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GOVERNOR



HAROLD LEGGETT, PH.D.  
SECRETARY

**State of Louisiana**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL SERVICES

JUL 3 1 2008

CERTIFIED MAIL#7008 1140 0002 5901 1081  
RETURN RECEIPT REQUESTED

FILE NUMBER: LA0120243  
AI NUMBER: 122552  
ACTIVITY NUMBER: PER20080001

Guste Island Utility Company  
Guste Island Wetland Assimilation Project  
845 Galvez Street  
Mandeville, LA 70448

Attention: Kelly J. McHugh, President

Subject: Minor Modification of Louisiana Pollutant Discharge Elimination System (LPDES) permit to discharge treated sanitary wastewater into the Guste Island Restoration Wetlands, thence into High Bridge Canal, thence into the Tchefuncte River, thence into Lake Pontchartrain from a privately owned treatment works serving the Guste Island Estates, Timberlane Subdivision, Belle Pointe Subdivision, a proposed residential development, and flow from a residential area previously served by S.E.L.A.

Dear Mr. McHugh:

This Office has issued a minor modification to LPDES permit LA0102687. The modification is as follows:

Additional monitoring has been added as Part II, Section B, Number 6.

Attached are the revised Title Page and the modified pages of the permit. All other conditions of the permit LA0120235 shall continue unchanged and remain valid until the expiration date of the permit.

**To ensure that all correspondence regarding this facility is properly filed into the Department's Electronic Data Management System, you must reference your Agency Interest number AI 122552 and LPDES permit number LA0120243 on all future correspondence to this Department, including Discharge Monitoring Reports.**

In accordance with Part II, Paragraph 10 of the permit, monitoring results should be reported on a Discharge Monitoring Report (DMR) form as per the schedule specified. A copy of the form to be used is attached for your convenience.

Pursuant to LAC 33.IX.1309.I, LAC 33.IX.6509.A.1 and LAC 33.I.1701, you must pay any outstanding fees to the Department. Therefore, you are encouraged to verify your facility's fee status by contacting LDEQ's Office of Management and Finance, Financial Services Division at (225) 219-3863.

Guste Island Utility Company  
Guste Island Wetland Assimilation Project  
Minor Modification  
RE: LA0120243; AI122552; PER20080001  
Page Two

Failure to pay in the manner and time prescribed could result in applicable enforcement actions as prescribed in the Environmental Quality Act, including, but not limited to revocation or suspension of the applicable permit, and/or assessment of a civil penalty against you.

Should you have any questions concerning this modified permit, please contact Mr. Eura DeHart, Office of Environmental Services, Water Permits Division, Municipal and General Water Permits Section, at the address on the preceding page or telephone (225) 219-3092.

Sincerely,



Cheryl Sonnier Nolan  
Assistant Secretary

ed

Attachments (Modified Permit Title Page and Part II, Section B, Pages 8-10)

cc: IO-W

ec: Eura DeHart  
Ronnie Bean  
Todd Franklin  
Water Permits Division  
  
Kris Pintado  
Dugan Sabins  
Office of Environmental Assessment  
  
Ms. Evelyn Rosborough, 6WQ-CA  
U.S. EPA, Region VI  
  
Public Health Chief Engineer  
Office of Public Health  
Department of Health and Hospitals

Permit Compliance Unit  
Office of Environmental Compliance

Blaise Guzzardo  
Southeast Regional Office  
Office of Environmental Compliance

Ann Hill  
Legal Affairs Division  
Office of the Secretary

Lisa Jordan  
Tulane Environmental Law Clinic



PERMIT NUMBER: LA0120243  
AGENCY INTEREST NO.: 122552

**OFFICE OF ENVIRONMENTAL SERVICES**  
**Water Discharge Permit**

Pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq.), and the Louisiana Environmental Quality Act, as amended (La. R. S. 30:2001 et seq.), rules and regulations effective or promulgated under the authority of said Acts, and in reliance on statements and representations heretofore made in the application, a Louisiana Pollutant Discharge Elimination System permit is issued authorizing

Guste Island Utility Company  
Guste Island Wetland Assimilation Project  
845 Galvez Street  
Mandeville, LA 70448

**Type Facility:** privately owned treatment works serving the Guste Island Estates, Timberlane Subdivision, Belle Point Subdivision, a proposed residential development, and flow from a residential area previously served by S.E.L.A.

