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SECTION 01100 - GENERAL PROVISIONS

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1. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

(a) This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause in Section 00700, entitled DEFAULT (FIXED PRICE CONSTRUCTION) (FAR 52.249-10). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied.

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

(b) The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) for temperature, precipitation and wet ground conditions or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all-weather dependent activities. Also considered in the chart below was wind, fog, high or low tides, etc.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORKDAYS
BASED ON (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8	8	7	6	6	7	8	10	5	4	4	9

(c) Upon receipt of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day.

(d) The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), and shall be calculated chronologically from the first to the last day of each month, and shall be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in

paragraph b, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause in Section 00700, entitled DEFAULT (FIXED PRICE CONSTRUCTION) (FAR 52.249-10).

2. DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause in Section 00700, entitled PERMITS AND RESPONSIBILITIES (FAR 52.236-7). However, if, in the judgment of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood, earthquake, hurricane, or tornado which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit price or job prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there is no contract unit or job prices applicable to any part of such work, an equitable adjustment shall be made pursuant to the Contract Clause in Section 00700, entitled CHANGES (FAR 52.243-4). Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

3. SAFETY PROVISIONS

The safety provisions as specified herein refer to the November 2014 edition of EM 385-1-1. The current document can be found at http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf

(a) Mishap Reporting and Investigation. Refer to EM 385- 1-1, Section 01.D. Reports shall be submitted on ENG Form 3394. Accidents shall be investigated, and reports completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or his/her representative within one working day after the accident occurs. All data reported must be complete, timely and accurate. A follow-up report shall be submitted when the estimated lost time days differs from the actual lost time days.

(b) Accident Prevention Plan (APP). (See the Contract Clause in Section 00700, entitled ACCIDENT PREVENTION (FAR 52.236-13).) Within 15 days after receipt of Notice of Award of the contract, and at least 7 days prior to the prework conference, four copies of the Accident Prevention Plan shall be submitted to the Contracting Officer for review and acceptance. The plan shall be prepared in the following format:

(1) Executed CESO Form A-02), Accident Prevention Plan Checklist (the "fillable form" can be obtained from: http://www.usace.army.mil/Portals/2/docs/Safety/EM%20385-1-1,%202014%20Sections/Checklists/CESO%20Checklist%20A-02%20Accident%20Prevention%20Plan.pdf)

(2) Activity Hazard Analysis (AHA) Form, Figure 1-2 in Section 1 "Program Management" of EM 385-1-1. (attached at the end of this section). The Contractor shall address each of the elements/sub-elements in the outline contained in Appendix A of EM 385-1-1 in the order that they are provided in the manual. If an item is not applicable because of the nature of the work to be performed, the Contractor shall state this exception and provide a justification.

(3) A copy of company policy statement regarding accident prevention.

(4) When marine plant and equipment are in use under a contract, the method of fuel oil transfer shall be included on MVN Form 385-10 (Latest Edition), Fuel Oil Transfer (attached at the end of this section), (Refer to 33 CFR 156).

(5) EM-385-1-1 01.A.14, subparagraph (a), requires a hazard analysis for all features of work. For this contract, these hazard analyses shall be submitted with the rest of the APP for review before work begins. Hazard analysis may be refined and resubmitted at a later date if the Contractor chooses.

The Contractor shall not commence physical work at the site until the Contracting Officer, or his/her authorized representative has accepted the Accident Prevention Plan. The Contractor may submit its Accident Prevention Plan only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

(c) Comprehensive Hazard Communication Program. The Contractor shall develop, implement, and maintain at the workplace a written, Comprehensive Hazard Communication Program (see Section 06.B.01 of EM 385-1-1) that includes identification of potential hazards as prescribed in 29 CFR Part 1910.1200 and/or 1926.59, effects of exposure and control measures to be used for chemical products and physical agents that may be encountered during the performance of work on this contract, provisions for container labeling, Safety Data Sheets, and employee training program, and other criteria in accordance with 29 CFR Part 1910.1200 and/or 1926.59. Training shall include communication methods and systems to be used (i.e., voice, hand signals, radios or other means), and training in the use and understanding of safety data sheets

and chemical product hazard warning labels. Prior to bringing hazardous substances, as defined in 29 CFR 1910.1200 and/or 1926.59, onto the job site, a copy of the Hazard Communication Program and the Safety Data Sheets of each substance shall be submitted to the Contracting Officer and made available to the Contractor's employees as part of its Accident Prevention Plan. A site map shall be attached to the inventory showing where the inventoried hazardous substances are stored. The inventory list and site map shall be updated monthly to assure accuracy.

(d) Daily Inspections. The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the jobsite in accordance with Section 01 45 04.00 10, "CONTRACTOR QUALITY CONTROL". The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:

(1) Phase(s) of construction underway during the inspection.

(2) Locations of areas where inspections were made.

(3) Results of inspections, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

(e) Safety Sign. The Contractor shall furnish, erect, and maintain a safety sign at the site where indicated by the Contracting Officer. The sign shall conform to the requirements of this paragraph and the drawing included at the end of this section. The lettering shall be black, the safety circle and cross green, and the background white. When placed on a floating plant, the sign may be half size. The sign shall be erected as soon as practicable, but not later than 15 calendar days after the date established for commencement of work. The data required shall be current. The sign coordinator is Timothy Lacoste @ 504-862-2663.

(f) Ground Fault Protection. Electrical equipment used on this contract shall be equipped with ground fault circuit interrupters in accordance with EM 385-1-1, Section 11.D.05.

(g) Hurricane Plan. The Contractor shall prepare a detailed Hurricane Plan to protect personnel and equipment in the event of an impending storm. The plan shall include at least the following:

(1) Sealing Operation: The Contractor shall submit with his Hurricane Plan a method for sealing any degrassed area prior to evacuation from the construction site. Sealing must be performed with equipment exerting a ground force of not less than 6.0 psi. If a dozer is used to seal the embankment, it shall not weigh less than 20,000 lbs. Initial passes shall be

parallel to the levee centerline, and the final pass shall be perpendicular to the levee centerline. Sealing equipment shall remain on site at all times between 1 June and 30 November.

(2) The time when each phase will be put into effect. This time is the number of hours remaining for the storm to reach the work site if it continues at the predicted speed and direction.

(3) The estimated time necessary to implement emergency flood protection, secure the site, and evacuate all personnel.

The Hurricane Plan is required as an enclosure to the Contractor's Accident Prevention Plan. It shall be submitted to the Contracting Officer, or his/her representative, for review and approval prior to the preconstruction conference. No separate measurement or payment will be made for the Hurricane Plan. Payment shall be distributed amongst the existing bid items. Payment for all work associated with the Hurricane Plan, and providing the equipment required for the duration specified, shall be distributed amongst the existing bid items.

(h) Cranes. The Contractor (including subcontractors) shall have cage boom guards, insulating links, or proximity warning devices on cranes that will be working adjacent to power lines. These devices shall not alter the requirements of any other regulation of this part - even if such device is required by law or other regulation. Insulating links shall be capable of withstanding a 1-minute dry low frequency dielectric test of 50,000 volts, alternating current (EM 385-1-1, Section 11.F.08). Calibration records or stamped date of required manufacturer inspection of proximity warning devices shall be kept on the crane. Additionally, prior to any work commencing an Activity Hazard Analysis (EM 385-1-1, Fig.1-2) identifying and satisfying EM 385-1-1, Section 11.A.02, 11.F.03, 11.F.04, 11.F.05, and Table 11-1 requirements shall be submitted and accepted by the Contracting Officer.

(i) Site Safety and Health Officer (SSHO). The Contractor shall have a qualified Site Safety and Health Officer (SSHO) on the construction site at all times that work is being performed to manage the Contractor's Accident Prevention Plan. The SSHO shall be a full-time responsibility and shall have no other duties (see EM 385-1-1, paragraph 01.A.17). The person(s), as a minimum, shall have completed the 30-hour OSHA Construction Industry Safety Class (may be web-based training if the student is able to directly ask questions of the instructor by chat / phone) or an equivalent course (see Appendix A, paragraph 3.d.(3)) applicable to the work to be performed, and given by a qualified instructor. Such training shall have been completed within the last three (3) years. SSHO's shall maintain competency through taking 8 hours of documented formal, on-line, or self-study safety and health coursework every year. For projects with multiple shifts, an alternate SSHO shall be assigned to assure coverage of the project during all working hours. Alternate SSHO's (as listed in the Contractor's APP)

must meet the same requirements as the primary SSHO. Alternate SSHO's may hold other positions when not functioning as an SSHO.

(j) Hazardous Energy Protection. The Contractor shall develop, implement and maintain at the workplace, a written Control of Hazardous Energy (Lockout/Tagout) System. Refer to Section 12 of EM 385-1-1.

4. INSPECTOR'S FIELD OFFICE

(a) The Contractor shall furnish, throughout the contract period, for the exclusive use of the Government employees, a temporary waterproof building, or trailer, to be utilized as a field office. It shall be conveniently located at the site of construction and shall be independent of any building, or trailer, used by the Contractor. Toilet facilities and potable water, including bottled water with water cooler, shall be provided within the Inspector's office. It shall be equipped with approved electrical wiring, private telephone service, a fax / copier / printer / scanner machine. It shall be equipped with 3 ceiling lamps, 3 double convenience outlets, and the required switches and fuses, to provide 110-volt power for lighting and operating a laptop computer and printer. It shall be equipped with an air conditioning unit to provide cooling in warm or hot weather, and a heater, properly installed and vented in accordance with the National Fire Protection Association Code, for heating in cold weather, as required. The Contractor shall make the necessary arrangements to obtain or to generate the power required to operate the air conditioning unit, lights, and laptop computer and printer, and the power or fuel required for the heater, and shall bear the cost thereof. A drafting table providing a working surface having dimensions of at least 4-feet by 6-feet (which may consist of a piece of plywood, at least 3/4-inch thick, hinged to a wall of the building with hinged legs) shall be installed in the building. The building shall have a built-in locker, extending from the floor to the ceiling, having dimensions of at least 2- feet by 5-feet, with a shelf 12-inch from the top, and one door equipped with two hinges, a hasp and a padlock. All exterior doors and window frames of the building shall be equipped with iron security guards. The door shall also be equipped with butt hinges and a cylinder lock. One draftsman's stool, two strong chairs and two desks shall be provided. The building or trailer shall conform to the following minimum requirements:

Ceiling height, not less than	6-feet 9-inches
Floor space, no less than	240 square feet
Windows, not less than	4
Doors, outside	2
Rooms	3

Screens over windows; walls and ceilings shall be insulated; and interior walls finished.

(b) The building, or trailer, shall be removed by the Contractor after completion of all work under this contract and before final acceptance thereof. No separate payment will be made for furnishing, maintaining, providing the prescribed utilities, and removing the inspector's field office. The cost of the same shall be distributed throughout the existing bid items. In the event the Contractor fails to furnish the required facilities, the Government may elect to procure the required facilities and deduct all costs from amounts due or to become due under this contract.

(c) The Contractor shall provide daily janitorial services for this and other buildings at the site throughout the life of the contract. The cost of this service shall be distributed throughout the existing bid items and there shall be no separate payment.

(d) The Contractor shall provide the inspector's field office with a hard line broadband high speed internet service and associated equipment for the exclusive use of the Government. If this service is not practical at the jobsite, the Contractor may instead provide the inspector's field office with a cellular wireless Broadband / WiFi 802.11n capable router that accepts cellular data signals through Express Card / Air Card or USB modems. This service must be capable of providing adequate connection to allow the inspectors to import/export files through RMS. The Contractor must field verify that the service provider chosen has adequate continuous coverage at the construction site. This service shall provide a minimum download speed of 20 Mbps and a minimum upload speed of 5 Mbps. The Contractor shall be responsible for the installation, the maintenance of, and the monthly service fees necessary to provide continuous high speed internet service for the duration of the contract.

(e) The Government and Contractor's field offices shall be placed within the location and limits of the Government environmentally cleared right of way (ROW) or Limits of Construction (LOC).

5. PROJECT SIGN

Prior to commencement of work, the Contractor shall construct a project sign at the site of the work at a location directed by the Contracting Officer. The sign, which will identify the work with the Corps of Engineers shall be 4 feet by 6 feet in size and shall conform to the requirements of the PROJECT SIGN drawing and installation instructions attached at the end of this section. The lettering for the 2 feet by 4 feet section of the sign with the Corps logo and Army Star shall be white; all other lettering shall be black. Lettering for the project name shall be Helvetica Bold, all other lettering shall be Helvetica Regular. The sign coordinator is Timothy Lacoste @ 504.862.2663. No separate payment will be made for construction and erection of the

project sign and all costs in connection therewith will be considered an incidental obligation of the Contractor. Upon completion of the work, the sign shall become the property of the Contractor and shall be removed from the job site.

6. RIGHTS-OF-WAY

a. The rights of entry required for the work to be constructed under this contract, within the rights-of-way limits indicated on the drawings, have been obtained by the Government and are provided without cost to the Contractor. The Contractor shall make its own investigations to determine the conditions, restrictions, and difficulties that may be encountered in the transportation of equipment and material to and from the work site. The proposed work, including rights-of-way, as defined by these specifications, and as shown on the drawings, is in compliance with all applicable Federal and state environmental laws and regulations. Upon completion of the Contractor's work, rights-of-way furnished by the Government shall be returned to its original condition prior to construction unless otherwise noted.

b. If the Contractor proposes a deviation from the Government furnished rights-of-way for his convenience, the Contractor shall notify the Contracting Officer or its representative in writing. Contractor shall not provide any permanent rights-of-way for the project. The Contractor is cautioned that any deviation to the Government furnished rights-of-way is subject to all applicable Federal and state environmental laws and regulations. Compliance with these environmental laws and regulations may require additional National Environmental Policy Act (NEPA) documents, cultural resources surveys, coordination with the Louisiana State Historical Preservation Officer, water quality certification, modification of the Federal consistency determination, etc. The Government is ultimately responsible for environmental compliance; therefore, the Government will determine the additional environmental coordination and documentation necessary for a proposed deviation to the Government furnished rights-of-way. For any environmental investigations the Government is to perform on areas outside of Government furnished rights-of-way, the Contractor shall provide sufficient rights of entry to the Government. The Contracting Officer will advise the Contractor of the additional environmental coordination and documentation that must be completed. The Government shall be responsible for any additional environmental compliance; however, the Contractor may conduct specific tasks identified by the Government. The Government will offer advice and assistance to the Contractor in conducting these tasks. Depending on the environmental impact of the proposed deviation, obtaining the coordination and documentation may not be approved or could take as much as 180 days for approval by the Government. The Government must review, approve and ensure distribution of all environmental compliance documentation and ensure all comments on the same have been resolved before any utilization of any areas outside of the Government furnished rights-of-way. The Contractor shall reimburse the Government for actual expenses incurred for assistance in completing or

attempting to complete additional environmental coordination and documentation, which expenses will not exceed one hundred thousand ($100,000.00.) dollars. There is no guarantee that environmental compliance will be obtained; therefore, the Contractor shall assume all risks and liabilities associated with pursuing a deviation. Any delays resulting from the deviation and/or the environmental coordination and documentation shall not be made the basis of any Contractor claim for increase in the contract cost and/or increase in contract time. Deviations will be at Contractor's sole risk and liability, including, but not limited to, such liabilities associated with items such as hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et. seq.), and at no cost to the Government. Government assistance in obtaining additional environmental clearances does not relieve the Contractor of responsibility for complying with other Federal, state or local licenses and permits.

c. The Contractor shall stake out and flag the project right of way limits at 500-foot intervals as well as at directional changes. The Contractor is responsible for maintaining the project right-of-way limits.

7. CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet specified requirements.

8. ENVIRONMENTAL LITIGATION

(a) The term "environmental litigation", as used herein, means a lawsuit alleging that the work has an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

(b) If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined above , the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If the order is not due in any part to acts or omissions of the Contractor (or a Subcontractor at any tier) other than as required by this

contract, such suspension, delay, or interruption shall be as if ordered by the Contracting Officer under the Contract Clause in Section 00700, entitled SUSPENSION OF WORK (FAR 52.242-14). The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

9. UTILITIES AND IMPROVEMENTS

(a) All known utilities within the limits of the work, such as pipes, communication lines, power lines, etc., that would interfere with construction work will be removed, modified or relocated by local interests or utility companies at no cost to the Contractor unless otherwise noted in the plans and/or specifications. The Contractor, however, shall cooperate with the authorities or company representatives and shall conduct his/her operations in such manner as to result in a minimum of inconveniences to the owners of said utilities. The Contractor shall notify each utility owner by certified mail 45 days, 15 days, and again 72 hours prior to the date utilities must be moved and provide a copy of these notifications to the Contracting Officer. The Contractor shall contact Louisiana One Call at 1-800-272-3020 to verify utility lines crossing levee, prior to start of construction features.

(b) Any unidentified pipes or structures which may be found within the limits of the work during the course of construction shall not be disturbed nor shall construction or excavation be performed at these locations unless and until approved by the Contracting Officer.

(c) The temporary access road(s) shall not be used for any purpose(s) such that an individual vehicle loading would exceed individual vehicle load limits as specified in paragraph WEIGHT LIMIT RESTRICTIONS OVER PIPELINE CROSSINGS, and shall be in accordance with the following:

(1) Two-way traffic (double lane) for traffic of non-permitted vehicles is allowed.

(2) Single Lane (one way) of traffic for specialty equipment requiring a permit, including custom axle configurations, and permitted loads.

(3) All vehicles shall comply with LADOTD load requirements, including 650 pounds per square inch width of tire.

(4) All permitted loads shall have documentation, weight per axle group, and axle configurations submitted to Non-Federal Sponsors prior to crossing pipeline ROW.

(5) Access roads shall be maintained while construction is ongoing at the design elevation and properly maintained to prevent rutting.

(d) The followings are facility owners' contact information.

ENTERGY DISTRIBUTION
Gabrianna Excamilla
(985)479-2030 Office
(409)350-8413 Cell
gescami@entergy.com

SHELL
Damien Cambre
(504)425-1797 Office
(225)921-3594 Cell
Damian.cambre@shell.com

ENTERPRISE
Cameron Lair
(713)381-6500 Office
clair@eprod.com

PRAXAIR
John Mach
(716)465-1908 Office
John.mack@praxair.com

ENLINK
Lance Arcement
(225)385-3148 Office
Lance.arecement@elink.com

PHILLIP 66
Jenna Leger
(337)491-4829 Office
(377)499-1426 Cell
Jenna.leger@p66.com

MAUREPAS PIPELINE CO.
Allan Dye
(918)524-7320 Office
(918)625-1760 Cell
adye@semgroupcorp.com

10. STONE SOURCES

(a) On the basis of information and data available to the Contracting Officer, stone meeting the quality requirements of these specifications has been produced from the listed stone sources attached at the end of this section.
(b) Stone may be furnished from any of the listed STONE SOURCES (attached at the end of this section), or at the option of the Contractor may be furnished from any other source designated by the Contractor and accepted by the Contracting Officer, subject to the conditions hereinafter stated.

(c) The Contractor shall determine that the stone source or combination of sources selected is capable of supplying the quantities and gradation needed and at the rate needed to maintain the scheduled progress of the work.

(d) After the award of the contract, the Contractor shall designate in writing only one source or one combination of sources from which he/she proposes to furnish stone. If the Contractor proposes to furnish stone from a source not listed in STONE SOURCES (attached at the end of this section) , he/she may designate only a single additional source for stone. Samples for acceptance testing shall be provided as required by Section 35 31 19.04 12. If a source for stone so designated by the Contractor is not accepted for use by the Contracting Officer, the Contractor may not propose other sources but shall furnish the stone from a source listed in STONE SOURCES (attached at the end of this section) at no additional cost to the Government.

(e) The listings of the names of the stone suppliers does not constitute an endorsement of such companies. Acceptance of a source of stone is not to be construed as acceptance of all material from the source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. Materials produced from a listed or unlisted source shall meet all requirements of Section 35 31 19.04 12.

11. CLAY SOURCES

a. On the basis of information and data available to the Contracting Officer, the commercial borrow sources designated below have been studied by the Government for environmental concerns and soil suitability. The designated sites, below, may be capable of producing the quality of clay material meeting the requirements set forth in Section 31 24 00.00 12 EMBANKMENT, paragraph entitled “MATERIALS”, including the salinity requirements set forth in Section 31 23 00.00 12 EXCAVATION, paragraph entitled “Borrow Area Agronomy Report”, and are subject to the subparagraphs (b) through (e) below. However, some documentation relating to the below sites may need to be updated prior to their use. The Contractor shall verify that environmental clearances for the below sites have not expired.

Source Name	Point of Contact	Contact Information	Location
Edgard Construction	John B. Ohle, III, Chief Operating Officer	(224) 260-1709 jbo@edgardconstructionmaterials.com	1973 Highway 3127, Edgard, Louisiana 70049
St. James Construction Materials (Big Shake)	John Ohle, President, CEO	(224)260-1709 jbo@river-parishes.com	Hwy. 3125, Paulina, LA 70763
Myrtle Grove	Khai Nguyen	khai.nguyen@myrtlegroveborrow.com (504) 615-1077	1051-A W. Ravenna Rd. Belle Chasse, LA 70037
Providence Eng. & Environmental. Group, LLC / Hurricane Work, LLC	Claud Klein Tim Kimmel	Cklein01@bellsouth.net (504) 338-3670 timkimmel@bellsouth.net (225) 766-7400	POC Location: 114 Schleif Drive, Belle Chasse, LA 70037. Business Location: 39050 Hwy 942, Darrow LA
Pearlington Clay, LLC	Johnny E Dollar, Managing Member	johnny.dollar@pearlingtonclay.com (318) 366-8218	Whites Rd. and Lower Bay Rd., Pearlington, MS 39573

(b) Clay may be furnished from any of the above listed sources, or at the option of the Contractor may be furnished from any other source designated by the Contractor and accepted by the Contracting Officer. Clay furnished from a source designated by the Contractor not included in the above listed sources are subject to the conditions in Section 31 23 00.00 12 EXCAVATION, paragraph entitled CONTRACTOR-FURNISHED BORROW AREAS.

(c) The Government is not responsible for any agreements or breach of agreements nor the resulting impacts of any breach of agreements between the Contractor and the listed owners and/or agents and or any other persons.

(d) Contact the Point of Contact for the above sources for information regarding the location of the sites and geotechnical boring logs of the material.

(e) Usage of any of the above listed clay sources shall neither relieve the Contractor from its obligation to furnish satisfactory material to the project nor commit the Government to the acceptance of the character, quantity or availability of material from these sources. Verification of the material should be performed by the Contractor to assure that the material meets the contract specifications for embankment construction material.

12. FORMAT OF SURVEYS

a. The Contractor shall submit compliance surveys upon completion of certain construction activities. The survey shall be collected in accordance with the "USACE New Orleans District Minimum Survey Standards" and delivered in USACE EM Format as described in "Engineering Manual File Format Specifications". Links to these documents are shown below:

http://www.mvn.usace.army.mil/Missions/Engineering/SurveySection/SurveyingGuidelines.aspx

http://www.mvn.usace.army.mil/portals/56/docs/engineering/Geospatial/EM_Format15.pdf

b. Each surveyed point should be listed on a separate line as a comma-delimited list of the following:

(1) Point ID, northing, easting, elevation, code

(2) Surveyed points that are part of a profile shall be grouped under the appropriate #P01 record for that profile.

(3) Surveyed points that are part of a cross-section shall be grouped under the appropriate #X01 record for that cross-section.

(4) All other points shall be grouped under the appropriate #M01 record.

c. Each Project Control Point (PCP) shall be included as #V/#T records with the surveyed elevation #V/T06, and vertical datum and epoch information. Absolute vertical and horizontal accuracies shall be shown in the #H03 and #H17 records. The USACE Survey Drivers shall be used to check for proper formatting.

http://www.mvn.usace.army.mil/Missions/Engineering/GeospatialSection/USACESurveyDrivers.aspx

d. A survey report shall be submitted which includes a brief synopsis of the survey methodology (traverse run, level loops, GPS). Copies of all supporting field books shall be signed and sealed by a Licensed Surveyor registered in the state in which the work is being performed. If static GPS is collected, minimally and fully constrained GPS adjustment reports must be submitted as well as any other notes, reports, raw data, and supporting documentation.

e. All surveys shall adhere to the requirements of the "USACE New Orleans District Minimum Survey Standards" and be performed by a licensed surveyor registered in the state in which the work is being performed. The point of contact for survey information is Dwayne Blanchard @ 504.862.1589.

13. BENCHMARK VERIFICATION SURVEYS

a. Project Control Points. For purposes of vertical control, Project Control Points may be referred to as Project Benchmarks. Project Control Points located at the project site may be used as Local Project Control Points and referred to as Site Benchmarks. To ensure local / internal consistency, the Contractor shall verify all Project Benchmarks and Site Benchmarks using differential leveling following

Section J of the "USACE New Orleans District Minimum Survey Standards". All benchmarks serve as vertical control for the entire project. The benchmark verification survey shall constrain to the Primary Benchmark as shown on the drawings. The differential levels must be to Second Order Class II closure standards, as defined in Appendix 4 of the Minimum Survey Standards, and as follows: closure error (in feet) must be less than or equal to 0.035 x √(distance in miles). Significant closure error (any random error whose magnitude would affect the final elevation of benchmarks when significant digits are considered) shall be distributed through all benchmarks (Project Benchmarks and Site Benchmarks) according to their relative distance along the loop. Verification of all benchmarks shall be performed within 14 days of receipt of the Notice to Proceed and at least every 6 months using differential leveling.

b. Site Benchmarks. At all established hurricane protection, flood control, shore protection, and navigation projects, three permanent site benchmarks (new or existing) shall be identified/established at the immediate work site (situated as nearly as practicable at the middle and at each end of the project) and referenced to the applicable required epoch of NAVD88. Site Benchmarks are Local Project Control Points provided on the drawings or monuments set by the Contractor according to EM 1110-1-1002, Survey Markers and Monumentation. Site Benchmarks set by the Contractor are limited to types A, B, C, F, or G as described in Chapter 3 of EM 1110-1-1002 and the type and location must be approved in advance by the District Datum Coordinator (DDC). Vertical positioning for all construction activities shall be constrained to a Project or Site Benchmark. To obtain pre-approval for a proposed Site Benchmark, the Contractor shall submit the following to the Contracting Officer's representative (COR): the approximate proposed x, y position; the type of monument; and 5 photos of the proposed location: 1 of the proposed site, and 4 photos taken from the proposed site facing in 4 cardinal directions.

http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-1-1002.pdf

c. Survey Report. The benchmark verification survey data shall be submitted in a Survey Report signed and sealed by a Licensed Surveyor registered in the state in which the work is being performed. The survey report shall be updated and submitted with each benchmark verification survey. The survey report shall include a table of all Project and Site Benchmark measurements and all previous benchmark verification measurements for comparison purposes. The report shall include a graphic that shows the approximate positions of all control points, the route of the differential level loop, and the approximate distances between control points. The report shall include clear, legible field notes that show the daily "Two-Peg Test", all measurements and calculations, and the closure error for each closed loop. Any raw data such as digital level pre or post-processing reports should be included. Each level loop shall be reviewed and initialed in the field book by a person independent of the field crew performing the level loop.

Only the field notes for the current benchmark verification survey should be included in each report.

d. Submittals. Survey Reports of the benchmark verifications shall be submitted to the Contracting Officer's Representative (COR) in electronic format via RMS-CM within 7 days of the completion of the benchmark verification. If the file is too large to submit via RMS-CM, contact the COR for alternate methods. The COR shall be notified immediately if any errors or inconsistencies in the benchmark verifications are found. The Survey Report of the first benchmark verification survey must be received within 14 days of receipt of the Notice to Proceed or as required by the COR.

14. BASELINE RE-ESTABLISHMENT

a. Project Baseline Re-establishment. To ensure consistency with the information shown on the drawings, prior to any construction layout activities the Contractor shall reestablish the project baseline using procedures to assure a survey accuracy of +/- 0.10 feet. The surveys shall be constrained to the Project Control Points shown on the drawings and collected in accordance with the "USACE New Orleans District Minimum Survey Standards". Each baseline point of intersection (PI) shall be marked on the ground with a temporary marker as defined by EM 1110-1-1002:

http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-1-1002.pdf

b. Floodwall Alignment Layout. Upon completion of the project baseline re-establishment, the Contractor shall establish the floodwall alignment. Each wall-line point of intersection (PI) must be marked on the ground with a temporary marker as defined by EM 1110-1-1002. The surveys shall be collected in accordance with the "USACE New Orleans District Minimum Survey Standards".

c. Survey Report. The baseline re-establishment survey data shall be submitted in a Survey Report signed and sealed by a Licensed Surveyor registered in the state in which the work is being performed. The survey report shall include the X and Y location of all set PIs and the constraining Project Control Points. The survey report shall include a table of all Project Control Points, Local Project Control Points, and temporary PI markers that were set. The report shall include a graphic that shows the approximate positions of all control points, the baseline, and the baseline PIs. The report shall include clear, legible field notes that show the control ties, and all measurements and calculations. Any raw data such as GPS reports or pre/post-processing traverse reports should be included.

d. Submittals. Survey Reports of the baseline re-establishment shall be submitted to the Contracting Officer's Representative (COR) in electronic format via RMS-CM within 7 days of the completion of the baseline re-establishment. If

the file is too large to submit via RMS-CM, contact the COR for alternate methods. The COR shall be notified immediately if any errors or inconsistencies in the baseline re-establishment are found. Field records of the baseline re-establishment must be received within 14 days of receipt of the Notice to Proceed.

15. SPECIAL SURVEYING REQUIREMENTS

After completion of the levee sand base to the lines and grades shown on the drawings, the Contractor shall perform cross section surveys across the entire levee footprint prior to placing levee embankment, utilizing an independent licensed surveying firm. These surveys will be used in computing the quantities of embankment material for payment (see Section 31 24 00.00 12 EMBANKMENT for additional information). The surveyor shall be licensed in the State of Louisiana and shall not be an employee of the prime or sub-contractor. All surveys and quantity computations submitted for payment shall be stamped by the independent licensed surveyor. The Contractor shall submit the original cross sections and the Government will perform the theoretical computations for computing the quantities for payment.

16. COMMERCIAL WARRANTY

The Contractor agrees that the standard commercial equipment furnished under this contract shall be covered by the most favorable commercial warranties the manufacturer gives to any customer for such equipment, and that the remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract. Two copies of the warranties shall be furnished by the Contractor to the Contracting Officer.

17. ACCESS PLAN AND STAGING PLAN

The Contractor shall submit an Access Staging Plan to be reviewed and approved by the Contracting Officer to include, as a minimum layout drawings showing the location or staging area of all equipment, office structures, toilets, and storage/stockpile areas for any materials. If the Contractor decides to modify or construct any new roads, they shall be submitted to the Contracting Officer for approval.

18. PERMISSIBLE HOURS OF WORK

No work shall be done at the jobsite between 7:00 p.m. and 7:00 a.m. The Contractor will be allowed to work on Saturdays, Sundays and holidays. Prior to 7:00 a.m. the Contractor shall not start up any equipment nor have any trucks for delivery, service, hauling, etc. arrive at the jobsite. Trucks shall remain on designated truck routes until 7:00 a.m. When the Contractor elects to work weekends and holidays, notice shall be given to the Contracting Officer, in writing, 36 hours in advance of commencement of such operations to permit suitable arrangements for inspections to be made.

Adequate lighting for safe operations and thorough inspection of night operations conducted within the permissible hours of work shall be provided by the Contractor at his/her own expense.

19. VIDEO AND PHOTOGRAPHIC DOCUMENTATION

The pre-construction and post-construction conditions of permanent roads, streets, driveways, sidewalks, above-ground utilities, and existing structures shall be verified and documented by the use of Contractor-furnished photographs and videos. Videos shall be digital format (DVD) with voice over commentary describing all pertinent or unusual conditions. Videos shall have a stamped date. Photographs shall be 35 mm or digital, color, and 4 inch x 6 inch size minimum, and shall have stamped date. The Contractor shall provide two (2) copies of the DVD and two (2) copies of photos with negatives or CDs containing files to the Contracting Officer for the Contract file. Electronic photos shall be accompanied by a log describing the content of each photo. Two (2) hard copies shall be assembled in a report form with a cover letter attached. In the report, a description of each picture identifying and describing the location and indicating the date of the photograph shall be typed beneath each picture. On the reverse of each photograph, the Contractor shall affix a self-adhesive label on the reverse of each picture that shall identify the location, describe the photographed object and indicate the date of the photograph and name of the person who documents the information. All the information on the label shall be typewritten in black. Additionally, the name shall also be signed. The Contractor shall coordinate so that representatives of the Contracting Officer are present during the pre- and post-construction documentation. No separate measurement or payment will be made for video and photographic documentation. Payment shall be included in the contract job price for “Mobilization and Demobilization”.

20. COORDINATION WITH LOCAL INTERESTS

The Contractor shall coordinate his construction activities, including jobsite access, with the Contracting Officer, Pontchartrain Levee District representatives, the Louisiana Department of Wildlife and Fisheries, local parish Government, nest prevention Contractors and other Contractors. Other Contractors will be in the vicinity, adjacent to this contract executing contract requirements for other construction contracts.

Pontchartrain Levee District
Monica Salins, Executive Director
P.O. Box 426
Lutcher, LA 70071
Office: (225)869-9721

Coastal Protection and Restoration Authority
Travis Byland, P.E.
Project Management Division

150 Terrace Avenue
Baton Rouge, LA 70802
Office: (225) 342-6750
Mobile: (225) 572-8192

Louisiana Department of Wildlife and Fisheries
Kyle F. Balkum
Biologist Director
2000 Quail Dr., Baton Rouge LA 70808
Office 225.765.2817, Ext. 1502
kbalkum@wlf.la.gov <mailto:kbalkum@wlf.la.gov

NOTE: Prior to the commencement of construction, the Contractor shall notify Kyle Balduf via email at kbalduf@wlf.la.gov, their intent to begin the project and give a brief outline of the project schedule. Notification shall be made at least 14 days prior to commencement of the construction

21. SECURITY REQUIREMENTS

a. Suspicious Activity Reporting Training (e.g. iWATCH, CorpsWatch, or See Something, Say Something). The Contractor will not have access to the CORPS network. This is an unclassified contract and the Contractor will not have access to critical information. The Contractor and all associated sub-contractors shall receive locally developed training provided by the New Orleans District Security Office on the Local Suspicious Activity Reporting Program. This training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity relating to the project manager, security representative or law enforcement entity. The Contractor shall provide local background checks to New Orleans District Security Office before performing work. Point of contact is Rhonda Brown, 251.694.4436. This training shall be completed within 30 calendar days of contract award and within 30 calendar days of new employees commencing performance. The results of this training shall be reported to the COR within 5 calendar days after the completion of the training.

b. Pre-Screen Candidates Using E-Verify Program. The Contractor shall pre-screen Candidates using the E-verify Program (https://www.uscis.gov/e-verify) website to meet the established employment eligibility requirements. The Contractor shall ensure that the Candidate has two valid forms of Government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. An initial list of verified/eligible Candidates shall be provided to the COR no later than 3 business days after the initial contract award. When contracts are with individuals, the individuals shall complete a Form I-9, Employment Eligibility Verification, with the designated Government representative. The completed Form I-9 shall be provided to the Contracting Officer and shall become part of the official contract file.

22. SEQUENCE OF WORK

The project shall be constructed in various stages as shown on the drawings. The Government will monitor geotechnical instrumentation installed by a third-party contractor to determine if the next stage may commence before “hold periods” shown on drawings. The “hold periods” between successive stages will be as indicated on the drawings. Work in other areas may continue during the “hold periods”.

23. ORDER OF WORK

If the Optional Work is exercised, it shall be completed as a first order of work. Placement of levee sand base shall be no further than 500-feet in advance of the fully excavated drainage canal to allow for proper drainage. In areas where instrumentation will be placed by a third party, the Contractor shall coordinate with the COR prior to commencing sand placement operations. Reinforcement geotextile may be placed concurrent with the sand base placement, provided the geotextile is properly covered with embankment material as specified. Once the levee sand base is in place, the placement of the first levee lift may commence. There is no hold time between placing of the levee sand base and placing the levee embankment for the Stage 2 Design Section. Once the first lift has been completed to the dimensions and elevations shown on the plans as Stage 2, the hold time of 90 weeks shall commence. Once the 90 weeks have concluded, unless directed differently by the COR, the Contractor shall begin construction of the Stage 3 Design Section last lift to the dimensions and elevations shown on the drawing as Stage 3. The Contractor is required to bring the levee back to the dimensions and elevations shown on the drawing as Stage 2 before commencing the placement of the Stage 3 embankment.

24. GEOTECHNICAL INSTRUMENTATION

Instrumentation will be installed by a third-party contractor. The approximate location of the instruments will be as shown on the drawings. The Contractor shall provide a ten-day advanced notice to the Contracting Officer indicating that the site is ready for the installation of the instrumentation. The Contractor shall coordinate with the third-party contractor for any work performed across the corridor between the instruments and the adjacent data logger. The Contractor shall provide access at all times to the third-party contractor to the instrumentation locations as well as access for the performance of borings and cone penetration tests. As soon as the levee contractor establishes the width of the sand base at the locations of the geotechnical instrumentation, the levee contractor shall install an access platform constructed of clay embankment material 15-feet wide to elevation +2.5 from the sand base out to 20-feet beyond the toe of the levee berm.

25. SERVICE TO BE FURNISHED TO THE GOVERNMENT

1. The Contractor will be required:

a. To furnish to the Government for the exclusive and daily use of (1) UTV vehicle – Polaris Pro XD 4000D (Diesel Engine) with PRO XD Work Package All-Wheel Drive Utility Terrain Vehicle (UTV) or an approved equal. The UTV will be securely stored at the levee site and utilized by the Government for levee inspections.
b. To furnish, throughout the contract duration the diesel fuel, oil, secure storage, and maintenance including the recommended service intervals of the UTV vehicle. The Contractor shall assume full responsibility for the on-site storage. Government employees shall be provided with 24-hour access to the stored UTV vehicle.

c. There shall be no separate measurement or payment for these items and the costs shall be disturbed throughout the existing bid items. Equipment which fails to perform because of insufficient power or other electrical and mechanical deficiencies shall be repaired and replaced within 12-hours after the Contractor is directed to do so by the Contracting Officer's representative. Upon completion of the project, the UTV shall become property of the Contractor and be removed from site.

26. WEIGHT LIMIT RESTRICTIONS OVER PIPELINE CROSSINGS

The provided access roads and equipment traversing pipelines within the rights of way are restricted to the following individual vehicle load limits:

a. 24,000 pounds single axle weight
b. 48,000 pounds for each tandem axle group
c. 60,000 pounds for each tridum axle group
d. 54,000 pounds for each trunion axle group (16 wheels)
e. 650 pounds per inch width of tire
f. 180,000 pounds gross vehicle weight, not to exceed any axle or wheel limit listed in a. through e. above.

The Contractor shall ensure that only a single lane of traffic is utilized when crossing specialty equipment requiring a permit, including any custom axle configurations. In addition to local and state permits, the Contractor shall submit a crossing notification for all permitted loads 14 days in advance, identifying weight per axle group, number of tires per axle, and axle configurations using the form attached at the end of this section.

27. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

(a) This clause does not apply to terminations.

(b) Allowable costs for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a Contractor or Subcontractor at any tier shall be based on actual cost data for each piece of

equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of Engineering Pamphlet (EP) 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region III. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d) (ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the simplified acquisition threshold (SAT), the Contracting Officer will request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate.

NOTE1: Costs for repairs or overhauling are not allowed.

NOTE 2: A copy of the “EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE” for Region III can be obtained from the following website:
https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP%201110-1-8_RV1-12.pdf?ver=x6psY-gBPGg5dSOqQdjEMg%3d%3d

28. JOINT RISK MANAGEMENT

On construction contracts with anticipated award of greater than $4 million, the Government desires to implement a formal risk management process during construction to discuss risk items. This process would involve the development of a Risk Register and regular discussions of risk items along these lines:

(a) Prior to the Preconstruction conference, a Joint Risk Register shall be developed by the Contractor, identifying items such as availability of materials,

quality control of unique systems, critical schedule milestones, and labor challenges that may affect successful contract completion.

(b) Objective type risk items such as weather will not be included in the register.

(c) The Preconstruction Conference will be the initial meeting to discuss the Joint Risk Register. The Joint Risk Register will be updated at regular intervals by the Government and the Contractor.

(d) The Joint Risk Register will be reviewed and discussed at regular progress and schedule meetings.

Participation in the Joint Risk Management process is voluntary and will not change contract requirements.

STONE SOURCES

April 2020

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
	ALABAMA	
34º 26' 47"N 86º 15' 32"W **NEW SOURCE** Added Mar 2016	Guntersville Quarry - from the intersection of US Hwy 431 and AL Hwy 79, north of Guntersville, AL, travel north 0.7 miles on US HWY 431 to Convict Camp Road. Turn right onto Convict Camp Rd and travel 0.5 miles. Mine scale house will be on the right. TEL:256.582.2130	Madison Materials 692 Convict Camp Rd Guntersville, AL 35976 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com
34º 11' 33"N 86º 29' 18"W **NEW SOURCE** Added Mar 2016	Summit Quarry - from the intersection of US Hwy 278 and US Hwy 231, near Brooksville, AL, travel north 2.8 miles on US Hwy 231N to Blount County Road 25. Turn right onto Blount County Road 25 and travel 1.5 miles to Hinds Road. Turn right onto Hinds Road and Travel 1.8 miles to quarry entrance. Quarry entrance will be on the right. TEL: 205.429.3807	Madison Materials 2335 Hinds Rd. Blountville, AL 35031 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com
33º 37' 40"N 87º 00' 22"W **NEW SOURCE** Added Mar 2016	Flat Top Quarry – from the intersection of interstate I-22W and US Hwy 78, near Graysville, AL, take exit 85 toward Birmingham and travel 0.6 miles on US Hwy 78. Turn right onto first exit ramp (2nd Ave. NW). Travel 0.4 miles on 2nd Ave NW and merge onto Flat Top Road. Travel north on Flat Top Road 0.12 miles to quarry entrance on left.	Madison Materials 2335 Hinds Rd. Blountville, AL 35031 POC: Tom Bass TEL: 256.582.2656 tombass@whitaker-contracting.com

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
34º 33' 29.89"N 86º 34' 31.37"W Updated 2019	Lacey Spring Quarry – From Lacey Spring AL, go 1.7 miles north of intersection of US Hwy 231/AL Hwy 53 with AL Hwy 36 and turn right onto the southern end of 149 Parks Chapel Rd and go to quarry entrance on right. Lacey Spring Quarry 149 Parks Chapel Rd. Lacey Spring, AL 35754	Rogers Group Inc. Corporate Headquarters 421 Great Circle Rd. Nashville, TN 37228 615.242.0585 Rogers Group Inc. Administrative Office 520 Three Mile Lane Tuscumbia, AL 35674 256.383.1645 POC: Mr. Michael Wilkes - Quarry Manager
34º 39' 51.82"N 87º 37' 31.33"W Updated 2019	Tuscumbia Quarry – from the intersection of US Hwys 72 and 43, in Tuscumbia, take US Hwy72/AL Hwy 20 east approximately 2 miles and then turn south on to Three Mile Road (County Rd 57) and go 2.3 miles to Quarry entrance on left. LEDGES 1,2 AND 3* *Ledge 3 – Randomly oriented fractures are present in the material. Failure can occur along existing fractures under F&T. Tuscumbia Quarry 520 Three Mile Lane Tuscumbia, AL 35674	Roger Group Inc. Corporate Headquarters 421 Great Circle Rd. Nashville, TN 37228 615.242.0585 Roger Group Inc. Administrative Office 520 Three Mile Lane Tuscumbia, AL 35674 256.383.1645 POC: Mr. Michael Wilkes - Quarry Manager
34º 43' 24.70"N 88º 06' 59.75"W Updated January 2015	Allsboro Quarry- 8 miles east of intersection of MS Hwy 25 & Tish. Co. #957 at Midway, MS, just across AL. state line. Hoover Incorporated P. O. Box 613 Iuka, MS 38852 (256) 360-2400/(800) 535-2636	Hoover Incorporated 1205 Bridgestone Parkway P. O. Box 1700 LaVergne, TN 37086-1700 (615) 793-2600

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
32º 44' 05.14"N 86º 16' 12.72"W Updated January 2015	Hard Rock Hill Quarry – From intersection I-95/US-231 go 15 miles north to Wallasboro, AL. Continue north on US-231(AL-53&21) for approximately 8 miles to intersection of US-231 & CR-429 (Bucky Rd.) and go approx. 3.5 miles and turn right on to County Rd. 428 (Providence Rd) and go approx. 0.8 miles to quarry on left. Quarry Phone – 334.514.8800	North Montgomery Materials, LLC 2194 Providence Rd Titus Alabama 36080 P.O. Box 469 Millbrook, AL 36054 Office: 334.514.8800 E-mail: hardrockhill2@aol.com
34º 43' 33.46"N 87º 48' 28.66"W 2015 Data update submitted	Pride Quarry located on N side of US Hwy 72, Pride, AL. approx.8.2 miles west of intersection of US-72 and US-43 in Tuscumbia, AL Vulcan Materials, Pride Quarry P.O. 740250 18055 Hwy 72 Tuscumbia, AL 35674 205.310.6853-cell	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 Tim Wyatt – Area Manager wyattt@vmcmail.com 205.668.6001-office 205.310.6853-cell
34º 44' 40" N 87º 56' 0"W 2015	Cherokee Quarry- 3 miles east of Cherokee, AL on old Hwy 72. Vulcan Materials Co., Cherokee Quarry P.O. Box 459 Cherokee, AL 35616 POC: Tim Wyatt 205.310.6853 wyattt@vmcmail.com	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 POC: Tim Wyatt 205.310.6853 wyattt@vmcmail.com
ARKANSAS		

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
N 34º 57' 31.72" W 92º 4' 16.30" Updated 2015	Cabot Quarry - The quarry is located in Lonoke County off AR Highway 5 approx. 1.6miles north of US Highways 167/67 exit 16B, Cabot, AR. LEDGE 3 Rogers Group, Inc. – Cabot Quarry 10302 AR Hwy 5, Cabot AR 72023	Rogers Group, Inc 1223 Front St. Arkansas 72032 POC: Johnathan Lane
36º 05' 18.33"N 91º 06' 35.34"W Updated Jan 2018	Black Rock Quarry (Powhatan Quarry) - Take Hwy 63 north or south to Hwy 25/3rd street east. Travel approx .1 miles and turn right to stay on Hwy 25, quarry will be on right hand side approx two miles ahead. Powhatan Quarry Div. Capital Quarries Co. Inc, 4549 Hwy 25 Powhatan AR 72458	Capital Quarries Co. Inc, PO Box 105050 Jefferson City, Mo 65110 Chris W. Pitts Phone (870) 248-1212 Fax (870) 248-0532 Cell (573) 694-0797
36º 17' 51.468"N 90º 58' 55.70"W Updated Jan 2018	Pocahontas Quarry - Take Hwy 67 north or south to the Hwy 90/115 junction west. Follow Hwy 90/115 until the two highways split, bear right to stay on Hwy 115. Stay on Hwy 115 approx two miles and turn left on Hwy 251. Proceed .1 miles and turn left onto Johnson Church Rd. The quarry is .5 miles ahead on left. Div. Capital Quarries Co. Inc, 632 Johnson Church Rd Pocahontas AR 72455	Capital Quarries Co. Inc, PO Box 105050 Jefferson City, Mo 65110 Chris W. Pitts Phone (870) 248-1212 Fax (870) 248-0532 Cell (573) 694-0797
35° 51' 48"N 91° 19' 32"W Updated Dec 2017	Bradley/Batesville Quarry - From Cord, AR take AR-122 north to interception with AR 25 and continue north on AR-25 for a total distance of approx. 3.2 miles. Take Bradley Ln on left to the quarry.	Bradley Contracting 500 Bradley Lane Cord, AR 72524 (870) 799-2338 blakebci@gmail.com

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
34º 40' 38"N 92º 15' 38"W Updated (2016)	Granite Mountain Quarry #1 is located on east side of AR I-530 and just north of Dixon Road, AR Hwy 338 Granite Mountain Quarries P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535	McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456
34º 40' 38" N 92º 15' 38"W Updated (2016)	Granite Mountain Quarry #2 is located on west side of AR I-530 and just north of Dixon Road, AR Hwy 338 Granite Mountain Quarries P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535	McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456
34º 34' 48"N 92º 27' 59"W Updated (2016)	Granite Mountain Quarry #3 is located 3 miles south of intersection of I-30 and AR Hwy 183 and south of Bryant, AR and 1 mile east on County Rd. #2 Granite Mountain Quarries P.O. Box 886 Bryant, AR 72089	McGeorge Corporation P.O. Box 408 1425 Shamburger Lane Sweet Home, AR 72164 (501) 490-1456
34º 19' 21.08"N 93º 20' 56.81"W Updated September (2017)	River Mountain Quarry – From intersection of AR Hwy 7 and AR Hwy 22 in Dardanelle, AR, go west to Delaware, AR and turn north on AR Hwy 393, then go 0.9 miles and then turn left onto River Mountain Road and go 4.0 miles to entrance to quarry, at AR River Mile 218.5 Two active pits: Area C or Berryhill pit Main or Lower East pit Pine Bluff Sand & Gravel, River Mountain Quarry 3979 River Mountain Rd. Delaware, AR 72835 (479) 938-7018	Pine Bluff Sand and Gravel P.O. Box 7008 Pine Bluff, AR 71611-7008 12615 Scenic Highway Baton Rouge, LA 70807 POC: Chris Abadie 318.308.5670 – cell 225.922.7861 – office Chris.abadie@pbsgc.com

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
34º 41' 22.44"N 92º 17' 53.23"W Updated (2016)	Big Rock Quarry- Off AR Hwy 367, 0.5 mile north of junction with 65th Street, Little Rock, AR	Arkansas Aggregates (3M Quarry) 1910 W. 65tth St. Little Rock, AR 72209 (501)565-5333
35º 16' 56.44"N 91º 40' 55.06"W Ledge 2 Updated (2015)	Searcy Quarry – from I-67, exit 48, Judsonia, AR exit (AR Hwy 385), turn to go toward Plainview, AR on AR Hwy 385, go approximately 1.5 miles and turn left into quarry, Rock Lane. Vulcan Materials Co., Searcy Quarry 125 Rock Road Judsonia, AR 72081 (501) 729-3925	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701
36° 8' 36.74"N 91° 9' 49.80"W Ledge 5 Updated (2015)	Verkler Quarry – Approx. 4 miles north of Black Rock, AR on U.S. Hwy. 63 to quarry on west side of highway. Vulcan Materials Co., Verkler Quarry P.O. Box 276 Black Rock, AR 72415 (870) 878-6245	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701
34° 8'46.58"N, 93°15'34.80"W (Sep 2019)	Hollywood Quarry located off Highway 53, 3 miles north of Hollywood, Arkansas, AR in Ouachita Mountain Range.	McGeorge Contracting Co. Inc. P.O Box 408 1425 Shamburger Lane Sweet Home AR 72164 Pine Bluff, Arkansas POC: Anthony Jones anthony.jones@mcgeorgecontracting.com office: 501.490.6079 Cell: 501.353.4515
GEORGIA		

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
32°36' 5.5"N 84° 56' 54.7"W Added December 2018	Columbus Quarry is located North of Columbus, Georgia near the small community of Fortson, on Smith Rd, 0.2 miles east of exit 14 Interstate I-185. 3001 Smith Rd. Fortson, Georgia 31808 POC: Dan Johnson	The Concrete Company Columbus Quarry 1030 1st Ave. Columbus, GA 31901 (706) 569-4446 POC: Dan Johnson
	ILLINOIS	
37º 28' 59.07"N 88º 58' 2.99"W December 2018	Buncombe Quarry: From Marion IL, take I-57 South to exit 45, turn right (east) MO-148 (N. Refuge Rd.), keep straight onto MO-37. The quarry is 3-4 miles South of Goreville. Top Ledge Delta Companies, Inc. SILS. 4800 State Route 37 N Goreville, IL 62939-3003 (618) 995-2392	Delta Companies, Inc www.deltacos.com (573) 785-2757 POC: Mike Martin
37⁰ 28' 47.72" N 88⁰ 7' 32.89" W Updated (2016)	Cave-In-Rock Quarry is located approximately 5 miles east of Cave in Rock, IL. From the flashing light on Illinois Highway 1, from the ferry across the Ohio River, head east past Cave-in-Rock State Park to intersection with next road and turn south toward river. Quarry is on right 0.25 miles from intersection.	Lafarge Holcim One Deerfield Center 13560 Morris Road, Suite 3350 Alpharetta, GA 30004 TEL: 678.867.1309 Ken Coats 205.492.7934

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37° 19' 07.42"N 89° 01' 12.36"W Updated (Sep 2019)	Shawnee Stone, LLC- Cypress Plant From Cairo IL, go to north on I-57 to exit 18, Ullin and take ramp right. At the end of ramp turn right on Co. Rd. 7 (East), Ullin Rd. (Shawnee College Rd.), and proceed 7 mi. to St. Rt. 37. Turn left on St. Rt. 37 (North) and proceed north for 3.2 mi. and the quarry is on the right hand side of the road. Bottom Ledge Ledge 20 Ledge 70 NOTE: The Cypress plant quarry should provide rock from bottom of the Lower Ledge (Mammoth Cave Group. Ste. Genevieve Formation) which should produce riprap and stone protection meeting the required requirements.	Shakespeare Aggregates, Inc. 202 West Main Street Salem, IL 62881 Tel. No. 618.548.1585 www.shakespeare-oil.com
KENTUCKY		
37º 02'55.14" N 88º 17'52.56" W Mar 2016	Grand Rivers Quarry – located at the Livingston County, KY. From the intersection of Interstate 24 and KY Hwy 453 (Dover Rd.), Grand Rivers, KY, take KY 453 1.7 miles north to the entrance quarry on the left. St. Louis/Salem Formation From Ledge A Lift 3 only	Winn Material of Kentucky, LLC 877 Dover Rd. Grand Rivers, KY 42045 POC: Bradley Walker TEL: 270.977.8860 TJ Palmer: TEL: 270.928-4757
37º 11' 36" N 88º 15' 59" W Updated October (2016)	Cumberland River Quarry (Formerly Smith Quarry) is located approximately 6 miles south of Salem, KY, at Cumberland River Mile 14.5. From the intersection of US Hwy 60 and KY Hwy 723 in Salem, KY go south approximately 3.5 miles and then turn right onto Maddox Road and go approximately 2.5 miles	Pine Bluff Sand and Gravel Co. 780 Spencer Road Salem, KY 42078 Tel: 870.541.4464 Fax: 870.541.4465 Email: chris.abadie@pbsgc.com Tel: 318.308.5670 Formerly Titan Cumberland Resources

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37º 10' 36.37"N 88º 01' 18.15"W Updated (2016)	Fredonia Quarry – Take US Hwy 641 2.8 miles Southeast of Fredonia, KY and turn east onto Fredonia Quarry Road. 297 Fredonia Quarry Rd. Fredonia, KY 42411 (270) 545-9338 POC: Ken Coats robby.maxwell@lafarge.com	Lafarge Holcim One Deerfield Center 13560 Morris Road, Suite 3350 Alpharetta, GA 30004 TEL: 678.867.1309 Ken Coats 205.492.7934 john.pooler@lafarge.com bob.beste@lafarge.com
37º 11' 41.68"N 88º 22' 58.92"W Updated (2014)	Three Rivers Quarry – 7 miles northeast of Smithland, KY, off U.S. Hwy 60 (Cumberland Road). From I-24 exit 31and go N on KY Hwy 453 to intersection with U.S. Hwy 60 and turn right and go over Cumberland River. Quarry is on the right 4.5 mile from bridge. POC: Eddie Cooper ((270)-210-4993 eddie.cooper@lafarge.com	Lafarge of North America 800 N. Causeway Blvd. Ste 2A Mandeville, LA 70448 POC: John Pooler and Bob Beste (985)-727-7572 or (314) 910-9999 john.pooler@lafarge.com bob.beste@lafarge.com
37º 02' 13" N 88º 15' 00" W Updated (2015)	Grand Rivers Quarry (Gilbertsville Quarry) – On US Hwy 62/641, "Between the Dams", Lake City, KY. From I-24 exit 31and go S on KY Hwy 453 to ramp for US Hwy 62/641 and go west to quarry office on left. Ledge 2 through 9 Ledge 3 – Can be used within a good portion of MVD based on the map in ASTM 5312 (20 cycles F&T) Vulcan Materials Co., Grand Rivers Quarry 947 U.S. Hwy 62 Grand Rivers, KY 42045 (270) 362-4264	Vulcan Materials Co. Southern and GLF CST DVSN P.O. Box 385016 Birmingham, AL 35238-5016 (205) 298-3701 POC: Mr. Terry Teitloff

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37° 11' 30.62"N 88° 13' 32.64"W & 37° 11' 39.58"N 88° 13' 26.63"W Updated April (2016)	Slats Lucas Quarry - is located in Livingston County, KY, From Paducah, KY take US Hwy 60N through Smithland, KY to Salem, KY. Turn South on KY Hwy 723 for 5.4 mi to Pinkneyville, KY and turn left onto Lee Rd Quarry. Bench D, Ledge 10 Bench D, Ledge 7 712 Lee Road Pinkneyville, KY Mr. Daniel Adams Quarry Manager Mr. Colby Croft Assurance Technician (270)988.2647	Warren Paving Co. 562 Elks Lake Road P.O. Box 572 Hattiesburg, MS 39403 (601)544.7800 Bobby Sullivan 601.544.7811
MISSOURI		
37º 25' 25.15"N 89º 38' 7.83"W Added Aug 2018	Heartland Materials 1965 County Rd. 601 Jackson, MO 63755 Phone: 573.243.0063	Delta Companies – Corporate office 114 S. Silver Springs Rd. Capa Girardeau, MO 63701 573.334.5261 www.deltacos.com
36º 40' 56.64"N 90º 27' 57.6"W July 2016	Cane Creek Stone, LLC Butler County, MO Ledge #1	Cane Creek Stone, LLC 2179 County Road 321 Poplar Bluff, Missouri 63901 Mr. Chris Williams (Owner)
39° 04' 04.64"N 90° 44' 22.44"W Updated (2015)	Foley Quarry is located approximately 1.4miles north of Foley, Missouri on the west side of Old State route 79 (presently known as Lincoln County Road 925). POC: Jake Fortner 636.266.8714 jfortner@magrudercompanies.com Ledge 1 and Ledge 2	Magruder Limestone Co., Inc 255 Watson Rd. Troy, MO 63379 POC: Harold Bono Harold_bono@magrudercompanies.com

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37º 26' 04.17"N 89º 38' 02.39"W Added May 2018	Fruitland Quarry – Cape Girarddeau County, Missouri, On I-55 starting from Cape Girardeau go North to Mile Marker 105. Get off of I-55 at the 105/Furitland exit and trun right on Hwy 61. Go northeast on Hwy 61 towards Fruitland for ¼ mile. The quarry is on the right between Rhodes 101 Convenience Store and Purcell Tire. POC: Kerry Bauman Quarry Manager Tel (cell): 573.880.0885 kerry@baserockminerals.com	Base Rock Minerals (New owner) 5154 US Highway 61 Jackson, MO 63755 POC: Dwayne Holst Aggregates Sales Tel (cell): 573.579.1074 dwayneh@baserockminerals.com
37º 54' 05.76"N 90º 31' 29.38"W Added May 2018	Bonne Terre Quarry – St. Francois Country, MO Starting in Farmington MO at the intersection of Hwy 67 and Hwy 32. Take Hwy 67 north about 8.0 miles to Desloge. Take the Desloge exit onto Bus 67/North Desloge Rd. Go about ¼ mile to first stop light and turn north onto State Drive/Votech Rd. The quarry extrance is on the west side of Votech Rd. just past the cemetery. POC: Kerry Bauman Quarry Manager Tel (cell): 573.880.0885 kerry@baserockminerals.com	Base Rock Minerals (New owner) 6801 Votech Road Bonne Terre, Mo 63628 POC: Dwayne Holst Aggregates Sales Tel (cell): 573.579.1074 dwayneh@baserockminerals.com
37° 14' 58.92"N 90° 05' 01.22"W Updated (2014)	Arab Aggregates, LLC 3051 State Hwy 51 Zalma, MO 63787 Quarry POC: Dale Kreitler Tel: 573.222.2211	POC: Koreen Bassham Fischer Quarry & Hauling, LLC Burfordville Quarry Arab Aggregates, LLC 25501 State Route Z St. Mary, MO 63673 Tel: 573-543-5366 Mailing Address:

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37º 15' 57.96"N 89º 33' 24.00"W Updated December (2018)	Cape Girardeau Quarry – is located on the Northeast corner of MO-72 and South Sprigg St. East of I-55, exit no. 93. LEDGE 3-4 ONLY Southeast Missouri Stone Co. 3155 Sprigg St. Cape Girardeau, MO 63702 (573) 986-9516	Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511
Stockpile 37.047439; -90.308292 Updated December (2018)	Shook Quarry is located in Shook, MO in Wayne County on the east side of Wappapello Lake. Take US-67 north from Poplar Bluff to Greenville, MO. Take State Road D east for approx. 10.4 miles to Shook, MO and the quarry will be on the left east of the highway. Shook Quarry (R200 Stockpile tested) Shook, MO	Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511
Top Ledge 36898187 -90.480115 **Middle Ledge** 36.895213 -90.475573 December (2018)	Williamsville Stone Co. Quarry, State Highway 67N, Poplar Bluff, MO 63901 Take US-67 north from Poplar Bluff for approximately and quarry will be on the right (east) of highway just south of a bridge crossing the Black River. POC: Mike Martin ACCEPTABLE : TOP AND MIDDLE LEDGE (573) 785-2757	Delta Companies, Inc. - Corporate Office 114 S Silver Springs Rd Cape Girardeau, MO 63701 Phone: 573-334-5261 Fax: 573-986-9511

