will take place at site closure. A Professional Geologist/Professional Engineer will inspect all wells and certify the integrity of each well or supervise appropriate remedial measures. After the inspection is completed and any remedial measures are completed, the facility will submit for EPD review a certification report, along with any applicable documentation that documents that the environmental monitoring well network is in compliance with the Design and Operation Plan.

- COST OF CLOSURE**  
The estimated cost to close this site is \$3,256,080.00. This figure is based on 2013 year costs and shall be updated on an annual basis and submitted to EPD.
- COST LEGEND**  
The following items were considered in the cost of closure for the site. The unit price of each item includes labor, materials, equipment, overhead and profit.  
Largest Area Open at One Time (17.3 ac)

Activity	Units	Quantity	Unit Cost	TOTAL
Permitting	Ea	1	\$6,000.00	\$6,000.00
Engineering and Bidding	Ea	1	\$13,000.00	\$13,000.00
Construction Documents	Ea	1	\$40,000.00	\$40,000.00
Bid Process	Ea	1	\$5,000.00	\$5,000.00
GC Mobilization	Ea	1	\$40,000.00	\$40,000.00
Project Management	Ea	1	\$30,000.00	\$30,000.00
State Independent Construction Manager	Ea	1	\$30,000.00	\$30,000.00
Surveying	Ea	1	\$30,000.00	\$30,000.00
COA Certification Surveying	Ea	1	\$25,000.00	\$25,000.00
Contractor Surveying	Ea	1	\$6,000.00	\$6,000.00
Refuse Limits Survey	Ea	1	\$8,000.00	\$8,000.00
General Conditions	Ea	1	\$30,000.00	\$30,000.00
Bonds	Ea	1	\$20,000.00	\$20,000.00
Insurance	Ea	1	\$8,000.00	\$8,000.00
Quality Assurance	Ea	1	\$3,000.00	\$3,000.00
Total COA	Ac	17.30	\$8,000.00	\$138,400.00
Final Grade Prep	Ac	17.30	\$1,500.00	\$25,950.00
Borrow Development	Ea	1	\$3,000.00	\$3,000.00
Install Soil Cap	CY	43,960	\$8.00	\$351,680.00
Borrow Reclamation	Ea	1	\$5,000.00	\$5,000.00
Erosion Control	SY	150	\$35.00	\$5,250.00
Outlet Protection	Ac	17.30	\$1,100.00	\$19,030.00
Temporary Grassing	Ac	17.30	\$1,750.00	\$30,275.00
Permanent Grassing	Ea	5	\$600.00	\$3,000.00
Rock Check Dams	Ea	5	\$100.00	\$500.00
Silt Fence	LF	1,000	\$3.00	\$3,000.00
Slope Stabilization	SY	10,000	\$1.00	\$10,000.00
Inlet Protection	Ea	2	\$300.00	\$600.00
Construction Exit	Ea	1	\$2,000.00	\$2,000.00
NPDES Permit Compliance	Ea	1	\$10,000.00	\$10,000.00
Clean Sediment Pond	Ea	2	\$10,000.00	\$20,000.00
Marker Posts	Ea	22	\$150.00	\$3,300.00
Erosion / Topsoil Layer	CY	14,650	\$6.00	\$87,900.00
Cap Stormwater Control	LF	8,500	\$13.00	\$110,500.00
Sideslope Berms	LF	1,400	\$43.00	\$60,200.00
Downdrains	Ea	30	\$300.00	\$9,000.00
Inlets	Ea	1	\$250.00	\$250.00
Security	Ea	1	\$250.00	\$250.00
Improvements	Ea	1	\$10,000.00	\$10,000.00
Final Disposal and Waste Cleanup	Ea	18	\$1,500.00	\$27,000.00
Passive Gas Vents	Ea	1	\$1,500.00	\$1,500.00

- Notes:**
- All costs listed in chart include labor, materials, and equipment and are in 2013 dollars.
  - The cost estimate equals the cost of closing the largest area ever open at one time at the site (17.3 ac). These estimates represent 3rd party costs.
  - The site will be filled and closed in sequential order in accordance with the cell construction sequence drawings (Sheets 13-22 of 35).
  - During the active life of the landfill, the owner and/or operator must annually adjust the closure cost estimate for inflation.

COMPOSTING FACILITY			
Disposal of Remaining Materials	Ton	2,400	\$30.00
Disposal of Remaining Contaminated Water (Haul & Treatment)	Gal	375,000	\$0.05
Removal of Composting Equipment	LS	1	\$5,000.00
Removal of Compacted Clay Pad	CY	33,000	\$2.00
Professional Engineer Closure Certification	LS	1	\$5,000.00
<b>Composting Facility Closure Cost (2013):</b>			<b>\$166,750.00</b>

- Notes:**
- All costs listed in chart include labor, materials, and equipment. The costs listed for the solid waste facility closure are in 2013 dollars.
  - The cost estimate equals the cost of closing the entire permitted site (+/- 42 ac). These estimates represent 3rd party costs.
  - The site will be filled in sequential order.
  - During the active life of the landfill, the owner and/or operator must annually adjust the closure cost estimate for inflation.
  - The Monitoring Well Network Re-inspection cost also includes the cost of well repair, if needed.
  - The throughput of the compost facility is 600 tons per week. For purposes of closure cost, it is assumed that 4 weeks of compost remain in the facility and this volume (Remaining Materials) is to be disposed of as waste case closure.

RECYCLING FACILITY			
Disposal of Remaining Materials	Tons	1,000	\$30.00
Removal of steel scrap	Tons	5	\$50.00
Removal of processing equipment	LS	1	\$5,000.00
Professional Engineer Closure Certification	LS	1	\$2,000.00
<b>Recycling Facility Closure Cost (2013):</b>			<b>\$37,250.00</b>
<b>Entire Solid Waste Facility Closure Cost (2013):</b>			<b>\$3,256,080.00</b>

- LEGAL DESCRIPTIONS**  
LEGAL DESCRIPTION  
ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN TADMORE (GMD 368) DISTRICT OF HALL COUNTY, GEORGIA CONTAINING 101.02 ACRES, MORE OR LESS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
COMMENCING AT A RAIL ROAD IRON HAVING THE GEORGIA STATE PLANE NAD 83 COORDINATE VALUES OF NORTHING=1,555,940.76 AND EASTING=2,411,621.99, SAID POINT BEING THE POINT OF REFERENCE AND THE POINT OF BEGINNING;  
THENCE FROM SAID POINT OF BEGINNING, S33°33'16"W FOR A DISTANCE OF 1866.98 FEET TO A 1 1/2" PIPE WITH CAP FOUND;  
THENCE N60°59'01"W FOR A DISTANCE OF 349.96 FEET TO A 1" PIPE WITH CAP FOUND;  
THENCE N76°58'19"W FOR A DISTANCE OF 175.04 FEET TO A CONCRETE MONUMENT FOUND;  
THENCE N00°31'57"E FOR A DISTANCE OF 640.28 FEET TO A CONCRETE MONUMENT FOUND;  
THENCE N61°19'17"W FOR A DISTANCE OF 367.28 FEET TO A 1 1/2" REBAR FOUND;  
THENCE N18°08'34"E FOR A DISTANCE OF 647.36 FEET TO A 3/4" PIPE FOUND;  
THENCE S84°54'16"E FOR A DISTANCE OF 337.15 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE S84°43'42"E FOR A DISTANCE OF 442.95 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE N73°18'07"E FOR A DISTANCE OF 453.34 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE N73°12'13"E FOR A DISTANCE OF 566.79 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE S79°55'05"E FOR A DISTANCE OF 166.89 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE S58°21'35"E FOR A DISTANCE OF 1232.34 FEET TO THE POINT OF BEGINNING.

Activity	Units	Quantity	Unit Cost	TOTAL
Permitting	Ea	3	\$6,000.00	\$18,000.00
Engineering and Bidding	Ea	3	\$13,000.00	\$39,000.00
Construction Documents	Ea	3	\$40,000.00	\$120,000.00
Bid Process	Ea	3	\$5,000.00	\$15,000.00
Mobilization	Ea	3	\$40,000.00	\$120,000.00
GC Mobilization	Ea	3	\$40,000.00	\$120,000.00
Project Management	Ea	3	\$30,000.00	\$90,000.00
State Independent Construction Manager	Ea	3	\$30,000.00	\$90,000.00
Surveying	Ea	3	\$30,000.00	\$90,000.00
COA Certification Surveying	Ea	3	\$25,000.00	\$75,000.00
Contractor Surveying	Ea	3	\$6,000.00	\$18,000.00
Refuse Limits Survey	Ea	3	\$8,000.00	\$24,000.00
General Conditions	Ea	3	\$30,000.00	\$90,000.00
Bonds	Ea	3	\$20,000.00	\$60,000.00
Insurance	Ea	3	\$8,000.00	\$24,000.00
Quality Assurance	Ea	3	\$3,000.00	\$9,000.00
Total COA	Ac	42.10	\$8,000.00	\$336,800.00
Final Grade Prep	Ac	42.10	\$1,500.00	\$63,150.00
Borrow Development	Ea	3	\$3,000.00	\$9,000.00
Install Soil Cap	CY	106,083	\$8.00	\$848,664.00
Borrow Reclamation	Ea	3	\$5,000.00	\$15,000.00
Erosion Control	SY	400	\$35.00	\$14,000.00
Outlet Protection	Ac	41	\$1,100.00	\$45,100.00
Temporary Grassing	Ac	41	\$1,750.00	\$71,750.00
Permanent Grassing	Ea	10	\$500.00	\$5,000.00
Rock Check Dams	Ea	10	\$100.00	\$1,000.00
Silt Fence	LF	1,100	\$3.00	\$3,300.00
Slope Stabilization	SY	12,000	\$1.00	\$12,000.00
Inlet Protection	Ea	5	\$300.00	\$1,500.00
Construction Exit	Ea	3	\$2,000.00	\$6,000.00
NPDES Permit Compliance	Ea	3	\$10,000.00	\$30,000.00
Clean Sediment Pond	Ea	3	\$10,000.00	\$30,000.00
Marker Posts	Ea	50	\$150.00	\$7,500.00
Erosion / Topsoil Layer	CY	35,361	\$6.00	\$212,166.00
Cap Stormwater Control	LF	17,600	\$13.00	\$228,800.00
Sideslope Berms	LF	3,100	\$43.00	\$133,300.00
Downdrains	Ea	66	\$300.00	\$19,800.00
Inlets	Ea	1	\$250.00	\$250.00
Security	Ea	1	\$250.00	\$250.00
Improvements	Ea	3	\$10,000.00	\$30,000.00
Final Disposal and Waste Cleanup	Ea	42	\$1,500.00	\$63,000.00
Passive Gas Vents	Ea	1	\$7,500.00	\$7,500.00
Methane Gas Probe Re-Inspection and Reporting	Ea	1	\$7,500.00	\$7,500.00
<b>Entire Landfill Closure Cost (2013):</b>			<b>\$3,061,080.00</b>	

COMPOSTING FACILITY			
Disposal of Remaining Materials	Ton	2,400	\$30.00
Disposal of Remaining Contaminated Water (Haul & Treatment)	Gal	375,000	\$0.05
Removal of Composting Equipment	LS	1	\$5,000.00
Removal of Compacted Clay Pad	CY	33,000	\$2.00
Professional Engineer Closure Certification	LS	1	\$5,000.00
<b>Composting Facility Closure Cost (2013):</b>			<b>\$166,750.00</b>

RECYCLING FACILITY			
Disposal of Remaining Materials	Tons	1,000	\$30.00
Removal of steel scrap	Tons	5	\$50.00
Removal of processing equipment	LS	1	\$5,000.00
Professional Engineer Closure Certification	LS	1	\$2,000.00
<b>Recycling Facility Closure Cost (2013):</b>			<b>\$37,250.00</b>
<b>Entire Solid Waste Facility Closure Cost (2013):</b>			<b>\$3,256,080.00</b>

- Notes:**
- All costs listed in chart include labor, materials, and equipment. The costs listed for the solid waste facility closure are in 2013 dollars.
  - The cost estimate equals the cost of closing the entire permitted site (+/- 42 ac). These estimates represent 3rd party costs.
  - The site will be filled in sequential order.
  - During the active life of the landfill, the owner and/or operator must annually adjust the closure cost estimate for inflation.
  - The Monitoring Well Network Re-inspection cost also includes the cost of well repair, if needed.
  - The throughput of the compost facility is 600 tons per week. For purposes of closure cost, it is assumed that 4 weeks of compost remain in the facility and this volume (Remaining Materials) is to be disposed of as waste case closure.

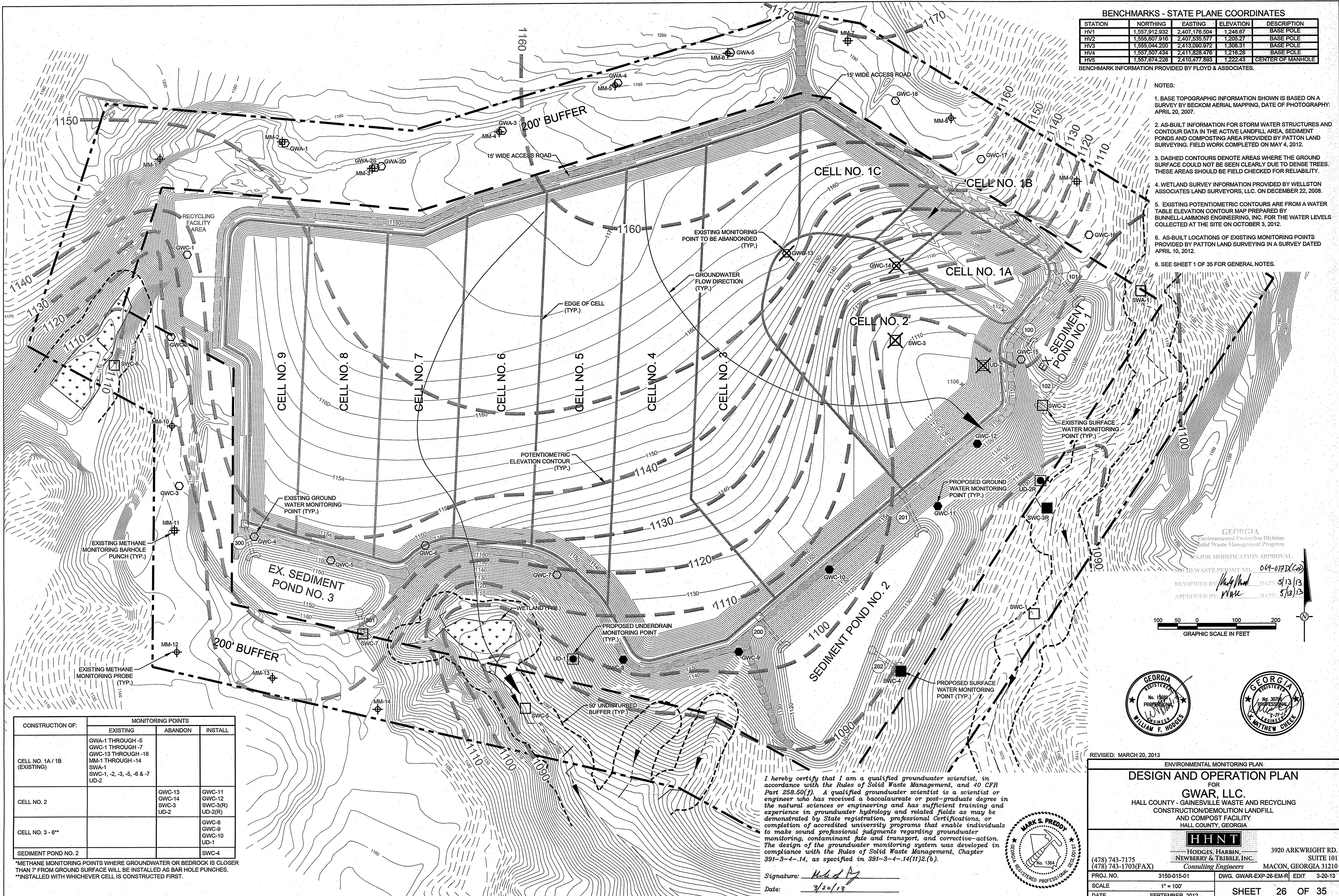
COMPOSTING FACILITY			
Disposal of Remaining Materials	Ton	2,400	\$30.00
Disposal of Remaining Contaminated Water (Haul & Treatment)	Gal	375,000	\$0.05
Removal of Composting Equipment	LS	1	\$5,000.00
Removal of Compacted Clay Pad	CY	33,000	\$2.00
Professional Engineer Closure Certification	LS	1	\$5,000.00
<b>Composting Facility Closure Cost (2013):</b>			<b>\$166,750.00</b>

- LEGAL DESCRIPTIONS**  
LEGAL DESCRIPTION  
ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN TADMORE (GMD 368) DISTRICT OF HALL COUNTY, GEORGIA CONTAINING 101.02 ACRES, MORE OR LESS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
COMMENCING AT A RAIL ROAD IRON HAVING THE GEORGIA STATE PLANE NAD 83 COORDINATE VALUES OF NORTHING=1,555,940.76 AND EASTING=2,411,621.99, SAID POINT BEING THE POINT OF REFERENCE AND THE POINT OF BEGINNING;  
THENCE FROM SAID POINT OF BEGINNING, S33°33'16"W FOR A DISTANCE OF 1866.98 FEET TO A 1 1/2" PIPE WITH CAP FOUND;  
THENCE N60°59'01"W FOR A DISTANCE OF 349.96 FEET TO A 1" PIPE WITH CAP FOUND;  
THENCE N76°58'19"W FOR A DISTANCE OF 175.04 FEET TO A CONCRETE MONUMENT FOUND;  
THENCE N00°31'57"E FOR A DISTANCE OF 640.28 FEET TO A CONCRETE MONUMENT FOUND;  
THENCE N61°19'17"W FOR A DISTANCE OF 367.28 FEET TO A 1 1/2" REBAR FOUND;  
THENCE N18°08'34"E FOR A DISTANCE OF 647.36 FEET TO A 3/4" PIPE FOUND;  
THENCE S84°54'16"E FOR A DISTANCE OF 337.15 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE S84°43'42"E FOR A DISTANCE OF 442.95 FEET TO A 1 1/2" REBAR WITH CAP SET;  
THENCE N73°18'07"E FOR A DISTANCE OF 453.34 FEET TO A 1 1/2" REBAR WITH CAP SET;  
TH

BENCHMARKS - STATE PLANE COORDINATES				
STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,455,535.918	2,205.27	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,690.872	1,308.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

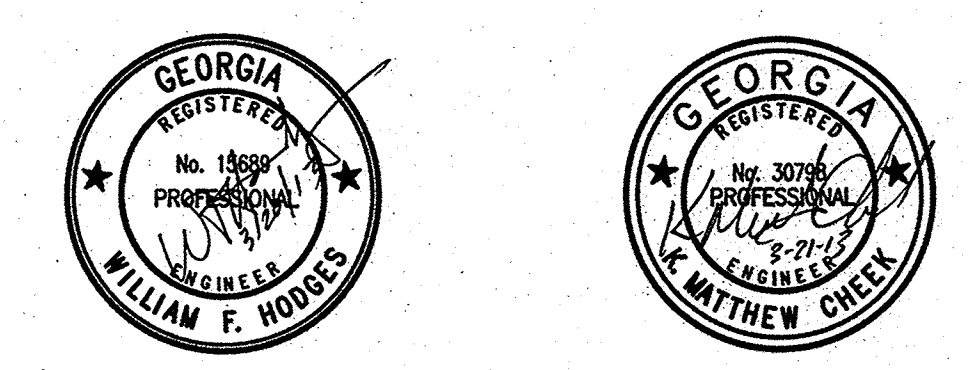
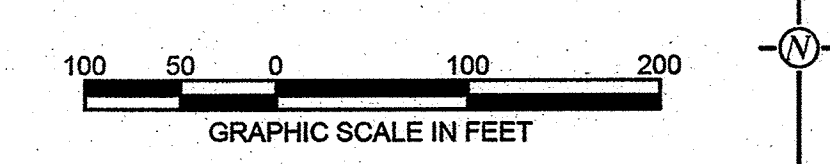
BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.

- NOTES:
- BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
  - AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
  - DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
  - WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
  - EXISTING POTENTIOMETRIC CONTOURS ARE FROM A WATER TABLE ELEVATION CONTOUR MAP PREPARED BY BUNNELL-LAMMONS ENGINEERING, INC. FOR THE WATER LEVELS COLLECTED AT THE SITE ON OCTOBER 3, 2012.
  - AS-BUILT LOCATIONS OF EXISTING MONITORING POINTS PROVIDED BY PATTON LAND SURVEYING IN A SURVEY DATED APRIL 10, 2012.
  - SEE SHEET 1 OF 35 FOR GENERAL NOTES.



GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017(D)(C)(D)  
REVIEWED BY [Signature] DATE 5/13/13  
APPROVED BY [Signature] DATE 5/13/13



REVISED: MARCH 20, 2013

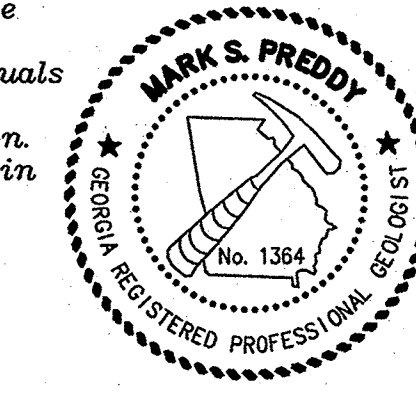
ENVIRONMENTAL MONITORING PLAN  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD., SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703 (FAX)

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-26-EM-R EDIT 3-20-13  
SCALE 1" = 100'  
DATE SEPTEMBER, 2012 SHEET 26 OF 35

I hereby certify that I am a qualified groundwater scientist, in accordance with the Rules of Solid Waste Management, and 40 CFR Part 258.50(f). A qualified groundwater scientist is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective-action. The design of the groundwater monitoring system was developed in compliance with the Rules of Solid Waste Management, Chapter 391-3-4-.14, as specified in 391-3-4-.14(1)(2)(b).

Signature: [Signature]  
Date: 3/20/13



CONSTRUCTION OF:	MONITORING POINTS		
	EXISTING	ABANDON	INSTALL
CELL NO. 1A / 1B (EXISTING)	GWA-1 THROUGH -5 GWC-1 THROUGH -7 GWC-13 THROUGH -18 MM-1 THROUGH -14 SWA-1 SWC-1, -2, -3, -5, -6 & -7 UD-2		
CELL NO. 2		GWC-13 GWC-14 SWC-3 UD-2	GWC-11 GWC-12 SWC-3(R) UD-2(R)
CELL NO. 3 - 6**			GWC-8 GWC-9 GWC-10 UD-1
SEDIMENT POND NO. 2			SWC-4

\*\*METHANE MONITORING POINTS WHERE GROUNDWATER OR BEDROCK IS CLOSER THAN 7' FROM GROUND SURFACE WILL BE INSTALLED AS BAR HOLE PUNCHES.  
\*\*\*INSTALLED WITH WHICHEVER CELL IS CONSTRUCTED FIRST.



(continued from previous sheet)

B. SURFACE WATER SAMPLING PROCEDURE

The greatest source of inadvertent sample contamination is through incorrect handling by field personnel. The values of measurement are very small, and therefore, extreme care is needed to provide sample integrity. This will usually lengthen the time for sampling but the reliability of the test results will be increased proportionately.

1. Dipping Using A Sample Container

- a. Hold the bottle near the base with one hand, and with the other, remove the cap. Rinse the sample container with the water to be sampled prior to filling the container. One exception to this is the coliform sample bottle. This bottle may have a pre-measured amount of sodium thiosulfate to neutralize any chlorine present in the water, therefore, this container should not be rinsed prior to sampling.

C. SPLIT SAMPLES

In order to keep sample handling to a minimum the parallel splitting procedure should be used.

1. Parallel Split

- a. The 2 sample bottles for a given test are lined up and caps removed. One bottle is poured into one bottle, and the next bottle is poured into the other bottle, alternating until the 2 sample bottles are full. They are then capped as usual.

D. UNDERDRAIN SAMPLING PROCEDURE

Underdrain sample collection should follow the surface water sampling procedures described above and will be analyzed for Appendix I total metals and VOCs.

4.0 POTENTIOMETRIC MAP

Each time a complete groundwater sampling event is completed, the owner or operator must determine the rate and direction of groundwater flow. A potentiometric map should be developed. A copy of this map will be forwarded to Georgia EPD with the statistical analysis report.

5.0 STATISTICAL ANALYSIS

For each semi-annual event, the results will be statistically analyzed in order to be protective of human health and the environment. Statistical methods used in this analysis will be chosen from those listed in Rules of Solid Waste Management, Chapter 391-3-4-.14 (19). Statistical analysis will be performed in accordance with the procedures in the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (2009). For each semi-annual event, underdrain monitoring results will be statistically analyzed via trend analysis.

APRIL 27, 1994 GUIDANCE DOCUMENT TURBIDITY IN GROUND WATER SAMPLES

Legal Authority: Rules of Solid Waste Management 391-3-4-.14(12)

References: a. Paragraph 6.7, Chapter 6, RCRA Groundwater Monitoring; Draft Technical Guidance, November 1992

b. Paragraph 11.4.3(c), Chapter 11, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846 3rd Edition

GENERAL: Recent sampling and analytical reports received by the Georgia EPD contain reports that document field observations of turbid ground water samples. Measurement of the turbidity in these samples have confirmed high level of turbidity in the range of 500-999 NTU. Ground water samples containing turbidity concentrations at these levels exceed the established standard for turbidity and are not representative of the water groundwater quality in the unconfined aquifer.

BACKGROUND: The Third Edition of the Glossary of Geology published by the American Geological Institute defines:

turbid - Stirred up or disturbed, such as by sediments; not clear or translucent being opaque with suspended matter, such as of a sediment-laden stream flowing into a lake, cloudy or muddy by physical appearance, such as a turbid or turbid water.

turbidity - (a) The state, condition, or quality of opaqueness or reduced clarity of a fluid, due to the presence of suspended matter. (b) A measure of the ability of suspended material to disturb or diminish the penetration of light through a fluid.

Discol and Johnson's Groundwater and Wells, 2nd Edition reports that:

Turbidity is measured by how much light is transmitted or scattered when a beam of light is passed through a water sample. An early type of analysis, called the Jackson Turbidity Unit (JTU), is based on measurements made with a transmitted light beam using a standard candle. This method is not sensitive enough, however, for measuring the turbidity of well water, filtered water, and clarified effluent samples. A light-scattering method is used for these low-turbidity waters. The light is measured in NTUs, which indicate the light scattered at 90-degree of 270-degree angles to the incident beam.

Turbidity refers to solids and organic matter that do not settle out of water. Groundwater is rarely turbid, unlike surface water which often contains suspended solids and colloid or soluble organic matter.

REGULATORY REQUIREMENTS AND STANDARDS: The Rules for Solid Waste Management, Chapter 391-3-4-.14(12), effective June 27, 1993 require representative groundwater samples be collected and analyzed to determine if a release to the uppermost aquifer has occurred that exceeds established standards. One physical characteristic that defines a representative groundwater sample is turbidity. The standard for turbidity is defined in paragraph 11.4.3(c) Chapter Eleven of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, as:

Samples containing less than 5 NTU turbidity are acceptable for analysis when the analyzing method is sensitive to turbidity (such as the analysis of metals). Samples containing greater than 5 NTU are only acceptable when well development is certified by a qualified hydrogeologist as the best obtainable.

Conditions: Turbidity evaluation must accompany all potentially affected wells.

Samples collected and analyzed for inorganic chemicals (Total Metals) that do not meet this turbidity standard are not representative of the in-situ water quality of the uppermost aquifer, and not used for the evaluation of the in-situ water quality. Further, the presence of turbid ground water samples indicate that a proper field sampling protocol was not followed in the collection of the samples for analysis, or that the wells were not properly developed and completed, or both.

RECOMMENDED CORRECTIVE MEASURES: The Permittee should review the following:

a. Well purging procedures and the time-interval between purging and sample collection. Additional time may be required after purging to permit any disturbed particulate matter to settle out prior to collecting samples.

b. Check the appearance of the groundwater sample and if the sample appears to be turbid, conduct turbidity tests prior to collecting samples for analysis to insure that the sample meets the turbidity standard of five (5) NTUs.

c. If the well(s) continues to produce turbid samples, the well may have to be redeveloped. The procedures for well development are contained in Paragraph 6.7, Chapter 6, RCRA Groundwater Monitoring; Draft Technical Guidance, November 1992.

SUMMARY: Upon completion of the foregoing, if a well is not producing low-turbidity groundwater, the Permittee must demonstrate to the satisfaction of the Georgia EPD that proper well completion and development measures were employed and that the turbidity is an artifact of the geologic materials in which the well is screened. This demonstration must be certified by a professional geologist, hydrogeologist or geotechnical engineer. Failure to make this demonstration could result in a determination by the Georgia EPD that the well must be re-drilled. Further, requests to collect and analyze field samples for metal analysis due to naturally occurring high turbidity levels must be accompanied by the certification statement of the registered professional.

ADDITIONAL INFORMATION: Additional information may be obtained by contacting a staff geologist of the Land Protection Compliance Program, Georgia EPD at (404) 362-2688.

WELL DEVELOPMENT

All monitoring wells should be developed to create an effective filter pack around the well screen, to avoid damage to the formation caused by drilling, to remove fine particles from the formation near the borehole, and to assist in restoring the natural water quality of the aquifer in the vicinity of the well. Development stresses the formation around the screen, as well as the filter pack, so that mobile fines, silts, and clays are pulled into the well and removed. The process of developing a well creates a graded filter pack around the well screen. Development is also used to remove any foreign materials (drilling water, muds, etc.) that may have been introduced into the well borehole during drilling and well installation, and to aid in the equilibration that will occur between the filter pack, well casing, and the formation water.

The development of a well is extremely important to ensuring the collection of representative groundwater samples. If the well has been properly completed, then adequate development should remove fines that may enter the well either from the filter pack or the formation. This improves the yield, but more importantly it creates a monitoring well capable of producing samples of acceptably low turbidity. Turbid samples from an improperly constructed and developed well may interfere with subsequent analyses.

When development is initiated, a wide range of grain sizes of the natural material is drawn into the well, and the well typically produces very turbid water. However, as pumping continues and the natural materials are drawn into the filter pack, an effective filter will form through a sorting process. Including movement of groundwater into the well (i.e., in one direction) generally results in bridging of the particles. A means of inducing flow reversal is necessary to break down bridges and produce a stable filter.

The common methods for developing wells are described by Aller et al. (1989) and Discol (1986) and include:

- Pumping and overpumping; Backwashing; Surging with a surge block; Bailing; Jetting; Air-lift pumping; and Air surging.

Aller et al. (1989) provide a detailed overview of well development and should be consulted when evaluating well development methods. Overall, the most effective and efficient method available for inducing flow reversal during well development is the careful use of a properly constructed surge block. To be effective, the surge block may need to be lifted and lowered throughout the well screened interval for several hours, with periodic pumping or bailing of the fines. Bailers and pumps also have been used successfully to develop wells; however, depending on the depth of the water, the hydraulic conductivity of the aquifer, and the diameter of the well, pumping may effectively achieve well development.

The following is a general procedure for developing a well by surging and pumping of fines:

- 1. Record the static water level and total well depth. 2. Set the pump and record the pumping rate. Pump until turbidity reaches the desired level as measured using a turbidity meter. 3. Discontinue pumping and begin surging using a properly designed surge block and proper surging technique. 4. Measure and record well depth to determine the amount of fines, and repeat Step 2. If the well has been properly designed, the amount of pumping required to achieve the desired turbidity level will be substantially less than the amount of pumping required during the first pumping cycle. 5. Repeat surging and pumping until the well yields water of acceptable turbidity at the beginning of a pumping cycle. A good way to ensure that development is complete is to shut the pump off during the last anticipated pumping cycle, leaving the pump in place, and re-start it a later time. The turbidity of the discharge water should remain low.

Effective and efficient well development is possible only with adequate flow rate during water withdrawal. Additionally, any fines that have been drawn into the well should be removed to the greatest degree possible. Therefore, the Agency recommends that one of the following pumping methods, listed in the order of preference, be used in conjunction with a properly designed surge block:

- 1. Centrifugal pump capable of removing fines if the water level is within suction-lift distance. 2. Electric submersible pump capable of pumping fines. 3. Properly designed and operated air-lift system (requires prior approval of the Regional Administrator).

Well development methods and equipment that alter the chemical composition of the ground water should not be used. Development methods that involve adding water (including water pumped from the well) or other fluids to the well or borehole, or that use air to accomplish well development, are rarely permissible. Consequently, methods that are unsuitable in most cases for monitoring well development include backwashing, jetting, air-lift pumping, and air surging. Approval should be obtained from the Regional Administrator prior to introducing air, water, or other fluids into the well for the purpose of well development. Any water introduced into the well during well development should be chemically analyzed to determine its potential impact on water quality. The well development methods will generally be approved by EPA as bailing, surging with a surge block, pumping, overpumping, or combinations of these methods. Air-lift pumping may be approved if the Permittee can demonstrate to the satisfaction of the Regional Administrator that appropriate measures will be taken to prevent air contact with the formation, and to prevent the entry of compressor oils into the well. Monitoring wells should not be developed before well sealant materials have set or cured.

Ground water should be collected and measured for turbidity periodically during well development and at the completion of well development. The final turbidity measurement should be recorded on the well construction log. If a well yields turbid samples (turbidity greater than or equal to 5 NTU) after development, the procedures shown in Figure 14 should be followed. A well that cannot be developed to the point of producing low turbidity water (i.e., <5 NTUs) may be considered by the Agency to have been improperly completed (e.g., mismatched formation materials/filter pack/screen slot size) depending on the geologic materials in which the well is screened. If a well is not producing low turbidity ground water samples, the overpumper should demonstrate to the satisfaction of the appropriate regulatory agency that proper well completion and development measures have been employed, and that the turbidity is an artifact of the geologic materials in which the well is screened, and not the result of improper well construction or development. Failure to make such a demonstration could result in a determination by the Agency that the well must be re-drilled.

The Agency emphasizes that proper well construction and development procedures, as well as proper sampling procedures (e.g., selection of appropriate well purging and sampling rates), are essential to producing low turbidity ground water samples that are representative of water quality. The Agency recognizes that ground water in some wells (both high and low yield) is fractured rock or karst and may become turbid after drilling, even though during fair weather the water is free of turbidity. Careful attention to proper well installation and development should be exercised with wells completed in very silty geologic units. Information obtained from any well tests conducted on the well should be used to establish the initial yield of the well, and these data can be used for periodic redevelopment and maintenance assessments.

If well drilling, installation, or completion have altered ground water quality chemically in the vicinity of the well, well development should aid in restoring ground water quality within the well to background conditions. The ability of a well development method to remove clays from the sides of the borehole should be considered, because clays retained in the borehole may alter the chemical composition of ground water in the well. The Agency recommends periodically monitoring ground water during well development for water quality parameters such as specific conductance and pH. The reproducibility of water quality results provides some indication that ground water chemistry in the well has been restored to natural quality. In general, the Agency also recommends that the volume of water introduced into the well during well drilling, installation, and completion be withdrawn from the well during well development. The volume of water withdrawn from a well during development should be recorded.

PERMIT CONDITIONS FOR SURFACE WATER MONITORING

Surface water monitoring at the sight will fully comply with the applicable Georgia regulations as stated below:

Legal Authority: Rules of Solid Waste Management 391-3-4-.07(3)(f)

A. Surface Water Requirements:

- 1. The Permittee shall not allow this facility to: a. Cause a discharge of pollutants into waters of the State or the United States, including wetlands as defined by the U. S. Army Corp of Engineers Section 404 Permit process, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements pursuant to section 402. b. Cause the discharge of a nonpoint source of pollution to waters of the State or the United States, including wetlands, that violates any requirement of an area-wide or state-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.

- 2. The Permittee shall operate and maintain this facility in compliance with the Georgia Water Quality Control Act, as amended. The Permittee shall apply for and obtain a National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharge from this facility from the Division if the Permittee shall conduct monitoring and sampling at surface-water control structures as outlined in said permit. 3. The Permittee shall implement an approved surface-water monitoring plan which will monitor the impact of this facility on all adjacent surface-water bodies. The Surface-Water Monitoring Plan shall be incorporated in the approved Groundwater Monitoring Plan. 4. The Permittee shall conduct surface-water hydrology studies to describe site drainage systems, flow characteristics, water quality of the streams and water bodies upstream, adjacent to, and downstream of the facility. A survey of all springs and seeps on and adjacent to the site, will be conducted and these points mapped on the plans. This information must document baseline conditions on and adjacent to the facility and form the basis for assessing current and future environmental impacts of this facility on surface-water quality.

B. Surface-Water Monitoring Program (SWMP)

- 1. The Permittee shall implement a Surface-Water Monitoring Program (SWMP) for this facility to comply with the following: a. Rule 391-3-4-.07 which requires all surface-water monitoring points be sampled in accordance with applicable rules and regulations, and b. The Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6, Revised June, 2001, establishing the water-quality standards for waters of the State. Specifically, Rule 391-3-6-.3 lists the criteria for water quality standards and in-stream concentrations of chemical constituents that are to be met to maintain the water quality of State waters and protect human health and the environment. 2. If this facility is located adjacent to or near surface waters that may be impacted by a release from this facility, the Permittee shall monitor the constituents contained in TABLE below.

Table with 3 columns: INDICATOR PARAMETERS, METHODS, SW846, and DETECTION LIMIT (GL). Rows include Dissolved Oxygen (DO), Temperature (T), pH, Specific Conductance, Chlorides, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), Inorganic Constituents (Total Arsenic, Total Barium, Total Cadmium, Total Chromium, Total Cyanide, Total Lead, Total Nickel, Total Mercury, Total Selenium, Total Silver, Total Zinc), and Organic Constituents (Total Organic Carbon (TOC)).

- 3. The established standards for the above constituents are contained in Rule 391-3-6-.03, with the exception of the following three parameters: Chemical Oxygen Demand (COD) Specific Conductance Total Organic Carbon (TOC) The background concentration will be the established standard for these parameters. 4. Additional constituents may be required based on the contaminants likely to be present in the waste stream and criteria established in Rule 391-3-6-.03. The Permittee shall identify any additional constituents to be monitored for and provide the rationale for their selection. This list of additional constituents will be prepared and forwarded to the Georgia EPD for technical review and approval. If approved, the Permittee will be notified. Within 14 days of notification of approval, the Permittee will incorporate this list into the above Table and make the Table, as incorporated, a permanent part of the Facility Operating Record.