**Location:** Guste Island Road off of Highway 22 in Madisonville, St. Tammany Parish

**Receiving Waters:** Guste Island Restoration Wetlands, thence into High Bridge Canal, thence into the Tchefuncte River, thence into Lake Pontchartrain (040803)

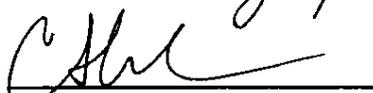
to discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III attached hereto.

This permit and the authorization to discharge were effective on January 7, 2008, and shall expire five (5) years from the effective date of the permit.

This permit has not been previously modified.

This Modification shall become effective on *01 August 2008*

Issued on *30 July 2008*

  
Cheryl Sonnier Nolan  
Assistant Secretary

### OTHER REQUIREMENTS (cont.)

3. **If loading rates exceed 15 g/m<sup>2</sup>/yr total nitrogen or 4 g/m<sup>2</sup>/yr total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.**
4. The following actions shall be performed by the permittee for establishment of a hardwood/swamp forest:
  - a. Seedlings of bald cypress, tupelo gum (*Nyssa aquatica*), green ash (*Fraxinus pennsylvanica*), and red maple (*Acer rubrum v. drummondii*) shall be planted in assimilation area between January 15 and May 31, 2008. The plantings shall occupy a spacing of 12 feet by 12 feet.
  - b. A survival rate of 50% shall be required. Replantings shall be conducted as necessary but not less than annually between January 15 and February 28 of each year for the first five years of the permit if the 50% survival rate is not met.
  - c. Monitoring of the survival rate will be accomplished by establishing three (3) 10 x 100 m quadrates and monitoring the plantings in the quadrates in the assimilation area. These quadrates shall be different from those established for wetland monitoring requirements established above.
  - d. Firebreaks will be established around the perimeter of the planting area or at intervals deemed necessary by Guste Island Utilities.
  - e. A discussion of the plantings, survival rate, and additional plantings must be reported each year in the Annual Wetland Monitoring Report.
5. **The following monitoring shall be conducted at the pumping station at High Bridge Canal until removal of the levee: total nitrogen, total phosphorus, and ammonia. The monitoring shall be conducted quarterly and reported in the Annual Wetland Monitoring Report.**
6. Inorganic nitrogen (nitrate) shall be monitored in the reference area and at the pumping station at High Bridge Canal until removal of the levee at High Bridge Canal. The monitoring shall be conducted quarterly and reported in the Annual Wetland Monitoring Report. The concentration of nitrate at the reference area and at the pumping station at High Bridge Canal shall be compared using the Tukey-Kramer Honestly Significant Difference (HSD) test (Sall and Lehman 1996) with an alpha probability level of <0.05 to define a significant difference. If a statistically significant increase in nitrate is detected at the pumping station at High Bridge Canal for two consecutive quarters, the facility shall increase the monitoring frequency to once per month and results shall be reported monthly to the Department for the remainder of the permit. During the increased monitoring frequency period, if a statistically significant increase in nitrate is detected at the pumping station at High Bridge Canal for two consecutive months, the facility shall investigate the cause of the elevated levels of nitrate in the assimilation area. Within sixty (60) days of detecting two consecutive monthly increases, the permittee shall submit to the Office of Environmental Services a written report of the cause of the elevated levels of nitrate and the measures being taken to secure abatement. The Department reserves the right to establish additional requirements based upon the results of submitted analyses and/or findings of the report.

**Suggestions for sampling during the wetland monitoring phase.** These suggestions are from *The Use of Louisiana Swamp Forests for Application of Treated Municipal Wastewater: Standard Operating Procedures for Monitoring the Effects of Effluent Discharge*. John W. Day, Jr., Joel Lindsey, Jason N. Day, and Robert R. Lane, Comite Resources, Inc. (Used with the permission of Dr. John W. Day, Jr., March 14, 2003)

### WATER QUALITY

1. **Dissolved oxygen and water temperature:** is measured using a Yellow Springs Instrument Co. meter or an ORION Model 820 Dissolved Oxygen meter or equivalent. The probe will be calibrated within four hours of use with a known standard (100% air saturation).
2. **pH & TDS:** Measurements of pH and TDS (Total Dissolved Solids) are made in the field using a Corning Checkmate M90 Field System or equivalent. Water samples will be collected in 500 ml polyethylene bottles and returned to the laboratory where pH will again be measured in the lab using a Jenco Markson pH meter, Model 6100 or equivalent.