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
37° 13.867N 89° 32.028W Added Jan (2014)	Seminole Ag-Lime quarry direction - in Scott City, MO from the south on I-55 are: take Exit 89 onto Main St.; left (east) onto Main St.; 0.4 miles and left (north) onto Mulberry St.; 0.2 miles and continue on Warner Ave. (new concrete); 0.6 miles and left (east) on Rock Levee Rd.; 0.4 miles to quarry road on left. POC: Mike Crostic QC (314)775-5242 Note: It is recommended that rock from overlying and other layers should not be intermixed with the rock from this ledge (MODOT Ledge 25).	Seminole Ag Lime 501 Rock Levee Rd. P.O. Box 4236 Scott City, MO POC: William R. Florman (573)388-4930 (573)388-4931 (fax)
38° 05' 03"N 90° 12' 30"W Updated (2016) 38 05 03N 90 12 30W	Brickeys Quarry (Old Menefee Quarry) @MRM 135.8 above the mouth of the Ohio River,- Take I-55 4 miles north of Bloomsdale, MO, exit 162, and take exit for County Rds. DD & OO and turn east and go 1 mile to US Hwy 61 and continue straight ahead thru intersection on Brickeys Rd. to quarry. (Formerly Brickeys Stone LLC) Ledges 50-48 - Burlington Ledge 46 - Kimmswick **Ledges 43-42 Added Plattin Limestone formation - 2013**	APAC 13588 Brickeys Rd. Bloomsdale, MO 63627 (573) 483-3475
37º 14' 40.02"N 90º 27' 17.04"W Updated Jan 2018	Lodi Quarry - From Cape Girardeau, MO take MO Highway 34 west to junction with the U.S. Highway 67 and turn north onto U.S. 67 and go approx. 5 miles and the quarry will be on the right. POC: J.W. Strack –owner Charles McCutcheon office manager	Strack Stone Lodi, LLC. HC1 Box 1169 Silva, MO 63964 O:(573)-224-3621 F:(573)-224-3123 Owner: JW Strack -573.270.2024 e-mail: strackstone@gmail.com

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
38° 00' 36.68"N 90° 05' 42.47"W Updated (2015)	Bussen Quarry - 5 miles north of St. Genevieve, MO, MRM 127.6, above the mouth of the Ohio River, 19829 Lower Frenchman Rd. Zone 8, Zone 12, Ledge 8B, and Ledge 8T. Note: Ledge 8T and Zone 12 can only be used on regions that required 20 and 25 cycles of F&T. Tower Rock Stone Co. P.O. Box 111 St. Genevieve, MO 63670 (573) 883-7415	Tower Rock Stone Co. P. O. Box 50 Columbia, IL 62236 (618) 281-4106
OHIO		
41° 26' 25.87"N 83° 21' 23.92"W Added Mar 2014	Woodville Quarry – From Ohio Turnpike (I-90/80) exit 81, take MO Hwy 51 south for 2 miles and turn right on to US Hwy 23W toward Woodville. From intersection of Us – 23 & MO – 51 go 3.4 miles to N. Anderson Rd. and turn south go 0.5 miles and quarry entrance will be on your right. Located at Sandusky County. POC: Mr. Jim Bischoff – Quarry Manager	The Olen Corporation 4755 South High St. Columbus, OH 43207 614.491.1515 Area Aggregates 659 Anderson Rd. Woodville, Ohio 43469 419.849.3218

STONE SOURCES

Lat/Long (Tested)	Quarry Location, Address and Telephone Number	Main Office Address and Telephone Number
HONDURAS, CENTRAL AMERICA		
Bench 8 updated 2010 and Zone-12 new source added 15° 10'N 87° 52'W Updated (2016)	Quarry is located in The State Of Cortez in Honduras. Located about 18 miles south of the city of El Progreso and 22 miles north of the city of Santa Barbara, Zacatales, Honduras Sources only tested for use along Gulf Cost at present time.)	Importaciones Rodriguez, S.A. 22543 Ventura Blvd., Ste 227 Woodland Hills, CA 91364 Metairie, LA 70002 Tel: (818) 224-4270 Fax: (818)224-4736 Email: sebrown@looseb.com Contact: Sharon E. Brown American Stone Supply, Inc./ ABM Enterprises Inc. 3617 Aspen Dr. Harvey, Louisiana 70058 Tel: (504) 782- 6046 Tel: (818) 297- 6635 Fax: (866) 594- 3730 Email: abm.email@abmenterprise.com
MEXICO, STATE OF VERACRUZ		
19.524296 N, 96.426432 W Added September 2019	The quarry is located at 19.524296o N, 96.426432 o W, in the State of Veracruz, Mexico approximately 61 kilometers north and west of the Veracruz International Airport.	Wayne LeBaron, Alamo Construction 15088 Rufus White Road, Prairieville, LA 70769 Telephone 225.362.8997 wlebaron83@gmail.com