5. The minimum sampling frequency for all constituents listed shall be semi-annual. Sampling events will not be conducted when stream flow conditions are below the 7-day, 10-year minimum flow (7Q10) condition. Negative reports will be submitted to the Georgia EPD Solid Waste Management Program in Atlanta documenting when a scheduled sampling event is impacted by this condition and an alternate schedule established to complete the required semi-annual sampling event.

- 6. The Permittee shall plot the surface-water monitoring parameters on a graph or chart versus time, evaluate the graph or chart, and determine if any significant increases have occurred over the background water quality. Surface water will be considered as being impacted by a release of leachate from the facility if the downstream results are consistently higher than the background surface-water quality upstream. 7. Within forty-five (45) days of documenting that a release of leachate has occurred from the facility, the Permittee shall initiate sampling and analysis at all surface-water monitoring points specified in the Plan for the chemical constituents listed in Rule 391-3-6-.03. The Permittee shall compare the results obtained to the in-stream concentrations of chemical constituents listed in this Rule and certify compliance or noncompliance. In the event of an exceedance of an in-stream concentration of a chemical constituent is detected, the Permittee shall develop a corrective action plan and compliance schedule to eliminate further surface-water contamination and bring the facility back into compliance. Copies of the corrective action plan and proposed compliance schedule will be provided to the Georgia EPD Solid Waste Management Program in Atlanta within ninety (90) days of the documented exceedance.

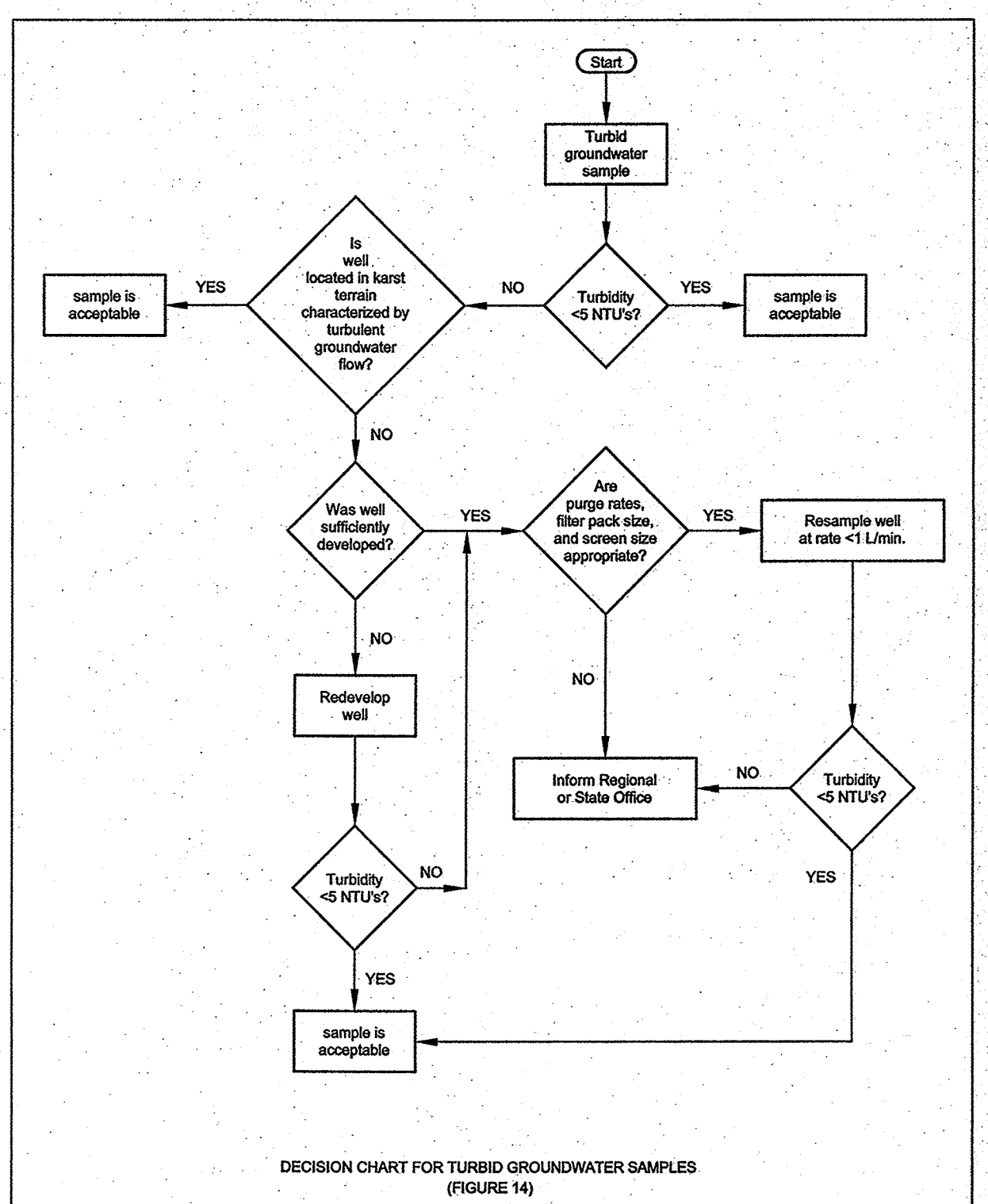
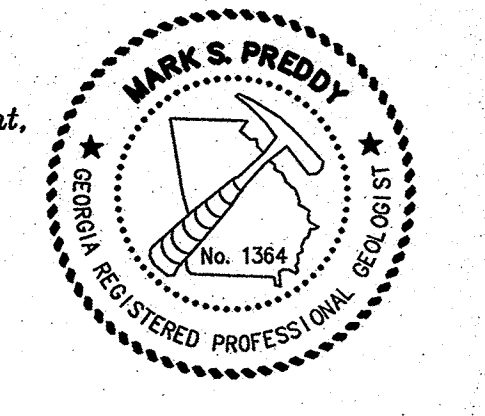


TABLE 1 Preservation Procedures and Holding Times. Table with 7 columns: Parameter, EPA Method for Groundwater, EPA Method for Waste Water, Recommended Container, Preservative Inhibitor of Groundwater Contamination, Holding Time, Volume Required For One Analysis. Rows include pH, Specific Conductance, TOC, TOX, Chloride, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc, Dissolved Metals, Fluoride, Nitrate, Nitrite, Volatile Organics, Pesticides, Herbicides, PCB, SVOC, Cyanide, Oil & Grease, Phenols.

\*Unless sulfide is present, then 24 hours (see lab method) P = polyethylene G = glass

I hereby certify that I am a qualified groundwater scientist, in accordance with the Rules of Solid Waste Management, and 40 CFR Part 268.50(f). A qualified groundwater scientist is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional certifications, or completion of accredited university programs that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action. The design of the groundwater monitoring system was developed in compliance with the Rules of Solid Waste Management, Chapter 391-3-4-.14, as specified in 391-3-4-.14(1)(2)(b).

Signature: Mark S. Priddy Date: 4/15/13



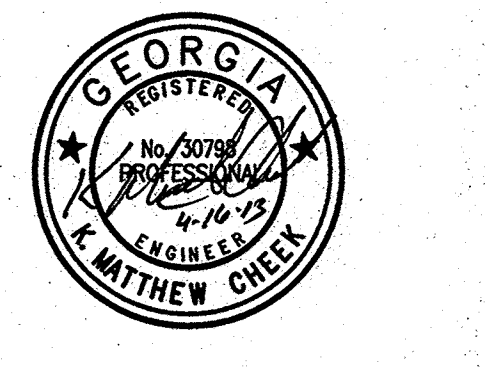
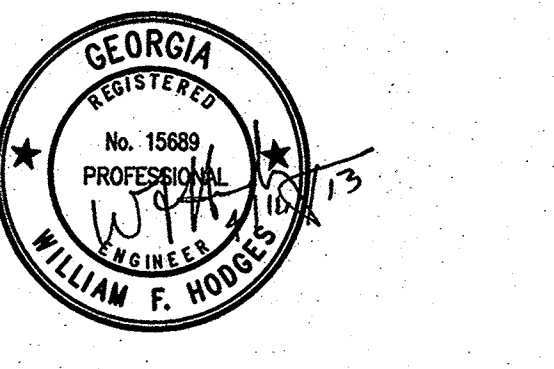
GEORGIA Environmental Protection Division Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D(C)(d)

REVIEWED BY: [Signature] DATE: 5/13/13

APPROVED BY: [Signature] DATE: 5/13/13



REVISED: APRIL 15, 2013 REVISED: MARCH 20, 2013

WATER MONITORING PLAN DESIGN AND OPERATION PLAN FOR GWAR, LLC. HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY HALL COUNTY, GEORGIA. Includes HHNT logo, contact information for Hodges, Harbin, Newberry & Tribble, Inc., and project details: PROJ. NO. 3150-015-01, DWG. GWAR-EXP-28-GW-R, EDIT 4-15-13, SCALE AS SHOWN, SHEET 28 OF 35, DATE SEPTEMBER, 2012.

# METHANE GAS MONITORING PROGRAM

## OBJECTIVE:

The objective of the Methane Gas Monitoring Program is to detect the lateral movement of potentially explosive gas in the subsurface and along man-made migration pathways toward on-site and off-site structures. The information gathered from monitoring the gas points will aid in the efforts to determine and evaluate the potential explosive hazard which is associated with the accumulation of methane gas in concentrations between the methane gas explosion limits (5 - 15 percent methane by volume).

## I. MONITORING NETWORK DESIGN:

The monitoring points selected for the facility will consist of a series of structures, soil gas monitoring probes and/or bar hole punches located as shown on Sheet 26 of 35 - Environmental Monitoring Plan.

## II. MONITORING PROBE DESIGN AND CONSTRUCTION:

The design of the monitoring program is based on the subsurface investigation of the site utilized in development of the groundwater monitoring plan. The drilling method will be continuous hollow-stem augers to the designated depths, or an alternate approved drilling method. Installation and closure of all methane monitoring wells will be conducted by a driller that has a bond on file with the Water Wells Advisory Council at the time of installation/closure.

The monitoring probes will be constructed of commercially available, 2-inch nominal diameter, flush-threaded, Schedule 40 PVC casing (riser) and 0.020-inch slotted screen. Screen lengths will be placed from 5 feet below land surface to approximately 5 feet above the groundwater table or at the confirmed top of bedrock (auger refusal). The PVC screen and riser are chemically and physically stable. If groundwater is within 7 feet of ground surface a barhole punch will be used instead of a probe.

Material used to construct the filter pack will consist of commercially available, chemically inert, well-sorted, dimensionally stable, pea gravel. The gravel pack will extend to the top of the probe screen, followed by approximately six inches of coarse sand. A minimum of one foot of chemically inert bentonite will be used to seal the annular space above the filter pack; potable water will be used to hydrate the bentonite. A bentonite-cement grout (3 to 5 percent bentonite by weight) will be used above the bentonite seal. If the depth to the top of the screen is less than 3 feet, continuous-pour concrete will be substituted for the grout mixture. A rounded concrete pad 3 feet by 3 feet (minimum) will be placed at the surface. A protective steel stand-up cover with keyed lock and weep hole will be used around the casing stick-up. Pea gravel will be placed in the annular space between the steel casing and PVC riser.

The gravel, sand, and bentonite will be placed around the screen/casing by dropping the materials directly down the borehole. A tamping device will be used to reduce the potential for bridging of these materials. The cement-bentonite mixture will be prepared using potable water and placed in the borehole using a tremie pipe.

A detail of a typical Methane Probe Construction Diagram is presented on this sheet.

The design and construction of the monitoring probes will be documented on probe completion logs which will show "as-built" construction.

The methane monitoring system will be installed under the supervision of a qualified professional geologist or professional engineer registered to practice in Georgia. This person will certify that the installation complies with the specifications in this plan and, within 30 days from completion of the probes, will submit documentation of probe construction to the owner or operator and the Environmental Protection Division (EPD).

Should it become necessary to abandon a methane monitoring probe, the following abandonment procedures will be used:

1. If possible, removal of the probe casing, sealant material, and filter pack by over-drilling using the hollow stem auger method; and
2. Sealing of the borehole with an impermeable filler such as a cement-bentonite grout.

The cement-bentonite grout mixture will be placed by tremie pipe placed at the bottom of the borehole.

Gas monitoring probes will initially be survey located and marked with a permanent marker.

## III. GAS MONITORING PROCEDURES:

For the purpose of detecting migration of potentially explosive gas from the landfill, the monitoring points will be monitored according to the following schedule.

- a) Upon commencement of active operations and quarterly prior to closure.
- b) Quarterly for at least 30 years during the post-closure care period or until demonstration is made to EPD that methane no longer presents a threat to the environment.
- c) Each monitoring event is to include observations for stressed vegetation due to methane gas movement.
- d) Monitoring in, beneath, and around site structures will be a part of each screening event.
- e) Probes are to be installed to the depths indicated unless conditions encountered during installation warrant changes.

Each gas monitoring event will include screening at on-site buildings. Readings of percent methane and percent LEL will be obtained inside, beneath, and around structures. Any future installations such as a scale pit will also be screened. Readings obtained will be recorded on the approved EPD form (SWM-19) along with pertinent data such as ambient air temperatures and weather conditions. In addition, there will be permanent methane meters located inside all on-site structures, which will be checked during the quarterly methane monitoring event to ensure the equipment is functioning properly. Documentation of this check will be recorded on the approved EPD form (SWM-19).

During semi-annual groundwater events, the headspace in the groundwater wells will be tested (using the same procedures as methane monitoring probes) for methane and reported in the statistical analysis.

The procedures indicated below will be followed to monitor methane gas from monitoring probes:

Immediately after approaching the probe and opening the casing, an air sample from the probe casing will be withdrawn and analyzed with a combustible gas indicator. Wells should not be allowed to vent for any period of time prior to methane monitoring. In order to prevent ambient air intrusion into the well or potential loss of accumulated gases, either the top of the wells should be sealed off during methane sampling or a quick connect attached to the well cap should be used. The combustible gas indicator shall provide direct readings of methane concentrations (0 - 100% methane by volume) in order to record methane concentrations greater than 100% LEL. The combustible gas indicator shall be capable of providing accurate methane readings in an O<sub>2</sub> deficient environment and shall provide readings for % O<sub>2</sub>. For methane monitoring probes and bar hole punch locations, percent methane by volume and percent oxygen will be recorded on approved EPD form (SWM-19). The peak reading for methane should be recorded. Should an initial reading yield an exceedance (5% Methane by volume or greater), the probe will be covered for 30 to 60 minutes and retested. Both initial test and retest should be reported.

The combustible gas indicator shall be calibrated immediately prior to the monitoring event and periodically calibrated by the manufacturer. These calibrations shall be in accordance with the manufacturer's recommendations and schedule.

If a bar punch is used for gas monitoring, the procedures below will be followed:

A new bar punch hole will be punched during each sampling event at the approved location.

a) Screening at each monitoring station will consist of initially forming a small hole (1" diameter approximately 3 feet into the soil). This will be achieved by utilizing a bar punch. At most locations, this hole should remain open for sufficient time to allow for collection and measurement of gases within the soil. If the bar punch hole tends to collapse, the facility will consider installing soil gas sampling points in these locations. The bar hole will be sealed at ground surface for 30 to 60 minutes, until tested. The bar hole punch will not be vented prior to sampling.

b) Between 30 and 60 minutes after "punching" the hole, an air sample from the hole will be withdrawn and analyzed with a combustible gas indicator. The combustible gas indicator shall provide direct readings of methane concentrations (0 - 100% methane and 0 - 100% LEL). Percent of methane and percent of LEL will be recorded on approved EPD form (SWM-19) along with pertinent data such as ambient air temperatures and weather for a permanent record. Should initial reading yield an exceedance, the bar hole will be sealed at ground surface again for 30 to 60 minutes, and retested. Only the initial reading is required to be reported to the division; however, additional readings may be included in the comments section of form SWM-19.

## IV. QUALITY ASSURANCE AND CONTROL PROCEDURES:

The following quality assurance and control procedures will be implemented.

Sampling will not be performed if conditions conducive to decreasing gas concentrations are present (e.g., subsurface gas pressure less than atmospheric pressure). In this case, sampling will be delayed until such conditions pass.

Sampling must be conducted when gas pressures are at a maximum. Subsurface gas pressures have a diurnal cycle and generally are at a maximum during the afternoon. Therefore, sampling should be conducted after 12 noon, but not begin after 5:00 p.m. Buildings and structures will not be vented prior to sampling. All permanent methane meters will be checked during the quarterly methane monitoring event to ensure the equipment is functioning properly. Documentation of this check will be recorded on the approved EPD form (SWM-19).

Gas production will vary with changes in seasons and climatic conditions. Each sampling event must be conducted under the same conditions, as near as possible, as the preceding event. Therefore, the operator will review the log of the time and conditions which existed during the preceding sampling event and attempt to emulate those conditions as exact as possible during subsequent events.

## V. EVALUATION AND REPORTING OF MONITORING RESULTS:

Interpretation of Quarterly Sampling for Methane Gas will be as follows:

1. Methane gas concentrations shall not exceed 25 percent of the lower explosive limit (LEL) (1.25% methane) in facility structures.
2. Methane gas concentrations shall not exceed the lower explosive limit for methane at facility boundaries (5% methane).

Methane monitoring results will be recorded on the form (SWM-19) approved and provided by EPD.

Results of all methane gas monitoring shall be submitted to the Atlanta office of the EPD within 15 days of a test.

If methane gas levels exceeding the limits specified in this section are detected, the owner or operator will:

1. Immediately take all necessary steps to ensure protection of human health and notify the Director. Local authorities will also be notified, as needed, in the event methane levels exceed the established standards.

2. Within seven (7) days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

3. Within sixty (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Director that the plan has been implemented. The plan will describe the nature and extent of the problem and the proposed remedy. The plan may include the following procedures:

a. Monitor all structures within 300 feet of the property boundary for presence of methane. If methane is found, take immediate measures to notify, evacuate (if necessary), and protect adjacent properties.

b. Determine which direction the methane is migrating.

c. Install additional probes as approved by EPD in the direction of methane migration (both side to side) and away from the landfill. Continue to install additional probes as approved by EPD until extent of migration is determined.

d. Recommend system or solution to prevent further methane migration and implement within 60 days regardless of EPD approval.

e. Take all necessary steps to protect human health and the environment, including posting of no smoking signs, limiting access to the area, and ensuring that methane levels are not explosive in nearby structures.

4. The monitoring frequency for the selected probes listed in the approved methane remediation plan will be increased from quarterly monitoring to monthly monitoring. Monthly methane monitoring will be maintained for six (6) months after all monitoring points have returned to compliance.

5. The need for methane gas control systems will be assessed upon validated finding of methane gas migration and appropriate recommendations will be implemented.

Note that a "Methane Remediation Plan" (Plan), prepared by Hodges, Harbin, Newberry & Tribble, Inc. in December 2012, was submitted to EPD on December 20, 2012. Methane concentration trends will be evaluated in accordance with the Plan.

## VI. METHANE GAS SAFETY GUIDELINES:

The following guidelines should be followed when at a landfill in the presence of potentially dangerous gases:

1. No person should enter a vault or a trench on a landfill without first checking for the presence of methane gas. The person should also wear a safety harness with a second person standing by to pull him or her to safety.

2. Anyone installing vent wells in a landfill should wear a safety rope to prevent falling in the borehole. Open holes should be covered when they are left unattended.

3. Smoking should be prohibited on the landfill where drilling, excavating, or installation of equipment is taking place or where gas is venting from the landfill.

4. Collected gas from a mechanically evacuated system should always be cleared to minimize air pollution and any potential explosion or fire hazard.

5. Methane gas in a concentration of 5 to 15 percent is an explosive mixture. Gas accumulations should be monitored in enclosed structures, using permanent methane meters, to insure that explosive conditions are avoided and, if detected, appropriate action is taken to avoid a source of ignition and to vent the structure. All personnel working on a landfill must be provided training regarding the danger posed by landfill gases. Personnel operating safety equipment around the landfill must be thoroughly trained in its use and have a clear understanding of the meaning of observations made with the monitoring equipment. Monitoring equipment must also be periodically calibrated to ensure continued accuracy in the results.

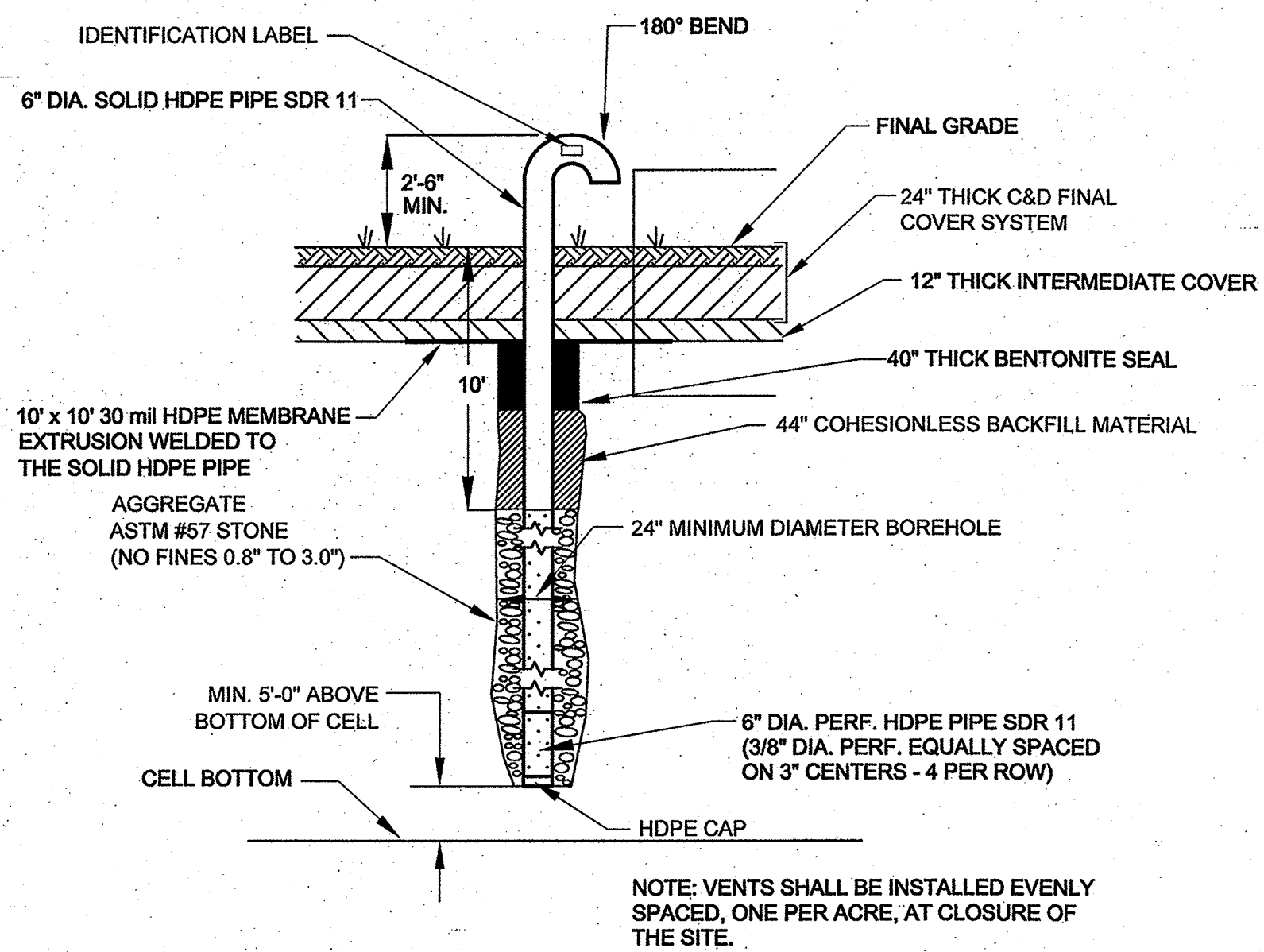
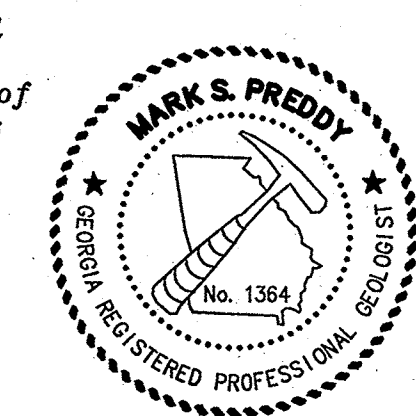
## VII. MONITORING OF STRUCTURES

There will be permanent methane meters located inside all on-site structures, which will be checked during the quarterly methane monitoring event to ensure the equipment is functioning properly. Documentation of this check will be recorded on the approved EPD form (SWM-19).

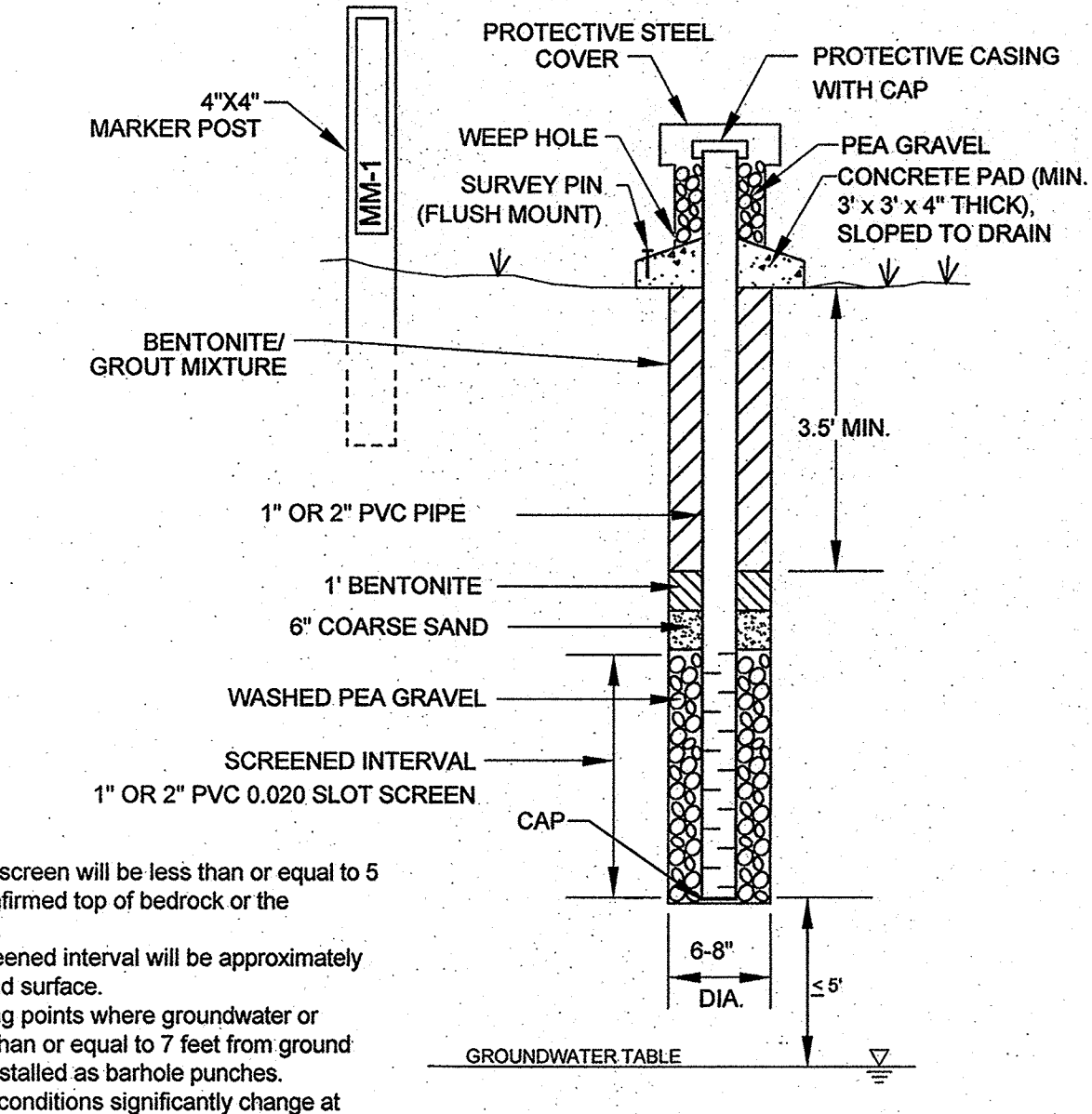
At the date the landfill begins receiving waste, all structures within 300 feet of the property boundary will be identified and a record of these will be kept at the landfill office and updated as needed.

I hereby certify that I am a qualified groundwater scientist, in accordance with the Rules of Solid Waste Management, and 40 CFR Part 258.50(f). A qualified groundwater scientist is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional certifications, or completion of accredited university programs that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

Signature: *Mark S. Preddy*  
Date: *4/15/13*



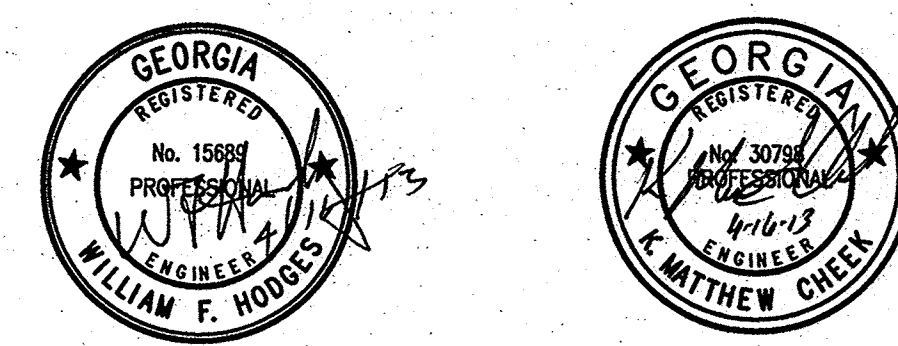
PASSIVE GAS VENT DETAIL



METHANE MONITORING PROBE (TYP.)

- Notes:
1. The bottom of the screen will be less than or equal to 5 feet above the confirmed top of bedrock or the groundwater table.
  2. The top of the screened interval will be approximately 5 feet below ground surface.
  3. Methane monitoring points where groundwater or bedrock is closer than or equal to 7 feet from ground elevation will be installed as barhole punches.
  4. If the hydrological conditions significantly change at the facility a PE/PG registered in the state of Georgia will reassess the methane monitoring system at the facility to ensure that there is adequate monitoring.

GEORGIA Environmental Protection Division Solid Waste Management Program  
MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. *069-017D(C-2)*  
REVIEWED BY: *Wally Wood* DATE: *5/13/13*  
APPROVED BY: *MHC* DATE: *5/13/13*



REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

METHANE GAS MONITORING PLAN			
DESIGN AND OPERATION PLAN			
FOR			
GWAR, LLC.			
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING			
CONSTRUCTION/DEMOLITION LANDFILL			
AND COMPOST FACILITY			
HALL COUNTY, GEORGIA			
<b>HHNT</b>			
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.		3920 ARKWRIGHT RD. SUITE 1010	
(478) 743-7175		(478) 743-1703 (FAX)	
PROJ. NO. 3150-015-01		DWG. GWAR-EXP-29-MM-R	
SCALE AS SHOWN		EDIT 4-15-13	
DATE SEPTEMBER, 2012		SHEET 29 OF 35	

**I. GENERAL**

- A. Construction Quality Assurance (CQA) for the construction of the cell and/or cap shall be provided by an independent consulting engineering firm specializing in the inspection and testing of soils and geosynthetics. Resumes and qualifications including experience with projects of similar type, size, and complexity shall be provided to the Landfill Owner for their review and approval.
- B. The services of the CQA firm shall be provided and paid for by the Owner. The services of the CQA firm shall be required during construction and installation of all landfill components described in this document.
- C. The project team providing the CQA services shall consist of the following:
  - 1. DESIGN ENGINEER: Responsible for providing interpretations and clarifications of the Contract Documents, reviewing and approving shop drawings, authorizing minor variations in the work from the requirements of the Contract Documents, and rejecting defective work (duties and responsibilities are described in General Conditions as "ENGINEER"). The DESIGN ENGINEER shall be registered professional engineer licensed in Georgia.
  - 2. CQA ENGINEER: Responsible for defining quality assurance, requirements compatible with the project plans, specifications, and CQA Plan objectives, verifying basic data as reasonable and complete, outlining procedures to process data, development of statistical procedures for the analysis of test data and preparing quality assurance memoranda and quality control reports. The CQA ENGINEER shall report to the DESIGN ENGINEER. The CQA ENGINEER shall be a registered professional engineer licensed in Georgia. Reference to the CQA ENGINEER, for the purpose of this document, shall include the CQA ENGINEER or his representative.
  - 3. ENGINEERING TECHNICIANS: Responsible for field observations, testing and inspection. Technicians will be assigned to the project as deemed necessary by the CQA ENGINEER and will be responsible to the CQA ENGINEER. The CQA ENGINEER, TECHNICIAN or the CQA ENGINEER's representative shall be on-site during proofrolling of completed subgrade, final cap installation and during structural fill placement as needed to observe representative activities of construction and to perform the required tests as described in this CQA Plan. A daily log of all field technician's activities, testing, and inspection shall be maintained by the Technician, and the Owner shall be furnished four (4) copies.

**2. DETERMINATION OF IN-PLACE SOIL PROPERTIES**

- a. Determination of Density  
Testing shall be performed by the CQA firm. The number of laboratory moisture-density tests and field density tests shall be in accordance with Paragraph Number of Density Tests to insure the specified density is obtained. Laboratory tests for moisture-density relations shall be performed in accordance with ASTM D698. Field tests for density and moisture content shall be performed in accordance with ASTM D1556, ASTM D6938 or ASTM D2937.
- b. Classification Tests  
Liquid Limit, Plastic Limit, and Plasticity Index will be determined in accordance with ASTM D4318. Sieve Analysis will be made as specified in ASTM D422, (sieves only).
- c. Number of Density Tests  
The following tests will be performed and are considered to be the number of tests. Additional tests may be required contingent upon weather and/or soil conditions.
  - 1. One (1) laboratory moisture-density relation test and companion classification test for each type of soil encountered.
  - 2. A minimum of one (1) density test shall be performed per 1,000 cubic yards of fill for subgrade and other embankment fills.

**3. DRAINAGE**  
Satisfactory methods for dewatering during construction shall be installed as required. The use of temporary surface water drainage/interceptor ditches, collection basins/sumps, and pumping of collected water should be anticipated. Surface water from the ridge above any slopes should be collected and routed around the landfill slopes. The disposal of water after removal shall be in keeping with the intents of the soil erosion control plan.

**4. GENERAL COMPACTION/FILL REQUIREMENTS**  
Excavation, fill and compaction requirements for this project vary as to the respective subgrade being constructed. Any subgrade not specifically detailed herein or any subgrade requirements that reference this section shall meet the requirements of this section.  
The residual soils that will be excavated from the cell areas to achieve the design subgrade elevations are suitable for use as structural fill. Some moisture modification (wetting or drying) may be required. Conventional compaction equipment and methods should be appropriate.  
Earthwork cut or fill slopes can be constructed as steep as 2H : 1V (horizontal:vertical). Cut and fill slope surfaces outside the cell area should be protected from erosion by grassing or other means. Where the cell embankment is to be constructed on natural slopes steeper than 4H: 1V, it is recommended that the fill soils be keyed into the slopes using horizontal benches to facilitate placement and compaction of structural fill and to prevent formation of a potential slip surface.

- a. COMPACTION  
When tested, embankment and fill material shall be compacted to not less than 95% Standard Proctor of the maximum dry density, or as specified in the schedule below. All subgrades will be proofrolled prior to acceptance of subgrade by the CQA ENGINEER. Proofrolling will be in accordance with procedures in this specification.

GENERAL DESCRIPTION	COMPACTION
Sediment Pond Embankments	95%
Embankments	95%
Cell Floor (in fill only)	90%
Other Areas	90%

- 2. If, in the opinion of the CQA ENGINEER (based upon testing reports, or inspection), subgrade or fills which have been placed are below specified density, the Contractor shall then provide additional compaction or repairs.
- 3. Subgrade materials shall be compacted at a moisture content within plus or minus three (3%) percent of optimum. The Contractor shall dry or add moisture to the subgrade material when required to provide a uniformly compacted subgrade.

- b. PROTECTION OF SUBGRADES  
Ditches and drains shall be provided and maintained when required to satisfactorily drain the subgrade. Where previously approved subgrade is damaged by natural causes, by hauling equipment, or by other traffic, it shall be restored to the subgrade to the required lines, grades, and typical sections and to the required density.

- c. EMBANKMENT FORMATION INCLUDING CELL SUBGRADE:
  - 1. Areas to receive embankment formations or fill shall be stripped to suitable base material.
  - 2. The material shall be deposited and spread in successive, uniform, approximately horizontal layers of not more than twelve (12") inches in depth, loose measurement, for the full width of the cross section, and shall be kept approximately level by the use of effective spreading equipment. Each layer of the embankment shall be satisfactorily compacted as hereinafter specified.
  - 3. Hauling shall be distributed over the full width of the embankment, and in no case will deep ruts be allowed to form during the construction of the embankment. The embankment shall be properly drained at all times.
  - 4. Where embankments are to be constructed across ground which will not support the weight of trucks or other hauling equipment, the first layer of the embankment may be constructed by dumping successive truck or other equipment loads in a uniform distributed layer of a thickness not greater than that necessary to support the trucks or hauling equipment while placing subsequent layers. The remainder of such embankments shall then be constructed in layers as above specified.

- 5. STOCKPILE AREAS  
Surplus and unsuitable excavation shall be hauled, placed and sloped to drain for each material classification.  
Material stockpile areas shall be designated by the CQA ENGINEER. All excavation material shall be placed or stockpiled by one of the means listed below. All material types and classifications shall be subject to the interpretation of the CQA ENGINEER and shall be stockpiled or used for fill as directed by the CQA ENGINEER.
  - Used for structural fill
  - Stockpiled as topsoil
  - Stockpiled as cover

- 6. MOISTURE CONTROL  
Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compaction operations.

**III. COMPACTED SOIL CAP**

- A. GENERAL  
1. CQA monitoring and testing shall be performed during installation of the compacted soil cap to verify conformance with criteria identified in the approved plans, specifications, and this CQA Plan.
- B. MATERIAL  
1. The compacted soil cap material shall consist of on-site or imported cohesive soils or synthetically improved soils meeting the permeability criteria of not more than  $1.0 \times 10^{-5}$  cm/sec.
- C. STOCKPILING AND MATERIAL APPROVAL  
1. All material to be used as the compacted soil cap shall be approved in advance by the CQA ENGINEER. Approval is based upon successful completion of CQA testing outlined herein. Such testing can be performed either during excavation and stockpiling or from existing stockpiles prior to use.