## OTHER REQUIREMENTS (cont.)

3. **Nutrients:** Discrete water samples will be taken 5 to 10 cm below the water surface with effort taken not to stir bottom sediments or include any film that may be present on water surface. Samples are collected in 500 ml acid washed polyethylene bottles. The samples will be immediately stored at 4°C, on ice, for preservation. The samples will be transported to an analytical laboratory, and within 24 hours filtered and sub-sampled. Samples analyzed for NO<sub>2</sub> + NO<sub>3</sub>, NH<sub>4</sub> and PO<sub>4</sub> will be filtered in the laboratory using 0.45 um Whatman GF/F glass fiber filters or equivalent, and unfiltered samples will be sub-sampled into 125 mL bottles. Both filtered and unfiltered samples will be frozen until analysis. The samples will be analyzed for nitrite + nitrate (NO<sub>2</sub>+NO<sub>3</sub>-N), ammonium (NH<sub>4</sub>-N), total nitrogen (TN), total phosphorus (TP), and phosphate (PO<sub>4</sub>-P) by an EPA and DEQ approved analytical laboratory using Standard Methods.
4. **Total Suspended Solids:** TSS will be determined by filtering 100-200 mL of sample water through re-rinsed, dried and weighed 47 mm 0.45 um Whatman GF/F glass fiber filters. Filters will then be dried for 1 hr at 105° C, weighed, dried for another 15 minutes, and reweighed for quality assurance (Standard Methods 1992).
5. **Biological Oxygen Demand:** BOD samples will be collected in standard 300 ml glass BOD bottles. BOD<sub>5</sub> analysis will be from water samples collected in 500ml polyethylene bottles, stored on ice and taken to the laboratory for analysis. Initial D.O. will be measured within 24 hours. Final D.O. will be measured after 5 days of incubation at 20°C. Measurement of BOD is the responsibility of the facility.
6. **ICP Analysis:** Water samples will be collected from the effluent pipe and surface water in the treatment and control area for ICP and IC analysis. The following will be measured: Mg, Pb, Zn, and Cr. The results of the ICP and IC analysis will be used in reporting the metals and nutrient parameters.
7. **Coliform Analysis:** Fecal coliform (i.e. *Escherichia coli*) will be tested using membrane filtration as a field preparation, and then sent to an EPA certified laboratory for analysis. Ten ml of sample water will be passed through a 0.45 micron filter. The filter will be stored in a sterile petri dish and brought within 8 hrs to a certified laboratory for analysis.
8. **Statistical Analysis:** One-way analysis of variance analysis will be carried out to compare treatment and control area parameters using statistical software. An alpha probability level of <0.05 will be used to define a significant difference. Comparisons of means with significant ANOVA tests will be made using Tukey-Kramer Honestly Significant Difference (HSD) test (Sall and Lehman 1996). Other statistical tests may be used as appropriate.

## SOILS

1. **Sediment Cores:** At least one sediment core will be taken from each study site (Treatment & Control) with a 7.5 cm stainless steel corer. Following the removal of large litter debris, the top 10 to 20 cm of the samples will be separated by horizon, dried, ground and analyzed. Parameters measured will include: pH, electrical conductivity (EC), Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se, NH<sub>3</sub>-N, NO<sub>2</sub>+NO<sub>3</sub>-N, PO<sub>4</sub>-P, TKN, and TP. All elemental analyses will be done using an inductively coupled argon plasma quantometer (ICP). Results will be reported as the average of duplicate analyses that are within a 10% confidence interval. The results will be based on oven dry weight.

## OTHER REQUIREMENTS (cont.)

### VEGETATION

To sample forest vegetation, three or more subplots should be established at each main plot. Normally, main plots will be established at a near, mid, and outlet locations in the Treatment site, and another main plot established at a Control site. The plots will be orientated perpendicular to the hydrological gradient.

1. **Tree Species Composition:** The relative importance of each major tree species in both the treatment and control areas will be based on the density (total number) and frequency of occurrence in each of the plots using equations 1 and 2 (Barbour et al. 1987).

$$\text{Relative density} = (\text{individuals of a species})/(\text{total individuals of all species}) \quad (1)$$

$$\text{Relative frequency} = (\text{frequency of species})/(\text{total frequency of all species in area}) \quad (2)$$

2. **Nutrient and Metals Analysis of Green Leaves:** Green leaf samples should be collected during the last year of the monitoring from the major species in the treatment and control areas, once during March through May and once during September through November. Samples will be oven-dried at 70°C for at least 48 hours, ground in a Wiley mill to pass a 40 mesh screen, and stored in whirl-pak bags. Samples will be analyzed in the laboratory for Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se, TKN and TP. The tissue analyses should be done by a wet digestion method.
3. **Marsh Vegetation Production:** Net production in areas dominated by non-woody herbaceous vegetation will be determined by end of season live (EOSL) biomass analysis. Sampling should be conducted during the last week of September or the first week of October. At least five 0.06 m<sup>2</sup> clip plots will be taken at each location using randomly placed quadrants. Vegetation within the quadrant will be cut as close to the surface as possible, stored in labeled paper bags, brought back to the laboratory, and refrigerated until processing. Live material will be separated from dead, and dried at 60° C to a constant weight. All data will be presented on a live dry weight per square meter basis (g dry wt m<sup>-2</sup>).