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#H01 SAMPLE.EM
#H02 11/06/06
#H03 3
#H04 NAD83
#H05 07-002
#H06 FT
#H07 1702
#H08 PLAQUEMINES PARISH  LA
#H09 CHUSTZ SURVEYING INC.
#H12 1.0
#H13 PLAQUEMINES PARISH
#H14 NEW ORLEANS EAST SE  CHALMETTE SW  BERTRANDVILLE NE & NW
#H15 W912P8-06-D-0050
#H20 WEST BANK & VICINITY  ALGIERS CANAL HURRICANE PROTECTION
#H21 LEVEES  HERO TO BELLE CHASSE HWY (EAST SIDE) & BELLE CHASSE
#H22 HWY TO ALGIERS LOCK (WEST SIDE)
;
;
;-------------------VERTICAL CONTROL INFORMATION--------------------
;
;
#V01 BEL 1
#V02 -3.42
#V03 2004.65
#V04 NAVD88
#V05 GOOD
#V06 -3.42
#V07 494282.40,3697937.71
#V20 MONUMENT IS A 3/4" IRON ROD SET FLUSH WITH THE GROUND. IT IS
#V21 LOCATED 5.9 FT SE OF A RAILROAD IRON  25 FT NE OF ANOTHER
#V22 RAILROAD IRON  AND 116 FT EAST OF A GATE POST AT THE PUMP
#V23 STATION AREA.
#V24 PROJECT BENCHMARK POINTS ARE BEL1 AND V375 SEE
#V25 GPS REPORT FOR DETAILS.
;
;
#V01 770+58.11 (SETTLEMENT PLUG)
#V02 19.21
#V03 2004.65
#V04 NAVD88
#V05 GOOD
#V06 19.21
#V07 516940.13,3711674.20
#V20 MONUMENT IS A SETTLEMENT PLUG IN CONCRETE. IT IS LOCATED 9.4 FT
#V21 EAST NE OF THE EAST EDGE OF THE METAL STEPS  13.55 FT NE OF THE
#V22 EAST CORNER OF THE LOCK WALL  AND 17.3 FT NW OF THE NE CORNER
#V23 OF THE LOCK HOUSE.
;
;
;-------------------TEMPORARY BENCHMARK INFORMATION-----------------
;
;
#T01 TBM AC-1
#T02 7.96
#T05 GOOD
#T06 7.96
#T10 MONUMENT IS A STANDARD COE BRASS CAP RECESSED 0.5' BELOW GROUND
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#T11 STAMPED "AC-1 07002C". IT IS LOCATED +/-500 FT. SW OF THE
#T12 CONCRETE BRIDGE OVER THE CANAL AT GENERAL DE GAULLE RD  69.3 FT
#T13 NW OF THE WATERS EDGE OF THE CANAL  17.6 FT NE OF THE SOUTHERN
#T14 GATE POST OF AN ENTRANCE GATE  AND 17.8 FT NE OF THR NORTHERN
#T15 MOST GATE POST.
;
;
#T01 TBM AC-2
#T02 8.50
#T05 GOOD
#T06 8.50
#T07 482914.44,3683055.07
#T10 MONUMENT IS A STANDARD COE BRASS CAP ON REBAR STAMPED "AC2
#T11 07002C". IT IS LOCATED 86.4 FT WNW OF THE AIRBASE FENCELINE
#T12 1.6 MILES SW OF THE PUMP STATION AT THE CROSSING  AND 0.17
#T13 MILES NE OF THE EDGE OF THE ASPHALT ROAD AT THE AIRBASE BOAT
#T14 RAMP.
;
;
#T01 TBM AC-3
#T02 8.86
#T05 GOOD
#T06 8.86
#T07 482917.55,3683035.15
#T10 MONUMENT IS A STANDARD COE BRASS CAP ON REBAR STAMPED "AC3
#T11 07002C". IT IS LOCATED 334 FT NW OF THE NORTHERNMOST GATE POST
#T12 ON THE ENTRANCE GATE TO THE LEVEE  336 FT NNW OF THE SOUTHERN
#T13 POST  0.2 MILES SE OF A POWER LINE CROSSING  AND 1 MILE SE OF
#T14 A CHAIN LINE FENCE GATE CROSSING THE LEVEE.
;
;
;
;
#H02 11/06/06
;
;
#H10 070003
#H11 53
;
;
;
;
;------------------------FIELD PERSONNEL---------------------------
;
#C01 J. GREMILLION
#C02 J. MASSE
#C03 K. MANUEL
#C03 S. HOLMES
;
;---------------------------EQUIPMENT--------------------------------
;
#E01 TOTAL STATION
#E02 46587793
#E03 TCR-305
;
#E01 LEICA
#E02 235668975
```

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#E03 GT-3
;
;-------------------------------------------------------------------
;
#H02 11/02/06
;
;
#H10 070003
#H11 19
;
;
;------------------------GAGE INFORMATION--------------------------
;
;
#G02 GAGE AC-3
#G03 0.50
#G04 12:55
#G07 483479.75,3683384.21
#G10 TEMPORARY STAKE GAGE SET AT AC-3
;
;
;----------------------- CROSS-SECTION -----------------------------
;
;
#X01 3700241.41  501025.16 3700687.38  500799.09 57090.00 570+90
#X03 10:53
#X04 0.80
20590,500960.30,3700343.72,-11.10,SND
20591,500954.99,3700362.88,-13.30,SND
20592,500948.11,3700381.50,-16.50,SND
20593,500942.69,3700401.47,-16.80,SND
20594,500934.73,3700420.93,-18.20,SND
20595,500927.26,3700438.51,-17.00,SND
20596,500916.38,3700455.22,-13.30,SND
20597,500907.08,3700473.36,-10.90,SND
20598,500899.57,3700491.79,-8.50,SND
20599,500892.12,3700510.12,-5.40,SND
20600,500882.66,3700528.07,-4.90,SND
20601,500872.68,3700545.22,-4.50,SND
20602,500862.95,3700562.58,-1.70,SND
20603,500854.68,3700581.17,-1.55,SND
20604,500847.27,3700599.48,-1.88,SND
20605,500838.98,3700617.69,-0.74,SND
20606,500830.68,3700635.90,0.40,SND
;
;------------------------ PROFILE ----------------------------------------
#P01
5552,494333.46,3697419.77,9.27,SHP
5553,494376.90,3697443.90,8.56,SHP
5554,494398.99,3697455.69,8.36,SHP
5555,494410.50,3697455.82,8.24,SHP
5556,494411.15,3697455.40,7.78,CLL
5557,494419.34,3697455.62,8.17,CLL
5558,494428.02,3697458.04,8.15,CLL
5559,494439.50,3697463.11,8.46,CLL
5560,494483.81,3697485.83,8.43,CLL
5561,494524.13,3697505.97,8.66,CLL
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5562,494550.34,3697518.80,8.54,CLL
5563,494585.08,3697537.20,8.66,CLL
5564,494625.86,3697557.24,8.70,CLL
5565,494664.84,3697577.20,8.93,CLL
5566,494704.71,3697597.16,8.94,CLL
5567,494743.17,3697617.15,8.82,CLL
5568,494782.44,3697636.60,8.64,CLL
5569,494823.03,3697657.00,8.69,CLL
5570,494861.50,3697676.57,8.56,CLL
5571,494898.96,3697696.31,8.77,CLL
5572,494921.54,3697707.77,6.95,CLL
5573,494932.32,3697709.54,7.94,SHP
5574,494950.46,3697718.64,7.67,SHP
5575,494956.49,3697722.33,7.35,SHP
5576,494957.71,3697722.81,6.43,CLL
5577,494971.83,3697731.26,5.79,CLL
5578,494987.62,3697740.41,5.77,CLL
5579,495001.65,3697748.14,5.33,ESH
5580,495024.72,3697759.96,5.43,ESH
5581,495029.15,3697761.70,5.74,CLL
;
;--------------- MISC. SHOT POINTS ---------------------------
#M01 MISCELLANEOUS SHOTS TAKEN IN BETWEEN RANGES 312+00 AND 318+00
;
;
2807,482976.57,3682869.45,1.52,FL
2808,482905.77,3682933.86,4.69,FL
2809,482896.57,3682942.44,9.02,FL
2810,482885.94,3682951.60,8.64,FL
2811,482863.67,3682971.79,-0.26,FL
2812,482785.09,3683042.12,-2.88,FL
2813,482917.55,3683035.15,-0.89,RMP
2814,482931.41,3683036.73,1.15,RMP
2815,482952.25,3683037.10,4.61,RMP
2816,482977.95,3683039.14,8.61,RMP
2817,482998.08,3683041.58,9.32,RMP
2818,483030.60,3683049.20,7.53,RMP
2819,483056.35,3683056.21,4.64,RMP
2820,483051.39,3683065.63,5.47,RMP
2821,483033.83,3683062.95,7.85,RMP
2822,483020.70,3683060.67,9.36,RMP
2823,482995.31,3683055.36,9.26,RMP
2824,482970.99,3683049.58,7.08,RMP
2825,482951.69,3683049.63,4.06,RMP
2826,482914.44,3683055.07,-1.17,RMP
2827,483110.59,3683031.57,2.16,PIR
2828,483127.39,3683017.25,2.61,PIR
2829,483137.72,3683029.53,2.55,PIR
2830,483133.88,3683032.85,2.46,PIR
2831,483125.12,3683022.40,2.67,PIR
2832,483112.12,3683033.44,2.18,PIR
2833,483265.05,3683138.27,1.66,FL
2834,483195.48,3683208.46,5.46,FL
2835,483183.05,3683219.30,9.36,FL
2836,483172.83,3683229.40,9.28,FL
2837,483156.14,3683245.27,1.95,FL
2838,483069.19,3683323.97,-3.40,FL
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ACCIDENT PREVENTION PLAN

FUEL OIL TRANSFER -- FLOATING PLANT

U.S. Army Engineer District, New Orleans

EM 385-1-1, Section 19.A.06

1) Contractor	2) Contract Name & Number	3) Date	
4) Officer in Charge of Fuel Transfer	4a) Name of Vessel	4b) Fuel to be Transferred	
5) Name of Vessel	5a) Names of Qualified Tankermen	5b) Type of Certification and expiration date	

6) Name of Vessel	6a) Type of fill nozzle or connection on Vessel	6b) Location of fill pipes openings	6c) Location of vents openings	
7) Type, number, and size of fire fighting equipment to be available during fuel transfer operations.				
8) Sequential steps to be followed when taking on fuel.				
Contractor's Signature	Date	C.O. or C.O.R. Signature	Date	

Activity Hazard Analysis (AHA)

Activity/Work Task:	Overall Risk Assessment Code (RAC) (Use highest code)
Project Location:	**Risk Assessment Code (RAC) Matrix**
Contract Number:	
Date Prepared:	
Prepared by (Name/Title):	
Reviewed by (Name/Title):	
Notes: (Field Notes, Review Comments, etc.)	

Severity	**Probability**				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- **E = Extremely High Risk**
- **H = High Risk**
- **M = Moderate Risk**
- **L = Low Risk**

Job Steps	Hazards	Controls	RAC

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements

Below are two samples of the construction project identification sign showing how this panel is adaptable for use to identify either military (top), or civil works projects (bottom). The graphic format for this 4′ x 6′ sign panel follows the legend guidelines and layout as specified below. The large 4′ x 4′ section of the panel on the right is to be white with black legend. The 2′ x 4′ section of the sign on the left with the full Corps signature (reverse version) is to be screen printed Communications Red on the white background.

This sign is to be placed with the Safety Performance Sign shown on the following page. Mounting and fabrication details are provided on page 16.4.

Special applications or situations not covered in these guidelines should be referred to the District/Division sign coordinator.

Legend Group 1: One- to two-line description of Corps relationship to project.
Color: White
Typeface: 1.25″ Helvetica Regular
Maximum line length: 19″

Legend Group 2: Division or District Name (optional). Placed below 10.5″ Reverse Signature (6″ Castle).
Color: White
Typeface: 1.25″ Helvetica Regular

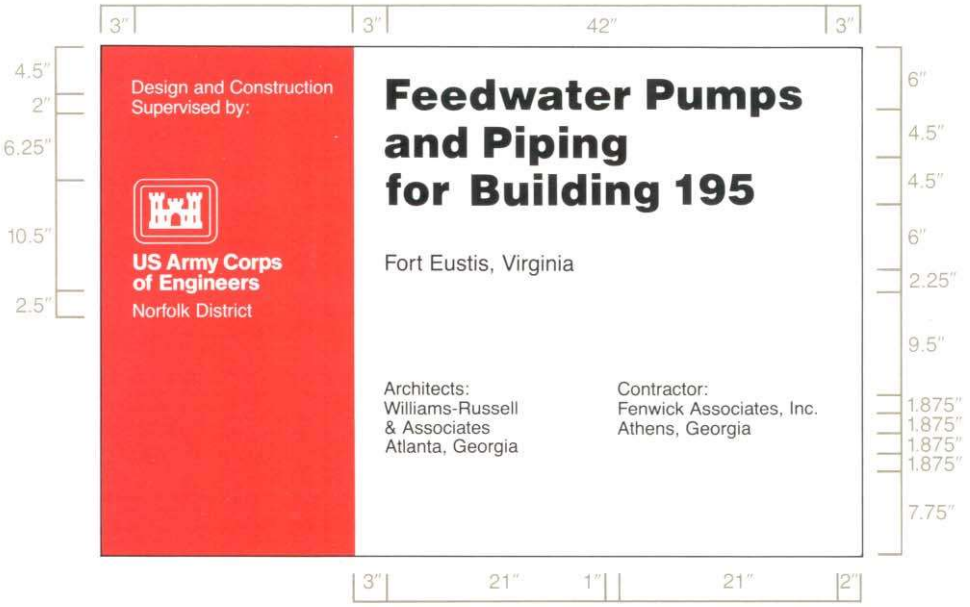
Legend Group 3: One- to three-line project title legend describes the work being done under this contract.
Color: Black
Typeface: 3″ Helvetica Bold
Maximum line length: 42″

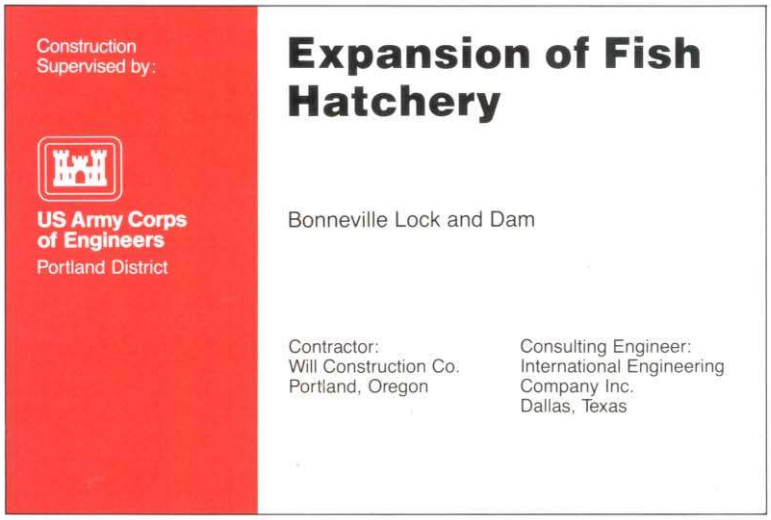
Legend Group 4: One- to two-line identification of project or facility (civil works) or name of sponsoring department (military).
Color: Black
Typeface: 1.5″ Helvetica Regular
Maximum line length: 42″

Cross-align the first line of Legend Group 4 with the first line of the Corps Signature (US Army Corps) as shown.

Legend Groups 5a-b: One- to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.
Color: Black
Typeface: 1.25″ Helvetica Regular
Maximum line length: 21″

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.





Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-01	various	4″ x 6″	4″ x 4″	HDO-3	48″	WH-RD/BK

Each contractor's safety record is to be posted on Corps managed or supervised construction projectgs and mounted with the construction project identification sign specified on page 16.2.

The graphic format, color, size and typefaces used on the sign are to be reproduced exactly as specified below. The title with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend Groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screw-mounted to the background to allow for daily revisions to posted safety performance record.

Special applications or situations not covered in these guidelines should be referred to the District/Division sign coordinator.

Legend Group 1: Standard two-line title "Safety is a Job Requirement", with (8" od.) Safety Green First Aid logo. Color: To match PMS 347
Typeface: 3" Helvetica Bold
Color: Black

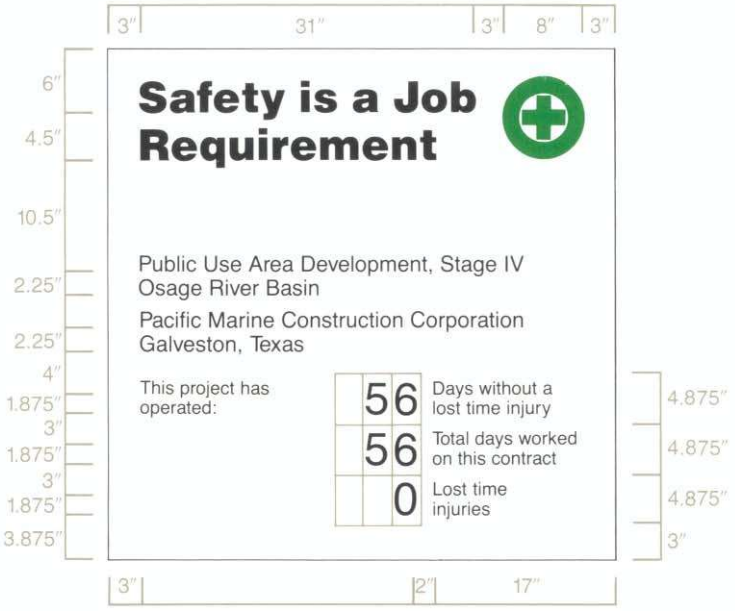
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

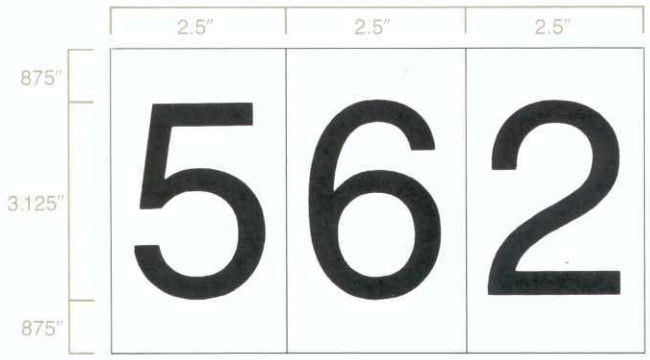
Legend Group 4: Standard safety record captions as shown.
Color: Black
Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background.
Color: Black
Typeface: 3" Helvetica Regular
Plate size: 2.5" x .5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4" x 4"	4" x 4"	HDO-3	48"	WH/BK-GR



All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer and shall conform to the size, format, and typographic standards shown on pages 16.2-3. Detailed specifications for HDO plywood panel preparation are provided in Appendix B.

Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

For additional information on the proper method to prepare sign panel graphics, contact the District sign coordinator.

The sign panels are to be fabricated from .75″ High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.

Sign graphics to be prepared on a white non-reflective vinyl film with positionable adhesive backing.

All graphics except for the Communications Red background with Corps signature on the project sign are to be die-cut or computer-cut non-reflective vinyl, pre-spaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16.2-3.

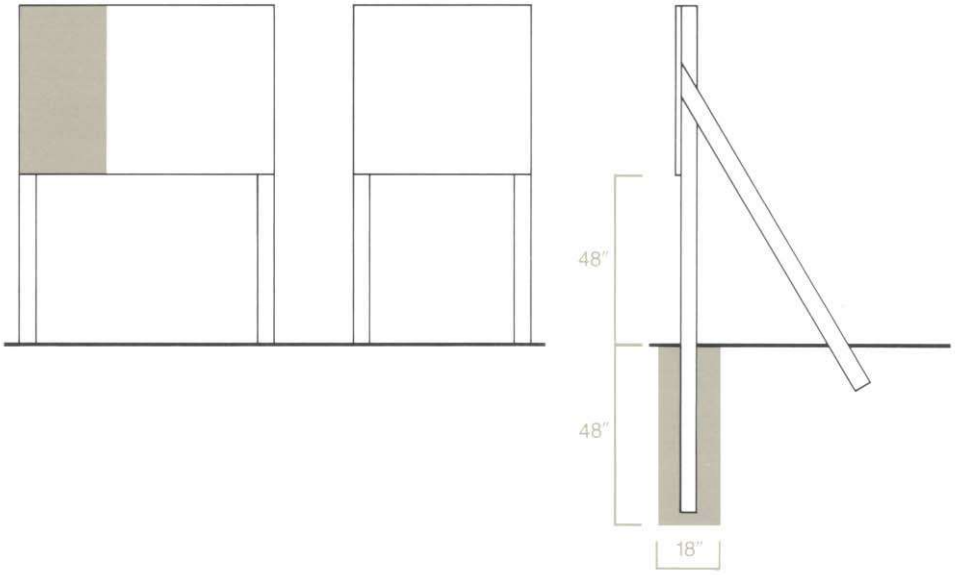
The 2′ x 4′ Communications Red panel (to match PMS-032) with full Corps signature (reverse version) is to be screen printed on the white background. Identification of the District or Division may be applied under the signature with white cut vinyl letters prepared to Corps standards. Large scale reproduction artwork for the signature is provided on page 4.8 (photographically enlarge from 6.875″ to 10.5″).

Drill and insert six (6) .375″ T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.

Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.

Sign uprights to be structural grade 4″ x 4″ treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12′ long. Drill six (6) .375″ mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5″) back of hole to accept socket head cap screw (4″ x .375″).

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4′ hole. Local soil conditions and/or wind loading may require bolting additional 2″ x 4″ struts on inside face of uprights to reinforce installation as shown.



Construction Project Sign
Legend Group 1: Corps Relationship

1. _____
2. _____

Legend Group 2: Division/District Name

1. _____
2. _____

Legend Group 3: Project Title

1. _____
2. _____
3. _____

Legend Group 4: Facility Name

1. _____
2. _____

Legend Group 5a: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Legend Group 5b: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Safety Performance Sign
Legend Group 1: Project Title

1. _____
2. _____

Legend Group 2: Contractor/A&E

1. _____
2. _____


3″
21″
3″
42″
3″
3″
9″
10.5″
2.5″
6″
10.5″
6.5″
1.25″
.625″
1.25″
Design and Construction
Supervised by:
US Army Corps
of Engineers
1.25″
1.25″
New Orleans District
U.S.ARMY
7.875″
Replacement of
North Spillway
Gates
3″
1.5″
3″
1.5″
3″
12″
(varies)
x
Vertically center the featured text group for the
project location (below), depending on the
number of text lines in the above project title.
Lock and Dam 12
Mississippi River
1.5″
.75″
1.5″
24″
(varies)
x
Contractor:
Oscar Construction Co.
Kansas City, Missouri
Consulting Engineer:
Wilmington, Rotheau, and
Eddings Engineering, Inc.
Chicago, Illinois
1.25″
.625″
(etc.)
9″
2.25″
21″
1″
21″
2″

3” | 31” | 3” | 8” | 3”

6” | 4.5” | 10.5” | 2.25” | 3” | 2.25” | 3” | 4.875” | 4.875” | 5”

Safety is a Job Requirement

Example

Gap Closures at Pump Station #3,
Interim Protection Plan, Phase 1

U.D.H. Builders, Inc.
Baton Rouge, Louisiana

This project started	3	5	0 4	4.875”
Date since last Lost time accident				4.875”
Total lost time injuries			0	4.5”

3”

3” | 21” | 24”

.75” | 3” | .75”

5 | 0 | 4

2.5” | 1.25” | 2.5” | 2.5”

(NOT TO SCALE)

WARNING: Text in

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PROJECT SCHEDULE

-- End of Section Table of Contents --

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PROJECT SCHEDULE

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for construction progress schedules, and all costs associated therewith shall be included in the applicable contract unit or job prices contained in the Bidding Schedule.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AACE INTERNATIONAL (AACE)

AACE 29R-03	(2011) Forensic Schedule Analysis
AACE 52R-06	(2006) Time Impact Analysis - As Applied in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(2017) Administration -- Project Schedules

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G"designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Project Scheduler Qualifications; G

Preliminary Project Schedule; G

Initial Project Schedule; G

Periodic Schedule Update; G

1.4 PROJECT SCHEDULER QUALIFICATIONS

Designate an authorized representative to be responsible for the preparation of the schedule and all required updating and production of reports. The authorized representative must have a minimum of 2-years experience scheduling construction projects similar in size and nature to this project with scheduling software that meets the requirements of

this specification. Representative must have a comprehensive knowledge of CPM scheduling principles and application.

PART 2 PRODUCTS

2.1 SOFTWARE

The scheduling software utilized to produce and update the schedules required herein must be capable of meeting all requirements of this specification.

2.1.1 Government Default Software

The Government will be using Primavera P6.

2.1.2 Contractor Software

Scheduling software used by the Contractor must be commercially available from the software vendor for purchase with vendor software support agreements available. The software routine used to create the required SDEF file must be created and supported by the software manufacturer.

2.1.2.1 Primavera

The Contractor shall provide the "xer" export file in a version of P6 importable by the Government system.

2.1.2.2 Other Than Primavera

If the Contractor chooses software other than Primavera P6, that is compliant with this specification, provide for the Government's use two licenses, two computers, and training for two Government employees in the use of the software. These computers will be stand-alone and not connected to Government network. Computers and licenses will be returned at project completion.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Prepare for approval a Project Schedule, as specified herein, pursuant to FAR Clause 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS. Show in the schedule the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities. The scheduling of the entire project is required. The scheduling of construction is the responsibility of the Contractor. Contractor management personnel must actively participate in its development. Subcontractors and suppliers working on the project must also contribute in developing and maintaining an accurate Project Schedule. Provide a schedule that is a forward planning as well as a project monitoring tool. Use the Critical Path Method (CPM) of network calculation to generate all Project Schedules. Prepare each Project Schedule using the Precedence Diagram Method (PDM).

3.2 BASIS FOR PAYMENT AND COST LOADING

The schedule is the basis for determining contract earnings during each update period and therefore the amount of each progress payment. The

aggregate value of all activities coded to a contract CLIN must equal the value of the CLIN.

3.2.1 Activity Cost Loading

Activity cost loading must be reasonable and without front-end loading. Provide additional documentation to demonstrate reasonableness if requested by the Contracting Officer.

3.2.2 Withholdings / Payment Rejection

Failure to meet the requirements of this specification may result in the disapproval of the preliminary, initial or periodic schedule updates and subsequent rejection of payment requests until compliance is met In the event that the Contracting Officer directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the Contracting Officer may withhold 10 percent of pay request amount from each payment period until such revisions to the project schedule have been made..

3.3 PROJECT SCHEDULE DETAILED REQUIREMENTS

3.3.1 Level of Detail Required

Develop the Project Schedule to the appropriate level of detail to address major milestones and to allow for satisfactory project planning and execution. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval. The Contracting Officer will consider, but is not limited to, the following characteristics and requirements to determine appropriate level of detail:

3.3.2 Activity Durations

Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. Less than 2 percent of all non-procurement activities may have Original Durations (OD) greater than 20 work days or 30 calendar days.

3.3.3 Procurement Activities

Include activities associated with the critical submittals and their approvals, procurement, fabrication, and delivery of long lead materials, equipment, fabricated assemblies, and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 90 calendar days.

3.3.4 Mandatory Tasks

Include the following activities/tasks as they are applicable to the project in the initial project schedule and all updates.

a. Submission, review and acceptance of SD-01 Preconstruction Submittals (individual activity for each).

b. Submission of mechanical/electrical/information systems layout drawings.

c. Long procurement activities

d. Submission and approval of O & M manuals.

e. Submission and approval of as-built drawings.

f. Submission and approval of DD1354 data and installed equipment lists.

g. Submission and approval of testing and air balance (TAB).

h. Submission of TAB specialist design review report.

i. Submission and approval of fire protection specialist.

j. Submission and approval of Building Commissioning Plan, test data, and reports: Develop the schedule logic associated with testing and commissioning of mechanical systems to a level of detail consistent with the contract commissioning requirements. All tasks associated with all building testing and commissioning will be completed prior to submission of building commissioning report and subsequent contract completion.

k. Air and water balancing.

l. Building commissioning - Functional Performance Testing.

m. Controls testing plan submission.

n. Controls testing.

o. Performance Verification testing.

p. Other systems testing, if required.

q. Contractor's pre-final inspection.

r. Correction of punch list from Contractor's pre-final inspection.

s. Government's pre-final inspection.

t. Correction of punch list from Government's pre-final inspection.

u. Final inspection.

3.3.5 Government Activities

Show Government and other agency activities that could impact progress. These activities include, but are not limited to: approvals, acceptance, environmental permit approvals by State regulators, inspections, utility tie-in, Government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.6 Standard Activity Coding Dictionary

Use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11. This exact structure is mandatory. Develop and assign all Activity Codes to activities as detailed herein. A template SDEF compatible schedule backup file is available on the QCS web site: http://rms.usace.army.mil.

The SDEF format is as follows:

Field	Activity Code	Length	Description
1	WRKP	3	Workers per day
2	RESP	4	Responsible party
3	AREA	4	Area of work
4	MODF	6	Modification Number
5	BIDI	6	Bid Item (CLIN)
6	PHAS	2	Phase of work
7	CATW	1	Category of work
8	FOW	20	Feature of work*

*Some systems require that FEATURE OF WORK values be placed in several activity code fields. The notation shown is for Primavera P6. Refer to the specific software guidelines with respect to the FEATURE OF WORK field requirements.

3.3.6.1 Workers Per Day (WRKP)

Assign Workers per Day for all field construction or direct work activities, if directed by the Contracting Officer. Workers per day is based on the average number of workers expected each day to perform a task for the duration of that activity.

3.3.6.2 Responsible Party Coding (RESP)

Assign responsibility code for all activities to the Prime Contractor, Subcontractor(s) or the Government agency responsible for performing the activity.

a. Activities coded with a Government Responsibility code include, but are not limited to: Government approvals, Government design reviews, environmental permit approvals by State regulators, Government Furnished Property/Equipment (GFP) and Notice to Proceed (NTP) for phasing requirements.

b. Activities cannot have more than one Responsibility Code. Examples of acceptable activity code values are: DOR (for the designer of record); ELEC (for the electrical subcontractor); MECH (for the mechanical subcontractor); and GOVT (for USACE).

3.3.6.3 Area of Work Coding (AREA)

Assign Work Area code to activities based upon the work area in which the activity occurs. Define work areas based on resource constraints or space constraints that would preclude a resource, such as a particular trade or craft work crew from working in more than one work area at a time due to restraints on resources or space. Examples of Work Area

Coding include different areas within a floor of a building, different floors within a building, and different buildings within a complex of buildings. Activities cannot have more than one Work Area Code. Not all activities are required to be Work Area coded. A lack of Work Area coding indicates the activity is not resource or space constrained.

3.3.6.4 Modification Number (MODF)

Assign a Modification Number Code to any activity or sequence of activities added to the schedule as a result of a Contract Modification, when approved by Contracting Officer. Key all Code values to the Government's modification numbering system. An activity can have only one Modification Number Code.

3.3.6.5 Bid Item Coding (BIDI)

Assign a Bid Item Code to all activities using the Contract Line Item Schedule (CLIN) to which the activity belongs, even when an activity is not cost loaded. An activity can have only one BIDI Code.

3.3.6.6 Phase of Work Coding (PHAS)

Assign Phase of Work Code to all activities. Examples of phase of work are submittal phase, procurement phase, and construction phase. Each activity can have only one Phase of Work code.

a. Code proposed fast track design and construction phases proposed to allow filtering and organizing the schedule by fast track design and construction packages.

b. If the contract specifies phasing with separately defined performance periods, identify a Phase Code to allow filtering and organizing the schedule accordingly.

3.3.6.7 Category of Work Coding (CATW)

Assign a Category of Work Code to all activities. Category of Work Codes include, but are not limited to construction submittal, procurement, fabrication, weather sensitive installation, non-weather sensitive installation, start-up, and testing activities. Each activity can have no more than one Category of Work Code.

3.3.6.8 Feature of Work Coding (FOW)

Assign a Feature of Work Code to appropriate activities based on the Definable Feature of Work to which the activity belongs based on the approved QC plan.

Definable Feature of Work is defined in Section 01 45 00.00 10 QUALITY CONTROL. An activity can have only one Feature of Work Code.

3.3.7 Contract Milestones and Constraints

Milestone activities are to be used for significant project events including, but not limited to, project phasing, project start and end activities, or interim completion dates. The use of artificial float constraints such as "zero free float" or "zero total float" are prohibited. Mandatory constraints that ignore or effect network logic are prohibited. No constrained dates are allowed in the schedule other

than those specified herein. Submit additional constraints to the Contracting Officer for approval on a case by case basis.

3.3.7.1 Project Start Date Milestone and Constraint

The first activity in the project schedule must be a start milestone titled "NTP Acknowledged," which must have a "Start On" constraint date equal to the date that the NTP is acknowledged.

3.3.7.2 End Project Finish Milestone and Constraint

The last activity in the schedule must be a finish milestone titled "End Project."

Constrain the project schedule to the Contract Completion Date in such a way that if the schedule calculates an early finish, then the float calculation for "End Project" milestone reflects positive float on the longest path. If the project schedule calculates a late finish, then the "End Project" milestone float calculation reflects negative float on the longest path. The Government is under no obligation to accelerate Government activities to support a Contractor's early completion.

3.3.7.3 Interim Completion Dates and Constraints

Constrain contractually specified interim completion dates to show negative float when the calculated late finish date of the last activity in that phase is later than the specified interim completion date.

3.3.7.3.1 Start Phase

Use a start milestone as the first activity for a project phase. Call the start milestone "Start Phase X" where "X" refers to the phase of work.

3.3.7.3.2 End Phase

Use a finish milestone as the last activity for a project phase. Call the finish milestone "End Phase X" where "X" refers to the phase of work.

3.3.8 Calendars

a. Schedule activities on a Calendar to which the activity logically belongs. Develop calendars to accommodate any contract defined work period such as a 7-day calendar for Government Acceptance activities, concrete cure times, etc. Develop the default Calendar to match the physical work plan with non-work periods identified including weekends and holidays. Develop sSeasonal Calendar(s) and assign to seasonally affected activities as applicable.

b. If an activity is weather sensitive it should be assigned to a calendar showing non-work days on a monthly basis, with the non-work days selected at random across the weeks of the calendar, using the anticipated adverse weather delay work days provided in the Section 01100 - GENERAL PROVISIONS, paragraph TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. Assign non-work days over a seven-day week as weather records are compiled on seven-day weeks, which may cause some of the weather related non-work days to fall on weekends.

3.3.9 Open Ended Logic

a. Only two open ended activities are allowed: the first activity "NTP Acknowledged" may have no predecessor logic, and the last activity -"End Project" may have no successor logic.

b. Predecessor open ended logic may be allowed in a time impact analyses upon the Contracting Officer's approval.

3.3.10 Default Progress Data Disallowed

Actual Start and Finish dates must not automatically update with default mechanisms included in the scheduling software. Updating of the percent complete and the remaining duration of any activity must be independent functions. Disable program features that calculate one of these parameters from the other. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process must match those dates provided in the Contractor Quality Control Reports. Failure to document the AS and AF dates in the Daily Quality Control report will result in disapproval of the Contractor's schedule.

3.3.11 Out-of-Sequence Progress

Activities that have progressed before all preceding logic has been satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the Contracting Officer. Propose logic corrections to eliminate out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule. Address out of sequence progress or logic changes in the Narrative Report and in the periodic schedule update meetings.

3.3.12 Added and Deleted Activities

Do not delete activities from the project schedule or add new activities to the schedule without approval from the Contracting Officer. Activity ID and description changes are considered new activities and cannot be changed without Contracting Officer approval.

3.3.13 Original Durations

Activity Original Durations (OD) must be reasonable to perform the work item. OD changes are prohibited unless justification is provided and approved by the Contracting Officer.

3.3.14 Leads, Lags, and Start to Finish Relationships

Lags must be reasonable as determined by the Government and not used in place of realistic original durations, must not be in place to artificially absorb float, or to replace proper schedule logic.

a. Leads (negative lags) are prohibited.

b. Start to Finish (SF) relationships are prohibited.

3.3.15 Retained Logic

Schedule calculations must retain the logic between predecessors and

successors ("retained logic" mode) even when the successor activity(s) starts and the predecessor activity(s) has not finished (out-of-sequence progress). Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") are not be allowed.

3.3.16 Percent Complete

Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete to allow for proper schedule management.

3.3.17 Remaining Duration

Update the remaining duration for each activity based on the number of estimated work days it will take to complete the activity. Remaining duration may not mathematically correlate with percentage found under paragraph entitled Percent Complete.

3.3.18 Cost Loading of Closeout Activities

Cost load the "Correction of punch list from Government pre-final inspection" activity(ies) not less than 1 percent of the present contract value. Activity(ies) may be declared 100 percent complete upon the Government's verification of completion and correction of all punch list work identified during Government pre-final inspection(s).

3.3.18.1 As-Built Drawings

If there is no separate contract line item (CLIN) for as-built drawings, cost load the "Submission and approval of as-built drawings" activity not less than $35,000 or 1 percent of the present contract value, which ever is greater, up to $200,000. Activity will be declared 100 percent complete upon the Government's approval.

3.3.18.2 O & M Manuals

Cost load the "Submission and approval of O & M manuals" activity not less than $20,000. Activity will be declared 100 percent complete upon the Government's approval of all O & M manuals.

3.3.19 Early Completion Schedule and the Right to Finish Early

An Early Completion Schedule is an Initial Project Schedule (IPS) that indicates all scope of the required contract work will be completed before the contractually required completion date.

a. No IPS indicating an Early Completion will be accepted without being fully resource-loaded (including crew sizes and manhours) and the Government agreeing that the schedule is reasonable and achievable.

b. The Government is under no obligation to accelerate work items it is responsible for to ensure that the early completion is met nor is it responsible to modify incremental funding (if applicable) for the project to meet the Contractor's accelerated work.

3.4 PROJECT SCHEDULE SUBMISSIONS

Provide the submissions as described below. The data file, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS. If the Contractor fails or refuses to furnish the information and schedule updates as set forth herein, then the Contractor will be deemed not to have provided an estimate upon which a progress payment can be made. Review comments made by the Government on the schedule(s) do not relieve the Contractor from compliance with requirements of the Contract Documents.

3.4.1 Preliminary Project Schedule Submission

Within 15 calendar days after the NTP is acknowledged submit the Preliminary Project Schedule defining the planned operations detailed for the first 90 calendar days for approval. The approved Preliminary Project Schedule will be used for payment purposes not to exceed 90 calendar days after NTP. Completely cost load the Preliminary Project Schedule to balance the contract award CLINS shown on the Price Schedule. The Preliminary Project Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Preliminary Project Schedule forms the basis for the Initial Project Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as design activities, planned submissions of all early design packages, permitting activities, design review conference activities, and other non-construction activities intended to occur within the first 90 calendar days. Government acceptance of the associated design package(s) and all other specified Program and Plan approvals must occur prior to any planned construction activities. Activity code any activities that are summary in nature after the first 90 calendar days with Bid Item (CLIN) code (BIDI), Responsibility Code (RESP) and Feature of Work code (FOW).

3.4.2 Initial Project Schedule Submission

Submit the Initial Project Schedule for approval within 42 calendar days after Notice to Proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. No payment will be made for work items not fully detailed in the Project Schedule.

3.4.3 Periodic Schedule Updates

Update the Project Schedule on a regular basis, monthly at a minimum. Provide a draft Periodic Schedule Update for review at the schedule update meetings as prescribed in the paragraph PERIODIC SCHEDULE UPDATE MEETINGS. These updates will enable the Government to assess Contractor's progress.

a. Update information including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete is subject to the approval of the Government at the meeting.

b. AS and AF dates must match the date(s) reported on the Contractor's Quality Control Report for an activity start or finish.

3.5 SUBMISSION REQUIREMENTS

Submit the following items for the Preliminary Schedule, Initial Schedule, and every Periodic Schedule Update throughout the life of the project:

3.5.1 Data Submission

Provide the datacontaining the current project schedule and all previously submitted schedules in the format of the scheduling software (e.g. .xer). Also include in the data submitted the Narrative Report and all required Schedule Reports. The data reports shall indicate the type of schedule (Preliminary, Initial, Update), full contract number, Data Date and file name. Each schedule must have a unique file name and use project specific settings. The Contractor shall email the files in the format of the scheduling software to the Contracting Officer's representative responsible for the inspection of this contract.

3.5.2 Narrative Report

Provide a Narrative Report with each schedule submission. The Narrative Report is expected to communicate to the Government the thorough analysis of the schedule output and the plans to compensate for any problems, either current or potential, which are revealed through that analysis. Include the following information as minimum in the Narrative Report:

a. Identify and discuss the work scheduled to start in the next update period.

b. A description of activities along the two most critical paths where the total float is less than or equal to 20 work days.

c. A description of current and anticipated problem areas or delaying factors and their impact and an explanation of corrective actions taken or required to be taken.

d. Identify and explain why activities based on their calculated late dates should have either started or finished during the update period but did not.

e. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum new and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.

f. Identify and discuss out-of-sequence work.

3.5.3 Schedule Reports

The format, filtering, organizing and sorting for each schedule report will be as directed by the Contracting Officer. Typically, reports shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float, Actual Start Date, Actual Finish Date, and Percent Complete. Provide the reports electronically in .pdf format. One or all of these reports may be requested for each

schedule submission. The following lists typical reports that will be requested:

3.5.3.1 Activity Report

List of all activities sorted according to activity number.

3.5.3.2 Logic Report

List of detailed predecessor and successor activities for every activity in ascending order by activity number.

3.5.3.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities which have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

3.5.3.4 Earnings Report by CLIN

A compilation of the Total Earnings on the project from the NTP to the data date, which reflects the earnings of activities based on the agreements made in the schedule update meeting defined herein. Provided a complete schedule update has been furnished, this report serves as the basis of determining progress payments. Group activities by CLIN number and sort by activity number. Provide a total CLIN percent earned value, CLIN percent complete, and project percent complete. The printed report must contain the following for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Earnings to Date, Earnings this period, Total Quantity, Quantity to Date, and Percent Complete (based on cost).

3.5.3.5 Schedule Log

Provide a Scheduling/Leveling Report generated from the current project schedule being submitted.

3.5.4 Network Diagram

The Network Diagram is required for the Preliminary, Initial and Periodic Updates. Depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.4.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left. Show the activity number, description, duration, and estimated earned value on the diagram.

3.5.4.2 Project Milestone Dates

Show dates on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.4.3 Critical Path

Show all activities on the critical path. The critical path is defined as the longest path.

3.5.4.4 Banding

Organize activities using the WBS or as otherwise directed to assist in the understanding of the activity sequence. Typically, this flow will group activities by major elements of work, category of work, work area and/or responsibility.

3.5.4.5 Cash Flow / Schedule Variance Control (SVC) Diagram

With each schedule submission, provide a SVC diagram showing 1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates, and 2) Earned Value to-date.

3.6 PERIODIC SCHEDULE UPDATE

3.6.1 Periodic Schedule Update Meetings

Conduct periodic schedule update meetings for the purpose of reviewing the proposed Periodic Schedule Update, Narrative Report, Schedule Reports, and progress payment. Conduct meetings at least monthly within five days of the proposed schedule data date. Provide a computer with the scheduling software loaded and a projector which allows all meeting participants to view the proposed schedule during the meeting. The Contractor's authorized scheduler must organize, group, sort, filter, perform schedule revisions as needed and review functions as requested by the Contractor and/or Government. The meeting is a working interactive exchange which allows the Government and Contractor the opportunity to review the updated schedule on a real time and interactive basis. The meeting will last no longer than 8 hours. Provide a draft of the proposed narrative report and schedule data file to the Government a minimum of two workdays in advance of the meeting. The Contractor's Project Manager and scheduler must attend the meeting with the authorized representative of the Contracting Officer. Superintendents, foremen and major subcontractors must attend the meeting as required to discuss the project schedule and work. Following the periodic schedule update meeting, make corrections to the draft submission. Include only those changes approved by the Government in the submission and invoice for payment.

3.6.2 Update Submission Following Progress Meeting

Submit the complete Periodic Schedule Update of the Project Schedule containing all approved progress, revisions, and adjustments, pursuant to paragraph SUBMISSION REQUIREMENTS not later than 4 work days after the periodic schedule update meeting.

3.7 WEEKLY PROGRESS MEETINGS

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the as planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the

production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals.

3.8 REQUESTS FOR TIME EXTENSIONS

Provide a justification of delay to the Contracting Officer in accordance with the contract provisions and clauses for approval within 10 days of a delay occurring. Also prepare a time impact analysis for each Government request for proposal (RFP) to justify time extensions.

3.8.1 Justification of Delay

Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify all schedule activities impacted. Show that the event that caused the delay/impact was the responsibility of the Government. Provide a time impact analysis that demonstrates the effects of the delay or impact on the project completion date or interim completion date(s). Evaluate multiple impacts chronologically; each with its own justification of delay. With multiple impacts consider any concurrency of delay. A time extension and the schedule fragnet becomes part of the project schedule and all future schedule updates upon approval by the Contracting Officer.

3.8.2 Time Impact Analysis (Prospective Analysis)

Prepare a time impact analysis for approval by the Contracting Officer based on industry standard AACE 52R-06. Utilize a copy of the last approved schedule prior to the first day of the impact or delay for the time impact analysis. If Contracting Officer determines the time frame between the last approved schedule and the first day of impact is too great, prepare an interim updated schedule to perform the time impact analysis. Unless approved by the Contracting Officer, no other changes may be incorporated into the schedule being used to justify the time impact.

3.8.3 Forensic Schedule Analysis (Retrospective Analysis)

Prepare an analysis for approval by the Contracting Officer based on industry standard AACE 29R-03.

3.8.4 Fragmentary Network (Fragnet)

Prepare a proposed fragnet for time impact analysis consisting of a sequence of new activities that are proposed to be added to the project schedule to demonstrate the influence of the delay or impact to the project's contractual dates. Clearly show how the proposed fragnet is to be tied into the project schedule including all predecessors and successors to the fragnet activities. The proposed fragnet must be approved by the Contracting Officer prior to incorporation into the project schedule.

3.8.5 Time Extension

The Contracting Officer must approve the Justification of Delay including the time impact analysis before a time extension will be granted. No time extension will be granted unless the delay consumes all available Project Float and extends the projected finish date ("End Project" milestone) beyond the Contract Completion Date. The time extension will be in calendar days. Actual delays that are found to be

caused by the Contractor's own actions, which result in a calculated schedule delay will not be a cause for an extension to the performance period, completion date, or any interim milestone date.

3.8.6 Impact to Early Completion Schedule

No extended overhead will be paid for delay prior to the original Contract Completion Date for an Early Completion IPS unless the Contractor actually performed work in accordance with that Early Completion Schedule. The Contractor must show that an early completion was achievable had it not been for the impact.

3.9 FAILURE TO ACHIEVE PROGRESS

Should the progress fall behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the Contracting Officer may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra work days, etc.

3.9.1 Artificially Improving Progress

Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited. Indicate assumptions made and the basis for any logic, constraint, duration and calendar changes used in the creation of the recovery plan. Any additional resources, manpower, or daily and weekly work hour changes proposed in the recovery plan must be evident at the work site and documented in the daily report along with the Schedule Narrative Report.

3.9.2 Failure to Perform

Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and may result in corrective action directed by the Contracting Officer pursuant to FAR 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS, FAR 52.249-10 Default (Fixed-Price Construction), and other contract provisions.

3.9.3 Recovery Schedule

Should the Contracting Officer find it necessary, submit a recovery schedule pursuant to FAR 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS.

3.10 OWNERSHIP OF FLOAT

Except for the provision given in the paragraph IMPACT TO EARLY COMPLETION SCHEDULE, float available in the schedule, at any time, may not be considered for the exclusive use of either the Government or the Contractor including activity and/or project float. Activity float is the number of work days that an activity can be delayed without causing a delay to the "End Project" finish milestone. Project float (if applicable) is the number of work days between the projected early finish and the contract completion date milestone.

3.11 TRANSFER OF SCHEDULE DATA INTO RMS/QCS

Import the schedule data into the Quality Control System (QCS) and export the QCS data to the Government. This data is considered to be additional supporting data in a form and detail required by the Contracting Officer pursuant to FAR 52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS. The receipt of a proper payment request pursuant to FAR 52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS is contingent upon the Government receiving both acceptable and approvable hard copies and matching electronic export from QCS of the application for progress payment. The Contractor shall submit schedules and schedule updates electronically via RMS, in .XCER format using Primavera 6 Professional 19 (x64) or an older version. The Contractor shall verify with Government personnel the version of Primavera being used at the time of their initial submittal.

3.12 PRIMAVERA P6 MANDATORY REQUIREMENTS

The Contractor shall request a backup file template (.xer) from the Government, if one is available, prior to building the schedule. The following settings are mandatory and required in all schedule submissions to the Government:

a. Activity Codes must be Project Level, not Global or EPS level.

b. Calendars must be Project Level, not Global or Resource level.

c. Activity Duration Types must be set to "Fixed Duration & Units".

d. Percent Complete Types must be set to "Physical".

e. Time Period Admin Preferences must remain the default "8.0 hr/day, 40 hr/week, 172 hr/month, 2000 hr/year". Set Calendar Work Hours/Day to 8.0 Hour days.

f. Set Schedule Option for defining Critical Activities to "Longest Path".

g. Set Schedule Option for defining progressed activities to "Retained Logic".

h. Set up cost loading using a single lump sum labor resource. The Price/Unit must be $1/hr, Default Units/Time must be "8h/d", and settings "Auto Compute Actuals" and "Calculate costs from units" selected.

i. Activity ID's must not exceed 10 characters.

j. Activity Names must have the most defining and detailed description within the first 30 characters.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 33 00

SUBMITTAL PROCEDURES

-- End of Section Table of Contents --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for submittal requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid items. Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

Certificates of insurance.
Surety bonds.
List of proposed subcontractors.
List of proposed products.
Construction Progress Schedule.
Submittal register.
Schedule of prices.
Health and safety plan.
Work plan.
Quality control plan.
Environmental protection plan.
Traffic Control Plan.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

1.2.2 Approving Authority

Office or designated person authorized to approve submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal Register; G

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause in Section 00700 entitled, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21), they are considered to be "shop drawings." Any reference to Government approval by the Contracting Officer (CO) includes the approving authority of the CO, the Administrative Contracting Officer (ACO), or the Contracting Officer's Representative (COR).

1.4.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.5 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.6 DISAPPROVED SUBMITTALS

The Contractor shall respond to all concerns expressed by the Contracting Officer and promptly make any corrections necessary to address those concerns. The Contractor shall promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause in Section 00700 entitled, CHANGES (FAR 52.243-4), shall be given promptly to the Contracting Officer.

1.7 GENERAL

The Contractor shall submit all items listed on the Submittal Register (ENG Form 4288) or specified in the other sections of these specifications. The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.8 SUBMITTAL REGISTER

At the end of this section is a submittal register showing items of equipment and materials for which submittals are required by the specifications; this submittal register may not be all inclusive and additional submittals may be required. The Contractor shall maintain a submittal register for the project in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM). The Government will provide the initial submittal register in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall track all submittals.

1.9 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for

review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

1.10 TRANSMITTAL FORM (ENG FORM 4025)

The transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government-approved and information-only submittals in accordance with the instructions on the reverse side of the form. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the contract specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item. In order to expedite review of submittals, an electronic copy of all submittals shall be sent to the Contracting Officer's Representative along with the hard copies. Each submittal shall be submitted in electronic (.pdf) form. Electronic files shall be .pdf, .dgn, docx, or other format acceptable to the Contracting Officer's Representative.

1.11 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.11.1 Procedures

Procedures for submittals will be stipulated by the Contracting Officer at the preconstruction conference.

1.11.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.12 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.13 GOVERNMENT APPROVED SUBMITTALS

All submittals shall be received through RMS, including any attachments. Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. The Contractor shall provide at least one (1) hard copy to the Government Inspector of all submittals. This copy will be retained by the Contracting Officer. If the Contractor requires the return of any hard copies for their records, these copies shall be provided in addition to the one (1) Government copy at the time of submittal.

1.14 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any

item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. The Contractor shall also submit electronic copies (i.e., .pdf files) of all submittals to expedite the review and approval process.

1.15 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
WSLP-107

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 32 01.00 12	SD-01 Preconstruction Submittals															
			Project Scheduler Qualifications	1.4	G													
			Preliminary Project Schedule	3.4.1	G													
			Initial Project Schedule	3.4.2	G													
			Periodic Schedule Update	3.6.2	G													
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.7	G													
		01 45 04.00 10	SD-01 Preconstruction Submittals															
			Contractor Quality Control Plan	3.2	G CD													
		01 55 26.00 12	SD-01 Preconstruction Submittals															
			Traffic Control Device Plan	3.2	G													
		01 78 02.00 10	SD-02 Shop Drawings															
			'As-Built' Drawings	1.3.1	G DO													
		31 05 19.04 12	SD-01 Preconstruction Submittals															
			Work Plan	1.6.1														
			SD-04 Samples															
			Geotextile	1.6.1														
			Geotextile	2.1														
			SD-07 Certificates															
			Geotextile	1.6.1	G													
			Geotextile	2.1	G													
		31 05 19.05 12	SD-01 Preconstruction Submittals															
			Work Plan	1.4.1	G													
			SD-04 Samples															
			Geotextile	1.4.1	G													
			Geotextile	2.1	G													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
WSLP-107

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		31 05 19.05 12	SD-06 Test Reports															
			Geotextile	1.4.1														
			Geotextile	2.1														
			SD-07 Certificates															
			Geotextile	1.4.1														
			Geotextile	2.1														
		32 15 00.00 12	SD-06 Test Reports															
			Sampling and Testing	1.5.2	G													
		32 92 19.23 12	SD-07 Certificates															
			Seed	2.1.3	G CD													
			Turf Establishment Plan		G EDC													
		33 40 01.00 12	SD-03 Product Data															
			Materials	2.1	G													
			SD-07 Certificates															
			Test results	1.4.2														
			Test data	1.4.2														
			Specified sheet thickness	3.1.1														
			Specified coating thickness	3.1.1														
			Hydrostatic Tests	1.4.2														

U.S. Army Corps of Engineers (USACE)

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.

DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (*This section will be initiated by the contractor*)

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____

SPECIFICATION SEC. NO. (*Cover only one section with each transmittal*)	PROJECT TITLE AND LOCATION	THIS TRANSMITTAL IS FOR: (*Check one*) ☐ FIO ☐ GA ☐ DA ☐ CR ☐ DA/CR ☐ DA/GA

ITEM NO. (*See Note 3*) a.	**DESCRIPTION OF SUBMITTAL ITEM** (*Type size, model number/etc.*) b.	**SUBMITTAL TYPE CODE** (*See Note 8*) c.	**NO. OF COPIES** d.	**CONTRACT DOCUMENT REFERENCE**		**CONTRACTOR REVIEW CODE** g.	**VARIATION** Enter "Y" if requesting a variation (*See Note 6*) h.	**USACE ACTION CODE** (*Note 9*) i.
				SPEC. PARA. NO. e.	**DRAWING SHEET NO.** f.			

REMARKS

I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

NAME OF CONTRACTOR	SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (*List by item No.*)	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.

3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.

4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.

5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.

6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing he detailed reason for the variation.

7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.

8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
   Submittal types are the following:
   SD-01 - Preconstruction SD-02 - Shop Drawings SD-03 - Product Data SD-04 - Samples SD-05 - Design Data SD-06 - Test Reports
   SD-07 - Certificates SD-08 - Manufacturer's Instructions SD-09 - Manufacturer's Field Reports SD-10 - O&M Data SD-11 - Closeout

9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

   A -- Approved as submitted.
   B -- Approved, except as noted on drawings. Resubmission not required.
   C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required.
   D -- Will be returned by separate correspondence.
   E -- Disapproved. Refer to attached comments.
   F -- Receipt acknowledged.
   X -- Receipt acknowledged, does not comply with contract requirements, as noted.
   G -- Other action required *(Specify)*
   K -- Government concurs with intermediate design. (*For D-B contracts*)
   R -- Design submittal is acceptable for release for construction. (*For D-B contracts*)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

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SOURCES FOR REFERENCE PUBLICATIONS

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SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AMERICAN CONCRETE INSTITUTE (ACI)
38800 Country Club Drive
Farmington Hills, MI 48331
Ph: 248-848-3700
Fax: 248-848-3701
E-mail: bkstore@concrete.org
Internet: http://www.concrete.org

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 North Capital Street, NW, Suite 249
Washington, DC 20001
Ph: 202-624-5800
Fax: 202-624-5806
E-Mail: info@aashto.org
Internet: http://www.aashto.org

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: http://www.astm.org

LOUISIANA ADMINISTRATIVE CODE (LAC)
Office of State Register
P.O. Box 94095
Baton Rouge, LA 70804-9095

Ph: 225-342-5015
Internet:

STATE OF LOUISIANA, AIR CONTROL COMMISSION (LACC)
P.O. Box 4301
Baton Rouge, LA 70821-4301
Ph: 225-219-3953
Fax: 225-219-3971
Internet:

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016 Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD)
P.O. Box 94245
Baton Rouge, LA 70804-9245
Ph: 225-379-1200
Fax: 225-379-1851
Internet:

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
P.O. Box 4301
Baton Rouge, LA 70821-4301
Ph: 225-219-3953
Fax: 225-219-3971
Internet:

U.S. ARMY CORPS OF ENGINEERS (USACE)
Order CRD-C DOCUMENTS from:
U.S. Army Engineer Research & Development Center
ATTN: Materials Testing Center
Building 6000
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Ph: 601-634-2496
Fax: 601-634-3242
E-mail: mtc-info@erdc.usace.army.mil
Internet: http://www.wes.army.mil/SL/MTC/handbook.htm

Order Other Documents from:
USACE Publications Depot
Attn: CEHEC-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
E-mail: mtc-info@erdc@usace.army.mil
Internet: http://gsl.erdc.usace.army.mil/SL/MTC/

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
Office of Highway Safety (HHS-31)
400 Seventh Street, SW
Washington, DC 20590-0001
Ph: 202-366-0411
Fax: 202-366-2249
Internet: http://www.fhwa.dot.gov
Order from:

Superintendent of Documents
U. S. Government Printing Office (GPO)

732 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
Internet: http://www.archives.gov

Order documents from:
Superintendent of Documents
U.S.Government Printing Office (GPO)
732 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov

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RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

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SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for resident management system requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid items.

1.2 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
RMS CM Guide	(2021) Resident Management System (RMS) User Manual For Contractors

1.3 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Contractor accesses the system using the Contractor Mode (RMS CM) module. The term RMS will be used in the remainder of this section for both RMS and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

For assistance in providing contract-required data to the Government, the Contractor is directed to the following website for guidance: https://rms.usace.army.mil/datafiles/rms_qcs_manuals/qcs_manual_2_38.pdf

1.3.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will

govern, in the event of discrepancy with the electronic version.

1.3.2 Other Factors

Other portions of this document have a direct relationship to the reporting accomplished through RMS. Particular attention is directed to Contract Clause, (FAR 52.236-15) "SCHEDULES FOR CONSTRUCTION CONTRACTS"; Contract Clause, (FAR 52.232-27) "PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS"; Contract Clause, (FAR 52.232-5) "PAYMENTS UNDER FIXED-PRICED CONSTRUCTION CONTRACTS"; Section 01 33 00 SUBMITTAL PROCEDURES; and Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.4 RMS SOFTWARE

RMS is a Windows-based program that can be run on a Windows-based PC meeting the requirements as specified in Paragraph: SYSTEM REQUIREMENTS. Download, install and be able to utilize the latest version of the RMS software within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals (RMS CM Guide), access and installation instructions, program updates and training information are available from the RMS website (https://rms.usace.army.mil/datafiles/rmsdocwebsite/default.html). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.5 SYSTEM REQUIREMENTS

The following is the minimum recommended system configuration to run the Contractor Mode RMS for full utilization of all features for all types and sizes of contracts. Smaller, less complicated, projects may not require the configuration levels described below. Required configuration also noted below.

Minimum RMS System Requirements	
Hardware	
Windows-based PC	Intel i3 or -AMD A6 3650: 1.7 GHz or higher processor (REQUIRED)
RAM	8 GB
Hard drive disk	100 GB space for sole use by RMS system
Monitor	Screen resolution 1366 x 768
Mouse or other pointing device	
Windows compatible printer	Laser printer must have 4 MB+ of RAM
Connection to the Internet	minimum 10 Mbs per user

Minimum RMS System Requirements	
Software	
MS Windows	Windows 10 x 64 bit (RMS requires 64 bit O/S) or newer (REQUIRED)
Word Processing software	Viewer for MS Word 2013, MS Excel 2013 or newer (REQUIRED)
Virus protection software	Regularly upgraded with all issued Manufacturer's updates and is able to detect most zero day viruses (REQUIRED)

1.6 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance (QA) comments, as well as other miscellaneous administrative information.

1.7 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates, payment requests, payrolls and testing reports. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.7.1 Administration

1.7.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.7.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.7.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.7.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.7.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

1.7.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response.

1.7.2 Finances

1.7.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.7.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Include an updated schedule with each payment request. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

1.7.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.

1.7.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must

be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

1.7.3.2 Deficiency Tracking

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

1.7.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

1.7.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.7.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor will monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1 and as required by any other applicable Federal, State or local agencies.

1.7.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.7.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.7.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

1.7.5 Schedule

Enter and update the contract project schedule in RMS by either manually entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 32 01.00 12 01 32 17.00 20 PROJECT SCHEDULE.

1.7.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

1.8 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.9 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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CONTRACTOR QUALITY CONTROL

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SECTION 01 45 04.00 10

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for providing and maintaining an effective Contractor Quality Control program. Costs associated therewith shall be distributed amongst the existing bid items.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control Plan; G, CD

1.3 ELECTRONIC TEST REPORT DATA

As part of the Contractor's Quality Control program, his/her selected QC laboratory shall provide electronic transmission of the test report data in the prescribed formats with the original hard copy test report data to the Government. The New Orleans District Construction Control Manual (NODCC Manual) specifies the minimum number of tests to be performed and includes forms which shall be used to report test data. A copy of the NODCC Manual is attached at the end of this section. The technical specification sections may include testing and/or frequency requirements other than those listed in the NODCC manual. These additional requirements shall be followed in addition to the aforementioned. Tests results shall be emailed to mvn-cd-q-testresults@usace.army.mil, and also to the Government's inspector and Project Engineer. In addition, all test results shall be uploaded to the Resident Management System Contractor Mode (RMS CM).

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Clause in Section 00700 CONTRACT CLAUSES, entitled "INSPECTION OF CONSTRUCTION" (FAR 52.246-12). The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent and

Quality Control Manager will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice of award, the Contractor Quality Control Plan proposed to implement the requirements of the Clause in Section 00700 CONTRACT CLAUSES, entitled "INSPECTION OF CONSTRUCTION" (FAR 52.246-12). The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started. A sample CQC Plan is attached at the end of the section.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph

requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer shall be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his/her CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 14 calendar days prior to the Coordination Meeting. During the Coordination Meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of 3 years (full time) experience in related equivalent work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager may not have any other duties than quality control, and that when the alternate is activated, he shall also have no other duties other than quality control.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, materials technician, submittals clerk. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan. A single person may cover more than one area provided that they are qualified to perform QC activities in each designated field of expertise and if his/her workload allows.

Experience Matrix

Area	Qualifications
a. Civil	Graduate Civil Engineer or Construction Manager with 2 years experience in the

Experience Matrix

Area		Qualifications
		type of work being performed on this project or technician with 5 yrs related experience
b.	Submittals	Submittal Clerk with 1 yr experience
c.	Concrete, Pavements and Soils	Materials Technician with 2 yrs experience for the appropriate area

3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager, and his/her alternate, shall have completed the course entitled "Construction Quality Management for Contractors" within the past 3 years. This course is periodically offered at the New Orleans District and other Corps of Engineers districts.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government Quality Assurance personnel shall be notified at least 48 hours in advance of beginning the preparatory control phase. The Contractor shall submit a written agenda of the topics to be discussed at the preparatory meeting on the day prior to the meeting date. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), Government Quality Assurance personnel, and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. The Contractor shall notify the Contracting Officer's Representative (COR) at least 24 hours prior to all quality control testing in order to coordinate simultaneous quality assurance tests if the COR elects to do so. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Depending upon the workload by the Government inspecting agency, acceptance or rejection of the Contractor proposed testing laboratory is usually done approximately 60 to 120 days after notification is received from the Contractor. The certification will be valid for two years. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number

system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

f. Field soil sampling and testing locations shall be recorded using GPS coordinates accurate to the meter range.

g. Test results shall be emailed to mvn-cd-q-testresults@usace.army.mil, to the government inspector, and to the Project Engineer. In addition, all test results shall be uploaded into RMS. The required template for data transmission is covered in the attached Construction Control Manual_Appendices A-C at the end of this section.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

All laboratory facilities, personnel, and equipment used to test soil, concrete, and asphalt shall be part of a validated laboratory that has been inspected or audited by the USACE Materials Testing Center, Vicksburg, MS.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of $5000.00 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

U.S. Army Engineer Research and Development Center (ERDC)
Waterways Experiment Station
Geotechnical and Structures Laboratory
3909 Halls Ferry Road

Vicksburg, Mississippi 39180-6199

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Clause in Section 00700 CONTRACT CLAUSES, entitled "COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10)" or stated elsewhere in the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the work is complete. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from the New Orleans District, Mississippi Valley Division, and local interest may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Clause in Section 00700 CONTRACT CLAUSES, entitled "INSPECTION OF CONSTRUCTION" (FAR 52.246-12).

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following

information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 12 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms for guidance in preparing the CQC Plan are enclosed at the end of this section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take

immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

US Army Corps of Engineers ®
New Orleans District

Construction Control Manual

Sampling & Testing Construction Materials
Reporting Test Results

CEMVN CD 415-Q-11
14 March 2016

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

CEMVDN-CD

Pamphlet
Number CEMVN-CD-415-Q-11 14 March 2016

Construction

CONSTRUCTION CONTROL MANUAL

1. Purpose. This manual describes the means and methods for the Contractor Quality Control (QC) and Government Quality Assurance (QA) testing of some of the more common construction materials incorporated into New Orleans District projects. Information is given on sampling, the test required, testing frequency, reporting requirements, and database maintenance. This manual only describes a minimum testing program on a limited number of common construction materials and the specifications may require additional tests that demonstrate compliance with the contract documents.

2. Applicability. This manual applies to all New Orleans District elements having responsibility for the design and construction of assigned projects.

3. Scope of the Manual. This manual is intended to guide the Quality Control and Quality Assurance process and provide for the construction of a project whose quality and durability is a direct reflection of the Contractor's and the Government's efforts in meeting the project's goals and objectives. If there is a conflict between this manual and the technical specification sections, the most stringent requirements shall govern.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

Number CEMVN-CD-415-Q-11

Table of Contents

Chapter 1 Introduction

1. General:

This manual describes the means and methods for the Contractor Quality Control and Government Quality Assurance testing of construction materials incorporated into the New Orleans District (CEMVN) projects. Information is given on sampling, the test required, testing frequency, reporting requirements, and database maintenance. This manual only describes a minimum testing program on a limited number of common construction materials and the specifications may require additional tests that demonstrate compliance with the contract documents. If there is a conflict between this manual and the technical specification sections, the most stringent requirements shall govern. The most recent version of this manual at the time of contract solicitation will supplement the construction material control requirements for a specific contract unless noted otherwise.

The Contractor shall only use those laboratories, including his own that have been validated by an inspection or audit performed by the USACE Materials Testing Center, Vicksburg, MS.

2. Definitions:

a. Quality Management System. Quality management is defined as all control, inspection, and other assurance activities instituted to achieve the product quality established by the contract plans and specifications.

b. Contractor Quality Control. Contractor Quality Control (QC) is that part of the system by which the Contractor regulates, tests and inspects their own, suppliers, and sub-Contractors procedures, equipment, materials, and personnel so that the completed product will comply with the requirements of the project's contract documents.

c. Government Quality Assurance. Government Quality Assurance (QA) is that part of the system by which the Government verifies or assures that the Contractor's Quality Control system is performing properly and the completed product conforms to the contract documents. The number of QC test observed by QA personnel should be generally related to the consistency in QC and QA test results.

3. Responsibility, Compilation, and Submittal of Test Results:

a. The Contractor is responsible for complying with the contract documents in the performance of all required tests and the preparation, submittal, and maintenance of those test reports outlined in this manual and the contract specifications. The test results from QC and QA testing shall be compiled separately as outlined in this manual.

b. The Contractors' QC Laboratory shall appoint a Registered Professional Civil Engineer to certify QC inspections and test results prior to the start of work. The certification shall state that the tests and observations were performed by or under the direct supervision of the Registered Professional Civil Engineer and that the results are representative of the

materials and conditions being certified by the tests. The certification shall be submitted within two weeks after final inspections and testing is complete. The certification shall be submitted to USACE for the referenced project in accordance with the New Orleans Construction Control Manual, Appendix A. Failure to submit certifications as stated may result in nonpayment for related work performed and disapproval of the QC test facility for this contract.

c. Acceptance of the Contractors' QC plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes to the QC Plan and operations including removal of personnel and QC Laboratory, as necessary, to obtain the quality specified.

d. All test results will be entered into the CEMVN Quality Assurance Control Center (QACC) construction material testing database as described in Appendix A by the QC laboratory performing the testing. Test results will be entered into the testing database within 48 hours from sampling. Payment for any material placed, as well as for any subsequent construction, will not be made until test results are entered into the database and analyzed by Quality Assurance personnel. The Contractor shall maintain a hard copy of the materials testing log, test reports and control charts at the Contractor's field office. These records will be available at all times for review by Government personnel. The original test report will be distributed to the Administrative Contracting Officer (ACO) within 48 of completion of the test. This original test report (supporting documentation) submission is in addition to any required electronic submission.

e. Any tests not conforming to the contract documents will be immediately reported to the Administrative Contracting Officer along with the recommended corrective action to bring the work into complete compliance with the specifications. The Administrative Contracting Officer may designate additional re-sampling or retesting to verify the work represented by the failing test. This testing is at the Contractor's expense.

f. Reference to standard test methods and testing procedures for sampling and testing of common construction materials are given in each chapter of this manual. Additional testing may also be required in the contract documents.

g. Laboratory Facilities. For work that involves aggregates, concrete, masonry, rock or soil the QC Laboratory shall, at its own expense, obtain and maintain validation as an approved testing laboratory by the Materials Testing Center (MTC) of the Engineering Research and Development Center (ERDC). This shall be done in accordance with ER 1110-1- 8100 and ER 1110-1-261. Appendix B further describes this requirement. Refer to Chapter 4 for welding laboratories.

   For work that involves vibration, steel, steel reinforcing bars, coatings inspections and other specialized construction material testing and inspection the QC Laboratory shall maintain personnel, procedures and equipment that meet applicable industry standards.

h. Field sampling and testing locations shall be recorded using Latitude/Longitude coordinates reported in decimal degree format to the millionth decimal and be surveyed using techniques to achieve ±10 feet accuracy.
   Report Form input example: 29.934003, -90.133745

Chapter 2 Soils

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) and Government Quality Assurance (QA) testing of materials used, but not limited to, compacted levee embankments, compacted berms, un-compacted berms, ramps, and structural backfill. The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Samples:

Samples shall be collected and secured in accordance applicable ASTM testing procedures.

3. Testing Personnel:

The individuals who inspect, monitor, sample and test Embankment construction as required in this specification shall meet the following minimum criteria of certification and/or documented experience. Work experience shall be related to the field for which the inspector is being qualified and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector or engineer.

- Current NICET Level II certification in Geotechnical Engineering technology/construction, or
- Current ICC Soils Special Inspector with one year related experience, or
- Geologist-in-Training with one year related experience, or
- Engineer Intern with one year related experience, or
- Registered Geologist, or
- Registered Professional Engineer.

The Contractors' QC laboratory shall submit certification and/or documentation to provide evidence of qualification. The appointed Registered Professional Civil Engineer, identified in Chapter 1, Section 3.b to certify inspections and test results, remains responsible for compliance of all inspection and testing activities.

All Laboratory facilities, personnel and equipment used to test soils as required in this specification shall be part of a Laboratory that has been validated by the USACE Materials Testing Center, Vicksburg, MS.

4. Typical Test Requirements:

Testing and reporting shall be performed in accordance with the latest American Society of Testing and Materials (ASTM) Standard, as indicated in Table 2-1.

Table 2-1
ASTM References

Gradation	
ASTM C 117	Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing
ASTM C 136	Sieve Analysis of Fine and Course Aggregates
ASTM D 1140	Amount of Material in Soils Finer than No. 200 (75-μm) Sieve
ASTM D 6913	Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
Moisture Content	
ASTM D 2216	Laboratory Determination of Water, (Moisture) Content of Soil and Rock by Mass (Method B)
ASTM D 4643	Determination of Water (Moisture) Content of Soil by Microwave Method
Moisture/Density Relationship	
ASTM D 698	Laboratory Compaction Characteristics of Soil Using Standard Efforts (12,400ft lbs/ft^3 (6000KN))
ASTM D 1557	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))
Field Density	
ASTM D 1556	Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 6938	In-Place Density and Water Content of Soil and Soil-Aggregate Nuclear Methods (Shallow Depth)
Materials Classification	
ASTM D 2487	Classification of Soils for Engineering Purposes
ASTM D 4318	Liquid Limit (One-Point Method B), Plastic Limit, and Plasticity Index of Soils
Organic Content	
ASTM D 2974	Moisture, Ash, and Organic Matter of Peat and Other Organic Soils (Method C)
Unconfined Compressive Strength	
ASTM D 1633	Compressive Strength of Molded Soil-Cement Cylinders
ASTM D 2166	Unconfined Compressive Strength of Cohesive Soil

5. Sampling and Testing of Compacted Fill:

This sampling and testing shall be in accordance with the standard procedures referred to in this manual. The minimum number of QC tests to be performed shall be as indicated in Table 2-2. The Government will also perform checks, and assurance testing of the other control testing required by the Contractor.

Table 2-2
Type of Tests and Frequency of Testing
Compacted Embankments and Berms, Ramps, and Structural Backfill Material

Property	Form	Minimum Frequency	Standard
Nuclear Field Density	MVNQS11	One test per 1,500 cubic yards of compacted fill placed per lift, but not less than one density test per 500 linear feet per lift. A lift placed on any one side of an existing embankment will be considered as a separate lift. At least one test shall be performed in any shift that compacted fill is placed.	ASTM D 1556 or ASTM D 6938
Nuclear Field Density Relative Density	MVNQS12	Used to record test results from testing uncohesive material. One density test per lift per 150 linear feet of the base course. Isolated repairs (less than 150 linear feet) must have at least one density test per isolated area per lift.	ASTM D 6938
Sand Cone Field Density	MVNQS03	One test to be obtained for every ten (10) Nuclear Field Density locations to verify Nuclear Field Density.	ASTM D 1556
Compaction Control Curve	MVNQS02	Control Compaction Curves shall be established in accordance with ASTM D 698 - Laboratory Compaction Characteristics of Soil Using Standard Effort. A Compaction Control Curve will be required for each type of material from each source or a minimum of one Compaction Control Curve every 25,000 cubic yards of compacted fill placement. Where construction operations result in the blending of material, two representative Compaction Control Curves will be required for each resulting blend of material. The samples collected for the resultant blended material shall be collected from separate locations. If the borrow or source of fill material changes, new Compaction Control Curves shall be performed. Material test samples for Compaction Control Curve shall be prepared by air-dry, rewet, and cured.	ASTM D 698
One-Point Proctor Verification	MVNQS02	One test to be obtained for every five (5) field density locations.	ASTM D 698 (modified)
Moisture Content	MVNQS11	One test at each field density test location.	ASTM D 2216 or ASTM D 4643
Organic Content	MVNQS07	One test at each field density test location.	ASTM D 2974 (Method C)
Materials Classification	MVNQS06	One test obtained for each Control Compaction Curve and one test for each field density test. Determine Atterberg Limits (LL One-Point Method B), minus #200 and Sand Content.	ASTM D 2487 ASTM D 1140 ASTM D 4318
Unconfined Compressive (UC) Strength	MVNQS05	For Deep Soil Mixing (DSM) QC operations a minimum of three percent of the DSM columns per site will be drilled and three UC strength samples collected and tested at each test column.	ASTM D 2166 ASTM D 1633

6. Sampling and Testing of Un-Compacted Berm Material:

This sampling and testing shall be in accordance with the standard procedures referred to in this manual. The minimum number of QC tests to be performed shall be as indicated in Table 2-3. The Government will also perform check and assurance testing of the other control testing required by the Contractor.

Table 2-3
Type of Tests and Frequency of Testing
Un-Compacted Berm Material

Property	Form	Frequency	Standard
Organic Content	MVNQS07	One test at materials classification test location.	ASTM D 2974 (Method C)
Materials Classification	MVNQS06	One test per 3,000 cubic yards of un-compacted fill placed, but not less than one test per 1,000 linear feet of un-compacted fill placed. At least one test shall be performed in any shift that un-compacted fill is placed. Determine Atterberg Limits (LL One-Point Method B), minus #200 and Sand Content.	ASTM D 2487 ASTM D 1140 ASTM D 4318

7. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

a. **MVNQS01** Sieve Analysis – ASTM C 117, ASTM C 136 and ASTM D 1140. This form is to be used in reporting the material finer than No 200 sieve and a sieve analysis of coarse grain material.

b. **MVNQS02 (**Compaction Control Curve) ASTM D 698. This form is to be used in reporting the determination of the optimum moisture content and the maximum dry density. The moisture-density curve shall be plotted based on a minimum of five compaction test specimens. A one-point Proctor test – ASTM D 698 (modified, Figure 2-2) shall be obtained for every five (5) field density test locations, and reported with same. The soil One-Point proctor result obtained from the in-place density test location will serve as the basis for determining the applicable compaction control curve.

c. **MVNQS03 (**Field Density Sand Cone Method) ASTM D 1556. This form is to be used in reporting the determination of the degree of compaction and moisture content. Contract specifications shall govern the required compaction effort.

d. **MVNQS05** (Unconfined Compressive Strength) ASTM D 2166. This form is to be used to report the compressive strength of an intact, remolded or reconstituted cohesive soil, using a strain-controlled application of the axial load. Contract specifications shall govern the acceptable strength requirements.

e. **MVNQS06** (Unified Soil Classification System) ASTM D 2487. This form is to be used to report the determination of the liquid limit (One-point Method B), plastic limit, plasticity index, % sand content and % fines. MVNQS01 Sieve Analysis – ASTM C 117 and ASTM C 136 is to be used to report the results of gradation tests of the material if a granular material is specified. The final soil classification in accordance with ASTM D 2487 shall be stated on the same forms. Contract specifications shall govern the acceptable Atterberg limits, gradation limits, and material classification. If the Nuclear Method (ASTM D 6938) is used for field density determinations, the soil sample utilized for material classification shall come from within a radius of 12 inches of the center of the in-place density test site. The soil classification obtained from in-place density test location will serve as a basis for determining the applicable compaction control curves.

f. **MVNQS07 (**Moisture, Ash, and Organic Content Determination) ASTM D 2974 (Method C). This form is to be used in reporting the determination of the organic content of the material. Determination of organic content shall be performed in accordance with ASTM D 2974; Method C. Contract specifications shall govern the acceptable limits of organic content.

g. **MVNQS09 (**Moisture Content Determination) ASTM D 2216, ASTM D 4643 and ASTM D 6938. This form is to be used in reporting the determination of the moisture content of the in-place material when ASTM D 2216, ASTM D 4643 or ASTM D 6938 is the test method utilized. This form is not to be used when performing Field Density Test Nuclear Method with Moisture Content Determination. Contract specifications shall govern the acceptable limits of moisture content.