- 2. The procedure for testing during excavation and stockpiling is outlined below.
  - a. Each load of soil will be examined either at the borrow source or the stockpile area. Any unsuitable material will be routed to separate stockpiles consistent with its end use.
  - b. During stockpiling operations, one bulk sample of material placed will be collected. The following tests will be performed prior to placement of any compacted soil liner material.
    - 1. Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil - Aggregate Mixtures, ASTM. D2216.
    - 2. Method for Particle - Size Analysis of Soils, ASTM. D422.
    - 3. Test Method for Liquid Limit, and Plasticity Index of Soils, ASTM. D4318.
    - 4. Moisture Density Relationship (ASTM. D698).
  - c. One sample for every 10,000 cubic yards of material stockpiled will be selected for remolded permeability testing (ASTM. D5084) measurement of Hydraulic Conductivity of Saturated Porous Materials using a Flexible Wall Perimeter.
- 3. Reports for the soil cap will be prepared by the CQA ENGINEER and shall include:
  - a. Summary of laboratory test data.
  - b. A summary of construction, sampling and testing method, and recommendations.

**D. TEST FILL**

- 1. A test fill may be constructed using the same construction methods, equipment and material to be used for the compacted soil cap. The test fill construction may be conducted prior to or coincide with the beginning of construction of the compacted soil cap.
- 2. Construction equipment and methods shall be reviewed by the CQA ENGINEER prior to test pad placement.
- 3. Construction methods, sampling and testing, including permeability testing, shall be specified by the CQA ENGINEER.

**E. CONSTRUCTION**

- 1. Compacted Soil Cap shall be placed to conform to the  $k \leq 1.0 \times 10^{-5}$  cm/sec permeability criteria.
- 2. Only soil previously approved by the CQA ENGINEER shall be used in construction of the compacted soil cap. Unsuitable material will be removed prior to acceptance by the CQA ENGINEER.
- 3. All required field density and moisture content tests shall be completed before the overlying lift of soil is placed. The surface preparation (e.g. wetting, drying, scarification, etc.) shall be completed before the CQA ENGINEER will allow placement of subsequent lifts.
- 4. Moisture content will be monitored by the CQA ENGINEER or his representative prior to compaction. If the soil is drier than the specified minimum moisture content, water will be added and the lift will be disc to distribute the moisture evenly. The surface of each lift shall be scarified prior to placement of subsequent lifts.
- 5. The thickness of the loose lift shall be measured at random locations after spreading and leveling is completed. Loose lift thickness should not exceed 10" for a final 6" compacted lift thickness. Each lift shall be checked visually for excess rocks, debris, plant materials and other foreign material. Any significant amounts of such material which will not pass through a 2" screen shall be identified and removed prior to and during the compaction process, if such material will be within 6" of the top of the compacted soil surface.
- 6. The exposed surface of the compacted soil cap shall be rolled with a smooth drum roller or equivalent at the end of each work day or when required to protect the compacted soil from adverse weather conditions.
- 7. CQA sampling and testing shall meet the minimum requirements of EPD as contained in Table 2 below.

**TABLE 2  
CONSTRUCTION & DEMOLITION LANDFILL  
CLOSURE CONSTRUCTION QUALITY ASSURANCE REQUIREMENTS**

ITEM	TESTING	FREQUENCY
Soil Cap - During Const.	Density - nuclear, drive-cylinders or sand cone (ASTM D6938, D2937 or D1556)	1 test/10,000 sq ft/lift ≥ 95% Standard Proctor
	Moisture Content (ASTM D 2216)	1 test/10,000 sq ft/lift
Soil Cap - Lab Testing	*Permeability (ASTM D5084)	1 test/40,000 sq ft/lift ≤ $1.0 \times 10^{-5}$ cm/sec
	*Dry Density (ASTM D5084)	1 test/40,000 sq ft/lift
	*Moisture Content undisturbed (ASTM D2216)	1 test/40,000 sq ft/lift
	Atterberg Limits (ASTM D4318)	1 test/40,000 sq ft/lift

- \*Tests to be performed on undisturbed samples.
- 8. The finished compacted soil cap shall be reasonably free of all rocks, soil clods greater than 2" on the surface. Protrusions shall be removed and all significant cracks and voids shall be filled and the surface made uniform. Rock or other material protruding more than 1" shall not be allowed, and should be removed. This shall be accomplished by final dressing of the soil cap with smooth drum rollers and hand raking.
- 9. The CQA ENGINEER shall inspect the compacted soil cap and certify that it is in accordance with the specifications prior to the Owner beginning placement of topsoil on any portion of the soil cap surface. Placement of topsoil on any portion of the soil cap surface by the Owner will constitute the CQA ENGINEER's acceptance of the site.

**IV. CERTIFICATION**

- A. The CQA ENGINEER will provide a report and certification that the grading and structural fill, compacted soil cap, access roads, ditches, sediment ponds and other associated ancillary facilities for the particular landfill area are constructed according to the approved plans, specifications, and this CQA Plan. Said certification shall have the CQA ENGINEER's seal as a professional engineer registered in the State of Georgia.
- B. A copy of all test reports and field notes outlined in this CQA Plan will be submitted to the Georgia EPD for their review and approval.
- C. The project will not be deemed complete and acceptable until the Georgia EPD has approved the construction certification and all supplemental reports and data. The Owner and the CQA ENGINEER shall also completely familiarize themselves with the Rules and Regulations of the Environmental Protection Division concerning soil cap systems.

**II. GRADING AND STRUCTURAL FILL**

**A. GENERAL**

- 1. DESCRIPTION OF WORK
  - a. Excavation, structural fill, and preparation of subgrade for landfill and detention basins.
  - b. All excavation shall conform with the lines and grades as shown on the plans or established by the DESIGN ENGINEER.
- 2. QUALITY ASSURANCE
  - a. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
  - b. Owner will engage soil testing and inspection service, for quality assurance testing during earthwork operations.
  - c. Test reports for the following items shall be given to the CQA ENGINEER and will be available for the Owner directly responsible for earthwork being tested:
    - 1. Field Density Test Reports
    - 2. One (1) optimum moisture-density curve for each type of soil encountered.
    - 3. Other field inspection reports as deemed appropriate.
- 3. APPLICABLE STANDARDS  
The most recent publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

American Society for Testing and Materials (ASTM) Publications (Latest Version):

D 698	Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 5.5 lb. Hammer/12" drop
D 6938	Density of Soil in Place by the Nuclear Gage
D 2937	Density of Soil in Place by the Drive-Cylinder Method
D 1556	Density of Soil in Place by Sand-Cone Method

**B. MATERIAL**

- 1. SUITABLE MATERIAL
  - a. Shall be free from construction material, debris, frozen material, organic matter less than or equal to 3% by dry weight, or unstable material.
  - b. Shall be suitable for the formation of embankments, subgrades, backfill, shoulders and other places requiring structural fill as may be indicated on the contract drawings or directed by the CQA ENGINEER.
  - c. No rock greater than 6" in maximum dimension shall be placed in any portion of the landfill embankment. Small rock less than 3", if used, shall be incorporated into the embankment in such a fashion to completely avoid bridging or voids. Larger boulders or rock pieces may be used in the lower portions of the deeper fills if the boulders are placed individually and soil compacted around and over each boulder. Sufficient quantities of soil should be mixed with the partially weathered rock so that voids do not result between the pieces of partially weathered rock and the fill meets the compaction requirements. No rock larger than 6" shall be used in the top 2' of structural fill or in areas planned for utility placement.
  - d. Acceptable USCS soil classifications for structural fill materials are GW, GP, GM, GC, SW, SM, SC, SP, MH, ML, CH, and CL.
  - e. Clean crushed concrete may be mixed with soil for use as embankment fill.
- 2. UNSUITABLE MATERIAL  
The CQA ENGINEER will designate whether or not a material is unstable for the formation of embankments and subgrades. Unstable material may also be referred to as unsuitable. Moisture content of material alone shall not render material unstable or unsuitable. It is contractor's responsibility to raise or lower material moisture content to achieve specified compaction densities or remove and replace at Owner's expense.
- 3. UNSUITABLE MATERIAL  
Material deemed unsuitable by the CQA ENGINEER for embankment formation operations or other operations shall be removed, replaced, and compacted using a suitable material.
- 4. SELECT SOILS FOR CONSTRUCTION AND DEMOLITION WASTE LANDFILL  
During on site excavation, the designation of stockpile areas for placement of soils for the embankments shall be performed by the CQA ENGINEER and placed in designated areas by the Owner.

**C. EXECUTION**

- 1. PREPARATION OF GROUND SURFACE FOR FILL  
Before embankment and roadway construction are begun, all vegetation, topsoil, and rubbish shall be removed from the area within the limits of the embankment and roadway.  
Following stripping or excavation of waste or rubbish, those areas at grade or designated to receive fill or subsequent materials placement shall be PROOFROLLED in the presence of the CQA ENGINEER with a 25 to 35-ton, four wheeled, rubber-tired truck or similar approved equipment to identify those areas needing repair due to pumping or yielding. The proofroller should make at least four passes over each location, with the last two passes perpendicular to the first two. Any areas which wave, rut, or deflect excessively in the opinion of the CQA ENGINEER shall be UNDERCUT to firm bearing and backfilled in thin lifts with properly compacted soil fill. An initial bridge lift of fill may be placed over areas which had been undercut if approved by the CQA ENGINEER.  
Topsoil shall be stockpiled and utilized in areas to be seeded after completion of grading. Excess topsoil shall be hauled to designated areas.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D(C-0)