# DMR Instructions

(from back of DMR)

## PAPER WORK REDUCTION ACT NOTICE

Public reporting burden for this collection of information is estimated to vary from a range of 10 hours as an average per response for some minor facilities, to 110 hours as an average per response for some major facilities, with a weighted average for major and minor facilities of 18 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and

## GENERAL INSTRUCTIONS

1. If form has been partially completed by preprinting, disregard instructions directed at entry of that information already pre-printed.
2. Enter "Permittee Name/Mailing Address (and facility name/ location, if different)," "Permit Number," and "Discharge" where indicated. (A separate form is required for each discharge.)
3. Enter dates beginning and ending "Monitoring Period" covered form where indicated.
4. Enter each "Parameter" as specified in monitoring requirements of permit.
5. Enter "Sample Measurement" data for each parameter under "Quantity" and "Quality" in units specified in permit. "Average" is normally arithmetic average (geometric average for bacterial parameters) of all sample measurements for each parameter obtained during "Monitoring Period"; "Maximum" and "Minimum" are normally extreme high and low measurements obtained during "Monitoring Period". (Note to municipals and secondary treatment requirement: Enter 30-day average of sample measurements under "Average", and enter maximum 7-day average of sample measurements obtained during monitoring period under "Maximum.")
6. Enter "Permit Requirement" for each parameter under "Quantity" and "Quality" as specified in permit.
7. Under "No Ex" enter number of sample measurements during monitoring period that exceeded maximum (and/or minimum or 7-day average as appropriate) permit requirement for each parameter. If none, enter "0".
8. Enter "Frequency of Analysis" both as "Sample Measurement" (actual frequency of sampling and analysis used during monitoring period) and as "Permit Requirement" specified in permit. (e.g. Enter "Cont," for continuous monitoring, "1/7" for one day per week, "1/30" for one day per month, "1/90" for one day per quarter, etc.)
9. Enter "Sample Type" both as "Sample Measurement" (actual sample type used during monitoring period) and as "Permit Requirement", (e.g. Enter "Grab" for individual sample, "24HC" for 24-hour composite, "CONT" for continuous monitoring, etc.)
10. Where violations of permit requirements are reported, attach a brief explanation to describe cause and corrective actions taken, and reference each violation by date.
11. If "No Discharge" occurs during monitoring period, check the box for "No Discharge", or if no box is present please write the words "NO DISCHARGE" across the DMR Form.
12. Enter "Name/Title of Principal Executive Officer" with "Signature of Principal Executive Officer or Authorized Agent", "Telephone Number", and "Date" at bottom of form.
13. Mail signed Report to Office(s) by date(s) specified in permit. Retain copy for your records.
14. More detailed instructions for use of this Discharge Monitoring Report (DMR) form may be obtained from Office(s) specified in permit.
15. Facilities using the digital form of the DMR must first obtain approval from the NPDES authority in their state. The parameters and data on the form must be mono-spaced (e.g. Courier) and have a size of 10 pitch (12 points). Approval for EPA Region 6 can be obtained by contacting Cathy Bius at (214)665-6456. Permittees holding a storm water general permit in New Mexico, Texas, or Oklahoma do not need approval if they use the correct type as specified above. THE FORM MAY NOT BE ALTERED IN ANY MANNER.

## LEGAL NOTICE

This report is required by law (33 U.S.C. 1318; 40 C.F.R. 125.27). Failure to report or failure to report truthfully can result in civil penalties not to exceed \$10,000 per day of violation; or in criminal penalties not to exceed \$25,000 per day of violation, or by imprisonment for not more than one year, or by both.

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**OFFICIAL USE**

Kelly J. McHugh, President  
Guste Island Utility Company  
Guste Island Wetland Assimilation Project  
845 Galvez Street  
Mandeville, LA 70448

Street, Apt. No.,  
or PO Box No.  
City, State, ZIP+4

PS Form 3800, August 2006

See Reverse for Instructions