h. **MVNQS11** (Field Density Test Nuclear Method). This form is to be used in reporting the determination of the degree of compaction and moisture content by oven, microwave or nuclear gauge. Contract specifications shall govern the required compaction effort and moisture range. If the nuclear method is selected for field density testing, the Sand-Cone Method shall be used to confirm the accuracy of the Nuclear Method. This shall be accomplished by performing an initial comparison test of the two methods when a nuclear gage is brought on-site for the first time. If the Nuclear Method wet density is within 3 percent of the Sand Cone Method, no correction of the Nuclear Method wet density will be required and the testing may continue with the Nuclear Method. The Nuclear Method wet density shall be verified throughout the project at a rate of one Sand-Cone test for every ten nuclear tests per nuclear gage thereafter. If the variance at any time between the Nuclear Method and the Sand Cone Method exceeds 3 percent, testing

with the Nuclear Method shall stop until the Contractor provides a Root Cause Analysis and five consecutive comparison tests are performed as evidence that Corrective Actions will provide results within 3 percent. For comparison purposes, the nuclear and sand-cone wet densities should represent the same layer thickness within the testing area selected. When a nuclear density result is in doubt, the sand-cone density test shall be used for acceptance.

i. **MVNQS12** (Field Density (Relative Density) Nuclear Method). This form is to be used in reporting the determination of the Relative degree of compaction as determined based on relationship of the Minimum Dry density and Maximum Dry density. Contract specifications shall govern the required Relative Density.

8. Soil Electronic Conductivity (EC) and Total Soluble Salt Analysis:

The following test method shall be used for determining the Total Soluble Salt (Total Salinity) of Embankment soils. This method shall be followed when testing embankment soil salinity levels. Sampling of materials shall be performed by a USACE Validated Laboratory.

A. Sampling; Sampling shall consist of one 12,500 gram composite sample per 1,000 linear feet per lift. A Composite soil sample is defined as 5 separate representative 2,500 gram samples taken randomly at relatively evenly spaced intervals within the 1,000 linear foot. A lift on any one side of the levee will be considered one lift. The locations of the samples shall be as directed by the Contracting Officer. When a composite soil sample is collected, it should be handled in accordance with ASTM D 4220, Group B Standard Practices for Preserving and Transporting Soil Samples.

   As directed by the Contracting Officer, when samples are to be split for replicate testing, the entire composite sample shall be processed over a No. 4 (4.75 mm) sieve by the contractors QC laboratory. The material passing the No. 4 sieve shall be thoroughly mixed and split in accordance with ASTM C 702 Standard Practice for Reducing Samples of Aggregate to Testing Size.

B. Sample Preparation; Composite soil samples passing a No. 4 sieve are to be thoroughly remixed and reduced to a minimum 200 g sample for testing in accordance with ASTM C 702 Standard Practice for Reducing Samples of Aggregate to Testing Size.

   The reduced composite soil sample is air dried at a temperature not to exceed 140° F for a minimum of 18 hours. After the sample is air dried, process and collect material passing No. 10 (2 mm) sieve. Material retained on the No. 10 sieve will be discarded.

C. Procedure; (EC 1:2 preparation) To determine soil EC, collect a representative 20 gram sample from the sieved air-dried material and mix with 40 mL deionized water in a 125 mL Erlenmeyer flask.

   The container is sealed and the mixture is either agitated for 1 hour in a mechanical shaker or mixed by hand every 30 minutes for 3 hours.

The mixture is filtered through a Whatman 42 filter paper. EC (dS/m) of the filtrate is determined immediately using a standard conductivity meter. Follow manufacture's direction for standard conductivity meter operations and temperature corrections.

D. Reporting; The directly-measured EC 1:2 is converted to Saturated Extract-Equivalent EC (EC_e) by multiplying by a factor of 2. (Southern Cooperative Series Bulletin No. 419 ISBN# 1581614195 January, 2014)

Total soluble salts (TSS) concentration in ppm (mg/L) is calculated by multiplying EC_e (dS/m) by 640 for EC readings <5.0 dS/m or by 800 for EC readings >5.0 dS/m. (Rhoades, 1996)

The report shall include at a minimum;

1. All sample identifications documented during sampling that at a minimum include, sample date, received date, test/sample number, location of composite sample (GPS, station, lift, , elevation, offset)
2. USCS visual description
3. Make/Model and Serial # of conductivity meter
4. Notes should include any deviations from this test method.
5. The Soil Electronic Conductivity (EC) shall be reported in decisiemens per metre (dS/m).
6. Total Soluble Salt shall be reported as Total Salinity in parts per million (ppm).

9. Field and Laboratory Determination of Non-Soil Volume for Levee Fill:

A. The field excavation testing shall be performed by excavating a 10' wide x 10' long and to a depth of the lift thickness for each lift that is in question. The volume of the excavation shall be verified using the end area method through measuring the dimensions of the excavation with the use of survey equipment at each corner of the hole. A difference of +/- 10% of the theoretical excavation is allowed. The Contractor shall bring all material excavated to the lab in sealed airtight containers. All excavations shall be completely backfilled by the Contractor within 72 hours of inspection unless directed otherwise by the COR. All backfill shall be in accordance with the existing contract documents, especially EMBANKMENT.

B. The unit weight of the soil shall be determined by ASTM D 6938 Field Density – Nuclear Method, ASTM D 1556 Field Density – Sand Cone Method, or ASTM D 698 Compaction Characteristics of Soil. All material testing shall be performed by a Corps validated lab.

C. Once all the excavated material is delivered to a Corps validated lab, any clay pieces adhering to the non-soil pieces that can be removed by hand without damaging the non-soil piece shall be removed.

D. All non-soil pieces shall be weighed in their existing conditions immediately prior to testing (wet weight as excavated). If all non-soil pieces do not fit in the Measure Box, then the non-soil pieces may be split into smaller sampling sizes for testing purposes and the cumulative volume reported.

E. Sturdy Measure Box containers shall be used for the non-soil volume determination processes. The minimum volume of the Measure Box is 0.8 cubic feet. This volume dimension is a minimum and may be enlarged if desired. The weight of the empty containers shall be determined using a calibrated scale and with the weight recorded to the nearest 0.1 lb. The container shall be filled in two layers with silica sand. The first layer of sand shall be densified by use of a Shake Table and vibrated such that the Silica sand achieves its maximum density. The second layer of silica sand shall be added and vibrated, with additional sand added as needed to "top off" the container as the sand achieves a greater density. The weight of the container filled with densified Silica sand shall be recorded to the nearest 0.1 lb using a calibrated scale. Determine the weight of the measure container plus sand three times to determine the average value. The maximum unit weight of the silica sand is the weight of the measure plus sand minus the weight of the measure divided by the known volume of the container and reported to the nearest 0.1 lb/ft3.

F. The volume of the non-soil shall be determined by the following USACE MVN developed procedure, Non-Soil Volume Determination.

1) **Volume and Weight Determination of Measures (annual):** The volume of the Measure Box shall be determined and verified on an annual basis by the water filled method as specified in ASTM C29/C29M paragraph 8 and recorded to the nearest 0.1 ft^3.

2) **Density Sand**: Obtain silica sand also known as US Silica Sand. Verify that the quality of the silica or "Silica" sand meets the requirements specified in ASTM D1556 paragraph 6.2. The sand can be re-used, but it should be cleaned to comply with the previously referenced standard by sieving and/or rinsing, and oven drying prior to reuse.

3) **Determining Densified Sand within a Measure Box**: Before any tests determining non-soil volume content, a calibration test shall be run each day that testing is to be performed, to determine the standard weight of the sand in the Measure Box as discussed in section E. The three repeated determinations of densified sand weight per unit volume shall be within 2.0 pcf of each other.

   A Measure Box shall be used to determine the densified sand and will be based upon use of a Shake Table and placement within layers. Clean and dry silica sand is placed loosely within each layer using a large scoop or the edge of a bucket by flowing and distributing the sand evenly across the surface area. The Shake Table is then to be used. The number and duration of vibrations will be determined as noted in the following trial. These times are approximate and should be modified by each laboratory to fit the Shake Table being used to achieve a consistent sand weight per unit volume.

MEASURE BOX – (1) Position measure over a large catch pan for collecting excess sand. Place loose Silica sand in one layer (half height of measure); (2) Using the Shake Table, vibrate the sand for 4-8 seconds; (3) Place loose silica sand in a second layer (full height of measure); (4) Vibrate the sand for 4-8 seconds. The sand should consolidate below the top rim of the measure; (5) Place additional (excess) sand above the top of the measure. It should appear to overflow. Vibrate for the sand for an additional 3-4 seconds. It is desired to have excess sand above the top of the rim after vibration of about 1/8 inch; (6) Using a straight metal bar, strike off the excess sand, leaving the sand flush with the top rim of the measure; (7) Weigh the measure and densified sand recorded to the nearest 0.1 lb; (8) Determine the weight per unit volume of the measure by subtracting the weight of the measure plus sand minus the weight of the measure then dividing by the known volume of the container and report to the nearest 0.1 lb/ft3; (9) Repeat steps 1 thru 8 for a total of three determinations of densified sand weight per unit volume, and calculate the average weight per unit volume to the nearest 0.1 lb/ft3.

4) **Standard Wood or Metal for Verification (annual)**: Eight pieces of wood or metal, labeled A thru G, measuring 5 inches by 1 inch by 2 inches are to be used to verify the volume determination by the densified sand method as detailed in 5) below. Determine the weight and linearly measured volume of the eight standard pieces of wood or metal to verify the calculated non-soil content from the use of densified silica sand within Measure Boxes of known volume.

5) **Non-soil Verification (annual)**: Wood or metal pieces measured in Step 4) above will be used in each measure by densifying sand and four wood or metal pieces in each layer, for a total of eight wood or metal pieces within each measure. The same procedures outlined in Step 4) above are used to place and densify the sand and wood or metal within the measures. The wood or metal is placed within each layer with at least ½ inch of loose sand beneath and around the wood or metal pieces. The weight of the densified sand, measure, and wood or metal is used to determine the density and subsequent volume of the wood or metal. The calculated volumes shall be compared to the known volumes of the wood or metal pieces to see if any change in shaking time or sand type is needed. If the calculated and known volumes are within +/- 2% of each other, the test verification is successful. See below for the step by step procedures for this:

MEASURE BOX - (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine volume and weight of pre-cut pieces of wood or metal as noted in Step 4) above; (4) Densify wood or metal in layers following the similar method noted in Step 3) above; (5) Determine the densified sand and wood or metal weight in the unit measure; (6) Calculate the volume of wood or metal as shown below:

(a) Volume of Measure Box (ft^3)
(b) Weight of Measure Box (lb)

(c) Average weight per unit volume of densified sand (lb/ft^3)
(d) Wood or metal Pieces total weight (lb)
(e) Wood or metal Pieces total volume (ft^3)
(f) Average determined densified sand, wood or metal, & measure weight (lb)
(g) Densified sand only weight (no wood or metal) = (c) x (a)
(h) Densified sand only weight (with wood or metal) = (f) – (b) – (d)
(i) Volume of wood or metal (from densified sand test) = [(g) – (h)] / (c)
(j) % actual volume wood or metal = 100 x (e) / (a)
(k) % tested volume wood or metal = 100 x (i) / (a)

6) **Non-soil Volume Determination**: Determination of non-soil volume for a test sample is as follows. Determine the wet weight of the sample prior to placement into the loose sand layers. Cleaned non-soil pieces from a sample are placed in one of the tested measures above by following procedures as outlined in Step 3). The non-soil pieces are placed within each layer of loose sand with at least ½ inch of loose sand beneath and around the various non-soil pieces. The non-soil piece may be cut to fit into the measure but care should be used to ensure that all pieces of the sample are measured. The weight of the combined densified sand, measure, and non-soil shall be recorded to the nearest 0.1 lb. To determine the density and subsequent volume of the non-soil pieces, see calculations below.

MEASURE BOX - (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine weight of sample pieces of non-soil; (4) Densify non-soil pieces in layers following the similar method noted in Step 3) above; Determine the densified sand and non-soil pieces weight in the unit measure; (5) Calculate the volume of non-soil pieces as shown below:

(a) Volume of Measure Box (ft3)
(b) Weight of Measure Box (lb)
(c) Average weight per unit volume of densified sand (lb/ft3)
(d) Weight of Sample Non-soil Pieces (lb)
(e) Determined densified sand, non-soil pieces, & measure weight (lb)
(f) Densified sand only weight (no non-soil pieces) = (c) x (a)
(g) Densified sand only weight (with non-soil pieces) = (e) – (b) – (d)
(h) Volume of non-soil pieces (from densified sand test) = [(f) – (g)] / (c)
(i) Volume of excavation (ft3)
(j) % tested volume non-soil pieces = 100 x (h) / (i)

7) **Documentation**: As a minimum, calibrations of Measure Boxes should be documented annually on the Unit Weight Measure Volume Determination Record. The Densified Sand unit weight shall be documented on the Densified Sand Calibration Record. Test records for samples shall be documented on the Non-soil pieces Volume Determination Record. Contact MVN-CD-Q for latest test forms.

G. The percent volume determined in Step 6) (j) above shall be compared versus the acceptable value listed in the specifications. If the test shows the percent volume is greater than the acceptable value, the Contractor shall follow the corrective actions as noted in the contract specifications.

10. Additional Testing:

In addition to the above frequency of tests, additional tests may be required as follows:

a. Where the Administrative Contracting Officer (ACO) or Contracting Officer's Representative (COR) has reason to doubt the adequacy of the compaction, moisture content, or organic content control.

b. Where the Contractor is concentrating fill operations over a relatively small area.

c. When embankment materials change substantially, the Administrative Contracting Officer or Contracting Officer's Representative (COR) may direct additional testing.

d. Where special compaction procedures are being used.

e. When the contract specifications require additional testing.

f. When areas are found not meeting the specified in-place density, Atterberg limits, moisture content, and/or in-place organic content requirements; the Contractor shall retest, at no additional costs to the Government, after corrective measures have been applied.

Chapter 3 Concrete

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) and Government Quality Assurance (QA) methods and procedures for the testing of fresh concrete and concrete aggregate. The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Samples:

Fresh concrete samples shall be secured in accordance with ASTM C 172. Concrete aggregates shall be sampled in accordance with ASTM D 75. Sampling locations shall be randomly selected.

3. Testing Personnel:

The individuals who inspect, monitor, sample and test Concrete construction as required in this specification shall meet the following minimum criteria of certification and/or documented experience. Work experience shall be related to the field for which the inspector is being qualified and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector or engineer.

- Current ICC Reinforced Concrete Certificate with 1 year related experience, or
- ACI Concrete Construction Special Inspector Certificate, or
- Engineer Intern with one year related experience, or
- Registered Professional Engineer.

The individuals who perform testing of concrete or the constituents of concrete as required in this specification shall have an applicable and current ACI certification for testing being performed; ACI Concrete Strength Testing, ACI Concrete Laboratory Testing – Level 1, ACI Aggregate Testing Technician – Level 1, ACI Concrete Field Grade I.

The Contractors' QC laboratory shall submit certification and/or documentation to provide evidence of qualification. The appointed Registered Professional Civil Engineer, identified in Chapter 1, Section 3.b to certify inspections and test results, remains responsible for compliance of all inspection and testing activities.

All Laboratory facilities, personnel and equipment used to test soils as required in this specification shall be part of a Laboratory that has been validated by the USACE Materials Testing Center, Vicksburg, MS.

4. Typical Test Requirements:

Test requirements specified in the contracts documents may be more stringent than those listed below in Tables 3-2, 3-3 and 3-4. All test results will be entered into the MVN material testing database as described in Appendices by the laboratory performing the testing. Acceptable test values are contained in the contract documents.

The laboratory performing the tests shall be validated by the Materials Testing Center, Vicksburg, MS. and conform to ASTM C 1077.

Table 3-1
ASTM References

Concrete Lab Testing	
ASTM C 33	Specification for Concrete Aggregates
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 117	Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing
ASTM C 136	Sieve Analysis of Fine and Course Aggregates
ASTM C 511	Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
ASTM C 566	Total Evaporable Moisture Content of Aggregate by Drying
ASTM C 617	Capping Cylindrical Concrete Specimens
ASTM C 702	Reducing Samples of Aggregate to Testing Size
ASTM C 1231	Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders
CRD-C 104	Calculation of Fineness Modulus of Aggregate
Concrete Field Testing	
ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 138	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C 143	Slump of Hydraulic-Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 1064	Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM D 75	Sampling Aggregates

5. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

a. **MVNQC01** (Concrete Compression Test Data – ASTM C 39). This form is to be used in reporting the results of laboratory concrete compression testing. Contract specifications shall govern the required concrete compressive strength.

b. **MVNQC02** (Concrete Field Data). This form is to be used in reporting the data collected by the laboratory while monitoring and testing concrete during placement. Contract specifications shall govern the required concrete properties during placement.

c. **LMN FORM 853-R** (Concrete Compression Test Specimen Data). This form is to be filled out and provided to the QA laboratory for each set of cylinders delivered. This form should be filled out with information documented during concrete placement. The information on this form should match the information provided on the associated MVNQC01 and MVNQC02 test forms. The Order number on this form shall match the Batch Ticket number on the associated concrete supplier batch ticket, the MVNQC01 and the MVNQC02 test form for sample tracking purposes. The form also serves as a bill of lading for the delivered concrete samples.

Table 3-2
Test Requirements
AGGREGATE, FINE

Property	Method	Frequency	Remarks
Deleterious Substances	ASTM C 33	1 per week	
Fineness Modulus	CRD-C 104	1 per shift per batch plant when concrete plant is operating	Calculation based on gradation test results
Gradation	ASTM C 117 ASTM C 136	1 per shift per batch plant when concrete plant is operating.	Tests selected randomly.
Moisture Content	ASTM C 566	If moisture meter is working properly, 2 per week to verify	Tests selected randomly for each aggregate size.
		If moisture meter is not working, 4 every 8 hours of mixing plant operation	
		Additional tests if slump is out of control or variability is excessive	
Sampling Method	ASTM D 75	As specified for the individual material property.	

Table 3-3
Test Requirements
AGGREGATE, COURSE

Property	Method	Frequency	Remarks
Deleterious Substances	ASTM C 33	1 per week per batch plant, or as directed by COR	
Gradation	ASTM C 117 ASTM C 136	1 per shift per batch plant when concrete plant is operating	Tests selected randomly.
Moisture Content	ASTM C 566	If moisture meter is working properly, 2 per week to verify	Tests selected randomly for each aggregate size.
		If moisture meter is not working, 4 every 8 hours of mixing plant operation	
		Additional tests if slump is out of control or variability is excessive	
Sampling Method	ASTM D 75	As specified for the individual material property.	

Table 3-4
Test Requirements
FRESH CONCRETE

Property	Form	Method	Frequency	Remarks
Compression Cylinders (Quality Assurance)	MVNQC01 MVN 835	ASTM C 31 ASTM C 39	To be molded by the Contractor Quality Control Laboratory and tested by the Quality Assurance Laboratory. Mold one set of cylinders per 8 hour shift or for every 150 cubic yards placed.	Quality Assurance Cylinders shall be molded from the same sample of concrete that the Quality Control cylinders are molded.
Compression Cylinders (Quality Control)	MVNQC01 MVNQC02	ASTM C 31 ASTM C 39	To be molded and tested by the Contractor Quality Control Laboratory. Mold one set of cylinders per 8 hour shift or for every 150 cubic yards placed. As a minimum; A set of test specimens for concrete with a 28-day specified strength shall consist of two cylinders to be tested at 7 days and two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 28 days. A set of test specimens for concrete with a 56-day or 90-day specified strength shall consist of two cylinders to be tested at 7 days, two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 28 days and two 6-inch by 12-inch cylinders or three 4-inch by 8-inch cylinders at 90 days. Additional sets when mix proportions change or low strengths are detected.	On randomly selected batches for each separate concrete mix produced. Cylinders used shall conform to paragraph 6.1 of ASTM C 31. Initial Cure in accordance with paragraph 10.1.2 of ASTM C 31.
Compression Cylinders (QC- for putting concrete into service or other purposes indicated in paragraph 4.3 of ASTM C 31)	MVNQC01 MVNQC02	ASTM C 31 ASTM C 39	1 set of multiple pairs of QC cylinders per item to be evaluated.	Cylinders used shall conform to paragraph 6.1 of ASTM C 31. Initial Cure in accordance with paragraph 10.1.2 of ASTM C 31. Cylinders to be field cured shall conform to 10.2 of ASTM C 31.
Air Content Slump Temperature	MVNQC01 MVNQC02	ASTM C 231 ASTM C 143 ASTM C 1064	1 every time concrete cylinders are molded Plus 2 additional during each 8 hours of concrete production Additional tests if workability variation is excessive.	On randomly selected batches for each separate concrete mix produced

Chapter 4 Welding Inspection

1. Scope:

This chapter specifies methods and procedures for the Contractor Quality Control (QC) weld inspection for Group 1 and Group 2 carbon steels as defined by AWS D1.1, Table 3.1 and their ASTM A709 counterparts. Welding of sheet metal, reinforcement bars, castings, stainless steel, aluminum and other non ferrous metals are not included in this document and should reference the appropriate AWS or ASME Code. An approved schedule of welding procedures (WPS) is required before fabrication commences (Section 05 50 03.00 12). The Government will also perform checks, and assurance testing of control testing required by the Contractor.

2. Definitions:

a. **Fracture Critical Welds**. Fracture critical members or member component welds as defined by ER 1110-2-8157 are tension members or tension components of bending members (including those subject to reversal of stress), the failure of which would be expected to result in collapse of the hydraulic steel structure. The designation "FCM" shall mean fracture critical member or member component. Members and components that are not subject to tensile stress under any condition of live load shall not be defined as fracture critical. FCMs, in general, are dewatering components (needle girders, bulkheads, needles), lifting eyes, or other tension members. This includes any members welded to these members as cracks could propagate to these members and cause failures also. These welds should either be shown on the drawings or called out in the specifications. Tubular welds are not applicable to AWS D1.5. AWS D1.5, Section 12 is the applicable code for these welds.

b. **Other Welds**. These welds are the remaining welds that are not considered Fracture Critical Welds. AWS D1.1 is the applicable code for these welds.

3. Testing Personnel:

a. **Visual Inspection**. Visual inspection shall be performed by Certified Welding Inspectors (CWI) that are qualified and certified in accordance with the provisions of AWS QC1. Verification of documentation may be obtained from the AWS web site. Note: Certification number is required for this verification.

b. **Nondestructive Testing Technicians**. All ASNT Level III personnel shall be qualified in accordance with ASNT CP-189. Only individuals qualified for NDT Level II or individuals qualified for Level I and working under the direct supervision of a Level II shall perform nondestructive testing. Level I and Level II personnel shall be qualified in accordance with either ASNT CP-189 or ASNT SNT-TC-1A. Level III NDT Inspectors shall posses a currently valid ASNT Level III certificate in each of the processes they are qualifying inspectors to. Copies of the certifications, including the Level III NDT Technician that certified the Level I and Level II Technicians shall be included in the submittals. Verification of Level III documentation may be obtained from the ASNT web site. Note: Either Certification number or name is required for this verification.

4. Visual Inspection Requirements:

Visual inspection of welds shall conform to the requirements of AWS D1.1, Section 6, or AWS D1.5, Section 12, as applicable.

5. Nondestructive Testing Requirements:

a. **Ultrasonic Testing**. Ultrasonic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part F or AWS D1.5, Subsection 12.16, as applicable.

b. **Radiographic Testing**. Radiographic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part E or AWS D1.5, Subsection 12.16, as applicable. Only film types designated as "fine grain" or "extra fine" shall be employed.

c. **Magnetic Particle, Liquid Penetrant Testing**. Magnetic particle and liquid penetrant testing of welds shall conform to the applicable provisions of ASTM E 709 or AWS D1.5 Subsection 12.16, as applicable and in addition all magnetic particle testing of welds shall be made using the Wet Contrasting Black on White Method.

6. Acceptance Criteria:

a. **Visual, Magnetic Particle and Liquid Penetrant Testing**. Welds shall be unacceptable if shown to have defects prohibited by AWS D 1.1/D 1.1M, Section 6, Part C. Visual, magnetic particle and liquid penetrant testing acceptance criteria shall be for the applicable criteria for either "Cyclically Loaded Nontubular Connections" or "Tubular Connections" per AWS D 1.1/D 1.1M, Table 6.1. Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.

b. **Ultrasonic Testing**. Ultrasonic acceptance criteria shall be the applicable criteria for either "Cyclically Loaded Nontubular Connections" or "Tubular Connections, Class R". Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.

c. **Radiographic Testing**. Radiographic acceptance criteria shall be the applicable criteria for either "Cyclically Loaded Nontubular Connections (Tensile Stress)" or "Tubular Connections". Fracture critical welds shall be unacceptable if shown to have defects prohibited by AWS D 1.5/D 1.5M, Section 12. All welds shall be assumed in tension for the acceptance criteria for visual and the appropriate nondestructive testing method.

7. Frequency of Testing:

The frequency specified is the minimum required. The design engineer shall determine the required frequency and include this information in the specifications and/or drawings. The design engineer shall also specify the locations of radiographic testing.

a. **Visual Inspection**. All welds shall be visually inspected by a CWI to insure compliance with the requirements of the applicable AWS Welding Code. Prior to any welding, a CWI shall visually inspect the preparation of material for welding to assure compliance with the applicable AWS Code (D1.1 or D1.5) and approved WPS. The CWI shall also perform VT inspection throughout the welding process to assure compliance with the applicable AWS Code (D1.1 or D1.5) and approved WPS. All completed welds shall be cleaned free of oxide, flux, scale, or other foreign matter before inspection.

b. **Full Penetration Welds**. Full penetration welds shall be examined by the Contractor using ultrasonic testing (UT) procedures described above. In additional to the full penetration welds specified for testing, a randomly chosen twenty-five percent (25%) of the remaining full penetration welds shall be ultrasonically tested to ensure the quality of the procedure and process. The random testing shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project.

c. **Full Penetration Butt Splice Welds**. All full penetration butt splices shall be examined using ultrasonic testing (UT) and radiographic testing (RT) procedures described above. These welds shall be defined in the specification or noted on the drawings.

d. **Fillet Welds and Partial Penetration Groove Welds**. Fillet welds and partial penetration groove welds shall be examined by the Contractor using magnetic particle testing (MT) procedures described above. In additional to the fillet and partial penetration welds specified for testing, a randomly chosen twenty-five percent (25%) of the remaining fillet and partial penetration welds shall be magnetic particle tested to ensure the quality of the procedure and process. The random testing shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project.

8. Compilation of Test Data for Submittal:

The results of the test and inspections shall be recorded in the MVN database as directed in Appendix. Samples of the reporting forms and instruction for each form are provided on the MVN SharePoint site; **Test Form Examples** and are described as follows. The latest forms should be referenced on the MVN SharePoint site and described in Appendices. All data is to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.**

a. **MVNQW06** (Combined Weld Examinations). This form is to be used in reporting the inspection and testing of welded steel connections. Contract specifications shall govern the required compaction effort. The results shall be submitted electronically within 24 hours of the test.

Appendix A – Test Form Management

1. Report Numbering:

Each soil sample (location) is identified with a unique Test ID created by concatenating the Report No and Test No.

All soil sample locations will be reported on test forms with the same Report No and Test No throughout entire range of tests performed on that sample location. This is particularly important when reporting tests that contain 1 test per test form such as MVNQS03 (Sand Cone tests) and MVNQS02 (Compaction-Moisture Density Relationship).

It is also necessary to give the same Report No and Test No to each sample location for test form MVNQS06 (Unified Soil Classification System), MVNQS07 (Organic Content), and MVNQS10 (Field Density-Nuclear) which allow for entry of up to 5 soil samples. The soil tests included in a suite of tests allows for entry of 5 samples.

Examples of all forms are available on the SharePoint site for review.

2. Naming the Test Form Files:

Each file shall be named using the following convention:

[Test Form Name][USACE Contract No][Report No][Test No (if necessary)]

Each part of the filename should be separated by a single space only, not a dash or other delimiter. Details of each portion of the filename convention are given below.

- **[Test Form Name]** is the name of the template MVNQ(C, S or W)##, for example MVNQS02. The variable letter are related to the type of test; C is for concrete, S is for soil and W is for Welds.

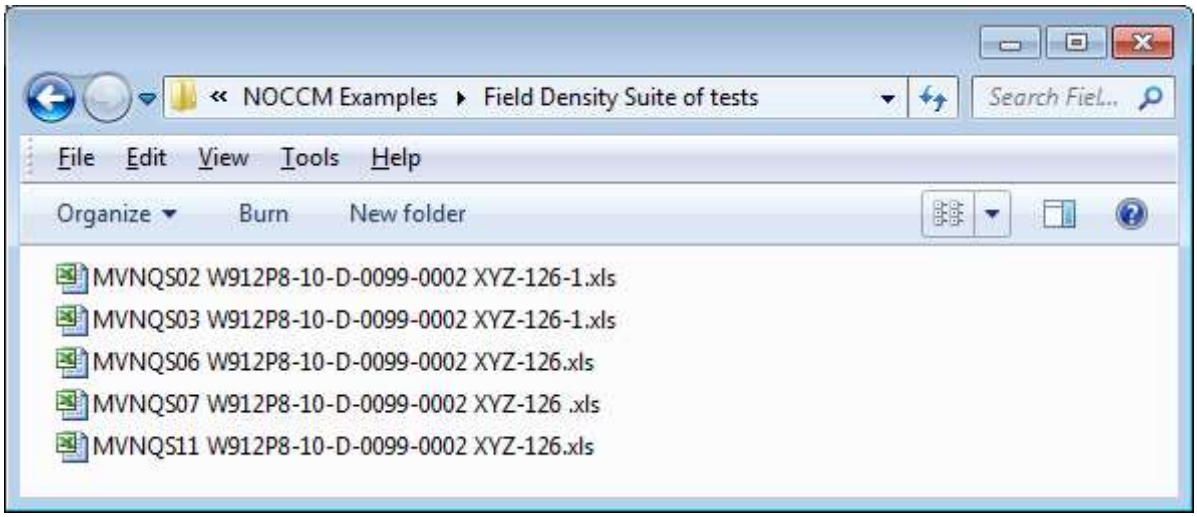
- **[USACE Contract No]** is the construction contract number. This must be the complete contract number including the task order if applicable. The contract numbers that contain a C or Z do not have task order numbers, whereas all contracts that contain a D have a task order number.

- **[Report number]** will be dependant on the labs report number system.

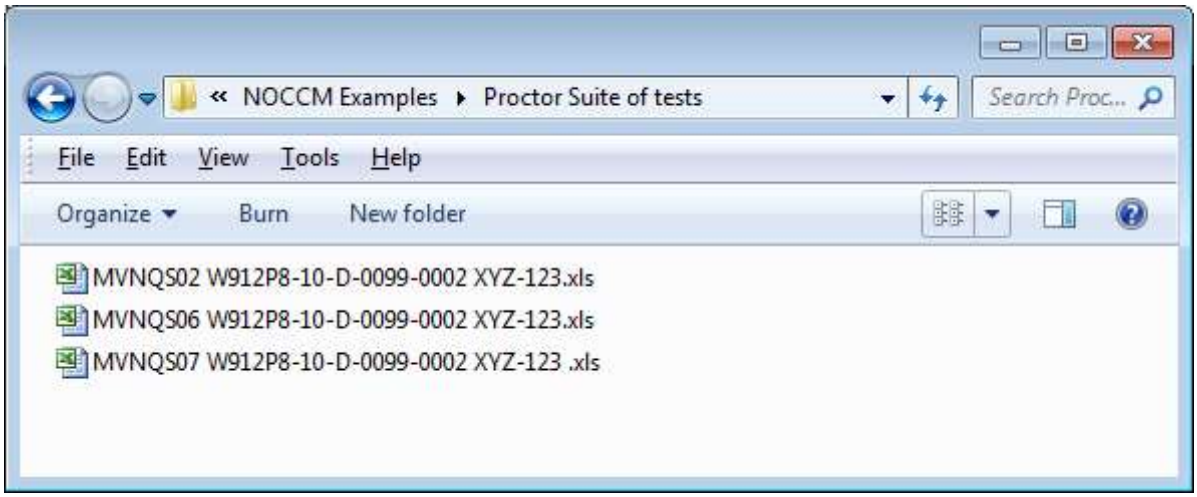
- **[Test No]** is only included in filename when necessary. This is applicable for tests reported 1 per form, as in the case of the exception listed below.

The exception to naming convention is dealing with forms that contain 1 test per test form such as MVNQS03 (Sand Cone tests), MVNQS02 (Compaction-Moisture Density Relationship) and MVNQS01 (Sieve Analysis). For these 3 Test Form types the file name will end with the Test No. The Test No is determined by the lab but should be unique to each soil sample and field location per Report No. See the Examples below for illustration of this.

Below is an example of file names for a suite of soil tests including 5 samples locations reported on a MVNQS11 (Field Density Nuclear) form, a MVNQS07 (Organic Content) form, a MVNQS06 (Unified Soil Classification System) form and a MVNQS03 (Field Density Sand Cone) form. These files are also the files included as example test forms on the SharePoint site. In this example The Report No is XYZ-126.



Below is another example for proctor data containing a MVNQS02 (Compaction-Moisture Density Relationship) test form, a MVNQS06 (Unified Soil Classification System) form and a MVNQS07 (Organic Content) form.



3. Submitting Test Forms:

All forms are to be submitted electronically **within 24 hours of completion of the tests by the laboratory performing the testing.** This is necessary since contract specifications require laboratory results to confirm compliance or failure before Contractor construction work can continue. Delays in submitting test results may result in construction delays that are to be avoided. Supporting documentation for tests should be submitted in PDF format with the same file naming convention. This completes the documentation record of data transfer to all parties.

4. How to Access USACE QACC SharePoint Site

In order to access the MVN Quality Assurance Control Center (QACC) SharePoint site each user must have an account. If a user does not have an account contact the MVN-CD Branch to receive a **USACE External Network Access Request** form. Once your account has been established you will have access to the QACC SharePoint site that contains MVNQ Test Form Templates, a QA Wiki, a QA Discussion area, a Shared Documents library, a Discrepancy Report library, and a library where completed test forms are to be uploaded; **Test Form**. The following is contact information for MVN-CD.

MVN-CD Phone;	(504) 862-2235
MVN-CD Email;	CEMVN-CD@Usace.Army.Mil
MVN-CD Public Webpage;	http://www.mvn.usace.army.mil/About/Offices/Construction.aspx
MVN QACC SharePoint;	https://partners.usace.army.mil/sites/MVN/QACC/default.aspx

5. Uploading test forms.

The exact procedure for uploading test forms to the MVN Quality Assurance Control Center (QACC) SharePoint is dependent on the computer system the user is using. Once an account has been established MVN-CD can assist each user individually by introducing the QACC system and going through the processes needed to upload test files and supporting documents. If at any point a user has questions please contact the MVN-CD-Q Branch for assistance.

Important notes before beginning the upload process; The QACC SharePoint site does have restrictions on characters (delimiters) that can be used for a file name. The following characters are not accepted by the QACC SharePoint site; \ / : * ? " < > | # { } % ~ &. If these characters are used, the QACC SharePoint site may lock up or give an error that indicates 'a nonexistent file'. If this occurs remove the delimiters used in the file name, upload the files again and verify that all files upload because this will stop the upload process for all the files. If it is determined that certain files did not upload repeat the upload process.

The second note is that the QACC SharePoint site will time out and requires logging back in after an extended time of inactivity. The QACC SharePoint site will not indicate it timed out until attempting to perform a function on the site. The site will return to the Log in screen. If this happens, the function previously being performed may not have been performed completely.

6. Revisions and Special Naming Considerations:

When resubmitting files with revisions, the same filename is to be used if possible. If a file is to be submitted to the QACC SharePoint site it is not necessary to include a revision indication in the file name, such as R1 or R2 in the filename. The test form revision should be judicated in the appropriate revision field on the form. The QACC SharePoint site does allow files to be uploaded to the **Test Form** library when the same file name exists. In general, the idea is to keep the filename as simple as possible and the same throughout the submittal and revision process. Do not add unnecessary details to the filename.

If more information is needed, see the Wiki or Discussion board on the MVN Quality Assurance Control Center (QACC) SharePoint. The QA managers are also available if there are other questions.

Appendix B - Material Testing Laboratory Requirements

1. Purpose:

All construction material testing laboratories used in support of the Contractor's Quality Control (QC) testing and the Government's Quality Assurance (QA) testing must receive validation by the Material Testing Center (MTC), Engineering and Research Development Center (ERDC), in Vicksburg Mississippi. This includes all Contractor and government on-site laboratories or commercial laboratories used either for QC or QA testing.

2. Applicability:

This procedure applies to all projects being managed by the New Orleans District for which testing of construction materials is conducted

3. References:

ASTM E 329-06a, Agencies Engaged in the Construction Inspection and/or Testing

ER 1110-1-261 (28 April 99), Quality Assurance of Laboratory Testing Procedures

ER 1110-1-8100 (31 Dec 97), Laboratory Investigations and Testing

Corps of Engineers Validated Laboratories;

Engineering Research and Development Center - Material Testing Center
http://www.erdc.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476661/materials-testing-center.aspx

New Orleans Construction Division Operating Manual (CDOM), 1 March 2002

4. Responsibilities:

The Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) is responsible for ensuring that all testing laboratories used for QC or QA testing are on the electronic validated list for the tests to be performed and for requesting that New Orleans District coordinate as necessary to pursue validation of a desired laboratory.

5. Procedures:

After award, the Contractor submits a QC Plan which delineates the scope of the testing program and identifies the testing laboratory (s) proposed specific tests. Contract specific Quality Assurance Plans will include requirements for QA verification testing by a Corps validated laboratory.

The Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) will ensure that the QC laboratory is independent of the QA laboratory and will work with the Contractor if necessary to select another laboratory for QC or QA testing. The QC plan will

reflect the selected laboratories. If the laboratory proposed by the Contractor is not a currently validated lab, then the Administrative Contracting Officer (ACO) / Contracting Officer's Representative (COR) will notify the Contractor and request an inspection of the selected laboratory coordinated by MVN-CD-Q in accordance with the procedures described in Construction Division's Operating Manual (CDOM). For planning purposes, the validation process may require a period of six months to complete.

Briefly, the MTC validation process is described as follows:

Validation of a laboratory may consist of either (1) an inspection of the laboratory and their processes or (2) an audit of inspection reports and other documentation furnished by other validating agencies or organizations.

MTC will perform inspections in accordance with ASTM E 329 and applicable tests in ER 1110-2-1906 or tests required by project specifications.

The MTC may validate a laboratory if it has been accredited by the Concrete and Cement Reference Laboratory (CCRL) or AASHTO Materials Reference Laboratory (AMRL) within the past two years using ASTM E 329. Inspection by the MTC may be required after auditing if one or more of the critical testing procedures required in the project specifications were not included in the CCRL or AMRL inspection report or if there is any question that the laboratory may not be able to provide the required services for the specified tests.

More information about the validation process is available at the following:
Phone; (601) 634-3123
Email; MTC-info@usace.army.mil
Public Website;
http://www.erdc.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476661/materials-testing-center.aspx

6. Records:

Records demonstrating laboratory validation will be maintained by MTC web site for the most current laboratory listing.

Appendix C - Filling Out Test Form Templates

1. Test Form Templates:

The latest Construction Material Testing report forms are located at the following locations:

Navigate to the **MVNQ Test Form Template** library to download the most up to date forms.

https://partners.usace.army.mil/sites/MVN/QACC/TFT/Forms/AllItems.aspx

For access to the Extranet SharePoint site, follow procedures in Appendix A or contact the MVN Construction Division Quality Branch. Once access is granted, reference the Extranet SharePoint site to download the latest test form templates in the MVNQ Test Form Template library, as they are periodically updated and/or revised. Failure to submit the latest version of the test form template will prevent data from being loaded into the QACC database. The rejected form will be required to be resubmitted on the proper test form template.

The Test Form Examples library on the SharePoint site provides guidelines for completing several of the test form templates. Further information, definition and updates can be found in the MVNQTERMS documents and the QACC Wiki located on the Extranet SharePoint site.

On all forms, the Sample Date is defined as the date the test was performed in the field and not the date the sample was tested in the lab. Please use the Remarks section on each form for any comments that pertain to the tests performed. Comments may include items such as: meet specs, meet specs of xx% (for different types of material, say embankment is 90% compaction and trench is only 85%), in-situ material, failing tests reported to John Smith, etc. There is no such thing as too much detail or information.

This reporting and submittal system is to be used for all Corps of Engineers work in the MVN division.

2. MVNQ Terms Document:

The MVNQ Terms document located on the Extranet SharePoint site provides a list of terms that are referenced directly from the MVNQ Test Forms. This document will define the terms used on the MVNQ Test Forms, and in some cases, provide examples of the information needed in associated cells. If there is a term that is not provided, an error or a term that is not defined clearly please contact a QA Manager.

C-1 List of Forms

Form Name	Procedure(s)	Form ID .
Soil Testing Forms		
#200 Wash and Sieve Analysis	ASTM C 117- C136	MVNQS01
Lab Compaction of Soil Standard Effort	ASTM D 698	MVNQS02
Density by Sand Cone	ASTM D 1556	MVNQS03
Unconfined Compression Strength	ASTM D 2166	MVNQS05
Classification of Soils – USCS	ASTM D 2487	MVNQS06
Moisture, Ash and Organic Matter of Soils	ASTM D 2974	MVNQS07
Moisture Content Determination	ASTM D 2216-4643	MVNQS09
In-place Density and Moisture of Soils	ASTM D 6938	MVNQS11
Field Density (Relative Density) - Nuclear Method	ASTM D 6938	MVNQS12
Concrete Forms		
Concrete Compression Test	CCT	MVNQC01
Concrete Field Test	CFD	MVNQC02
Welding Forms		
Welds – LIQUID		MVNQW06
Welds - MAGNETIC		MVNQW06
Welds - RADIO		MVNQW06
Welds - UT		MVNQW06
Welds - VISUAL		MVNQW06

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TRAFFIC CONTROL AND COORDINATION

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TRAFFIC CONTROL AND COORDINATION

PART 1 GENERAL

1.1 SCOPE

The work provided for in this section consists of providing and maintaining traffic control; including coordination, placing signs (barricades, danger signs, warning signs, detour signs); and the preparation of a Traffic Control Device Plan.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD	(2009; Rev 2012) Manual of Uniform Traffic Control Devices

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016 Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD)

LSSRB 713	Temporary Traffic Control

1.3 MEASUREMENT AND PAYMENT

No measurement will be made for the preparation of a Traffic Control Device Plan, nor the maintenance, control and coordination of traffic routing including barricades, danger signs, warning signs and detour signs as specified herein. Payment will be made at the contract job price for "Traffic Control and Coordination". Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment required to implement and maintain the traffic control measures as specified herein and as shown on the drawings.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Traffic Control Device Plan; G

Prior to the commencement of construction operations the Contractor shall submit for the acceptance of the Contracting Officer, the original and ten (10) copies of the Traffic Control Device Plan as specified herein.

PART 2 PRODUCTS

2.1 SIGNS AND BARRICADES

In accordance with LSSRB 713, the Contractor shall provide all necessary signs, barricades, temporary pavement markings, in accordance with the Louisiana Manual of Uniform Traffic Control Devices, Construction Section as well as all signs, barricades, blinking lights or other necessary traffic control devices required by the Parish of St. John the Baptist or other governing specifications.

PART 3 EXECUTION

3.1 GENERAL

No signs or signals shall be removed without the Contracting Officer's approval. The Contractor shall accept all responsibilities during the time of removal. The Contractor shall notify the Contracting Officer and the St. John the Baptist Parish Traffic Engineering Department in writing within three (3) working days prior to the controls being removed and reinstalled. All signs, signals, and markings removed shall be in-place at the time of final inspection.

3.2 TRAFFIC CONTROL DEVICE PLAN

The Contractor shall develop and implement a site specific Traffic Control Device Plan (TCDP) and Truck Haul Route Plan which shall provide for the safe and expeditious movement of traffic through construction zones. A construction zone is defined as the immediate area of actual construction which interferes with the driving or walking public. The TCDP shall comply with the requirements set forth in the MUTCD, as revised, and with the general requirements stipulated below.

(1) The TCDP for the site shall address the conditions for providing traffic flow and/or detours within the zone during the influence of construction noting that the bridge will be closed during construction. The TCDP shall be schematically drawn on sheet(s) large enough to show adequate details and be easily readable and reproducible. If larger than eleven inches by seventeen inches (11" x 17"), the sheet(s) shall be submitted with a reproducible transparency so that the Contracting Officer and the St. John the Baptist Parish Traffic Department can produce additional copies as needed.

(2) The TCDP shall be designed and stamped by a Professional Engineer registered in the State of Louisiana. The qualifications of the Engineer shall be submitted for review and approval of the Contracting Officer, St. John the Baptist Parish Department of Engineering, Traffic Engineering Division, and where applicable Louisiana Department of Transportation and Development, Traffic Operations. Engineers for this project shall be qualified by education and experience in Categories 1 and 2 as noted below. All categories require a minimum of four (4) years experience and education.

a. Category 1 - Traffic Control through Construction Zones. Urban experience in MUTCD applications, plan preparations, studies in volume, speed, and pedestrians, and tort liability.

b. Category 2 - Permanent Sign / Marking. Urban experience in MUTCD applications, studies in volume, speed, pedestrians, and

accident analysis.

The Contractor shall submit an original and ten (10) copies of the TCDP to the Contracting Officer prior to any anticipated traffic control work for the St. John the Baptist Parish Traffic Engineering Division's review and approval. Adequate time (a minimum of 45 calendar days exclusive of mailing time) shall be allowed for review and approval. Such approval is required prior to start of any work which might affect the traffic pattern in the area.

3.3 TRAFFIC CONTROL

The Contractor shall be responsible for the installation and maintenance of all devices and requirements for the duration of the construction period. The necessary precautions shall include, but not be limited to, such items as proper construction warning signs, signals, lighting devices, battery operated flashers, markings, barricades, channelization, and hand signaling devices (flagging operations). The Contractor shall monitor traffic control devices on a daily basis and shall make appropriate changes to correspond to conditions. All work shall be performed in accordance with the LSSRB 713, except as noted. Traffic control devices shall be in accordance with the MUTCD.

3.3.1 Coordination

The Contractor shall consult with the Contracting Officer and the St. John the Baptist Parish Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.

3.3.2 Traffic Engineer or Traffic Control Supervisor

A qualified Traffic Engineer or Traffic Control Supervisor shall be provided by the Contractor to inspect the job site at the beginning of the project, after significant changes, and at 30 day intervals. If warranted, the Contractor's Traffic Engineer or Traffic Control Supervisor shall make adjustments to the TCDP and the Contractor shall immediately implement the revised TCDP. A written report submitted to the Contractor, Contracting Officer, and the St. John the Baptist Parish Traffic Engineering Division verifying compliance with the plan and adequacy of traffic control devices and operating conditions will be required for each inspection. All deficiencies noted by the report shall be immediately corrected by the Contractor.

3.4 PUBLIC CONVENIENCE AND SAFETY

3.4.1 Road Closure

No road shall be closed by the Contractor to the public except by written permission of the Contracting Officer, and except while so closed, the Contractor shall maintain traffic over, through, or around the work included in his Contract, with the maximum practical convenience, for the full twenty-four hours of each day of the Contract, whether or not work has ceased temporarily. The Contractor shall notify the Contracting Officer at the earliest possible date after the Contract has been executed, and in any case before the starting of any construction that might in any way inconvenience or endanger traffic, so that the necessary arrangements may be determined.

3.4.2 Fire Protection

Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by ordinances, rules, or regulations or within fifteen (15) feet of a fire hydrant, in the absence of such ordinances, rules, or regulations.

3.5 BARRICADES, DANGER, WARNING, AND DETOUR SIGNS

3.5.1 General

The Contractor shall, at his/her own expense, provide, erect, paint, and maintain all construction barricades. The Contractor shall provide suitable and sufficient lights, torches, reflectors, or other danger signals and signs, provide a sufficient number of watchmen and flagmen, and take all necessary precautions for the protection of the work and safety of the public. The Contractor shall replace any permanent street signs or markers which have to be moved to facilitate his construction with temporary signs as necessary.

3.5.2 Warning Signs, Painting, Illumination

The Contractor shall erect warning signs beyond the limits of the project, sufficiently in advance of any place on the project where operations interfere with the use of the road by traffic, including all intermediate points where the new work crosses or coincides with the existing road. Barricades shall be kept well painted and suitable warning signs shall be placed thereon. All barricades and obstructions shall be illuminated at night and all lights or devices for this purpose shall be kept burning from sunset to sunrise.

3.6 EMERGENCY CONTRACTOR DESIGNATION

The Contractor shall designate a person(s) who can be contacted and shall be available on a seven day week, 24 hour basis through the entire period that the contract is in force. Name(s) and telephone number(s) of the individual(s) designated shall be furnished to the Contracting Officer's Representative prior to starting work. The person contacted shall be able to respond to emergencies occurring along the length of the project during normal after work and holiday hours.

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ENVIRONMENTAL PROTECTION

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SECTION 01 57 20.00 12

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment required for environmental protection and pollution prevention, and the handling, removal, transportation and disposal of any hazardous and/or regulated solid waste generated during and as a result of construction operations under this contract, except for those measures set forth in other provisions of these specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to man; or degrade the utility of the environment for esthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, and land, and involves noise, solid waste-management, management of radiant energy and radioactive materials, as well as other pollutants including hazardous wastes, materials, substances and chemicals.

1.2 APPLICABLE REGULATIONS

In order to prevent, and to provide for abatement and control of any environmental pollution arising from construction activities in the performance of this contract, the Contractor and his subcontractors shall comply with the Louisiana Pollution Discharge Elimination System (LPDES) General Permit requirements as specified in Section 01 57 23.00 12 STORM WATER POLLUTION PREVENTION PLAN, all applicable Federal, State, and Local laws, and regulations as well as USACE regulations concerning environmental pollution control and abatement and any regulations referred to in the following paragraphs. For hazardous wastes, materials, substances and chemicals applicable regulations shall include, but are not limited to, 29 CFR 1910.106, 29 CFR 1910.120, 40 CFR 260, 40 CFR 279, 40 CFR 355, 40 CFR 372-SUBPART D, 49 CFR 171 - 178 and EM 385-1-1, LAC 33:V, and LAC 33:VII.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

LOUISIANA ADMINISTRATIVE CODE (LAC)

LAC 33:V	Environmental Quality: Hazardous Waste and Hazardous Materials
LAC 33:VII	Environmental Quality: Solid Waste

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.106	Flammable and Combustible Liquids
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
33 CFR 153.203	Procedure for the Notice of Discharge
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 268	Land Disposal Restrictions
40 CFR 279	Standards for the Management of Used Oil
40 CFR 355	Emergency Planning and Notification
40 CFR 372-SUBPART D	Specific Toxic Chemical Listings
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.4 MEASUREMENT AND PAYMENT

1.4.1 Environment Protection

No separate measurement or payment will be made for environment protection, including protection of fish and wildlife. Payment for the work covered under this section shall be distributed throughout the existing bid items.

1.4.2 Non-Regulated Waste

No separate measurement or payment will be made for the work associated with and the disposal of non-regulated debris not specifically covered elsewhere. Payment for the work associated with the disposal of non-regulated debris not specifically covered elsewhere shall be distributed throughout the existing bid items.

1.4.3 Hazardous/Regulated Waste

(a) If the Contractor generates hazardous and/or regulated solid wastes through his/her actions, no separate measurement or payment will be made for handling, removal, transportation and disposal of hazardous and/or regulated solid wastes. Payment for the work associated with and the disposal of hazardous/regulated solid waste generated by the Contractor shall be distributed throughout the existing bid items.

(b) If the Contractor uncovers an existing hazardous/regulated waste not Contractor generated, not shown on the drawings, and not specified herein, the Contractor shall notify the Contracting Officer's Representative immediately. Payment for handling, removal, transportation and disposal of hazardous and/or regulated solid wastes not Contractor generated, not shown on the drawings, and not specified herein will be made as an equitable adjustment in contract price under the Clause in Section 00700 CONTRACT CLAUSES, entitled "CHANGES (FAR 52.243-4)."

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for environment protection to assure compliance with contract specifications and maintain records of his/her quality control for all construction operations including but not limited to the following:

(1) Submit plan of Environmental Pollution Control Plan/Environmental Protection Plan. For Contractor work activities (such as painting, metal finishing, etc.) that will involve bringing hazardous chemicals, hazardous substances or hazardous materials onto the project site, include in the plan a Hazard Communication Program and Safe Storage Plan. For Contractor activities that anticipate generation of hazardous wastes at the project site, include in the plan a waste identification / determination and waste disposal plan. For Contractor on-site activities that pose a risk of an oil or hazardous substance spill, include in the plan a Spill Reporting and Response Plan.

(2) Procure applicable Federal, State, and Local regulations on pollution control.

(3) Air Pollution - Checks made on dust, smoke, and noise.

(4) Water Pollution - Checks made on disposal of water, oil, etc.

(5) Land Pollution - Checks made on disposal of debris, restoration of temporary construction sites, etc.

(6) Training Course for Employees.

1.5.2 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.6 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part

of the work until satisfactory corrective action has been taken. The Contractor shall make no part of the time lost due to any such stop orders the subject of a claim for extension of time or for excess cost of damages.

1.7 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

1.8 IMPLEMENTATION

Within 10 days after receipt of Notice of Award, or otherwise directed below, the Contractor shall:

(1) Submit in writing his/her proposals for implementing environmental pollution control at the project site, disposal of debris, non-hazardous wastes and hazardous wastes generated at the project site as well as storage and management of regulated materials, substances and chemicals brought onto and used at the project site.

(2) Meet with representatives of the Contracting Officer to develop mutual understanding relative to compliance with this provision and administration of the environmental pollution control program.

(3) If applicable, submit a plan for the identification, handling, removal, transportation and disposal of hazardous and/or regulated solid wastes generated because of the Contractor's operation.

1.8.1 Environmental Assessment of Contract Deviations

If the Contractor proposes a deviation from the drawings or specifications (e.g., proposed borrow, disposal areas, staging areas, alternate access routes etc) for his convenience, the Contractor shall notify the Contracting Officer or its representative in writing. The Contractor is cautioned that any deviation from the drawings or specifications is subject to all applicable Federal and state environmental laws and regulations. Compliance with these environmental laws and regulations may require additional National Environmental Policy Act (NEPA) documents, cultural resources surveys, coordination with the Louisiana State Historical Preservation Officer, water quality certification, modification of the Federal Consistency determination, etc. The Government is ultimately responsible for environmental compliance; therefore, the Government will determine the additional environmental coordination and documentation necessary for proposed deviation to the Government furnished disposal areas. For any environmental investigations the Government is to perform on area outside of Government furnished rights of way, the Contractor shall provide sufficient rights of entry. The Contracting Officer will advise the Contractor of the additional environmental coordination and documentation that must be completed prior to the use of the contractor furnished right of way. The Government shall be responsible for any additional environmental compliance; however, the Contractor may conduct specific tasks identified by the Government. The Government will offer advice and assistance to the Contractor in conducting these tasks. Depending on the environmental impact of the proposed deviation, obtaining the coordination and documentation, may not be approved or could take as much as 180 days for approval by the Government. The Government must review, approve and ensure distribution of all environmental compliance documentation and ensure all comments on the same have been resolved before any utilization of any areas outside of the Government furnished right of

way. The Contractor shall reimburse the Government for actual expenses incurred for assistance in completing or attempting to complete additional environmental coordination and documentation which expenses will not exceed one hundred thousand ($100,000) dollars. There is no guarantee that environmental compliance will be obtained; therefore, the Contractor shall assume all risks and liabilities associated with pursuing a deviation. Any delays resulting from the deviation and/or the environmental coordination and documentation shall not be made the basis of any Contractor claim for increase in the contract cost and/or increase in contract time. Deviations will be at the Contractor's sole risk and liability, including, but not limited to, such liabilities associated with items such as hazardous substances regulated under the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C 9601 et. Seq.), and at no cost to the Government. Government assistance in obtaining additional environmental clearances does not relieve the Contractor of responsibility for complying with other Federal, state or local licenses and permits.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PROTECTION OF LAND RESOURCES

3.1.1 General

The land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. The Contractor shall confine his/her construction activities to areas defined by the plans or specifications, including borrow areas to be cleared. The following additional requirements are intended to supplement and clarify the requirements of Section 00700, CONTRACT CLAUSES entitled, "CLEANING UP (FAR 52.236-12);" "PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (FAR 52.236-9);" and "OPERATIONS AND STORAGE AREAS (FAR 52.236-10)."

3.1.2 Prevention of Landscape Defacement

Except in areas to be cleared and as provided in paragraph "Temporary Excavation and Embankments", the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without the approval of the Contracting Officer. Felling of trees shall be performed in such a manner as to avoid damage to trees to be left standing. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's operations or equipment; adequate protection measures shall be implemented. A tree protection zone shall be constructed around all trees that may be affected by construction activities. The tree protection zone shall be established by placing metal posts and temporary construction safety fencing around trees below the trees' canopy drip edge. The Contactor shall not store any material, equipment, backfill, drive any machinery, or cause any changes to the existing grade around trees and their respective canopy drip edges. All monuments and markers shall be protected before beginning operations near them, or properly removed and stored by the Contractor during construction, and repositioned after construction. Landscape features damaged by the Contractor's equipment or operations shall be replaced or restored to their original condition; the Contractor shall coordinate with the New Orleans' District Landscape

Architect and secure the services of a licensed arborist to assess any damage to trees that occur as a result of construction activities. The Contractor shall submit to the Contracting Officer, for review and approval, a written report from the licensed arborist on the inflicted damage, as well as a proposed remediation plan of action, or if required the replacement of affected trees. The plan of action shall identify measures such as proper pruning and bark tracing to restore the damaged trees, or tree replacement options. No separate measurement and payment will be made for any work required implementing tree protection zone measures around trees within the construction limits that are to remain. The Contractor shall include any and all costs for tree protection zone measures in the contract prices for items to which the work is incidental thereto. Should the services of a licensed arborist be required as a result of damages due to the actions of the Contractor, all services, material, labor and equipment to implement the remediation plan and restore and or replace the affected trees shall be accomplished by the Contractor at no additional cost to the Government.

3.1.3 Temporary Excavation and Embankments

If the Contractor proposes to construct temporary roads or embankments and excavation for plant and/or work areas, he shall obtain approval of the Contracting Officer prior to start of such temporary work.

3.1.4 Post-Construction Cleanup or Obliteration

The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, and stockpiles of excess or waste materials upon completion of construction. The Contractor will be required to restore the construction area to near natural conditions that will permit the growth of vegetation.

3.1.5 Recording and Preserving Historical and Archeological Finds

When any item having apparent historic or archaeological interest is discovered in the course of any construction activities, then no work shall proceed in a minimal radius of 50 feet around the identified area of cultural resources and the Contractor will leave the find undisturbed. The Contracting Officer and a USACE archaeologist shall be immediately notified so that any necessary coordination or any further definition of a no-work area of this find may occur. Should the discovered cultural resource have any appearance of human skeletal remains, then both USACE and law enforcement shall be notified so that proper identification and activity may occur.

3.2 PROTECTION OF WATER RESOURCES

3.2.1 Contamination of Water

The Contractor shall not pollute lakes, ditches, rivers, bayous, canals, groundwater, waterways, or reservoirs with fuels, oils, bitumens, calcium chloride, insecticides, herbicides, or other similar materials harmful to fish, shellfish, or wildlife, or materials which may be a detriment to outdoor recreation.

3.2.2 Disposal of Materials

The methods and locations of disposal of materials, wastes, effluents,

trash, garbage, oil, grease, chemicals, etc., within the right-of-way limits shall be such that harmful debris will not enter lakes, ditches, rivers, bayous, canals, groundwater, waterways, or reservoirs by erosion, and thus prevent the use of the area for recreation or present a hazard to wildlife.

3.2.3 Erosion Control

Surface drainage from cuts and fills within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds or shall be graded to control erosion within acceptable limits. Temporary erosion and sediment control measures as specified in Section 01 57 23.00 12 STORM WATER POLLUTION PREVENTION PLAN, shall be provided and maintained until permanent drainage and erosion control facilities are completed and operative. The area of bare soil exposed at any one time by construction operations shall not exceed that necessary to perform the work. Stream crossings by fording with equipment shall be limited to control turbidity and in areas of frequent crossings temporary culverts or bridges shall be installed. Any temporary culverts or bridges shall be removed upon completion of the project. Fills and waste area shall be constructed by selective placement to eliminate silts or clays on the surface that will erode and contaminate adjacent streams.

3.3 PROTECTION OF FISH AND WILDLIFE

The Contractor shall at all times perform all work and take such steps required to prevent any interference of disturbance to fish and wildlife. The Contractor will not be permitted to alter water flows or otherwise disturb native habitat adjacent to the project area that are critical to fish or wildlife. Construction activities are not likely to adversely affect threatened and endangered species. There is no critical habitat for any threatened or endangered species found in proximity to the construction activity. Colonial nesting wading birds (including but not limited to heron, egrets and ibis) and bald eagles may be found at the project site and should be avoided to reduce the risk of injuring birds. The nesting activity period general extends from February 15 through September 15 for wading bird and September to May for bald eagles. Presence of nesting wading birds or nesting bald eagles must be immediately reported to Patrick Smith at (504) 862-1583. If nests of these birds are present at the work area; a no work distance restriction of 1,000 feet for colonial nesting wading birds and a distance restriction of 1,500 feet from a nesting bald eagle must be implemented. Coordination by New Orleans District personnel with the U.S Fish and Wildlife Service may result in a reduction of no-work distance restriction depending on the species of birds found nesting at the work site. The Contractor should note that no federally listed birds are known to occur in the project area.

3.4 JANITOR SERVICES

The Contractor shall furnish daily janitorial services for all the offices, shops, laboratories, or other buildings being used by the Contractor or Government employees, whether existing or Contractor furnished, and perform any required maintenance of the facilities and grounds during the life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the buildings are in daily use. Services shall be accomplished to the satisfaction of the Contracting Officer. The Contractor shall also provide

daily trash collection and cleanup of the buildings and adjacent outside areas, snow removal as required, and shall dispose of all discarded debris, aggregate samples and concrete test samples in a manner approved by the Contracting Officer.

3.5 DISPOSAL OF NON-REGULATED DEBRIS

All debris resulting from construction operations on this contract shall be disposed of in accordance with Section 31 11 00.00 12 CLEARING AND GRUBBING, paragraph "DISPOSAL OF DEBRIS".

3.6 DISPOSAL OF HAZARDOUS AND/OR REGULATED SOLID WASTES

If any hazardous or regulated solid wastes will be generated as a result of the Contractor's operations, the Contractor shall submit a plan that details the proper handling, removal, transportation and disposal of such wastes. The plan shall identify what types of hazardous and/or regulated solid wastes will be generated and shall list the hazards involved with each waste. All waste generated on-site by the Contractor must be properly identified within 30 days of generation. No regulated wastes shall be allowed to accumulate on-site for more than 90 days. Regulated solid wastes are those listed in the LAC 33:VII. The plan shall include Safety Data Sheets (SDS), if applicable, for all wastes expected to be generated. The plan shall include, but not be limited to the following:

(a) Hazardous waste shall be place in closed containers and shall be shielded adequately to prevent dispersion of the waste by wind or water. Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective action is taken.

(b) Nonhazardous waste shall be stored in containers separate from hazardous waste storage areas.

(c) All hazardous waste shall be transported by a licensed transporter in accordance with LAC 33:V and 49 CFR 171, Subchapter C.

(d) All nonhazardous waste shall be transported in accordance with local regulations regarding waste transportation.

(e) In addition to the number of manifest copies required by LAC 33:V, one copy of each manifest will be supplied to the Contracting Officer prior to transportation.

(f) The plan shall identify what types of hazardous and/or regulated solid wastes will be generated and shall list the hazards involved with each waste.

3.6.1 Hazardous Wastes

For the handling, removal, transportation and disposal of any generated hazardous wastes, the plan shall conform to the requirements of 40 CFR 260, 49 CFR 171 - 178 as well as other applicable Federal, State and Local regulations. All employees of the Contractor of his/her Subcontractors that will be directly involved in the handling and/or removal of hazardous wastes shall be trained in accordance with 29 CFR 1910.120. In addition, the employees shall have undergone a medical evaluation in accordance with 29 CFR 1910.120. The Contractor shall include copies of employees' certifications and medical examinations as part of the plan specified herein. The plan shall also address the proper Personnel Protective

Equipment (PPE) that the employees will be required to wear during the handling and removal of hazardous wastes. The Contractor shall obtain an EPA ID# and Hazardous Waste Disposal Manifests and shall sign the manifests as the generator. Wastes shall be transported via state and Federal approved hazardous waste transporter and disposed of at a state and Federal approved temporary, storage and disposal (TSD) facility. Copies of licenses and certifications of the transporter and TSD shall be included in the plan. The plan shall list the name and address of each transporter and TSD to be utilized. The Contractor shall be responsible for any sampling and analysis required by the TSD for characterization purposes. The Contractor shall submit to the Contracting Officer completed copies of all Hazardous Waste Disposal Manifests within five (5) days after ultimate disposal at the TSD. Other regulations applicable to the handling, removal, transportation and disposal of hazardous wastes are: 40 CFR 261; 40 CFR 262; 40 CFR 268; and LAC 33:V.

3.6.2 Regulated Solid Wastes

For the handling, removal, transportation and disposal of any generated regulated solid wastes, the plan shall conform to the requirements of LAC 33:VII. Solid wastes shall be transported to a Federal and state approved TSD, oil recycling program or Industrial Type I Landfill. The Contractor shall identify in the plan how he/she intends to dispose of each solid waste. The plan shall include the name, address, licenses and certifications of each disposal facility that will be used. If disposal manifests are required, the Contractor shall sign them as the generator. The Contractor shall be responsible for any sampling and analyses that may be required by the disposal facility(ies) for characterization purposes. Licenses and certifications of the transporter and disposal facilities shall be included in the plan. The Contractor shall submit to the Contracting Officer a completed copy of any waste disposal manifests within five (5) days after ultimate disposal.

3.6.3 Laboratory Accreditation

All laboratory testing for waste determinations shall be performed by a laboratory which has received accreditation from the Louisiana Department of Environmental Quality (LDEQ) laboratory certification program.

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. Early in the construction period the Contractor shall conduct a training course that will emphasize all phases of environmental protection.

3.8 REPORTING OF POLLUTION SPILLS

In the event that an oil spill or chemical release occurs during the performance of this contract, the Contractor is required to contact the National Response Center, telephone number 1-800-424-8802 as soon as possible, or if telephone communication is not possible, the nearest U.S. Coast Guard office may be contacted by radio to report the spill, (33 CFR 153.203). The Contractor shall comply with any instructions from the responding agency concerning containment and/or cleanup of the spill.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 57 23.00 12

STORM WATER POLLUTION PREVENTION PLAN

-- End of Section Table of Contents --

SECTION 01 57 23.00 12

STORM WATER POLLUTION PREVENTION PLAN

PART 1 GENERAL

1.1 SCOPE

The work specified in this section consists of the Contractor implementing, and diligently pursuing all measures required in the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP consists of this Section, 01 57 23.00 12, and any and all references and attachments including existing and future signed certification statements. The purpose of the SWPPP is to control soil erosion and the resulting sediment to the extent necessary to prevent sediment from leaving the contract rights-of-way and prevent pollution of any water body caused by the runoff from the areas of construction activities under this contract, under the terms of PERMIT NO. LAR100000 (copy attached at the end of this section), and as specified herein and shown on the drawings. The requirements of these specifications are supplemental to and shall become part of the overall Environmental Protection Plan required by Section 01 57 20.00 12 ENVIRONMENTAL PROTECTION. The Contractor shall review the SWPPP to determine requirements for compliance. In addition, the Contractor shall ascertain that his subcontractors have reviewed the plan, and that they comply with its provisions. The Contractor shall ensure that all subcontractors sign, "Certification Statements #2 and #3" (blank forms attached at the end of this section).

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)

PERMIT NO. LAR100000	(2019) Storm Water General Permit for Construction Activities, Five (5) Acres or More

1.3 MEASUREMENT AND PAYMENT

1.3.1 SWPPP

No separate measurement or payment will be made for the implementation of the Storm Water Pollution Prevention Plan, except as specified in paragraph "Truck Wash-Down Racks". Price and payment shall be distributed amongst the existing items.

1.3.2 Truck Wash-Down Racks

Measurement and payment for truck wash-down racks will be as specified in Section 01 57 23.01 12 TRUCK WASH-DOWN RACKS.

1.4 DEFINITIONS

a. Construction Owner - The construction owner is the party that has operational control over plans and specifications including the ability to make changes to those items. The New Orleans District (Government) is the construction owner.

b. Construction Operators - The construction operators are the party having control over the plans and specifications and the party having day-to-day operational control over those activities at a project site which are necessary to ensure compliance with the SWPPP or other permit conditions. Both the Government and the Contractor are the construction operators.

c. Notice of Intent (NOI) - A document that is completed and submitted to the Louisiana Department of Environmental Quality as application for coverage to discharge under the PERMIT NO. LAR100000. (Copy provided at the end of this section.)

d. Notice of Termination (NOT) - A document that is completed and submitted to the Louisiana Department of Environmental Quality to terminate permission to discharge under the PERMIT NO. LAR100000. The NOT must be filed within 30 days after final stabilization of the construction site has been achieved or the Contractor is no longer the construction operator. (Copy provided at the end of this section.)

1.5 GENERAL

The Contractor shall implement the Storm Water Pollution Prevention Plan (SWPPP) specified in a manner which will meet the requirements of Section 01 57 20.00 12 ENVIRONMENTAL PROTECTION, and the requirements of the Louisiana Pollution Discharge Elimination System (LPDES) permit, PERMIT NO. LAR100000 effective October 1, 2019.

1.5.1 Environmental Assessment of Contract Deviations

The Contractor is advised that deviations from the SWPPP could result in the requirement for the Government to reanalyze the project from an environmental standpoint. Deviations from the SWPPP erosion control requirements as specified herein and as shown on the drawings which may have an environmental impact will require an extended review, processing, and approval time by the Government.

1.5.2 Notice Of Intent

Upon preparation of a complete SWPPP, the NOI will be submitted by the Government to the LDEQ as application for the Government's coverage under the terms of PERMIT NO. LAR100000. A copy of the Government's NOI, will be provided to the Contractor at the Pre-construction Conference for the Contractor's use in preparing their NOI. If a specific LPDES permit applicable to this construction item has been received from the LDEQ in response to the NOI, a copy of the specific LPDES permit will also be provided to the Contractor. The Contractor shall make any necessary modification to this SWPPP; attach the Construction Owner / Operator certification statement provided at the end of this section to the SWPPP; and certify by signing the statement as the construction operator. The Contractor shall then submit an NOI to the LDEQ as application for his/her coverage under the terms of PERMIT NO. LAR100000, prior to initiating any construction activities. Certified mail is recommended for Contractor's

proof of submittal. A copy of the Contractor's NOI submittal shall be provided to the Contracting Officer's representative at the time of submittal. LDEQ will provide a specific LPDES permit to the Contractor in response to that NOI submittal. The NOI's of both the Contractor and the Government, as well as the specific permits in response to the NOI, shall be posted at the job site by the Contractor. (Forms are attached at the end of this Section.)

1.6 RECORD RETENTION REQUIREMENTS

1.6.1 Documents

The Contractor shall retain copies of the SWPPP and all reports required by the general permit, and all records of data used to complete the NOI, for a period of at least three years from the date that the construction site is finally stabilized. Records of the NOI as well as any data used to complete it, the SWPPP, and any reports required by PERMIT NO. LAR100000 shall be retained by the permittee for at least three years from the date that the site is finally stabilized.

1.6.2 Plan Accessibility

A copy of the SWPPP and a copies of all permits received, shall be retained at the construction site (or other local location accessible to the State Administration Authority and the public) from the date of construction initiation to the date of final stabilization. The Contractor shall have a copy of the plan available at a central location on-site for the use of all operators and those identified as having responsibilities under the plan whenever they are on the construction site. A notice shall be posted near the main entrance to the construction site with the following information: (1) the LPDES permit number for the project or a copy of the NOI if a permit has not yet been assigned; (2) the name and telephone number of a local contact person; (3) a brief description of the project; and (4) the location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

1.6.3 Activity Records

The dates of the following activities shall be recorded:

(1) Major grading activities occurred.

(2) Construction activities temporarily or permanently ceased.

(3) Stabilization measures were initiated.

1.6.4 LDEQ Correspondence

Any written correspondence with the LDEQ concerning the NOI, NOT, SWPPP, or discharges from any facility covered under PERMIT NO. LAR100000, shall be identified by permit number, if one has been assigned, and sent to the address below:

Louisiana Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, LA 70821-4313

Attn: Permits Division

1.7 MAINTENANCE AND SURVEILLANCE FEES

In accordance with the Clause in Section 00700 CONTRACT CLAUSES, entitled PERMITS AND RESPONSIBILITIES (FAR 52.236-7), the Contractor shall, without additional expense to the Government, be responsible for paying any state required annual maintenance and surveillance fee for work associated with coverage under PERMIT NO. LAR100000.

1.8 EROSION AND SEDIMENT CONTROLS

The controls and measures required for controlling sediment during construction are described below.

1.8.1 Stabilization Controls

The stabilization practices to be implemented shall include fertilizing, seeding, and mulching as specified in Section 32 92 19.23 12 TURF ESTABLISHMENT AND MAINTENANCE or any other temporary measure to restrict erosion from the construction site. On the daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., clearing and grubbing, excavation, embankment, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs "Unsuitable Conditions" and "No Activity for Less Than 21 Days," stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.8.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.8.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased. Stabilization practices shall be initiated on that portion of the site by the fourteenth day in the case where construction activities will not resume within 21 days after construction activities have ceased.

1.8.2 Structural Controls

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. The structural practices shall include the following device.

1.8.2.1 Truck Wash-Down Racks

See Section 01 57 23.01 12 TRUCK WASH-DOWN RACKS.

PART 2 PRODUCTS NOT USED

PART 3 EXECUTION

3.1 INSTALLATION OF TRUCK WASH DOWN RACKS

Operation of truck wash down racks shall not include use of detergents. Sediments resulting from operation of truck wash down racks shall not be permitted to pollute any receiving waters. Sediments shall be utilized in the job or disposed of as construction debris. Sediment retention measures shall be utilized as described in Section 01 57 23.01 12 TRUCK WASH-DOWN RACKS.

3.2 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.3 INSPECTIONS

3.3.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every fourteen (14) calendar days, before anticipated storm events (or series of storm events such as intermittent showers over one or more days) expected to cause a significant amount of runoff, and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every two weeks.

3.3.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.3.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, maintenance performed, and actions taken. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be

maintained on the job site. Sample inspection reports (Exhibit D-2, Exhibit D-3, Exhibit D-4, and Table D-5) are included at the end of this section.

3.4 NOTICE OF TERMINATION

Upon stabilization and elimination of all storm water discharges authorized by PERMIT NO. LAR100000, or where the operator of all storm water discharges at a facility changes, a Notice of Termination (NOT) shall be certified and submitted by the Contractor to the Permits Division at the LDEQ. A copy of the NOT form is provided at the end of this section. Certified mail is recommended for proof of the NOT submittal. The NOT shall be submitted within 30 days of final stabilization of the construction site or when the Contractor is no longer the construction operator.

3.5 ADDITIONAL INFORMATION

(a) Job description. The work consists of clearing and grubbing, excavation, embankment, placement of geotextile, optional work of access road construction, turf establishment and other incidental work.