REVIEWED BY: CEH DATE: 5/13/13

APPROVED BY: WML DATE: 5/13/13

WILLIAM F. HODGES

MATTHEW CHALK

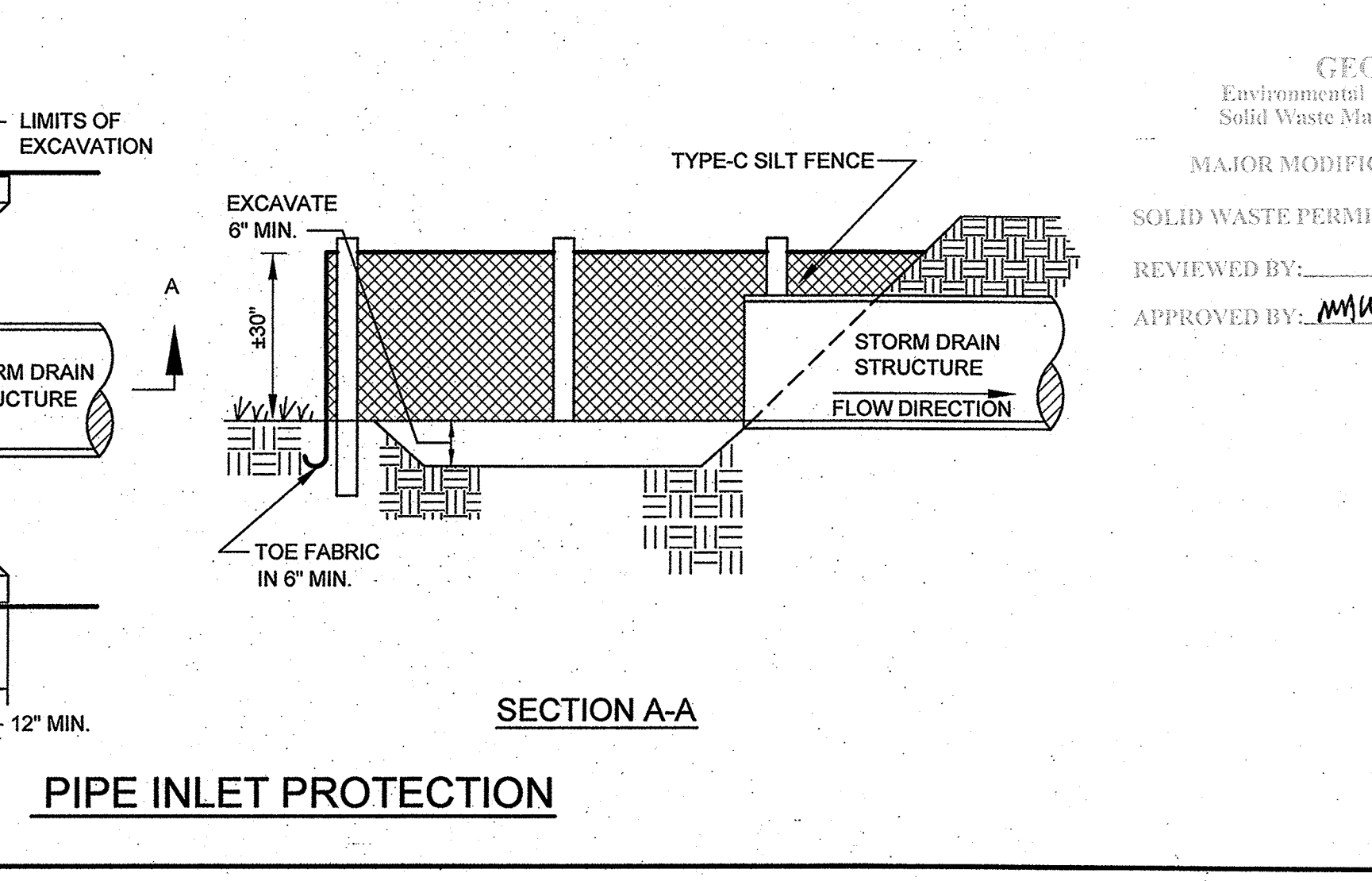
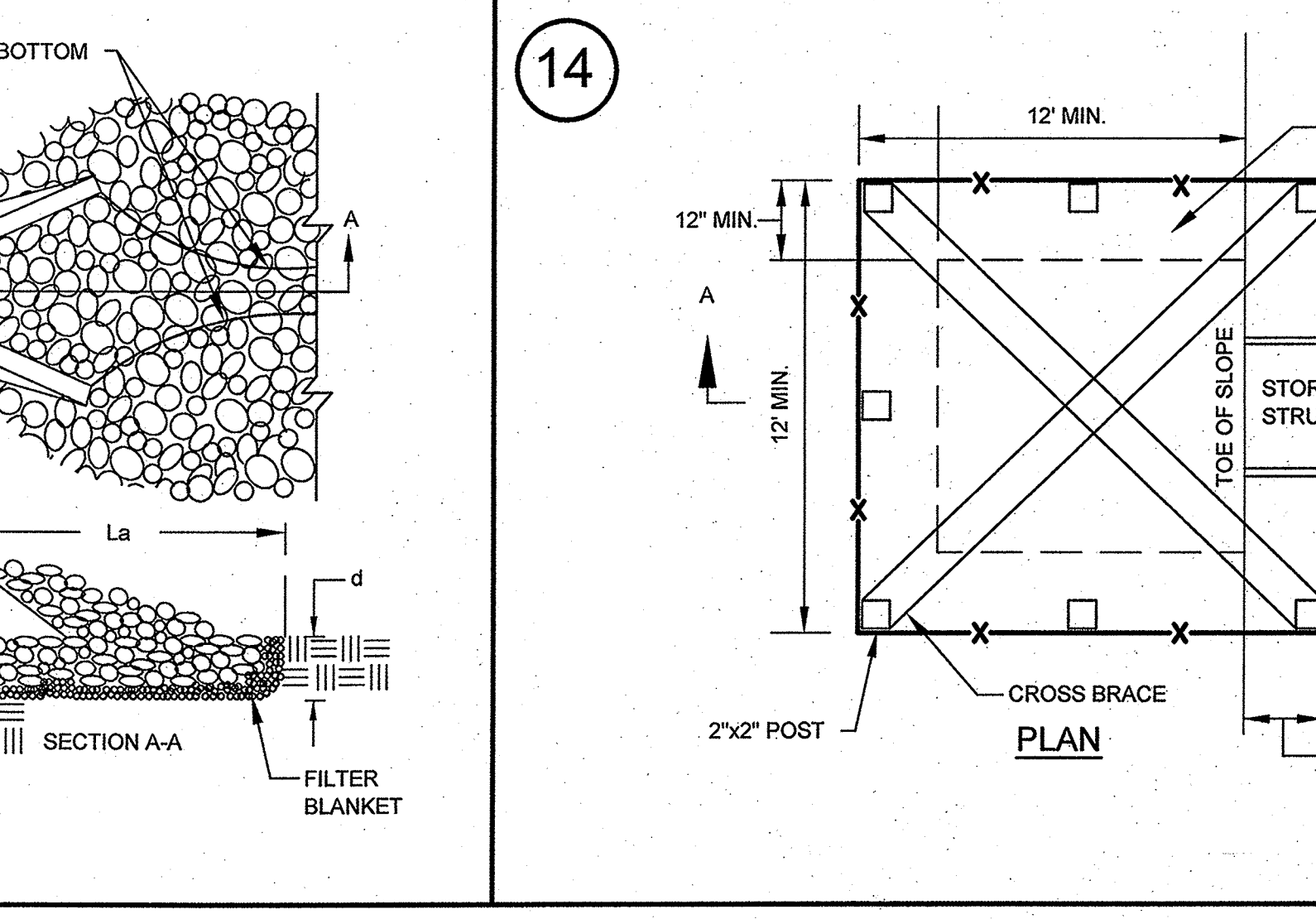
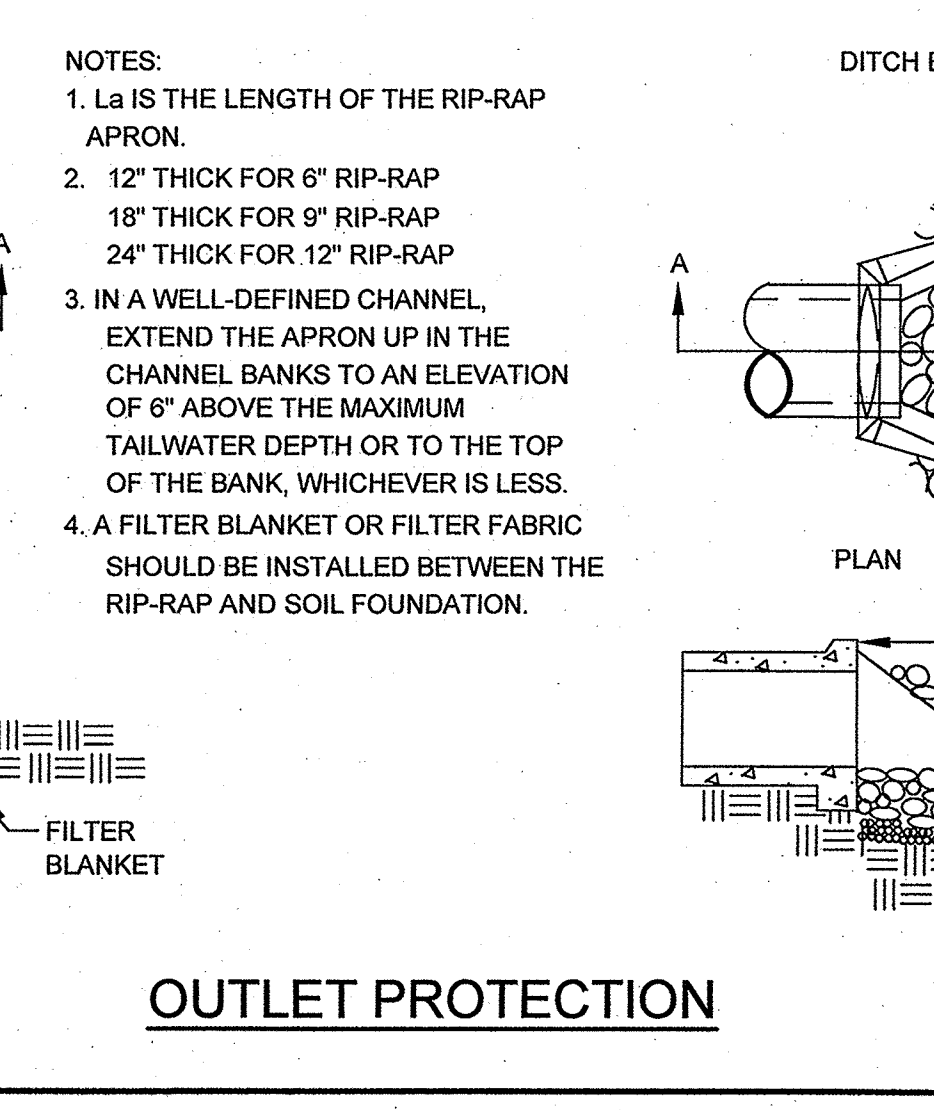
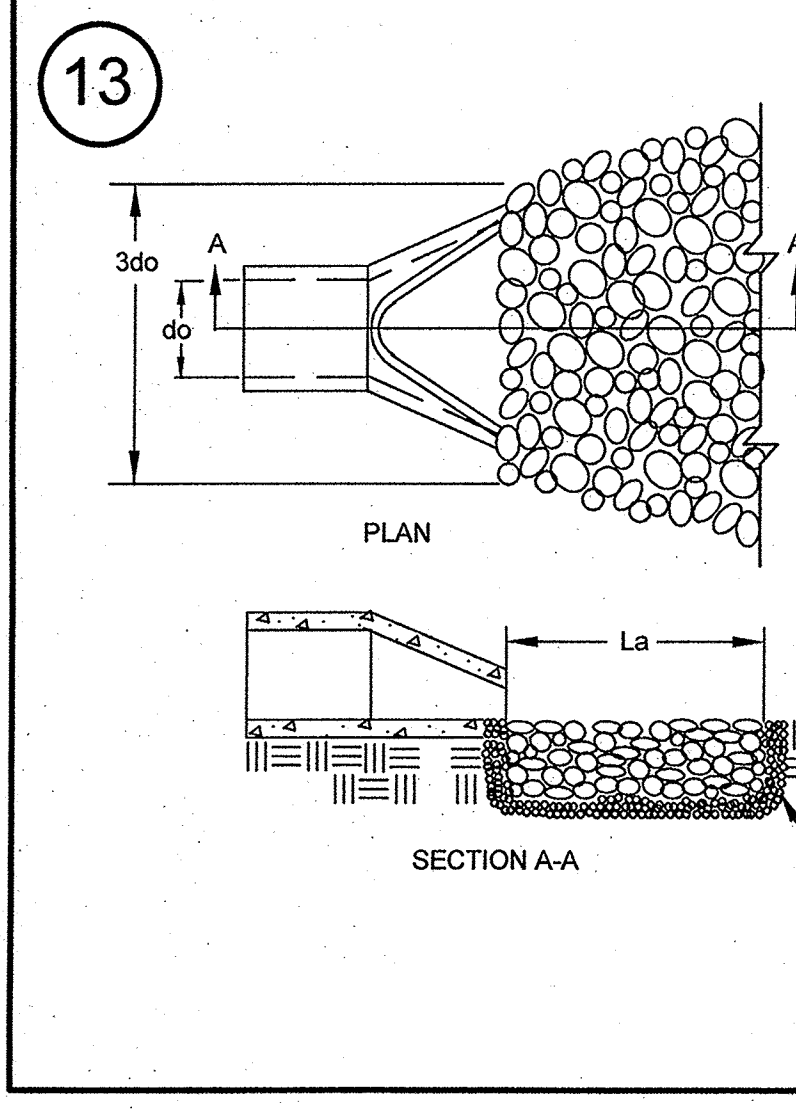
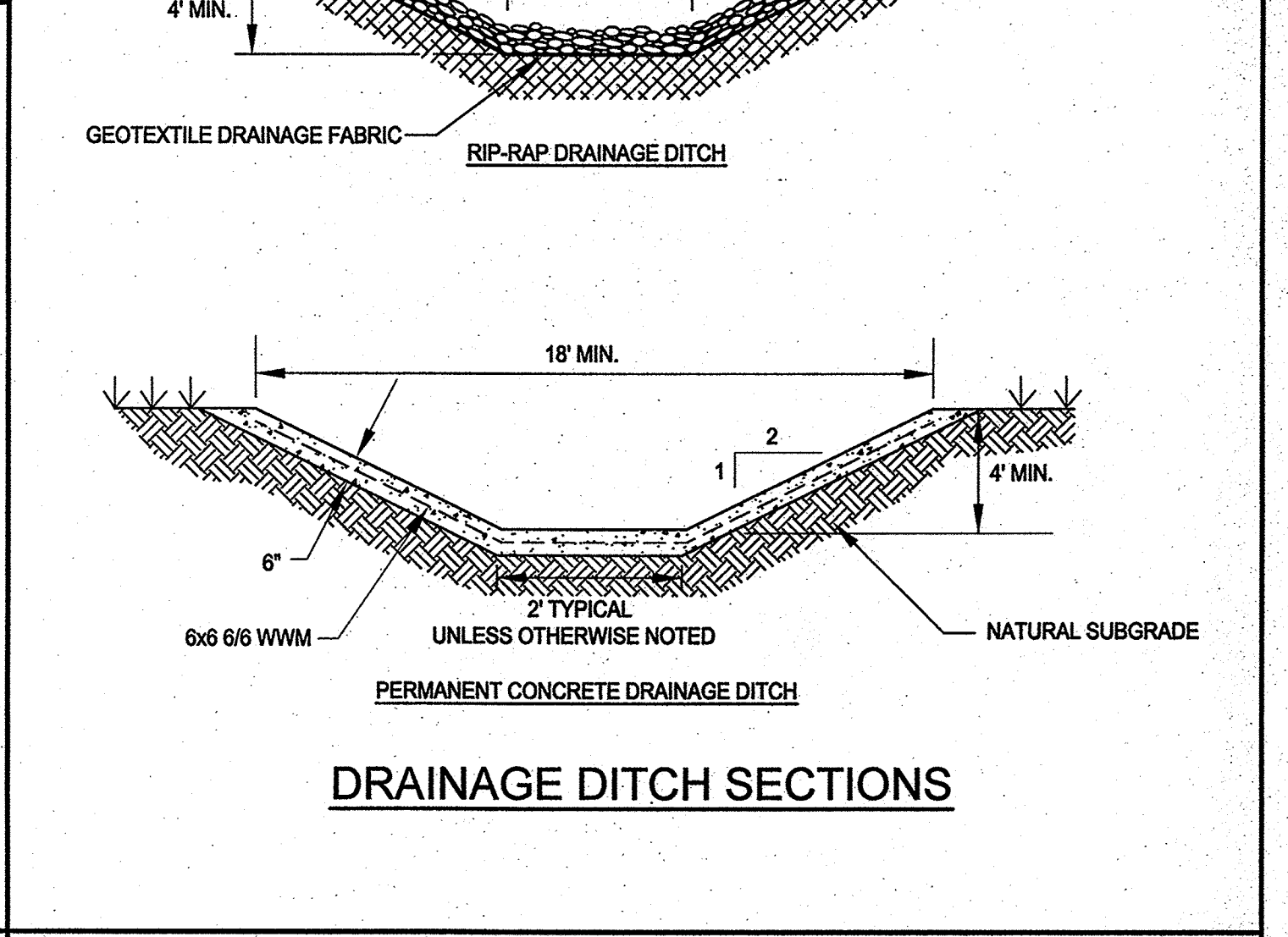
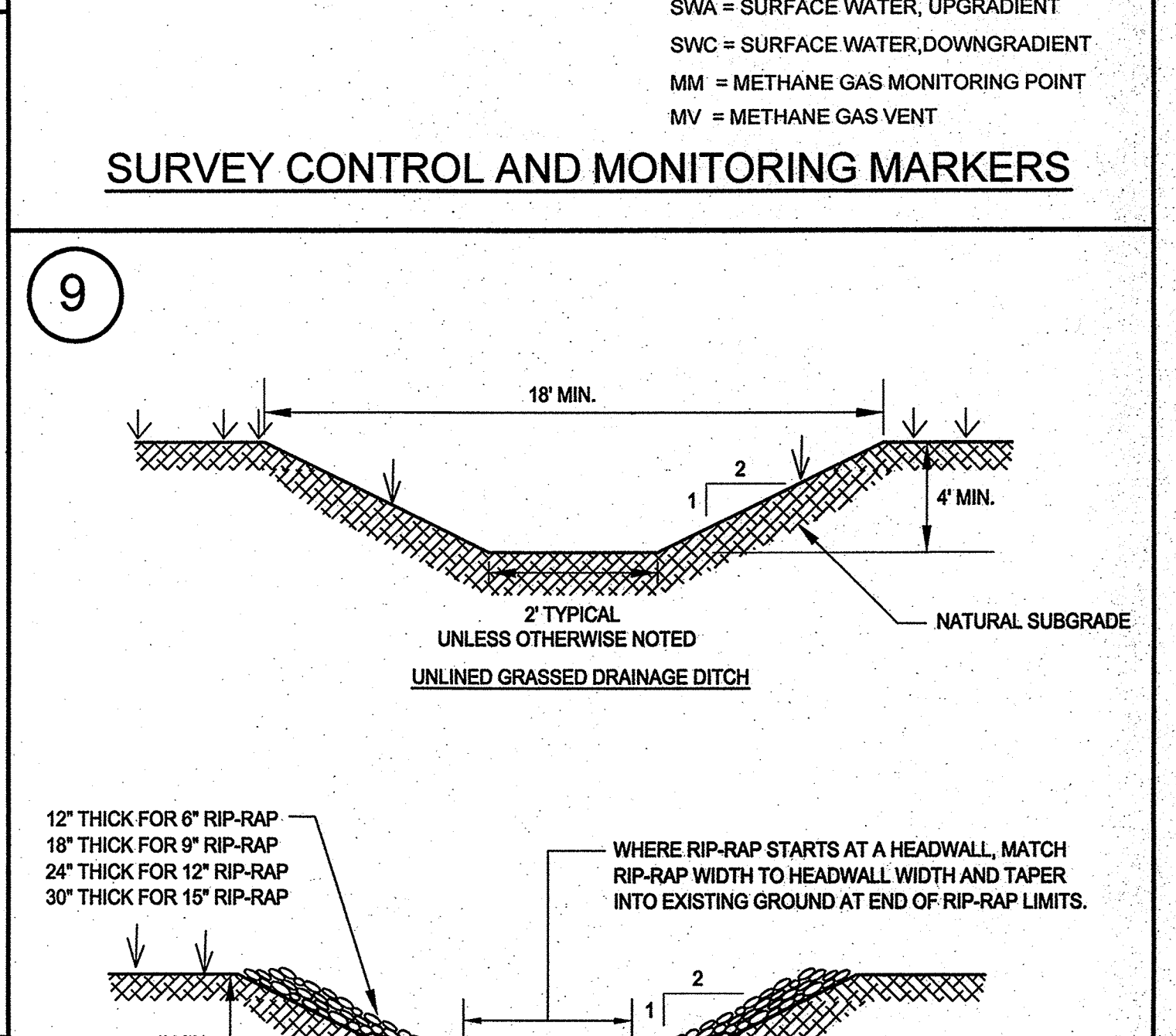
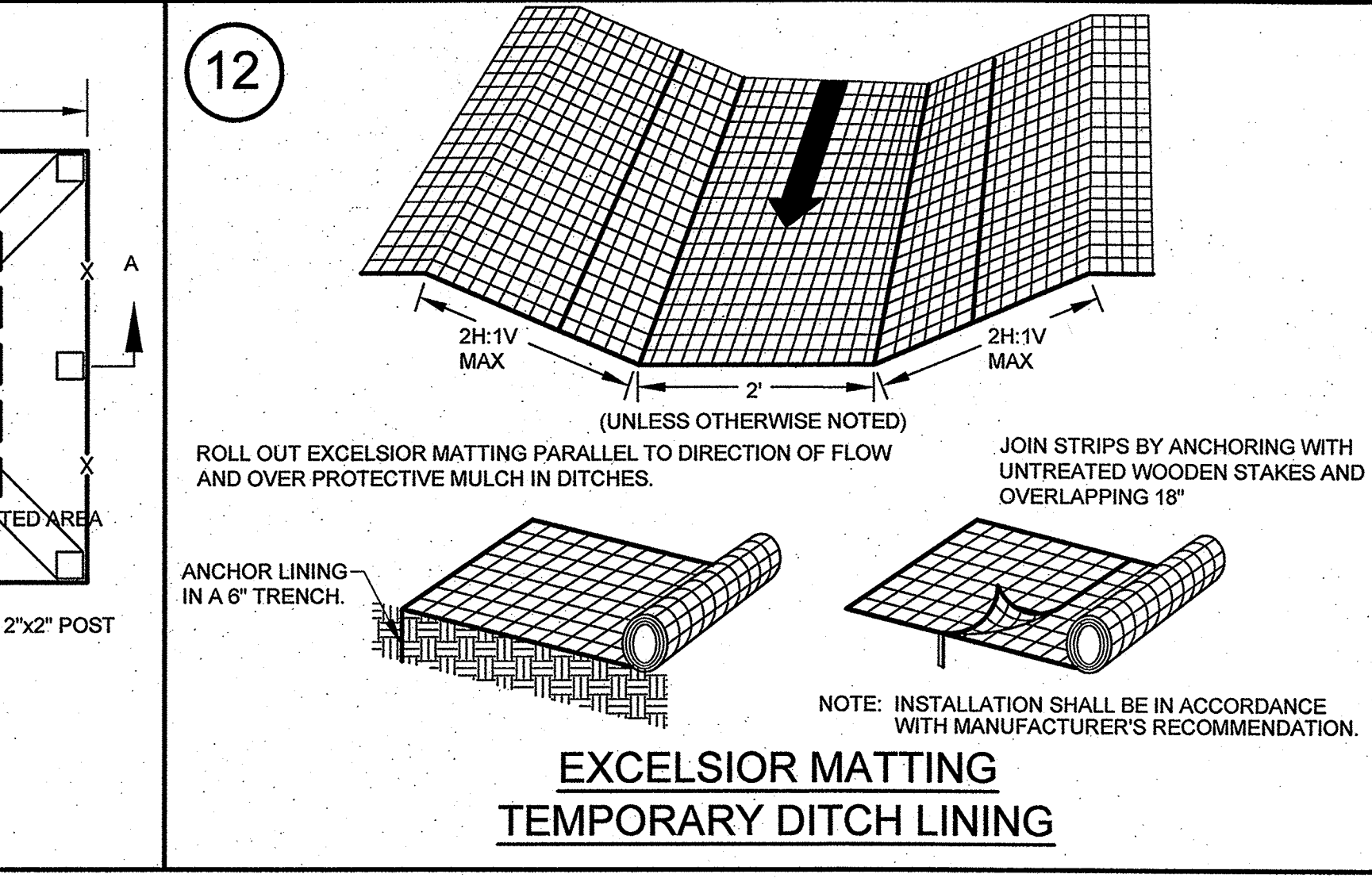
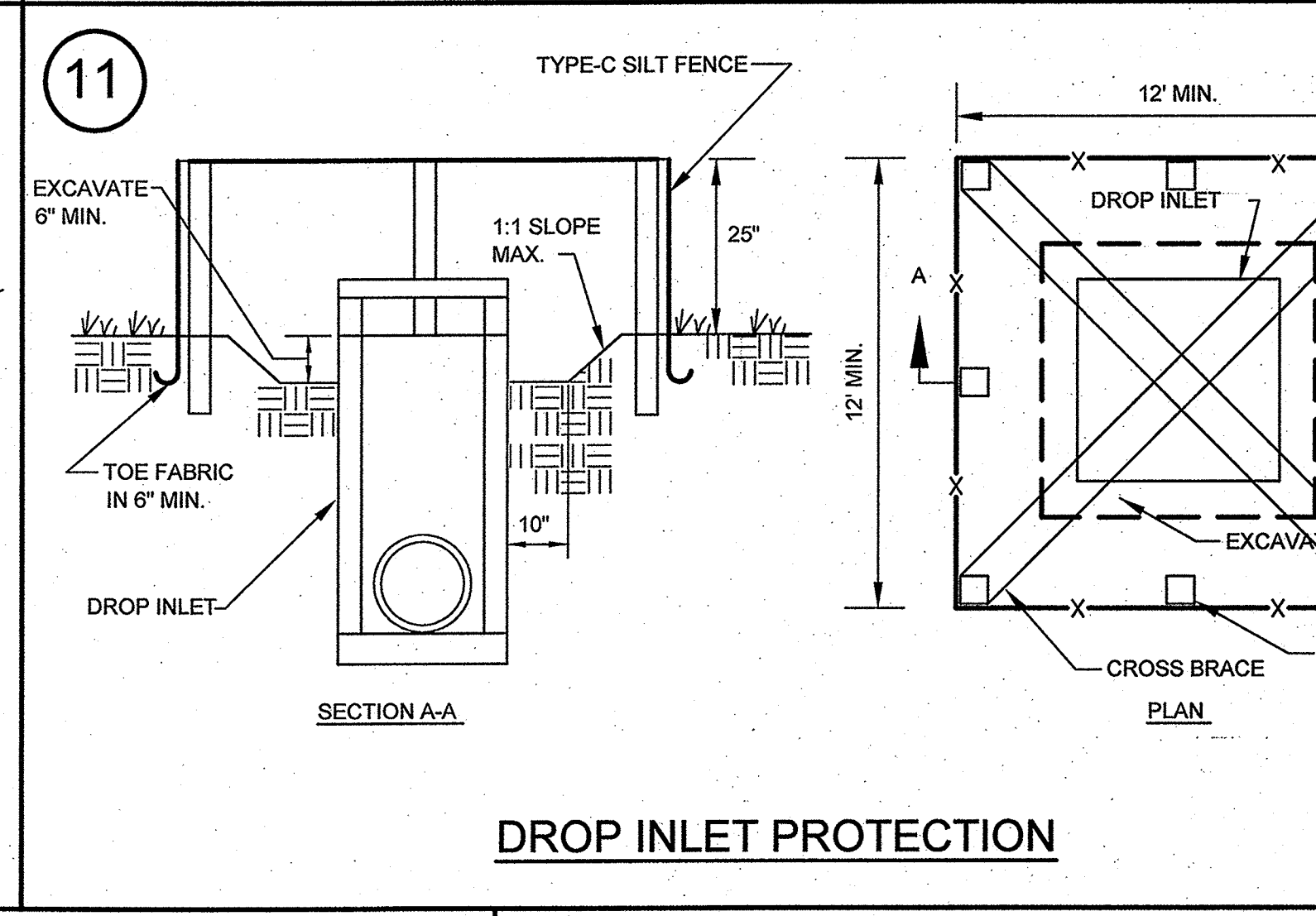
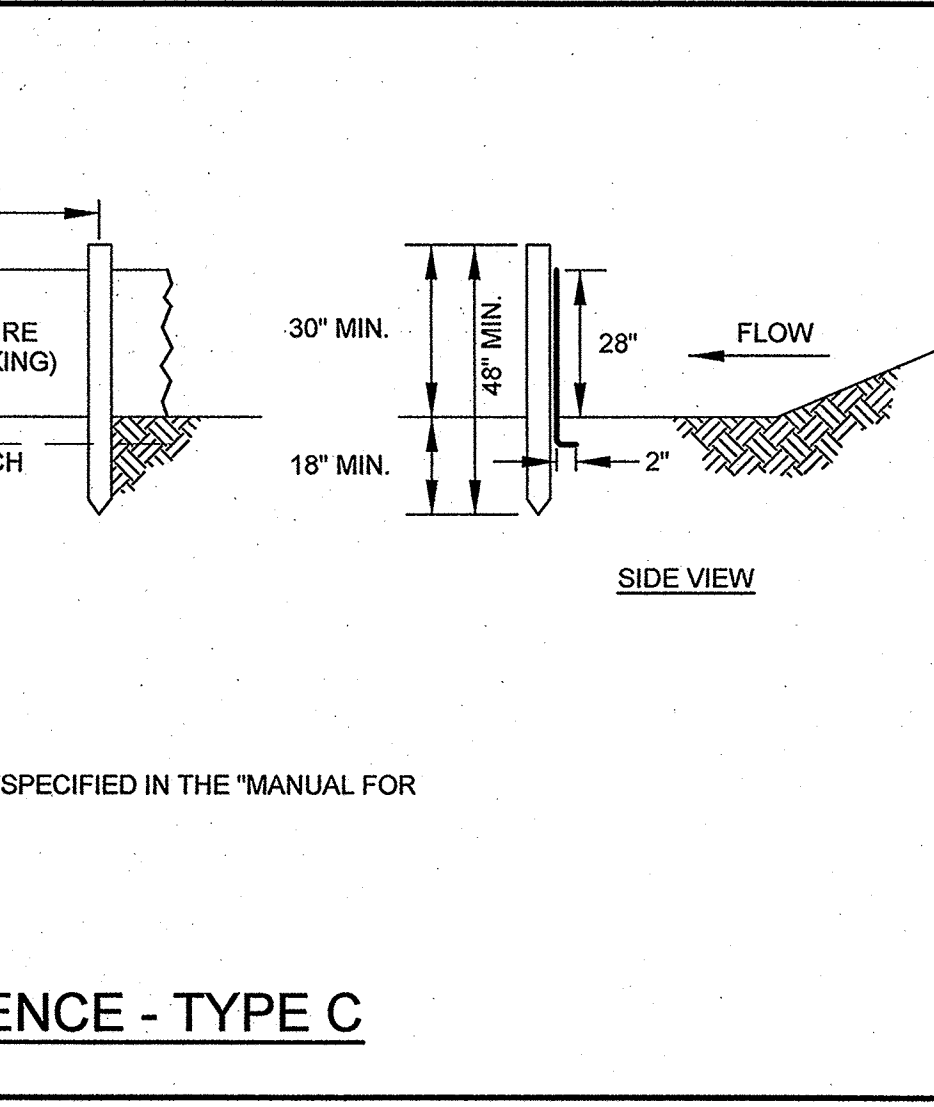
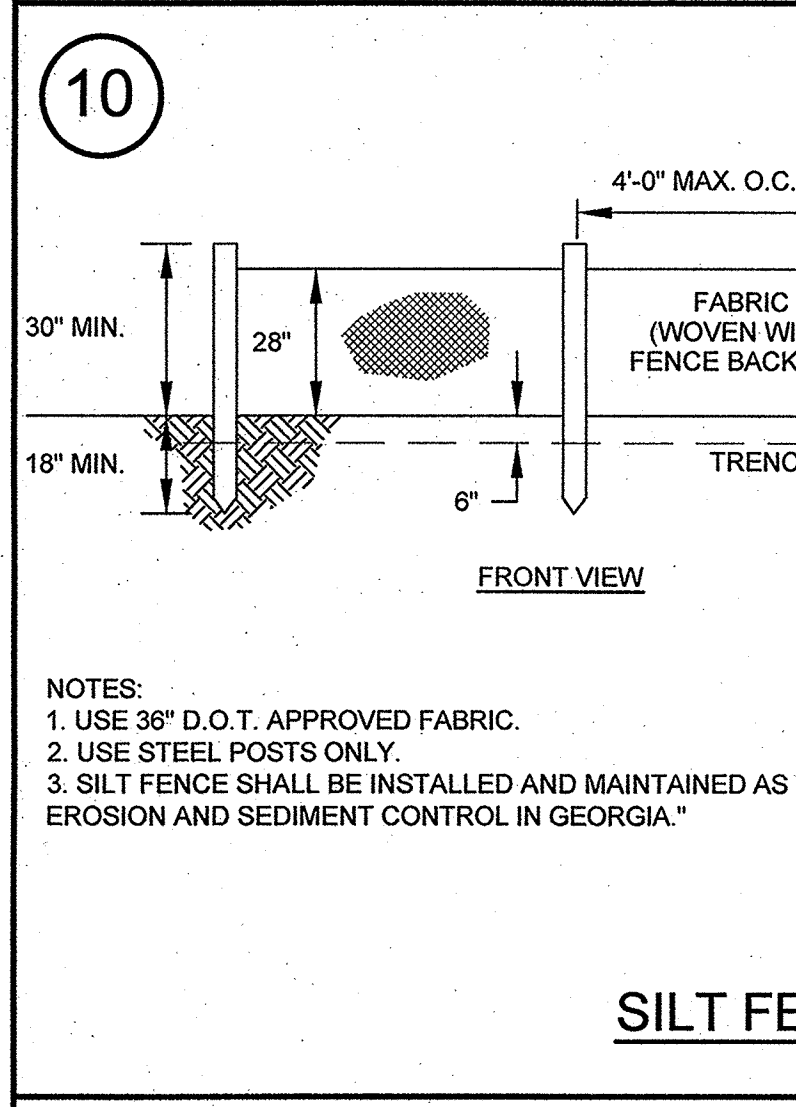
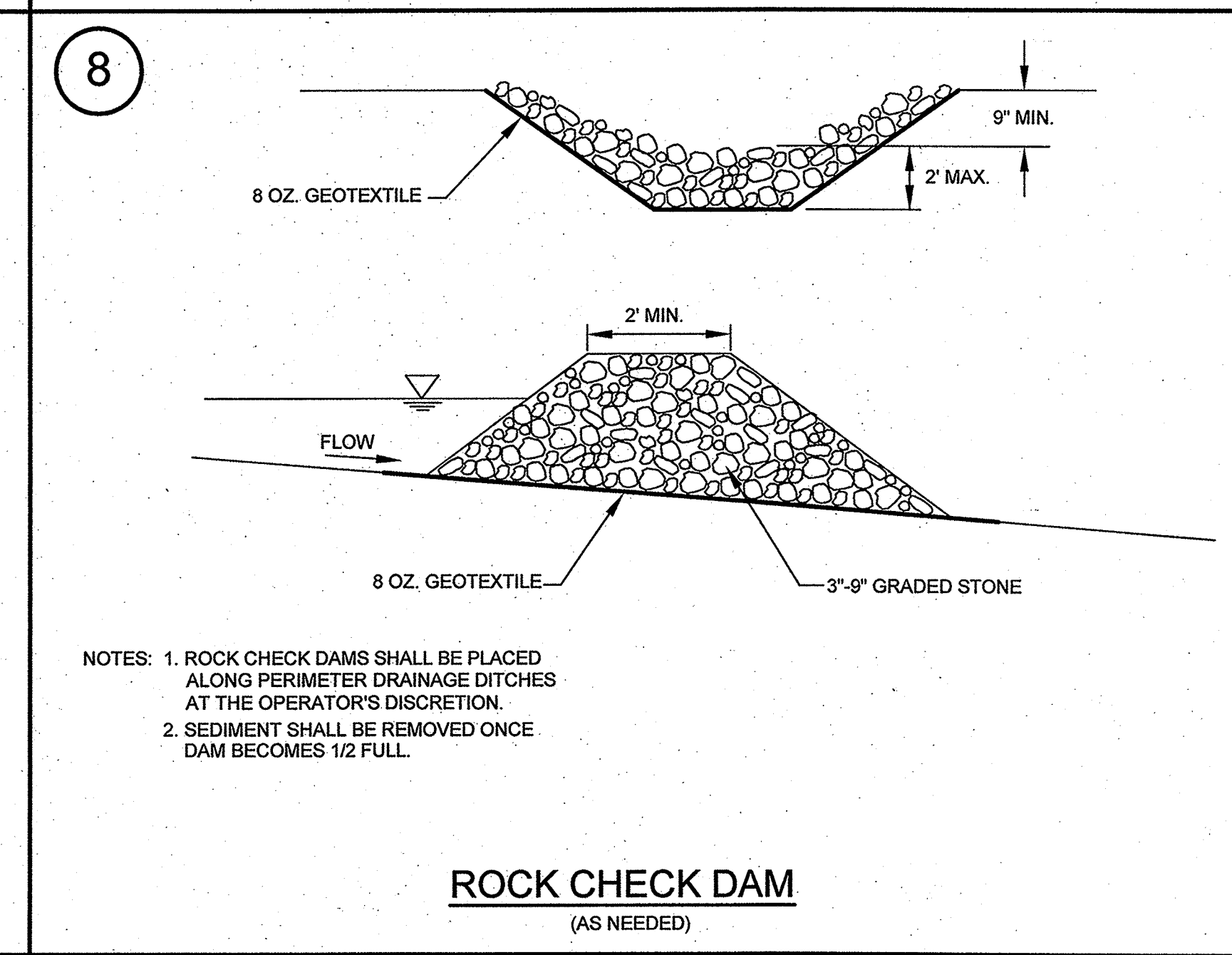
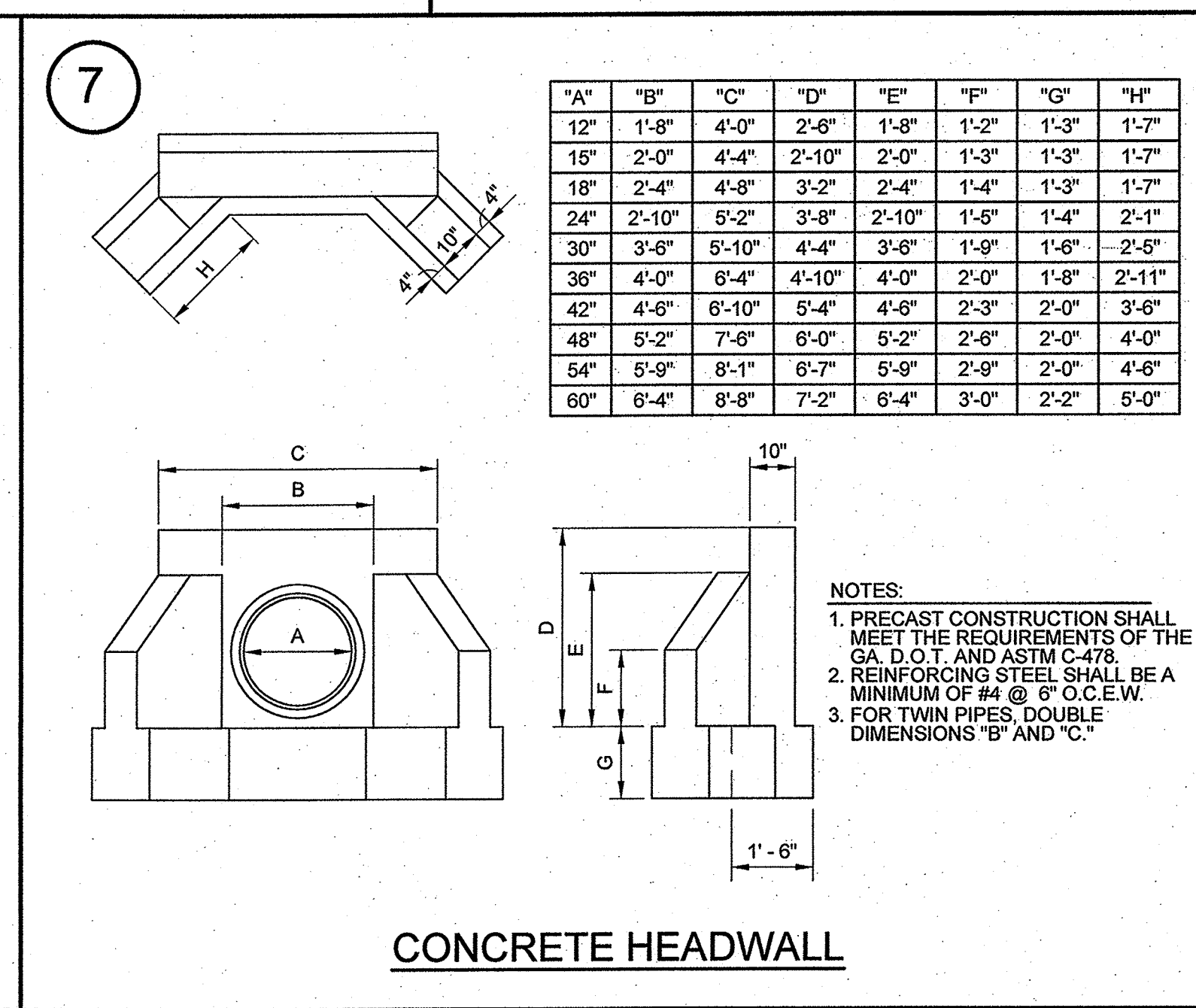
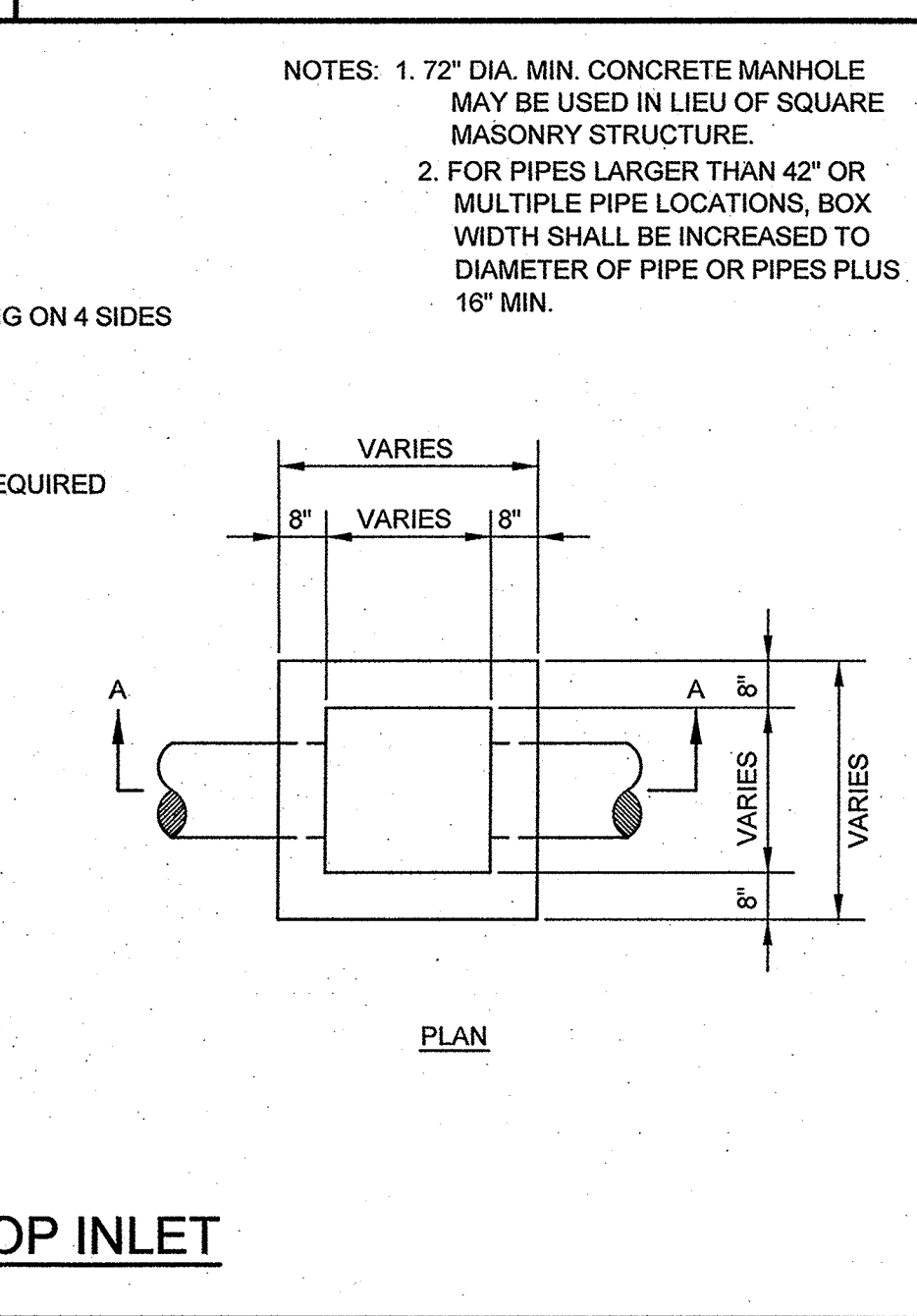
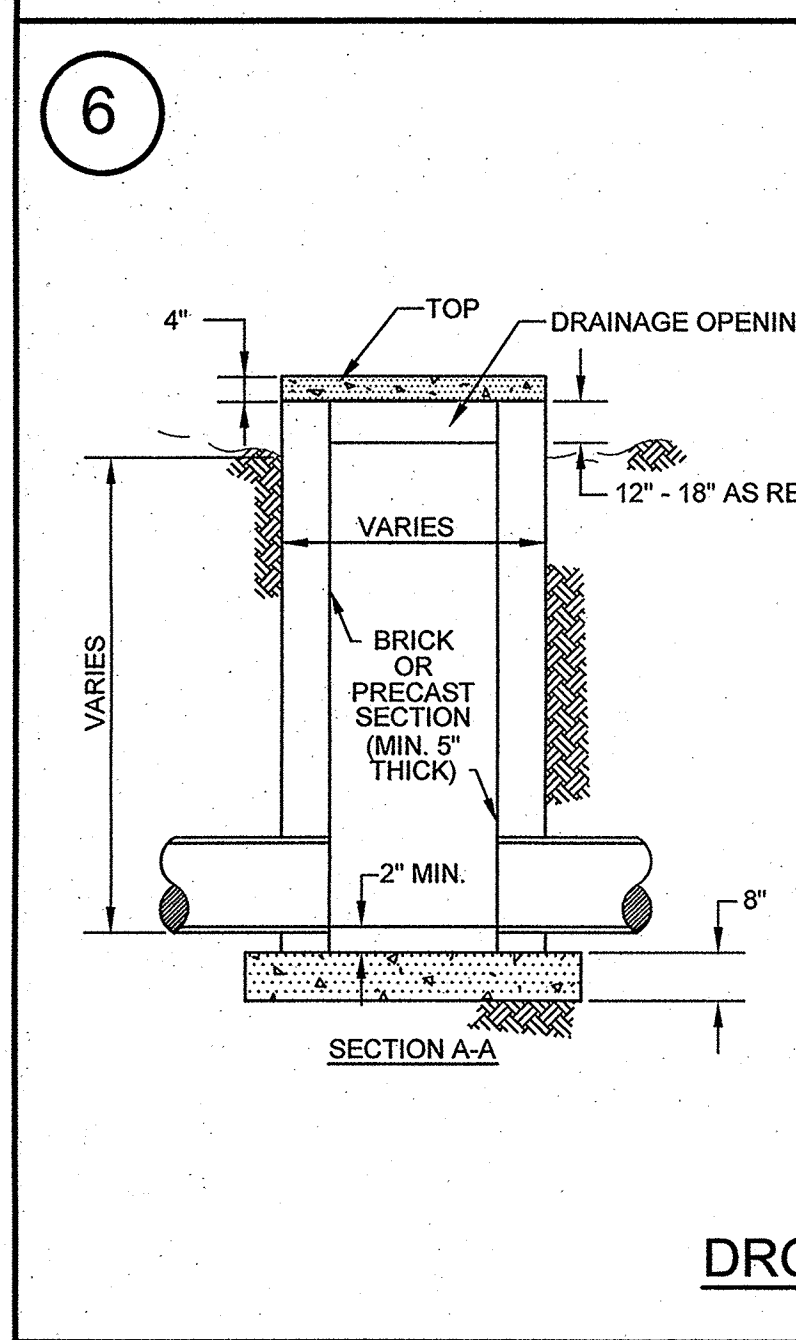
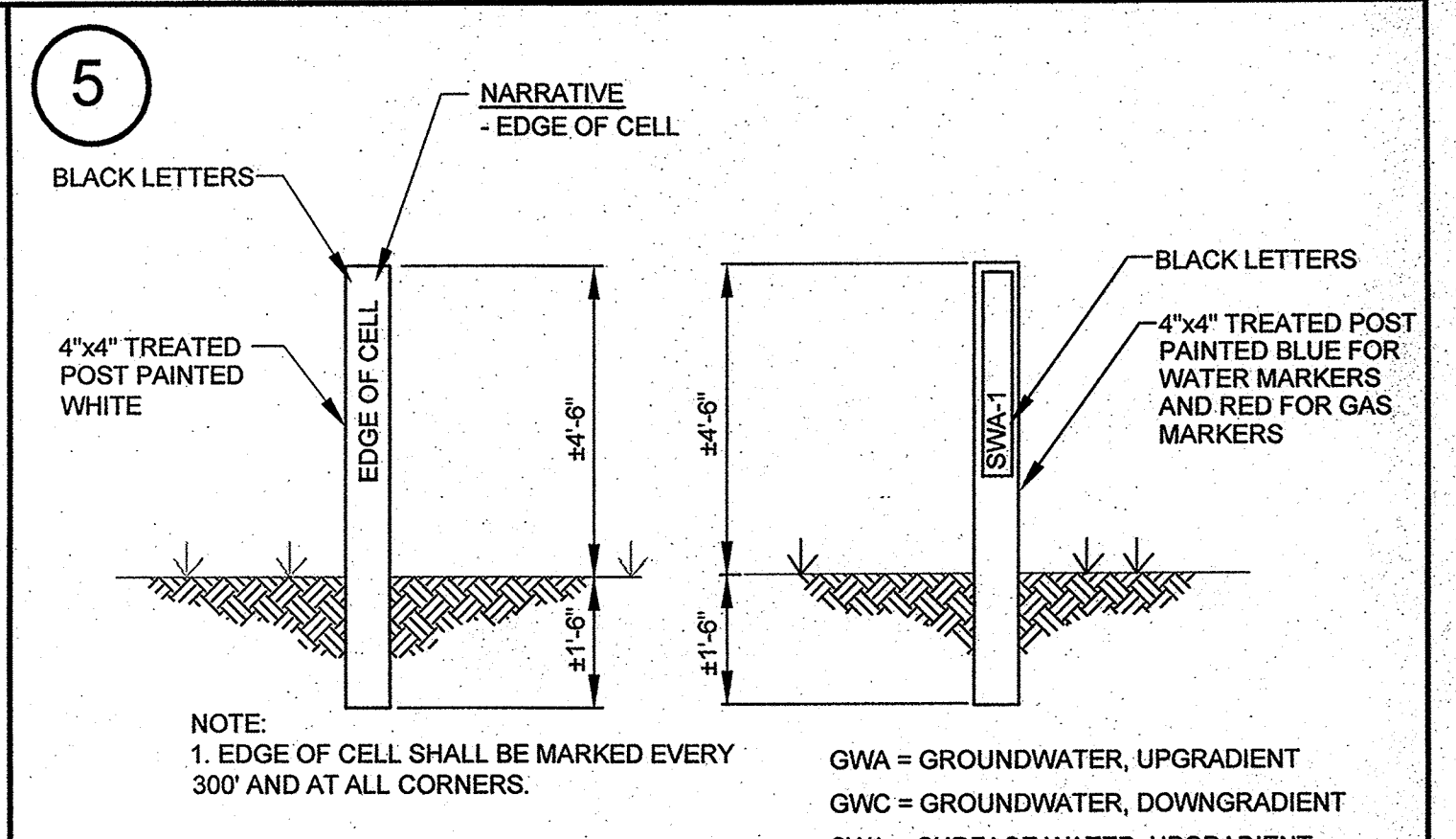
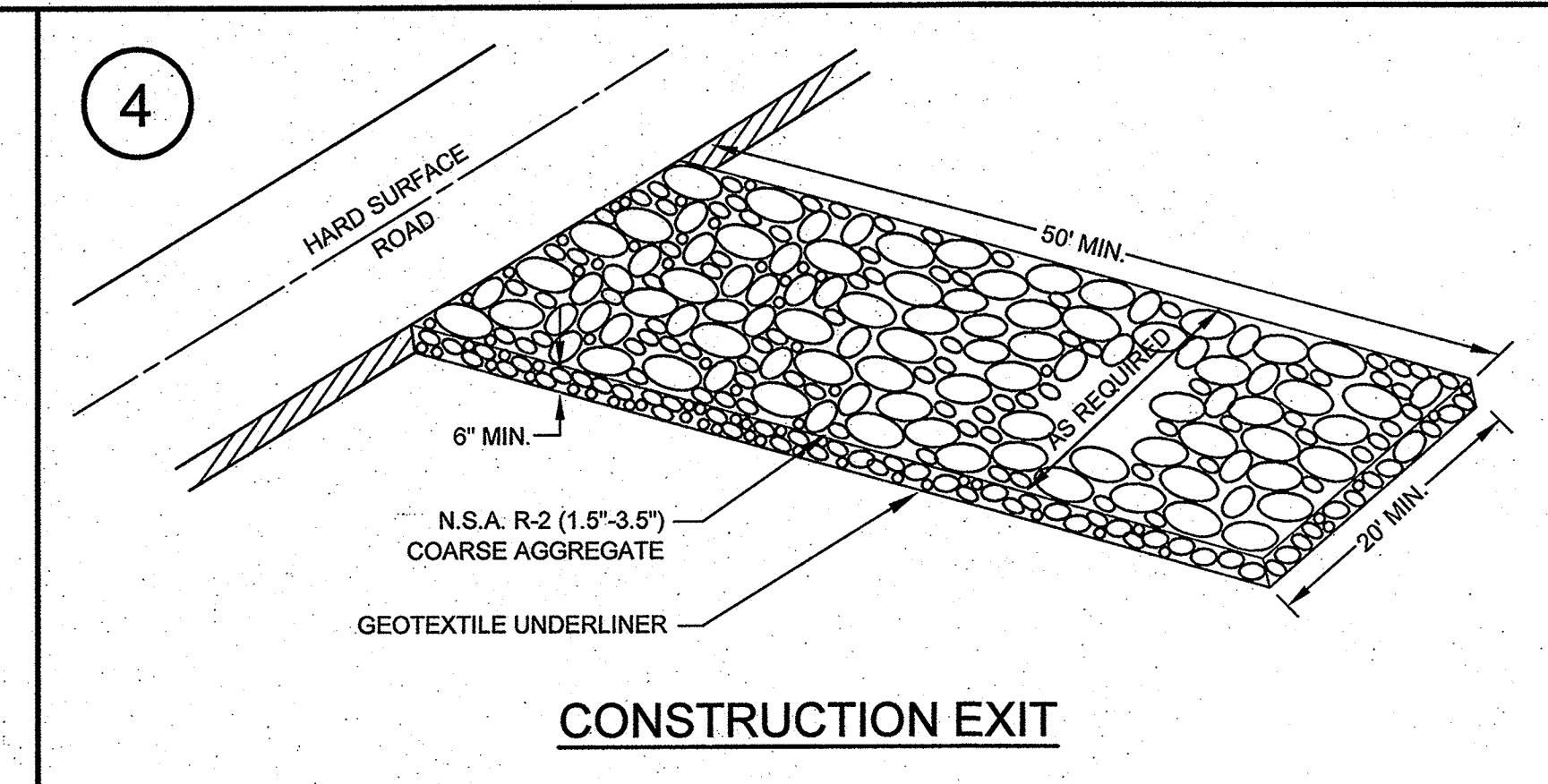
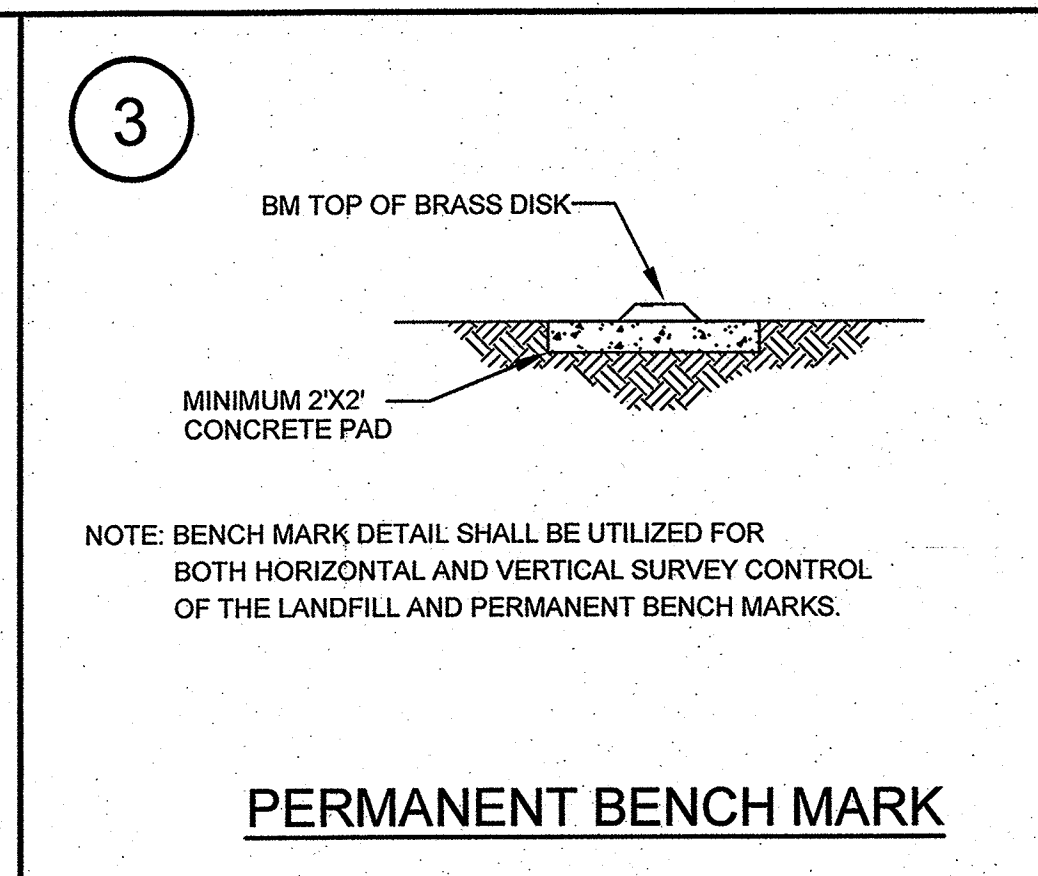
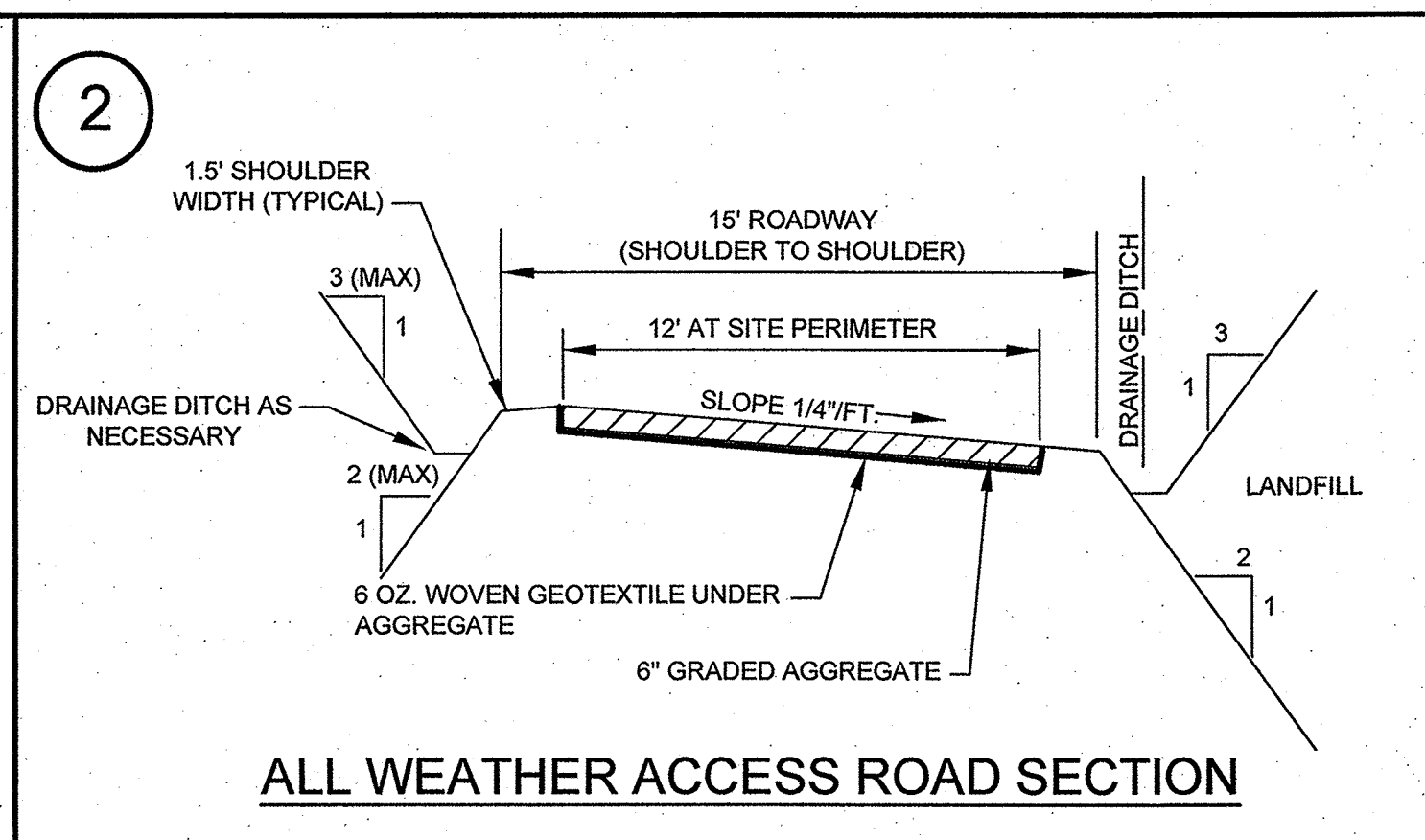
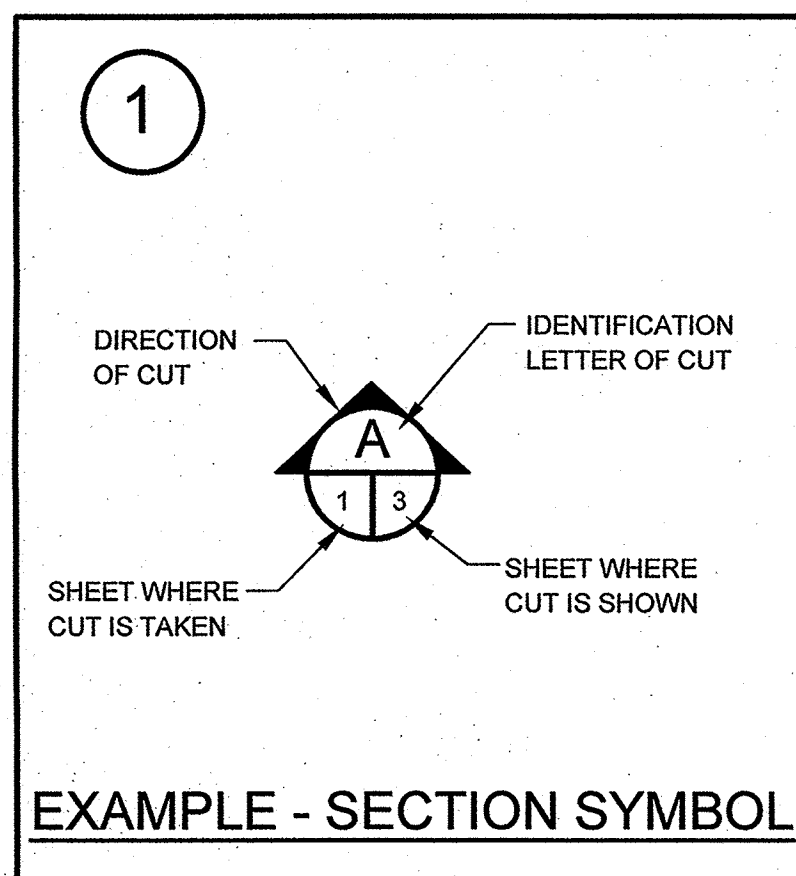
REVISED: MARCH 20, 2013

CONSTRUCTION QUALITY ASSURANCE PLAN  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, INC. 3920 ARKWRIGHT RD.  
NEWBERRY & TRIBBLE, INC. SUITE 101  
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(478) 743-7175  
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PROJ. NO.	3150-015-01	DWG. GWAR-EXP-30-CQA-R	EDIT	3-20-13
SCALE	NOT TO SCALE		SHEET 30 OF 35	
DATE	SEPTEMBER, 2012			



GEORGIA Environmental Protection Division Solid Waste Management Program

MAJOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D(CAD)