(b) Activity sequence. Project will begin with clearing and grubbing the area, drainage canal excavation, sand placement and geotextile will follow. Embankment placement will be done in stages. Access road placement and fertilizing seeding and mulching will be the last order of work.

(c) Disturbed area. The total area of the site is approximately 117 acre. Most of the area will be disturbed. No additional area will be disturbed by the Contractor.

(d) Runoff coefficient. The estimated runoff coefficient for the project site is 0.30.

(e) Location. The project is located on St. John the Baptist Parish. It starts at the access road that ties in to Airport Road. The work will be between the Mississippi Bayou diversion project and the Reserve Canal pump station project.

(f) Associated discharges. No additional location for any discharge of stormwater or, any other associated with industrial activity other than construction have been identified.

(g) Name of receiving waters / wetlands / special aquatic sites. The nearest waterbodies named on topographic maps to the construction site that will receive storm water discharges from the job are Mississippi Bayou and Reserve Canal.

(h) Permit requirements. Permit requirements are described in the copy of PERMIT NO. LAR100000 attached at the end of this section.

(i) Endangered or Threatened Species Concerns. Construction activities are not likely to adversely affect threatened and endangered species. There is no critical habitat for any threatened or endangered species found in proximity to the construction activity.

(j) There are no properties listed on the National Register of Historic Places (NRHP) located within or in close proximity to the

identified work areas. Storm water discharge will not affect any properties of the NRHP.

CERTIFICATION STATEMENT #1

Any person, including the construction owner/operator, signing documents (the SWPPP, modifications to the SWPPP, or other reports) under Part VI.G. of PERMIT NO. LAR100000 shall make the following certification.

(Contract Title)

(Permit Number)

(Document being Certified, such as SWPPP)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I also certify that a storm water pollution prevention plan, including both construction and post construction controls, has been prepared for the site in accordance with the permit and that such plan complies with approved State, Tribal and/or local sediment and erosion plans or permits and/or storm water management plans or permits. I am aware that signature and submittal of the Notice of Intent is deemed to constitute my determination of eligibility under one or more of the requirements of Permit Part I.A.3.e(1), related to the Endangered Species Act requirements. To the best of my knowledge, I further certify that such discharges and discharge related activities will not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage under Part I.A.3.f of the permit. I am also aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____

Printed Name _____

Title _____

Company _____

Date _____

Telephone _____

CERTIFICATION STATEMENT #2

Any Contractor or subcontractor implementing any part of this plan must prepare and sign a copy of the following certification.

(Contract Title)

(Permit Number)

I certify, under penalty of law, that I understand the terms and conditions of the Louisiana Pollutant Discharge Elimination System (LPDES) general permit that authorizes storm water discharges associated with construction activity from the construction site identified as part of this certification.

Firm Name: _____

Address: _____

_____ Telephone No: _____

Signature: _____ Title: _____

Date: _____

CERTIFICATION STATEMENT #3

Any Contractor or subcontractor that does not meet the definition of "operator" that will conduct activities that may impact the effectiveness of the SWPPP control measures must prepare and sign the following certification.

(Contract Title)

(Permit Number)

I certify, under penalty of law, that I will coordinate, through the contractor, owner, or directly, with the Contractor (s) identified in the pollution prevention plan having responsibility for implementing storm water control measures to minimize any impact my actions may have on the effectiveness of these storm water control measures.

Firm Name: _____

Address: _____

_____ Telephone No: _____

Signature: _____ Title: _____

Date: _____

-- End of Section --

Exhibit D-2

ARMY CORPS OF ENGINEERS

Storm Water Pollution Prevention Plan

Construction General Permit
Inspection and Maintenance Report Form

To be completed every 14 days and within 24 hours of a rainfall event of 13 mm (0.5 inch) or more

Project:_____

Inspected By: _____ Date:_____

Inspectors Qualifications:_____

_____

_____

_____

Days Since Last Rainfall:_____Amount of Last Rainfall_____mm (Inches)

Structural Controls

AREA	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED (yes/no)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE:_____

Exhibit D-3

ARMY CORPS OF ENGINEERS

Storm Water Pollution Prevention Plan

Construction General Permit
Inspection and Maintenance Report Form

To be completed every 14 days and within 24 hours of a rainfall event of 13 mm (0.5 inch) or more

Project:_____

Inspected By: _____ Date:_____

Inspectors Qualifications:_____

_____

_____

_____

Days Since Last Rainfall:_____Amount of Last Rainfall_____mm (Inches)

Vegetative Controls

AREA	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED (yes/no)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE:_____

Exhibit D-4

ARMY CORPS OF ENGINEERS

Storm Water Pollution Prevention Plan

Construction General Permit
Inspection and Maintenance Report Form

To be completed every 14 days and within 24 hours of a rainfall event of 13 mm (0.5 inch) or more

Project:_____

Inspected By: _____ Date:_____

Inspectors Qualifications:_____

_____

_____

_____

Days Since Last Rainfall:_____ Amount of Last Rainfall_____mm (Inches)

Management Controls

AREA	ACTIVITY DESCRIPTION	MAINTENACE REQUIRED	STABILIZED (yes/no)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE:_____

Table D-5

EQUIPMENT MAINTENANCE AND INSPECTION

Inspection/Maintenance Conducted and Comments/Observations	Location/Equipment	Conducted By	Date

To: **Prospective Applicants for a Storm water General Permit Associated with Construction Activity Greater than 5 Acres**

Attached is a **Stormwater General Permit Associated with Construction Activity Greater than 5 Acres Notice of Intent (NOI) CSW-G,** for a Louisiana Pollutant Discharge Elimination System (LPDES) permit, authorized under EPA's delegated NPDES program under the Clean Water Act.

Projects do not qualify for coverage under the general permit unless the NOI is complete and correct. To be considered complete, EVERY ITEM on the form must be addressed and the last page signed by an authorized company agent. If an item does not apply, please enter "NA" (for not applicable) to show that the question was considered.

Payment of the Annual Maintenance and Surveillance Fee(s) MUST be received with the NOI. Attach a check or money order to the NOI or go to http://business.deq.louisiana.gov/ to create an online account.

NOIs without payment are considered incomplete.

Two copies (one original and one copy) of your **completed** **and** **signed** **NOI** should be submitted to:

Mailing Address:
Department of Environmental Quality
Office of Environmental Services
Post Office Box 4313
Baton Rouge, LA 70821-4313
Attention: Water Permits Division

Physical Address (if NOI is hand delivered):
Department of Environmental Quality
Office of Environmental Services
602 N Fifth Street
Baton Rouge, LA 70802
Attention: Water Permits Division

Please be advised that completion of this NOI may not fulfill all state, federal, or local requirements for facilities of this size and type.

According to L. R. S. 48:385, any discharge to a state highway ditch, cross ditch, or right-of-way shall require approval from:

Louisiana DOTD
Office of Highways
Post Office Box 94245
Baton Rouge, LA 70804-9245
(225) 379-1927

AND

Louisiana DHH
Office of Public Health
Center for Environmental Services
Post Office Box 4489
Baton Rouge, LA 70821-4489
(225) 342-7499

A copy of the LPDES regulations may be obtained from the Department's website at **http://www.deq.louisiana.gov/portal/tabid/1674/Default.aspx**.

After the review of the NOI, this Office will issue written notification to those applicants who are accepted for coverage under this general permit.

For questions regarding this NOI please contact the Water Permits Division at (225) 219-9371. For help regarding completion of this NOI please contact DEQ, Small Business/Small Community Assistance at 1-800-259-2890.

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Office of Environmental Services, Permits Division
Post Office Box 4313
Baton Rouge, LA 70821-4313
PHONE#: (225) 219-9371

LPDES NOTICE OF INTENT (NOI) TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY GREATER THAN 5 ACRES

(Attach additional pages if needed.)

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by an LPDES permit issued for storm water discharges associated with construction activity in Louisiana. In order to be automatically authorized under General Permit LAR100000 you must submit a complete and accurate NOI to the LDEQ.

EVERY ITEM MUST BE COMPLETED.

Submission of this Notice of Intent also constitutes that implementation of the Storm Water Pollution Prevention Plan required under the general permit will begin at the time the permittee commences work on the construction project identified in Section II below.

SECTION I - FACILITY INFORMATION

A. Permit is to be issued to the following: (must be a party having operational control over construction plans and specifications and /or a party having day-to-day operational control over those activities at a project site which are necessary to ensure compliance with the storm water pollution prevention plan or other permit conditions LAC 33:IX.2501.B and LAC 33:IX.2503.A and B).

1. Legal Name of Applicant
(Company, Partnership, Corporation, etc.) _____

Project Name _____

(NOTE: Only one NOI needs to be submitted to cover all of the permittee's activities on the common plan of development or sale (e.g., you do not need to submit a separate NOI for each separate lot in a **residential subdivision** or for two separate buildings being constructed on the same property, provided your SWPPP covers each area for which you are the operator.)

Mailing Address _____

_____ Email: _____ Zip Code: _____

If the applicant named above is not also the owner, state owner name, phone # and address.

_____

_____

Check status:

☐ Federal	☐ Parish	☐ Municipal	☐
☐ State	☐ Public	☐ Private	☐ Other: _____

2. Location of project. Provide a specific address, street, road, highway, interstate, and/or River Mile/Bank location of the project for which the NOI is being submitted.

_____

City _____ Zip Code _____ Parish _____

SECTION I - FACILITY INFORMATION

Front Gate Coordinates:

Latitude- ____deg. ____min. _____sec. Longitude- _____deg. _____ min. _____sec.

Method of Coordinate Determination: _____

(ex:http://terraserver-usa.com/Quad Map, Previous Permit, website, GPS)

Is the facility located on Indian Lands? ☐ Yes ☐ No

B. Storm water Pollution Prevention Plan Information.

1. Has the Storm water Pollution Prevention Plan (SWPPP) been prepared? (NOTE: The SWPPP must be prepared prior to submittal of the NOI. Do **not** submit SWPPP with this NOI.)

   ☐ Yes ☐ No

2. Indicate address of location of SWPPP if different from Project Location. **(N/A if SWPPP is located at the construction site.)**

   Address _____

   City _____ State _____ Zip _____

C. Location Information

1. Estimated Construction Start Date: (mo/day/yr) _____

2. **Select how long the permit is needed:**

   ☐ **0 months - 1 year** ☐ **2 years** ☐ **3 years** ☐ **4 years** ☐ **5 years**

3. Estimate of area to be disturbed (to nearest acre) _____

4. Describe the project or facility being constructed, such as a subdivision, single home, business, road project, orl retail development (**be specific, if clearing land indicate if there are future plans to build a facility, subdivision, or retail development**):

   _____

   _____

5. Is the project part of a larger development or subdivision? (5 acres or greater) ☐ Yes ☐ No

   If yes, provide the name of the development or subdivision. _____

D. Discharge Information

1. Indicate how the storm water run-off reaches state waters (named water bodies). This will usually be either *directly*, by *open ditch* (if it is a highway ditch, indicate the highway), or by *pipe*. Please specifically name all of the minor water bodies that your discharge will travel through on the way to a major water body. This information can be obtained from U.S.G.S. Quadrangle Maps. Maps can also be obtained online at http://map.deq.state.la.us/ or www.mytopo.com. Private map companies can also supply you with these maps. If you cannot locate a map through these sources you can contact the Louisiana Department of Transportation and Development at the address on the first page of this form.

   By _____(effluent pipe, ditch, etc.);

   thence into _____(effluent pipe, ditch, etc.);

   thence into _____ (Parish drainage ditch, canal, etc.);

   thence into _____ (named bayou, creek, stream, etc)

SECTION I - FACILITY INFORMATION

2. Based on Appendix C, the Outstanding Natural Resource Water (ONRW) list, does your storm water run-off flow directly into a waterbody listed as an ONRW?

☐ Yes ☐ No

NOTE: If the discharge will ultimately enter a scenic stream, contact the Louisiana Department of Wildlife and Fisheries (LDWF) Scenic Stream Division at 318-343-4044 for direction regarding how to comply with their requirements.

3. Based on Appendix A, Endangered Species Guidance, are there any listed endangered or threatened species in the project area?

☐ Yes ☐ No

NOTE: Use the Endangered Species Guidance in Appendix A to determine if there are listed endangered or threatened species in the project area. Applicants should contact the U. S. Fish and Wildlife Service (address is in Appendix A) for guidance if they need assistance in making a determination.

4. Based on Appendix B, Historic Properties Guidance, are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or in proximity to the discharge?

☐ Yes ☐ No

5. Was the State Historic Preservation Office (see Part I.A.3.f of the permit) involved in your determination of eligibility?

☐ Yes ☐ No

E. Additional Discharge Information

1. Will the project or facility expansion, post-construction, result in a discharge that will require a wastewater discharge permit such as treated sanitary wastewater from a subdivision or apartment complex, industrial storm water or process wastewater?

☐ Yes ☐ No (e.g. direct to city POTW or no post-construction discharge)

2. If yes, does the subdivision, complex, or facility have an LPDES water discharge permit?

☐ Yes ☐ No

If yes, what is the LPDES permit number? _____

3. If the facility has an LPDES water discharge permit, will the construction activity result in an increase to the permitted discharge?

☐ No ☐ Yes – Please Explain:_____

4. If the facility **does not** have an LPDES permit or if the construction will result in an **increased discharge,** the party or developer responsible for construction plans and specifications must provide a Request for Preliminary Determination (RPD), Notice of Intent (NOI), or a request for permit modification within **14 days** of submittal of the Construction NOI to: DEQ, OES, P.O. Box 4313, Baton Rouge, LA 70821-4313, Attn: Water Permits Division**.** Failure to submit this information may result in denial of this and/or any future applications for discharge of wastewater to waters of the state. The "Request for Preliminary Determination of LPDES Permit Issuance Form" requests the information referenced above and can be accessed on our web page http://www.deq.louisiana.gov under DIVISIONS, Water Permits, LPDES Permits, LPDES forms.

SECTION II – LAC 33.I.1701 REQUIREMENTS

A. Does the company or owner have federal or state environmental permits in other states that are identical to, or of a similar nature to, the permit for which you are applying? (This requirement applies to all individuals, partnerships, corporations, or other entities who own a controlling interest of 50% or more in your company, or who participate in the environmental management of the facility for an entity applying for the permit or an ownership interest in the permit.)

☐ Permits in Louisiana. List Permit Numbers: _____

☐ Permits in other states (list states): _____

☐ No environmental permits.

B Do you owe any outstanding fees or final penalties to the Department? ☐ Yes ☐ No

If yes, please explain.

_____

C Is your company a corporation or limited liability company? ☐ Yes ☐ No

If yes, is the corporation or LLC registered with the Secretary of State? ☐ Yes ☐ No

SECTION III - SIGNATURE

According to the Louisiana Water Quality Regulations, LAC 33:IX.2503, the following requirements shall apply to the signatory page in this application:

Chapter 25. Permit Application and Special LPDES Program Requirements

2503. Signatories to permit applications and reports

A. All permit applications shall be signed as follows:

1. For a corporation - by a responsible corporate officer. For the purpose of this Section responsible corporate officer means:

   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

   (b) The manager of one or more manufacturing, production, or operating facilities provided: the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken together complete and accurate information for permit application requirements; and the authority to sign documents has been assigned or delegated to the manager in accordance with corporation procedures.

NOTE: LDEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in the Permit **Standard Permit Conditions, Part VI.G.1.a(1)** The agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the state administrative authority to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under Permit **Standard Permit Conditions, Part VI.G.1a.(2)** rather than to specific individuals.

2. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively; or

3. For a municipality, state, federal or other public agency – by either a principal executive officer or ranking elected official. For the purposes of this section a principal executive officer of a federal agency includes:

   (a) The chief executive officer of the agency, or

   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I also certify that a storm water pollution prevention plan, including both construction and post construction controls, has been prepared for the site in accordance with the permit and that such plan complies with approved State, Tribal and/or local sediment and erosion plans or permits and/or storm water management plans or permits. I am aware that signature and submittal of the NOI is deemed to constitute my determination of eligibility under one or more of the requirements of Permit Part I.A.3.e(1), related to the Endangered Species Act requirements. To the best of my knowledge, I further certify that such discharges and discharge related activities will not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage under Part I.A.3.f of the permit. I am also aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NOTE: **SIGNATURE MUST COMPLY WITH REQUIREMENTS STATED ABOVE IN SECTION III.**

Signature _____

Printed Name _____

Title _____

Company _____

Date _____

Telephone _____

*****ANY NOI THAT DOES NOT CONTAIN ALL OF THE REQUESTED INFORMATION WILL BE CONSIDERED INCOMPLETE. NOI PROCESSING CANNOT PROCEED UNTIL ALL REQUIRED INFORMATION HAS BEEN SUBMITTED**.

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Environmental Services, Water Permits Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
PHONE#: (225) 219-3181

LPDES NOTICE OF TERMINATION OF COVERAGE UNDER LPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES FIVE ACRES OR MORE (LAR100000)

I. PERMIT INFORMATION

Facility's Storm Water Authorization Number LAR10_____ AI #:_____

_____ Check here if you are no longer the Operator of the Facility OR if the facility has been sold

_____ Check here if the storm water discharge associated with the construction activity is Being Terminated

II. FACILITY OPERATOR INFORMATION

Name: _____
Mail Address: _____
City: _____
State: _____ Zip Code: _____ Phone: _____

III. FACILITY/SITE LOCATION INFORMATION

Name of Project: _____
Location of Project: _____
City: _____ State: _____ Zip Code: _____
Parish _____

IV. CERTIFICATION

I certify under penalty of law that all storm water discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or that I am no longer an operator at the construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under this general permit, and that discharging pollutants in storm water associated with construction activity to waters of the State is unlawful under the Clean Water Act where the discharge is not authorized by an LPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violation of this permit or the Clean Water Act.

Print Name: _____ Date: _____

Signature: _____

DEQ
LOUISIANA

STORM WATER GENERAL PERMIT FOR LARGE CONSTRUCTION ACTIVITIES

MASTER GENERAL PERMIT NO. LAR100000
AUTHORIZATION TO DISCHARGE UNDER THE LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

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, this Louisiana Pollutant Discharge Elimination System (LPDES) General Permit is reissued. This permit authorizes operators of storm water discharges from construction activities of five (5) acres or more, including smaller areas that are part of a larger plan of development or sale that cumulatively disturb at least five acres, and defined dedicated support activities, to discharge to waters of the State, in accordance with the conditions and requirements set forth herein.

Only those operators who obtain coverage in accordance with Parts I and II of this permit are authorized under this general permit.

This permit shall become effective on October 1, 2019

This permit and the authorization to discharge shall expire five years from the effective date of the permit.

Issued on June 21, 2019

Elliott B. Vega
Assistant Secretary

GALVEZ BUILDING | 602 N. FIFTH STREET | P.O. BOX 4313 | BATON ROUGE, LA 70821-4313 | PHONE (225) 219-3181

LPDES GENERAL PERMIT
FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES
FIVE (5) ACRES OR MORE
TABLE OF CONTENTS

ADDENDA

A. ENDANGERED SPECIES GUIDANCE
B. HISTORIC PRESERVATION
C. LIST OF ADDRESSES FOR LDEQ OFFICES
D. LIST OF OUTSTANDING NATURAL RESOURCE WATERS

Part I. COVERAGE UNDER THIS PERMIT

A. Applicability

1. This permit authorizes discharges of storm water from construction activities that disturb 5 acres or more of total land area, including the disturbance of less than 5 acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb 5 acres or more, as defined in LAC 33:IX.2511.B.14.j and those construction site discharges designated by the State Administrative Authority as needing a storm water permit under LAC 33:IX.2511.A.1.e, except for discharges identified below under Permit Part I.A.3. Permit coverage is required from the "commencement of construction activities" until "final stabilization" as defined in Permit Part IX.

Construction activities regulated under this permit include clearing, grading, excavation operations, and/or adding fill material that result in the disturbance of five acres of land or more. Construction of residential houses, office buildings, industrial facilities, roadways, and runways are examples of construction activities.

The **clearing of land solely for agricultural purposes is NOT a regulated activity** so it is exempted from Louisiana Pollutant Discharge Elimination System (LPDES) permitting requirements (LAC 33:IX.2315.A). Projects on cultivated croplands are not regulated, as these are already "disturbed" areas.

Construction activities related to oil and gas exploration, production, processing, or treatment, or transmission activities are exempt from regulation under this permit. Section 323 of the Energy Policy Act of 2005 modified paragraph (24) of Section 502 of the Clean Water Act (CWA) to define the term "oil and gas exploration, production, processing, or treatment, or transmission facilities." This term is used in CWA Section 402(1) (2) to identify oil and gas activities for which the Environmental Protection Agency (EPA) shall not require National Pollutant Discharge Elimination System (NPDES) permit coverage for certain storm water discharges. The effect of this statutory change is to make construction activities at oil and gas sites eligible for the exemption established by CWA Section 402(1) (2). The exemption from obtaining LPDES permit coverage for storm water discharges from construction activities at these oil and gas sites is codified in the Environmental Regulatory Code at LAC 33:IX.2511.A.2. Oil and gas exploration, production, processing, or treatment operations or transmission site construction activities are exempt from obtaining permit coverage for discharges of storm water runoff related to construction activities, regardless of the amount of disturbed acreage, which are necessary to prepare a site for drilling and the movement and placement of drilling equipment, constructing access roads, drilling waste management pits, in field treatment plants and the transportation infrastructure (e.g., crude oil and natural gas pipelines, natural gas treatment plants and both natural gas transmission pipeline compressor and oil pumping stations) necessary for the operation of most producing oil and gas fields.

Repaving of roads and reworking of utility lines or pipelines are not regulated under this permit unless five or more acres of underlying and/or surrounding soil are cleared, graded or excavated as part of the operation. **A construction activity does not include routine maintenance that**

is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site/structure. If a construction activity is only performed to maintain its original purpose, then LPDES permit coverage under this general permit is not required to discharge storm water from that construction activity. Such activities include replacing structures that are due for and require maintenance. In order to qualify as a routine maintenance activity, the land disturbance shall not go beyond the footprint of the previous structure. Examples of routine maintenance include:

- Berm Repair or Topsoil Replacement Along Shoulders - placing berm material or topsoilon shoulders adjacent to pavement to eliminate drop-offs;
- Bridge Abutment Repairs, Deck Overlays, and Deck Replacement;
- Bridge Replacement without widening;
- Chip Sealing – placing asphalt or polymer binder and stone on existing roads;
- Culvert Replacement/Repair/Lining – replacing/repairing/relining a culvert with the same line, grade, and hydraulic capacity and within US Army Corps of Engineers Nationwide Permit (NWP) #3 parameters;
- Curb Repairs – repairing existing curbing along a roadway;
- Ditch Cleanout – maintaining or restoring original flow line and cross-section only;
- Fence Repair/Replacement;
- Lighting Maintenance;
- Linear Grading – reshaping of graded shoulders to establish proper drainage away from pavement;
- Loop Detector Repairs – repairing loop detectors in existing pavement;
- Noise Wall Repair;
- Partial Depth Pavement Repairs – isolated repairs of surface courses of pavement;
- Pothole Filling; Resurfacing – replacing several inches of asphalt wearing course by milling existing surface and replacing with new material;
- Road Re-paving with new asphalt provided the activity does not expose soil to storm water;
- Sign Repair/Maintenance – installing or repairing traffic signs and poles/posts;
- Signal Installation/Maintenance – installing or repairing traffic signals and poles/posts; and
- Tree/Brush Removal – when it is considered a road maintenance activity.

The following examples of activities that commonly disturb less than five acres, and if disturbing less than one acre and not part of a common plan of development, do not require a permit:

- Full Depth Pavement Repairs – isolated repairs of pavement build-up down to sub-grade;
- Guardrail Installation/Replacement – installing or repairing with minor grading work to create proper grade for end assemblies; and
- Road Replacement without adding any lanes.

To determine if construction activities at a particular site are regulated under this general permit you shall determine the total amount of land area that will be disturbed during a construction project rather than the total land area owned at a project site. Construction activities which require storm water permit coverage under this general permit are activities that result in the

disturbance of five or more acres of total land area, including smaller areas that are part of a larger plan of development or sale that cumulatively disturb at least five acres.

Any discharge authorized by a different LPDES permit may be commingled with discharges authorized by this permit. Any permittee covered by an individual permit may request that the individual permit be terminated if the permitted source or activity is also eligible for coverage under this general permit. Upon written notification by this Office, the individual permit will be terminated and the permittee will be covered by this general permit.

Assistance/additional information about the permit may be obtained by contacting the Water Permits Division General and Municipal Water Permits Section, at (225) 219-5337, or at the address in Part II.C.

2. This permit also authorizes discharges from support activities related to a construction site (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, etc.) from which there otherwise is a storm water discharge from a construction activity provided:

a. the support activity is directly related to a construction site that is required to have LPDES permit coverage for discharges of storm water associated with construction activity;

b. the support activity is not a commercial operation serving multiple unrelated construction projects by different operators, and does not operate beyond the completion of the construction activity at the last construction project it supports;

c. pollutant discharges from the support activity areas located on and off construction sites are minimized to the maximum extent practicable and comply with permit conditions.

3. Limitations on Coverage: The following storm water discharges from construction sites are not authorized by this permit.

a. Post-Construction Discharges

Storm water discharges that originate from the site after construction activities have been completed, and the site, including any temporary support activity at the site, has undergone final stabilization. Industrial post-construction storm water discharges may need to be covered by a separate LPDES permit.

b. Discharges Mixed with Non-storm Water

Discharges that are mixed with sources of non-storm water other than:

(1) discharges which are identified in Parts I.A.2 above (including equipment staging yards and material storage areas), and

(2) non-storm water discharges listed in Part III.A.3 which are authorized under this system, and

(3) discharges of material other than storm water that are in compliance with another LPDES permit issued for that discharge, and which are addressed in the storm water pollution prevention plan in such a manner as to identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge, as required below in Part IV.D.5. Any discharge authorized by a different LPDES permit may be commingled with discharges authorized by this permit.

c. Discharges Covered by Another Permit

Storm water discharges associated with construction activity that have been issued an individual permit or required to obtain coverage under an alternative general permit. As provided in Part I.A.1 above, any permittee covered by an individual permit may request that the individual permit be terminated if the permitted source or activity is also eligible for coverage under this general permit. Upon written approval of that request by this Office, the individual permit will be terminated and the permittee will be covered by this general permit.

d. Discharges Threatening Water Quality

Storm water discharges from construction sites that LDEQ determines will cause, or have the reasonable potential to cause or contribute to, violations of water quality standards. Where such determinations have been made, the discharger will be notified by LDEQ that an individual permit application is necessary. However, LDEQ may authorize coverage under this permit after appropriate controls and implementation procedures designed to bring the discharges into compliance with water quality standards have been included in the storm water pollution prevention plan.

Furthermore, if a discharge flows into a water body that is listed on the most recent EPA-approved 303(d) list, then the permittee's storm water pollution prevention plan must include specific control measures targeting the pollutant(s) of concern for any impairment(s). The control measures must be designed and implemented to ensure discharges of storm water will not have the reasonable potential to cause or contribute to the impairment. Impaired water bodies (without a TMDL) are listed as Category 5 in Appendix A of LDEQ's most recent Integrated Report (IR), located at: http://deq.louisiana.gov/page/water-quality-integrated-report-305b303d.

e. Discharges That Are Not Protective of Endangered and Threatened Species

(1) Coverage under this permit is available only if the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities will not adversely affect any species that are federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) and will not result in the adverse modification or destruction of habitat that is federally-designated as "critical habitat" under the ESA. All operators must follow the procedures in Addendum A and meet at

least one of the eligibility criteria (Criteria A - E) described in the addendum when determining eligibility for coverage under the permit. Failure to continue to meet one or more of these criteria during the entire term of the permit will result in the storm water discharges associated with construction activity being ineligible for coverage under this permit.

(2) The applicant must comply with any terms and conditions imposed under the eligibility requirements above to ensure that storm water discharges or BMPs to control storm water runoff are protective of listed endangered and threatened species and/or critical habitat. Such terms and conditions must be incorporated in the applicant's storm water pollution prevention plan.

(3) This permit does not authorize any "take" (as defined under Section 9 of the ESA) of endangered and/or threatened species unless such take is authorized under Section 7 or 10 the ESA.

(4) This permit does not authorize any storm water discharges or require any BMPs to control storm water runoff that are likely to jeopardize the continued existence of any species that are listed as endangered or threatened under the Endangered Species Act or result in the adverse modification or destruction of habitat that is designated as critical under the ESA.

f. Discharges Adversely Affecting Properties Eligible for Protection Under the National Historic Preservation Act.

Eligibility for coverage under this permit is contingent upon compliance with the National Historic Preservation Act (NHPA). Discharges are authorized under this permit only if:

(1) the site ensures storm water discharges, allowable non-storm water discharges, and discharge-related activities do not have the potential to adversely affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or

(2) if historical properties are identified and it is determined there is the potential to adversely affect the property, the site has obtained and is in compliance with a written agreement with the Louisiana State Historic Preservation Officer (SHPO) that outlines all measures to be undertaken to mitigate or prevent adverse effect(s) to the historic property.

Addendum B of this permit provides guidance and references to assist operators with determining permit eligibility concerning this provision.

g. Discharges Not in Compliance with State Water Quality Standards/TMDL Requirements

Covered dischargers shall not cause, have the reasonable potential to cause, or contribute to a violation of a state water quality standard. New or proposed dischargers must evaluate

eligibility by determining compliance with this provision prior to assuming authorization by the permit.

The discharge of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been either established or approved by LDEQ is not authorized unless the discharge is consistent with the requirement(s) of that TMDL. During determination of eligibility for coverage under the permit, **new dischargers** (see LAC 33:IX.2313) to a 303(d) waterbody must determine that their proposed discharges will be in compliance with LAC 33:IX.2317.A.9. In essence, a new discharger is one initiated after August 13, 1979, and not previously permitted. Any discharger (**both existing and new**) to a water body for which there is an impairment and/or an approved or established TMDL must confirm that the impairment and/or TMDL allocated a portion of the load for storm water point source discharges if the proposed discharges will contain the pollutant(s) for which the waterbody is impaired or the TMDL developed. Such discharges are expected to be rare for the wastewater types covered by the reissued permit because the required control/prevention measures are designed to prevent the release of these pollutants in storm water. Permittees located within a regulated Municipal Separate Storm Sewer System (MS4) that has been assigned a WLA may be required to implement additional BMPs in accordance with local ordinances and/or the MS4's Storm Water Management Plan.

In a situation where an LDEQ-approved or established TMDL has specified a general wasteload allocation applicable to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, the operator must consult with LDEQ to confirm that adherence to a storm water pollution prevention plan (SWPPP) that meets the requirements of this permit will be consistent with the approved TMDL. The SWPPP must clearly state which BMPs were selected for the site, including on and off-site construction support activities, and describe how the design and implementation of the selected BMPs are expected to ensure that storm water discharges from the construction site are in compliance with the established TMDL. If the LDEQ-approved or established TMDL specifically precludes such discharges, the operator is not eligible for coverage under this permit.

Where an LDEQ-approved or established TMDL has not specified a wasteload allocation applicable to construction storm water discharges, but has not specifically excluded these discharges, adherence to a SWPPP that meets the requirements of this permit will be considered to be consistent with the approved TMDL. Current TMDL reports are located on the Internet at:
http://deq.louisiana.gov/page/tmld-reports-and-models
and at:
https://iaspub.epa.gov/tmdl_waters10/attains_impaired_waters.tmdls?p_state=LA.

Broadly stated, new or existing discharges of a particular pollutant are prohibited where there is a TMDL unless the discharge meets the requirements established in the TMDL. If a discharge is not/will not meet these requirements, the operator must seek coverage under an alternative permit. Where a discharger is already operating under the permit and is later discovered to cause or have the reasonable potential to cause or contribute to the violation of a state water quality standard, the permitting authority will notify the operator of such

violation(s) and the permittee shall take all necessary actions to ensure that future discharges do not cause, have the reasonable potential to cause, or contribute to the violation of a water quality standard and document these actions in the pollution prevention plan. If violations remain or recur, then coverage under the permit is automatically terminated and alternate coverage must be obtained. Compliance with this requirement does not preclude any enforcement activity as provided by the Louisiana Environmental Quality Act (La. R.S. 30:2001, et seq.) for the underlying violation.

In order to verify the impaired status of the waterbody and determine if any TMDLs have been established, the permit applicant shall consult the most recent Integrated Report (also referred to as the 305(b) Report) at: http://deq.louisiana.gov/page/water-quality-integrated-report-305b303d or obtain a copy of the report from the Office of Environmental Services, Water Permits Division.

(1) Exclusions

This general permit **shall not** apply to:

a. Storm water discharges associated with industrial activity that originate from the site after construction activities have been completed and the site has undergone final stabilization as defined in Part IX.

b. Non-storm water discharges (except certain non-storm water discharges specifically listed in this general permit). However, this permit can authorize storm water discharges from construction where the discharges are mixed with non-storm water discharges that are authorized by a different LPDES permit.

c. Storm water discharges from construction activities that are covered by an existing LPDES permit. However, any permittee covered by another permit may request that the other permit be terminated if the permitted source or activity is also eligible for coverage under this general permit. Upon written approval of that request by this Office, the permittee will be covered by this general permit, and the other permit terminated.

d. Storm water discharges from construction activities that LDEQ has determined to be causing, or has the reasonable potential to cause, or will contribute to a violation of a water quality standard.

e. Storm water discharges from construction activities, allowable non-storm water discharges, and storm water discharge-related activities, if the discharges are likely to adversely affect a listed endangered or threatened species or its critical habitat (unless in compliance with specific ESA related conditions in the permit).

f. Storm water discharges from construction activities and storm water discharge-related activities, if the discharges are not in compliance with the NHPA.

B. Obtaining Authorization

1. In order for storm water discharges from construction activities to be authorized to discharge under this general permit, an applicant must:

a. meet the Part I.A applicability requirements.

b. develop a SWPPP covering either the entire site or all portions of the site for which they are operators (see definition in Part IX) according to the requirements in Part IV (preparation and implementation of the Plan may be a cooperative effort where there is more than one operator at a site), and then

c. submit payment for the annual maintenance and surveillance fee(s) in accordance with Part I.C of this permit and a complete and accurate NOI in accordance with the requirements of Part II, using an NOI form provided by the State Administrative Authority (or a photocopy thereof). **Only one NOI needs to be submitted to cover all of the permittee's activities on the common plan of development or sale (e.g., you do not need to submit a separate NOI for each separate lot in a residential subdivision or for two separate buildings being constructed at a manufacturing facility, provided your SWPPP covers each area for which you are an operator.)** The SWPPP must be implemented upon commencement of construction activities.

Application for coverage shall be made by:

- a party having operational control over construction plans and specifications; and/or
- a party having day-to-day operational control over those activities at a project site which are necessary to ensure compliance with the SWPPP or other permit conditions.

When operational control over plans and specifications, and control over the day-to-day activities described above, are held by separate parties, each party shall submit an NOI. In cases with only one control party, that party alone is required to submit the NOI.

Operators will commonly consist of the owner or developer of a project (the party with control of project specifications) and the general contractor (the party with day to day operational control of the activities at the project site which are necessary to ensure compliance with the permit).

For subdivisions and commercial developments, an NOI shall be submitted by the owner/developer, the general contractor, and each individual builder within the subdivision or commercial development.

Any party with operational control over only a portion of a larger project (e.g., one of four homebuilders in a subdivision), must submit its own NOI and obtain its own permit authorization number. They may share a SWPPP with other permittees operating in the area of the larger project; however, each permittee is responsible for compliance with all conditions of this permit as it relates to their activities on their portion of the construction site. Each

permittee shall ensure either directly or through coordination with other permittees, that their activities do not render another party's pollutant discharge controls ineffective. Any party with operational control over only a portion of a larger project shall either implement their portion of a common SWPPP or develop and implement their own site specific SWPPP.

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required to develop separate SWPPPs that cover only their portion of the project provided reference is made to other operators at the site.

In instances where there is more than one SWPPP for a site, cooperation between the permittees is encouraged to ensure storm water discharge control measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).

All permitted parties are responsible for compliance with all applicable conditions of this permit as it relates to your activities on your portion of the construction site, including protection of endangered species, critical habitat, and historic properties, and implementation of control measures described in the SWPPP.

Contractors and subcontractors who are under the general supervision of the general contractor are not considered operators and would not need to submit NOIs. The general contractor shall be responsible for submitting the NOI, implementing the SWPPP, and ensuring that contractors and subcontractors actions/activities do not render the general contractor's pollutant discharge controls ineffective.

2. For construction sites where the operator changes, or where a new operator is added after the submittal of an NOI under Part II, a new NOI must be submitted in accordance with Part II.

3. Unless notified by LDEQ to the contrary, all applicants who submit payment for the annual maintenance and surveillance fee(s) and a complete and accurate NOI in accordance with the requirements of this permit are authorized to discharge storm water from construction activities under the terms and conditions of the permit 48 hours after the receipt of the hand-delivered NOI with the payment of the annual maintenance and surveillance fee(s), 48 hours after the submittal of a payment of the annual maintenance and surveillance fee(s) and complete and accurate electronic NOI, or 48 hours after the postmark date on the envelope that contains the correct and accurate NOI with the payment of the annual maintenance and surveillance fee(s) by the Office of Environmental Services, Water Permits Division.

   Operators who submit incomplete NOIs, NOIs without payment of the annual fee(s), or NOIs with errors will be notified and are not authorized to discharge storm water from construction activities until the errors or deficiencies have been corrected and the corrected NOI has been delivered to LDEQ.

   If warranted, LDEQ may deny coverage under this general permit and require submittal of an application for an individual LPDES permit (see Part VI of this permit).

A printed hard copy of this permit may be obtained by contacting LDEQ's Water Permits Division at (225) 219-5337, or a copy can be downloaded from the LDEQ website at http://deq.louisiana.gov/page/lpdes-water-permits. Go through the following links to find the permit: Water – Permits – LPDES Permit Information – LAR100000 –. A printed hard copy of the Notice of Intent (NOI) can be downloaded from the LDEQ website at http://deq.louisiana.gov/page/lpdes-water-permits. Go through the following links to find the NOI form: Water – Permits – LPDES Forms – LPDES Permit Application Forms – CSW-G.

C. Annual Maintenance and Surveillance Fees

An annual maintenance and surveillance fee will be assessed for coverage under the permit. Permittees applying for coverage under the general permit shall select the time frame for which permit coverage is needed, a minimum of one year and up to five years. Prior to receiving coverage, the applicant(s) shall submit payment of the annual maintenance fee(s) for the entirety of the selected coverage (LAC 33:IX.1309.F and N).

1. The annual maintenance and surveillance fee(s) must be submitted with the NOI in accordance with the following time frames:

a. $291.00 – 0 months – 1 year
b. $582.00 – 2 years
c. $873.00 – 3 years
d. $1164.00 – 4 years
e. $1455.00 – 5 years

2. Fees are due upon submission of the NOI. An NOI will not be declared administratively complete unless the associated fee has been paid in full.

3. Permittees will not receive annual invoices as the annual maintenance and surveillance fee(s) will be paid in advance as described above.

D. Notice of Extension (NOE)

If a continuation of coverage under this permit is needed beyond the selected number of years, permittees must submit a Notice of Extension 30 days before the expiration date of your permit. Please submit two copies (one original and one copy) of the completed and signed NOE Form.

1. The annual maintenance and surveillance fee(s) must be submitted with the NOE in accordance with the following time frames.

   a. $291.00 – 0 months – 1 year
   b. $582.00 – 2 years
   c. $873.00 – 3 years
   d. $1164.00 – 4 years
   e. $1455.00 – 5 years

Please note that authorizations under this general permit and/or extensions of coverage shall not exceed the 5 year term of the permit. However, the NOE form will be utilized for permittees covered under the previous LAR100000 and who wish to seek coverage under the reissued general permit. See Part I.E.5 for further information regarding permit expiration.

E. Terminating Coverage

1. Termination of coverage under the permit shall be automatic. The termination date shall be determined by the number of years selected by the permittee (see Part I.C above) and the date the NOI is received by the Water Permits Division. To clarify, an NOI that is received and processed on October 1, 2019, and where the applicant selected one year of coverage shall automatically terminate on September 30, 2020. The permittee is not required to submit a Notice of Termination. Permittees will be notified of the automatic termination date in the permit authorization letter.

The automatic termination date is an estimate provided by the owner and/or operator of when construction activities will be completed. The automatic termination date is not intended to allow additional time to comply with final stabilization requirements. If construction activities are completed prior to the termination date, the owner and/or operator must comply with final stabilization deadlines and requirements in Part IV.D.2.a(3) (see definition of final stabilization in Part IX) at the time construction activities have ceased.

2. One or more of the following conditions must be met by the termination date:

a. final stabilization (see definition in Part IX) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);

b. another operator/permittee has assumed control according to Part VI.D.10 over all areas of the site that have not been finally stabilized;

c. coverage under an individual or alternative general LPDES permit has been obtained; or

d. for residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner.

3. If one or more of the above conditions are not met, the permittee must submit a Notice of Extension in accordance with Part I.D.

4. Enforcement actions may be taken if a permittee does not meet one or more of the above conditions by the termination date.

5. The following conditions apply to owners and/or operators with effective permit authorizations at the time this permit is reissued.

a. If a permittee received authorization to discharge under the previous LAR100000 general permit and the authorization of coverage has an expiration date of September 30, 2019, the

construction activity will be reauthorized under the reissued general permit for a period of 180 days (October 1, 2019-March 28, 2020). **If construction activities, including final stabilization, are expected to continue beyond March 28, 2020, the permittee must submit a Notice of Extension (NOE) by March 1, 2020, with payment of the surveillance and maintenance fee, in order to avoid a lapse in permit coverage.** In accordance with 40 CFR 122.28(b)(2)(vi) and LAC 33:IX.2515.B.2.f, currently permitted owners and/or operators shall be notified in writing of the requirements for continued coverage prior to permit reauthorization.

Part II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification

1. Except as provided below in Parts II.A.3 and II.A.4, for parties required to obtain permit authorization, defined above in Part I.B.1, an initial complete and accurate Notice of Intent (NOI) with payment of the annual maintenance and surveillance fee(s) in accordance with the requirements of Part I.C must be received by this Office prior to the commencement of construction activities (i.e., the initial disturbance of soils associated with clearing, grading, excavation activities, or other construction activities).

2. Except as provided in Parts II.A.3 and II.A.4, for parties defined as operators solely due to their day-to-day operational control over those activities at a project site which are necessary to ensure compliance with the SWPPP or other permit conditions (e.g., general contractor, erosion control contractor, etc.), a complete and accurate NOI with payment of maintenance and surveillance fee(s) must be received by this Office prior to commencing work at the site.

3. For storm water discharges from construction sites where the operator changes, (including projects where an operator is added after an NOI has been submitted under Parts II.A.1 or II.A.2), a complete and accurate NOI with payment of the annual maintenance and surveillance fee(s) in accordance with the requirements of this Part I.C must be received by this Office from the new operator prior to when the new operator assumes operational control over site specifications or commences work at the site.

4. Applicants are not prohibited from submitting late completed NOIs. When a late completed NOI is submitted, authorization is only for discharges that occur after permit coverage is granted. The Agency reserves the right to bring appropriate enforcement actions for any unpermitted activities that may have occurred between the time construction commenced and authorization of future discharges is granted.

5. This permit replaces the LPDES General Permit for Storm Water Discharges from Construction Activities, issued September 3, 2014. **Current permitted owners and/or operators**: If a permittee received authorization to discharge under the previous LAR100000 general permit and the authorization of coverage has an expiration date of September 30, 2019, the construction activity will be reauthorized under the reissued general permit for a period of 180 days (October 1, 2019-March 28, 2020). **If construction activities, including final stabilization, are expected to continue beyond March 28, 2020, the permittee must submit a Notice of Extension (NOE) by March 1, 2020, with payment of the surveillance and maintenance fee, in order to avoid a lapse in permit coverage.** In accordance with 40 CFR 122.28(b)(2)(vi) and LAC 33:IX.2515.B.2.f, currently permitted owners and/or operators shall be notified in writing of the requirements for continued coverage prior to permit reauthorization.

B. Contents of Notice of Intent

The Notice(s) of Intent shall be signed in accordance with Part VI.D.10 of this permit and shall include at a minimum:

1. the name, address, and telephone number of the construction site owner or operator filing the NOI for permit coverage and operator status as a Federal, State, Tribal, private, or other public entity;

2. the name (or other identifier), street address (description of location if no street address is available), city, parish, and the latitude and longitude of the approximate center of the construction site/project for which the notification is submitted;

3. whether or not the construction project is located on Indian Lands;

4. a certification that a SWPPP, including both construction and post-construction controls, has been developed, and that the SWPPP is compliant with any applicable state and/or local sediment and erosion plans. (A copy of the plans or permits shall not be included with the NOI submission);

5. the location where the SWPPP may be viewed and the name and telephone number of a contact person for scheduling viewing times;

6. an estimate of project start date and selected number of years for which permit coverage is needed (i.e. the projected completion date is assumed to be "x" number of years after the estimated start date, as indicated by the permit applicant), estimates of the number of acres of the site on which soil will be disturbed, and the type of facility being constructed;

7. the name of the receiving water(s);

8. based on Appendix C of the NOI, whether the storm water runoff from the site will flow directly into a waterbody listed as an Outstanding Natural Resource Water (ONRW); (if the discharge will ultimately enter a Scenic Stream, the applicant is instructed to contact the Louisiana Department of Wildlife and Fisheries (LDWF) at 318-343-4044);

9. based on the instructions in Appendix A of the NOI, whether any listed or proposed threatened or endangered species, or designated critical habitat, are in proximity to the storm water discharges covered by this permit;

10. based on the instructions in Appendix B of the NOI, whether any properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act are located on the construction site and whether the SHPO was involved in your determination of eligibility;

11. the permit number of any LPDES permit(s) for any discharge(s) (including any storm water discharges or any non-storm water discharges) from the site, to the extent available.

12. Should electronic NOIs become available during the term of this permit, the use of paper NOIs may be suspended. However, the applicants will be expected to continue to comply with the above requirements through the electronic submittal process.

C. Where to Submit

NOIs signed in accordance with Part VI.D.10 of this permit, are to be submitted to the State Administrative Authority at the following address:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, LA 70821-4313
Attn: Water Permits Division

Current mailing addresses for the different Department offices are posted on the LDEQ web page at http://www1.deq.louisiana.gov/portal/ABOUT/ContactInformation.aspx.

Should electronic NOIs (e-NOIs) become available during the term of this permit, the Department may suspend use of paper NOIs.

Part III. SPECIAL CONDITIONS, MANAGEMENT PRACTICES, AND OTHER NON-NUMERIC LIMITATIONS

A. Prohibition on Non-Storm Water Discharges

1. Except as provided in Part I.A.2 and in items 2 and 3 below, all discharges covered by this permit shall be composed entirely of storm water associated with construction activity.

2. Discharges of material other than storm water that are in compliance with an LPDES permit (other than this permit) issued for that discharge may be mixed with discharges authorized by this permit.

3. The following non-storm water discharges are authorized by this permit provided the non-storm water component of the discharge is in compliance with Part IV.D.5 (Non-storm Water Discharges):

a. discharges from firefighting activities;
b. fire hydrant flushings;
c. waters used to wash vehicles where detergents, soaps, or solvents are not used;
d. waters used to control dust in accordance with Part IV.D.2.c.(2) – minimizing dust from vehicles;
e. potable water sources including uncontaminated waterline flushings;
f. routine external building washdown which does not use detergents, soaps, or solvents;
g. diverted stream flows;
h. pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; directing pavement wash waters directly into any surface water, storm drain inlet, or storm water conveyance, unless the conveyance is connected to a sediment basin, sediment trap, or other effective control is prohibited;
i. uncontaminated air conditioning or compressor condensate;
j. uncontaminated and/or non-turbid ground water infiltration (as defined at 40 CFR 35.2005(20));
k. uncontaminated and/or non-turbid pumped ground water or spring water;
l. foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater;
m. uncontaminated excavation dewatering if the discharge is managed by an appropriate control; and
n. landscape irrigation.

4. The following dischargers are prohibited:

a. wastewater from washout of concrete, **unless managed by an appropriate control**;
b. wastewater from washout and cleanout of stucco, paint, form release oils, curing, compounds and other construction materials;
c. discharges related to concrete or asphalt batch plant operations located at the construction site. The presence of any such discharges require coverage by an alternative LPDES permit (e.g. LAG110000 or an individual permit);

d. discharges from dewatering activities, including discharges from dewatering of trenches and excavations, **unless managed by an appropriate control**;
e. fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
f. soaps or solvents used in vehicle and equipment washing;
g. storm water discharges that originate from the site after construction activities have been completed and the site, including any temporary support activity, has undergone final stabilization. Industrial post-construction storm water discharges may need to be covered by a separate LPDES permit; and
h. discharges mixed with sources of non-storm water other than the discharges identified in and are in compliance with Part I.B.3. Any discharge authorized by a different LPDES permit may be commingled with discharges authorized by this permit.

B. Requirements for Notification

The discharge of hazardous substances or oil in the storm water discharge(s) from a site shall be prevented or minimized in accordance with the applicable storm water pollution prevention plan for the site. This permit does not relieve the permittee of the reporting requirements of LAC 33:I.3915 and LAC 33:I.3917.

1. Emergency Notification

The permittee shall report any unauthorized discharges which may endanger human health or the environment. As required by LAC 33:I.3915, in the event of an unauthorized discharge that does cause an emergency condition, the discharger shall notify the hotline (Department of Public Safety (DPS) 24-hour Louisiana Emergency Hazardous Materials Hotline) by telephone at (1-877-925-6595 (collect calls accepted 24 hours a day) immediately (reasonable period of time after taking prompt measures to determine the nature, quantity, and potential off-site impact of a release, considering the exigency of the circumstances), but in no case later than one hour after learning of the discharge. (An emergency condition is any condition which could reasonably be expected to endanger the health, safety of the public, cause significant adverse impact to the land, water, or air environment, or cause severe damage to property.) Notification required by this section will be made regardless of the amount of discharge. A written submission shall be provided within 7 calendar days after the telephone notification. Please note that discharges in direct noncompliance with LPDES permit conditions must also comply with the reporting requirements in LAC 33:IX.2701.L, which requires written notification within 5 days. The report shall contain information as required in Part VI.D.6 of this permit and compliance with the procedures in this part are required.

2. The LDEQ may waive the written report on a case-by-case basis, if the oral report has been received within 24 hours of the incident.

3. The SWPPP required under Part IV (Storm Water Pollution Prevention Plans) of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the recurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

C. Spills

This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill. Spills resulting in an emergency condition or non-compliance under this general permit must be reported in accordance with LAC 33:I.3923 or LAC 33:IX.2701.A.

D. Discharge Compliance with Water Quality Standards

1. You must select, install, implement and maintain control measures at your construction site that minimize pollutants in the discharge as necessary to meet applicable water quality standards. In general, except in situations explained below, your storm water controls must be developed, implemented, and updated consistent with the other provisions of Part III. Your storm water controls must be as stringent as necessary to ensure that your discharges do not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

2. Operators covered under this permit shall not cause or have the reasonable potential to cause or contribute to a violation of a water quality standard. At any time after authorization, LDEQ may determine that your storm water discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, LDEQ will require you to:

a. Modify your storm water controls in accordance with Part IV.C to address adequately the identified water quality concerns;

b. Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

c. Cease discharge of pollutants from construction activity and submit an individual application.

3. All written responses required under this part must include a signed certification consistent with Part VI.D.10.

4. If violations remain or recur, then coverage under this permit may be terminated by the permitting authority and an alternative permit may be issued. Compliance with this requirement does not preclude any enforcement activity as provided by the Clean Water Act and Environmental Quality Act for the underlying violation.

E. Responsibilities of Operators

Permittees may meet one or both of the operational control components in the definition of "operator" found in Part IX (Definitions). Either Part III.E.1 or Part III.E.2 or both will apply depending on the type of operational control exerted by an individual permittee. Part III.E.3 applies to all permittees.

1. Permittee(s) with operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g., developer or owner) must:

a. ensure the project specifications that they develop meet the minimum requirements of Part IV (Storm Water Pollution Prevention Plans) and all other applicable conditions;

b. ensure that the SWPPP indicates the areas of the project where they have operational control over project specifications (including the ability to make modifications in the specifications), and ensure all other permittees implementing portions of the SWPPP impacted by any changes they make to the plan are notified of such modifications in a timely manner; and

c. ensure that the SWPPP, for portions of the project for which they are operators, indicates the name and LPDES permit number for parties with day-to-day operational control of those activities necessary to ensure compliance with the SWPPP or other permit conditions. If these parties have not been identified at the time the SWPPP is initially developed, the permittee with operational control over project specifications shall be considered to be the responsible party until such time as the authority is transferred to another party (e.g., general contractor) and the plan updated.

2. Permittee(s) with day-to-day operational control of those activities at a project which are necessary to ensure compliance with the SWPPP for the site or other permit conditions (e.g., general contractor) must:

a. ensure the SWPPP, for portions of the project for which they are operators, meets the minimum requirements of Part IV (Storm Water Pollution Prevention Plans) and identifies the parties responsible for implementation of control measures identified in the plan;

b. ensure that the SWPPP indicates areas of the project where they have operational control over day-to-day activities; and

c. ensure that the SWPPP, for portions of the project for which they are operators, indicates the name and LPDES permit number of the party(ies) with operational control over project specifications (including the ability to make modifications in the specifications).

3. Permittees with operational control over only a portion of a larger construction site (e.g., one of four homebuilders in a subdivision) are responsible for compliance with all applicable terms and conditions of this permit as it relates to their activities on their portion of the construction site, including: (1) protection of endangered and/or threatened species and their critical habitat (2) protection of historic sites listed and/or proposed to be listed on national and state registries and (3) implementation of BMPs and other controls required by the SWPPP. Permittees shall ensure either directly or through coordination with other permittees that their activities do not render another party's pollution controls ineffective. Permittees must either implement their portions of a common SWPPP or develop and implement their own SWPPP.

Part IV. STORM WATER POLLUTION PREVENTION PLANS

At least one storm water pollution prevention plan (SWPPP) shall be developed for each construction project or site covered by this permit. For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required to, develop separate SWPPPs that cover only their portion of the project provided that reference is made to other operators at the site. In instances where there is more than one SWPPP for a site, coordination must be conducted between the permittees to ensure the storm water discharge controls and other measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).

Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the construction site. The SWPPP shall describe and ensure the implementation of practices which will be used to minimize the pollutants in storm water discharges associated with construction activity at the construction site and to assure compliance with the terms and conditions of this permit. When developing SWPPPs, applicants must follow the procedures in Addendum A of this permit to determine whether listed endangered and/or threatened species or critical habitat would be affected by the applicant's storm water discharges or storm water discharge-related activities. Any information on whether listed species or critical habitat is found in proximity to the construction site must be included in the SWPPP. Any terms or conditions that are imposed under the eligibility requirements of Part I.A.3.e and Addendum A of this permit to protect listed species or critical habitat from storm water discharges or storm water discharge-related activity must be incorporated into the SWPPP. The SWPPP must be implemented upon commencement of construction activities. Permittees must implement the applicable provisions of the SWPPP required under this Part as a condition of this permit. SWPPP templates may be found at: http://deq.louisiana.gov/page/storm-water-protection.

A. <u>Deadlines for Plan Preparation and Compliance</u>

The storm water pollution prevention plan shall:

1. Be completed prior to the submittal of an NOI to be covered under this permit (except as provided in Parts II.A.5) and updated as appropriate; and

2. Provide for compliance with the terms and schedule of the SWPPP beginning with the initiation of construction activities.

B. <u>Signature, Plan Review and Making Plans Available</u>

1. The SWPPP shall be signed in accordance with Part VI.D.10 (Signatory Requirements), and be retained on-site at the site which generates the storm water discharge in accordance with Part V (Retention of Records) of this permit.

2. The permittee shall post a notice near the main entrance of the construction site with the following information:

a. the LPDES permit number for the project or a copy of the NOI if a permit authorization number has not yet been assigned;

b. the name and telephone number of a local contact person;

c. a brief description of the project; and

d. the location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

If posting this information near a main entrance is infeasible due to safety concerns, the notice shall be posted in a local public building. If the construction project is a linear construction project (e.g., pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway and moved as necessary. This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site, nor does this permit require that permittees allow members of the public access to a construction site.

3. The permittee shall make SWPPPs available upon request to: the LDEQ; the local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; or to the operator of a municipal separate storm sewer receiving discharges from the site. The copy of the SWPPP that is required to be kept on-site (or locally available) must be made available to the LDEQ (or authorized representative) for review at the time of an on-site inspection. Also, in the interest of public involvement, the LDEQ encourages permittees to make their SWPPPs available to the public for viewing during normal business hours.

4. The LDEQ may notify the permittee (co-permittees) at any time that the SWPPP does not meet one or more of the minimum requirements of this Part. Such notification shall identify those provisions of this permit which are not being met by the SWPPP, and identify which provisions of the plan require modifications in order to meet the minimum requirements of this Part. Within 7 calendar days of receipt of such notification from the LDEQ, (or as otherwise provided by the LDEQ), or authorized representative, the permittee shall make the required changes to the plan and shall submit to the LDEQ a written certification that the requested changes have been made. The LDEQ may take appropriate enforcement action for the period of time the permittee was operating under a plan that did not meet the minimum requirements of the permit.

C. <u>Keeping Plans Current</u>

The permittee must amend the SWPPP within 7 calendar days whenever:

1. there is a change in design, construction, operation, or maintenance, which has or may have a significant effect on the discharge of pollutants to the waters of the State and which has not otherwise been addressed in the SWPPP;

2. inspections or investigations by site operators, local, state, or federal officials indicate the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.D.2 of this permit, or is otherwise not achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity; and

3. the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWPPP (see Part IV.E). The plan must also be amended to address any measures necessary to protect endangered and/or threatened species and their critical habitat, and historic sites listed and/or proposed to be listed on national and state registries, if applicable. Amendments to the plan may be reviewed by the LDEQ in the same manner as Part IV.B above.

D. <u>Contents of Plan</u>

The SWPPP shall include the following items:

1. **Site Description** Each SWPPP shall provide a description of potential pollutant sources and other information as indicated below:

   a. a description of the nature of the construction activity and function of the project (i.e., highway, mall, etc.);

   b. a description of the intended sequence and timing of major activities (i.e. initial land clearing, installing sewer lines, roads, major buildings) which disturb soils for major portions (i.e. defined phases of a subdivision) of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc);

   c. estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other activities including off-site borrow and fill areas;

   d. an estimate of the runoff coefficient of the site for both the pre-construction and post-construction conditions and data describing the soil or the quality of any discharge from the site;

   e. a general location map (e.g., portion of a city or county map or other map with enough detail to identify the location of the construction site and waters of the United States within one mile of the site);

   f. a site map indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which will not be disturbed, the location of major structural and nonstructural controls identified in the SWPPP, locations of off-site material, waste, borrow or equipment storage areas, surface waters

(including wetlands), locations where storm water is discharged to a surface water; the location of areas where stabilization practices are expected to occur;

g. the location and description of any allowable non-storm water discharges covered by the permit;

h. the name of the receiving water(s), and areal extent and description of wetland or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project;

i. a copy of the permit requirements (may simply attach a copy of this permit);

j. information on whether listed endangered and/or threatened species and/or critical habitat are found in proximity to the construction activity and whether such species or critical habitat may be affected by the applicant's storm water discharges or storm water discharge-related activities;

k. documentation supporting the determination of permit eligibility with regard to Permit Part I.A.3.f (National Historic Preservation Act), including:

(1) information on whether storm water discharges or storm water discharge-related activities would have an effect on a property that is listed or proposed to be listed on the National Register of Historic Places or state registries;

(2) where effects may occur, any written agreements made between the operator and the SHPO to mitigate those effects;

(3) results of the Addendum B historic places screening determinations; and

(4) a description of measures necessary to avoid or minimize adverse impacts on places listed, or eligible for listing, on the National Register of Historic Places, including any terms or conditions that are imposed under the eligibility requirements of Part I.A.3.f of this permit.

l. documentation supporting the determination of documentation supporting the determination of permit eligibility and compliance with Part I.A.3.g with regards to discharges to waters that are impaired and/or have and LDEQ-established or approved TMDL, including:

(1) identification of whether your discharge is identified, either specifically or generally, in an LDEQ-established or approved TMDL and any associated allocations, requirements, and assumptions identified for your discharge;

(2) summaries of consultation with the LDEQ authorities on consistency of SWPPP conditions with the approved TMDL; and

(3) measures taken to ensure that the discharge of pollutants for the site is consistent with Water Quality Standards and the assumption and requirements of the LDEQ-

established or approved TMDL, including any specific wasteload allocation that has been established that would apply to your discharge.

2. Controls

Each SWPPP shall include a description of all appropriate control measures (i.e., structural and non-structural BMPs) that will be installed and implemented as part of the construction activities and construction support activities to control pollutants in storm water discharges. The SWPPP must clearly describe for each major activity identified in Part IV.D.1.b: a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and b) which permittee is responsible for implementation (e.g., perimeter controls for one portion of the site will be installed by Contractor A after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls will be actively maintained by Contractor B until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls will be removed by Owner after final stabilization).

In a situation where an LDEQ-approved or established TMDL has specified a general wasteload allocation applicable to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, the SWPPP must specifically state which BMPs were selected for the site and describe how the design and implementation of the selected BMPs are expected to ensure that storm water discharges from the construction site are in compliance with the approved or established TMDL.

The description and implementation of control measures shall address the following minimum components:

a. <u>Erosion and Sediment Controls</u>

(1) Short and Long Term Goals and Criteria:

(a) The construction-phase erosion and sediment controls shall be designed to retain sediment on site to the maximum extent practicable.

(b) All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for site situations (see Part IV.D.3 and 4). For additional guidance, see EPA's recommendations for silt fences (https://www3.epa.gov/npdes/pubs/siltfences.pdf) and SWPPPs (https://www3.epa.gov/npdes/pubs/sw_swppp_guide.pdf).

(c) If sediments escape the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment on the street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

(d) Sediment must be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%.

(e) Trapped sediment must be removed from a silt fence before the deposit reaches 50 percent of the above-ground fence height (or before it reaches a lower height based on manufacturer's specifications.)

(f) Off-site material storage areas (also including overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and shall be addressed in the SWPPP.

(2) Effluent limitations reflecting the best practicable technology currently available (BPT) (40 CFR 450.21 (a)) shall, at a minimum, include the design of effective erosion and sediment controls to minimize the discharge of pollutants installed and maintained to:

(a) Control storm water volume and velocity to minimize soil erosion in order to minimize pollutant discharges.

(b) Control storm water discharges, including both peak flow rates and total storm water volume to minimize channel and stream bank erosion and scour in the immediate vicinity of discharge points.

(c) Minimize amount of soil exposed during construction activity.

(d) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

(e) Minimize the disturbance of steep slopes.

(f) Minimize sediment discharge from the site: design, install and maintain erosion and sediment controls to address factors such as the amount, frequency, intensity and duration of precipitation, the nature of the resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.

(g) Provide and maintain natural buffers around waters of the state, direct storm water to the vegetated areas and maximize storm water infiltration to reduce pollutant discharges, unless infeasible;

i. A buffer zone of sufficient width to reduce pollutant discharges and minimize erosion shall be maintained between disturbed areas and all waters of the state;

ii. For discharges to waters designated as Outstanding Natural Resource Waters, permittees are required to maintain at a minimum a 100-foot natural buffer

zone between any disturbance and all edges of the receiving water as means of providing adequate protection to receiving waters, unless infeasible. Additional buffer zone/riparian requirements may be imposed through a Louisiana Department of Wildlife and Fisheries Scenic River permit.

iii. For discharges to waters that are listed as impaired (Category 5 or 4a) on the most recent Integrated Report for sedimentation/siltation or turbidity AND where the suspected source is site clearance (land development or redevelopment), permittees are required to maintain at a minimum a 50-foot natural buffer zone between any disturbance and all edges of the receiving water as means of providing adequate protection to receiving waters, unless infeasible. This requirement does not supersede any additional requirements of a waste load allocation, per Part I.A.3.g of this permit. The most recent Integrated Report (also referred to as the 305(b) Report) can be found at: http://deq.louisiana.gov/page/water-quality-integrated-report-305b303d.

iv. If the buffer zone between any disturbance and the edge of the receiving water on all edges of the water body cannot be maintained due to site constraints, an adequately protective alternate practice may be employed, or a combination of alternative practices with a narrower buffer zone. The SWPPP shall explain any alternate practices and how these practices are adequately protective. Such cases include, but are not limited to, redevelopment in an urban setting or construction of water features, such as: docks, bridges, levees, dams, and dredge and fill areas.

(h) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.

(i) When discharging storm water from settling basins or impoundments, utilize outlet structures that withdraw water from the surface of the basin or impoundment, unless infeasible.

(3) Stabilization Practices

The SWPPP must include a description of interim and permanent stabilization practices for the site, including a site-specific scheduling of the implementation of the practices. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Final stabilization practices may include, but are not limited to: establishment of permanent self-sustaining perennial vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Use of impervious surfaces for stabilization should be avoided.

The following records shall be maintained and attached to the SWPPP: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

(a) Deadline to Initiate Stabilization Measures**.** Stabilization measures shall be initiated immediately in portions of the site where clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site or temporarily ceased and will not resume for a period exceeding 14 calendar days. For the purposes of this permit, "immediately" is interpreted to mean no later than the next work day. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days, stabilization measures do not have to be initiated on that portion of site.

For the purposes of this permit, the types of activities that constitute the initiation of stabilization include, but are not limited to:

i. prepping the soil for vegetative or non-vegetative stabilization;
ii. applying mulch or other non-vegetative product to the exposed area;
iii. seeding or planting the exposed area;
iv. starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and
v. finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

(b) Deadline to Complete Installation of Stabilization Measures**.** As soon as practicable, but no later than 14 calendar days after the initiation of soil stabilization measures, you are required to have completed:

i. For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or
ii. For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

In extenuating circumstances and per 40 CFR 450.21(b), stabilization must be completed within the time period as follows: in areas experiencing droughts where the completion of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be completed as soon as practicable. These extenuating circumstances must be documented in the SWPPP.

In general, you shall be aware that final stabilization often takes time (weeks or even months), especially during times of low rainfall or during the colder months of the year. You must continue routine inspections until you have met the final stabilization requirements of the permit. **"Final stabilization" is defined/described in Part IX of the permit.**

(c) Deadlines for projects that are affected by circumstances beyond the control of the permittee that delay the initiation and/or completion of vegetative stabilization**.** If you are unable to meet the deadlines in sections (a) or (b) above due to circumstances

beyond your control, and you are using vegetative cover for temporary or permanent stabilization, you may comply with the following stabilization deadlines instead:

i. Immediately initiate, and within 14 calendar days complete, the installation of temporary **non-vegetative** stabilization measures to prevent erosion;
ii. Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on your site; and
iii. Document the circumstances that prevent you from meeting the deadlines required in sections (a) and (b) and the schedule you will follow for initiating and completing stabilization.

(4) Structural Practices

The SWPPP must include a description of structural practices to divert flows from exposed soils, retain flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Such practices may include but are not limited to: silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Placement of structural practices in floodplains shall be avoided to the degree attainable. The installation of these devices may be subject to Section 404 of the CWA.

(a) For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment basin providing storage for a calculated volume of runoff from a 2 year, 24 hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization (see Part IX) of the site. The 3,600 cubic feet of storage area per acre drained does not apply to flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin.

In determining whether installing a sediment basin is attainable, the permittee may consider factors such as site soils, slope, available area on-site, etc. In any event, the permittee must consider public safety, especially as it relates to children, as a design factor for the sediment basin would preclude a safe design. For drainage locations which serve 10 or more disturbed acres at one time and where a temporary sediment basin or equivalent controls is not attainable, smaller sediment basins and/or sediment traps shall be used. Where neither the sediment basin nor equivalent controls are attainable due to site limitations, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all downslope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions. LDEQ encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.

(b) For drainage locations serving less than 10 acres, small sediment basins and/or sediment traps shall be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all downslope boundaries (and those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a 2 year, 24-hour storm or 3,600 cubic feet of storage per acre drained is provided.

b. <u>Storm Water Management</u>

A description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWPPP. Structural measures shall be placed on upland soils to the degree attainable. The installation of these devices may also require a separate permit under Section 404 of the CWA. Permittees are only responsible for the installation and maintenance of storm water management measures until final stabilization is achieved, and are not responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site. You shall be aware that final stabilization often takes time (weeks or even months), especially during times of low rainfall or during the colder months of the year. You must continue routine inspections until you have met the final stabilization requirements of the permit (see Part IX). However, post-construction storm water BMPs that discharge pollutants from point sources once construction is completed may need authorization under a separate LPDES permit.

(1) Such practices may include, but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff on site; and sequential systems (which combine several practices). The SWPPP shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

(2) Velocity dissipation devices may be needed at discharge locations and along the length of any outfall channel for the purpose of providing a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

c. <u>Other Controls</u>

(1) No solid materials, including building materials, shall be discharged to waters of the State, except as authorized by a permit issued under Section 404 of the CWA. "Solid materials" refers to such items as boards, wrapping materials, bricks and concrete debris, and land clearing debris such as leaves and tree limbs, but does not include total suspended solids.

(2) Off-site vehicle tracking of sediments and the generation of dust shall be minimized.

(3) The SWPPP shall ensure and demonstrate compliance with applicable state and/or local waste disposal, sanitary sewer or septic system regulations to the extent these are located within the permitted area.

(4) The SWPPP shall include a narrative description of construction and waste materials expected to be stored on site, with updates as appropriate. The SWPPP shall also include a description of controls developed to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water runoff and precipitation and spill prevention and response.

(5) The SWPPP shall include a description of pollutant sources from areas other than construction and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

(6) The SWPPP shall include a description of measures necessary to protect endangered and/or threatened species and their critical habitat, and historic sites listed and/or proposed to be listed on national and state registries that are imposed under the eligibility requirements of Part I.A.3.e, Part I.A.3.f, Addendum A, and Addendum B of this permit. Failure to describe and implement such measures will result in the storm water discharges from the construction activities being ineligible for coverage under this permit.

(7) The SWPPP shall identify appropriate controls and measures to minimize discharges from the support activity areas.

(8) Effective pollution prevention measures must be designed, installed, implemented, and maintained to minimize:

i. Discharges of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Prior to discharge wash waters must be treated in a sediment basin or an alternative control that provides equivalent or better treatment;

ii. Trash, construction waste, building materials and products, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials on the site exposed to precipitation and to storm water runoff. Minimization of exposure is not required in cases where the exposure to precipitation and to storm water runoff will not result in a discharge of pollutants, or, where exposure of a specific material or product poses little risk of storm water contamination (such as final products and materials intended for outdoor use); and

iii. Discharges of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

d. <u>Approved State or Local Plans</u>

(1) Permittees which discharge storm water associated with construction activities must include in their SWPPP the procedures and requirements which are specified in

applicable sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by state or local officials.

(2) Permittees which discharge storm water associated with construction activities must include in their SWPPP any measures that result from agreements from the Louisiana State Historic Preservation Officer or tribal historic preservation offices.

(3) SWPPPs must be updated as necessary to reflect any changes which are applicable to protecting surface water resources in the sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by State, or local officials for which the permittee receives written notice.

3. Maintenance

A description of procedures to ensure the timely maintenance of vegetation, erosion and sediment control measures, and other protective measures identified in the site plan are in good and effective operating condition must be provided. Maintenance needs identified in inspections or by other means shall be accomplished before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Employees and subcontractors as necessary shall be made aware of the applicable control measures implemented at the site so that they follow applicable procedures.

4. Inspections

Except for linear or remote projects as discussed below, qualified personnel (provided by the permittee or cooperatively by multiple permittees) shall inspect the construction site in accordance with one of the two schedules listed below. Areas to be inspected include disturbed areas that have not been finally stabilized; areas used for storage of materials that are exposed to precipitation and storm water runoff; structural and non-structural control measures; and locations where vehicles enter or exit the site. You must specify in the SWPPP which schedule you will follow and the schedule must be adhered to throughout the term of the permit.

- At least once every 7 days, or
- At least once every 14 calendar days, before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours of the end of a storm event of 0.5 inches or greater.

Employees and subcontractors, as necessary, shall be made aware of the applicable control measures implemented at the site so that they follow applicable procedures.

Because linear or remote, unmanned projects often cannot be inspected from stabilized locations without damage to BMPs or re-vegetation efforts, these operators have the option of either 1) conducting regular visual inspections every 14 days, or 2) performing visual inspections within 24 hours following a storm event of 0.5 inches or greater. The option

selected by the operator must be identified in the SWPPP and must be adhered to throughout the term of permit coverage.

a. Disturbed areas and areas used for storage of materials that are exposed to precipitation and storm water runoff shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. All storm water control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in meeting water quality standards and preventing significant impacts to the receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

b. Based on the results of the inspection, the site description identified in the plan in accordance with Part IV.D.1 of this permit and pollution prevention measures identified in the plan in accordance with Part IV.D.2 of this permit shall be revised as appropriate, but in no case later than seven calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the plan within seven calendar days following the inspection.

c. For each inspection required above, you must complete an inspection report. At a minimum, the inspection report must include:

1. The inspection date;
2. Names, titles, and qualifications of personnel making the inspection;
3. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
4. Weather information and a description of any discharges occurring at the time of the inspection;
5. Location(s) of discharges of sediment or other pollutants from the site;
6. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
7. Location(s) of BMPs that need to be maintained;
8. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
9. Corrective action required including implementation dates.

The inspection report which includes the information listed in items 1-9 above and all actions taken in accordance with Part IV.D.4.b of the permit shall be made within 7 calendar days and retained as part of the SWPPP for at least three years from the date that the site is finally stabilized. Such reports shall identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the site is in compliance with the SWPPP and this permit. The report shall be signed in accordance with Part VI.D.10 of this permit.

5. **Non-Storm Water Discharges**

Except for flows from firefighting activities, sources of non-storm water listed in Parts I.A.2 and III.A.2 and 3 of this permit that are combined with storm water discharges associated with construction activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures to reduce and/ or eliminate the non-storm water component(s) of the discharge.

E. Contractor and Subcontractor Responsibilities

You must either implement your portion of a common SWPPP or develop and implement your own SWPPP. In instances where there is more than one SWPPP for a site, cooperation between the permittees is encouraged to ensure the storm water discharge control measures are consistent with one another (e.g., provisions to protect endangered and/or threatened species and their critical habitat, and historic sites listed and/or proposed to be listed on national and state registries). You must ensure either directly or through coordination with other permittees, that your activities do not render another party's pollutant discharge controls ineffective.

1. **Contractors and Subcontractors Implementing Storm Water Control Measures.** The SWPPP must clearly identify for each control measure included in the plan, the party that will implement the measure. The permittee(s) shall ensure that all contractors and subcontractors are identified in the plan as being responsible for implementing storm water control measures.

2. **Contractors and Subcontractors Impacting Storm Water Control Measures.** The permittee shall ensure that contractor(s) and subcontractor(s) who will conduct activities which might impact the effectiveness of control measures, but who do not meet the definition of "operator" (Part IX), are identified in the plan and which control measures might be impacted.

3. **Utility Companies.** The SWPPP must clearly identify, for each control measure identified in the plan relating to the installation of utility service, the party that will implement the measure.

F. Wash Water from Concrete Trucks

1. **Concrete wash water from rinsing the chute.** Wash water generated during the rinsing of the chute of a concrete truck at a construction site may be rinsed if managed by an appropriate control structure, such as into a trap on the ground at the construction site. This activity usually generates a *de minimis* quantity of wash water that can be easily managed at the construction site. The rinsing activity must be done in such a manner that there is no runoff of rinse water from the construction site (unless managed by an appropriate control), especially into surface drainage, storm sewers, or surface waters. Contractors may follow EPA guidance (https://www3.epa.gov/npdes/pubs/concretewashout.pdf) for rinsing out the chute of a concrete mixer and hoppers of concrete pumps at a construction site, provided they understand that the wash out structure is temporary and must be cleaned out and removed from the site when the construction project is completed. If a contractor follows the EPA guidance for rinsing out the chute of a concrete mixed and hoppers of concrete pumps at a construction site, he must contact the LDEQ Solid Waste Permits Section to determine if additional

environmental protection regulations govern the containment and storage of the wash out material at the construction site.

2. **Concrete wash out from the drum. The permit does not authorize the discharge of drum washout water at a construction site.** More wash water is generated during the wash out of the drum of a concrete truck than is generated during the rinsing of the chute. The drum of a concrete truck shall be washed out at a ready mix concrete plant that is permitted to discharge the wash water.

Part V. RETENTION OF RECORDS

A. Documents

The permittee shall retain copies of SWPPPs and all records and reports required by this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by request of LDEQ at any time.

B. Accessibility

The permittee shall retain a copy of the SWPPP required by this permit (including a copy of the permit language) at the construction site (or other local site accessible to LDEQ and the public) from the date of project initiation to the date of final stabilization. The permittees with day-to-day operational control over SWPPP implementation shall have a copy of the plan available at a central location on-site for the use of all operators and those identified as having responsibilities under the plan whenever they are on the construction site. A copy of the plan must be readily available to inspectors during normal business hours.

C. Addresses

All written correspondence concerning discharges in Louisiana from any site covered under this permit, including the submittal of individual permit applications, shall be identified by agency interest number and/or permit number, if one is assigned, and sent to the address below.

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, LA 70821-4313
Attn: Water Permits Division

Part VI. STANDARD PERMIT CONDITIONS

A. General Conditions

1. Introduction
   In accordance with the provisions of LAC 33:IX.2701, et seq., this permit incorporates either expressly or by reference ALL conditions and requirements applicable to the Louisiana Pollutant Discharge Elimination System Permits (LPDES) set forth in the Louisiana Environmental Quality Act (LEQA), as amended, as well as ALL applicable regulations.

2. Duty to Comply
   The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Louisiana Environmental Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. Penalties for Violation of Permit Conditions
   a. La. R. S. 30:2025 provides for civil penalties for violations of these regulations and the Louisiana Environmental Quality Act. La. R. S. 30:2076.2 provides for criminal penalties for violation of any provisions of the LPDES or any order or any permit condition or limitation issued under or implementing any provisions of the LPDES program. (See Section E. Penalties for Violation of Permit Conditions for additional details).

   b. Any person may be assessed an administrative penalty by the State Administrative Authority under La. R. S. 30:2025 for violating a permit condition or limitation implementing any of the requirements of the LPDES program in a permit issued under the regulations or the Louisiana Environmental Quality Act.

4. Toxic Pollutants
   a. Other effluent limitations and standards under Sections 301, 302, 303, 307, 318, and 405 of the Clean Water Act. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, the state administrative authority shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition.

   b. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

5. Duty to Reapply
   a. Individual Permits. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The new application shall be submitted at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the state administrative authority. (The state administrative authority shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) Continuation of expiring permits shall be governed by regulations promulgated at LAC 33:IX.2321 and any subsequent amendments.

   b. General Permits. General permits expire five years after the effective date. The 180-day reapplication period as defined above is not applicable to general permit authorizations. Reissued general permits may provide automatic coverage for permittees authorized under the previous version of the permit, and no new application is required. Requirements for obtaining authorization under the reissued general permit will be outlined in Part I of the new permit. Permittees authorized to discharge under an expiring general permit should follow the requirements for obtaining coverage under the new general permit to maintain discharge authorization.

6. Permit Action
   This permit may be modified, revoked and reissued, or terminated for cause in accordance with LAC 33:IX.2903, 2905, 2907, 3105 and 6509. The causes may include, but are not limited to, the following:

   a. Noncompliance by the permittee with any condition of the permit;

   b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

   c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

   d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge;

   e. Failure to pay applicable fees under the provisions of LAC 33: IX. Chapter 13;

   f. Change of ownership or operational control.

   The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. Property Rights
   This permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private or public property, nor any infringement of federal, state, or local laws or regulations.

8. Duty to Provide Information
The permittee shall furnish to the state administrative authority, within a reasonable time, any information which the state administrative authority may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the state administrative authority, upon request, copies of records required to be kept by this permit.

9. Criminal and Civil Liability
Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to La. R.S. 30:2025.

10. Oil and Hazardous Substance Liability
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

11. State Laws
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Severability
If any provision of these rules and regulations, or the application thereof, is held to be invalid, the remaining provisions of these rules and regulations shall not be affected, so long as they can be given effect without the invalid provision. To this end, the provisions of these rules and regulations are declared to be severable.

13. Dilution
A permittee shall not achieve any effluent concentration by dilution unless specifically authorized in the permit. A permittee shall not increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality.

14. Facilities Requiring Approval from Other State Agencies
In accordance with La. R.S.40.4(A)(6) the plans and specifications of all sanitary sewerage treatment systems, both public and private, must be approved by the Louisiana Department of Health state health officer or his designee. It is unlawful for any person, firm, or corporation, both municipal and private to operate a sanitary sewage treatment facility without proper authorization from the state health officer.

In accordance with La. R.S.40.1149, it is unlawful for any person, firm or corporation, both municipal and private, operating a sewerage system to operate that system unless the competency of the operator is duly certified by the Louisiana Department of Health state health officer. Furthermore, it is unlawful for any person to perform the duties of an operator without being duly certified.

In accordance with La. R.S.48.385, it is unlawful for any industrial wastes, sewage, septic tanks effluent, or any noxious or harmful matter, solid, liquid or gaseous to be discharged into the side or cross ditches or placed upon the rights-of-ways of state highways without the prior written consent of the Department of Transportation and Development chief engineer or his duly authorized representative and of the secretary of the Louisiana Department of Health.

15. The standards provided in Chapter 11 – Surface Water Quality Standards are official regulations of the state, and any person who discharges pollutants to the waters of the state in such quantities as to cause these standards to be violated shall be subject to the enforcement procedures of the state as specified in R.S. 30:2025.

B. Proper Operation and Maintenance

1. Need to Halt or Reduce not a Defense
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Duty to Mitigate
The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

3. Proper Operation and Maintenance
   a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

   b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and other functions necessary to ensure compliance with the conditions of this permit.

4. Bypass of Treatment Facilities
   a. Bypass. The intentional diversion of waste streams from any portion of a treatment facility.

b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Section B.4.c. and 4.d of these standard conditions.

c. Notice
   (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Office of Environmental Services, Water Permits Division, if possible at least ten days before the date of the bypass.

   (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in LAC 33:IX.2701.L.6 (24-hour notice) and Section D.6.e. of these standard conditions.

d. Prohibition of bypass
   (1) Bypass is prohibited, and the state administrative authority may take enforcement action against a permittee for bypass, unless:

      (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

      (c) The permittee submitted notices as required by Section B.4.c of these standard conditions.

   (2) The state administrative authority may approve an anticipated bypass after considering its adverse effects, if the state administrative authority determines that it will meet the three conditions listed in Section B.4.d(1) of these standard conditions.

5. Upset Conditions
   a. Upset. An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

   b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Section B.5.c. are met. No determination made during administrative review of claims that noncompliance was caused by an upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the cause(s) of the upset;

   (2) The permitted facility was at the time being properly operated; and

   (3) The permittee submitted notice of the upset as required by LAC 33:IX.2701.L.6.b.ii. and Section D.6.e.(2) of these standard conditions; and

   (4) The permittee complied with any remedial measures required by Section B.2 of these standard conditions.

d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances
Solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state and in accordance with environmental regulations.

7. Percent Removal
For publicly owned treatment works, the 30-day average percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent in accordance with LAC 33:IX.5905.A.3. and B.3. Publicly owned treatment works utilizing waste stabilization ponds/oxidation ponds are not subject to the 85 percent removal rate for Total Suspended Solids.

C. Monitoring and Records

1. Inspection and Entry
The permittee shall allow the state administrative authority or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by the law to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

   Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept for inspection or sampling purposes. Most inspections will be unannounced and should be allowed to begin immediately, but in no case shall begin more than thirty (30) minutes after the time the inspector presents his/her credentials and announces the purpose(s) of the inspection. Delay in excess of thirty (30) minutes shall constitute a violation of this permit. However, additional time can be granted if the inspector or the Administrative Authority determines that the circumstances warrant such action; and

b. Have access to and copy, at reasonable times, any records that the department or its authorized representative determines are necessary for the enforcement of this permit. For records maintained in either a central or private office that is open only during normal office hours and is closed at the time of inspection, the records shall be made available as soon as the office is open, but in no case later than the close of business the next working day;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Louisiana Environmental Quality Act, any substances or parameters at any location.

e. Sample Collection
   (1) When the inspector announces that samples will be collected, the permittee may be given an additional thirty (30) minutes to prepare containers in order to collect duplicates. If the permittee cannot obtain and prepare sample containers within this time, he is considered to have waived his right to collect duplicate samples and the sampling will proceed immediately. Further delay on the part of the permittee in allowing initiation of the sampling will constitute a violation of this permit.
   (2) At the discretion of the administrative authority, sample collection shall proceed immediately (without the additional 30 minutes described in Section C.1.a. above) and the inspector shall supply the permittee with a duplicate sample.

f. It shall be the responsibility of the permittee to ensure that a facility representative familiar with provisions of its wastewater discharge permit, including any other conditions or limitations, be available either by phone or in person at the facility during all hours of operation. The absence of such personnel on-site who are familiar with the permit shall not be grounds for delaying the initiation of an inspection except in situations as described in Section C.1.b. of these standard conditions. The permittee shall be responsible for providing witnesses/escorts during inspections. Inspectors shall abide by all company safety rules and shall be equipped with standard safety equipment (hard hat, safety shoes, safety glasses) normally required by industrial facilities.

g. Upon written request copies of field notes, drawings, etc., taken by department personnel during an inspection shall be provided to the permittee after the final inspection report has been completed.

2. Representative Sampling
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples shall be taken at the outfall location(s) indicated in the permit. The state administrative authority shall be notified prior to any changes in the outfall location(s). Any changes in the outfall location(s) may be subject to modification, revocation and reissuance in accordance with LAC 33:IX.2903.

3. Retention of Records
Except for records of monitoring information required by this permit related to the permittee's

sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the state administrative authority at any time.

4. Record Contents
Records of monitoring information shall include:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The time(s) analyses were begun;
e. The individual(s) who performed the analyses;
f. The analytical techniques or methods used;
g. The results of such analyses; and
h. The results of all quality control procedures.

5. Monitoring Procedures
a. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.

b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to ensure accuracy of measurements and shall maintain appropriate records of such activities.

c. The permittee or designated laboratory shall have an adequate analytical quality assurance/quality control program to produce defensible data of known precision and accuracy. All quality control measures shall be assessed and evaluated on an on-going basis and quality control acceptance criteria shall be used to determine the validity of the data. All method specific quality control as prescribed in the method shall be followed. If quality control requirements are not included in the method, the permittee or designated laboratory shall follow the quality control requirements as prescribed in the Approved Edition (40 CFR Part 136) Standard Methods for the Examination of Water and Wastes, Sections 1020A and 1020B. General sampling protocol shall follow guidelines established in the "Handbook for Sampling and Sample Preservation of Water and Wastewater, 1982 "U.S. Environmental Protection Agency. This publication is available from the National Service Center for Environmental Publications
https://nepis.epa.gov/Exe/ZyNET.exe/30000QSA.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5CTxt%5C00000001%5C30000QSA.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-

&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL.

6. Flow Measurements
Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

a. "A Guide to Methods and Standards for the Measurement of Water Flow, 1975," U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, Phone number (800) 553-6847. Order by NTIS publication number COM-75-10683.
https://www.govinfo.gov/content/pkg/GOVPUB-C13-a301a5f6bf6ec378b4fabc9c626c03e2/pdf/GOVPUB-C13-a301a5f6bf6ec378b4fabc9c626c03e2.pdf

b. "Flow Measurement in Open Channels and Closed Conduits, Volumes 1 and 2," U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Service (NTIS), Springfield, VA, 22161, Phone number (800) 553-6847. Order by NTIS publication number PB-273 535.
Volume 1 - https://www.govinfo.gov/content/pkg/GOVPUB-C13-c0f8a094b9fcc5c32be685edbd48f942/pdf/GOVPUB-C13-c0f8a094b9fcc5c32be685edbd48f942.pdf

Volume 2 - https://www.govinfo.gov/content/pkg/GOVPUB-C13-b3daf36f1cc0f770bc04d66da5cdc937/pdf/GOVPUB-C13-b3daf36f1cc0f770bc04d66da5cdc937.pdf

d. "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, Phone number (800) 553-6847. Order by NTIS publication number PB-82-131178.
https://nepis.epa.gov/Exe/ZyNET.exe/9101TZLK.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5CTxt%5C00000026%5C9101TZLK.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

7. Prohibition for Tampering: Penalties
   a. La. R.S. 30:2025 provides for punishment of any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit.

   b. La. R.S. 30:2076.2 provides for penalties for any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance.

8. Additional Monitoring by the Permittee
   If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 (See LAC 33:IX.4901) or, in the case of sludge use and disposal, approved under 40 CFR Part 136 (See LAC 33:IX.4901) unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the state administrative authority.

9. Averaging of Measurements
   Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the state administrative authority in the permit.

10. Laboratory Accreditation
    a. LAC 33:I.Subpart 3, Chapters 45-59 provide requirements for an accreditation program specifically applicable to commercial laboratories, wherever located, that provide chemical analyses, analytical results, or other test data to the department, by contract or by agreement, and the data is:
       (1) Submitted on behalf of any facility, as defined in La. R.S.30:2004;
       (2) Required as part of any permit application;
       (3) Required by order of the department;
       (4) Required to be included on any monitoring reports submitted to the department;
       (5) Required to be submitted by contractor
       (6) Otherwise required by department regulations.

    b. The department laboratory accreditation program, Louisiana Environmental Laboratory Accreditation Program (LELAP) is designed to ensure the accuracy, precision, and reliability of the data generated, as well as the use of department-approved methodologies in generation of that data. Laboratory data generated by commercial environmental laboratories that are not (LELAP) accredited will not be accepted by the department. Retesting of analysis will be required by an accredited commercial laboratory.

       Where retesting of effluent is not possible (i.e. data reported on DMRs for prior month's sampling), the data generated will be considered invalid and in violation of the LPDES permit.

    c. Regulations on the Louisiana Environmental Laboratory Accreditation Program and a list of labs that have applied for accreditation are available on the department website located under LDEQ→About LDEQ→Public Participation and Permit Support→LA Lab Accreditation at

the following link::

http://deq.louisiana.gov/page/la-lab-accreditation

Questions concerning the program may be directed to (225) 219-3247.

D. Reporting Requirements

1. Facility Changes
The permittee shall give notice to the state administrative authority as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under LAC 33:IX.2703.A.1.

   c. For Municipal Permits. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Section 301, or 306 of the CWA if it were directly discharging those pollutants; and any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. Anticipated Noncompliance
The permittee shall give advance notice to the state administrative authority of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers
This permit is not transferable to any person except after notice to the state administrative authority. The state administrative authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act or the Louisiana Environmental Quality Act. (See LAC 33:IX.2901; in some cases, modification or revocation and reissuance is mandatory.)

   A permit may be transferred by the permittee to a new owner or operator only if: (1)the permit has been modified or revoked and reissued (under LAC 33:IX.2903.A.2.b) by the permittee and new owner submitting a Name/Ownership/Operator Change Form (NOC-1 Form) and approved by LDEQ (LAC 33:I.Chapter 19); or (2) a minor modification made (under LAC 33:IX.2905) to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act and the Louisiana Environmental Quality Act.

The NOC-1 form can be found using the pathway LDEQ → Water→ LPDES Application Forms at the following link: **http://deq.louisiana.gov/page/lpdes-water-permits**

4. Monitoring Reports
Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be submitted through a department-approved electronic document receiving system (NetDMR) in accordance with LAC 33:I.Chapter 21 unless the state administrative authority gives written authorization to the permittee to submit monitoring results in an alternative format such as paper DMRs.

Information about NetDMR and gaining access can be viewed using the pathway LDEQ → Water→ NETDMR on the department's website at: **http://deq.louisiana.gov/page/netdmr**

The permittee shall submit properly completed Discharge Monitoring Reports (DMRs) using the format specified in the permit.

If authorized to report using an alternative format such as paper DMRs, then preprinted DMRs will be provided to majors/92-500s and other designated facilities. Please contact the Permit Compliance Unit concerning preprints. Self-generated DMRs must be pre-approved by the Permit Compliance Unit prior to submittal. Self-generated DMRs are approved on an individual basis. Requests for approval of self-generated DMRs should be submitted to:

Supervisor, Permit Compliance Unit
Office of Environmental Compliance
Post Office Box 4312
Baton Rouge, LA 70821-4312

5. Compliance Schedules
Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

6. Requirements for Notification

a. Emergency Notification
As required by LAC 33.I.3915, in the event of an unauthorized discharge that does cause an emergency condition, the discharger shall notify the hotline (DPS 24-hour Louisiana Emergency Hazardous Materials Hotline) by telephone at (877) 925-6595 (collect calls accepted 24 hours a day) immediately (a reasonable period of time after taking prompt measures to determine the nature, quantity, and potential off-site impact of a release, considering the exigency of the circumstances), but in no case later than one hour after learning of the discharge. (An emergency condition is any condition which could reasonably be expected to endanger the health and safety of the public, cause significant adverse impact to the land, water, or air environment, or cause severe damage to property.) Notification required by this section will be made regardless of the amount of discharge. Prompt Notification Procedures are listed in Section D.6.c. of these standard conditions.

A written report shall be provided within seven calendar days after the notification. The report shall contain the information listed in Section D.6.d. of these standard conditions and any additional information in LAC 33:I.3925.B.

b. Prompt Notification
As required by LAC 33:I.3917, in the event of an unauthorized discharge that exceeds a reportable quantity specified in LAC 33:I.Subchapter E, but does not cause an emergency condition, the discharger shall promptly notify DPS by telephone at (877) 925-6595 (collect calls accepted 24 hours a day) within 24 hours after learning of the discharge.

In the event of an unauthorized discharge that requires notification, the DPS 24-hour Louisiana Emergency Hazardous Materials Hotline will notify the Department of Environmental Quality.

In accordance with LAC 33:I.3923, notifications not required by LAC 33:I.3915 or 3917 shall be provided to the department within a time frame not to exceed 24 hours, or as specified by the specific regulation or permit provision requiring the notification, and shall be given to SPOC, as follows:

(1) by the Online Incident Reporting screens found at **http://deq.louisiana.gov/page/file-a-complaint-report-an-incident**;or
(2) by e-mail utilizing the Incident Report Form and instructions found at **http://deq.louisiana.gov/page/single-point-of-contact**;or
(3) by telephone at (225) 219-3640 during office hours, or (225) 342-1234 after hours and on weekends and holidays.

c. Content of Prompt Notifications. The following guidelines will be utilized as appropriate, based on the conditions and circumstances surrounding any unauthorized discharge, to provide relevant information regarding the nature of the discharge:
(1) the name of the person making the notification and the telephone number where any return calls from response agencies can be placed;
(2) the name and location of the facility or site where the unauthorized discharge is imminent or has occurred, using common landmarks. In the event of an incident involving transport, include the name and address of the transporter and generator;
(3) the date and time the incident began and ended, or the estimated time of continuation if the discharge is continuing;
(4) the extent of any injuries and identification of any known personnel hazards that response agencies may face;
(5) the common or scientific chemical name, the U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all discharged pollutants;
(6) a brief description of the incident sufficient to allow response agencies to formulate their level and extent of response activity.

d. Written Notification Procedures. Written reports for any unauthorized discharge that requires notification under Section D.6.a. or 6.b., or shall be submitted by the discharger to the Office of Environmental Compliance, SPOC in accordance with LAC 33:I.3925 within seven calendar days after the notification required by D.6.a. or 6.b., unless otherwise provided for in a valid

permit or other department regulation. Written notification reports shall include, but not be limited to, the following information:

(1) the name, address, telephone number, Agency Interest (AI) number (number assigned by the department) if applicable, and any other applicable identification numbers of the person, company, or other party who is filing the written report, and specific identification that the report is the written follow-up report required by this section;

(2) the time and date of prompt notification, the state official contacted when reporting, the name of person making that notification, and identification of the site or facility, vessel, transport vehicle, or storage area from which the unauthorized discharge occurred;

(3) date(s), time(s), and duration of the unauthorized discharge and, if not corrected, the anticipated time it is expected to continue;

(4) details of the circumstances (unauthorized discharge description and root cause) and events leading to any unauthorized discharge, including incidents of loss of sources of radiation, and if the release point is subject to a permit:

   (a) the current permitted limit for the pollutant(s) released; and

   (b) the permitted release point/outfall ID.

(5) the common or scientific chemical name of each specific pollutant that was released as the result of an unauthorized discharge, including the CAS number and U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all released pollutants (total amount of each compound expressed in pounds, including calculations);

(6) a statement of the actual or probable fate or disposition of the pollutant or source of radiation and what off-site impact resulted;

(7) remedial actions taken, or to be taken, to stop unauthorized discharges or to recover pollutants or sources of radiation.

(8) Written notification reports shall be submitted to the Office of Environmental Compliance, SPOC by mail or fax. The transmittal envelope and report or fax cover page and report should be clearly marked "**UNAUTHORIZED DISCHARGE NOTIFICATION REPORT**."

Written reports (LAC 33:I.3925) should be mailed to:

Louisiana Department of Environmental Quality
Post Office Box 4312
Baton Rouge, LA 70821-4312
ATTENTION: OFFICE OF ENVIRONMENTAL COMPLIANCE – SPOC
"UNAUTHORIZED DISCHARGE NOTIFICATION REPORT"

The Written Notification Report may also be faxed to the Louisiana Department of Environmental Quality, Office of Environmental Compliance, Single Point of Contact at: (225)-219-3708.

Please see LAC 33:I.3925.B for additional written notification procedures.

e. Twenty-four Hour Reporting. The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within

24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit (see LAC 33:IX.2701.M.3.b.);
(2) Any upset which exceeds any effluent limitation in the permit;
(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the state administrative authority in Part II of the permit to be reported within 24 hours (LAC 33:IX.2707.G.).

7. Other Noncompliance
The permittee shall report all instances of noncompliance not reported under Section D.4., 5., and 6., at the time monitoring reports are submitted. The reports shall contain the information listed in Section D.6.e.

8. Other Information
Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the state administrative authority, it shall promptly submit such facts or information.

9. Discharges of Toxic Substances
In addition to the reporting requirements under Section D.1-8, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Office of Environmental Services, Water Permits Division as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant:
   i. listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micro-grams per liter (500 µg/L) for 2,4 -dinitro-phenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC33:IX.2501.G.7; or
      (4) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or

   ii. which exceeds the reportable quantity levels for pollutants at LAC 33:I. Subchapter E.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant:
   i. listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification

levels":

(1) Five hundred micrograms per liter (500 µg/L);
(2) One milligram per liter (1 mg/L) for antimony;
(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC 33:IX.2501.G.7; or
(4) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or

ii. which exceeds the reportable quantity levels for pollutants at LAC 33:I. Subchapter E.

10. Signatory Requirements

All applications, reports, or information submitted to the state administrative authority shall be signed and certified.

a. All permit applications shall be signed as follows:

(1) For a corporation - by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or,

(b) The manager of one or more manufacturing, production, or operating facilities, provided: the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

NOTE:DEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in Section D.10.a(1)(a). The agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the state administrative authority to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under Section D.10.a(1)(b) rather than to specific individuals.

(2) For a partnership or sole proprietorship - by a general partner or the proprietor, respectively; or

(3) For a municipality, state, federal, or other public agency - by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes:

(a) The chief executive officer of the agency, or

(b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by permits and other information requested by the state administrative authority shall be signed by a person described in Section D.10.a., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   (1) The authorization is made in writing by a person described in Section D.10.a. of these standard conditions;
   (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (a duly authorized representative may thus be either a named individual or an individual occupying a named position; and,
   (3) The written authorization is submitted to the state administrative authority.

c. Changes to authorization. If an authorization under Section D.10.b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section D.10.b. must be submitted to the state administrative authority prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under Section D.10. a. or b. above, shall make the following certification:

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

11. Availability of Reports
All recorded information (completed permit application forms, fact sheets, draft permits, or any public document) not classified as confidential information under La. R.S. 30:2030(A) and 30:2074(D) and designated as such in accordance with these regulations (LAC 33:IX.2323 and LAC 33:IX.6503) shall be made available to the public for inspection and copying during normal working hours in accordance with the Public Records Act, La. R.S. 44:1 et seq.

Claims of confidentiality for the following will be denied:
a. The name and address of any permit applicant or permittee;
b. Permit applications, permits, and effluent data.
c. Information required by LPDES application forms provided by the state administrative authority under LAC 33:IX.2501 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

E. Penalties for Violation of Permit Conditions

1. Criminal

a. Negligent Violations

The Louisiana Revised Statutes La. R. S. 30:2076.2 provides that any person who negligently violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any such provision in a permit issued under the LPDES by the secretary, or any requirement imposed in a pretreatment program approved under the LPDES is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than $50,000 per day of violation, or imprisonment of not more than two years, or both.

b. Knowing Violations

The Louisiana Revised Statutes La. R. S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any permit condition or limitation implementing any such provisions in a permit issued under the LPDES, or any requirement imposed in a pretreatment program approved under the LPDES is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or imprisonment for not more than 3 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

c. Knowing Endangerment

The Louisiana Revised Statutes La. R. S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any of such provisions in a permit issued under the LPDES by the secretary, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both. A person which is an organization shall, upon conviction of violating this Paragraph, be subject to a fine of not more than one million dollars. If a conviction of a person is for a violation committed after a first conviction of such person under this Paragraph, the maximum punishment shall be doubled with respect to both fine and imprisonment.

d. False Statements

The Louisiana Revised Statutes La. R. S. 30:2076.2 provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the LPDES or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the LPDES, shall, upon conviction, be subject to a fine of not more than $10,000, or imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this Subsection, he shall be subject to a fine of not more than $20,000 per day of violation, or imprisonment of not more than 4 years, or both.

2. Civil Penalties
   The Louisiana Revised Statutes La. R. S. 30:2025 provides that any person found to be in violation of any requirement of this Subtitle may be liable for a civil penalty, to be assessed by the secretary, an assistant secretary, or the court, of not more than the cost to the state of any response action made necessary by
   such violation which is not voluntarily paid by the violator, and a penalty of not more than $32,500 for each day of violation. However, when any such violation is done intentionally, willfully, or knowingly, or results in a discharge or disposal which causes irreparable or severe damage to the environment or if the substance discharged is one which endangers human life or health, such person may be liable for an additional penalty of not more than one million dollars.

(**PLEASE NOTE**: These penalties are listed in their entirety in Subtitle II of Title 30 of the Louisiana Revised Statutes.)

F. Definitions

All definitions contained in Section 502 of the Clean Water Act shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. Clean Water Act (CWA) means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972) Pub.L.92-500, as amended by Pub.L. 95-217, Pub.L. 95-576, Pub.L. 96-483 and Pub.L. 97-117, 33 U.S.C. 1251 et. seq.).

2. Accreditation means the formal recognition by the department of a laboratory's competence wherein specific tests or types of tests can be accurately and successfully performed in compliance with all minimum requirements set forth in the regulations regarding laboratory accreditation.

3. Administrator means the Administrator of the U.S. Environmental Protection Agency, or an authorized representative.

4. Applicable Standards and Limitations means all state, interstate and federal standards and limitations to which a discharge is subject under the Clean Water Act, including, effluent limitations, water quality standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308 and 403.

5. Applicable water quality standards means all water quality standards to which a discharge is subject under the Clean Water Act.

6. Commercial Laboratory means any laboratory, wherever located, that performs analyses or tests for third parties for a fee or other compensation and provides chemical analyses, analytical results, or other test data to the department. The term commercial laboratory does not include laboratories accredited by the Louisiana Department of Health in accordance with La. R.S.49:1001 et seq.

7. Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with

limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day. Daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample.

8. Daily Maximum discharge limitation means the highest allowable "daily discharge".

9. Director means the U.S. Environmental Protection Agency Regional Administrator, or the state administrative authority, or an authorized representative.

10. Domestic septage means either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from grease trap at a restaurant.

11. Domestic sewage means waste and wastewater from humans, or household operations that is discharged to or otherwise enters a treatment works.

12. Environmental Protection Agency or (EPA) means the U.S. Environmental Protection Agency.

13. Grab sample means an individual sample collected over a period of time not exceeding 15 minutes, unless more time is needed to collect an adequate sample, and is representative of the discharge.

14. Industrial user means a nondomestic discharger, as identified in 40 CFR 403, introducing pollutants to a publicly owned treatment works.

15. LEQA means the Louisiana Environmental Quality Act.

16. Loading, is presented in the permit and reported in the DMR as the total amount of a pollutant entering the facility or discharged in the effluent. It is calculated by knowing the amount of flow, the concentration, and the density of water. Results should be rounded off and expressed with the same number of significant figures as the permit limit. If the permit does not explicitly state how many significant figures are associated with the permit limit, the permittee shall use two.

    Loading (lbs/day) = Flow (in MGD) x Concentration (mg/L) x 8.34*

    *8.34 is the unit conversion for the weight of water

    Please note that the equations above may not be appropriate for production based effluent guideline limitations.

17. Louisiana Pollutant Discharge Elimination System (LPDES) means those portions of the Louisiana Environmental Quality Act and the Louisiana Water Control Law and all regulations promulgated under their authority which are deemed equivalent to the National Pollutant Discharge Elimination

System (NPDES) under the Clean Water Act in accordance with Section 402 of the Clean Water Act and all applicable federal regulations.

18. Monthly Average, other than for fecal coliform bacteria, discharge limitations are calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes monthly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the monthly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily discharge concentration, F = daily flow and n = number of daily samples; monthly average discharge =

$$\frac{C_1F_1 + C_2F_2 + \ldots + C_nF_n}{F_1 + F_2 + \ldots + F_n}$$

When the permit establishes monthly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the monthly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar month.

The monthly average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.

19. National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Clean Water Act.

20. POTW means Publicly Owned Treatment Works.

21. Sanitary Wastewater Term(s):

    a. 3-hour composite sample consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 3-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 3-hour period.

    b. 6-hour composite sample consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 6-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 6-hour period.

    c. 12-hour composite sample consists of 12 effluent portions collected no closer together than one hour over the 12-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 12-hour period. The daily sampling intervals shall include the highest flow periods.

d. 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample continuously collected in proportion to flow over the 24-hour period.

22. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

23. Sewage sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. *Sewage sludge* includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, domestic septage, portable toilet pumpings, Type III marine sanitation device pumpings (33 CFR Part 159), and sewage sludge products. *Sewage sludge* does not include grit or screenings, or ash generated during the incineration of sewage sludge.

24. Storm water Runoff—aqueous surface runoff including any soluble or suspended material mobilized by naturally occurring precipitation events.

25. Surface Water: all lakes, bays, rivers, streams, springs, ponds, impounding reservoirs, wetlands, swamps, marshes, water sources, drainage systems and other surface water, natural or artificial, public or private within the state or under its jurisdiction that are not part of a treatment system allowed by state law, regulation, or permit.

26. Treatment works means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Clean Water Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof. (See Part 212 of the Clean Water Act)

27. For fecal coliform bacteria, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.

28. The term MGD shall mean million gallons per day.

29. The term GPD shall mean gallons per day.

30. The term mg/L shall mean milligrams per liter or parts per million (ppm).

31. The term SPC shall mean Spill Prevention and Control. Plan covering the release of pollutants as defined by the Louisiana Administrative Code (LAC 33:IX.Chapter 9).

32. The term SPCC shall mean Spill Prevention Control and Countermeasures Plan. Plan covering the release of pollutants as defined in 40 CFR Part 112.

33. The term µg/L shall mean micrograms per liter or parts per billion (ppb).

34. The term ng/L shall mean nanograms per liter or parts per trillion (ppt).

35. Visible Sheen: a silvery or metallic sheen, gloss, or increased reflectivity; visual color; or iridescence on the water surface.

36. Wastewater—liquid waste resulting from commercial, municipal, private, or industrial processes. Wastewater includes, but is not limited to, cooling and condensing waters, sanitary sewage, industrial waste, and contaminated rainwater runoff.

37. Waters of the State: for the purposes of the Louisiana Pollutant Discharge Elimination system, all surface waters within the state of Louisiana and, on the coastline of Louisiana and the Gulf of Mexico, all surface waters extending there from three miles into the Gulf of Mexico. For purposes of the Louisiana Pollutant Discharge Elimination System, this includes all surface waters which are subject to the ebb and flow of the tide, lakes, rivers, streams, (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, impoundments of waters within the state of Louisiana otherwise defined as "waters of the United States" in 40 CFR 122.2, and tributaries of all such waters. "Waters of the state" does not include waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, 33 U.S.C. 1251 et seq.

38. Weekly average, other than for fecal coliform bacteria, is the highest allowable arithmetic mean of the daily discharges over a calendar week, calculated as the sum of all "daily discharge(s)" measured during a calendar week divided by the number of "daily discharge(s)" measured during that week. When the permit establishes weekly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the weekly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar week where C = daily discharge concentration, F = daily flow and n = number of daily samples; weekly average discharge

$$= \frac{C_1F_1 + C_2F_2 + \ldots + C_nF_n}{F_1 + F_2 + \ldots + F_n}$$

When the permit establishes weekly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the weekly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar week.

The weekly average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

Part VII. REOPENER CLAUSE

If there is evidence indicating that the discharges authorized by this permit cause, have the reasonable potential to cause, or contribute to a violation of a water quality standard, the discharger may be required to obtain an individual permit or an alternative general permit in accordance with Part III.D and VI.A.6 of this permit or the permit may be modified to include different requirements and/or limitations.

Part VIII. TERMINATION OF COVERAGE

Termination of coverage is automatic provided the owner and/or operator has complied with the requirements in Part I.E of this permit. Owners and/or operators are responsible for ensuring the elimination of storm water discharges associated with construction activity by the automatic termination date. All disturbed soils at the portion of the construction site where the operator had control shall be finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time to ensure final stabilization is maintained, or that all storm water discharges associated with construction activities from the identified site that are authorized by an LPDES general permit have otherwise been eliminated from the portion of the construction site where the operator had control.

Permittees shall be aware that final stabilization often takes time (weeks or even months), especially during times of low rainfall or during the colder months of the year. If final stabilization requirements of the permit (see Part IX) have not been met, a Notice of Extension must be submitted. Termination of permit coverage does not relieve the permittee of any future liabilities associated with environmental damage caused by the permittee's activities.

Where another owner and/or operator has assumed control (see Part III.E and Part IV.E) over all areas of the site that have not been finally stabilized, the previous owner and/or operator must submit a Notice of Termination (NOT). Current permitted owners and/or operators who determine that coverage is no longer needed may also submit an NOT. The NOT shall include the following information:

1. the name (or other identifier), street address (description of location if no street address is available), city, parish, and the latitude and longitude of the approximate center of the construction site/project for which the notification is submitted;

2. the name, address and telephone number of the permittee submitting the Notice of Termination;

3. the LPDES permit authorization number for the storm water discharge identified by the Notice of Termination;

4. an indication of whether the storm water discharges associated with construction activity have been eliminated or the operator of the discharges has changed; and

5. the following certification signed in accordance with Part VI.D.10 (Signatory Requirements) of this permit:

"I certify under penalty of law that all storm water discharges associated with construction activity from the portion of the identified site where I was an operator have ceased or have been eliminated or that I am no longer an operator at the construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under this general permit, and that discharging pollutants in storm water associated with construction activity to waters of the State is unlawful under the Clear Water Act where the discharge is not authorized by an LPDES

permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violation of this permit or the Clean Water Act."

6. All NOTs are to be sent, using the forms provided by the State Administrative Authority, to the Water Permits Division at the address specified on the NOT form.

Part IX. ADDITIONAL DEFINITIONS

Aggregate Spray – potable water used to cool aggregate stockpiles and to maintain the specific gravity of light weight aggregate.

Alternative permit means another permit – either an individual permit or a different general permit.

Arid Areas – areas with an average annual rainfall of 0 to 10 inches.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
(https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu)

Bypass – the intentional diversion of waste streams from any portion of a treatment facility.

Control Measure – as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

Commencement of Construction – the initial disturbance of soils associated with clearing, grading, or excavating activities as well as support activities related to a construction site.

Common Plan of Development – a contiguous (sharing a boundary or edge; adjacent; touching) area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. Such a plan might consist of many small projects (e.g., a common plan of development for a residential subdivision might lay out the streets, house lots, and areas for parks, schools, commercial and industrial development that the developer plans to build or sell to others for development.) All these areas would remain part of the common plan of development or sale. The following items can be used as guidance for deciding what might or might not be considered a Common Plan of Development or Sale:

> If a smaller project is part of a large common plan of development or sale that collectively will disturb five or more acres (e.g., you are building on 6 half-acre residential lots in a 10-acre development or are putting in a fast food restaurant on a ¾ acre pad that is part of a 20 acre retail center) permit coverage is needed.
>
> If a small portion of the original common plan of development remains undeveloped and there has been a period of time where there is no ongoing construction activities (i.e., all areas are either undisturbed or have been finally stabilized), you may re-evaluate the original project based on the acreage remaining from the original "common plan." If less than five but more than one acre remains to build out the original "common plan", coverage under this permit may not be required. However, you will need to comply with the terms and conditions of the Small Construction General Permit. If less than one acre remains of the original common plan, your individual project may be treated as a part of a less than one acre development and no permit would be required.

If you have a long-range master plan of development where some portions of the master plan are a conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended period of time, you may consider the "conceptual" phases of development to be separate a "common plans" provided the periods of construction for the physically interconnected phases will not overlap.

A public entity (a municipality, state or federal agency) need not consider all construction projects within their entire jurisdiction to be part of an overall "common plan." Only the interconnected parts of a project would be considered to be a "common plan."

Where discrete construction projects within a larger common plan of development or sale are located ¼ mile or more apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Discharge of Storm Water Associated with Construction Activity – as used in this permit, refers to storm water point source discharges from areas where soil disturbing activities (e.g., clearing, grading, or excavation, etc.), support activities related to a construction site, or construction materials or equipment storage or maintenance (e.g., fill piles, fueling, etc.) are located.

Drought-Stricken Area – for the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely".
See http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif.

Final Stabilization – means that:

(i) all soil disturbing activities at the site have been completed, and that a **uniform** (e.g., evenly distributed, without large bare areas) **perennial vegetative cover** with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geo-textiles) have been employed. Establishing at least 70% of the natural cover of self-sustaining native vegetation meets the vegetative cover criteria for final stabilization. For example, if the native vegetation covers 50% of the ground prior to commencement of construction activities, 70% of 50% would require 35% total cover for final stabilization.

A site does not meet the final stabilization permit requirement until self-sustaining native vegetation is established uniformly over each disturbed area on the site. Stabilizing seven of ten slopes or leaving an area equivalent to 30 percent of the disturbed area completely destabilized will not satisfy the **uniform vegetative cover** standard.

(ii) In arid and semi-arid areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:

a. Temporary erosion control measures (e.g., degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by you.

b. The temporary erosion control measures are selected, designed, and installed to achieve 70 percent vegetative coverage within three years.

(iii) For individual lots in residential construction, final stabilization means that either:

a. The homebuilder has completed final stabilization as specified above, or

b. The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

(iv) For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land, staging areas for highway construction, etc.) final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the State, and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization criteria (i) or (ii) or (iii) above.

Infeasible – not technologically possible, or not economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) – refers to a publicly-owned conveyance or system of conveyances that discharges to waters of the U.S. and is designed or used for collecting or conveying storm water, is not a combined sewer, and is not part of a publicly-owned treatment works (POTW)(see LAC 33:IX.2511.B.4, B.7, and B.16 or 40 CFR 122.26(b)(4), (b)(7), and (b)(16)).

Natural Buffer – as used in this permit, an area of undisturbed natural cover surrounding surface waters. Natural cover includes vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities at the site

New Source – any building, structure, site, or installation from which there is or may be discharge of pollutants, the construction of which commenced:

a. after promulgation of standards of performance under Section 306 of the CWA which are applicable to such source; or

b. after proposal of standards of performance in accordance with Section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

Non-turbid – for the purposes of this permit, means that the discharge does not cause or contribute to an exceedance of turbidity-related water quality standards.

NOE – notice of extension to continue coverage or to reauthorize under the reissued LAR100000 (see Part I.D of this permit).

NOI – notice of intent to be covered by this permit (see Part II of this permit).

NOT – notice of termination of permit coverage (see Part VII of this permit).

Operator – any party associated with the construction project that meets either of the following two criteria: (1) the party has operational control over project plans and specifications (including the ability to make modifications in those specifications), or (2) the party has day-to-day operational control of those activities at a project site which are necessary to ensure compliance with the storm water pollution prevention plan or other permit conditions (e.g., they are authorized to direct workers at the site to carry out activities identified in the storm water pollution prevention plan or comply with other permit conditions).

Permittee - an operator with permit authorization to discharge storm water associated with construction activity in Louisiana under the terms and conditions of this permit.

Person – an individual, association, partnership, corporation, municipality, state or federal agency, or any agency thereof, or an agent or employee thereof.

Point Source – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Process Wastewater – any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Process wastewater may include interior or exterior washing of plant trucks or product receptacles.

Qualified Personnel – a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.

Runoff Coefficient – the fraction of total rainfall that will leave the site as runoff.

Semi-Arid Areas – areas with an average annual rainfall of 10 to 20 inches.

Site – the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

State Administrative Authority – the Secretary of the Department of Environmental Quality or his designee, or the appropriate assistant secretary or his designee.

Storm Water Associated
with Industrial Activity – defined at LAC 33:IX.2511.B.14 and incorporated here by reference.

Storm Water Discharge Associated with Large Construction Activity – this includes discharges of storm water from construction activities including clearing, grading excavating, and support activities

related to a construction site that results in land disturbance greater than five acres. Also included is construction activity that disturbs less than five acres of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb greater than five acres.

Total Suspended Solids (TSS) – the amount of solid material suspended in water commonly expressed as a concentration in terms of mg/L.

Uncontaminated – for the purposes of this permit, means that the discharge does not cause or contribute to an exceedance of applicable water quality standards.

ADDENDUM A

ENDANGERED SPECIES GUIDANCE

ENDANGERED SPECIES GUIDANCE

I. INSTRUCTIONS

A list of endangered and threatened species that the US Fish and Wildlife Service (FWS) has determined may be affected by the activities covered by the Construction General Permit is available in the Fish and Wildlife Service Memorandum of Understanding (MOU) letter at http://deq.louisiana.gov/page/lpdes.

The species listing by parish is found using the link labeled Endangered Species Act (ESA) and Migratory Bird Treaty Act (MBTA) Project Review. In order to be eligible for coverage under this permit, operators must:

- Determine whether any species listed in this Guidance or critical habitat are in proximity to the site,

- Pursuant to Permit Part I.A.3.e follow the procedures found in this Guidance to protect listed endangered and/or threatened species and designated critical habitat and determine that the storm water discharges and BMPs to control storm water runoff covered under this permit meet one or more of the eligibility requirements of Part I.A.3.e.(1) of this permit. Signature and submittal of the Notice of Intent form is deemed to constitute the Operator's compliance with eligibility requirements for permit coverage.

To determine permit eligibility and to avoid unauthorized impacts upon listed threatened or endangered species or on the critical habitat for those species, the operator must follow this Guidance's Steps 1 through 4 (and 5 if applicable) when developing the SWPPP.

> NOTE: At any step in the determination operators may contact the FWS for guidance. That request should be in writing and should include a description of the facility and a topographic map depicting the locations of the facility, the proposed construction activities, and the associated storm water discharges.

U.S. Fish and Wildlife Service
646 Cajundome Blvd.
Suite 400
Lafayette, LA 70506
(337) 291-3108

STEP 1: DETERMINE IF THE CONSTRUCTION SITE OR ASSOCIATED STORM WATER DISCHARGES ARE WITHIN THE VICINITY OF FEDERALLY LISTED THREATENED OR ENDANGERED SPECIES, OR THEIR DESIGNATED CRITICAL HABITAT.

If either the proposed site or the path of storm water from the site to the receiving stream is in a parish included on the Endangered Species List, the applicant shall proceed to Step 2 below. If, however, neither is located in a listed parish, then the applicant shall enter "no" in Section I.D.3 of the NOI, and move on to the next item.

If no species are listed in the site's parish or if a site's parish is not found on the list, the applicant is eligible for permit coverage and may indicate in the Notice of Intent that no species are found in the project area

and certify that it is eligible for permit coverage by marking “No” on the NOI. Where a project is located in more than one parish, the lists for all parishes shall be reviewed.

STEP 2: DETERMINE IF ANY SPECIES MAY BE FOUND "IN PROXIMITY" TO THE CONSTRUCTION ACTIVITY'S STORM WATER DISCHARGES:

A species is in proximity to a construction activity's storm water discharge when the species is:

- Located in the path or immediate area through which or over which contaminated point source storm water flows from construction activities to the point of discharge into the receiving water; or

- Located in the immediate vicinity of, or nearby, the point of discharge into receiving waters; or

- Located in the area of a site where storm water BMPs are planned or are to be constructed.

The area in proximity to be searched/surveyed for listed species will vary with the size and structure of the construction activity, the nature and quantity of the storm water discharges, and the type of receiving waters. Given the number of construction activities potentially covered by the permit, no specific method to determine whether species are in proximity is required for permit coverage. Instead, operators should use the method or methods which best allow them to determine to the best of their knowledge whether species are in proximity to their particular construction activities. These methods may include:

- Conducting visual inspections: This method may be particularly suitable for construction sites that are smaller in size or located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no natural habitat, or for construction activities that discharge directly into municipal storm water collection systems.

- Contacting the nearest State or Tribal Wildlife Agency or U.S. Fish and Wildlife Service (FWS) offices. Many endangered and threatened species are found in well-defined areas or habitats. That information is frequently known to State, Tribal, or Federal wildlife agencies.

- Contacting local/regional conservation groups. These groups inventory species and their locations and maintain lists of sightings and habitats.

- Conducting a formal biological survey. Larger construction sites with extensive storm water discharges may choose to conduct biological surveys as the most effective way to assess whether species are located in proximity and whether there are likely adverse effects.

- Conducting an Environmental Assessment Under the National Environmental Policy Act (NEPA). Some construction activities may require environmental assessments under the NEPA. Such assessments may indicate if listed species are in proximity. (Construction General Permit coverage does not trigger the NEPA because it does not regulate any dischargers subject to New Source Performance Standards under Section 306 of the Clean Water Act. See CWA 511(c). However, some construction activities might require review under the NEPA because of federal funding or other federal nexus.)

- Using the ESA and MBTA project review application at the FWS Louisiana Ecological Services website (http://www.fws.gov/lafayette/pdc/).

If no species are in proximity and there is no likelihood of any BMPs to control storm water causing adverse effects on species identified in in this addendum, an operator is eligible for Construction General Permit

coverage based upon this **Criterion A**.

If adverse effects are determined to be unlikely, then the operator is eligible for permit coverage

If listed species are found in proximity to a facility, operators must indicate the location and nature of this presence in the storm water pollution prevention plan (SWPPP) and follow Step 3.

STEP 3: **DETERMINE IF SPECIES OR CRITICAL HABITAT COULD BE ADVERSELY AFFECTED BY THE CONSTRUCTION ACTIVITY'S STORM WATER DISCHARGES OR BY BMPs TO CONTROL THOSE DISCHARGES.**

Scope of Adverse Effects: Potential adverse effects from storm water include:

- Hydrological. Storm water may cause siltation, sedimentation or induce other changes in the receiving waters such as temperature, salinity or pH. These effects will vary with the amount of storm water discharged and the volume and condition of the receiving water. Where a storm water discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.

- Habitat. Storm water may drain or inundate listed species habitat.

- Toxicity. In some cases, pollutants in storm water may have toxic effects on listed species.

The scope of effects to consider will vary with each site. Operators must also consider the likelihood of adverse effects on species from any BMPs to control storm water. Most adverse impacts from BMPs are likely to occur from the construction activities. However, it is possible that the operation of some BMPs (for example, larger storm water retention ponds) may affect endangered and threatened species.

If adverse effects are determined to be unlikely, then the operator is eligible for permit coverage

If adverse effects are likely, operators should follow step 4 below.

STEP 4: DETERMINE IF MEASURES CAN BE IMPLEMENTED TO AVOID ANY ADVERSE EFFECTS:

If it is determined that adverse effects cannot be ruled out or are likely, the operator can receive coverage if appropriate measures are undertaken to avoid or eliminate any actual or potential adverse effects prior to applying for permit coverage. These measures may involve relatively simple changes to construction activities such as re-routing a storm water discharge to bypass an area where species are located, relocating BMPs, or limiting the size of construction activity that will be subject to storm water discharge controls.

At this stage, operators must contact the FWS [or the National Marine Fisheries Service (NMFS) if referred to that Service by the FWS] to see what appropriate measures might be suitable to avoid or eliminate adverse impacts to listed species and/or critical habitat. This can entail the initiation of informal coordination with the FWS (and/or NMFS, if appropriate) which is described in more detail in Step 5.

If operators adopt measures to avoid or eliminate adverse effects they must continue to abide by them during the course of permit coverage. These measures must be described in the SWPPP and may be enforceable as permit conditions.

If appropriate measures to avoid the likelihood of adverse effects are not available, then the operator must follow Step 5.

STEP 5: CONSULTATION WITH FWS TO DETERMINE IF THE ELIGIBILITY REQUIREMENTS CAN BE MET

Where adverse effects are likely, the operator must contact the FWS. The operator may still be eligible for permit coverage if any likelihood of adverse effects is addressed by meeting at least one of the following criteria, as required by Part I.A.3.e.(1)(b)-(e), if:

- **Criterion B**. The operator's activity has received previous authorization through an earlier Section 7 consultation or issuance of a ESA Section 10 permit (incidental taking permit) and that authorization addressed storm water discharges and/or BMPs to control storm water runoff (e.g., developer included impact of entire project in consultation over a wetlands dredge and fill permit under Section 7 of the ESA).

OR

- **Criterion C.** The operator's activity was previously considered part of a larger, more comprehensive assessment of impacts on endangered and threatened species and/or critical habitat, under Section 7 or Section 10 of the ESA, which accounts for storm water discharges and BMPs to control storm water runoff (e.g., where an area-wide habitat conservation plan and the ESA's Section 10 permit is issued which addresses impacts from construction activities, including those from storm water, or a NEPA review is conducted which incorporates the ESA Section 7 procedures).

OR

Criterion D. Consultation with the USFWS (or NMFS, if appropriate) for the operator's storm water discharges and BMPs to control storm water runoff results in either: 1) FWS/NMFS written concurrence with a finding of no likelihood of adverse effects (see 50 CFR 402.13) or 2) issuance of a biological opinion in which USFWS (or NMFS) finds that the action is not likely to jeopardize the continued existence of listed endangered or threatened species or result in the adverse modification or destruction of critical habitat [see 50 CFR 403.14(h)].

Any terms and conditions developed through consultations to protect listed species and critical habitat must be incorporated into the SWPPP. As noted above, operators must initiate consultation during Step 4 (upon becoming aware that endangered and threatened species are in proximity to the facility).

OR

Criterion E. The operator's activity was considered part of a larger, more comprehensive site-specific assessment of impacts on endangered and threatened species by the owner or other operator of the site when it developed a SWPPP and that permittee met the eligibility requirements stated in Criterion A, B, C, or D [e.g., owner was able to determine there would be no adverse impacts for the project as a whole under Criterion A, so contractor meets the eligibility requirements stated Criterion D]. Utility companies applying for area-wide permit coverage meet the eligibility requirements stated in Criterion D since authorization to discharge is contingent on a principal operator of a construction project having been granted coverage under this or an alternative LPDES permit for the areas of the site where utilities installation activities will occur.

The determination of eligibility of Criteria B - D shall be documented in the facility's SWPPP, and copies of all applicable documents, such as the FWS approval letters, shall be retained with the SWPPP. The operator must comply with any terms and conditions imposed under the all eligibility criteria requirements to ensure that storm water discharges or BMPs used to control storm water runoff are protective of listed endangered and threatened species and/or critical habitat. Such terms and conditions must be incorporated in the operator's SWPPP.

If the eligibility requirements of Criteria A - D cannot be met, then the operator may not receive coverage under this permit and should consider applying to the LDEQ for an individual permit.

This permit does not authorize any "taking" (as defined under Section 9 of the ESA) of endangered or threatened species unless such takes are authorized under Section 7 or 10 the ESA. Operators who believe their construction activities may result in takes of listed endangered and threatened species should be sure to get the necessary coverage for such takes through an individual consultation or Section 10 permit of the ESA.

This permit does not authorize any storm water discharges or BMPs to control storm water runoff that are likely to jeopardize the continued existence of any species that are listed as endangered or threatened under the ESA or result in the adverse modification or destruction of designated critical habitat.

II. ENDANGERED SPECIES PARISH LIST

See: http://deq.louisiana.gov/page/lpdes. Click on **Water**, then **Permits**, then **LPDES Permit Information**, then the "U.S. Fish and Wildlife Service Endangered Species Act (ESA) and Migratory Bird Treaty Act (MBTA) Project Review" under **LPDES Support Documents**.

ADDENDUM B

HISTORIC PRESERVATION

HISTORIC PROPERTIES GUIDANCE

Operators must determine whether their site's storm water discharge or the construction of best management practices (BMPs) to control such discharges, have potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

For existing operators who do not need to construct BMPs for permit coverage, a simple visual inspection may be sufficient to determine whether historic properties are affected. However, for sites which are new storm water dischargers, and for existing sites which are planning to construct BMPs for permit eligibility, operators shall conduct further inquiry to determine whether historic properties may be affected by the storm water discharge or BMPs to control the discharge. In such instances, operators shall first determine whether there are any historic properties or places in the vicinity that are listed on the National Register, or if any are eligible for listing on the register (e.g., they are "eligible for listing").

Due to the large number of entities seeking coverage under this permit and the limited number of personnel available to the State Historic Preservation Officer to respond to inquiries concerning the location of historic properties, it is suggested that operators first access the "National Register of Historic Places" information listed on the National Park Service's web page at the address listed below. The address for the Louisiana State Historic Preservation Officer is also listed below. Operators may also contact city, parish or other local historical societies for assistance, especially when determining if a place or property is eligible for listing on the register.

The following scenarios describe how operators can meet the permit eligibility criteria for protection of historic properties under this permit:

(1) If historic properties are **not identified** in the path of a site's industrial storm water discharge, or where construction activities are planned to install BMPs to control such discharges (e.g., diversion channels or retention ponds), or

if historic properties **are identified,** but it is determined that they will **not be affected** by the discharge, or construction of BMPs to control the discharge,

then the operator has met the permit eligibility criteria under Part I.A.3.f.

(2) If historic properties **are identified** in the path of a site's industrial storm water discharge, or where construction activities are planned for the installation of BMPs to control such discharges, and it is determined that **there is the potential** to adversely affect the property, the operator can still meet the permit eligibility criteria if he/she obtains and complies with a written agreement with the State Historic Preservation Officer, which outlines measures that the operator will follow to mitigate or prevent those adverse effects. The contents of such a written agreement must be included in the site's storm water pollution prevention plan.

In situations where an agreement cannot be reached between an applicant and the State Historic Preservation Officer, applicants shall contact the Advisory Council on Historic Preservation listed below in this addendum for assistance.

The term “adverse effects" includes, but is not limited to, damage, deterioration, alteration, or destruction of the historic property or place. LDEQ encourages operators to contact the appropriate State or Tribal Historic Preservation Officer as soon as possible in the event of a potential adverse effect to a historic property.