REVIEWED BY: *CPH* DATE: 5/13/13

APPROVED BY: *MMW* DATE: 5/13/13

REVISED: MARCH 20, 2013

MISCELLANEOUS DETAILS

**DESIGN AND OPERATION PLAN**

FOR

**GWAR, LLC.**

HALL COUNTY - GAINESVILLE WASTE AND RECYCLING CONSTRUCTION/DEMOLITION LANDFILL AND COMPOST FACILITY

HALL COUNTY, GEORGIA

**HHNT**

HODGES, HARBIN, 3920 ARKWRIGHT RD. SUITE 101

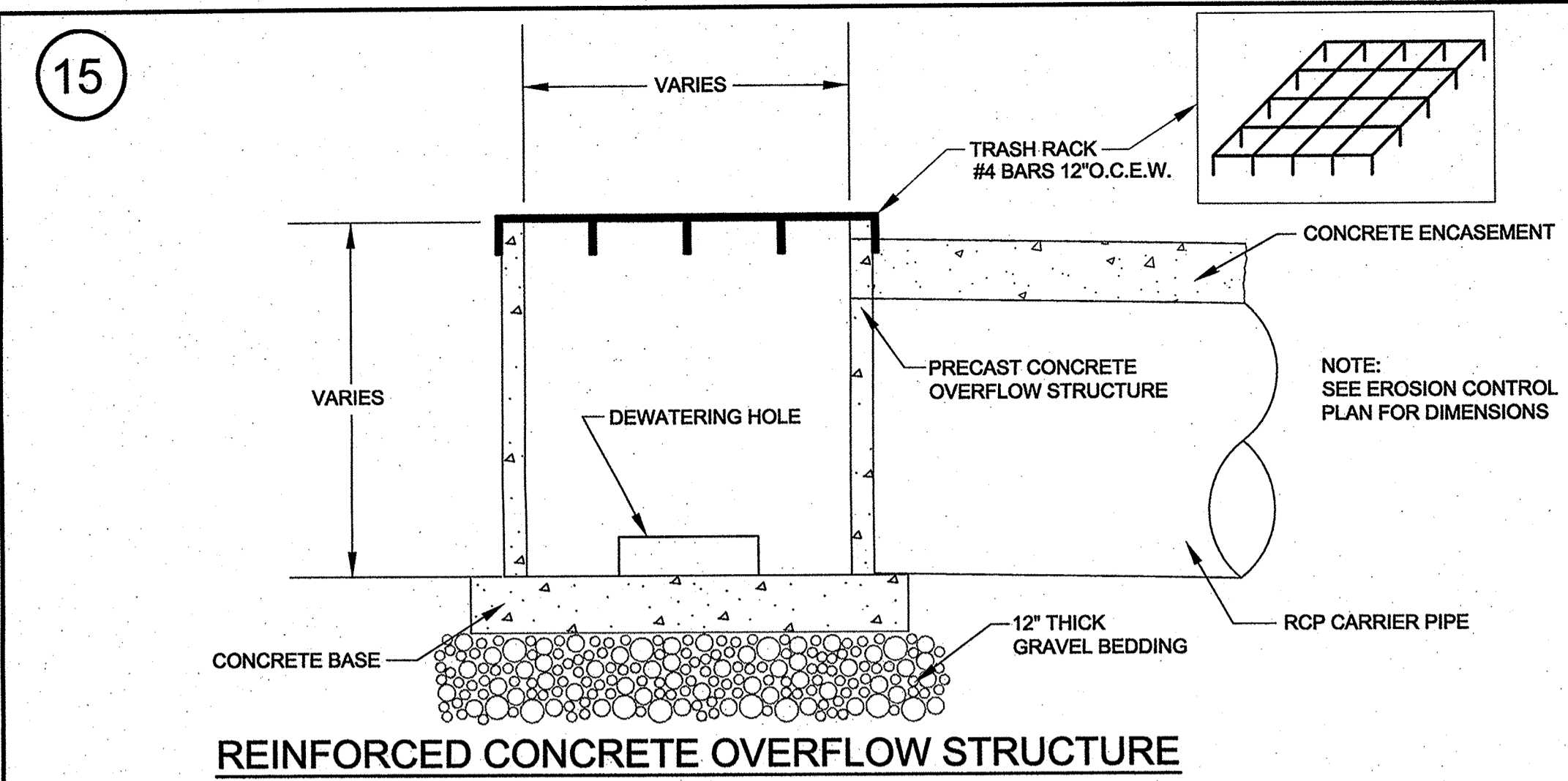
NEWBERRY & TRIBBLE, INC. (478) 743-7175 (478) 743-1703(FAX) Consulting Engineers MACON, GEORGIA 31210

PROJ. NO. 3150-015-01 DWG. GWAR-EXP-31-D1-R EDIT 3-20-13

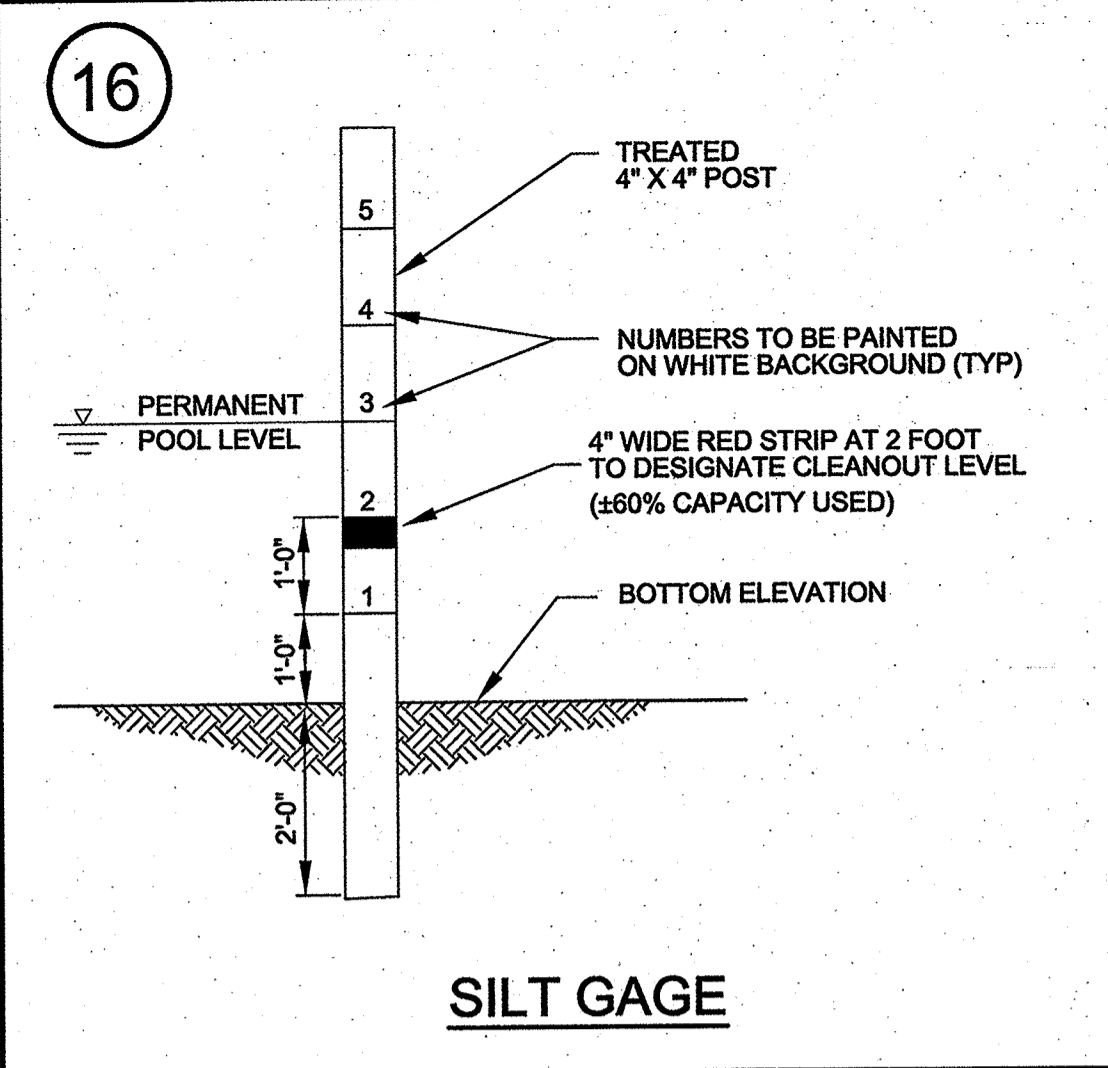
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DATE SEPTEMBER, 2012

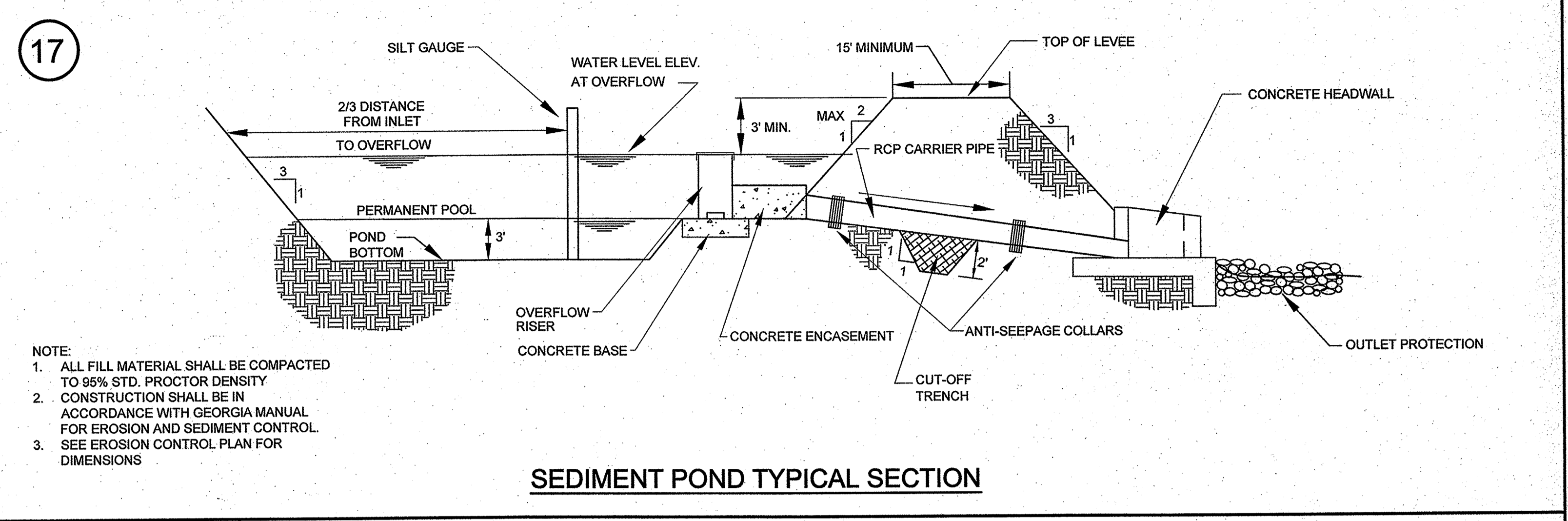
SHEET 31 OF 35



**REINFORCED CONCRETE OVERFLOW STRUCTURE**

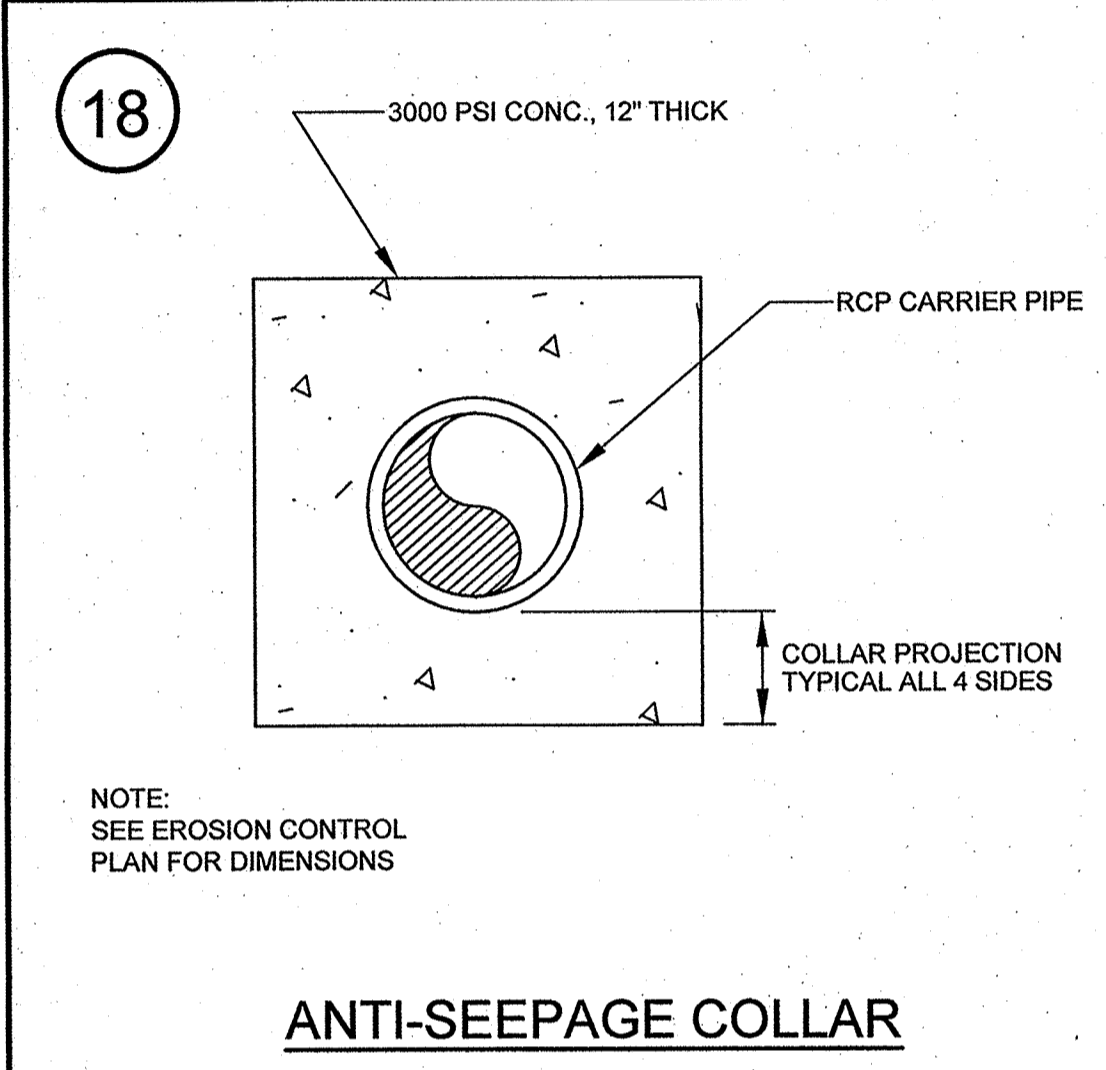


**SILAGE GAGE**

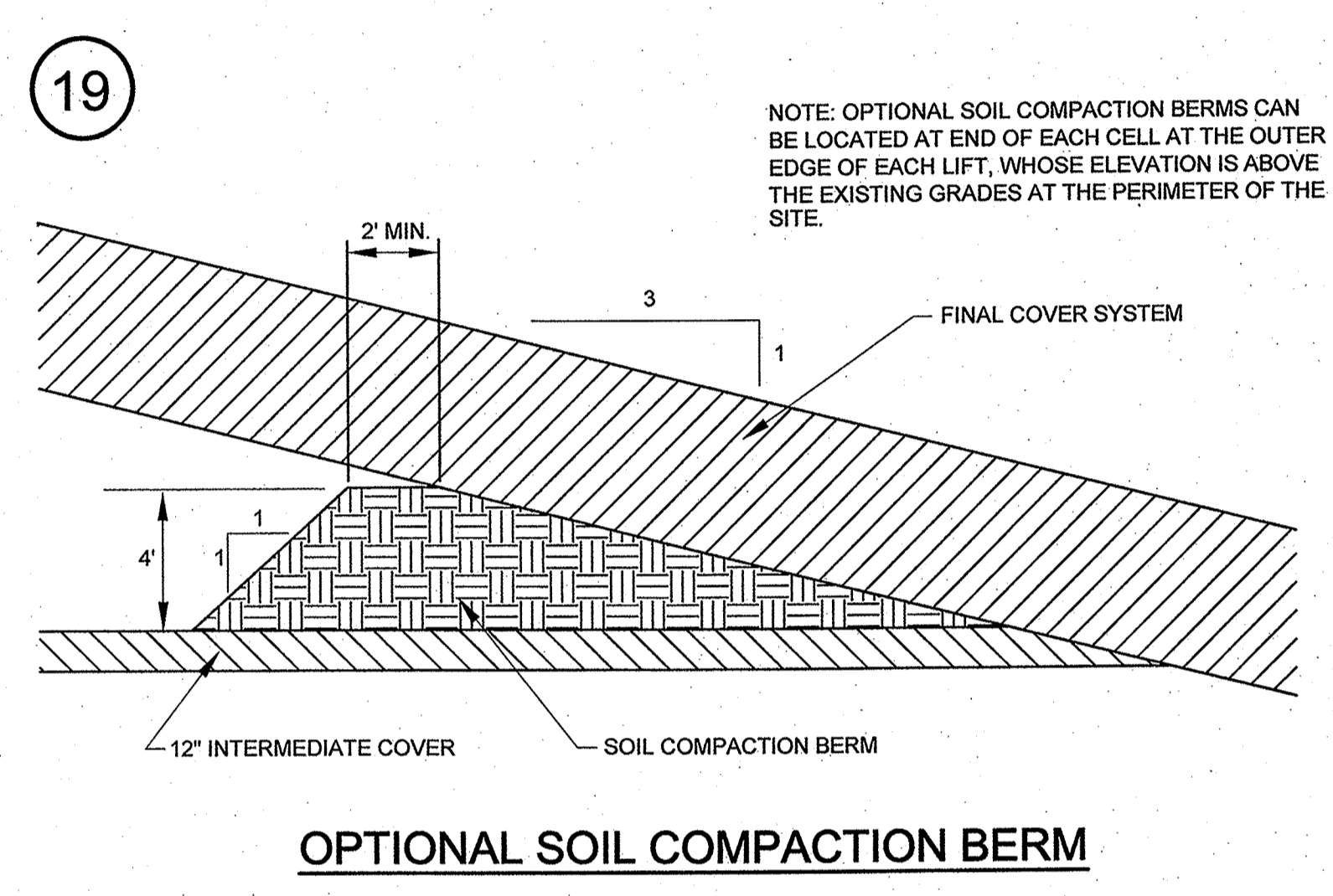


**SEDIMENT POND TYPICAL SECTION**

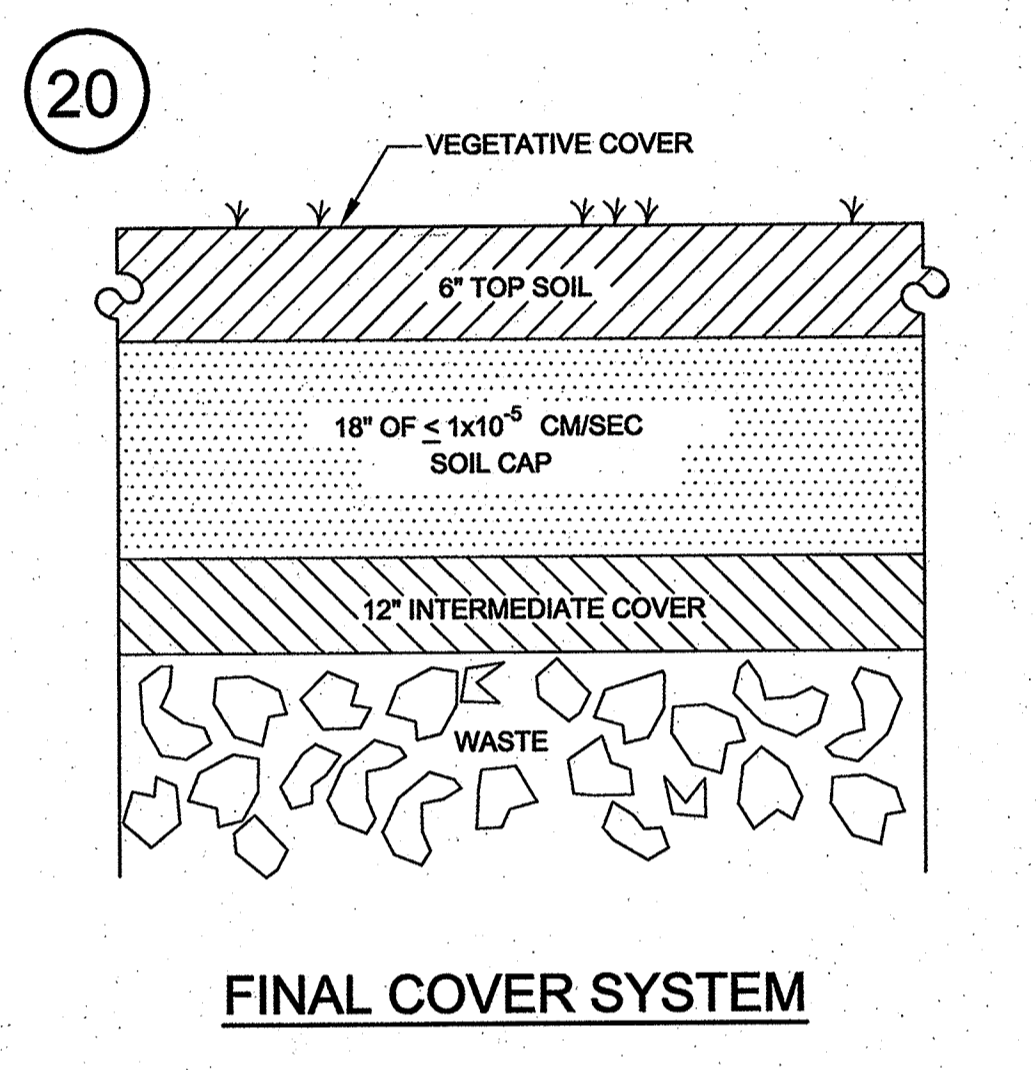
NOTE:  
 1. ALL FILL MATERIAL SHALL BE COMPACTED TO 98% STD. PROCTOR DENSITY.  
 2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GEORGIA MANUAL FOR EROSION AND SEDIMENT CONTROL.  
 3. SEE EROSION CONTROL PLAN FOR DIMENSIONS.



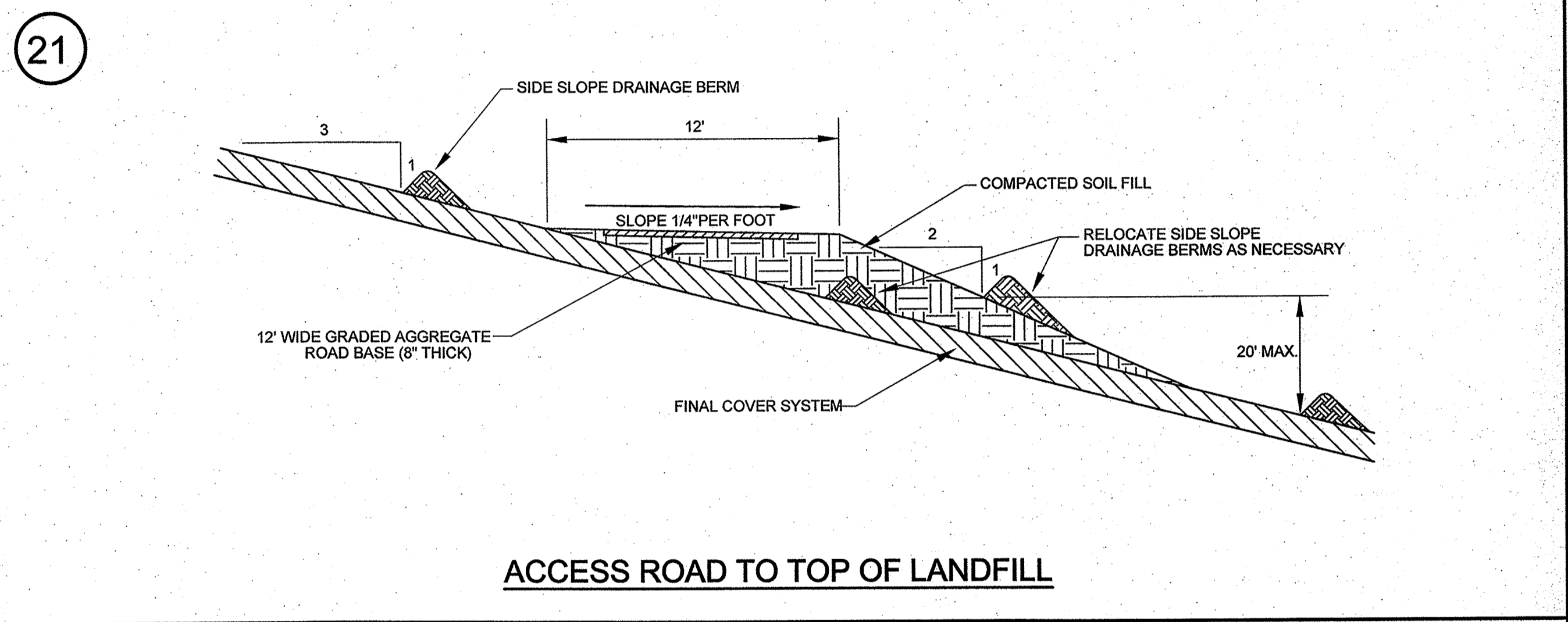
**ANTI-SEEPAGE COLLAR**



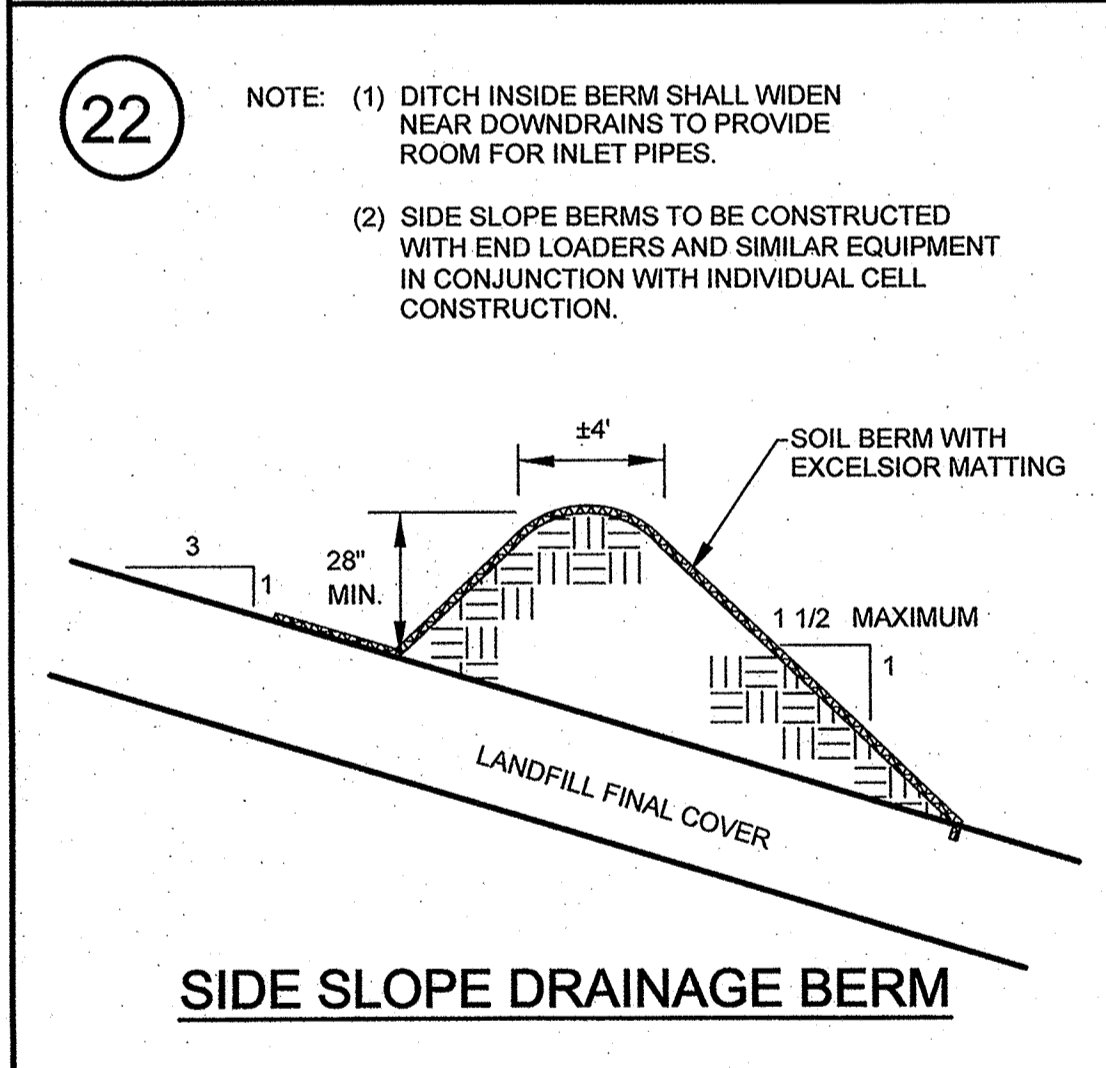
**OPTIONAL SOIL COMPACTION BERM**



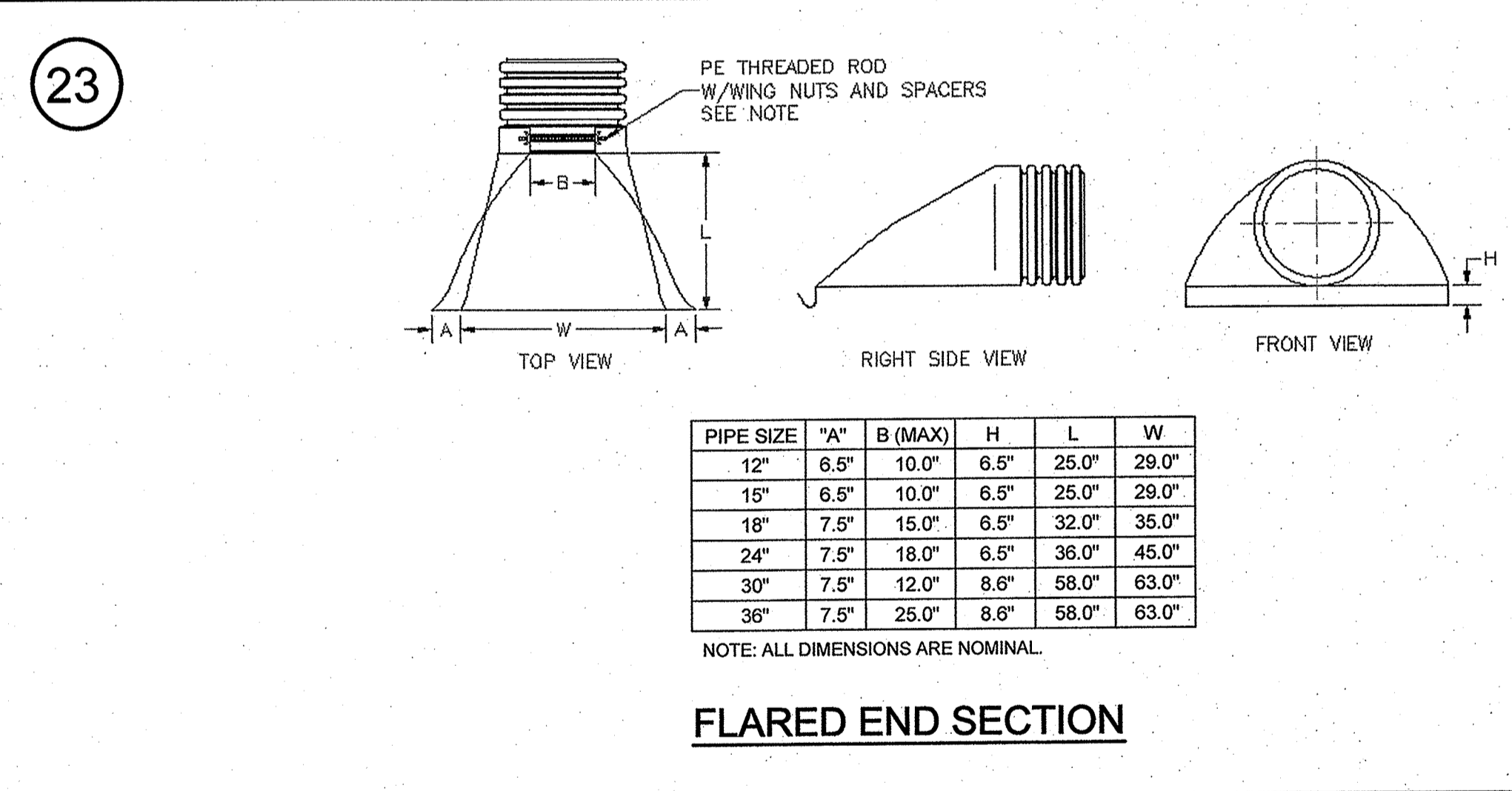
**FINAL COVER SYSTEM**



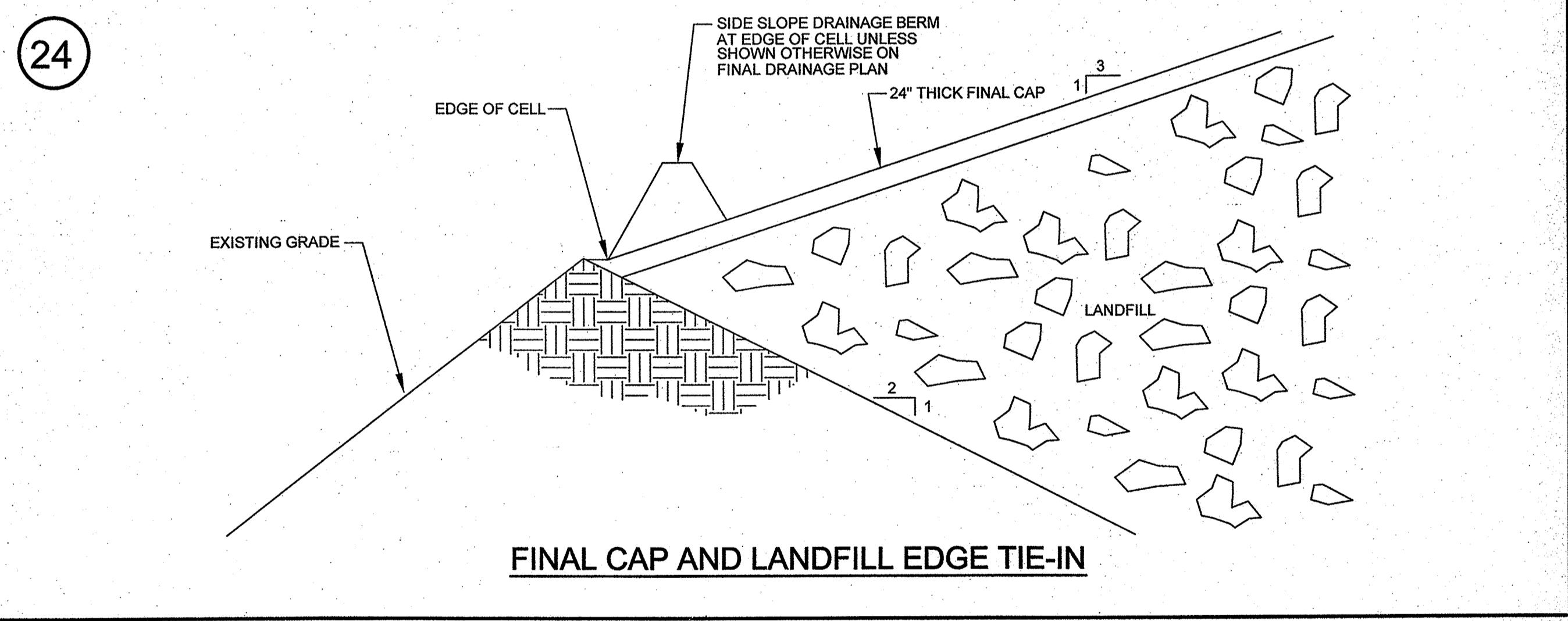
**ACCESS ROAD TO TOP OF LANDFILL**



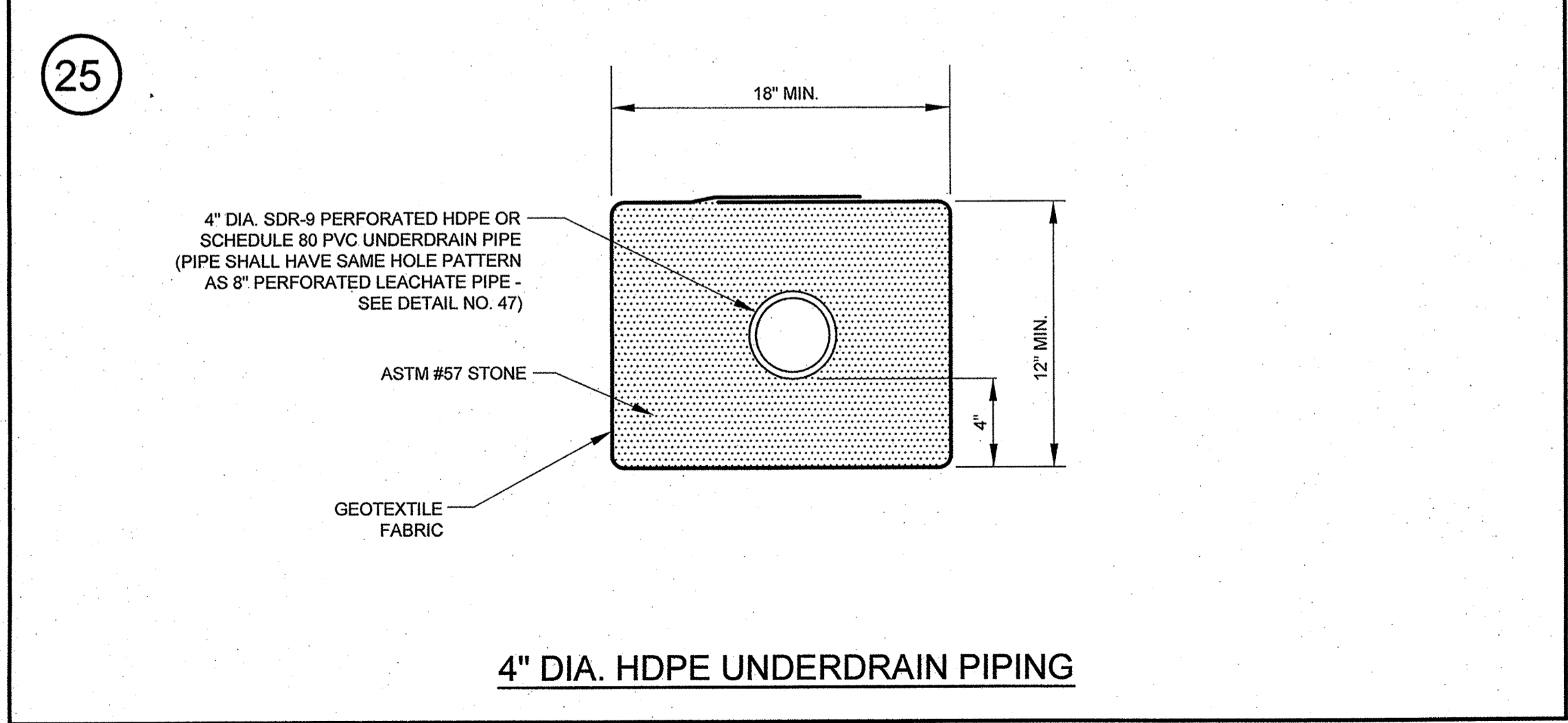
**SIDE SLOPE DRAINAGE BERM**



**FLARED END SECTION**



**FINAL CAP AND LANDFILL EDGE TIE-IN**



**4" DIA. HDPE UNDERDRAIN PIPING**

**NO DETAIL**

GEORGIA Environmental Protection Division Solid Waste Management Program  
 MAJOR MODIFICATION APPROVAL  
 SOLID WASTE PERMIT NO. 069-017D(CW)  
 REVIEWED BY: *CEH* DATE: 5/13/13  
 APPROVED BY: *MBH* DATE: 5/13/13