Operators are reminded that they must comply with all applicable State and local laws concerning the protection of historic properties and places.

I. Internet Information on the National Register of Historic Places

An electronic listing of the “National Register of Historic Places," as maintained by the National Park Service on its National Register Information System (NRIS), can be accessed on the Internet at https://www.nps.gov/nr/research/.

II. Louisiana State Historic Preservation Officer (SHPO)

Louisiana, SHPO, Office of Cultural Development, P.O. Box 44247, Baton Rouge, LA 70804-4247. For questions contact the Section 106 Review Coordinator, Telephone: (225) 342-8170.

III. Louisiana Tribes and Their Historic Preservation Officers

For questions related to identifying and protecting tribal cultural resources, operators shall contact tribal leaders. A list of Louisiana Tribes and Their Historic Preservation Officers can be found at:
https://www.crt.state.la.us/Assets/OCD/archaeology/nativeamericancontacts/NatAmContacts.pdf. LDEQ does not have the authority to issue LPDES permits for activities on federal Native American lands.

ADDENDUM C

LIST OF ADDRESSES FOR LDEQ OFFICES

CURRENT ADDRESSES

Enforcement Division
Office of Environmental Compliance
Department of Environmental Quality
P. O. Box 4312
Baton Rouge, Louisiana 70821-4312
Telephone: (225) 219-3715

Mailing Addresses For Regional Offices	Jurisdictional Parishes For Each Regional Office
Acadiana Regional Office Inspections Division Office of Environmental Compliance 111 New Center Drive Lafayette, Louisiana 70508 (337) 262-5584	Acadia, Avoyelles, Catahoula, Concordia, Evangeline, Grant, Iberia, Lafayette, LaSalle, Rapides, St. Landry, St. Martin, St. Mary, Vermilion
Capital Regional Office Inspections Division Office of Environmental Compliance P.O. Box 4312 Baton Rouge, Louisiana 70821-4312 (225) 219-3600	Ascension, Assumption, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, St. James, St. Martin, Tangipahoa, West Baton Rouge, West Feliciana
Northeast Regional Office Inspections Division Office of Environmental Compliance 508 Downing Pines Road West Monroe, Louisiana 71292 (318) 362-5439	Caldwell, East Carroll, Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita, , Richland, Tensas, Union, West Carroll, Winn
Northwest Regional Office Inspections Division Office of Environmental Compliance 1525 Fairfield Avenue, Room 520 Shreveport, Louisiana 71130 (318) 676-7476	Bienville, Bossier, Caddo, Claiborne, De Soto, Natchitoches, Red River, Sabine, Webster
Southeast Regional Office Inspections Division Office of Environmental Compliance 201 Evans Road, Bldg. 4, Suite 420 New Orleans, LA 70123-5230 (504) 736-7701	Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. John the Baptist, St. Charles, St. Tammany, Terrebonne, Washington
Southwest Regional Office Inspections Division Office of Environmental Compliance 1301 Gadwall Street Lake Charles, Louisiana 70615-5176 (337) 491-2667	Allen, Beauregard, Calcasieu, Cameron, Jefferson Davis, Vernon

ADDENDUM D

LIST OF OUTSTANDING NATURAL RESOURCE WATERS

Outstanding Natural Resource Waters

ATCHAFALAYA RIVER BASIN:

None

BARATARIA BASIN:

Bayou Des Allemands – from Lac Des Allemands to old US 90
Bayou Des Allemands – fro Hwy. 90 to Lake Salvador

CALCASIEU RIVER BASIN:

Calcasieu River – from LA Highway 8 to the Rapides/Allen Parish line
Calcasieu River – from Rapides-Allen Parish line to Marsh Bayou
Calcasieu River – from Marsh Bayou to saltwater barrier
Whiskey Chitto Creek – from the southern boundary of Fort Polk Military Reservation to the Calcasieu River
Six Mile Creek – East and West Forks from the southern boundary of Fort Polk Military Reservation to Whiskey Chitto Creek
Ten Mile Creek – from headwaters to Whiskey Chitto Creek

LAKE PONTCHARTRAIN BASIN:

Comite River – from Wilson-Clinton Highway to White Bayou
Amite River – from Mississippi State Line to LA Highway 37
Blind River – from the Amite River Diversion Canal to the mouth at Lake Maurepas
Blind River – from headwaters to Amite River Diversion Canal
Tickfaw River – from the Mississippi State Line to LA Highway 42
Tangipahoa River – from the Mississippi State Line to I-12
Chappepeela Creek – from Louisiana Highway 1062 to Tangipahoa River
Tchefuncte River – from headwaters to Bogue Falaya River, includes tributaries
Lower Tchefuncte River – from Bogue Falaya River to LA Highway 22
Bogue Falaya River – from headwaters to Tchefuncte River
Bayou Lacombe – from headwaters to Interstate Highway 12
Bayou Lacombe – from CDM Ecoregion boundary to Lake Pontchartrain
Bayou Lacombe – from Interstate Highway 12 to US Highway 190
Bayou Lacombe – from US Highway 190 to CDM Ecoregion boundary
Bayou Cane – from the headwaters to U.S. Highway 190
Bayou Cane – from CDM Ecoregion boundary to Lake Pontchartrain
Bayou Labranche – from headwaters to Lake Pontchartrain
Bayou Trepagnier – from Norco to Bayou Labranche
Bayou St. John
Bayou Chaperon
Bashman Bayou – from headwaters to Bayou Dupre
Bayou Dupre – from Lake Borgne Canal to Terre Beau Bayou
Lake Borgne Canal – from the Mississippi River siphon at Violet to Bayou Dupre; also called Violet Canal
Pirogue Bayou – from Bayou Dupre to New Canal
Terre Beau Bayou – from Bayou Dupre to New Canal
Bayou Bienvenue – from Bayou Villere to Lake Borgne

MERMENTAU RIVER BASIN:

None

VERMILION-TECHE RIVER BASIN:

Spring Creek – from headwaters to Cocodrie Lake
Bayou Cocodrie – from U.S. Highway 167 to the Bayou Boeuf-Cocodrie Diversion Canal

MISSISSIPPI RIVER BASIN:

None

OUACHITA RIVER BASIN:

Bayou Bartholomew – from Arkansas State Line to Ouachita River
Bayou de L'Outre – from the Arkansas State Line to the Ouachita River
Bayou D'Arbonne – from Bayou D'Arbonne Lake to the Ouachita River
Corney Bayou – from the Arkansas State Line to Corney Lake
Corney Bayou – from Corney Lake to Bayou D'Arbonne Lake
Middle Fork of Bayou D'Arbonne – from headwaters to Bayou D'Arbonne Lake
Little River – from Bear Creek to Catahoula Lake
Fish Creek – from headwaters to Little River
Trout Creek – from headwaters to Little River
Big Creek – from the headwaters to Little River

PEARL RIVER BASIN:

Holmes Bayou – from Pearl River to West Pearl River
West Pearl River – from headwaters to Holmes Bayou
West Pearl River – from Holmes Bayou to The Rigolets; includes the east and west mouths)
Morgan River – from Porters River to West Pearl River
Wilson Slough – from Bogue Chitto to West Pearl River
Bradley Slough - from Bogue Chitto to West Pearl River
Pushepatapa Creek – from headwaters and tributaries at Mississippi State Line to Pearl River flood plain
Bogue Chitto River – from Mississippi State Line to Pearl River Navigation Canal

RED RIVER BASIN:

Bayou Dorcheat – from Arkansas State Line to Lake Bistineau
Black Lake Bayou – from one mile north of Leatherman Creek to Black Lake
Saline Bayou – from headwaters near Arcadia to Saline Lake
Kisatchie Bayou – from its Kisatchie National Forest to Old River
Saline Bayou – from Larto Lake to Saline Lake
Bayou Cocodrie – from Little Cross Bayou to Wild Cow Bayou

SABINE RIVER BASIN:

Pearl Creek – from headwaters to Sabine River

TERREBONNE BASIN:

Bayou Penchant – from Bayou Chene to Lake Penchant

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TRUCK WASH-DOWN RACKS

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TRUCK WASH-DOWN RACKS

PART 1 GENERAL

1.1 SCOPE

The work specified in this section consists of the Contractor designing, implementing and maintaining approved truck wash-down rack(s) at the construction site and borrow site.

1.2 MEASUREMENT AND PAYMENT

No measurement will be made for the temporary truck wash-down rack designed, constructed and maintained by the Contractor. Payment for the temporary truck wash-down rack, including its maintenance and removal, will be made at the contract job price for "Truck Wash-Down Rack". Price and payment shall constitute full compensation for furnishing the design, and all plant, labor, equipment, mechanical street sweeper, and material to complete the work as specified herein and as shown on drawings.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 TRUCK WASH-DOWN RACK

The Contractor shall design, submit to the Contracting Officer for approval, and provide a hard-surfaced truck wash-down rack to be located at a point of egress from the construction site onto Airport Road during hauling and construction operations to eliminate mud and debris transported onto public roads. All trucks utilized for hauling shall be pressure washed on the wash-down rack prior to departing the construction site. The truck wash-down rack shall be sized and located within the rights-of-way for the access road per the Contractor's proposed equipment and construction site layout.

1. The hard surfaced truck wash-down rack shall consist of a Contractor designed steel grated structure, wooden timber crane mats, or an equivalent method.

2. Surfacing meeting the requirements of Section 32 15 00.00 12 SURFACING (GRANULAR) shall be located between the truck wash-down rack and Airport Road.

3. All truck wash-down rack waste water and sediment shall be intercepted before draining offsite. The water shall be returned to the existing drainage ditches and the sediment removed and disposed of offsite.

4. Additionally, the Contractor shall station a mechanical street sweeper on site and shall immediately clean Airport Road of any debris falling off the washed trucks. The mechanical street sweeper shall be onsite at all times to clean the streets.

Failure of the Contractor to comply with these requirements shall result in the Contractor stopping all hauling operations until the streets are cleaned of debris.

5. Upon completion of the hauling operation, the Contractor shall remove the truck wash-down rack and all appurtenances from the construction site.

6. The area where the truck wash-down rack was located shall be restored to the condition or better than prior to construction activities. All aggregate placed between the wash-down rack and the roadway shall be removed.

-- End of Section --

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CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for providing Closeout Submittals, including "As-Built" drawings required under this section. All costs associated therewith shall be included in the applicable contract unit or job prices contained in the Bidding Schedule.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

"As-Built" Drawings; G, DO

The Contractor shall submit full-scale drawings showing final "As-Built" conditions of the project. The final (red-lined) "As-Built" drawings shall consist of 3 sets (an original and two color copies) and 3 electronic (.PDF) copies on CD-R of the approved working as-builts.

1.3 PROJECT RECORD DOCUMENTS

1.3.1 "As-Built" Drawings

This paragraph covers "As-Built" drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working "As-Built" drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final "As-Built" drawings.

1.3.1.1 Working "As-Built" and Final "As-Built" Drawings

The Contractor shall revise 1 full size 22"x34" set of paper drawings by red-line process to show the "As-Built" conditions during the prosecution of the project. These working "As-Built" marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. The working "As-Built" marked prints and final "As-Built" drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final "As-Built" drawings as specified herein, the Contracting Officer will

deduct from the monthly progress payment an amount representing the estimated cost of maintaining the "As-Built" drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working and final "As-Built" drawings shall show, but shall not be limited to, the following information:

a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the "As-Built" drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded utilizing SUB Method B.

b. The location and dimensions of any changes within the building structure.

c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

d. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

f. Changes or modifications which result from the final inspection.

g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final "As-Built" prints.

h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

i. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.

j. Modifications will be shown in accordance with the following procedures.

(1) Directions in the modification for posting descriptive changes shall be followed.

(2) A Modification Triangle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Triangle shall be placed by the detail or section title.

(4) For minor changes, a Modification Triangle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Triangle shall be placed by the title of the affected plan, section, or detail at each location.

(6) For changes to schedules or drawings, a Modification Triangle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Triangle size shall be 1/2 inch on a side unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

1.3.1.2 Drawing Preparation

The "As-Built" drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working "As-Built" prints, and adding such additional drawings as may be necessary. These working "As-Built" marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.3.1.3 Final "As-Built" Drawings

When final revisions have been completed, the cover sheet drawing shall show the wording in red print "RECORD DRAWING AS-BUILT" followed by the name of the Contractor and the contract number in letters at least 1/2 inch high. All other contract drawings shall be marked in red print either "AS-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block. Within 20 days after Government approval of all of the working as-built drawings, the Contractor shall prepare the final "As-Built" drawings for that phase of work and submit to the Government for review and approval. The Government will promptly return one set of prints annotated with any necessary corrections. Within 10 days the Contractor shall revise the "As-Built" drawings accordingly at no additional cost and submit one set of final "As-Built" prints, two color copies, and three PDF files on CD-R for the completed phase of work to the Government. Within 10 day of substantial completion of all phases of work, the Contractor shall submit the final "As-Built" drawing package for the entire project. The submittal shall consist of three sets of the approved working "As-Built" drawings (one original and two color copies) and three electronic (.PDF) copies on CD-R. Paper prints and storage media submitted will become the property of the Government upon final approval. Failure to submit final "As-Built" drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final "As-Built" drawings shall be accomplished before final payment is made to the Contractor. In addition, prior to scheduling the final inspection, the Government must have in their possession the final approved set of as-built drawings.

1.4 OPERATION AND MAINTENANCE MANUALS

Operation manuals and maintenance manuals shall be submitted as specified.

Operation manuals and maintenance manuals provided in a common volume shall be clearly differentiated and shall be separately indexed.

1.5 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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SEPARATOR GEOTEXTILE

-- End of Section Table of Contents --

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SEPARATOR GEOTEXTILE

PART 1 GENERAL

1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, material, equipment; performing all operations required for furnishing, hauling, placing the separator geotextile; and maintaining the geotextiles until placement of the crushed stone along the berm access road, temporary access and culvert layout is completed and accepted.

1.2 MEASUREMENT AND PAYMENT

Geotextile will be measured in place to the nearest square yard as delineated on the drawings. Overlaps will be measured as a single layer. Payment for the geotextile will be made at the applicable contract unit price per square yard for "Separator Geotextile", or "Separator Geotextile - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for providing all plant, labor and materials for placement of geotextile; including cutting, sewing, placing, testing, and corrective actions to fix deficiencies; to complete the work as specified herein and as shown on the drawings. No separate measurement or payment will be made for corrective action that is required to correct deficiencies that are due to Contractor fault, negligence, defective materials or workmanship.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 883	(2000) Terminology Relating to Plastics
ASTM D 4491	(1999; R 2004e1) Water Permeability of Geotextiles by Permittivity
ASTM D 4632	(1991; R 2003) Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(2004) Determining Apparent Opening Size of a Geotextile
ASTM D 4884	(1996; R 2003) Strength of Sewn or Thermally Bonded Seams of Geotextiles

1.4 MEASUREMENT AND PAYMENT

Geotextile will be measured in place to the nearest square yard as delineated on the drawings. Overlaps will be measured as a single layer.

Payment for the geotextile will be made at the applicable contract unit price per square yard for "Separator Geotextile", or "Separator Geotextile - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for providing all plant, labor and materials for placement of geotextile; including cutting, sewing, placing, testing, and corrective actions to fix deficiencies; to complete the work as specified herein and as shown on the drawings. No separate measurement or payment will be made for corrective action that is required to correct deficiencies that are due to Contractor fault, negligence, defective materials or workmanship.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Work Plan

The Contractor shall submit a Work Plan to the Contracting Officer. The plan shall include the following information:

a. The dimensions of the geotextile panels, whether the geotextile will be seamed, lapped, or both. Distance between laps, if applicable.

b. A detailed description of how the geotextile will be placed and stretched.

SD-04 Samples

Geotextile

A 5-foot by 5-foot sample of each geotextile that the Contractor plans to use shall accompany the certificate. If seams are to be used, then an additional 5-foot by 5-foot sample of each geotextile containing a sample seam in the center of the geotextile sample shall be submitted with the certificate. Geotextiles shall not be delivered to the project site until the geotextile samples and the Contracting Officer approves their certificates.

SD-07 Certificates

Geotextile; G

Contractor shall submit the geotextile manufacturer's certification of compliance. All brands of geotextile and all seams that are used in construction shall be accepted on the following basis. At least 30 days prior to installation, the Contractor shall furnish to the Contracting Officer, in duplicate, a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the geotextile. The certificate shall contain the signer's title, name and address of the Contractor, contract number, and project name and location. The mill certificate or affidavit shall attest that the geotextile

meets the chemical, physical, and manufacturing requirements stated in this specification and that the seams used meet the seam requirements.

1.6 QUALITY CONTROL

1.6.1 General

The Contractor shall establish and maintain quality control for the geotextile and placement to assure compliance with contract requirements, and maintain records of his quality control for all construction operations including but not limited to the following:

(1) Installation Equipment. Type, size and suitability for construction of the prescribed work.

(2) Geotextile Submittals. Geotextile samples, manufacturer's certification of compliance, and Work Plan.

(3) Construction. Lay-out, geotextile inspection, and stone placement above the geotextile.

1.6.2 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in the Section 01 45 04.00 12 CONTRACTOR QUALITY CONTROL.

1.7 SHIPMENT AND STORAGE

Geotextile shall be shipped and maintained in a heavy-duty protective cover until it is placed. During all periods of shipment and storage, the geotextile shall be protected from direct sunlight, ultra-violet rays, temperatures greater than 140 degrees Fahrenheit, mud, dirt, and other contaminants. Geotextiles delivered to the project site shall be clearly marked to show the brand name, type of geotextile, tensile strength, location and date of manufacture, and its length (machine direction) and width.

PART 2 PRODUCTS

2.1 GEOTEXTILE

The geotextile shall be a woven pervious sheet made with plastic yarn as defined by ASTM D 883. The geotextiles shall meet the requirements listed in Table 1. Geotextile fibers shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amide, or vinylidene-chloride, and shall contain stabilizers and/or inhibitors added to the base plastic, if necessary, to make the filaments resistant to deterioration due to ultra-violet exposure. The edges of the geotextile shall be selvedged.

TABLE 1
REQUIREMENTS* FOR SEPARATOR GEOTEXTILE

PROPERTY	TEST PROCEDURE	ACCEPTABLE VALUES
Grab Breaking Load	ASTM D 4632	200 pounds minimum in

TABLE 1
REQUIREMENTS* FOR SEPARATOR GEOTEXTILE

		any principal direction
Seam Strength (**)	ASTM D 4884	100 pounds per inch minimum
Elongation at Break	ASTM D 4632	15 percent maximum in any principle direction
Apparent Opening Size (AOS)	ASTM D 4751	No finer than the U.S. Standard Sieve No. 70 and no coarser than the U.S. Standard Sieve No. 30
Permittivity	ASTM D 4491	0.35 per second minimum

(*) Value represents minimum average roll value of new geotextile received from the manufacturer or distributor.

(**) All of the samples shall yield test values that are greater than the minimum value that is specified.

PART 3 EXECUTION

3.1 GEOTEXTILE INSTALLATION

The geotextile shall be placed in the manner and at the locations shown on the drawings. The Contractor shall prepare the surface to receive the geotextile to insure that the surface is relatively smooth and free of obstructions, depressions, debris, soft or low density pockets of material, or stone which could damage the geotextile during placement. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage. The geotextile shall be protected at all times during construction to insure that the geotextile's original chemical and physical properties are not changed. The work shall be scheduled so that all of the geotextile that is placed is covered with a layer of the specified material by the end of each workday. Failure to comply shall require replacement of geotextile. All wrinkles and sags shall be stretched out immediately before stone is placed on the geotextile. The geotextile shall be protected from damage during placement of stone. This shall be accomplished by limiting the height of drop to less than 1 foot, or the water surface, whichever is greater. In the event that this damages the geotextile, the stone or fill shall be placed directly on the geotextile with zero height of drop. Before placement of stone or fill, the Contractor shall demonstrate that the placement technique will not damage the geotextile. The Contractor at no additional cost to the Government shall replace any geotextile that is rejected or damaged.

3.2 SEAMS AND LAPS

Seams or laps may be utilized to produce panels of geotextile large enough to cover the area shown on the drawings. Seams or laps may be perpendicular or parallel to the centerline of the road.

3.2.1 Seams

All seams shall be sewn using thread meeting the requirements for plastic yarn specified in paragraph "GEOTEXTILE". The sheets of geotextile shall be sewn at the factory or other approved location. Seam strengths shall meet the requirements of Table 1.

3.2.2 Laps

Geotextile panels placed with laps perpendicular along the road centerline shall be overlapped a minimum of two (2) feet with the adjacent panel. Geotextile panels placed with laps parallel along the road centerline shall be overlapped a minimum of four (4) feet with the adjacent panel.

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REINFORCEMENT GEOTEXTILE

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SECTION 31 05 19.05 12

REINFORCEMENT GEOTEXTILE

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of providing all plant, labor, materials, and equipment that is required to test, haul, store, seam, overlap, and place geotextile above the levee sand base; as specified herein and shown on the contract drawings. It also covers implementing the specified corrective measures to repair damaged geotextile, or seams.

1.2 MEASUREMENT AND PAYMENT

Reinforcement geotextile will be measured in place to the nearest square yard of protected area satisfactorily placed as shown on the drawings. Overlaps will be measured as a single layer. Payment will be made at the contract unit price per square yard for "Reinforcement Geotextile". Price and payment shall constitute full compensation for providing all plant, labor and materials for placement of geotextile; including cutting, sewing, placing, testing, and corrective actions to fix deficiencies; to complete the work as specified herein and as shown on the drawings. No separate measurement or payment will be made for corrective action that is required to correct deficiencies that are due to Contractor fault, negligence, defective materials or workmanship.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 4595	(2005) Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
ASTM D 4884	(1996; R 2003) Strength of Sewn or Thermally Bonded Seams of Geotextiles
ASTM D 883	(2000) Terminology Relating to Plastics

1.4 QUALITY CONTROL

1.4.1 General

The contractor shall establish and maintain quality control for the geotextile and placement to assure compliance with contract requirements, and maintain records of quality control for all construction operations including, but not limited to the following:

(1) Equipment. Type, size, and suitability for construction of the prescribed work.

(2) Geotextile Submittals. Geotextile samples, manufacturer's certification of compliance, and work plan.

(3) Construction. Layout, geotextile inspection, and fill placement above the geotextile.

1.4.2 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the government daily. Format of report shall be as prescribed in the Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.4.3 Testing Laboratory

The Contractor shall retain the services of a laboratory that is accredited by the Geosynthetic Accreditation Institute (GAI). The laboratory shall perform only tests for which it is accredited and shall furnish field test results to the Contracting Officer within 4 days of sampling.

1.5 ACCEPTANCE REQUIREMENTS

All brands of geotextile and all seams that are to be used in construction shall be accepted on the following basis. At least 30 days prior to installation, the Contractor shall furnish to the Contracting Officer, in duplicate, a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the geotextile. The certificate shall contain the signer's title, name and address of the Contractor, contract number, and project name and location. The mill certificate or affidavit shall attest that the geotextile meets the chemical, physical, and manufacturing requirements stated in this specification and that the seams used meet the seam requirements. In addition, a 5 foot by 5 foot sample of each geotextile that the Contractor plans to use and a 5 foot by 5 foot sample containing a sample seam in the center of the geotextile sample shall be submitted with one set of plotted wide width test results for each sample. The plot shall contain the stress/strain curve with clearly marked strengths at 5 percent and ultimate, in pounds per inch. Geotextiles shall not be delivered to the project site until the Contracting Officer approves the submittals.

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Work Plan; G

The Contractor shall submit a work plan to the Contracting Officer. The plan shall include the following:

a. The dimensions of the geotextile panels, whether the geotextile will be seamed, overlapped, or both. Distance between laps, if applicable.

b. A detailed description of how the geotextile will be placed, and stretched to eliminate wrinkles and folds.

SD-04 Samples

Geotextile and Seam Samples; G

The Contractor shall submit geotextile and seam samples, as specified in paragraph ACCEPTANCE REQUIREMENTS.

SD-06 Test Reports

Geotextile Test Results

The Contractor shall submit geotextile and seam test results, as specified in paragraph ACCEPTANCE REQUIREMENTS.

SD-07 Certificates

Geotextile Certificate of Compliance

The Contractor shall submit geotextile certificate of compliance, as specified in paragraph ACCEPTANCE REQUIREMENTS.

1.7 SHIPMENT AND STORAGE

Geotextile shall be shipped and maintained in a heavy protective cover until it is placed. During all periods of shipment and storage, the geotextile shall be protected from direct sunlight, ultra-violet rays, temperatures greater than 140 degrees Fahrenheit, contaminant chemicals, abrasion, mud, dirt, or any other harmful elements. Only approved geotextile shall be delivered and used in levee construction. Geotextile delivered to the project site shall be clearly marked to show the brand name, type of geotextile, tensile strength at 5 percent strain, location and date of manufacture, and its length (machine direction) and width.

PART 2 PRODUCTS

2.1 GEOTEXTILE REQUIREMENTS

The geotextile shall be a woven pervious sheet made of plastic yarn as defined by ASTM D 883. The geotextile shall conform to the physical requirements specified in Table 1. Geotextile fibers shall consist of long chain synthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amide or vinylidene chloride, and shall contain stabilizers and/or inhibitors added to the base plastic, if necessary, to make the filaments resistant to deterioration due to ultra-violet exposure. The edges of the geotextile shall be selvedged. Composites shall not be used in this project.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Procedure

The geotextile shall be installed over the sand base as shown on the contract drawings. Objects, or debris that are capable of damaging the

geotextile shall be removed before the geotextile is placed. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, deterioration, or damage which was incurred during manufacture, transportation, or storage. The geotextile shall be installed with the seams facing up to allow for visual inspection. All seams and overlaps shall be placed perpendicular to the centerline of the levee. Fill shall not be placed on the geotextile until the seams or overlaps are within 5 degrees of being perpendicular to the levee centerline and all sags and wrinkles are removed from the geotextile. The Contractor shall take precautions to avoid damaging the geotextile during placement.

3.1.2 Exposure to Field Conditions

Geotextile shall not be exposed to field conditions for a duration that exceeds 5 calendar days. Exposure to field conditions is the time interval between the removal of the protective shipment cover and placement of fill on top of the geotextile. Additional time, up to a maximum of 2 weeks, can be added on a day-by-day basis for each full day the geotextile is covered by an industry accepted ultraviolet protective cover.

3.1.2.1 Testing

Any geotextile that is exposed to field conditions for more than 2 calendar weeks shall be tested for strength. The Contracting Officer will determine the number of samples to be tested.

3.1.2.2 Ultraviolet Protection

Immediately after removal of the samples to be tested, the exposed geotextile shall be covered with black visqueen or equivalent ultraviolet protection. The ultraviolet protection shall be maintained until such time as the test results are obtained and the Contractor's plan for corrective action is approved by the Contracting Officer. Corrective action shall consist of:

(a) Removal of the exposed geotextile and installation of new geotextile.

(b) No corrective action when the test results indicate conformance with the strength requirements.

All corrective actions are subject to prior approval of the Contracting Officer. Geotextile that is rejected, or damaged due to Contractor negligence shall be tested and repaired or replaced as directed by the Contracting Officer at no additional expense to the Government.

3.2 MECHANICAL EQUIPMENT

Mechanical equipment, except for light rubber-tire equipment, will not be permitted directly on the geotextile surface. Equipment used to spread the first layer of fill on top of the geotextile shall have a unit tread pressure that does not exceed 4.7 pounds per square inch if on soft ground. The first soil layer on top of the geotextile shall have a thickness of 15 inches, +/- 3 inches between the geotextile and the track of the equipment and shall be placed and spread in a direction perpendicular to the levee centerline, unless a different method is approved by the Contracting Officer for specific locations. After a sufficient work area is established, the thickness of the layer shall be reduced to 1 foot and compacted to the specified density. Successive layers shall be of the

specified thickness for levee fill.

3.3 SEAMS AND OVERLAPS

3.3.1 Seams

Geotextile panels shall be sewn along the selvedged edges so that seams run parallel with the machine direction to produce geotextile pieces that are wider than the weaving machine produces. Geotextiles shall be supplied in continuous machine direction lengths without seams. All seams shall be made with thread that meets the requirements for plastic yarn, as specified in paragraph GEOTEXTILE REQUIREMENTS. The Contractor is responsible for choosing the sewing machine, thread, stitch type, number of stitches per inch and any other particulars that are required to achieve the seam strength that is specified in Table 1.

3.3.1.1 Damaged Seams

Rips in seams that occur as a result of placement, and which are less than two feet from the end of the geotextile panel do not require repair. Rips that are longer than two feet, or of any length that occur at locations that are more than two feet from the end of the panel, shall be repaired by placing a single layer of geotextile of the same strength to cover the entire affected seam. The piece of geotextile shall extend a minimum of 5 feet on each side of the damaged seam.

3.3.2 Overlaps

Overlaps shall be installed perpendicular to the centerline of the levee. A continuous panel of reinforcement geotextile fabric 50-feet in length shall be installed perpendicular to the levee as shown on the drawings. A minimum of two feet is required at each overlap.

3.4 SAMPLING AND TESTING

The Contractor shall take the required samples to be tested. Samples shall not be any larger than are required to perform the specified tests and shall be catalogued to correspond with the levee station from which the sample was taken. The Contracting Officer reserves the right to change the location of any test, or to increase the frequency of tests, as specified in paragraph FIELD SPECIMEN LOCATIONS.

3.5 FIELD SPECIMEN LOCATIONS

3.5.1 Geotextile Panels and Seams

The Contractor shall take and perform wide-width tests according to the following schedule.

3.5.1.1 Panels

Wide-width tests shall be performed to verify the tensile strength of geotextile that was delivered to the site. One sample shall be taken from the first panel and additionally at 3,000 feet increments, measured along the levee centerline. Samples shall be obtained from the end of the panel.

3.5.1.2 Seams

(1) Factory Seams. The Contractor shall obtain samples from factory

seamed sections of the geotextile for testing by his approved laboratory. ASTM D 4884 tests shall be performed to verify the tensile strength of the seams. One sample (5 feet by 6 feet consisting of a strip 3 feet each side of the seam) shall be obtained and tested for every 80 factory seams. The sample shall be obtained from the protected side end of each seam to be tested.

(2) Field Seams. Field seams shall be tested using ASTM D 4884 to verify the tensile strength of the seams. Tests will be performed on full width seams at intervals of every 20 seams but no greater than 1000 feet measured in a direction along the levee centerline, or at locations specified by the Contracting Officer's Representative. A 5 feet by 6 feet sample (3 feet to each side of seam) shall be taken by the Contractor at the protected side end of all field seams for which tests are to be performed by his approved laboratory.

(3) Test Results. Test results shall be furnished to the Contracting Officer no later than 4 days after sampling. The Contracting Officer reserves the option to change the location of any field tests and direct the Contractor to increase or decrease the frequency of sampling and testing in the event of failing tests. The Contractor shall collect all samples as directed and perform all tests at his own expense. All samples taken shall be cataloged to correspond to the manufacturer's roll or lot number and the location of that roll with respect to the levee. All samples taken shall be tested.

3.6 FIELD QUALITY CONTROL

The Quality Control Representative shall examine the geotextile for damage and defects prior to installation. Any geotextile found to be damaged or defective shall be removed from the site and replaced by an approved geotextile. In the event that samples fail to meet the specified results, the Contracting Officer has the right to direct the Contractor to perform additional tests on samples taken between the location of the failed test and the location of the previous successful test. Geotextile that fails to meet test requirements shall be replaced with geotextile that meets the required strength. Seams that fail the test requirements shall be disassembled and stitched with a seam that meets test requirements, or shall be repaired by placing a panel of 300 lbs/in ultimate strength geotextile on top of the defective seam. The geotextile piece shall extend 5 feet on each side and cover the entire affected seam. The Contracting Officer shall choose the method of repair. If the Contractor places fill on top of a seam, or geotextile which fails to meet the specified test results, then the fill shall be removed and the defective geotextile or seam shall be repaired. The Contractor will not be paid for any work or supplies in this paragraph.

TABLE 1

PHYSICAL REQUIREMENTS FOR REINFORCEMENT GEOTEXTILE

Geotextile Type: Woven permeable geotextile

Property	Test Method	Minimum Certifiable Value
@ 5% strain	ASTM D 4595	1,000 lbs/in

@ ultimate		2000 lbs/in for polyester 2500 lbs/in for polypropylene 1875 lbs/in for polyethylene
Seam Strength (*) Factory or Field	ASTM D 4884	300 lbs/in

(*) All of the samples shall yield test values that are greater than the minimum value that is specified.

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CLEARING AND GRUBBING

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SECTION 31 11 00.00 12

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for the clearing and grubbing of the areas specified herein or as indicated on the drawings, and for the removal and disposal of all cleared and grubbed materials, as specified herein.

1.2 MEASUREMENT AND PAYMENT

No measurement will be made for clearing, grubbing, and vegetation removal. Payment will be made at the contract job price for "Clearing and Grubbing". Price and payment shall constitute full compensation for furnishing all plant, labor, material and equipment and performing all operations necessary for clearing, grubbing, and vegetation removal; including removal and disposal of all cleared, grubbed, and vegetation; as specified herein and as shown on the drawings.

1.3 QUALITY CONTROL

The Contractor shall establish and maintain quality control for clearing and grubbing operations to assure compliance with contract requirements, and maintain records of his/her quality control for all construction operations including but not limited to the following:

(1) Clearing. Station to station limits transverse clearing limits from applicable centerline; percentages of area complete; type of material.

(2) Grubbing. Station to station limits, transverse grubbing limits from applicable centerline; percentage of area complete; type of material.

(3) Disposition of Cleared and Grubbed Materials. Method and location of disposition; damage to timber or improvements which are not to be cleared.

The original and two copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.4 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program

STATE OF LOUISIANA, AIR CONTROL COMMISSION (LACC)

Act 1964, No. 259	(Title 40, Section 2201) Acid Rain Nitrogen Oxides Emission Reduction Program

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

All clearing and grubbing work for embankment shall be completed at least 1000-feet in advance of embankment construction. If regrowth of vegetation or trees occurs after clearing and grubbing and before placement of fill, the Contractor will be required to clear and grub the area again prior to construction of fill or roads, and no payment will be made for this additional clearing and grubbing. Trees were previously removed within the 100-foot wide corridor, the tree stumps were not removed. The Contractor shall remove the stumps to the limits shown on the drawings and as specified herein. Regrowth of tall grasses, saplings and brush within the corridor has occurred over the past 2-years and require removal. Clearing and grubbing shall be performed in the swamp where amphibious equipment is typically required to perform the work.

3.2 CLEARING

3.2.1 General

Clearing, unless otherwise specified, shall consist of the complete removal above the ground surface of all trees, stumps, down timber snags, brush, vegetation, loose stone, abandoned structures, fencing, and similar debris. Growth standing in water in areas that are not drained in accordance with Section 31 24 00.00 12 EMBANKMENT, paragraph Drainage may be cut off so as not to protrude more than 12 inches above the existing water surfaces.

3.2.2 Merchantable Timber

Merchantable timber remaining within the areas to be cleared on or after the date of award of this contract may be disposed of as the Contractor sees fit, as long as such merchantable timber is either removed from the right-of-ways indicated on the drawings or is satisfactorily disposed of in accordance with the provisions of paragraph "DISPOSAL OF DEBRIS."

3.2.3 Government Surveys

The Contractor shall clear the baseline traverse, centerline traverse, and ranges at all P.C.'s, P.I.'s, P.T.'s, 100-foot centerline stations and tie-in stations to facilitate the taking of original cross-sections by the Government. This clearing shall consist of the removal to within 6-inches of the ground surface of all trees, brush and vegetation. This clearing shall be completed in 5,000-foot increments and in advance of embankment

construction by a minimum of 1,000 feet.

3.2.4 Trees

Trees shall be felled in such a manner as to avoid damage to trees to be left standing, to existing structures and installations and to those under construction, and with due regard for the safety of employees and others. All trees within the right-of-way limits shall either be removed in their entirety or cutoff as specified below.

3.2.4.1 Sand Base Foundation

Within the footprint of the sand base foundation, the trees shall be cutoff to water elevation or as low as practicable.

3.2.4.2 Levee Embankment Foundation

Within the footprint of levee embankment foundation, but not including within the sand base footprint, trees shall be removed in their entirety, including stumps.

3.2.4.3 Access Roads

For access road foundation, the Contractor shall remove, in their entirety, only those trees needed to construct the access roads and to provide an area for the construction trailers and truck wash-down rack between Airline Highway and the landside levee right-of-way limit.

3.2.5 Vegetation

Vegetation to be removed shall consist of crops, grass, bushes, and weeds. Close-growing grass and other vegetation shall be removed from areas to receive fill to provide a complete bare earth surface immediately prior to foundation preparation. Removal of vegetation from the crown of the sand fill shall be limited to 1,000-feet in advance of embankment placement. Acceptance of the vegetation removal operation shall precede the initiation of foundation preparation in the area from which vegetation has been removed. For subsequent areas to receive uncompacted fill, close-growing grass and other vegetation shall be mowed not to exceed 2-inches above the ground surface or existing embankment prior to foundation preparation.

3.2.6 Areas to be Cleared

3.2.6.1 General

The entire area from the landside right-of-way limit to 15-feet past the floodside toe, shall be cleared as shown on the drawings. The entire area to be occupied by access roads from Airline Highway to the landside right-of-way limit shall be cleared. Any vegetative growth and smaller trees which have grown within the previously cleared corridor as well as stockpiled trees shall be removed (trees were previously stockpiled in 300 foot long stockpiles along the edge of the cleared corridor, alternating left and right side).

3.2.6.2 Borrow Areas

Borrow areas shall be cleared to the extent necessary to provide materials free from unsuitable matter as described in Section 31 24 00.00 12 EMBANKMENT, paragraph Materials.

3.2.6.3 Other Areas

Clearing of the area between the 5-foot strip contiguous to the embankment and adjacent to the borrow area, and traverses left between borrow pits shall be limited to the minimum required for construction operations.

3.3 GRUBBING

3.3.1 General

Grubbing shall consist of the removal of all stumps, roots, buried logs, old piling, old paving, old foundations, pipes, drains, and other unsuitable matter as described in Section 31 24 00.00 12 EMBANKMENT, paragraph Materials.

3.3.2 Areas to be Grubbed

3.3.2.1 Embankments

Grubbing shall be performed within the limits of the embankment together with the 5-foot strips contiguous thereto. All roots and other projections over 1-1/2-inches in diameter shall be removed to a depth of 3-feet below the natural surface of the ground and to a depth of 3-feet below the subgrade for the foundation of structures. Tree stumps shall be removed in their entirety within the footprint of levee fill to be placed on natural ground including stumps between the toe of the sand base and toe of levee berm which shall be removed prior to placing embankment. Only stumps within the footprint of the sand base and other areas not receiving fill shall remain. Stump removal shall include any previously cleared areas which are within the limits of clay fill placement. Stumps outside the levee section do not need to be removed. After removing the stumps beneath the levee stability berms, the Contractor shall sweep the areas unwater in the presence of the Contracting Officer's Representative to demonstrate that all stumps have been removed. Any stumps located during this inspection shall be removed.

3.3.3 Filling of Holes

All holes caused by grubbing operations shall be backfilled with suitable material in 12-inch layers to the elevation of the adjacent ground surface, and each layer compacted to a density at least equal to that of the adjoining undisturbed material.

3.4 DISPOSAL OF DEBRIS

3.4.1 General

All debris resulting from clearing and grubbing operations at the construction site shall, at the Contractor's option, be disposed of by either burning or removal from site. If burning, the burning permit must be approved before any burning is performed. Windrows will not be allowed. Debris resulting from clearing and grubbing operations within the access road right-of-way limits shall be removed from the site. The Contractor shall make a reasonable effort to channel merchantable material into the commercial market to make beneficial use of materials resulting from clearing and grubbing operations.

3.4.2 Burning

The Contractor shall comply with the applicable pollution restrictions of 40 CFR 76 and Louisiana Air Control Commission, effective 17 July 1972, amended November 1972 (Act 1964, No. 259). Subject to such restrictions and obtaining any permit which may be required by said commission, the Contractor may burn material within the contract area, and at any time within the contract period. Burning operations shall be conducted so as to prevent damage to standing timber or other flammable growth. The Contractor shall be responsible for any damage to life and/or property resulting from fires that are started by his/her employees or as a result of his/her operations. The Contractor shall furnish, at the site of burning operations, adequate fire fighting equipment to properly equip his/her personnel for fighting fires. Fires shall be guarded at all times and shall be under constant surveillance until they have been extinguished.The Contractor is responsible for obtaining all local and state burn permits prior to burning operations.

3.4.3 Removal From Site of Work

The Contractor shall remove all of the debris from the site of the work. Such disposal shall comply with all applicable Federal, State, and Local laws. The Contractor shall, at his/her option, either retain for his/her own use or dispose of by sale or otherwise, such materials of value. The Government is not responsible for the protection and safekeeping of any materials retained by the Contractor. Such materials shall be removed from the site of the work before the date of completion of the work. If debris from clearing operations is placed on adjacent property, the Contractor shall obtain, without cost to the Government, additional right-of-way for such purposes. Such material shall be so placed as not to interfere with roads, drainage or other improvements and in such a manner as to eliminate the possibility of its entering into channels, ditches, or streams. The Contractor shall submit written evidence to the Contracting Officer that he/she has obtained from the property owner permission for disposal of material on the owner's property. The written evidence shall consist of an authenticated copy of the conveyance under which the Contractor acquired the property rights and access thereto, prepared and executed in accordance with the laws of the State of Louisiana. If temporary rights are obtained by the Contractor, then the period of time shall coincide with the requirements in the Clause in Section 00700 CONTRACT CLAUSES, entitled COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10), plus any extension authorized under the Contract Clause entitled, DEFAULT (FIXED-PRICE CONSTRUCTION) (FAR 52.249-10), subparagraph (b) (1). However, delay resulting from acquisition of additional rights-of-way for alternate disposal areas will not qualify as excusable delays if suitable Government-furnished disposal areas are available.

Approved disposal sites in the vicinity are as follows:

River Birch Landfill
2000 Hwy. 90
Avondale, LA 70094

Jefferson Parish Landfill
5800 Hwy. 90
Avondale, LA 70094

Industrial Pipe-Plaquemines Parish
11266 Highway 23

Belle Chasse, LA 70037

Amid Landfill, Orleans Parish
11005 Almonaster Ave.
New Orleans, LA

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EXCAVATION

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SECTION 31 23 00.00 12

EXCAVATION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for excavation in borrow areas, drainage canal excavation, and all other excavation incidental to the construction of embankments; as specified herein and as shown on the drawings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 698	(2012) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1140	(2000; R 2006) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 2216	(2010) Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D 2487	(2016) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2974	(2007a) Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
ASTM D 4318	(2010) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4643	(2008) Determination of Water (Moisture) Content of Soil by the Microwave Oven Method
ASTM E 1527	Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process
ASTM E 2247	(2005) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

1.3 MEASUREMENT AND PAYMENT

No measurement will be made for excavation specified in this section , unless otherwise specified. Payment for excavation of the canals will be made at the applicable contract job price for "Drainage Canal Excavation" or "Bypass Canal Excavation - OW", if Optional Work is exercised. Price and payment will constitute full compensation for furnishing all plant, labor, materials, and equipment for excavation of the canals; including placement of fill, temporary dikes (if required), resurveying and regrading, disposal of excess excavated material, removal of root debris; and other work incidental thereto; all as specified herein and as shown on the drawings. Payment up to 80% of the job price will be made for both initial drainage canal and temporary bypass canal excavations if Optional Work is exercised.

1.3.1 Excavation of Mud Wave

No measurement or payment will be made for the excavation of mud wave that is forced outward from the section due to sand and embankment operations. The cost for removal of the material shall be included in the applicable contract unit or job price to which the work is incidental.

1.4 QUALITY CONTROL

The Contractor shall establish and maintain quality control for excavation operations to assure compliance with contract requirements, and maintain records of its quality control for all construction operations including but not limited to the following:

(1) Borrow Areas. Location, limits, actual and allowable depths, drainage, and substitute borrow areas. Before and after excavation, the Contractor shall perform, plot and submit compliance cross sections to the Contracting Officer at a maximum of 300 feet intervals within the borrow areas with the theoretical sections superimposed thereon.

(2) Disposition of Materials. Testing Program, Location of tested materials (station and lift), Applicable Compaction Curves.

(3) Ditches. Locations grade and cross-section.

(4) Traverses. Locations and dimensions.

(5) Soil Total Salinity Limits. Salinity testing as determined by USACE MVN Soil Electronic Conductivity (EC) and Total Soluble Salt Analysis, specified in the "New Orleans Construction Control Manual" (attached at the end of Section 01 45 04.00 10 - CONTRACTOR QUALITY CONTROL.

(6) Quantity Surveys. Accuracy and timeliness

The original and two (2) copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXCAVATION IN BORROW AREAS

3.1.1 General

The Contractor shall submit a written statement to the Government not later than 15 days after receipt of Notice to Proceed of its intention to use a commercial borrow source or a Contractor-furnished borrow area. The Contractor shall provide the types of equipment as necessary to perform the required excavation according to the in situ conditions of the borrow area.

3.1.2 Borrow Areas with High Salinity Content Soils

For borrow areas having a portion of the material classified as being high in salinity content, greater than 1,500 ppm, the Contractor shall use the high salinity content soil as core material which shall be encapsulated with a minimum of 12 inches (loose measure) of suitable material with total salts content less than 1,500 ppm reserved from the borrow area prior to compaction and fertilizing, seeding and mulching. For borrow areas which contain all high salinity content soils, the Contractor shall obtain the encapsulating material from another commercial borrow source.

3.2 DISPOSITION OF MATERIALS

Excavated materials for embankment fill shall be placed in accordance with Section 31 24 00.00 12 EMBANKMENT. Borrow materials having salinity contents greater than 1,500 ppm, but otherwise suitable for levee embankment construction, shall be used as core material only. The embankment material used to encapsulate the core material shall be a minimum of 12 inches thick (loose measurement) of suitable material with salinity content of less than 1,500 ppm prior to compaction and fertilizing, seeding and mulching as shown on the drawings. Encapsulating soils higher than 1,500 ppm salinity content (total salts) may be problematic, restricting successful grass seed germination and establishment. In accordance with Section 32 92 19.23 12 TURF ESTABLISHMENT AND MAINTENANCE, paragraph "ESTABLISHMENT", turf will be considered established and completed when the areas to be turfed have produced the required grass species, either Bermuda, Bahia or Seashore Paspalum, over a minimum of 75 percent of the entire area as determined by the Contracting Officer's Representative by random sampling.

3.3 EXCAVATION IN OTHER AREAS

3.3.1 General

Excavation from other areas shall consist of removal of material in preparing the embankment and berm foundations to the lines and grades shown on the drawings, removal of materials from drainage canals required as specified in Section 31 24 00.00 12 EMBANKMENT, paragraph "Compacted Fill". Care shall be exercised by the Contractor in excavating to the lines and grades shown and in removing waste materials so as not to excavate below the grades specified or depth indicated. Excavation below the lines and grades specified or the depth indicated shall be backfilled by the Contractor at its expense. Such backfill shall be brought to grade with material with each layer placed and compacted as specified in Section 31 24 00.00 12 EMBANKMENT; otherwise excavated materials shall be disposed of as specified in paragraph "DISPOSITION OF MATERIALS".

3.3.2 Drainage Canals

Interior drainage canals shall be excavated to the cross sections, lines, and grades shown on the drawings. Material excavated from the interior and bypass canals shall be placed between the levee berms and drainage canals as shown on the drawings. No excavated material shall be placed above or beneath the sand layer. Any excess material shall be disposed of offsite at the Contractor's expense. Ninety (90) days prior to final acceptance the Contractor shall resurvey and excavate the interior drainage canals to restore the section back to the conditions shown on the drawings and to the tolerances as specified in paragraph GRADE TOLERANCES, at no additional cost to the Government. Material excavated during regrading of the drainage canals shall be placed between the levee berm and interior drainage canals and sloped to drain as shown on the drawings. Excavated material placed between the levee berms and interior drainage canals shall not exceed the height restrictions shown on the drawings. Upon final completion of the levee berms, the V-notches shall be filled with canal excavated material and any excess material shall be disposed of offsite at the Contractor's expense.

3.3.3 Excavation of Mud Wave

During placement of the sand base and embankment compacted fill, the Contractor shall place the material so that the soft underlying soil does not become trapped beneath and become blended with the fill material. During placement of the fill material, the mud wave shall be directed away from the fill material. If the amount of mud wave formed becomes higher than the adjacent levee berm, including the mud wave being forced towards the excavated canal material, the Contractor shall excavate the mud wave and place the material within the right-of-way limits, sloped to drain away from the levee.

3.4 CONTRACTOR-FURNISHED BORROW AREAS

3.4.1 General

The Contractor shall submit a written statement to the Government within fifteen (15) days after contract award on their intention to provide a Contractor-furnished borrow source or utilize an approved commercial borrow source from the Clay Source List in Section 01100 GENERAL PROVISIONS, paragraph "CLAY BORROW SOURCES". The statement shall include the proposed site name, a description of the location, and a vicinity map. The Contractor shall ensure that any Contractor-furnished borrow area submitted has all applicable environmental documentation acquired, current, and up-to-date, as described in paragraph "Submittal Package Requirements in Detail". All costs arising or growing out of the use of Contractor-furnished borrow areas shall be borne by the Contractor. The Contractor shall submit the information described in paragraph "Submittal Package Requirements in Detail" to the Contracting Officer for review and approval. The Contractor shall comply with the requirements of the Section 01100 GENERAL PROVISIONS, provision "RIGHTS-OF-WAY," subparagraph b.

3.4.2 Time Extensions

No time extension to the contract completion date will be granted to the Contractor for delays incurred in obtaining Contractor-furnished borrow areas. The Contractor shall be solely responsible for any and all damages, claims for damages, and liability of any nature whatsoever arising from or

growing out of the use of borrow areas other than those furnished by the Government.

3.4.3 Approval

Approval of the location and dimensions of the Contractor-furnished borrow area shall neither relieve the Contractor from its obligation to furnish satisfactory material to the project nor commit the Government to the acceptance of the responsibility for the character, quantity, or availability of material in Contractor-furnished borrow areas.

3.4.4 Submittal Package Requirements

The Contractor in a single, complete package shall submit the following information for its proposed Contractor-furnished borrow area, whether it is from the "Clay Source List" or it is a new proposed site. All documentation presented for the proposed borrow source shall be current and up-to-date. The submittal of incomplete, out of date, or insufficient documentation may result in the Contractor being denied the use of the proposed borrow source. The Contractor shall allow a minimum of thirty (30) days, after the receipt of the package, for the Government's review, processing, and approval. The Contractor shall allow a minimum of one hundred twenty (120) days after the receipt of the package for the Government's review, processing, and approval of a new proposed borrow source that hasn't been previously investigated.

(1) Right of Entry.

(2) Maps as follows:

(a) Location and Direction map.

(b) Topographic map(s) with scale of 1:24,000.

(c) Layout map with dimensions and property boundary defined by latitude and longitude.

(d) Soil boring location map.

(3) Jurisdictional Wetlands Determination from the USACE.

(4) Coastal Zone Management (CZM) Coastal Use Permit(CUP).

(5) Threatened & Endangered Species (T&E) concurrence from the U.S. Fish and Wildlife Service.

(6) Phase I Cultural Resources Survey

(7) Phase I Environmental Site Assessment.

(8) Geotechnical report.

(9) Borrow Area Agronomy Report.

(10) Borrow Area Management Plan

(11) Mitigation Protection Plan

(12) Zoning classification

(13) Environmental Protection Plan

(14) Louisiana Department of Transportation and Development (LADOTD) permits or approvals

3.4.5 Submittal Package Requirements in Detail

3.4.5.1 Right of Entry

A Right of Entry form signed by the landowner(s) that covers the contract duration shall be included in the package. If the proposed clay source Point-of-Contact (POC) is not the landowner, then the Contractor furnished package should include a document signed by the landowner(s) stating that the POC is acting as an agent of the landowner(s) and has the right to represent the landowner(s) in all Contractor-furnished efforts. In the event the POC is unable to obtain the signature of each landowner, then the POC must submit a letter stating the name, address, and phone number of each landowner and that the POC has the authority of the landowner(s) to represent the landowner(s) in all Contractor-furnished efforts.

3.4.5.2 Maps

The following maps shall be provided:

(1) A map of the general area giving detailed instructions on how to get to the Contractor-furnished borrow area from the nearest major highway.

(2) A topographic map(s) (quadrangle) with a scale of 1:24,000 with the location of the borrow area superimposed. The map should be zoomed out enough to show the nearest city or town.

(3) A layout map of the borrow area showing the dimensions of the proposed excavation , locations of soil borings, and latitude/longitude points to reference property boundaries. The map shall show the location and dimensions of any haul road that exists or is to be constructed to help the Contractor in its hauling operation. The map shall also show the location and dimensions of any protection dikes which will help the Contractor drain and keep the borrow area dry.

3.4.5.3 Wetlands Determination

Package must include U.S. Army Corps of Engineers (USACE) Jurisdictional Wetland Determination (JD) letter and map. The Contractor shall avoid jurisdictional wetlands, with an adequate buffer. The Corps is currently avoiding impacts to jurisdictional wetlands, as such Contractors are advised that sites with jurisdictional wetlands present that would be impacted by the Contractors borrow actions are to be avoided. If the Contractors plan includes impacts to jurisdictional wetlands due to an unrelated construction activity, a USACE Section 404 permit and/or Section 10 permit will be required. A Section 10/404 Permit does not constitute full environmental compliance for potential use as an Hurricane and Storm Damage Risk Reduction System (HSDRRS) borrow area. The landowner must still submit all other required environmental documentation, as detailed in paragraph "Submittal Package Requirements in Detail", to be considered for approval for any HSDRRS borrow related activities including, but not limited to, excavation, transportation, staging, stockpiling and processing. A JD is valid, and considered current for five (5) years from

the date of issuance.

3.4.5.4 Coastal Zone Management (CZM)

Package must include a Coastal Use Permit (CUP) Application, and a Letter of No Objection (LNO) or CUP from the Louisiana Department of Natural Resources for borrow areas in Louisiana, or the respective state agency for other states. A CUP Application, and CUP or LNO from the local agency must be provided when the state decides that it is a matter of Local Concern. A CUP is valid, and is considered current usually for two (2) years from the date of issuance.

3.4.5.5 Threatened and Endangered Species (T&E)

Package must include a consultant's report and a concurrence letter of "No Effect on T&E Species" from the U.S. Fish and Wildlife Service. The consultant's report must include a map of the studied area with the study area boundary defined by x-y coordinate system. T&E concurrence is valid, and considered current for one (1) year from the date of issuance.

3.4.5.6 Cultural Resource Report

Package must include seven (7) bound copies of a Phase I Cultural Resource Survey prepared by a professional cultural resource management (CRM) company that has staff who meet the Secretary of the Interior's Professional Qualifications Standards (https://www.nps.gov/subjects/historicpreservation/upload/standards-guidelines-archeology). The report must include a map of the studied area with the study area boundary defined by x-y coordinate system.

3.4.5.7 Environmental Site Assessment

Package must include an Environmental Site Assessment (ESA) that shows a low risk of encountering Recognized Environmental Conditions (REC). The ESA must conform to ASTM E 1527 or ASTM E 2247 (if applicable) standards. The ESA must include a map of the studied area with the study area boundary defined by x-y coordinate system. An ESA is valid, and considered current for six (6) months from the date of the report.

3.4.5.8 Soil Boring Analysis

Package must include a Geotechnical Report stamped and signed by a licensed civil engineer with a specialization in geotechnical engineering certifying that the proposed source contains suitable material meeting the specifications outlined below.

(1) The Geotechnical Report must consist of a summary and conclusion section in the main body of the report with any supporting data attached separately. The licensed engineer shall determine the sub-surface investigations required. These investigations should include but are not limited to continuous soil borings and test pits. Cone Penetrometer tests may also be included to supplement the physical samples and lab testing provided.

(2) Investigations shall be spaced according to the geotechnical engineer's sub-surface evaluation and be representative of the entire proposed source. The licensed engineer's test plan must provide a comprehensive sampling to at least five (5) feet below the bottom of the proposed excavation.

(3) All soil samples must be classified in accordance with the Unified Soil Classification system. See below for required soil testing. The supporting data attached to the geotechnical report shall be comprehensive and include as a minimum all field logs, soil sampling and testing results, and a detailed investigation location map with the location of the potential borrow source and all investigation locations superimposed. The soil investigation locations must include latitudes and longitudes for plotting purposes.

3.4.5.9 Laboratory Tests

The following laboratory tests must be performed:

(1) Soil classification shall be performed in accordance with the Unified Soil Classification System and ASTM D 2487.

(2) Atterberg Limits Test shall be performed in accordance with ASTM D 4318.

(3) Determination of moisture content shall be performed in accordance with ASTM D 2216 or ASTM D 4643.

(4) Determination of organic content shall be performed in accordance with ASTM D 2974, Method C.

(5) Control compaction curves shall be established in accordance with ASTM D 698 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort). A control compaction curve is required for each soil type from each source. Where material is blended and stockpiled, a control compaction curves will be required for each resulting blend of material and will be utilized in lieu of those required for the "unblended materials".

(6) Sand Content shall be determined by (#200 sieve) wash in accordance with ASTM D 1140.

3.4.5.10 Test Procedures for Borings

The testing procedure for borings shall be as follows:

(1) A moisture content determination shall be made and recorded on all samples classified as (CH), (CL), and (ML) at no less than 2 foot intervals.

(2) For (CH), (CL), and (ML) soils, Atterberg Limits and Organic Content Testing (ASTM D 2974, Method C), is required every 5 feet (minimum).

(3) Samples with moisture contents at 70% or higher or having a Liquid Limit of 70 or higher must be tested for organic content for that sample as well as for a sample 2 feet above and 2 feet below that sample.

(4) Sand content tests will be required for samples that classify as CL (with a PI greater than 10) and for all clay samples (CH and CL) with greater than 10% coarse grain materials estimated by visual classification for 2 or more consecutive feet.

(5) Sand content tests shall be limited to one test every 5 feet of sampling and shall conform to ASTM D 1140 (#200 sieve required).

(6) Sand content tests will be required for samples that classify as a ML, but limited to one test every 5 feet of sampling.

If a borrow site is within 1,500 feet of the Mississippi River Levee (MRL) or within 300 feet of a Hurricane Protection Levee (HPL), a permit from the local sponsor MUST be included. For additional information regarding this permit, please contact Amy Powell, Amy.E.Powell@usace.army.mil, (504) 862-2241 or Karen Clement, Karen.L.Clement@usace.army.mil, (504) 862-2313.

3.4.5.11 Borrow Area Agronomy Report

The Contractor-furnished borrow area material shall be tested for levels of salinity content which could impede the satisfactory establishment of grass. For each soil boring drilled for geotechnical analysis, a representative soil sample, taken at each 2.5-feet of depth of the boring or change in strata shall be tested for salinity content. Two standardized tests shall be performed by a soil testing lab including a pH test and a Storm (or Flood) Test which includes, at a minimum: Calcium, Magnesium, Sodium, Sulfur, Chlorides, Conductivity, Total Soluble Salts, and Sodium Absorption Ratio. All costs associated with the testing at a Contractor furnished borrow area shall be borne by the Contractor.

3.4.5.12 Borrow Area Management Plan

The Contractor shall provide the Contracting Officer a plan for clearing, stripping, and excavating materials from the proposed Contractor-furnished borrow area. In its plan, the Contractor shall show work areas, stockpile areas, etc, all within its leased or owned property boundaries. The Contractor shall not work or move material outside the boundaries of the approved limits of it's borrow area. The Contractor shall indicate in writing and show on its layout plans details of the following:

(1) A stockpile plan for cleared and stripped material and debris to include disposal areas.

(2) The locations for disposal of wasted material discovered in the borrow area. Location of any haul roads constructed to help the Contractor in its hauling operations.

(3) A plan for stockpiling embankment material before it is transported to the project site to include locations, stockpile heights, slopes, and limits.

(4) The method and route for transporting the excavated material from the Contractor-furnished borrow area to the project site.

(5) The proposed methods for draining and keeping dry during excavation the borrow area excavated under this contract, including any protection dikes constructed to alleviate drainage problems.

(6) A complete list of excavation and transportation equipment planned for use in its operations.

(7) The Contractor's proposed sequence of excavating the borrow area showing starting and ending work locations.

(8) A list of permits required and the issuing office.

3.4.5.13 Mitigation Requirements

The package must include a written plan and map that describes and shows any areas subject to laws or regulations (Clean Water Act Section 404, Rivers and Harbors Act Section 10, National Historical Preservation Act, Section 906 of WRDA 1986, HTRW, etc.) that hold jurisdiction within the proposed borrow area. Borrow area is defined to include access routes, loading and unloading facilities, staging areas, etc. Plan and maps must clearly show areas/resources being avoided, areas where any impacts were minimized, and areas where it has been determined that impacts are unavoidable. Resources include but are not limited to areas of cultural interest, bottomland hardwood forest, wetlands subject Section 404 of the Clean Water Act, Threatened and Endangered species including any habitat deemed critical by the U.S. Fish and Wildlife Service, and areas found to be hazardous, toxic, or to contain radioactive waste. The U.S. Army Corps of Engineers New Orleans District (CEMVN) Environmental Team Coordinator will determine the consequences of a proposed action on any resources identified on the property in question. Plan and maps will be reviewed as outlined in paragraph "Government Performed Environmental Assessment" below, including any mitigation deemed necessary. For mitigation related to unavoidable impacts to wetlands or forested area as written proof shall constitute a letter from a mitigation bank showing compensatory mitigation has been completed as "in-kind" in the hydraulic basin.

Contractor-furnished borrow utilizing one of the clay sources listed in Section 01100 GENERAL PROVISIONS, paragraph "CLAY BORROW SOURCES" shall provide written proof of the required mitigation necessary has been accomplished. Notice to Proceed will not be granted until this proof is provided to the Contracting Officer. Written proof shall constitute a letter from a mitigation bank showing compensatory mitigation has been completed as "in-kind" in the hydraulic basin.

3.4.5.14 Zoning Classification

Written evidence that the property intended for use as a Contractor-furnished borrow area contains the proper zoning classification that will allow the Contractor to excavate the property and use it as a borrow area. This evidence shall consist of a letter from the local land zoning office stating the zoning classification of the proposed Contractor-furnished borrow area.

3.4.5.15 Environmental Protection Plan

A proposal for implementing Section 01 57 20.00 12 ENVIRONMENTAL PROTECTION of this contract insofar as that section applies to borrow areas , when applicable. Environmental Protection provisions exclusive to the borrow area are discussed in paragraph "Submittal Package Requirements in Detail", and shall be adhered to by the Contractor.

3.4.6 Government Performed Environmental Assessment

The Government is required to perform an environmental assessment on all new proposed borrow areas without regard to the source. For Greater New Orleans Hurricane & Storm Damage Risk Reduction (HSDRRS) work, the environmental assessment is provided in an Individual Environmental Report (IER). Production and approval of an IER requires a minimum of one hundred twenty (120) days for review, processing, and approval time by the

Government once all materials required from the Contractor have been provided. Before the Government will commence the environmental assessment of a proposed Contractor-furnished borrow site, the Contractor must submit all of the above items as a single, complete package. The reviewing CEMVN staff reserves the right to disapprove the use of potential Contractor-furnished borrow areas located in jurisdictional wetlands, and those sites that have significant outstanding cultural resource or hazardous waste concerns or other avoidable impacts. The Government shall be reimbursed by the Contractor for actual costs incurred for assistance in completing or attempting to complete additional environmental coordination and documentation. The Government performed environmental assessment is not required for Contractor-furnished borrow utilizing one of the clay sources listed in Section 01100 GENERAL PROVISIONS, paragraph "CLAY BORROW SOURCES".

3.5 HAULING

All excavated material to be hauled to the site from the borrow source, or to be removed from the site, including debris, shall be hauled in watertight trucks with secured binders on tailgates to the place of destination. The route for trucks carrying material to and from the job site, and to and from the borrow area shall avoid residential streets, and shall be approved by the Contracting Officer. If the Contractor decides to modify or construct any new roads, they must be submitted to the Contracting Officer for approval. Trucks shall not spill or track mud on public roads. The Contractor shall take immediate action to clean up any material spilled on the roads without notification from the Contracting Officer. Failure by the Contractor to satisfactorily clean public roads used for the hauling operation shall result in the suspension of hauling operations until such roads are cleaned to the satisfaction of the Contracting Officer.

3.6 GRADE TOLERANCES

For required excavation of the interior drainage canal as shown on the drawings, a tolerance of 1/2 of a foot above the prescribed grade and cross section shown will be permitted.

-- End of Section --

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EMBANKMENT

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SECTION 31 24 00.00 12

EMBANKMENT

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment, and materials, except as otherwise specified in Section 31 23 00.00 12 EXCAVATION, and performing all operations in connection with foundation preparation and construction of sand fill and clay embankments, access ramps, permanent access roads, and other incidental earthwork as may be necessary to complete the embankments as specified herein and as shown on the drawings. When placing the excavated canal material between the levee berm and canal bank, the Contractor may be required to construct temporary dikes adjacent to the canal bank to contain the soft material until the moisture content in the material has been reduced.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 698	(2012) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D 1140	(2000; R 2006) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2216	(2010) Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D 2487	(2016) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2974	(2007a) Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
ASTM D 4318	(2010) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4643	(2008) Determination of Water (Moisture) Content of Soil by the Microwave Oven Method

ASTM E 329	(2005b) Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
ASTM D 6938	(2008a) In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

1.3 MEASUREMENT

1.3.1 Embankment

Unless otherwise specified, compacted fill, required fill and backfill materials of any description specified in this section will be measured for payment by the cubic yard, and quantities will be determined by the average end method. The Contractor shall perform and submit original surveys as specified in Section 00700 Contract Clause entitled QUANTITY SURVEYS (FAR 52.236-16 - APR 1984 - Alternate I). The basis for the measurement will be cross sections of the areas taken by an independent licensed surveying firm after the levee sand base is complete to the lines and grades shown on the drawings and the theoretical design sections. Embankment quantities for payment will be based on computations performed by the Government. Embankment not constructed to design grade and section, including allowable tolerances as indicated on the Contractor's compliance survey will not be accepted. There will be no measurement or payment for tolerances. Material utilized in the levee footprint or stockpiled material outside the levee footprint, that has been obtained from within the Right-of-Way limits, including drainage channel excavated material, will not be measured for payment.

1.3.1.1 Sand Fill

The basis for measurement of sand fill hauled from the commercial sand source to the project site, will be by the ton satisfactorily placed. . Sand fill not constructed to the design grade and section will not be accepted. Measurement of sand fill will be made by the ton. The weights to be paid for will be determined from certified weight tickets, which shall be furnished by the Contractor at no additional cost to the Government. A certified weight ticket shall be defined as each truck being weighed empty, and again when loaded and the ticket, identified by the Contractor's name and the contract number, signed by the approved sand supplier representative with the statement "certified correct". This procedure shall be followed for each load hauled. The Contractor shall initial each ticket before submitting it to the Government. The Contractor shall furnish certification stating the scale used were tested and approved by the local authority. Final be taken to the nearest whole ton. The Contractor shall submit documentation showing the scales for measuring sand have been certified for proper weight measurements within the last 30-days prior to hauling sand. Thereafter, the scales shall be re-certified every 4-months until all sand has been placed.

1.3.2 Settlement

Measurement of additional fill material placed in each settlement measurement range shown on the drawings by reason of foundation settlement, will be based on measurements on the respective settlement gage installed as specified in paragraph "Additional Fill". Measurement of settlement for Stage 2 shall be during construction of Phase 2. Stage 2 settlement shall

immediately end after the measurement of each settlement plate in accordance with paragraph "Settlement of Foundation". The same requirements for Stage 2 apply to Stage 3 as it relates to settlement. Measurement of additional fill will be determined as follows:

(1) The settlement measured at each settlement gage will be considered to apply to the foundation area throughout the length of the settlement ranges specified herein where the gage is located. In the event that embankment over a settlement gage is constructed to a height in excess of the specified design construction lines plus the tolerance permitted under paragraph "GRADE TOLERANCES". No measurement of settlement will be made and will result in forfeiture of any payment that may be due the Contractor for the settlement range applying to that settlement gage. Further, in instances where settlement plates have been set and cannot be found after completion of the embankment, no measurement for settlement will be made, and any payment which may be due the Contractor for the settlement range applicable to that settlement gage will be forfeited.

(2) The foundation settlement under the embankment at each transverse cross section within a settlement range will be considered to vary uniformly between break points in the cross section. At each breakpoint, the settlement allowance will be based upon the proportion that the specified fill height at the break point bears to the specified fill height at the settlement gage, in accordance with the following formula: S=h Xsm/hm, where S = settlement to be computed at a break point; h = specified gross fill height at S; sm = measured or adjusted settlement gage; hm = specified gross fill height above settlement gage. Except as provided above and in paragraph "Failures," no measurement for payment for additional fill materials placed by reason of foundation settlement will be made.

(3) The Contractor will not be compensated for foundation settlement caused by moisture control operations performed on the existing berms. All initial settlement gage readings shall be taken prior to moisture control operations on the existing berms. In instances where the Contractor performs moisture control after the initial gage readings were taken, the Contractor shall perform settlement gage readings prior to commencing moisture control operations in the area to receive compensation for settlement in that area and if no measurement is taken for settlement any payment which may be due the Contractor for the settlement range applicable to that settlement gage will be forfeited. The Contractor may seek compensation for settlement after all moisture control operations have terminated and new settlement gage readings are performed in the area.

1.3.3 Embankment Materials Testing

No separate measurement will be made for testing regardless of the location (i.e., in the borrow area, stockpile area, or in-place) of the material.

1.4 PAYMENT

1.4.1 Embankment and Ramps

Unless otherwise specified, Payment for all compacted fill material placed as required in embankments, ramps, fill and backfill, and including additional material placed by reason of foundation settlement during construction, will be made at the applicable contract unit price per cubic

yard for "Embankment, Compacted Fill" or "Embankment Compacted Fill - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for furnishing all plant, labor, testing, professional engineering services, independent licensed surveying firm, surveyor stamped quantity calculations, equipment and material, and performing all operations necessary for excavation, all testing, hauling, foundation preparation, material processing for moisture control and blending, placing and compacting the material and other incidental work required to complete the embankment or fill. Material obtained from excavation of the drainage canal and placed in either the levee or stockpile areas will not be paid under embankment.

1.4.2 Sand Fill

Payment for the sand fill placed, including fill placed by reason of soft material in the foundation being forced outward from the section, will be made at the applicable contract unit price per ton for "Sand Fill" or "Sand Fill - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for furnishing all plant, labor, equipment and materials, including sand material, control testing, and for performing all operations necessary for foundation preparation and placing and compacting the sand fill; as specified herein and a shown on the drawings.

1.4.3 Settlement Gages

The cost of furnishing, installing, and maintaining during embankment construction the settlement gages specified herein, if used, including measurements required to be made by the Contractor shall be at the expense of the Contractor. No separate payment will be made for compaction of fills around and over the settlement gages or for interference with the Contractor's operations resulting from the settlement gage installations.

1.4.4 Forfeiture of Payment for Settlement of Foundation

Failure to utilize settlement gages in strict accordance with the specifications and drawings will result in total forfeiture of any payment that may otherwise be due the Contractor for settlement of the foundation. In each case of 1) failure to recover any settlement gage, 2) construction of embankment over a settlement gage in excess of specified construction lines plus the tolerance permitted under paragraph "GRADE TOLERANCES," or 3) failure to comply with the 72 hour requirement in paragraph "Additional Fill," for determining gage elevations, payment will be totally forfeited for the reach attributable to each gage so affected.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for embankment construction operations to assure compliance with contract requirements, and maintain records of its quality control for all construction operations including but not limited to the following:

(1) Equipment. Type, size, and suitability for construction of the prescribed work.

(2) Foundation Preparation. Drainage of the foundation and partially completed fill. Drainage of the foundation receiving sand fill will not be required.

(3) Materials. Applicable tests, location of material testing sites.

(4) Construction. Layout, maintaining existing drainage, moisture control, thickness of layers, spreading and compacting.