REVISOR: MARCH 20, 2013

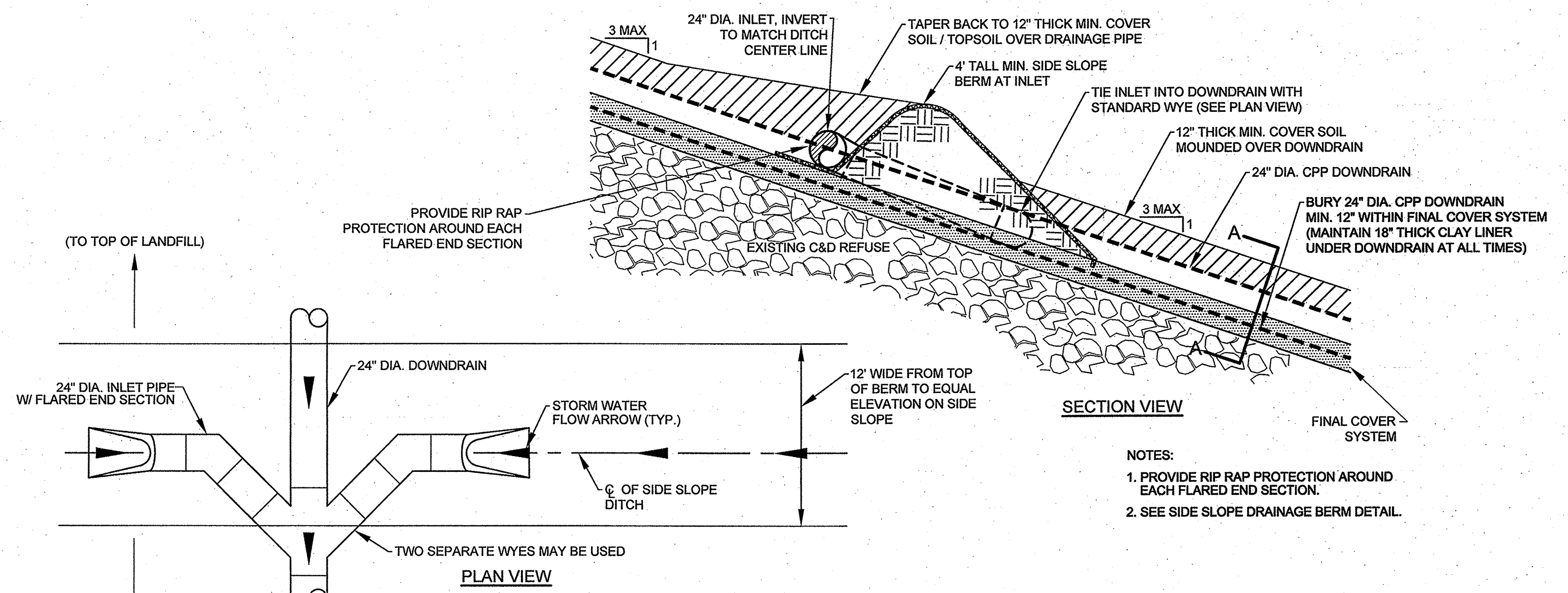
MISCELLANEOUS DETAILS  
**DESIGN AND OPERATION PLAN**  
 FOR  
**GWAR, LLC.**  
 HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
 CONSTRUCTION/DEMOLITION LANDFILL  
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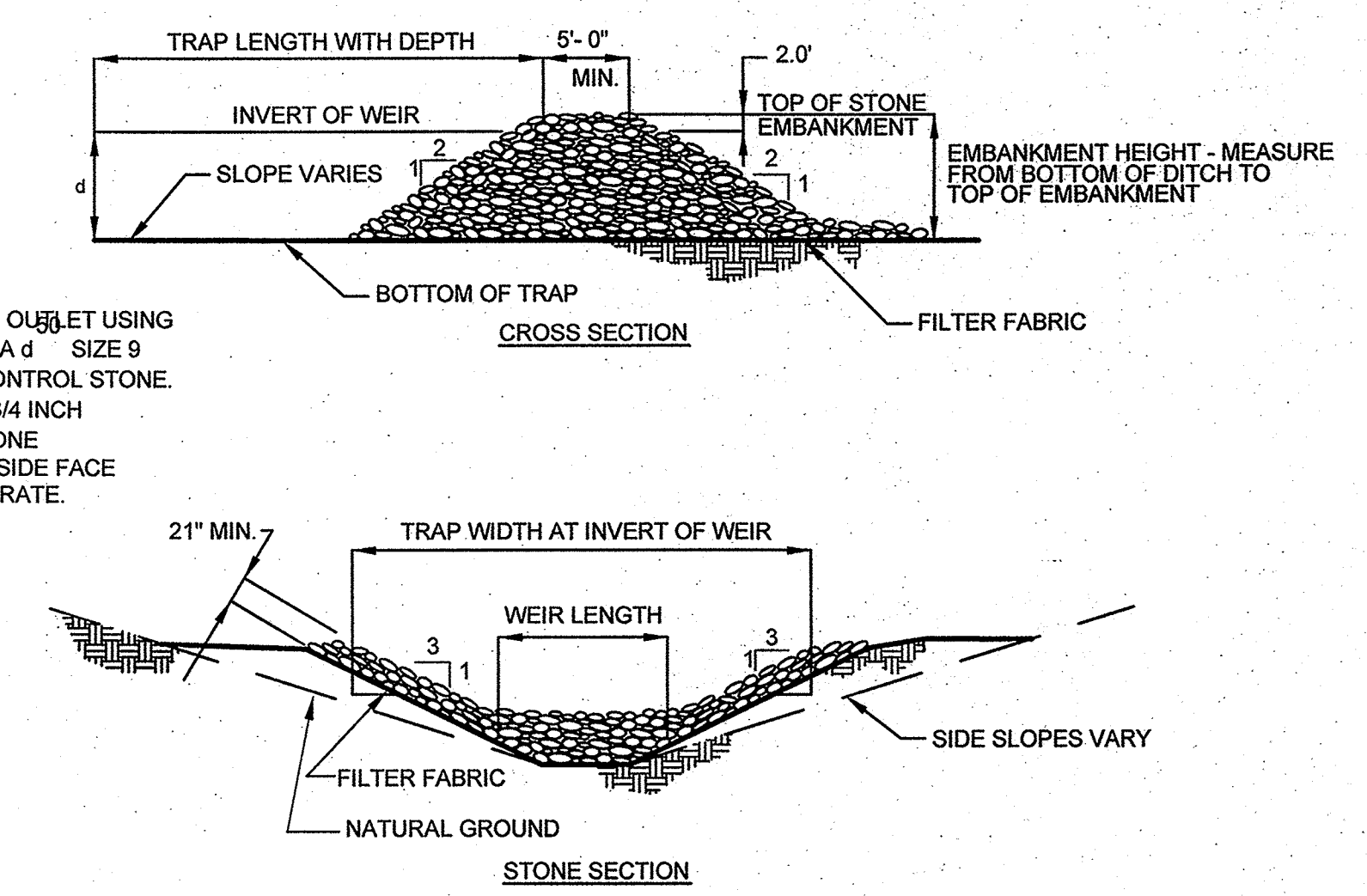
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SCALE	NOT TO SCALE		SHEET 32 OF 35	
DATE	SEPTEMBER, 2012			

27



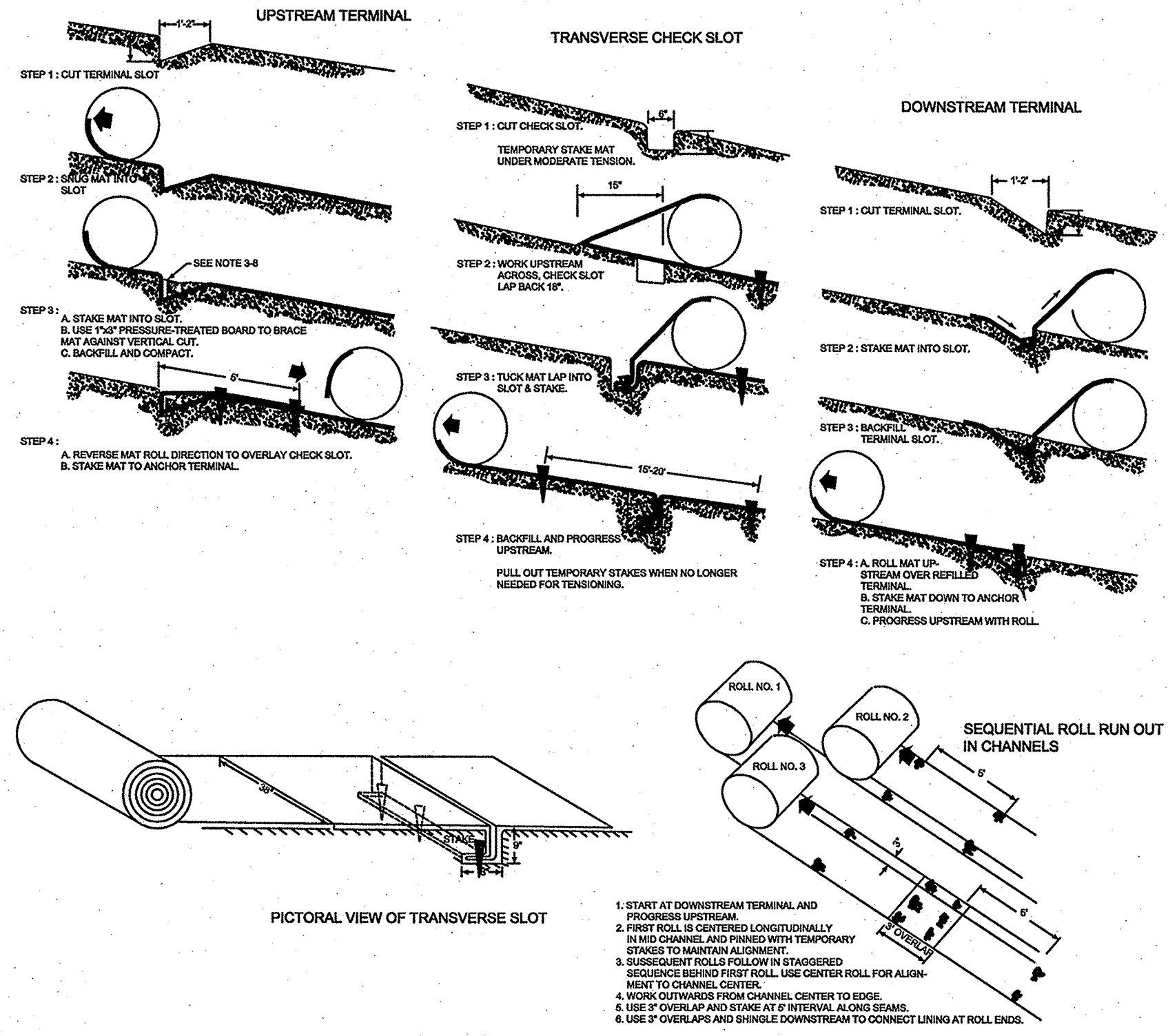
INLET AND DOWNDRAIN FOR SIDE SLOPE DRAINAGE BERM

28



TEMPORARY SEDIMENT TRAP

29



EXCELSIOR (WOOD FIBER) MATTING (SLOPES)

30

NO DETAIL

31

NO DETAIL

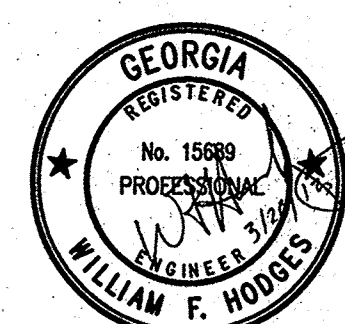
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NO DETAIL

33

NO DETAIL

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MAJOR MODIFICATION APPROVAL  
SOLID WASTE PERMIT NO. 069-017D (GD)  
REVIEWED BY: *CHH* DATE: 5/10/13  
APPROVED BY: *MAM* DATE: 5/12/13



REVISED: MARCH 20, 2013

MISCELLANEOUS DETAILS

**DESIGN AND OPERATION PLAN**  
FOR  
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HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
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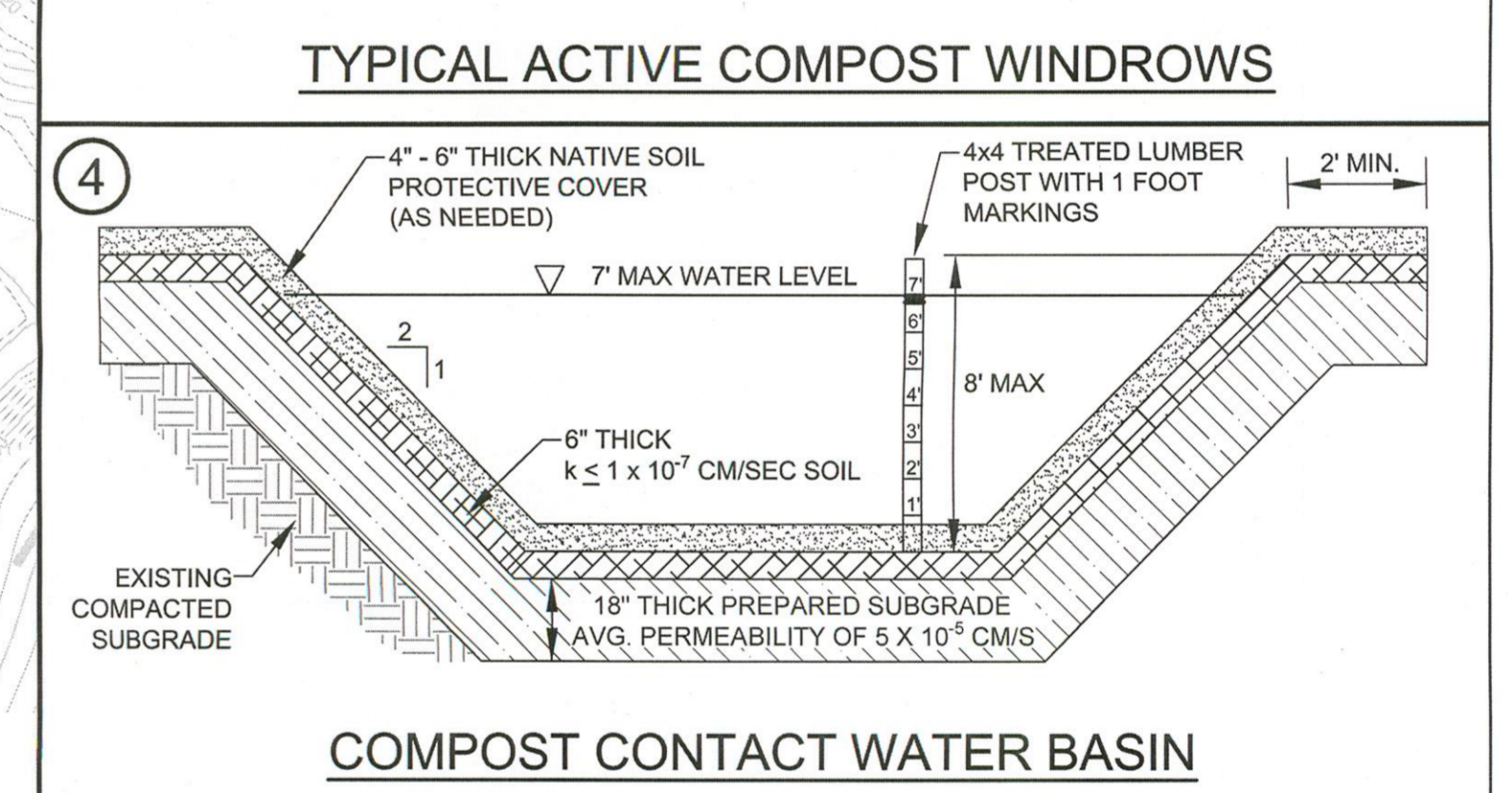
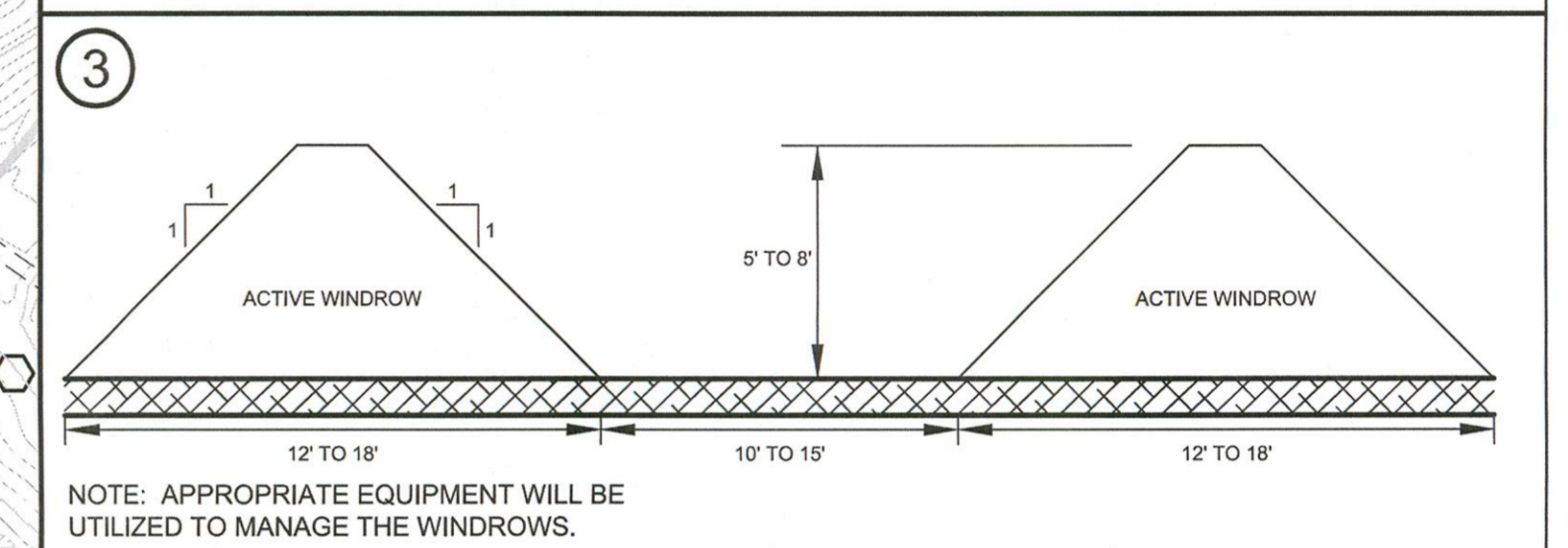
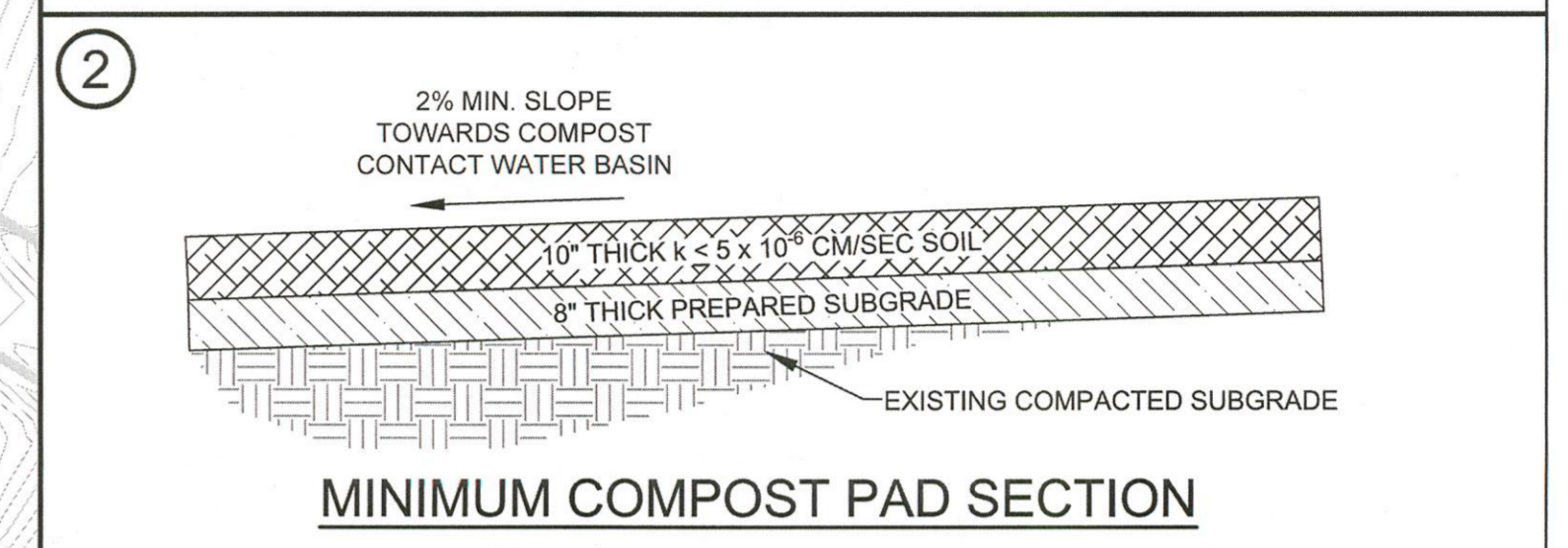
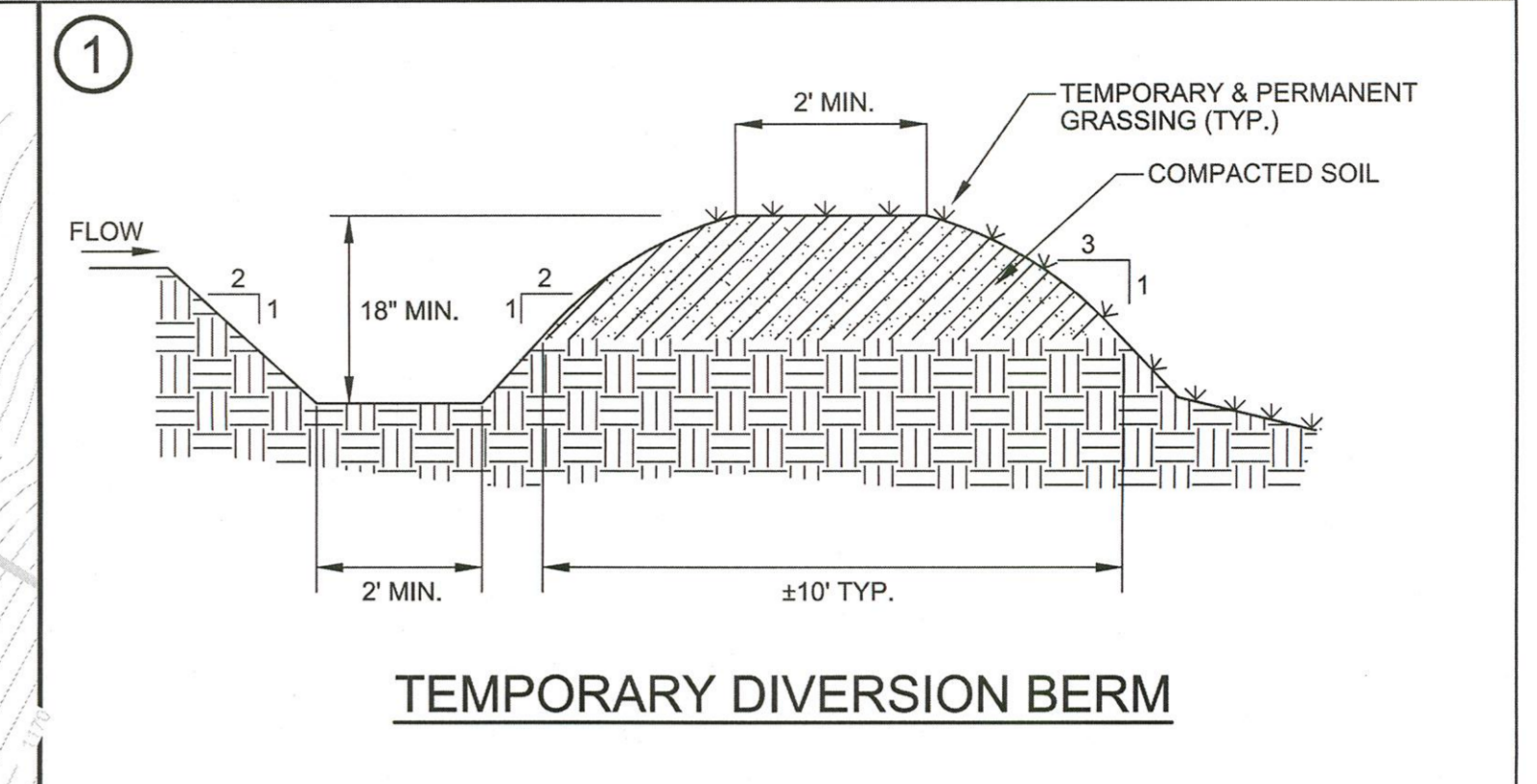
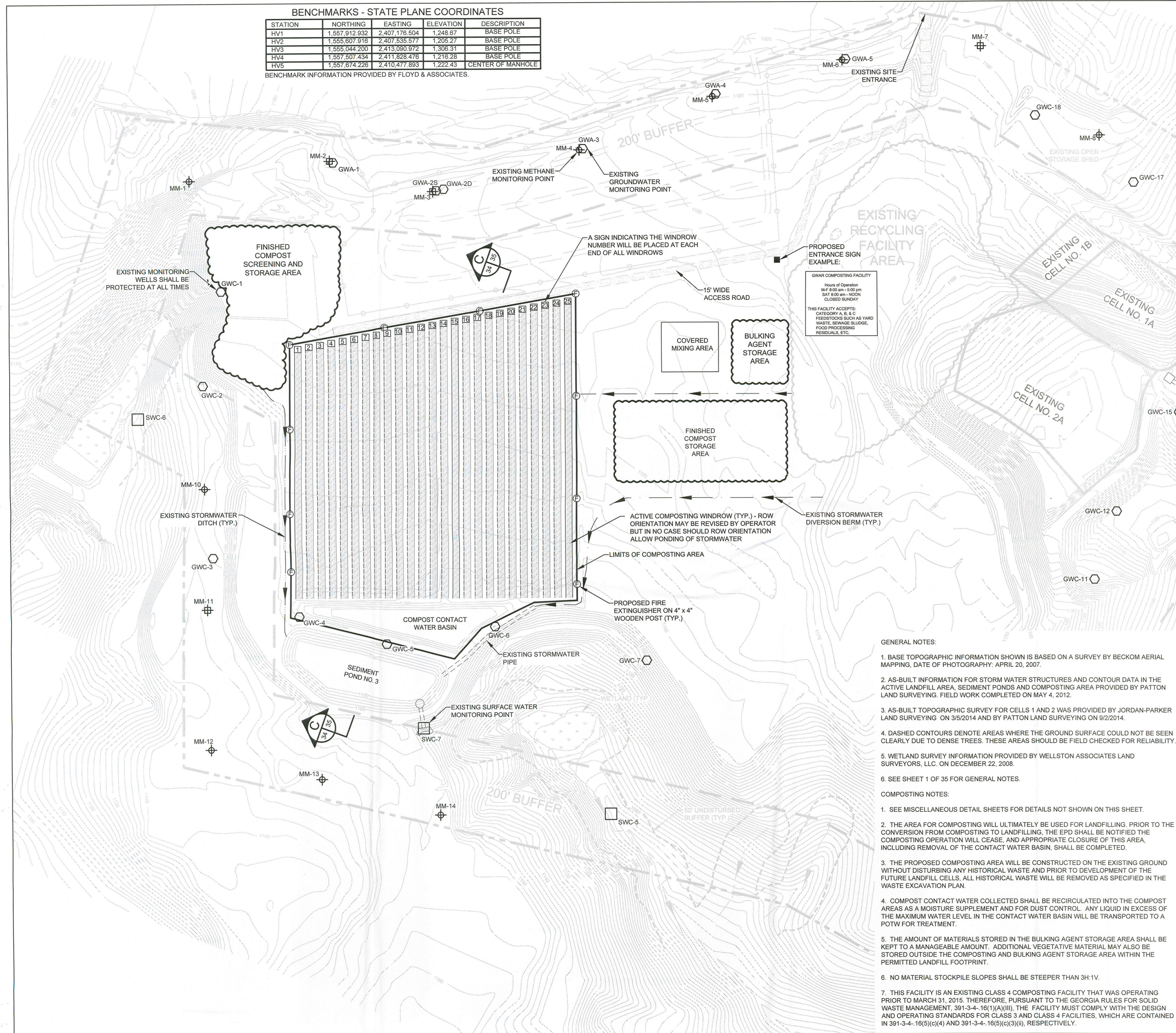
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SCALE	NOT TO SCALE			
DATE	SEPTEMBER, 2012			

SHEET 33 OF 35

**BENCHMARKS - STATE PLANE COORDINATES**

STATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
HV1	1,557,912.932	2,407,176.504	1,248.67	BASE POLE
HV2	1,555,807.916	2,407,635.577	1,205.27	BASE POLE
HV3	1,555,044.200	2,413,090.972	1,306.31	BASE POLE
HV4	1,557,507.434	2,411,828.476	1,216.28	BASE POLE
HV5	1,557,674.226	2,410,477.893	1,222.43	CENTER OF MANHOLE

BENCHMARK INFORMATION PROVIDED BY FLOYD & ASSOCIATES.



**GENERAL NOTES:**

- BASE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A SURVEY BY BECKOM AERIAL MAPPING, DATE OF PHOTOGRAPHY: APRIL 20, 2007.
- AS-BUILT INFORMATION FOR STORM WATER STRUCTURES AND CONTOUR DATA IN THE ACTIVE LANDFILL AREA, SEDIMENT PONDS AND COMPOSTING AREA PROVIDED BY PATTON LAND SURVEYING. FIELD WORK COMPLETED ON MAY 4, 2012.
- AS-BUILT TOPOGRAPHIC SURVEY FOR CELLS 1 AND 2 WAS PROVIDED BY JORDAN-PARKER LAND SURVEYING ON 3/5/2014 AND BY PATTON LAND SURVEYING ON 9/2/2014.
- DASHED CONTOURS DENOTE AREAS WHERE THE GROUND SURFACE COULD NOT BE SEEN CLEARLY DUE TO DENSE TREES. THESE AREAS SHOULD BE FIELD CHECKED FOR RELIABILITY.
- WETLAND SURVEY INFORMATION PROVIDED BY WELLSTON ASSOCIATES LAND SURVEYORS, LLC. ON DECEMBER 22, 2008.
- SEE SHEET 1 OF 35 FOR GENERAL NOTES.

**COMPOSTING NOTES:**

- SEE MISCELLANEOUS DETAIL SHEETS FOR DETAILS NOT SHOWN ON THIS SHEET.
- THE AREA FOR COMPOSTING WILL ULTIMATELY BE USED FOR LANDFILLING. PRIOR TO THE CONVERSION FROM COMPOSTING TO LANDFILLING, THE EPD SHALL BE NOTIFIED THE COMPOSTING OPERATION WILL CEASE, AND APPROPRIATE CLOSURE OF THIS AREA, INCLUDING REMOVAL OF THE CONTACT WATER BASIN, SHALL BE COMPLETED.
- THE PROPOSED COMPOSTING AREA WILL BE CONSTRUCTED ON THE EXISTING GROUND WITHOUT DISTURBING ANY HISTORICAL WASTE AND PRIOR TO DEVELOPMENT OF THE FUTURE LANDFILL CELLS, ALL HISTORICAL WASTE WILL BE REMOVED AS SPECIFIED IN THE WASTE EXCAVATION PLAN.
- COMPOST CONTACT WATER COLLECTED SHALL BE RECIRCULATED INTO THE COMPOST AREAS AS A MOISTURE SUPPLEMENT AND FOR DUST CONTROL. ANY LIQUID IN EXCESS OF THE MAXIMUM WATER LEVEL IN THE CONTACT WATER BASIN WILL BE TRANSPORTED TO A POTW FOR TREATMENT.
- THE AMOUNT OF MATERIALS STORED IN THE BULKING AGENT STORAGE AREA SHALL BE KEPT TO A MANAGEABLE AMOUNT. ADDITIONAL VEGETATIVE MATERIAL MAY ALSO BE STORED OUTSIDE THE COMPOSTING AND BULKING AGENT STORAGE AREA WITHIN THE PERMITTED LANDFILL FOOTPRINT.
- NO MATERIAL STOCKPILE SLOPES SHALL BE STEEPER THAN 3H:1V.
- THIS FACILITY IS AN EXISTING CLASS 4 COMPOSTING FACILITY THAT WAS OPERATING PRIOR TO MARCH 31, 2015. THEREFORE, PURSUANT TO THE GEORGIA RULES FOR SOLID WASTE MANAGEMENT, 391-3-4-.16(1)(A)(III), THE FACILITY MUST COMPLY WITH THE DESIGN AND OPERATING STANDARDS FOR CLASS 3 AND CLASS 4 FACILITIES, WHICH ARE CONTAINED IN 391-3-4-.16(5)(c)(4) AND 391-3-4-.16(5)(c)(3)(ii), RESPECTIVELY.

**GEORGIA**  
Environmental Protection Division  
Solid Waste Management Program

MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-013D(CSD)

APPROVED BY: CBH DATE: 12/7/2016

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
No. 50788  
K. MATTHEW CHEEK

**GEORGIA REGISTERED PROFESSIONAL ENGINEER**  
No. 36688  
11-15-16  
KEVIN G. BERRY

GRAPHIC SCALE IN FEET  
100 50 0 100 200

REVISED: NOVEMBER 10, 2016  
REVISED: SEPTEMBER 16, 2016  
REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

COMPOSTING FACILITY LAYOUT  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.  
Consulting Engineers  
3920 ARKWRIGHT RD., SUITE 101  
MACON, GEORGIA 31210  
(478) 743-7175  
(478) 743-1703(FAX)

PROJ. NO.	3150-010-01	DWG. GWAR-EXP-34-CF-FL-R	EDIT 11-10-2016
SCALE	1" = 100'		
DATE	AUGUST, 2016		

SHEET 34 OF 35

# OPERATIONS PLAN

THIS FACILITY IS AN EXISTING CLASS 4 COMPOSTING FACILITY THAT WAS OPERATING PRIOR TO MARCH 31, 2015. THEREFORE, PURSUANT TO THE GEORGIA RULES FOR SOLID WASTE MANAGEMENT, 391-3-4-.16(1)(A)(II), THE FACILITY MUST COMPLY WITH THE DESIGN AND OPERATING STANDARDS FOR CLASS 3 AND CLASS 4 FACILITIES, WHICH ARE CONTAINED IN 391-3-4-.16(5)(c)(4) AND 391-3-4-.16(5)(c)(3)(i), RESPECTIVELY.

## 1. DESCRIPTION OF INCOMING FEEDSTOCKS

THIS FACILITY IS AN EXISTING CLASS 4 COMPOSTING FACILITY AND AS SUCH, IT MAY ACCEPT CATEGORY A, B AND C FEEDSTOCKS. FEEDSTOCKS (COMPOSTABLE MATERIAL) ACCEPTED AT THE FACILITY INCLUDE, BUT ARE NOT LIMITED TO, YARD WASTE, DOG FOOD WASTE, BIOSOLIDS FROM WASTEWATER TREATMENT PLANTS, FOOD WASTE, FOOD PROCESSING RESIDUALS AND CHICKEN LITTER. ADDITIONALLY, AS PART OF REMOVING AND PROPERLY DISPOSING OF THE HISTORIC SANITARY WASTE, REMOVED WASTE MATERIALS MAY BE ACCEPTED INTO THE COMPOSTING OPERATION. IT SHOULD BE NOTED THAT AS THE FACILITY MAY ACCEPT FEEDSTOCK FROM WASTEWATER TREATMENT PLANTS, THE FACILITY WILL COMPLY WITH APPLICABLE REGULATIONS REGARDING SLUDGE MANAGEMENT IN 40 CFR 501.40 CFR 503; AND 40 CFR 503, SUBPART B.

## 2. SITE SUPERVISION

OVERALL OPERATION AND MANAGEMENT OF THE FACILITY WILL BE PERFORMED BY A COMPOST OPERATOR WHO HAS BEEN TRAINED IN THE OPERATION OF A CLASS 4 COMPOSTING FACILITY. RECORDS OF THE COMPOST OPERATOR'S TRAINING IN THE BASICS OF COMPOSTING FACILITY OPERATIONS WILL BE KEPT ON-SITE AND WILL BE MADE AVAILABLE TO EPD UPON REQUEST.

## 3. COMPOSTING PROCEDURES

AS SHOWN ON THE COMPOSTING FACILITY LAYOUT, SHEET 34 OF 35, THE COMPOSTING FACILITY IS MADE UP OF A COVERED MIXING AREA, A BULKING AGENT STORAGE AREA, ACTIVE COMPOST WINDROWS, A FINISHED COMPOST STORAGE AREA AND A FINISHED COMPOST SCREENING AREA.

INCOMING FEEDSTOCK WILL BE PLACED IN THE COVERED MIXING AREA, WHICH IS LOCATED EAST OF THE ACTIVE COMPOSTING WINDROWS. THE FEEDSTOCK WILL BE SCREENED USING MECHANICAL OR STATIC SCREENS AND MAGNETIC SEPARATORS. THE FEEDSTOCK WILL ALSO BE MIXED WITH BULKING AGENTS UTILIZED AT THE FACILITY INCLUDE, BUT ARE NOT LIMITED TO, WOOD CHIPS AND SHREDDED TIRES. THE SHREDDED TIRE BULKING AGENT WILL CONSIST OF CHOPPED TIRES WITH NO DIMENSIONS GREATER THAN SIX INCHES AND NO SMALLER THAN WHAT CAN BE REMOVED DURING FINISHED COMPOST SCREENING. ADDING BULKING AGENTS TO THE FEEDSTOCK WILL ENSURE THAT WHEN THE FEEDSTOCK IS PROCESSED INTO THE ACTIVE COMPOSTING AREA, THERE WILL BE NO FREE LIQUIDS.

BY THE END OF EACH OPERATING DAY, ALL INCOMING CATEGORY B AND C FEEDSTOCKS WILL BE PROCESSED INTO THE ACTIVE COMPOSTING AREA OR MIXED WITH BULKING MATERIAL AND COVERED IN A MANNER THAT MINIMIZES NUISANCE ODORS AND SCAVENGING BY VECTORS. THE MIXED FEEDSTOCK WILL BE PLACED WITH TRACTORS, DUMP TRUCKS OR OTHER SIMILAR EQUIPMENT INTO THE ACTIVE COMPOST AREA.

THE COMPOST PROCESSING TIMES AND TEMPERATURES WILL BE SUFFICIENT TO KILL WEEDS, REDUCE PATHOGENS AND VECTOR ATTRACTION AND PRODUCE COMPOST THAT MEETS THE STABILITY NECESSARY FOR THE INTENDED USE. PATHOGEN AND VECTOR ATTRACTION REDUCTION MAY BE ACHIEVED BY MAINTAINING THE COMPOST MATERIAL IN THE WINDROWS AT A MINIMUM AVERAGE TEMPERATURE OF 55°C OR HIGHER FOR 15 DAYS OR LONGER. IT SHOULD BE NOTED THAT DURING THE 15 DAYS THAT THE TEMPERATURE IS MAINTAINED AT A MINIMUM OF 55°C OR HIGHER DO NOT HAVE TO BE CONTINUOUS. DURING THE PERIOD WHEN THE COMPOST IS MAINTAINED AT 55°C OR HIGHER, THERE SHOULD BE A MINIMUM OF FIVE TURNINGS OF THE WINDROW. ALTERNATIVE METHODS MAY BE UTILIZED AT THE OPERATOR'S DISCRETION TO PRODUCE COMPOST THAT MEETS THE STABILITY NECESSARY FOR THE INTENDED USE.

FINISHED COMPOST WILL BE TAKEN TO THE FINISHED COMPOST SCREENING AREA AND WILL BE SCREENED WITH STATIC OR MECHANICAL SCREENS IN ORDER TO REMOVE THE BULKING MATERIAL. THE BULKING MATERIAL WILL BE PLACED BACK INTO THE BULKING AGENT STORAGE AREA LOCATED EAST OF THE ACTIVE COMPOSTING AREA. FINISHED COMPOST WILL NOT BE STORED ON-SITE FOR MORE THAN 12 MONTHS, UNLESS APPROVED BY EPD ON A CASE-BY-CASE BASIS.

ALL NON-COMPOSTABLE MATERIAL AND SOLID WASTE GENERATED AT THE FACILITY WILL BE STORED IN A WASTE CONTAINER AND DISPOSED OF AT A PERMITTED SOLID FEEDSTOCK DISPOSAL FACILITY.

## 4. COMPOSTING PAD

THE ACTIVE COMPOSTING WINDROWS ARE UNDERLAIN BY A COMPOSTING PAD. THE COMPOSTING PAD HAS A MINIMUM SLOPE OF 2% AND THE TOP LAYER OF THE COMPOSTING PAD CONSISTS OF A PROTECTIVE SOIL LAYER. THE COMPOSTING PAD IS MAINTAINED SO THAT IT RESISTS DEFORMATION THAT WOULD CAUSE PONDING OR INCREASED INFILTRATION OF CONTACT WATER, CRACKS AND OTHER DEFECTS IDENTIFIED ON THE SURFACE OF THE COMPOSTING PAD WILL BE PROMPTLY REPAIRED UNDER THE SUPERVISION OF THE COMPOST OPERATOR. ANY REPAIRS OR RECONSTRUCTION OF THE LAYER LIMITED INFILTRATION WILL BE COMPLETED UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER. ONCE THE REPAIRS OR RECONSTRUCTION IS COMPLETE, THE PROFESSIONAL ENGINEER WILL PREPARE A REPORT AND CERTIFICATION OF THE REPAIRS AND THE REPORT WILL BE KEPT IN THE FACILITY'S OPERATING RECORD. COMPOST MATERIALS WILL NOT BE PLACED IN AREAS WITH DAMAGE TO THE INFILTRATION AND BERMS OR OTHER DIVERSION DEVICES WILL BE INSTALLED TO PREVENT CONTACT WATER RUN-ON INTO THESE AREAS.

## 5. CAPACITY

IT IS EXPECTED THAT THE FACILITY WILL HANDLE A MAXIMUM OF 500 TONS PER DAY OF INCOMING FEEDSTOCK WITH AN AVERAGE WEEKLY THROUGHPUT OF 800 TONS; HOWEVER, IT SHOULD BE NOTED THAT THESE TONNAGES MAY VARY. THERE IS ADEQUATE ROOM AT THE FACILITY FOR INCOMING FEEDSTOCK PLACEMENT AREAS, PROCESSING AND COMPOSTING AREAS AND FINISHED PRODUCT STORAGE AREAS.

## 6. WASTEWATER

ALL VEHICLE AND EQUIPMENT RINSING THAT IS PERFORMED AT THE FACILITY WILL BE PERFORMED ON THE COMPOST PAD. ALL WATER GENERATED FROM THE EQUIPMENT RINSING AND CONTACT WATER FROM THE COMPOSTING PROCESS WILL DRAIN TO THE CONTACT WATER BASIN. AS SHOWN ON THE COMPOSTING FACILITY LAYOUT, SHEET 34 OF 35, THE CONTACT WATER BASIN IS LOCATED SOUTH OF ACTIVE COMPOSTING WINDROWS. THE WASTEWATER IN THE CONTACT WATER BASIN WILL EITHER BE REUSED ON THE COMPOST PAD FOR MOISTURE/DUST CONTROL OR IT WILL BE TRANSPORTED TO A WASTEWATER TREATMENT FACILITY FOR APPROPRIATE TREATMENT. RECORDS OF WASTEWATER USAGE AND DISPOSAL WILL BE MAINTAINED AT THE FACILITY IN THE OPERATING RECORD.

## 7. STORM WATER MANAGEMENT

STORM WATER ORIGINATING WITHIN THE ACTIVE COMPOSTING WINDROWS DRAINS TO THE CONTACT WATER BASIN. AS DISCUSSED IN SECTION 6, WATER IN THE CONTACT BASIN IS NOT ALLOWED TO BE DISCHARGED OFF-SITE BUT IS EITHER USED ON THE COMPOST PAD FOR MOISTURE/DUST CONTROL OR IS TRANSPORTED TO A WASTEWATER TREATMENT FACILITY FOR TREATMENT. ADDITIONALLY, BERMS AND PIPING ARE LOCATED AROUND THE COMPOSTING AREA TO ROUTE STORM WATER AWAY FROM THE ACTIVE COMPOSTING AREA AND DIRECTLY INTO SEDIMENT POND NO. 3, BYPASSING THE CONTACT WATER BASIN.

STORM WATER ORIGINATING WITHIN THE BULKING AGENT STORAGE AREA AND THE FINISHED COMPOST AREA WILL FLOW TO SEDIMENT POND NO. 3. IT SHOULD BE NOTED THAT AS THE MIXING AREA IS COVERED, STORM WATER WILL NOT BE ALLOWED TO CONTACT THE MIXING AREA.

## 8. VECTOR CONTROL

THE FACILITY WILL PREVENT AND/OR CONTROL ON-SITE POPULATIONS OF DISEASE VECTORS USING TECHNIQUES APPROPRIATE FOR THE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT. IN ORDER TO PREVENT ON-SITE POPULATIONS OF DISEASE VECTORS, ALL INCOMING FEEDSTOCKS THAT MAY ATTRACT VECTORS WILL BE COVERED UPON ARRIVAL AT THE FACILITY. THE FACILITY WILL MAINTAIN BUSINESS RELATIONSHIPS WITH PEST CONTROL COMPANIES SO THAT ADDITIONAL CONTROLS CAN BE IMMEDIATELY IMPLEMENTED IF NECESSARY.

## 9. FIRE PREVENTION AND CONTROL

THE FACILITY WILL BE MAINTAINED AND OPERATED IN A MANNER THAT WILL PREVENT OR MINIMIZE THE POTENTIAL FOR FIRES. FIREFIGHTING EQUIPMENT IS STAGED AROUND THE PERIMETER OF THE COMPOSTING FACILITY AS SHOWN ON THE COMPOSTING FACILITY LAYOUT, SHEET 34 OF 35. IF ADDITIONAL FIREFIGHTING CAPACITY IS NEEDED, THE ADJACENT C&D LANDFILL CAN MOBILIZE MANPOWER AND EQUIPMENT TO FIGHT FIRES.

## 10. ENTRANCE SIGN

THERE WILL BE A SIGN POSTED AT THE ENTRANCE OF THE COMPOSTING FACILITY THAT LISTS THE NAME OF THE FACILITY, THE PERMIT NUMBER, DAYS AND HOURS OF OPERATIONS, FEEDSTOCKS ACCEPTED AND EMERGENCY CONTACT INFORMATION. THE APPROXIMATE LOCATION OF THIS SIGN IS SHOWN ON THE COMPOSTING FACILITY LAYOUT, SHEET 34 OF 35.

## 11. REPORTING AND RECORD KEEPING

THE FACILITY WILL TRACK AND KEEP A RECORD OF INCOMING FEEDSTOCK AND FINISHED COMPOST. THESE RECORDS WILL BE KEPT AT THE FACILITY IN THE OPERATING RECORD AND WILL BE MAINTAINED FOR A MINIMUM OF THREE YEARS. BY SEPTEMBER 1 EACH YEAR, A REPORT WILL BE SUBMITTED TO EPD THAT INCLUDES THE WEIGHT (TONS) OR VOLUME (CUBIC YARDS) OF THE FEEDSTOCK ACCEPTED, TOTAL COMPOST PRODUCED AND COMPOST SOLD OR USED DURING THE PREVIOUS FISCAL YEAR (JULY 1 - JUNE 30).

## 12. CLOSURE

THE ACTIVE COMPOSTING WINDROWS ARE LOCATED IN THE FOOTPRINT OF FUTURE C&D CELLS. PRIOR TO THE CONSTRUCTION OF THE FUTURE CELLS, COMPOSTING IN THIS AREA WILL CEASE. ALL FEEDSTOCK IN THE MIXING AREA WILL BE PLACED INTO THE ACTIVE COMPOSTING WINDROWS AND PROCESSED INTO FINISHED COMPOST ACCORDING TO THE PROCEDURES IN SECTION 3, COMPOSTING PROCEDURES. ALL FINISHED COMPOST WILL BE USED OR SOLD AND THE BULKING AGENT STORAGE PILES WILL BE REMOVED.

HOWEVER, IF THESE C&D CELLS ARE NOT CONSTRUCTED, THE COMPOSTING FACILITY WILL BE CLOSED IN ACCORDANCE WITH THE GEORGIA RULES FOR SOLID WASTE MANAGEMENT, 391-3-4-.11. NOTIFICATION OF FINAL CLOSURE WILL BE PROVIDED TO EPD WITHIN 30 DAYS OF RECEIVING THE FINAL LOAD OF FEEDSTOCK AND CLOSURE ACTIVITIES WILL BE COMPLETED WITHIN 180 DAYS OF CLOSURE COMMENCEMENT. CLOSURE ACTIVITIES WILL INVOLVE PLACING ALL FEEDSTOCK IN THE MIXING/PRE-SCREENING AREA INTO THE ACTIVE COMPOSTING WINDROWS AND PROCESSING THE MATERIAL INTO FINISHED COMPOST IN ACCORDANCE WITH THE PROCEDURES IN SECTION 3, COMPOSTING PROCEDURES. ALL FINISHED COMPOST WILL BE USED OR SOLD AND THE BULKING AGENT STORAGE PILES WILL BE REMOVED.

FOLLOWING CLOSURE, EPD WILL BE NOTIFIED THAT A CERTIFICATION, WHICH HAS BEEN SIGNED BY A REGISTERED PROFESSIONAL ENGINEER VERIFYING CLOSURE HAS BEEN COMPLETED IN ACCORDANCE WITH THE CLOSURE PLAN AND HAS BEEN PLACED IN THE FACILITY'S OPERATING RECORD. ALSO FOLLOWING CLOSURE, A NOTATION WILL BE RECORDED ON THE DEED AND A COPY OF THE DEED WILL BE PROVIDED TO EPD AND PLACED IN THE FACILITY'S OPERATING RECORD. THE DEED NOTATION WILL INCLUDE NOTICE THAT THE PROPERTY HAS BEEN UTILIZED AS A COMPOSTING FACILITY AND THAT THE PROPERTY'S USE IS RESTRICTED UNDER 40 CFR 258.61(C)(3).

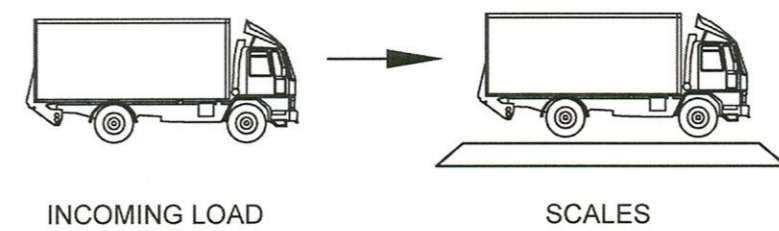
## 13. GROUNDWATER MONITORING

GEOLOGIC AND HYDROGEOLOGIC CONDITIONS AT THE SITE WERE EVALUATED IN A REPORT PREPARED BY BUNNELL-LAMMONS ENGINEERING, INC. TITLED "SITE HYDROGEOLOGIC ASSESSMENT REPORT, PROPOSED GEORGIA WASTE AND RECYCLING (GWAR) C&D LANDFILL" DATED AUGUST 1, 2007 AND REVISED FEBRUARY 18, 2008. THE GROUNDWATER MONITORING WELL NETWORK AROUND THE COMPOSTING FACILITY AND AT THE C&D LANDFILL WAS DESIGNED BASED ON THE INFORMATION CONTAINED WITHIN THE REPORT. THE GROUNDWATER MONITORING NETWORK IS CURRENTLY MONITORED ON A SEMI-ANNUAL BASIS FOR APPENDIX I VOC'S AND METALS. BASED ON THE TYPES OF FEEDSTOCKS ACCEPTED AT THE COMPOSTING FACILITY, IT IS EXPECTED THAT THE APPENDIX I VOC'S AND METALS ARE APPROPRIATE GROUNDWATER MONITORING PARAMETERS. IF NEW FEEDSTOCKS ARE ADDED, THE PARAMETERS THAT THE GROUNDWATER WELLS ARE MONITORED FOR WILL BE EVALUATED. INFORMATION REGARDING GROUNDWATER MONITORING AT THE FACILITY IS CONTAINED ON THE WATER MONITORING PLAN, SHEETS 27 AND 28 OF 35.

## 14. ODOR MINIMIZATION PLAN

THE FACILITY WILL BE OPERATED IN A MANNER THAT WILL MINIMIZE NUISANCE ODORS. THIS WILL INCLUDE COVERING INCOMING FEEDSTOCKS THAT MAY PRODUCE ODORS UPON ARRIVAL AT THE FACILITY. IN ORDER TO PREVENT ON-SITE POPULATIONS OF DISEASE VECTORS, ALL INCOMING FEEDSTOCKS THAT ARE EXPECTED TO ATTRACT VECTORS WILL BE COVERED UPON ARRIVAL. HOWEVER, IF AN ODOR COMPLAINT IS RECEIVED AT THE FACILITY, THE FOLLOWING PROCEDURES WILL BE FOLLOWED:

- THE COMPOST OPERATOR WILL BE NOTIFIED IMMEDIATELY.
- IF THE COMPLAINT IS RECEIVED BETWEEN 6:00 AM AND 6:00 PM, MONDAY THROUGH FRIDAY, THE COMPLAINT WILL BE RESPONDED TO WITHIN 60 MINUTES. IF THE COMPLAINT IS RECEIVED OUTSIDE OF THIS TIMEFRAME, THE COMPLAINT WILL BE RESPONDED TO THE NEXT BUSINESS DAY BY 10:00 AM.
- THE ODOR RESPONDER, WHO WILL BE EITHER THE COMPOST OPERATOR OR HIS DESIGNEE, WILL DOCUMENT THE DATE AND TIME THAT THE COMPLAINT WAS RECEIVED ALONG WITH THE NATURE OF THE COMPLAINT AND THE WEATHER CONDITIONS AT THE TIME THE COMPLAINT WAS RECEIVED.
- THE ODOR RESPONDER SHOULD ATTEMPT TO IDENTIFY THE LIKELY SOURCE OF THE ODOR.

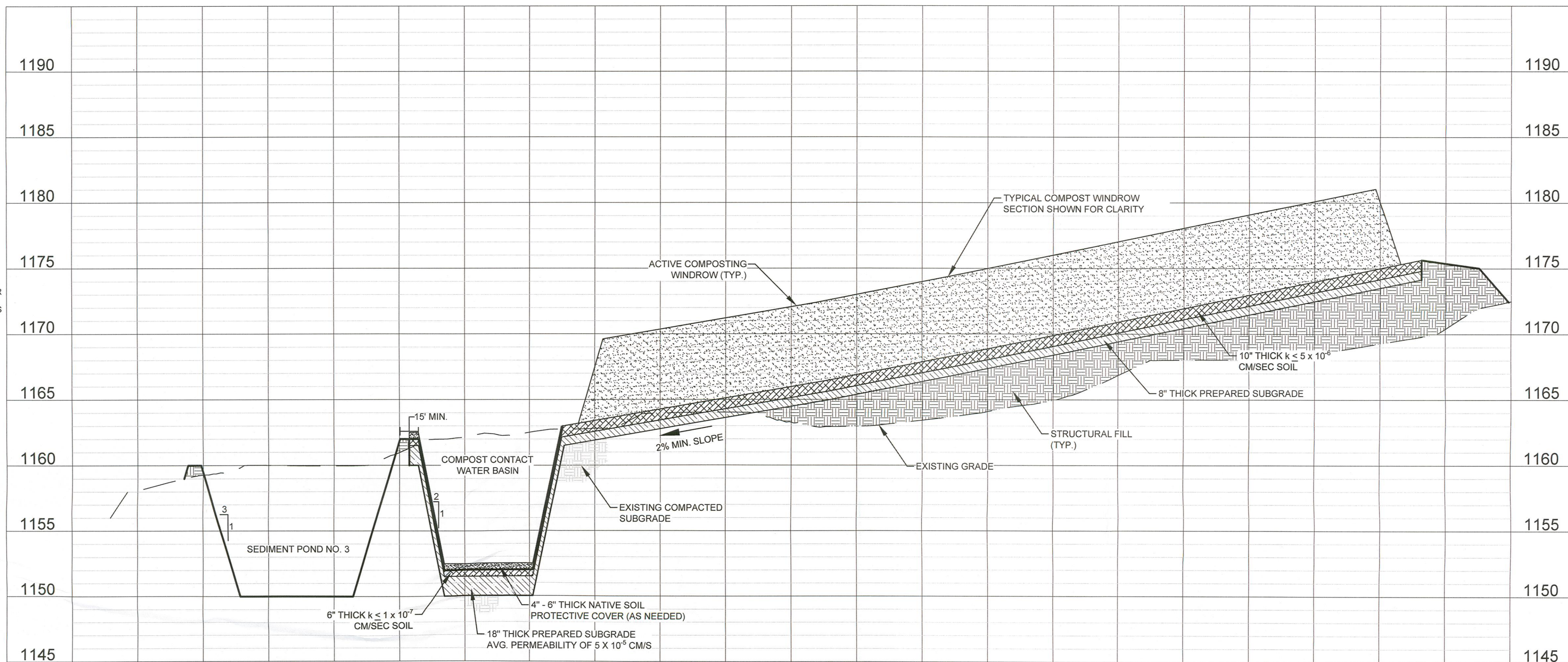


DISTRIBUTE TO COMPOST OPERATIONS OR WINDROWS FOR MOISTURE / DUST CONTROL OR TRANSPORT TO POTW FOR TREATMENT

CONTACT WATER

TO POTW

**COMPOSTING FLOW DIAGRAM**  
N.T.S.



**CROSS SECTION C-C**

1" = 50' HORIZ.; 1" = 5' VERT.

- IF IT IS DETERMINED THAT THE LIKELY SOURCE OF THE ODOR IS THE COMPOSTING FACILITY, STEPS WILL BE TAKEN TO MINIMIZE THE ODORS. STEPS THAT MAY BE TAKEN TO MINIMIZE THE ODORS INCLUDE, BUT ARE NOT LIMITED TO, PLACING A 6" THICK BLANKET OF FINE SOIL AND/OR ASH MATERIAL OVER THE COMPOSTING WINDROWS. THIS MATERIAL WILL ULTIMATELY BE MIXED IN WITH THE COMPOST MATERIAL DURING THE TURNING PROCESS.

INFORMATION RECORDED BY THE ODOR RESPONDER ALONG WITH STEPS TAKEN TO MINIMIZE THE ODORS, IF APPLICABLE, WILL BE PLACED IN THE FACILITY'S OPERATING RECORD.

THIS ODOR MINIMIZATION PLAN WILL BE REVIEWED ANNUALLY IN ORDER TO DETERMINE IF REVISIONS ARE NECESSARY.

## 15. TESTING

SAMPLES OF FINISHED COMPOST TAKEN FOR THE PURPOSE OF PRODUCT TESTING WILL BE REPRESENTATIVE OF THE COMPOSTING ACTIVITY. THE FINISHED COMPOST SHOULD BE ANALYZED AT THE FREQUENCY OUTLINED ON THE TABLE BELOW:

COMPOST QUANTITY* (TONS/YEAR)	FREQUENCY
1-6,200	ONCE PER QUARTER
6,201-17,500	ONCE EVERY 2 MONTHS
GREATER THAN 17,500	ONCE PER MONTH

\* COMPOST QUANTITY IS BASED ON THE AMOUNT OF COMPOST PREPARED FOR SALE OR GIVEN AWAY ON AN "AS IS" (WET WEIGHT) BASIS

FINISHED COMPOST SHOULD BE TESTED FOR STABILITY IN ACCORDANCE WITH APPROVED METHODS. RESULTS OF THE STABILITY TESTING SHOULD BE PLACED IN THE FACILITY'S OPERATING RECORD. THE FINISHED COMPOST SHOULD ALSO BE TESTED FOR THE PRESENCE OF PATHOGENS IN ACCORDANCE WITH APPROVED METHODS AND PROCEDURES. THE DENSITY OF FECAL COLIFORM IN THE FINISHED COMPOST SHOULD BE EITHER LESS THAN 1,000 MOST PROBABLE NUMBER (MPN) PER GRAM OF TOTAL SOLIDS (DRY WEIGHT BASIS) OR THE DENSITY OF SALMONELLA SP. BACTERIA IN THE FINISHED COMPOST SHOULD BE LESS THAN THREE (3) MPN PER GRAM OF TOTAL SOLIDS (DRY WEIGHT BASIS) BEFORE THE COMPOST MAY BE SOLD OR GIVEN AWAY.

ADDITIONALLY, THE FINISHED COMPOST WILL BE TESTED FOR THE FOLLOWING METALS, WHICH SHOULD NOT EXCEED THE SPECIFIED CONCENTRATIONS:

POLLUTANT	MONTHLY AVERAGE CONCENTRATION (MILLIGRAMS PER KILOGRAM)
ARSENIC	41
CADMIUM	39
COPPER	1500
LEAD	300
MERCURY	17
NICKEL	420
SELENIUM	100
ZINC	2,800

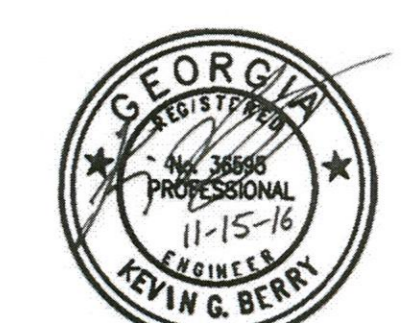
\* ON A DRY WEIGHT BASIS

IF THE TEST RESULTS SHOW THAT THE FINISHED PRODUCT IS STABLE AND IN COMPLIANCE WITH BOTH METALS AND PATHOGENS STANDARDS FOR A TWO-YEAR PERIOD, THE FACILITY MAY REQUEST A REDUCTION IN THE FREQUENCY OF TESTING, PROVIDED THAT THERE ARE NO CHANGES IN THE FEEDSTOCKS COMPOSTED AT THE FACILITY.

GEORGIA  
Environmental Protection Division  
Solid Waste Management Program  
MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 069-017D(C&D)

APPROVED BY: *[Signature]* DATE: 8/2/16



REVISED: NOVEMBER 10, 2016  
REVISED: SEPTEMBER 16, 2016  
REVISED: APRIL 15, 2013  
REVISED: MARCH 20, 2013

COMPOSTING FACILITY OPERATIONS PLAN  
**DESIGN AND OPERATION PLAN**  
FOR  
**GWAR, LLC.**  
HALL COUNTY - GAINESVILLE WASTE AND RECYCLING  
CONSTRUCTION/DEMOLITION LANDFILL  
AND COMPOST FACILITY  
HALL COUNTY, GEORGIA

**HHNT**  
HODGES, HARBIN, \_\_\_\_\_ 3920 ARKWRIGHT RD.  
NEWBERRY & TRIBBLE, INC. SUITE 101  
(478) 743-7175  
(478) 743-1703(FAX) Consulting Engineers MACON, GEORGIA 31210

PROJ. NO.	3150-010-01	DWG. GWAR-EXP-35-CF 0pp-R	EDIT11-10-2016
SCALE	AS SHOWN		
DATE	AUGUST, 2016	<b>SHEET 35 OF 35</b>	



# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 24, 2025  
**Final Approval Date:** March 24, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Request from the **City of Gainesville** to rezone a 134.0± acres tract located on the east side of Monroe Drive, north of Allen Creek Road (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Planned Unit Development (P-U-D) to Heavy Industrial (H-I) with a special use.  
**Meeting Date:** April 8, 2025

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### **Purpose of Request:**

The City of Gainesville is proposing to rezone the property to Heavy Industrial (H-I) with a special use so that a portion of the property may be used as a landfill (construction and demolition) and composting facility. The City is contemplating the execution of an Intergovernmental Agreement (“IGA”) with the Gainesville Redevelopment Authority (“Authority”) such that the Subject Property can be utilized to aid the City in the provision of a long-term waste management strategy for its citizens, as well as in the construction of a fire station to better serve the citizens of Gainesville. The City refers to the IGA with the Authority that is attached to this narrative as Exhibit “A.”

Adjacent uses include GVAR Gainesville Landfill, LLC (Waste Eliminator), Copart -Atlanta North auto salvage, Chicago Tub & Iron, Gainesville Mechanical, Inc, Sam Cochran Electric, Pace Roof & Restorations and the Allen Creek Soccer Complex.

### **Facts & Issues / History & Background:**

### **Department Recommendation:**

Planning staff recommended approval with six conditions. See the Staff Recommendation report for details.

### **Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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### **Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Survey

#### 4. IGA

**GAINESVILLE PLANNING and APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant and Property Owner**..... City of Gainesville  
**Location**..... 1701 Fulenwider Road, SW  
**Request**..... Rezone from R-I-A and P-U-D to H-I, with a special use  
**Total Acres** ..... 134.0± acres  
**Ward**..... Three  
**Proposed Use**..... Landfill (Construction & Demolition) and composting facility  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date**..... April 8, 2025

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▪ **Applicant’s Proposal and Background Information**

The City of Gainesville is proposing to rezone the subject property from Residential-I-A (R-I-A) and Planned Unit Development (P-U-D) to Heavy Industrial (H-I) with a special use so that a portion of the property may be used as a landfill (construction and demolition) and composting facility. The City is contemplating execution of an Intergovernmental Agreement (“IGA”) with the Gainesville Redevelopment Authority (“Authority”) such that the Subject Property can be utilized to aid the City in the provision of a long-term waste management strategy for its citizens, as well as in the construction of a fire station to better serve the citizens of Gainesville. A copy of the IGA was provided as part of the documentation.

The subject property is part of a larger tract of land owned by the City of Gainesville. The property is undeveloped, heavily wooded with sloping terrain and multiple streams.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	GWAR Gainesville Landfill, LLC (Waste Eliminator); BDC Gainesville, LLC; (Future Bioenergy site)	Planned Industrial Development (P-I-D) -County Light Industrial-1 (I-1) - County Heavy Industrial (H-I) - City
South	Allen Creek Soccer Complex	Residential-I-A (R-I-A) – City
East	Gainesville 85 Business Park; Vacant Land;	Planned Unit Development (P-U-D) - City
West	RTS Landfill (Closed); Chicago Tub & Iron, Gainesville Mechanical, Inc, Sam Cochran Electric, Pace Roof & Restorations	Planned Unit Development (P-U-D) - City Light Industrial (L-I) -City Light Industrial-1 (I-1) - County

▪ **Other Departmental Comments**

There were no departmental comments for this request.

▪ **Zoning History**

*The following zoning actions have taken place in the immediate area during the last ten years:*

**2023-** A request from BDC Gainesville, LLC to annex a 50.711± acres tract located at 2544 Monroe Drive and 1570 Athens Highway with a zoning of Heavy Industrial (H-I) with a special use was approved with conditions for an enclosed anaerobic digestion facility (Bioenergy center).

**2020-** A request by City of Gainesville to annex 4.4± acres located at 0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway with a zoning of Planned Unit Development (P-U-D) was approved with conditions for the 85 Business Park.

**2020-** A request by City of Gainesville to rezone 1,320± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Planned Unit Development (P-U-D) was approved with conditions for the 85 Business Park.

**2019-** A request by City of Gainesville to rezone 395.69± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Heavy Industrial (H-I) was approved with conditions for future industrial uses.

**Analysis**

**(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?**

The subject property is located within a nonresidential area primarily consisting of established heavy industrial, light industrial, commercial and public uses (Allen Creek Soccer Complex). A future construction & demolition (C&D) landfill and composting facility appears to be a suitable use given the adjacent industrial uses and landfill/composting operations and restricted access to Old County Dump Road.

**(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?**

It is intended for the property to provide additional property for C&D landfill and composting facility operations. The proposal should not adversely affect the adjacent or nearby properties as any odors must be properly mitigated to not impact the nearby businesses and residential uses. An odor management plan is required which will be monitored by the EPD. Minimum 75-foot-wide buffers are required on both sides of all streams and property soil erosion and water quality measures are required as well. Access to the operations should be restricted through the existing neighboring GVAR facility which keep associated vehicles from accessing Monroe Drive.

**(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?**

It is staff's opinion that the proposal is consistent with the Comprehensive Plan.

The Future Development Map for the City of Gainesville places the property within the *Industrial* land use category. This industrial land use category includes a wide range of office, business, light industrial, manufacturing, research and development uses; and commercial uses that directly support or are otherwise linked to the dominant business use.

According to the Character Area map for the City of Gainesville, the subject property is located within the *Economic Development Gateways* character area. This character area represents the

industrial, warehousing and other commercial enterprises that parallel the I-985 and Norfolk-Southern railroad corridor. The primary vision for the area is to continue to support economic development while preserving and strengthening important natural and cultural resources. Appropriate land uses and development types include commercial, general mixed-use, industrial, limited multi-family residential, parks and recreation, public and institutional uses.

**(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?**

The property is currently zoned Residential-I-A (R-I-A) and Planned Unit Development (P-U-D). The current zoning requires the property to be rezoned to Heavy Industrial (H-I) with special use approval to permit the C&D landfill and composting facility. Given the location of the adjacent GVAR facility, the property is the logical area to expand to remain screened and buffered from existing streams. The request will provide the City a greater degree of oversight with respect to Waste Eliminator's operations and an additional source of revenue, both in the form of ad valorem property taxes and the "hosting" fee now being paid to Hall County.

**(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?**

There is sufficient water and sewer capacity for the proposed use. A traffic Impact Study was not required as traffic generated from the proposed use is considered minimal given that there are only 14 employees and approximately 90 inbound truck loads a day operating within the adjacent GVAR facility. The Gainesville Fire and Police Departments currently respond to the adjacent and nearby property. Gainesville Fire Station #1 is located off Queen City Parkway and is 3.0± miles from the existing Old County Dump Road. There will be no impacts to the school system as future uses will be for nonresidential purposes.

**(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?**

It is staff's opinion the proposed use is consistent with the Comprehensive Plan. The subject property and much of the surrounding area have been planned for public and industrial uses for many years. As well, the surrounding area has experienced mostly industrial growth due to nearby Exit 22 /I-985 and the availability of water and sewer. Newley developed Gainesville 85 Business Park is located just south and east of the subject property which has access from Fulenwider Road, Allen Creek Road, Monroe Drive and Athens Highway.

**(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?**

Based on the Comprehensive Plan and the adjacent industrial properties, the proposal with the zoning conditions recommended by staff appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare, and the right to unrestricted use of property.

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▪ **Additional Special Use Criteria**

- (1) The type of street providing access to the subject property is adequate to serve the proposed Special Use.**

The subject property has 3,290± linear feet of road frontage on Monroe Drive and 80± of road frontage on Allen Creek Road.

The property fronts Monroe Drive but no access is being proposed for future C&D landfill and composting operations which would be limited to Old County Dump Road. Athens Highway and Old County Dump Road is a signalized intersection and is adequate to serve additional operations.

**(2) Access into and out of the property adequately provides for traffic and pedestrian safety, the anticipated volume of traffic flow, and access by emergency vehicles.**

Access for C&D landfill and composting operations will be restricted to Old County Dump Road. Future access to Monroe Drive or Allen Creek Road could provide access to future commercial/industrial use(s) that have not been determined at this time. Vehicular access is sufficient in and out of the property based on the anticipated traffic flow. There are no sidewalks along Monroe Drive, Allen Creek Road, Old County Dump Road or Athens Highway.

**(3) Public facilities such as schools, water or sewer utilities, and police or fire protection are adequate to serve the Special Use.**

The existing public facilities are adequate to serve the future uses.

**(4) Refuse, service, parking and loading areas on the property are located and screened to protect other properties in the area from such adverse effects as noise, light, glare or odor.**

Future C&D landfill and composting facility operations will not be visible from Monroe Drive or Allen Creek Road. A ground and surface water monitoring plan, methane gas monitoring program and an odor management plan are required/monitored by the EPD. In addition, the EPD requires a minimum of 150 feet wide buffer between the landfill/composting operations and the property lines.

**(5) The hours and manner of operation of the Special Use have no adverse effects on other properties in the area.**

It is anticipated any future operations will operate in the same manner as the neighboring GVAR facility which operates with 14 full time employees. Operational hours are Monday through Friday, from 7:00 a.m. to 4:00 p.m. with additional operational hours outside of the business hours open to the public for placing "cover" and composting. Operational impacts will be minimized due to the natural buffers. It is unknown at this time what the hours of operations will be for future commercial/industrial uses that front Monroe Drive, if any. The adjacent uses are all non-residential.

**(6) The height, size and location of the buildings or other structures proposed on the property are compatible with the height, size or location of buildings or other structures on neighboring properties.**

There are no buildings or structures proposed at this time. Any future building such as a Materials Recovery Facility (MRF) will be regulated by the Unified Land Development Code regarding height, size, buffers and setbacks.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this rezoning request with a special use based on the Comprehensive Plan and the adjacent industrial properties.

**Conditions**

1. **The size and location of any future construction & demolition landfill and composting facility shall be in substantial conformance with the site plan submitted with this rezoning application.**
2. **The subject property shall be limited to the Landfill (Construction & Demolition) and composting facility and those uses permitted within the Light Industrial (L-I) zoning district, excluding a metal recycling facility, wrecked motor vehicle compound, truck stop or truck lot.**
3. **A detailed odor control plan and ground and surface water monitoring plan shall be required per the review and approval of the Environmental Protection Division (EPD) and the Gainesville Department of Water Resources.**
4. **A minimum 200-foot wide natural buffer shall be maintained around the perimeter of the property as depicted on the site plan in accordance with Environmental Protection Division approval.**
5. **Landfill activity height shall not exceed 100 feet above existing grade.**
6. **Access to any landfill or composting facility shall be limited to Old County Dump Road.**



# GAINESVILLE

WM-RTS  
Landfill

Chicago  
Tube & Iron

Gainesville  
Mechanical

Copart-  
Atlanta North

GWAR

Peterbilt  
of Atlanta

Gainesville  
Truck Center

Family  
Dollar

PUD

WILDWOOD DRIVE

Crystal Creek  
Inert Landfill

MONROE DRIVE  
The  
Mailworks

Allen Creek  
Recreation Complex

R-I-A

ALLEN CREEK ROAD

MICROWAVE TOWER ROAD

GAINES MILL ROAD

TIMBER RIDGE CIRCLE

MORGAN DRIVE

ATHENS HIGHWAY

PUD

JAMES SIMPSON BOULEVARD


**Applicant:**  
**CITY OF GAINESVILLE**

## REZONING REQUEST

**Request:**  
Rezoning +/- 134 AC from Residential-I-A (R-I-A) and Planned Unit Development (P-U-D) to Heavy Industrial (H-I) with a special use, for a landfill and composting facility.

**Subject Property Address:**  
1701 Fulenwider Road

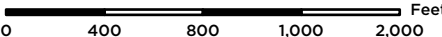
**Tax Parcel:**  
15-023-000-167 (Part)

 Subject Property



**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025

 Feet  
0 400 800 1,000 2,000

Scale: 1" = 800'



# GAINESVILLE

Gainesville Truck Center

WM-RTS Landfill

Chicago Tube & Iron

Copart-Atlanta North

GWAR

Peterbilt of Atlanta

Family Dollar

Gainesville Mechanical

WILDWOOD DRIVE

MONROE DRIVE

MORGAN DRIVE

GAINES MILL ROAD

ATHENS HIGHWAY

THIMBER RIDGE CIRCLE

MICROWAVE TOWER ROAD

JAMES SIMPSON BOULEVARD

Crystal Creek Inert Landfill

The Mailworks

Allen Creek Recreation Complex

ALLEN CREEK ROAD

**Applicant:** CITY OF GAINESVILLE

**Request:** Rezone +/- 134 AC from Residential-I-A (R-I-A) and Planned Unit Development (P-U-D) to Heavy Industrial (H-I) with a special use, for a landfill and composting facility.

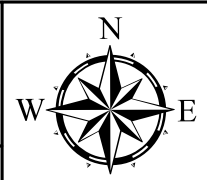
## REZONING REQUEST

**Subject Property Address:**  
1701 Fulenwider Road

**Tax Parcel:**  
15-023-000-167 (Part)

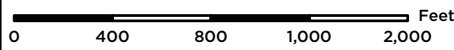
 Subject Property

Aerial from 2023



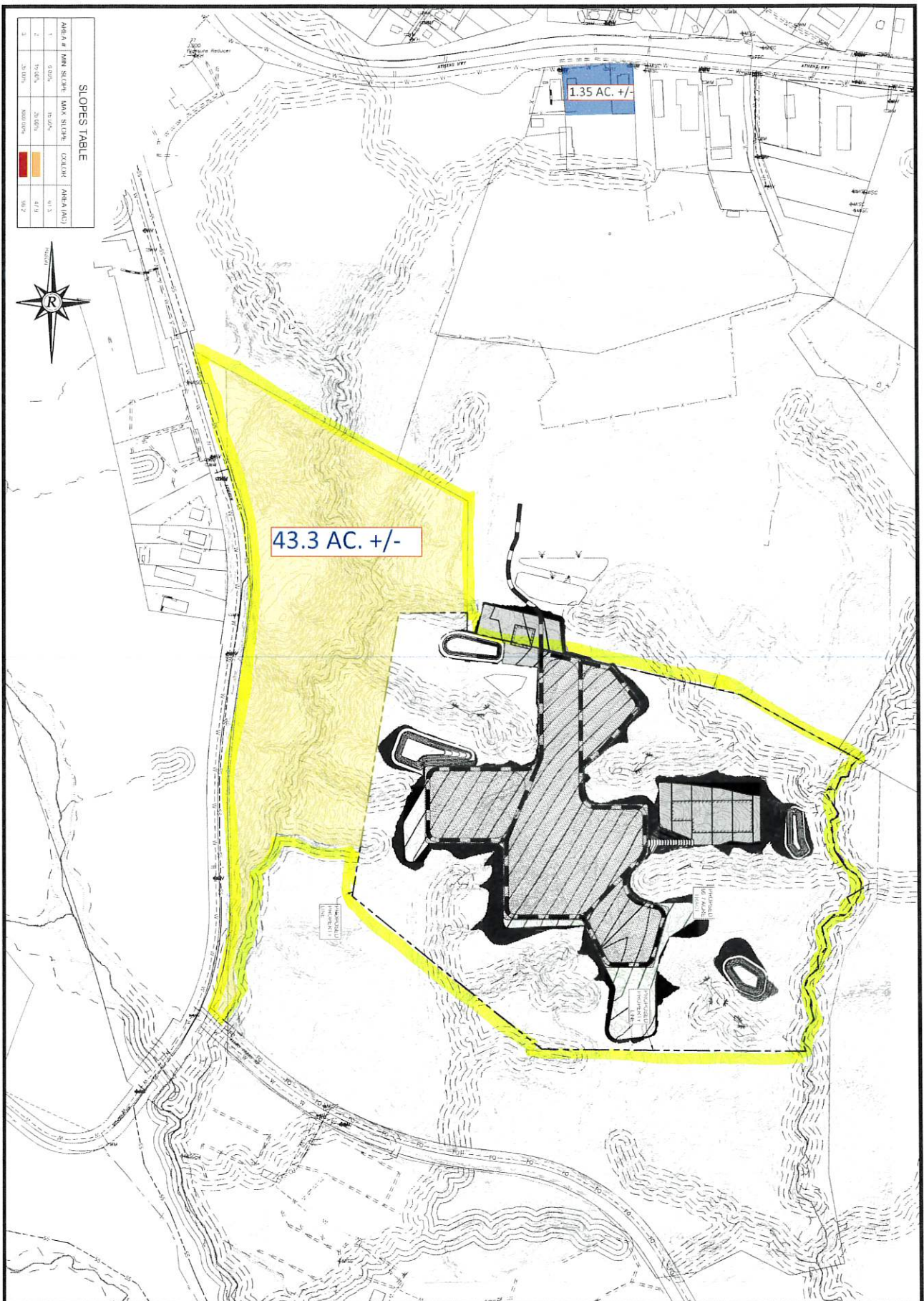
**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025

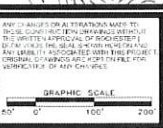


Scale: 1" = 800'

SLOPES TABLE			
AREA #	MIN SLOPE	MAX SLOPE	COLOR / HATCHING
1	5.0%	15.0%	1/4" X 1/4"
2	15.0%	25.0%	3/4" X 3/4"
3	25.0%	35.0%	3/8" X 1/2"



DATE	###
SCALE	1" = 150'
DWG NO.	###
ISSUE NO.	###
ISSUED BY	###



NO.	DATE	DESCRIPTION

CONCEPTUAL GRADING PLAN  
 OF  
 ####  
 ####  
 ####  
 ####

**Rochester DCCM**

Rochester & Associates, LLC  
 425 Oak St NW, Gainesville, GA 30601  
 770.718.0000 | www.rochester-dccm.com

**INTERGOVERNMENTAL AGREEMENT BY AND BETWEEN  
CITY OF GAINESVILLE, GEORGIA AND GAINESVILLE REDEVELOPMENT  
AUTHORITY FOR REAL PROPERTY NEAR MONROE DRIVE**

This Agreement is made and entered into as of the 18<sup>TH</sup> day of March, 2025, by and between the City of Gainesville, Georgia, (hereinafter called "Gainesville") and the Gainesville Redevelopment Authority (hereinafter called "the Authority") for the purpose of conveyance, marketing, and sale of real property in the Monroe Drive area related to the provision of a long term waste management strategy and development of a new fire station.

**WHEREAS**, Gainesville desires to obtain property along the Highway 129 corridor to construct a fire station to better serve the citizens of Gainesville;

**WHEREAS**, Gainesville desires to provide for a long term waste management strategy for its citizens;

**WHEREAS**, Gainesville owns real property located on or near Monroe Drive, which real property is more particularly described as Tracts "A" and "B" as shown in Exhibit "A," attached hereto and incorporated herein (said real property hereinafter called "the Exchange Property");

**WHEREAS**, Gainesville finds the Exchange Property to be excess property suitable for redevelopment;

**WHEREAS**, pursuant to O.C.G.A. § 36-44-5(a)(8), Gainesville has the power to dispose of the Exchange Property for redevelopment purposes, in cooperation with the Authority;

**WHEREAS**, pursuant to O.C.G.A. § 36-44-5(a)(8), the Authority has the power to dispose of the Exchange Property for redevelopment purposes and such disposition may be by public or private sale; and

**WHEREAS**, Gainesville and the Authority desire to enter into an agreement to provide for the conveyance of the Exchange Property from Gainesville to the Authority, and to enable the Authority to dispose of the Exchange Property, with the proceeds to be used for redevelopment, as defined in O.C.G.A. § 36-44-3(5).

**NOW THEREFORE**, Gainesville and the Authority agree to the following:

- A. Gainesville shall execute and record, at its cost and expense, such documents as are necessary to convey the Exchange Property to the Authority, in the event that the Authority is able to reach an agreement to sell the Exchange Property in accordance with this Agreement.
- B. The Authority agrees to identify an entity (the "Exchangor") deemed capable by Gainesville in its reasonable discretion of consummating the transactions described herein, including entering into and performing under agreements to be entered on substantially the terms described herein.
- C. In exchange for conveyance of the Exchange Property to Exchangor, Exchangor would agree to: (1) pay the sum of Eight Million Dollars (\$8,000,000), payable in

U.S. Dollars; (2) convey to the Authority, which would then convey to Gainesville, unencumbered, fee simple title to real property (and improvements thereon, if any) fronting along U.S. Highway 129 consisting of approximately two (2) acres in size, and reasonably suitable to Gainesville (including due diligence and title examination customarily exercised in the acquisition of such properties) for its intended development as a fire station facility; and (3) enter into certain long term waste management agreements and guarantees on the terms set forth herein.

D. For an Exchangor to qualify for the property exchange contemplated herein, such Exchangor should be capable of the following:

- a. **Hosting Fee.** Operating a licensed municipal solid waste disposal facility within the municipal limits of Gainesville such that Gainesville would be eligible to receive the hosting fee provided for in O.C.G.A. § 12-8-39.
- b. **Inert Tree Waste Handling.** Accepting and disposing of inert tree waste, including leaves, limbs/wood, and full trees (collectively "Inert Waste") collected by Gainesville as part of its regular and customary waste collection services, for an initial ten (10) year term at no charge, with Gainesville to have an option to renew Exchangor's obligation for an additional ten (10) year term at Fifty Percent (50%) of the lesser of: (i) the standard cost charged by Exchangor to other customers for Inert Waste; or (ii) the lowest market cost charged by a competitor of Exchangor to dispose of Inert Waste within a sixty (60)-mile radius of the municipal limits of Gainesville.
- c. **Landfill Refuse.** Subject to and commencing with Exchangor's development of a licensed municipal solid waste transfer station on Tract "A" of the Exchange Property that complies with other terms set forth herein ("Transfer Station"), Exchangor would accept non-hazardous municipal solid waste landfill refuse ("Landfill Refuse") collected by Gainesville as part of its regular and customary waste collection services at a rate of \$40 per ton for an initial ten (10) year term, with Gainesville having an option to renew Exchangor's obligation with respect to Landfill Refuse for an additional ten (10) year term at the lesser of: (i) an increase per ton based on CPI at the beginning of each year of the subsequent term; (ii) Eighty Percent (80%) of the standard per ton rate charged by Exchangor to its other customers for Landfill Refuse; or (iii) Eighty Percent (80%) of the lowest market cost charged by a competitor of Exchangor to dispose of Landfill Refuse within a sixty (60)-mile radius of the municipal limits of Gainesville.
- d. **Recyclables.** Subject to and commencing with Exchangor's development of the Transfer Station, Exchangor would accept all paper, plastic and non-contaminated cardboard recyclables ("Recyclables") collected by Gainesville as part of its regular and customary waste collection services for an initial ten (10) year term at no charge, with Gainesville to have an option to renew Exchangor's obligation with respect to Recyclables for an additional ten (10) year term at Fifty-five Percent (55%) of the lesser of: (i) the standard cost charged by Exchangor to other customers to dispose of Recyclables; or (ii) the lowest market cost charged by a competitor of Exchangor to dispose of

Recyclables within a sixty (60)-mile radius of the municipal limits of Gainesville.

- e. **Sludge.** Subject to and commencing with Exchangor's development of a licensed composting operation on Tract "A" of the Exchange Property that complies with other terms set forth herein ("Compost Pad"), Exchangor would guarantee Gainesville up to Twenty-Two Thousand (22,000) tons of capacity for disposal of sludge generated by Gainesville's wastewater treatment operations ("Sludges") at the rate of Seventy-Five Dollars (\$75) per ton for a ten (10) year term, with Gainesville having an option to renew Exchangor's obligation with respect to Sludges for an additional ten (10) year term at the lesser of: (i) an increase per ton based on CPI at the beginning of each year of the subsequent term; (ii) Seventy-Five Percent (75%) of the standard per ton rate charged by Exchangor to its other customers for Sludges; or (iii) Seventy-Five Percent (75%) of the lowest market cost charged by a competitor of Exchangor to dispose of Sludges within a sixty (60)-mile radius of the municipal limits of Gainesville.
  
- f. **Composting and Transfer Station with Odor Control Management Plan.** Making successful application for all necessary permitting of (including federal, state, and local requirements) and constructing upon Tract "A" of the Exchange Property, in a commercially reasonable timeframe, a compost pad with associated operations (including a municipal solid waste transfer station and materials recycling facility) (the "Compost Pad/MRF") that acts in furtherance of the policy initiatives set forth by the State of Georgia in O.C.G.A. § 12-8-21 and which meets the approval of Gainesville as to size, use, and odor control, including but not limited to a plan which include the following:
  - i. comprises an area of approximately twenty-one (21) acres of composting pad area, plus an estimated five (5) acres to accommodate additional building structures, and is supported by sufficient areas for stormwater and leachate collection ponds;
  
  - ii. allows for composting of municipal biosolids to approximately 85,000 tons per year ("TPY"), with a throughput of 1,600 tons per day utilizing feedstock types and percentages within ranges of 10%-12.5% food waste, 20%-38.5% biosolids, and 50%-70% wood waste (chipped to 6" minus) (with the potential to increase to composting of up to 175,000 TPY of municipal biosolids through the addition of wood mulch as needed to sustain the necessary proportions);
  
  - iii. utilizes bucket loaders for moving and an excavator for turning the windrow compost piles;
  
  - iv. is operated in accordance with an Odor Management Plan meeting criteria acceptable to both Gainesville and the Authority (the "Odor Management Plan"), and that includes (1) measures to minimize odors

and the frequency of these activities, (2) definition of regular odor monitoring and recordkeeping with frequency, location, and type of monitoring at on-site and off-site locations (not just in response to complaints), and (3) a map designating on-site and off-site monitoring locations in relation to the composting operation, and (4) such additional measures as Gainesville and the Authority may reasonably require;

- v. utilizes a commercial composting system that includes a combination of positive aeration with biocovers and negative aeration with biofilters atop or within asphalt and/or concrete pads;
  - vi. utilizes the Nasal Ranger olfactometer for detecting odors and assumes a Dilution-to-Threshold (D/T) ratio of 7 or greater; and
  - vii. provides for enclosure for the compost pad mixing area as a further mitigant against odor migration
- E. Gainesville will hold harmless, defend and indemnify the Authority and each member and officer thereof from and against any liability or cost whatsoever arising from execution of this Agreement, any realtor agreement, any purchase agreement, or any conveyance of the Exchange Property. Gainesville will execute any other documents which may become reasonably necessary to effectuate the transactions contemplated hereby, including but not limited to the conveyance of the Exchange Property from the Authority to any transferee.
- F. Upon the sale of the Exchange Property, the net proceeds of such sale, after deduction of reasonable and customary closing costs and any reasonable costs and expenses incurred by the Authority in connection therewith, shall be paid to Gainesville, with such sales proceeds to be earmarked for and used for redevelopment within the city limits of Gainesville, as defined in O.C.G.A. § 36-44-3(5).
- G. In the event that a closing has not occurred conveying the Exchange Property on or before December 31, 2025, then the Authority agrees to convey the Exchange Property to Gainesville, without further action on the part of the Authority or of Gainesville, at which time Gainesville may take such action regarding the Exchange Property as Gainesville deems prudent.
- H. All notices under this Agreement shall be in writing and shall be deemed to have been given by delivering it to person or by certified mail:

As to the Authority:

Gainesville Redevelopment Authority  
Attn: Chairperson  
405 Washington St., NE  
Gainesville, GA 30501

As to Gainesville


City of Gainesville  
Attn: City Manager  
300 Henry Ward Way  
Suite 303  
Gainesville, GA 30501

- I. The failure of any party to exercise any right given hereunder or to insist upon strict compliance with any term, condition or covenant specified herein shall not constitute a waiver of such party's right to exercise such right or to demand strict compliance with any such term, condition or covenant under this Agreement.
- J. This Agreement contains the sole and entire agreement of the parties with respect to the subject matter contemplated hereunder and no representation, inducement, promise or agreement, parole or written, between the parties and not incorporated herein shall be of any force of effect. Any amendment to this Agreement shall be in writing and executed by the parties.
- K. This Agreement may not be assigned or transferred by either party without the written consent of the other party. The provisions of this Agreement shall inure to the benefit or and be binding upon the parties hereto and the respective success and assigns.
- L. Time is of the essence with respect to this Agreement.
- M. This Agreement and all amendments hereto shall be governed and construed under the laws of the State of Georgia.
- N. If any term, covenant or condition of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, such provision, or the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall be deemed severable, and the remainder hereof shall not be affected thereby, and each term, covenant, or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

O. This Agreement may be executed in several counterparts, each of which shall constitute an original and all of which together shall constitute one and the same instrument.

IN WITNESS THEREOF, the parties have set their hand and seal as of the day and year first above written.

**GAINESVILLE REDEVELOPMENT AUTHORITY**

By:   
Chairperson

ATTEST:   
Secretary



**CITY OF GAINESVILLE**

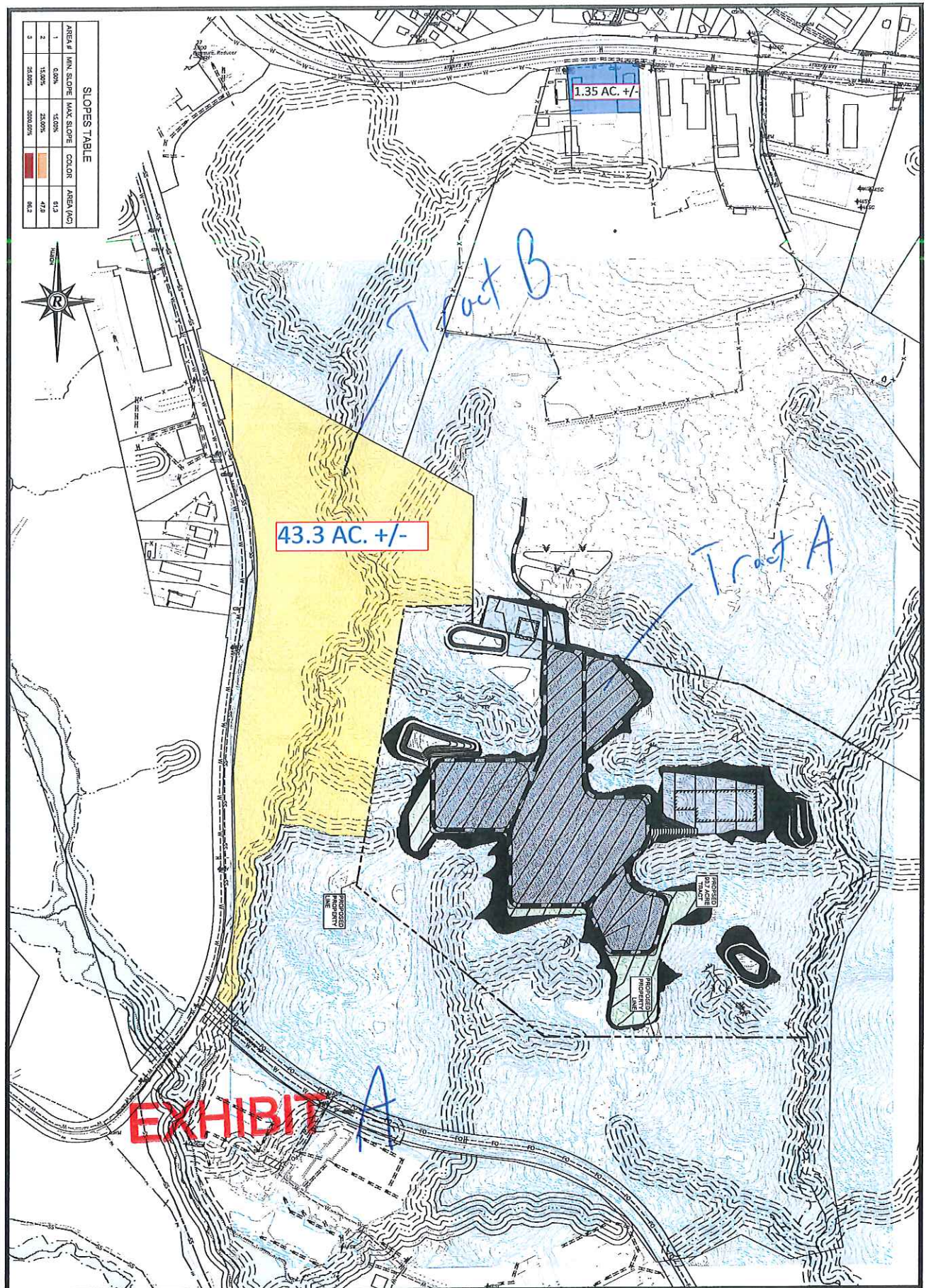
By: \_\_\_\_\_  
W. Samuel Couvillon, Mayor

ATTEST: \_\_\_\_\_  
Denise O. Jordan, City Clerk

APPROVED AS TO FORM

\_\_\_\_\_  
Abbott S. Hayes, Jr.  
Hulsey, Oliver & Mahar, LLP  
City of Gainesville Attorney

SLOPES TABLE			
AREA #	MIN. SLOPE	MAX. SLOPE	COLOR
1	0.50%	15.00%	ASBEA (M/C)
2	15.00%	25.00%	4/2
3	25.00%	30.00%	6/2



**EXHIBIT A**

DATE: 1/11/11	SCALE: 1"=100'
JOB NO. 11010001	DWG. NO. 11010001-01
DESIGNED BY: [Signature]	CHECKED BY: [Signature]



ANY CHANGES OR ALTERATIONS MADE TO THIS CONCEPTUAL GRADING PLAN WITHOUT THE WRITTEN APPROVAL OF ROCHESTER & ASSOCIATES, LLC SHALL BE AT THE USER'S RISK AND ANY LIABILITY ASSOCIATED WITH THIS PROJECT ORIGINAL DESIGNER SHALL BE RESPONSIBLE FOR VERIFICATION OF ANY CHANGES.

NO.	DATE	DESCRIPTION

CONCEPTUAL GRADING PLAN  
FOR: [Project Name]  
####  
####  
###

**Rochester DCCM**  
Rochester & Associates, LLC  
425 Oak St NW, Gainesville, GA 30601  
770.710.0509 | www.rochester-assoc.com



# CITY OF GAINESVILLE

## Planning and Appeals Board Agenda Request

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**Item Created:** March 21, 2025  
**Date Submitted:** March 24, 2025  
**Final Approval Date:** March 24, 2025  
**Presenter:** Matt Tate, Community & Economic Development Dept Deputy Director  
**Item of Business:** Request from **Gainesville Housing Authority** to rezone a 4.13± acres tract located on the northwest side of the intersection of Myrtle Street and Osborne Street and the northeast side of the intersection of Myrtle Street and Wall Street, south of Jesse Jewell Parkway (a/k/a **1197 and 1235 Myrtle Street, SE; 452, 474 and 492 Osborne Street, SE; 465, 471 and 481 Wall Street, SE**) from Residential-II (R-II) to Planned Unit Development (P-U-D).  
**Meeting Date:** April 8, 2025

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### **Purpose of Request:**

The applicant is proposing to rezone the subject property from Residential-II (R-II) to Planned Unit Development (P-U-D) for 64 multifamily housing units consisting of market-rate housing and affordable housing units for families. The project will use public and private financing, relying heavily on the Low Income Housing Tax Credit (LIHTC) program through the Department of Community Affairs. The community will be built in 2 phases. The first phase will have a maximum of 64 units. The second phase has not been determined and will require a future zoning amendment. The proposed development will consist of a 4-story apartment building with 1, 2 and 3-bedroom units that will serve a variety of income levels, but primarily with an income of around 60% of the area's median income. Access is proposed from Osborne Street with 89 onsite parking spaces. Amenities include a club/leasing office, covered porch and outdoor amenity space to include a gazebo or playground. The property consists of eight parcels with no structures. Adjacent and nearby properties include the Guilford Medical Clinic, Pleasant Union Church, Lanier Wee Willy's retail/gas station, triplex and single-family homes.

### **Facts & Issues / History & Background:**

### **Department Recommendation:**

Planning staff recommended approval with six conditions. See the Staff Recommendation report for details.

### **Department Director:**

Rusty Ligon

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**If funding is involved, are funds approved within the current budget?** No

**Amount Requested:**

**Sources of Funds:**

**Finance Comments:**

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**Administrative Comments:**

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**Attachments:**

1. Staff Recommendation Report
2. Location maps
3. Narrative
4. Site Plan
5. Architectural Rendering

**GAINESVILLE PLANNING and APPEALS BOARD  
STAFF RECOMMENDATION**

**Applicant** ..... Gainesville Housing Authority  
**Property Owner** ..... Northeast Georgia Health System, Inc.  
**Location** ..... 1197 and 1235 Myrtle Street, SE; 452, 474  
and 492 Osborne Street, SE; 465, 471 and  
481 Wall Street, SE  
**Request** ..... Rezone from R-II to P-U-D  
**Total Acres** ..... 4.13± acres  
**Ward** ..... Three  
**Proposed Use** ..... Multi-family housing (64 units)  
**Planning Division Staff Recommendation** ..... **Approval, with conditions**  
**Date** ..... April 8, 2025

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▪ **Applicant’s Proposal and Background Information**

The applicant is proposing to rezone the subject property from Residential-II (R-II) to Planned Unit Development (P-U-D) for multi-family housing units consisting of market rate housing and affordable housing units for families that will serve a variety of income levels but primarily is with an income of around 60% of the area’s median income. The project will use public and private financing, relying heavily on the Low-Income Housing Tax Credit (LIHTC) program through the Department of Community Affairs. The community will be built over 2 phases. The first phase consists of a 4-story apartment building and a maximum of 64 units. The second phase has not been determined and will require a future zoning amendment. Access is proposed from Osborne Street with 89 onsite parking spaces. Amenities include a 3,500 square foot amenity building, covered porch and outdoor space to include a gazebo or playground.

Phase 1	Number of Units	Unit Size
1 Bedroom	32	850± sf
2 Bedroom	24	934± sf
3 Bedroom	8	1,290± sf

The subject property consists of eight parcels with road frontage on Osborne Street, Wall Street and Myrtle Street. The parcels are partially wooded and contain no structures.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Vacant Land (Northeast Georgia Health System Inc.)	Residential-II (R-II)
South	Single-Family Home; Duplex; Myrtle Place Townhomes (Apartments); Georgia Power Sub Station	Residential-II (R-II)
East	Guilford Medical Clinic	Light Industrial (L-I)
West	Single-Family Homes; Triplex; Pleasant Union Baptist Church	Residential-II (R-II)

▪ **Other Departmental Comments**

There were no departmental comments at this time.

▪ **Zoning History**

*The following zoning actions have taken place in the immediate area during the last ten years:*

**2024-** A request by the City of Gainesville to annex a 2.81± acres tract located at 3 and 4 Carolina Street; 0 Spring Street; 10 Myrtle Drive; 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19 and 20 Victory Street with a zoning of Residential and Office (R-O) for existing uses.

**2022 –** A request by Brand Properties to rezone 69.18± acres located at 515 Lakeview Drive, NE; 2065 Limestone Parkway and 1881 Jesse Jewell Parkway from Planned Unit Development (P-U-D) and Residential-II (R-II) to Planned Unit Development (P-U-D) for a mixed-use development was approved with conditions.

**2021-** A request by Northeast Georgia Medical Center to rezone 48.997± acres tract located at 743 Spring Street, NE; 1227 Sherwood Park Drive, NE; 200 Wisteria Drive, NE and 1075 Jesse Jewell Parkway, SW from Planned Unit Development (P-U-D) and Office and Institutional (O-I) to Planned Unit Development (P-U-D) to expand the hospital campus.

**2020-** A request by Jennifer Walter to rezone 0.48± acre tract located at 522 South Enota Drive from Office and Institutional (O-I) to Neighborhood Business (N-B) for a retail store was approved with conditions.

**2018 –** A request by Atlas Development, LLC to rezone a 1.13± acres tract located at 1351 Park Hill Drive from Residential-II (R-II) to Office and Institutional (O-I) for a medical office was approved with conditions.

**2017 –** A request by JH Homes, Inc. to rezone a 21.87± acres tract located at 1024, 1030 and 1037 Pearce Way NE; and 0 South Enota Drive NE from Office and Institutional (O-I) to Residential-II (R-II) for 65 residential townhomes was approved with conditions.

**2017 –** A request by Hanh My Thi Doan for a special use within Office and Institutional (O-I) on a 0.52± acre tract located at 502 South Enota Drive for a nail salon was denied.

**2017 –** A request by the City of Gainesville to rezone a 53.177± acres tract located at 1514, 1515, 1545, 1560 and 1581 Community Way, NE from Residential-II (R-II) to Office and Institutional (O-I) for existing uses was approved.

**Staff Analysis**

**(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?**

The subject property is undeveloped but single-family homes were demolished over the past 10+ years. The adjacent properties consist of a mixture of single-family, multi-family, Gilford Clinic and Pleasant Union Baptist Church zoned R-II and L-I. Nonresidential uses are located nearby along Jesse Jewell Parkway including various medical offices and the Wee Willy's Retail/Gas Station. The proposed multi-family use could be considered somewhat of a transitional use even though nearby multi-family development is currently present along Myrtle Street such as the Myrtle Place Apartments and the Myrtle Terrace apartments.

**(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?**

The adjacent and nearby property will function similar to the nearby Myrtle Terrace Apartments located east of the property. Additional vehicular traffic is expected given the previous residential homes have been removed. The property is currently zoned R-II which allows for multi-family housing at a slightly lower density.

**(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?**

The Future Development Map for the City of Gainesville places the property within the *Single-Family Residential* land use category which includes areas containing or planned for single-family detached or semi-detached housing at densities ranging from two to four dwelling units per acre. The proposed residential density is 15.49 dwelling units per acre.

According to the Character Area map for the City of Gainesville, most of the subject property is located within the *Traditional Neighborhoods* Character Area which includes Parks and recreation, single-family residential, multi-family residential, limited general mixed-use, commercial (retail and office), and public and institutional uses. Although the area is mostly built-out, opportunities for infill development should be promoted as they arise, and neighborhood-serving businesses are encouraged.

**(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?**

The property is currently zoned R-II which allows for a residential density of up to 12 dwelling units per acre (50 units). The applicant desires to rezone the property to a Planned Unit Development (P-U-D) to allow for a mixture of housing for market rate and affordable housing units for families at a residential density of 15.49 du/ac. Of comparison, the adjacent 24-unit Myrtle Terrace Apartments have a residential density of 15.4 du/ac. Also, the nearby 160-unit Myrtle Terrace Senior Living community has a residential density of 15.0 du/ac.

**(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?**

Surrounding properties currently utilize City water and sewer services and there is sufficient capacity to serve the development.

Existing public safety services respond to the adjacent and nearby properties. Gainesville Fire Station #1 located off Queen City Parkway is approximately 1.8 miles away. Gainesville Fire Station #2 is located off Cleveland Highway and is approximately 3.1 miles away. Gainesville Police currently patrol the Athens Street area.

According to the Institute of Transportation Engineers (ITE) Trip Generation Handbook (9th Edition), the proposed 64-unit, apartment development could generate 426± new trips per weekday and 35± A.M. and 43± P.M. peak hour trips during the weekday. The existing road network appears sufficient to accommodate the proposal and it is anticipated that most of the turning movements will occur at Osborne Street and Jesse Jewell Parkway which is unsignalized and right in/right out only. Left turn or U-turn movements are required at the signalized intersection of Jesse Jewell Parkway and Barn Street.

It is unknown at this time how many children will be living within the development to know what the impact will be on the school system. Of the proposed 62 units, there are 32 one-bedroom, 24 two-bedroom and 8 three-bedroom units.

**(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?**

The subject property is zoned for multi-family purposes but was historically developed as single-family. The Comprehensive Plan anticipates the subject properties to be developed for single-family purposes but is located within a Traditional Neighborhood Character Area that supports a mixture of housing types including multi-family attached and detached housing. Given the subject property is zoned R-II and is vacant of structures, it is anticipated the property will be developed for multi-family purposes.

**(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?**

The proposal is consistent with the Traditional Neighborhoods Character Area and will bring needed quality and affordable residential development to Gainesville-Hall County. The proposed use appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this rezoning request with **P-U-D zoning**, based on the Comprehensive Plan and the adjacent and nearby mixture of residential uses.

**Conditions**

1. **The development standards within the narrative, site plan and architectural rendering submitted with the applicant's rezoning application shall be made part of the zoning ordinance and shall be subject to the approval of the Director of the Community and Economic Development Department.**
2. **The owner/developer shall plant a minimum 10-foot-wide evergreen buffer adjacent to the single-family home and church property that front Wall Street. The location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**
3. **The owner/developer shall construct a minimum 5-foot-wide sidewalk on the western side of Osborne Street and the northern side of Myrtle Street, to connect to the existing sidewalk network.**
4. **Any proposed dumpster shall be enclosed and screened from view from the adjoining properties, roads and parking areas.**
5. **All access point design for the subject property shall require review and approval by the Gainesville Public Works Department Director. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner.**
6. **An updated as-built survey/plat of the subject property, indicating all improvements shall be recorded prior to obtaining a Certificate of Occupancy for the use.**



# GAINESVILLE

Guilford Immediate Care

New Holland Knowledge Academy

Wisteria Building

Laurelwood

Diagnostic Clinic

Wee Willy's

Lanier Terrace Apartments

Myrtle Terraces I & II

Boys & Girls Club of Lanier

Fair Street IB World School

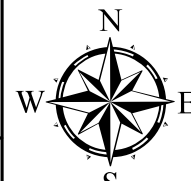
**Applicant:**  
**GAINESVILLE HOUSING AUTHORITY**  
**REZONING REQUEST**

**Request:**  
 Rezone +/- 4.13 AC from Residential-II (R-II) to Planned Unit Development (P-U-D) for multi-family housing.

**Subject Property Address:**  
 1197 & 1235 Myrtle Street, SE  
 452, 474 & 492 Osborne Street, SE  
 465, 471 & 481 Wall Street, SE

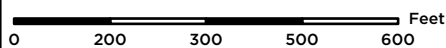
**Tax Parcel:**  
 01-035-001-005, 007, 008, 013, 013A,  
 017, 019 and 020

 Subject Property



Meeting Date: 04/08/2025

Map Prepared: 03/10/2025



Scale: 1" = 300'



# GAINESVILLE

Guilford  
Immediate Care

New Holland  
Knowledge Academy

Wisteria  
Building

Laurelwood

Diagnostic  
Clinic

Wee  
Willy's

Lanier Terrace  
Apartments

Myrtle  
Terraces I & II

Boys & Girls  
Club of Lanier

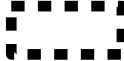
Fair Street IB  
World School

**Applicant:**  
**GAINESVILLE HOUSING AUTHORITY**  
**REZONING REQUEST**

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465, 471 & 481 Wall Street, SE

**Tax Parcel:**  
01-035-001-005, 007, 008, 013, 013A,  
017, 019 and 020

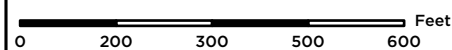
 Subject Property

Aerial from 2023



**Meeting Date:** 04/08/2025

**Map Prepared:** 03/10/2025



Scale: 1" = 300'

# Osborne Street Apartments

## A Planned Unit Development

### Terms of Zoning

**Applicant:**

Gainesville Housing Authority

Contact: Beth Brown

750 Pearl Nix Parkway

Gainesville, GA 30501

770-536-1294

**Property Owner:**

Northeast Georgia Health System, Inc.

Contact: NGHS Real Estate

743 Spring Street NE

Gainesville, GA 30501

770-219-8404

**Submitted:**

March 7, 2025

I. **Existing Site Description:**

The subject property consists of 8 parcels across 4.13 acres in between SE Wall Street, SE Osborne Street and SE Myrtle Street. The address of each parcel is as follows:

<u>Parcel ID</u>	<u>Address</u>	<u>Current Zoning</u>
01035 001005	465 SE Wall St	R-II
01035 001007	471 SE Wall St	R-II
01035 001008	481 SE Wall St	R-II
01035 001020	452 SE Osborne St	R-II
01035 001019	474 SE Osborne St	R-II
01035 001017	492 SE Osborne St	R-II
01035 001013A	1197 SE Myrtle Street	R-II
01035 001013	1235 SE Myrtle Street	R-II

Currently, the subject property consists of vacant land. Each parcel is currently zoned Residential-II District.

II. **Community Benefit:**

The proposed development will:

- Newly construct a mixed income community consisting of market rate workforce housing and affordable housing rental units.
- Provide a mixture of family and senior apartments across two phases.
- Assist the growing need for quality workforce and affordable housing in the Gainesville community.

The goal of the community is to increase the number and quality of affordable housing units within Gainesville which has been identified as a need by the Comprehensive Plan. Residents living within the community will be able to take advantage of the proximity of one of Gainesville’s largest employers, the Northeast Georgia Medical Center.

The new development will not displace any existing residents or structures as the land is currently unoccupied today.

III. **Plan Revisions:**

The staff of the Gainesville Community Development Department has the authority to grant administrative variances and permits necessary to allow Applicant to develop the property and to interpret the intent and implementation of this Agreement.

IV. **Proposed Development:**

The applicant is proposing a zoning change from R-II to PUD. The Applicant plans to develop these parcels through the use of public and private financing relying heavily on the Low-Income Tax Credit (LIHTC) program as the primary financial vehicle for residential development. The community will be built across 2 phases. The first phase will have a maximum of 64 units and 89 parking spaces.

The anticipated timing for each phase is as follows:

- February through May 2025 – Rezoning & Community Engagement
- May 2025 – Phase I 9% Application Submission
- October 2025 – Phase I 9% Award Received, Relocation Commencement
- May 2026 – Phase I Financial Closing, Demolition and Sitework Commencement (Phase I and Phase II site area), Phase I Construction Commencement
- Phase II Application Submission
- October 2026 – Phase II 9% Award Received
- May 2027 – Phase II Financial Closing and Construction Commencement
- September 2027 – Phase I Construction Completion
- December 2027 – Phase I Stabilization
- September 2028 – Phase II Construction Completion
- December 2028 – Phase II Stabilization

The proposed community will consist of one, four-story residential building with amenities. The community will be approximately 65 units consisting of 1-, 2-, and 3-bedroom apartment homes and 89 parking spaces. This phase will serve a variety of income levels, but primarily those with an income of around 60% of the area’s median income.

Anticipated amenities for the first phase of the community will be tailored for families. It is anticipated that the community will include a leasing office, community center, fitness center, and on-site laundry for interior amenities. For exterior amenities, it is anticipated that the community will enjoy an outdoor gathering space consisting of a covered porch, gazebo or playground. The community will be designed in an “urban” look with pitched roofs and a variety of architectural features. The primary entrance to the community will be off of Osborne Street.

The exterior elevations will include attractive materials such as brick, Hardie plank siding, decorative metal railing, standing seam roofs over breezeway entries, and

storefront windows at amenity areas along Osborne Street. Interior features will include spacious kitchens with large islands, walk-in closets, decorative lighting and a mix of hard surface and carpet flooring.

Along Wall Street, Osborne Street and Myrtle Street, there will be a 30-foot setback. The setbacks will improve the overall streetscape of the neighborhood and provide privacy and enhanced walkability for our residents.

V. **Architectural Rendering:**

The attached elevation is a close representation and may be modified upon the approval of the Gainesville Community and Economic Development Director.

VI. **Boundary Survey and Plat:**

The attached survey and plat of the Property was prepared by Travis Pruitt & Associates, Inc., Georgia Registered land surveyor contains 4.13 acres.

VII. **Signage:**

Primary signage will be located on Osborne Street and will include attractive landscaping. All signage will adhere to the Residential-II (R-II) zoning standards as stated within the Gainesville Unified Land Development Code.





1120 Jesse Jewell Pkwy

1120