(5) Grade and Cross Section. Crown width, crown slope, side slopes, and grades.

(6) Roads and Ramps. Location of temporary roads to fields or buildings, location and placement of fills for ramps in accordance with specified dimensions and grades.

(7) Grade Tolerances. Check fills to determine if placement conforms to prescribed grade and cross section.

(8) Settlement of Foundation. Location of settlement gages established or measurements taken to determine settlement, location of sudden failures.

(9) Slides. Location and limits; methods and equipment used where remedial work has been directed.

(10) Control Testing.

The Contractor shall perform all control testing such as soil classification, moisture content, control compaction curves, organic content, sand content and in-place density. The results of all tests shall be reported to the Contracting Officer's representative within 24 hours of sampling, except for the organic test results, which shall be reported within 48 hours of sampling. To ensure contract compliance, the Contractor shall upload into RMS the results of the control compaction curves, in-place density tests, moisture content tests, one-point compaction tests, sand content tests, and organic content tests to the Contracting Officer's representative. The Contractor's QC test results of in-place compaction, soil classification, moisture content, sand content, organic content, and compaction curves shall be provided to Engineering Division, Geotechnical Branch, on a regular basis throughout the contract, but no later than 5 days of receiving results. Testing shall be performed by a Government approved testing agency, or organization including on-site testing labs operated by QC personnel. Criteria used for obtaining Government approval shall be in accordance with ASTM E 329. No additional payment will be made for control testing required in this paragraph. All costs in connection therewith shall be included in the applicable contract unit price for "Embankment, Compacted Fill", "Embankment Compacted Fill - Access Road D" or "Embankment, Compacted Fill - OW", if Optional Work is exercised. D ocumentation of sampling locations for the following tests shall be clearly defined by levee station and offset and also by lift number or elevation. As a minimum, the following tests are required:

1. Soil Classification Tests. Determination of soil classification shall be in accordance with ASTM D 2487. Atterberg Limits Test required for soil classification shall be performed in accordance with ASTM D 4318. One Atterberg test shall be obtained from the sample material used for each control compaction curve

and one shall be obtained from the sample material used for each in-place density test. If the Nuclear Method is used, the material to be tested shall come from within a radius of 12 inches of the center of the in-place density test site. The soil classification obtained from in-place density tests will serve as the basis for determining the applicable control compaction curves.

2. Control Compaction Curves - Compacted Fills. Control compaction curves shall be established in accordance with ASTM D 698 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort). Two control compaction curves will be required for each type of material from each source or a minimum of one compaction control curve every 25,000 cubic yards of compacted fill placed. Where construction operations result in blending of several types of material prior to or during fill placement within the embankment design sections, two control compaction curves will be required for each resulting blend of material and will be utilized in lieu of those required for the "unblended materials." The average of the two tests shall be the controlling optimum moisture content and maximum dry density. The samples collected for the blend of material shall be collected from separate locations. If the source of fill material changes, new compaction control curves shall be created. The average of the two tests shall be the controlling optimum moisture content and maximum dry density. Material test samples for the compaction control curves shall be prepared by air drying, rewetting, and curing.

3. In-Place Density Tests. In-place density tests for compacted fill material shall be made in accordance with ASTM D 6938 (Nuclear Method) or ASTM D 1556 and shall be made at a minimum frequency of one density test per lift per 1500 cubic yards of compacted fill placed in the levee per lift, but not less than one density test per 500 feet per lift. At least one test shall be performed in any shift that compacted fill is placed. A lift on any one side of the existing embankment will be considered one lift. The location of the test shall be representative of the area being tested or as directed by the Contracting Officer. For each in-place density test, the Contractor shall determine the percentage of ASTM D 698 maximum dry density and the deviation from optimum water content in percentage points (plus or minus), using the control compaction curves for the same type of material. The appropriate control compaction curve shall be selected by using the one-point compaction test when available or visual soil classification and soil classification test.

If the Nuclear Method is selected for field density testing, the dry density shall be determined by using the value of wet density reported by the nuclear density equipment and the value of moisture content obtained from ASTM D 2216 or ASTM D 4643. The Contractor shall not use the value of dry density reported by the nuclear density equipment.

The Sand-Cone Method shall be used to confirm the accuracy of the Nuclear Method. This can be accomplished by performing an initial comparison test of the two methods at the start of construction. If the Nuclear Method wet density is within 3 percent of the Sand Cone Method, no correction of the Nuclear Method wet density will be required and the testing may continue with the Nuclear Method.

The Nuclear Method wet density shall be verified throughout the project at a rate of one Sand-Cone test for every ten nuclear tests thereafter. If the variance at any time exceeds 3 percent, a correction factor will be required to be determined prior to any further testing. For comparison purposes, the nuclear and sand-cone wet densities should represent the same layer thickness within the testing area selected. When a nuclear density result is in doubt, the sand-cone density test shall be used for acceptance.

The correction factor shall be determined by conducting ten comparison tests (five ASTM D 6938 and five ASTM D 1556) and calculating the average difference (correction) for each soil type encountered. The developed correction shall be used for adjusting the nuclear wet density readings. The results of the in-place density, moisture content, and one point compaction test shall be reported to the Contracting Officer's representative by the end of the working day following the in-place density test.

4. One-Point Compaction Test. As a minimum, the Contractor shall perform a one-point compaction test at every fifth (5th) in-place density test. If the Nuclear Method is used for in-place testing, every other one-point compaction test shall be performed at the sand-cone verification test location on a sample from the same material location as the in-place density test in accordance with ASTM D 698. The material shall be compacted at the same water content as the field test if it is estimated to be on the dry side of optimum laboratory water content. If the field water content is estimated to be above the optimum water content, the corresponding lab sample shall be dried to an estimated water content which is not more than 3 percent dry of the actual optimum water content. The water content/dry density point on the one-point compaction test shall be plotted on the family of curves for the same soil type from the same borrow source. The compaction control curve is estimated by projecting a curve that is parallel to the adjacent compaction curves. The optimum water content and maximum dry density shall be estimated from the control compaction curve. If the laboratory data plots outside of the available family of compaction curves, the Contractor shall perform a complete compaction test in accordance with ASTM D 698.

5. Moisture Content Tests. Moisture content tests at each density test location shall be taken to assure compliance with requirements for fill placement within the design sections as specified in paragraph "Moisture Control." Determination of moisture content shall be performed in accordance with ASTM D 2216 or ASTM D 4643. Determination of moisture content shall not be performed in accordance with ASTM D 6938 (Nuclear Method).

6. In-Place Organic Content Tests. Organic content tests shall be taken at each in-place density test location. Limits of organic content are specified in paragraph MATERIALS. Determination of organic content shall be performed in accordance with ASTM D 2974, Method C.

7. Sand Content Tests. One sand content test shall be obtained from the sample material used for each control compaction curve and one shall be obtained from the sample material used for each in-place density test. Limits of sand content are specified

in paragraph MATERIALS. Determination of sand content shall be in accordance with ASTM D 1140.

8. Additional Test. In addition to the above frequency of tests, additional test are required as follows:

a. Where the Contracting Officer's Representative has reason to doubt the adequacy of the compaction, organic content, or moisture control.

b. Where the Contractor is concentrating fill operations over a relatively small area.

c. When, in the opinion of the Contracting Officer, embankment materials change substantially, the Contracting Office may direct additional testing.

d. Where non-traditional compaction procedures/equipment are being used.

e. When areas are found not meeting the specified in-place density, Atterberg Limits, sand content, and/or in-place organic content requirements, the Contractor shall retest at no additional cost to the Government after corrective measures have been applied.

(11) Compliance Surveys. The Contractor shall submit plotted cross sections at intervals and locations corresponding to the Government's original survey. The primary, secondary, and temporary benchmarks used shall be listed on each compliance survey. Upon completion of suitable reaches of embankment, the Contractor shall perform, plot, and submit compliance cross section surveys at a maximum of 100-foot intervals and all P.I. 's, curve P.C.'s, P.T.'s, levee transitions, and breakpoints. All compliance surveys of levees that are adjacent to other structures (ex. floodwall, sheetpile) shall include the transitions to those structures in the surveys, whether the Contractor is responsible for the transition or not. The limit of the transitions shall be the end of any armoring protection on the structure side, and in the case where there is no armoring, 50 feet on the structure side. All sections shall be taken at locations corresponding to the Government original survey. They shall be plotted by the Contractor on a minimum scale of 1 inch equal to 10 feet horizontally, and 1 inch equal to 5 feet vertically, with the theoretical design cross section and allowable grade tolerances superimposed thereon. Additionally, the Contractor shall perform, plot, and submit a levee centerline profile with shots taken at a maximum of 20-foot intervals. The plotted cross sections and profile shall be submitted to the Contracting Officer's Representative for review. Electronic survey data shall be submitted to the Contracting Officer's Representative within 48 hours of completion of surveys. Survey notes shall be provided with the plotted sections for each survey taken by station, with offset and elevation. After the Contracting Officer's Representative accepts and verifies the survey, the Contractor shall email the electronic survey data to mvn-cd-q-testresults@usace.army.mil. All surveys shall meet the minimum requirements of the USACE document "USACE New Orleans District Minimum Survey Standards" dated June 2022. The survey information that the Contractor emails shall be in the ".EM" format as specified in the USACE document "Engineering Manual File Format Specification Version: EM15" dated December 3, 2015. All compliance surveys shall be

performed, signed, and sealed by a Louisiana Licensed Surveyor.

(12) Soil Test Log. At a minimum, the soil test log shall show all proctors and their values, all soil density tests (nuclear and sand cone), all one point proctors, moisture tests, classification, plasticity range (LL and PI), organic content, and sand content. These tests shall state failure or passing and shall show the applicable retest for any failing test. The testing logs shall be submitted to the Government with each invoice where the contractor has placed embankment. In addition to the testing log, the contractor shall graphically show the location and distance between all tests utilizing the plan and profile drawings for each test per lift. These drawings shall be submitted with each request for payment.

1.5.2 Reporting

The original and two (2) copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.5.3 Test and Inspection Qualifications

(1) Testing and inspections shall be performed as described in these specifications and the New Orleans Construction Control Manual. Based upon the results of these inspections and tests, corrective action shall be taken as required, and reports submitted within 24 hours of sampling. The individuals who inspect, monitor, sample, and test embankment construction shall have a current NICET Level II certification in geotechnical engineering technology/construction, a current ICC Soils Special Inspector certification with one year related experience, shall be a Geologist-in-Training with one year related experience, shall be an Engineer Intern with one year related experience, shall be a Registered Geologist, or shall be a Registered Professional Engineer. Work experience shall be related to the field for which the inspector is being qualified, and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector, or engineer.

(2) The Contractors' QC laboratory shall submit documentation to provide evidence of work experience. An acceptance review of proposed personnel will be conducted and the submitting agency informed of the results. Qualified personnel will be placed on the Government approved list for the particular special inspection items for which they are qualified. All new personnel to an agency must be evaluated, approved, and listed on the Government approved list before testing and inspections may be performed.

(3) The appointed Registered Professional Civil Engineer identified in the Contractor's Quality Control Plan for certifying inspections and test results remains responsible for compliance of all inspection and testing activities.

(4) All laboratory facilities, personnel, and equipment used to test soils shall be part of a laboratory that has been validated by the USACE Materials Testing Center, Vicksburg, MS.

1.6 QUALITY ASSURANCE

As a control, the Government will perform assurance and check tests for maximum dry density for all materials in accordance with ASTM D 698. If values for maximum dry density as determined by the Contractor and as determined by the Government do not agree, the Government will determine the values to be used. The Government will also perform check and assurance testing of the other control testing required by the Contractor in paragraph "General", subparagraph (10).

1.7 EQUIPMENT

1.7.1 General

Compaction equipment shall be capable of properly compacting the soil so that no planes of weakness or laminations are formed in the fill. Equipment shall be capable of compacting a layer of soil not less than 12 inches thick to the requirements specified herein and shall be operated at speeds not to exceed 3.5 miles per hour.

1.7.2 Hand Tampers

Hand tamping shall be used in the compaction of fill within three feet of any structure or other drainage feature and near same where vehicular equipment cannot be used. These hand tampers shall be of the power driven, hand operated type.

1.7.3 Miscellaneous Equipment

Scarifiers, disks, spring-tooth or spike-tooth harrows, spreaders, power tampers, and other equipment shall be types suitable for construction of embankment.

1.7.4 Sprinkling Equipment

Sprinkling equipment shall be designed to apply water uniformly and in controlled quantities to variable widths of surface.

1.8 EMBANKMENT MATERIALS

1.8.1 General

The embankment shall be constructed of earth obtained from the borrow areas, and other required excavations as prescribed in Section 31 23 00.00 12 EXCAVATION and to the extent shown on the drawings.

1.8.2 Moisture Control

1.8.2.1 Moisture Control - Compacted Fill

The Contractor shall control the moisture content of the embankment material. The optimum moisture content shall be determined in accordance with paragraph "General", subparagraph (10). The Contractor shall perform the necessary work in moisture control to bring the borrow material within the moisture content range specified in paragraph "Compaction".

Placement and Processing of Fill Material

METHOD 1 - Processing Material Outside Compacted Embankment

Footprint

Borrow material is considered too wet to be placed directly upon the levee and berm(s)compacted fill footprint, if it has a moisture content greater than 10 percentage points above the optimum moisture content resulting from the Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort ASTM D 698. If the borrow material is too wet, it shall be stockpiled in the borrow area and allowed to drain and/or processed by disking and harrowing, if necessary, to reduce the moisture content before it is transported to the levee or berm section. When it is discovered that wet fill has been placed over existing levee or newly constructed compacted fill footprint, the incident layer and previous layer will be tested in a minimum of two locations for density and moisture compliance. If the top or contact surfaces of a partially filled section becomes too wet to permit suitable bond between these surfaces and the additional backfill to be placed thereon, the wet material shall be scarified and permitted to dry, assisted by disking or harrowing. The material shall be recompacted in accordance with the applicable requirements of paragraph "Compaction". Borrow material is considered too dry to be placed directly upon the levee and berm(s) compacted fill footprint, if it has a moisture content greater than 10 percentage points below the optimum moisture content resulting from the Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort ASTM D 698. If the borrow material is too dry, it shall be prewet in the borrow processing area before it is transported to the levee or berm section. If the top or contact surfaces of a partially filled section becomes too dry to permit suitable bond between these surfaces and the additional fill to be placed thereon, the Contractor shall loosen the dried materials by scarifying, disking, or other approved methods, and shall recompact this layer in accordance with the applicable requirements of paragraph "Compaction". No additional payment will be made for any moisture control required in this paragraph.

1.8.3 Compaction

The first and each successive layer of compacted fill material shall be compacted to at least 90 percent of maximum dry density as determined by ASTM D 698 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort) at a moisture content within the limits of plus 5 to minus 3 percentage points of optimum moisture content determined from ASTM D 698.

1.8.4 Dressing

The entire embankment, including topsoil where specified, shall be brought to not less than the prescribed design cross section, within allowable tolerance, at all points. Unreasonable roughness of the surface shall be dressed out to permit fertilizing, seeding operations. All ruts and rills shall be filled with embankment material prior to seeding operations.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Compacted Fill

The embankment shall be constructed of naturally occurring earth materials. Materials that are classified in accordance with ASTM D 2487 as CL or CH with less than 35% naturally occurring sand content are suitable for use as

embankment fill. Materials classified as ML are suitable if blended to produce a material that classifies as CH or CL according to ASTM D 2487. Intentional blending of granular or organic soils will not be allowed. The Contractor shall notify the Contracting Officer whenever the In-Place Plasticity Index of the material is 15 or less. Materials placed in the section must be at or above the Plasticity Index of 10. Materials placed in the section shall be at or below an organic content of 9 percent by weight, as determined by ASTM D 2974, Method C. Materials placed in the section shall contain less than 35 percent sand content by weight, as determined by ASTM D 1140.

2.1.2 Sand Fill

The sand fill shall be obtained from an approved Contractor-furnished commercial sand stockpile. The maximum allowable of fines in the sand fill shall be limited to 30 percent passing the No. 200 sieve to insure a relatively stable sand base for construction. The Contractor shall perform gradation tests to determine the percent of fines passing the No. 200 sieve for the Government and Contractor furnished sand sources. The frequency of testing shall be one test for every 20,000 cubic yards of sand stockpiled or placed or as directed by the Contracting Officer. The sand shall be free from unsuitable and frozen material.

2.1.3 Suitability of Material

All fill materials shall be free from concentrated masses of unsuitable materials (excludes organic matter content as defined in ASTM D 2974, Method C) and other non-soil materials including, but not limited to, sticks, branches and roots. The size of a mass is defined as a 1/3 of a cubic foot of continuous unsuitable material. For purposes of suitability, a mass will be unacceptable if it consists of less than 50% suitable soil. Prior to loading sand in trucks and weighing of vehicles, the sand shall be obtained from free draining stockpiles. The stockpiles shall be located above the surface of the ground without any standing water surrounding the stockpile. If the sand is being obtained from a borrow pit, the water level in the pit shall be 5-feet below the excavation of the sand. Ditches and suitable pumps shall be used in the pit to drain the sand of excessive water.

2.1.3.1 Isolated Masses

The presence of an isolated mass shall not be used to invalidate an entire lift layer if, in the opinion of the Contracting Officer's representative, that the surrounding soils and subsequent suitable cover is sufficient. Fill from natural borrow pits will likely contain wood, branches, sticks, and roots in varying degrees, but the fill is acceptable if it meets the requirements defined in this section. Pieces of wood will not be considered objectionable provided their length does not exceed 1 foot, their cross-sectional area is less than 4 square inches (on average for any 1-foot portion of wood), and they are distributed throughout the fill. Measurements of wood length shall not include any portion of the wood with a cross sectional area less than 1 square inch, but pieces of wood having a 2 foot or greater length and an average cross-sectional area of at least 1square inches shall be considered objectionable.

2.1.3.2 Investigation and Testing of Objectionable Materials

The Contractor shall expose and remove objectionable materials within the fill layer prior to compaction. Not more than 1 percent (by volume) of

total unsuitable and non-soil materials shall be contained in the earthen material placed in each tested lift of the levee section. The tested lift is defined as the same dimensions as the lift for compaction testing. If, in the opinion of the Contracting Officer's Representative, amounts of wood in the fill brought to the site are in excess of the embankment material requirements herein, the borrow area will be investigated by the Contracting Officer's Representative along with the New Orleans District's engineering representatives. A determination will be made as to the appropriate action that may be necessary to eliminate the unacceptable materials being delivered to the site of the placement. Inspections of subsequent lifts prior to compaction shall be performed by the Contractor in the presence of QA personnel and documented in the QC/QA reports. Organic matter within the soils shall not be considered a non-soil material.

2.2 UNSUITABLE AND NON-SOIL MATERIAL TESTING

If, in the opinion of the Contracting Officer's Representative, unsuitable and non-soil material is above the specified limits of 1 percent total, volume testing shall then be performed by the Contractor to determine embankment material compliance. The testing shall be performed in accordance with the test procedure FIELD AND LABORATORY DETERMINATION OF NON-SOIL VOLUME FOR LEVEE FILL, attached at the end of this section. If the testing confirms that the embankment material is out of compliance with these specified requirements, the Contractor shall either 1) completely remove the lift in question and replace it with clean, acceptable fill, or 2) submit for review and approval a corrective action that presents a plan for bringing the embankment material into compliance. Any delays and/or expenses, including interruption of embankment operations or replacement of embankment material, incurred as a result of correction of compliance issues revealed by this testing, shall be borne by the Contractor and shall in no way be at an additional expense to the Government. If testing indicates that the material is in compliance with the specified requirements, and not requiring any corrective action, then the following will apply.

(1) The Contractor shall bear the cost of any expenses and delays of a maximum of three (3) tests for unsuitable and non-soil material, which indicate no corrective action.

(2) Additional tests directed by the Contracting Officer for unsuitable and non-soil material beyond the third test, which indicates no corrective action is required, will be subject to the Section 00700 CONTRACT CLAUSES, entitled "INSPECTION OF CONSTRUCTION" (FAR 52.246-12).

PART 3 EXECUTION

3.1 EMBANKMENT FOUNDATION PREPARATION

3.1.1 Foundation Preparation

After clearing and grubbing and any required excavation of the embankment foundation, test pits and other similar cavities and depressions shall be broken down, where so directed, to flatten out the slopes. The basis of the measurement will be cross sections of the ares taken by an independent licensed surveying firm after the levee sand base is complete to the lines and grades shown on the drawings and the theoretical design sections. If for any cause, this broken surface becomes compacted in such a manner that, in the opinion of the Contracting Officer, a plane of seepage or weakness

might be induced, it shall again be adequately scarified before depositing material thereon. For levee enlargement work, both the natural surface of the ground and the surface of the existing levee to be occupied by the new work shall be prepared as specified above. All scarifying and breaking of ground surface shall be done parallel to the centerline of the levee. All of the foregoing work shall be completed at least 200 feet but not greater than 500 feet in advance of the embankment construction.

3.1.2 Frozen Ground

No fill shall be placed upon frozen ground.

3.2 EMBANKMENT CONSTRUCTION

3.2.1 Compacted Fill

The location and extent of the compacted fill is shown on the drawings. The materials for compacted fill shall be placed or spread in layers, the first or bottom layer and the last two layers not more than 6 inches in thickness and all layers between the first and the last two layers not more than 12 inches in thickness prior to compaction. In reaches where a reinforcing geotextile is to be placed on top of the sand fill embankment, the first layer of clay embankment shall be 15 inches and compacted in accordance with the requirements in Section 31 05 19.05 12 REINFORCEMENT GEOTEXTILE. Berms may be placed in water and shall be placed until 1 foot above water where testing shall begin. Layers shall be started full out to the slope stakes and shall be carried substantially horizontal and parallel to the levee centerline with sufficient crown or slope to provide satisfactory drainage during construction. When the surface of any compacted layer is too smooth to bond properly with the succeeding layer, it shall be adequately scarified before the next layer is placed thereon as specified in paragraph "Foundation Preparation". Lifts shall be placed in a manner that prevents shrinkage cracks and open voids from developing in previously placed lifts. The rate of compacted fill placement shall not exceed 2-feet in elevation over a 7-day time frame.

3.2.2 Sand Fill

The location and extent of the compacted fill is shown on the drawings. The materials for compacted fill shall be placed or spread in layers, the first or bottom layer and the last two layers not more than 6 inches in thickness and all layers between the first and the last two layers not more than 12 inches in thickness prior to compaction. In reaches where a reinforcing geotextile is to be placed on top of the sand fill embankment, the first layer of clay embankment shall be 15 inches and compacted in accordance with the requirements in Section 31 05 19.05 12 REINFORCEMENT GEOTEXTILE. Embankment fill may be placed in water and shall be placed until it reaches an elevation of 1 foot above the water surface, or until a stable fill surface is obtained. There are no moisture control requirements for embankment fill placed in water. Once material is 1 foot above the water surface or a stable surface is obtained, then testing shall begin. Layers shall be started full out to the slope stakes and shall be carried substantially horizontal and parallel to the levee centerline with sufficient crown or slope to provide satisfactory drainage during construction. When the surface of any compacted layer is too smooth to bond properly with the succeeding layer, it shall be adequately scarified before the next layer is placed thereon as specified in paragraph "Foundation Preparation". Lifts shall be placed in a manner that prevents shrinkage cracks and open voids from developing in previously placed lifts. The rate

of compacted fill placement shall not exceed 2-feet in elevation over a 7-day time frame.

3.3 CROSS SECTIONS AND ZONING OF MATERIALS

3.3.1 Embankment Sections

Unless otherwise specified, the dimensions and slopes shall conform to the applicable cross sections including the allowable tolerance, shown on the drawings.

3.3.2 Zoning of Materials for Levee Construction

In general, the levee section including berms shall be homogeneous.

3.4 LEVEE ACCESS RAMPS

Levee access ramps shall be located as indicated on the drawings and shall be constructed by the placement of fill as specified in paragraph "Compacted Fill". Ramps shall be constructed only by adding material to the levee crown and slopes. Ramps shall have a 10 foot crown width, , and 1V-on 3H side slopes. No separate payment will be made for material used in ramp construction. Material shall be included in the contract item for which the work is incidental thereto.

3.5 ACCESS ROADS

3.5.1 Access Roads

3.5.1.1 Criteria

Access roads shall be located as indicated on the drawings. They shall be designed to maintain the intended traffic and be free draining, shall be constructed by the placement of fill as specified in paragraph "Compacted Fill". The pre-construction and post-construction conditions shall be verified/documented by the use of Contractor furnished surveys and/or videos at the direction of the Contracting Officer. In addition to all Contract Clauses, the Contractor shall take note of the requirements of Section 00700, CONTRACT CLAUSES entitled "PERMITS AND RESPONSIBILITIES (FAR 52.236-7)" and "OPERATIONS AND STORAGE AREAS (FAR 52.236-10)" in the performance of the work required herein. The Contractor should also be aware that truck routes and truck speed limits are subject to change and it should check with the appropriate state and/or parish officials for the applicable regulations. The Contractor shall furnish and use equipment (i.e., front-end loaders and street sweepers) as necessary to continuously keep any public street used free and clean of mud and other debris resulting from its hauling operations. No separate payment will be made for this work.

3.5.1.2 Temporary Roads

At locations shown on the drawings required under this contract, the Contractor shall provide temporary roads to give access during the construction period. The temporary roads shall be constructed by placement of fill as specified in paragraph "Compacted Fill". The temporary roads shall be removed after permanent access has been provided and they are no longer needed for construction. No separate payment will be made for this work.

3.5.1.3 Watering

The Contractor shall water down the access roads that are within the construction easement area as necessary to keep dust from being blown or drifting into the adjacent highway(s). The Contractor shall be responsible for providing a minimum 500-gallon capacity water truck designed to apply water uniformly in controlled quantities over variable widths of surface to control dust during construction.

3.5.1.4 Speed

Except in an emergency, all vehicles operating within the construction easement area shall not exceed 15 mph.

3.6 GRADE TOLERANCES

All embankments and berms shall be constructed to the design grade and cross section shown on the drawings. For compacted fill and sand fill, at all points, a tolerance of 3/10 of 1 foot above the prescribed design grade and cross section shown will be permitted in the final dressing provided that the crown of the levee drains, there are no abrupt humps or depressions in surfaces or bulges in the width of the crown, and the side slopes are uniform. Any partial fill or temporarily stockpiled material placed within the design section shall not exceed the design grade or design slopes of the embankment by more than an average of 1.0 foot, and shall have side slopes not steeper than 1V on 3H.

3.7 SETTLEMENT OF FOUNDATION

3.7.1 Additional Fill

Should the Contractor desire payment for placing additional fill due to foundation settlement during construction, it shall furnish and install settlement gages for determination of such settlement. Prior to placing fill material, each gage shall be installed on the prepared foundation or top of the geotextile where applicable. During each stage, the Contractor shall take a settlement measurement upon completion of the the stage and prior to commencement of subsequent stage. Gage intervals shall not exceed 300 feet, and shall be maintained during construction. Settlement gages at each end of the work shall be placed within 150 feet of the upper and lower limits of the work. Each gage shall be set on a smooth level surface on undisturbed ground. Leveling of gage beds shall be accomplished by removing the minimum amount of earth necessary to produce an even foundation and in such manner that the density of gage beds will remain at the same density as the undisturbed adjacent ground. Burying the settlement gage below the existing ground surface will not be permitted. Leveling of gage beds by the addition of fill will not be permitted. The type of gage used shall be as shown on the drawings. The Contractor shall determine elevations of the gages prior to placing fill material, and again within 72 hours after compliance cross sections have been taken over the completed embankment at the sites of the gages to determine settlement of the foundation. The 72-hour requirement is an absolute pre-condition for payment for settlement of the foundation. The initial and final elevation of the gages will be verified by the Contracting Officer's Representative at the site. Measurement of additional fill material placed due to settlement of the foundation will be as stated in paragraph "MEASUREMENT." Installation of and measurement on gages shall be at the option and expense of the Contractor. When the settlement gage is located by boring with rotary drill, the drill hole shall be backfilled with embankment material

and tamped throughout. At the Contractor's option, the drill hole may be filled with a neat cement-grout tremied from the bottom of the drill hole to the top of the drill hole.

3.7.2 Failures

In clearly established cases of sudden failure of the foundation, (1) where no provision has been made for the measurement of settlement, there will be no measurement made for settlement; (2) where settlement measuring devices have been installed, but the nature of settlement is such as to destroy their utility, the settlement shall be determined from the average elevation of the nearest surviving settlement plates on each side of the failure or, if necessary, the settlement plate nearest the failure. For hydraulic fills, other methods that are mutually agreeable will be used to measure settlement.

3.7.3 Postpone Operations

Where settlement of the foundation develops to such an extent as to make it inadvisable, in the opinion of the Contracting Officer, to continue to add material, and advisable in its opinion, to postpone until a considerably later date all attempts to bring that portion of the embankment to full grade and cross section, the Contracting Officer shall have the right to omit further work on that portion of the embankment and to accept it as completed.

3.8 SLIDES

Should a slide occur in any part of the embankment during its construction, or after its completion, but prior to its acceptance, the Contractor shall, upon written order of the Contracting Officer, either cut out and remove the slide from the embankment and then rebuild that portion of the embankment, or construct a stability berm of such dimension, and placed in such manner, as the Contracting Officer shall prescribe. In case the slide is caused through fault of the Contractor, the foregoing operations shall be performed at no additional cost to the Government. In case the slide is not the fault of the Contractor, the repair shall be made by an equitable adjustment under the Clause in Section 00700 CONTRACT CLAUSES, entitled "CHANGES" (FAR 52.243-4). The method of slide correction will be determined by the Contracting Officer.

-- End of Section --

FIELD AND LABORATORY DETERMINATION OF NON-SOIL VOLUME FOR LEVEE FILL

A. The field excavation testing shall be performed by excavating a 10' wide x 10' long and to a depth of the lift thickness for each lift that is in question. The volume of the excavation shall be verified using the end area method through measuring the dimensions of the excavation with the use of survey equipment at each corner of the hole. A difference of +/- 10% of the theoretical excavation is allowed. The Contractor shall bring all material excavated to the lab in sealed airtight containers. All excavations shall be completely backfilled by the Contractor within 72 hours of inspection unless directed otherwise by the COR. All backfill shall be in accordance with the existing contract documents, especially EMBANKMENT.

B. The unit weight of the soil shall be determined by ASTM D 6938 Field Density – Nuclear Method, ASTM D 1556 Field Density – Sand Cone Method, or ASTM D 698 Compaction Characteristics of Soil. All material testing shall be performed by a Corps validated lab.

C. Once all the excavated material is delivered to a Corps validated lab, any clay pieces adhering to the non-soil pieces that can be removed by hand without damaging the non-soil piece shall be removed.
D. All non-soil pieces shall be weighed in their existing conditions immediately prior to testing (wet weight as excavated). If all non-soil pieces do not fit in the Measure Box, then the non-soil pieces may be split into smaller sampling sizes for testing purposes and the cumulative volume reported.

E. Sturdy Measure Box containers shall be used for the non-soil volume determination processes. The minimum volume of the Measure Box is 0.8 cubic feet. This volume dimension is a minimum and may be enlarged if desired. The weight of the empty containers shall be determined using a calibrated scale and with the weight recorded to the nearest 0.1 lb. The container shall be filled in two layers with silica sand. The first layer of sand shall be densified by use of a Shake Table and vibrated such that the Silica sand achieves its maximum density. The second layer of silica sand shall be added and vibrated, with additional sand added as needed to "top off" the container as the sand achieves a greater density. The weight of the container filled with densified Silica sand shall be recorded to the nearest 0.1 lb using a calibrated scale. Determine the weight of the measure container plus sand three times to determine the average value. The maximum unit weight of the silica sand is the weight of the measure plus sand minus the weight of the measure divided by the known volume of the container and reported to the nearest 0.1 lb/ft^3.

F. The volume of the non-soil shall be determined by the following USACE MVN developed procedure, Non-Soil Volume Determination.

1) **Volume and Weight Determination of Measures (annual):** The volume of the Measure Box shall be determined and verified on an annual basis by the water filled method as specified in ASTM C29/C29M paragraph 8 and recorded to the nearest 0.1 ft^3.

2) **Density Sand:** Obtain silica sand also known as US Silica Sand. Verify that the quality of the silica or "Silica" sand meets the requirements specified in ASTM D1556 paragraph 6.2. The sand can be re-used, but it should be cleaned to comply with the previously referenced standard by sieving and/or rinsing, and oven drying prior to reuse.

3) **Determining Densified Sand within a Measure Box:** Before any tests determining non-soil volume content, a calibration test shall be run each day that testing is to be performed, to determine the standard weight of the sand in the Measure Box as discussed in section E. The three repeated determinations of densified sand weight per unit volume shall be within 2.0 pcf of each other.

A Measure Box shall be used to determine the densified sand and will be based upon use of a Shake Table and placement within layers. Clean and dry silica sand is placed loosely within each layer using a large scoop or the edge of a bucket by flowing and distributing the sand evenly across the surface area. The Shake Table is then to be used. The number and duration of vibrations will be determined as noted in the following trial. These times are approximate and should be modified by each laboratory to fit the Shake Table being used to achieve a consistent sand weight per unit volume.

MEASURE BOX – (1) Position measure over a large catch pan for collecting excess sand. Place loose Silica sand in one layer (half height of measure); (2) Using the Shake Table, vibrate the sand for 4-8 seconds; (3) Place loose silica sand in a second layer (full height of measure); (4) Vibrate the sand for 4-8 seconds. The sand should consolidate below the top rim of the measure; (5) Place additional (excess) sand above the top of the measure. It should appear to overflow. Vibrate for the sand for an additional 3-4 seconds. It is desired to have excess sand above the top of the rim after vibration of about 1/8 inch; (6) Using a straight metal bar, strike off the excess sand, leaving the sand flush with the top rim of the measure; (7) Weigh the measure and densified sand recorded to the nearest 0.1 lb; (8) Determine the weight per unit volume of the measure by subtracting the weight of the measure plus sand minus the weight of the measure then dividing by the known volume of the container and report to the nearest 0.1 lb/ft^3; (9) Repeat steps 1 thru 8 for a total of three determinations of densified sand weight per unit volume, and calculate the average weight per unit volume to the nearest 0.1 lb/ft^3.

4) Standard Wood or Metal for Verification (annual): Eight pieces of wood or metal, labeled A thru G, measuring 5 inches by 1 inch by 2 inches are to be used to verify the volume determination by the densified sand method as detailed in 5) below. Determine the weight and linearly measured volume of the eight standard pieces of wood or metal to verify the calculated non-soil content from the use of densified silica sand within Measure Boxes of known volume.

5) **Non-soil Verification (annual):** Wood or metal pieces measured in Step 4) above will be used in each measure by densifying sand and four wood or metal pieces in each layer, for a total of eight wood or metal pieces within each measure. The same procedures

outlined in Step 4) above are used to place and densify the sand and wood or metal within the measures. The wood or metal is placed within each layer with at least ½ inch of loose sand beneath and around the wood or metal pieces. The weight of the densified sand, measure, and wood or metal is used to determine the density and subsequent volume of the wood or metal. The calculated volumes shall be compared to the known volumes of the wood or metal pieces to see if any change in shaking time or sand type is needed. If the calculated and known volumes are within +/- 2% of each other, the test verification is successful. See below for the step by step procedures for this:

> **MEASURE BOX -** (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine volume and weight of pre-cut pieces of wood or metal as noted in Step 4) above; (4) Densify wood or metal in layers following the similar method noted in Step 3) above; (5) Determine the densified sand and wood or metal weight in the unit measure; (6) Calculate the volume of wood or metal as shown below:
>
> (a) Volume of Measure Box (ft^3)
> (b) Weight of Measure Box (lb)
> (c) Average weight per unit volume of densified sand (lb/ft^3)
> (d) Wood or metal Pieces total weight (lb)
> (e) Wood or metal Pieces total volume (ft^3)
> (f) Average determined densified sand, wood or metal, & measure weight (lb)
> (g) Densified sand only weight (no wood or metal) = (c) x (a)
> (h) Densified sand only weight (with wood or metal) = (f) – (b) – (d)
> (i) Volume of wood or metal (from densified sand test) = [(g) – (h)] / (c)
> (j) % actual volume wood or metal = 100 x (e) / (a)
> (k) % tested volume wood or metal = 100 x (i) / (a)

6) **Non-soil Volume Determination:** Determination of non-soil volume for a test sample is as follows. Determine the wet weight of the sample prior to placement into the loose sand layers. Cleaned non-soil pieces from a sample are placed in one of the tested measures above by following procedures as outlined in Step 3). The non-soil pieces are placed within each layer of loose sand with at least ½ inch of loose sand beneath and around the various non-soil pieces. The non-soil piece may be cut to fit into the measure but care should be used to ensure that all pieces of the sample are measured. The weight of the combined densified sand, measure, and non-soil shall be recorded to the nearest 0.1 lb. To determine the density and subsequent volume of the non-soil pieces, see calculations below.

> **MEASURE BOX -** (1) Determine the volume and weight of the measure as noted in Step 1) above; (2) Determine the average densified sand weight per unit volume as noted in Step 3) above; (3) Determine weight of sample pieces of non-soil; (4) Densify non-soil pieces in layers following the similar method noted in Step 3) above; Determine the densified sand

and non-soil pieces weight in the unit measure; (5) Calculate the volume of non-soil pieces as shown below:

(a) Volume of Measure Box (ft3)
(b) Weight of Measure Box (lb)
(c) Average weight per unit volume of densified sand (lb/ft3)
(d) Weight of Sample Non-soil Pieces (lb)
(e) Determined densified sand, non-soil pieces, & measure weight (lb)
(f) Densified sand only weight (no non-soil pieces) = (c) x (a)
(g) Densified sand only weight (with non-soil pieces) = (e) – (b) – (d)
(h) Volume of non-soil pieces (from densified sand test) = [(f) – (g)] / (c)
(i) Volume of excavation (ft3)
(j) % tested volume non-soil pieces = 100 x (h) / (i)

7) **Documentation:** As a minimum, calibrations of Measure Boxes should be documented annually on the Unit Weight Measure Volume Determination Record. The Densified Sand unit weight shall be documented on the Densified Sand Calibration Record. Test records for samples shall be documented on the Non-soil pieces Volume Determination Record. Contact MVN-CD-Q for latest test forms.

G. The percent volume determined in Step 6) (j) above shall be compared versus the acceptable value listed in the specifications. If the test shows the percent volume is greater than the acceptable value, the Contractor shall follow the corrective actions as noted in the contract specifications.

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SURFACING (GRANULAR)

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SURFACING (GRANULAR)

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, and materials and performing all work necessary to construct and maintain surfacing for the berm road and temporary access road as indicated on the drawings, as well as any temporary roads.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C 88	(2013) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	(2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 131	(2014) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	(2014) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D 4318	(2010) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 75	(2014) Standard Practice for Sampling Aggregates

1.3 MEASUREMENT AND PAYMENT

1.3.1 Temporary Roads

No separate measurement or payment will be made for the surfacing material required for temporary roads, and existing access roads, including their maintenance, shaping, nor repair of any damages to the finished surfacing occasioned by the Contractor's construction operations required by the Contractor.

1.3.2 Berm Road and Optional Access Road Surfacing

Surfacing material required for the berm road, and optional access road shall be measured by the ton satisfactorily placed. Measurement will be made by the ton at the site of the work. Certified weight tickets shall be provided for each truck delivery. Trucks shall be weighed on scales that have been calibrated within 6-months of hauling. Certification of weigh scale calibration shall be provided to the Contracting Officer's Representative prior to placing surfacing. Payment will be made at the applicable contract unit price per ton for "Surfacing Berm Road" or "Surfacing - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for subgrade preparation; furnishing all plant, labor, equipment, and materials; placing, spreading, compacting, and maintenance; as specified herein and as shown on the drawings.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Sampling and Testing; G

Certified LA abrasion, Atterberg limits, soundness and gradation test results of surfacing material shall be submitted to the Contracting Officer's Representative (COR) for approval prior to shipment.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for the surfacing operations to assure compliance with contract specifications and maintain records of his quality control for all construction operations including but not limited to compliance with surfacing standards, quality and gradation of surfacing, thickness of surfacing prior to compaction, and width and location of the roadway in relation to the new levee centerline and levee crown.

1.5.2 Sampling and Testing

All laboratory facilities, personnel, and equipment used to test soil, concrete, and asphalt shall be part of a validated laboratory that has been inspection or audited by the USACE Materials Testing Center, Vicksburg, MS.

1.5.2.1 Sampling

Sampling of material shall be performed in conformance with ASTM D 75. Sampling will be observed by the Contracting Officer's Representative.

1.5.2.2 Testing

Testing of surfacing materials shall be performed at a minimum frequency of one set of tests per 2500 cubic yards or fraction thereof of surfacing material placed. Testing of surfacing materials shall include gradation and Atterberg limit testing as indicated in paragraph "Crushed Stone".

Test performance shall be pursued in such a manner that the results are obtained in the minimum time frame. All test results shall be furnished to the Contracting Officer's Representative to confirm materials' compliance with the specifications. Surfacing materials not meeting the specifications shall be removed from the site and replaced with surfacing materials meeting the specifications.

1.5.3 Reporting

The original and two copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS

2.1 SURFACING

Surfacing material shall be crushed stone and be in accordance with the f ollowing:

Crushed stone from the sources listed in Section 01100 GENERAL PROVISIONS, paragraph entitled "STONE SOURCES" shall consist of 100 percent stone and shall meet the following requirements when tested in accordance with ASTM C 136 and ASTM C 117, Procedure B:

U.S. Sieve	Percent Passing
1-1/2-inch	100
3/4-inch	50 - 100
No. 4	35 - 65
No. 40	10 - 32
No. 200	3 - 15

The fraction of material passing the No. 40 sieve shall conform to the following requirements when tested in accordance with ASTM D 4318:

Liquid Limit (Max.)	25
Plasticity Index (Max.)	4

Crushed stone shall show an abrasion loss of not more than 40 percent when tested in accordance with ASTM C 131 and a soundness loss of not more than 15 percent when subjected to 5 cycles of the magnesium sulfate soundness test in accordance with ASTM C 88.

PART 3 EXECUTION

3.1 BASE PREPARATION

Prior to placement of the surfacing as indicated on the drawings, all debris shall be removed from the area to receive the surfacing. Base preparation for all roads shall be completed in advance of placing surfacing.

3.2 PLACEMENT AND COMPACTION

The placement of surfacing shall not commence until all slope operations in

the area have been finalized. No surfacing shall be placed or compacted on a muddy or rutted subgrade. The surfacing material shall be compacted to provide a smooth, uniform, closely-knit riding surface free from ridges and depressions. Compaction shall be performed by making two or more passes with a vibratory steel drum roller. The access road surfaced area shall have, 9-inches of crushed stone. Any damage to the finished surfacing by the Contractor's construction operations shall be repaired by the Contractor at no expense to the Government.

3.2.1 Shaping

The surface course shall be shaped by the use of a blade grader or other suitable means. Any ruts formed shall be shaped as often as necessary to prevent breaking through the surfacing material into the subgrade. Holes, waves, and deficiencies in thickness, which may develop and are not filled by shaping, shall be filled by adding more material. Shaping shall continue until the surface is free from ruts, waves, and undulations.

3.2.2 Rollers

Any vibratory steel drum roller compactor shall be equipped with a smooth steel compaction drum. Vibratory rollers shall be operated at a frequency of vibration during compaction operations between 1,500 and 2,500 vibrations per minute (vpm). The roller shall have a minimum centrifugal force of 3,500 pounds and shall be operated at speeds not to exceed 1.5 miles per hour. A minimum of 6 passes per layer shall be obtained.

3.3 MAINTENANCE

3.3.1 Temporary Roads

Any temporary roads or access ramps as required by the Contractor shall be maintained by such shaping and addition of surfacing material as directed by the Contracting Officer to provide a usable and driveable road under all weather conditions and after completion of this contract shall be removed and returned to original site conditions as directed by the Contracting Officer's representative.

3.3.2 Surfacing

The surfacing for the berm access road shall be maintained by such shaping and addition of surfacing material as directed by the Contracting Officer to provide a usable and driveable road under all weather conditions during the construction period.

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TURF ESTABLISHMENT AND MAINTENANCE

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TURF ESTABLISHMENT AND MAINTENANCE

PART 1 GENERAL

1.1 SCOPE

The work provided for herein consists of the Contractor furnishing all plant, labor, equipment, and materials, and performing all operations necessary for establishment and maintenance of turf on areas as specified herein and as indicated on the drawings. Turf establishment of the embankment shall be performed upon completion of embankment construction and repair of any damaged slopes prior to turfing operations. The Contractor will be required to repair any damages or non-growth areas of the entire completed levee system, prior to acceptance. Turf will be considered established when the areas to be turfed have produced the required grass species in accordance with paragraph "ESTABLISHMENT".

1.2 MEASUREMENT AND PAYMENT

1.2.1 Seeding and Mulching

Measurement for seeding and mulching will be made by the acre. Acreage will be determined from surface areas computed from the theoretical gross cross section of embankment seeded and mulched. Measurement will be to the nearest foot and units computed to the nearest one-hundredth of an acre. No separate measurement will be made for placement of material required for repairs as described in paragraphs "Soil for Repairs" and "Replanting".

1.2.2 Fertilizer

Measurement for applying initial and post fertilizer to the soil as recommended by the certified agronomist after reviewing the soil testing results shall be made by the pound. The fertilizer weights shall be computed based on the available weights of nitrogen, phosphorous, or potassium required by the Turf Establishment Plan. Other inert or elemental materials typically included in the fertilizer shall not be included in the weight measurement. Measurement will be computed to the nearest pound.

1.2.3 Lime or Sulfur Soil Amendment

Measurement for applying soil amendments (lime and/or sulfur) to the soil as recommended by the certified agronomist after reviewing the soil testing results shall be made by the ton. Measurement will be computed to the nearest one-hundredth of a ton.

1.3 PAYMENT

1.3.1 Seeding and Mulching

Payment for seeding and mulching will be made at the contract unit price per acre for seeding and mulching". Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment

required, including soil testing, turf establishment plan, and applying the fertilizer, seed, and mulch a the applicable rates as specified herein. After seeding and mulching is completed, the Contractor may request partial payment only. Material certification and invoices must be provided to authorize the initial 60% payment when seeding is completed and 100%. Payment will not be made until turf is established and finally accepted in accordance with paragraph ESTABLISHMENT.

1.3.2 Fertilizer

Payment for initial and post fertilizer as required by the Turf Establishment Plan shall be made at the contract unit price per pound for "Fertilizer". Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment necessary to apply the fertilizer at the applicable rates as described in the Turf Establishment Plan.

1.3.3 Lime Soil Amendment

Payment for lime application will be made at the contract unit price per ton for "Lime Soil Amendment". Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment to apply the lime soil amendment at the applicable rates as described and recommended in the Turf Establishment Plan.

1.3.4 Sulfur Soil Amendment

Payment for sulfur application will be made at the contract unit price per ton for "Sulfur Soil Amendment". Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment to apply the sulfur soil amendment at the applicable rates as described and recommended in the Turf Establishment Plan.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Seed; G, CD

The Contracting Officer's Representative shall be furnished duplicate signed copies of statements certifying that each container of seed delivered is labeled in accordance with the Federal Seed Act and any Louisiana Department of Agriculture regulations and is at least equal to the requirements specified in paragraph "Soil for Repairs". This certification shall be obtained from the supplier and shall be furnished on or with all copies of seed invoices.

Turf Establishment Plan; G, EDC

The Contractor shall submit a Turf Establishment Plan for approval. The plan shall include recommendations for fertilizer and/or soil amendment application based upon soil testing results

by a certified agronomist or soil scientist for each completed section of levee to be turfed. The Contractor shall provide the name of the certified agronomy testing laboratory in addition to copies of the levee/embankment material soil analyses data sheets. Soil analyses shall include soil pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, zinc, chloride, total dissolved salts, conductivity, and sodium absorption ratio. In addition to the soil amendment and fertilization plan, the Turf Establishment Plan shall describe procedures and specific equipment used for ground surface preparation, seeding, and mulching.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for the work specified in this section to assure compliance with contract requirements and maintain records of this quality control for all construction operations including, but not be limited to, the following:

(1) Soil Analysis - Soil analysis reports from a certified agronomic laboratory. Soil samples will be taken in accordance with paragraph "Soil Analysis" and the test results used to determine weights of fertilizer and soil amendments required.

(2) Preparation of Ground Surface - Location and quality of finished dressing, including necessary clearing, filling, or dressing out of washes, smoothness and uniformity of surfaces, and time of year.

(3) Herbicides - Manufacturer's label, SDS, date of application, rate of application, location and area of application, environmental conditions during herbicide application (e.g. temperature), valid applicator licensing, Pesticide Safety Plan.

(4) Fertilizing - Quality of fertilizer materials used. Areas fertilized, quantity applied, and method of application. Certificate of analysis and certificate of delivery shall be furnished to the Contracting Officer to verify quality and quantity as specified in paragraph Turf Establishment Plan. The rate of application shall be checked daily to insure conformance to soil testing laboratory recommendations.

(5) Seeding - Seed species and cultivar, seed label, area covered, quantity of seed applied, and method of seed distribution. All bags of seed furnished shall have an analysis tag showing all information required by the Louisiana Seed Law. Seed furnished shall be from the previous season's crop and the date of analysis shown on each tag shall be within 5 months of time of delivery. Rate of application shall be checked daily to insure that the rate conforms to the requirements of paragraph "General".

(6) Mulching - Quality and type of mulch material applied, area covered by the mulch, quantity applied, and method of mulch application. Certificate of delivery showing weight of material delivered for either vegetative or fiber mulch shall be furnished to verify rate of application in accordance with paragraph "APPLYING AND ANCHORING MULCH".

(7) Maintenance and Repair - Location and type of maintenance problems and remedial treatment performed in accordance with paragraph "Soil for Repairs" and "Damage to Established Seeding Area".

1.5.2 Reporting

The Contractor shall furnish the original and two copies of the inspection and test records, as well as "corrective action taken" records, to the Contracting Officer's Representative daily. Format of the report shall be as prescribed in Section 01 45 04.00 10, "CONTRACTOR QUALITY CONTROL".

1.6 AREAS TO BE TREATED

Fertilizing, soil amending, seeding, and mulching shall be performed on all disturbed areas within the construction limits and on all newly constructed embankments.

1.7 COMMENCEMENT, PROSECUTION, AND COMPLETION

1.7.1 General

Preparation of the ground surface, fertilizing, and soil amending shall be in accordance with paragraphs "Preparation of Ground Surface" and "Application of Fertilizer and Soil Amendments. Seeding operations shall be accomplished during the applicable growing season as specified in paragraph "Seeding".

1.7.2 Sequence of Work

The sequence of operations for work prescribed in this section, except mowing, shall be as follows:

(1) Soil Analyses

(2) Preparation of Ground Surface

(3) Fertilization and Soil Amendments

(4) Seeding

(5) Mulching

(6) Mowing

Fertilizing, seeding and mulching operations shall commence upon completion of embankment construction at a length corresponding to the completed length of embankment construction in Section 31 24 00.00 12 - EMBANKMENT. At no time shall such fertilizing, soil amending, seeding, and mulching operations be more than 14 days behind completed portions of embankment unless approved by the Contracting Officer.

1.8 HERBICIDE APPLICATION PLAN

Approved herbicides may be used on areas requiring new turf establishment. Herbicides may also be used on sections of embankment which have a hold period as a result of required stage construction stipulated in the plans drawings, and during which time vegetative growth has occurred. At least 30 days prior to application of any herbicide, the Contractor shall furnish a Herbicide Application Plan. The Contractor shall ensure that the plan for

herbicide applications complies with all applicable local, state, and federal requirements. The plan shall include the following items, as a minimum:

(1) proposed herbicides and application rates

(2) copies of herbicide manufacturer's labels and material safety data sheets

(3) any state-imposed conditions, copies of commercial and/or restricted use herbicide applicators' certificates from the states in which the work is to be performed

(4) an activity hazard analysis

(5) environmental protection procedures

(6) spill containment procedures

(7) residue and container disposal procedures

(8) noncompliance reporting and response procedures

1.9 TURF ESTABLISHMENT PLAN

At least 14 calendar days prior to initiating grass establishment, the Contractor shall furnish a Turf Establishment Plan for review and approval. The plan shall include recommendations for fertilizer and/or soil amendment application based upon soil testing results for each completed section of levee to be turfed. These test shall be performed by a certified agronomist. Recommendations based on soil testing results will be from a testing laboratory, state agricultural extension services, or private consultant. However, the Turf Establishment Plan must be prepared by the Contractor and approved by a certified agronomist or certified soil scientist to clearly indicate the application rates for soil amendments and fertilizer. In addition to soil amendment and fertilization, the Turf Establishment Plan shall describe procedures and specific equipment used for ground surface preparation, seeding, and mulching. Unless the approved Turf Establishment Plan contains a variation, the minimum requirements for ground surface preparation, seeding, and mulching contained in this specification will be controlling.

1.9.1 Certified Agronomy Testing Laboratory

The Contractor shall provide the name of the certified agronomy testing laboratory in addition to copies of the levee/embankment material soil analyses as part of the turf establishment plan. Soil analyses shall include soil pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, zinc, chloride, total dissolved salts, conductivity, and sodium absorption ratio.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Fertilizer and Soil Amendments

Fertilizers and soil amendments in accordance with the approved Turf Establishment Plan shall be of commercial grade, uniform in composition,

free flowing and suitable for the Contractor's application method. Materials shall be delivered in bulk or labeled containers and shall conform to current Louisiana Department of Agriculture requirements for commercial fertilizers and soil amendments. Federal and state Government conforming labels that indicate producer's name, type, analysis, weight, and warranty of producer shall accompany each delivery of fertilizer. The Contractor shall provide duplicate signed copies of invoices from suppliers of fertilizer and/or soil amendments showing quantity, grade, and fertilizer analysis indicating percentages of nitrogen (soluble and insoluble), phosphorus, and potassium.

2.1.2 Soil for Repairs

Areas not suitable for turf establishment due to undulations or rills in the soil surface shall be repaired using compacted fill in accordance with Section 31 23 00.00 12 "Excavation" and Section 31 24 00.00 12 "Embankment".

2.1.3 Seed

For turf establishment, the Contractor shall furnish and apply certified (blue-tag) seed in accordance with regulations from the U.S. Department of Agriculture (under the Federal Seed Act) and the Louisiana Department of Agriculture. Seed must be in sealed or unopened containers prior to initiation of application. Seed that is wet, moldy or otherwise non-viable due to damage in transit or storage will not be accepted. Seed that is older than one year past label germination tests will not be accepted.

2.1.4 Mulch

Mulch shall be 100% thermally treated wood mulch fiber or higher quality mulch that shall be furnished and applied by the Contractor. All mulch products shall include a minimum 3% tackifier or be anchored by a method approved by the Contracting Officer, unless the manufacturer specifies an anchoring method. Materials that contain noxious grass or weed seeds that might be detrimental to the seed establishment or turf growth or to adjacent areas will not be acceptable. Mulch shall be 100% thermally treated wood fiber or higher quality mulch as specified in the Turf Establishment Plan.

2.1.5 Herbicides

Herbicides shall be delivered to the mixing site in original, un-opened containers bearing legible labels indicating the EPA registration numbers and product label. All operations associated with herbicide applications shall be in strict compliance with the manufacturer's label, an approved herbicide application plan, and all local, state, and federal regulations. The Government shall be informed as to the exact date, location and time of herbicide application prior to herbicide use.

PART 3 EXECUTION

3.1 SOIL ANALYSIS

Soil samples shall be collected for every 5 acres of disturbed area to be turfed. Each soil sample shall be a composite sample from no less than six random areas within the 5-acre area to a depth of four inches on the levee, embankment, and/or berm surfaces. Collected soil shall be mixed in a clean, non-metallic container. All organic matter from existing vegetation shall be removed from the soil sample prior to submission to the testing

laboratory.

3.2 PREPARATION OF GROUND SURFACE

3.2.1 General

Equipment, in good condition, shall be provided for ground preparation and for handling and placing all materials. The Contracting Officer's Representative shall approve equipment before work is initiated as part of the Turf Establishment Plan.

3.2.2 Vegetative and Debris Removal

Prior to soil preparation, existing vegetation shall be removed. Vegetation removal may be accomplished through mowing (scalping) or herbicide application. Any debris or material (e.g. clippings, shell, rocks, gravel) that may hinder seed germination, limit plant growth, or interfere with mowing operations shall be removed as specified in Section 31 11 00.00 12 CLEARING AND GRUBBING, paragraph DISPOSAL OF DEBRIS. Prior to and during soil preparation, the Contractor shall also remove any shells, rock, and other debris that are in the embankment and vegetative material from clearing that was placed back onto the levee section after completion of the embankment. The Contractor shall utilize a landscape rock rake or similar equipment supplemented with hand labor to remove this debris prior to fertilizing, seeding, and mulching. If a herbicide is to be applied, a Herbicide Plan shall be submitted for approval by the Contracting Officer prior to herbicide application in accordance with paragraph HERBICIDE APPLICATION PLAN.

3.2.3 Grading

Previously established levee/embankment grades and slopes shall be maintained in a true and even condition on the areas to be established with turf. The Contractor is responsible for repairing ruts and rills caused by erosion of the levee during rainfall events. Repairs to previously graded areas with undulations or irregularities shall be accomplished with material as described in paragraph SOIL FOR REPAIRS. The material shall be placed and compacted in accordance with Section 31 24 00.00 12, paragraph EMBANKMENT CONSTRUCTION. Where grades have not been established, the areas shall be graded as shown, or as directed by the Contracting Officer's Representative and all surfaces shall be left in a true and even condition. The Contracting Officer's Representative will conduct a Pre-Turfing inspection prior to commencement of turfing operations.

3.2.4 Soil Preparation

Soil shall be tilled to a depth of 2 inches by plowing, disking, harrowing, or other approved methods in the Turf Establishment Plan in order to provide an acceptable seed bed. The soil preparation shall be performed only during periods acceptable for turf establishment, in the opinion of the Contracting Officer's Representative. Environmental conditions that may constitute unacceptable periods for soil preparation include, but are not limited to, drought, high winds, excessive moisture, etc. The work shall cease until conditions are more favorable for turf establishment. Any additional soil repair shall be completed prior to turf establishment.

3.3 APPLICATION OF FERTILIZER AND SOIL AMENDMENTS

Adjustment of soil nutrient levels will be in accordance with the approved

Turf Establishment Plan as specified in paragraph "Turf Establishment Plan". Unless otherwise specified in the approved plan, initial fertilizers and soil amendment applications shall be incorporated into the top two inches of soil prior to seeding. The Contractor shall layout the embankment sections in one acre plots, with levee crown and side slopes laid out separately from berms and other areas to be treated. The one-acre plots shall be clearly marked with stakes and flagging to assure the correct amount of soil amendments, seed and mulch is applied per acre.

3.3.1 Fertilizer

In accordance with the approved Turf Establishment Plan, fertilizer shall be incorporated to a depth of 2 inches prior to seeding.

3.3.2 Soil pH

Soil pH shall be between 5.4 and 8.2. If the soil pH is outside of this range, one of the following amendments shall be added to adjust the soil pH.

3.3.2.1 Increasing Soil pH

A pulverized or palletized agricultural lime source shall be applied prior to planting and incorporated into the top 2 inches of soil. The rate of lime application shall be as specified in the approved Turf Establishment Plan. Dolomitic lime may be substituted for lime if magnesium levels are insufficient in accordance with the soil test results. Materials shall be hydrated lime conforming to Section 1018.03 of the 2006 edition of LDOTD Standard Specification for Roads and Bridges. The quantity of lime to be mixed with the embankment shall be determined by the soil testing results and shall be sufficient in quantity to permit compaction to the specified density. The lime shall be uniformly spread and uniformly mixed with the soil.

3.3.2.2 Reduce Soil pH

Agricultural grade elemental sulfur shall be applied, as specified in the approved Turf Establishment Plan, prior to planting. Elemental sulfur shall be incorporated into the top two inches of soil.

3.4 SEEDING

3.4.1 General

The applicable seed shall be sown at the rate and time as indicated in the table below, . A method of sowing shall be hydro-seed/mulch where-by the seed fertilizer, and mulch shall be premixed for the required application rates per the approved Turf Establishment Plan or other approved methods. No broadcasting of seed shall be allowed for seeding application. If hydroseeding, the Contractor shall only use potable water. When delays in operations extend the work beyond the most favorable planting season for the species designated, or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be stopped as directed by the Contracting Officer's Representative and resumed only when conditions are favorable for turf establishment or when approved alternative or corrective measures and procedures have been completed. If inspection during or after seeding operations indicates that areas have been left unplanted or other areas have not been adequately addressed, additional seed shall be applied.

March 1 to September 1

hulled common Bermuda grass - 150 lbs (min) of PLS/acre or Bermuda grass/seashore paspalum mix or Bermuda grass/Bahiagrass mix - 150 lbs (min) of PLS / acre.

September 1 to March 1

Step 1 - annual, intermediate, or perennial ryegrass-50 lbs (min) of PLS / acre to provide coverage during months when environmental conditions are not suitable for common Bermuda grass establishment.

Step 2 - between March 1 and September 1 - hulled common Bermuda grass - 150 lbs (min) of PLS/acre or Bermuda grass/seashore paspalum mix or Bermuda grass/Bahiagrass mix- 150 lbs (min) of PLS / acre.

Unhulled Bermuda grass may be planted in the month of February if soil temperatures are in excess of 65 F for a minimum of 7 consecutive days.

PLS (Pure Live Seed) = (label germination rate x label purity) x 100

Example of how to calculate PLS
PLS = (0.95 germination rate x 0.85 purity) x 100
PLS = 81%
Therefore 1 lb PLS requires 1/0.81 = 1.23 lbs of seed

3.4.2 Damage to Established Seeding Area

The Contractor shall be fully responsible for any damage to the establishment areas caused by his/her operations and erosion of levee due to rain events. Areas that become damaged as a result of poor workmanship erosion, ruts, rills, or failure to meet the requirements of the specifications will be ordered repaired and reseeded to specification requirements, without any additional cost to the Government.

3.5 APPLYING AND ANCHORING MULCH

Application of mulch shall follow these guidelines unless otherwise specified in the approved Turf Establishment Plan. The mulch shall be vegetative non-asphalt mulch consisting of 100% thermally treated wood fiber or higher quality mulch. Hydro-mulch shall be applied at the rate specified in the Turf Establishment Plan but no less than 3,500 pounds per acre on levee slopes and berms shall be done immediately after seeding. Hydro-mulching will include a minimum 3% tackifier or be anchored by a method approved by the Contracting Officer, unless manufacturer specifies an anchoring method. The mulch and tackifier shall be applied by means of approved equipment.

3.6 MOWING

3.6.1 New Turf Establishment Areas

Turf areas established under this contract shall be mowed with approved mowing equipment to a height of 3 to 4-inches whenever the height of the vegetation is in excess of 8 inches. Grass clippings created from mowing that will inhibit turf establishment shall be removed from the site. The

Contractor shall perform periodic and final grass mowing within the limits of work until final inspection and acceptance. In addition, ruts and rills shall be repaired to provide a smooth levee surface until final acceptance.

3.6.2 Existing Turf Maintenance

For the duration of the contract, the Contractor shall maintain established turf within the limits of the work as shown on the drawings, including any repairs due to erosion, ruts, or rills. Same requirements as paragraph New Turf Establishment Areas apply.

3.7 INSPECTIONS AND REPORTS

After initial planting, the Contractor shall inspect newly turfed areas at least once every two weeks. For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, names of personnel making the inspection, inspection date, height of vegetation, observations and conclusions, maintenance performed, and corrective actions, if required. The report shall be furnished to the Contracting Officer's Representative within 24 hours of the inspection as a part of the Contractor's daily QC Report.

3.8 REPLANTING

An inspection shall be conducted within 15 days of the first seeding to verify turf establishment. Within 30 days of the initial seeding operation, if turf establishment does not meet the requirements of paragraph "ESTABLISHMENT" the Contractor shall re-plant failing areas in accordance with this specification this section. If germination does not occur, additional seeding, fertilizer, and mulching shall occur every 15 days during the Bermuda growing season. The Contractor will shall continue to establish turf in the following growing seasons if necessary and maintain the entire worksite at no additional cost until acceptable turf is established. No additional payment will be made for re-seeding and establishment. If turf establishment is not achieved within 3 attempts, Bermuda sod shall be utilized to establish turf in bare areas. No additional payment will be made for sod placement and establishment.

3.9 POST-PLANTING FERTILIZER APPLICATION

For those areas that do not require replanting, approximately one month after the initial planting, fertilizer shall be applied at the minimum rate of 45 lbs per acre using a slow-release nitrogen fertilizer formula, or at a rate as recommended in the Turf Establishment Plan. The fertilizer shall be applied with irrigation or rainfall occurring within 24 hours.

3.10 ESTABLISHMENT

Turf will be considered established and completed when the areas to be turfed have produced the required grass species, either Bermuda, Bahia or Seashore Paspalum, over a minimum of 75 percent of the entire area as determined by the Contracting Officer's Representative by random sampling. Seventy-five percent coverage shall be confirmed by the use a 1 meter square constructed from PVC with 100 blocks of 100cm2 (10 cm grid). Coverage is defined as at least one sprig of Bermuda in each 10cm grid. Measurements shall be made on both sides of the levee every 200 feet along the levee centerline. If 25 blocks of the 1-meter square are not filled with the intended vegetative species; the entire 200 foot section of the levee shall be deemed unacceptable. In computing the 75% overall coverage

requirement, each acceptable grid test shall represent 200 linear feet of work divided by the total linear feet of turfing measured along the levee centerline. Bare areas are defined as areas greater than 1 square meter containing less than 25 percent Bermuda coverage, utilizing the 1 meter square PVC grid. If a reach has a successful grid test but contains a bare area, that 200 foot reach will not be considered acceptable or counted in the overall 75% coverage calculation. Even if 75% overall coverage is achieved, all bare areas shall be repaired by the contractor until the area is no longer defined as bare. Maintenance of the levee will continue to be the responsibility of the contractor until successfully establishment is achieved. Both the 75% coverage requirement and the absence of any bare , eroded, rutted, or rilled areas are necessary for acceptance.

3.11 INSPECTION AND ACCEPTANCE

Acceptance inspections of the entire turfed area shall be performed by the Contracting Officer's Representative by random sampling and supplemented by visual inspections. If inspection determines that turf establishment is not complete, the Contractor shall meet with the Contracting Officer's Representative at the job site to identify bare spots, eroded areas and rutting damage and to discuss the Contractor's plan of operation for completing new turf establishment. Prior to acceptance of turfed areas by the Contracting Officer's Representative, the Contractor shall restore any damaged areas resulting from the Contractor's operations or by natural forces at no additional cost to the Government. Partial reaches will not be accepted unless determined by the Contracting Officer's Representative to be in the best interest of the Government.

3.12 INITIAL SEEDING AND FERTILIZING ACCEPTANCE

Provided all other features of work have been accepted and completed, and provided all work within the project limits have had initial seed, mulch, and fertilizer accepted, no liquidated damages will be assessed after acceptable completion of initial seeding, mulching and fertilization. The remainder of turf establishment requirements remain in force.

-- End of Section --

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CORRUGATED METAL PIPE

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SECTION 33 40 01.00 12

CORRUGATED METAL PIPE

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, materials, and supplies, and performing all operations required to install the corrugated metal pipes beneath; as specified herein and as shown on the drawings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 218	(2003) Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe
AASHTO M 245	(2000) Corrugated Steel Pipe, Polymer Precoated, for Sewers and Drains
AASHTO M 246	(2000) Steel Sheet, Metallic-Coated and Polymer Precoated, for Corrugated Steel Pipe

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 301	(2016) Specifications for Structural Concrete

ASTM INTERNATIONAL (ASTM)

ASTM A 153/A 153M	(2005) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 760/A 760M	(2006) Standard Specification for Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains
ASTM A 762/A 762M	(2000) Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains

LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2016 Edition), LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD)

LSSRB 805	Structural Concrete
LSSRB 1007.01	Corrugated Steel Pipe and Pipe Arch
LSSRB 1007.08	Pipe Joints Systems
LSSRB 1019.01	Geotextile Fabric
LSSRB 701	Culverts and Storm Drains *
LSSRB 701.05	Laying Pipe
LSSRB 701.06	Joining Pipe

1.3 MEASUREMENT AND PAYMENT

Corrugated metal pipe culverts will be measured by the linear foot satisfactorily installed. Payment will be made at the applicable contract unit price per linear foot for "Corrugated Metal Pipe Culvert 60" Diameter - OW", or "Corrugated Metal Pipe Culvert 72" Diameter - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for furnishing all plant, labor, materials for the installation of the corrrugated metal pipe culvers; including but not limited to coupling bands, gaskets, plastic sealant, plastic filter cloth, base preparation, backfill, laying, placement and jointing, tests, excavation, removal and disposal of existing corrugated metal pipe;and other work incidental thereto; as specified herein and as shown on the drawings. . Payment will not be made for replacement of any items that were damaged due to Contractor fault or negligence. No separate measurement or payment will be made for temporary culverts required by the Contractor.

1.4 QUALITY CONTROL

1.4.1 General

The Contractor shall establish and maintain quality control for excavation and backfill, and installing the corrugated metal pipe culverts. The Contractor shall maintain records of his quality control for all construction operations and checking materials to be used including but not limited, to the following:

(1) Checking construction operations and certifying compliance with applicable sections of the specifications.

(2) Checking materials to be used in installing the corrugated metal pipe culverts, including plastic sealant. The Contractor shall certify that all materials are in compliance with applicable regulations.

1.4.2 Reporting

The original and two copies of these records, test results, test data, hydrostatic tests and other tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Materials; G

All submittals required by ACI 301 including but not limited to concrete mix, materials, formwork, reinforcement, and repair materials

SD-07 Certificates

Test results, including chemical compositions, for the sheet manufacturer.

Test data from the producer.

Specified sheet thickness

Specified coating thickness

Hydrostatic Tests. The Type II pipe joint must pass the 5 psi - hydrostatic pressure test before being approved, in accordance with LSSRB 1007.08.

The Contractor shall submit certificates showing the sleeve gaskets and plastic sealant complies with the contract specifications. The Contractor shall furnish the Contracting Officer a certificate showing the corrugated metal pipe and connecting bands furnished are as specified. The certificate shall include as a minimum the above listed items.

PART 2 PRODUCTS

2.1 MATERIALS AND WORKMANSHIP

2.1.1 Corrugated Metal Pipe

The corrugated metal pipe shall be galvanized steel, polymer coated pipe fabricated in accordance with ASTM A 760/A 760M and AASHTO designations AASHTO M 218, AASHTO M 245, and AASHTO M 246. The corrugated metal pipe shall be Type I Classification, 12 gage minimum thickness. The polymer coating shall be a minimum of 0.01 inches on the interior and exterior surfaces. The zinc coating shall be applied in accordance with the requirements of AASHTO specification AASHTO M 218. The polymer coating shall be applied in accordance with the requirements of AASHTO specifications AASHTO M 245 and AASHTO M 246. The corrugations for the culvert shall be 2-2/3inches by 1/2inches as specified in Table 7 of ASTM A 762/A 762M. The individual lengths of culvert segments required shall be determined by the Contractor to provide the overall length of culvert specified. Each pipe segment shall be handled with lifting lugs, which have been attached to the pipe by the manufacturer.

2.1.2 Flexible Plastic Gaskets

Flexible plastic gaskets shall conform to LSSRB 1007.08.1.

2.1.3 Coupling Bands

Metal bands shall conform to LSSRB 1007.08.4.2. The coating shall be the same as used on the conduit.

2.1.3.1 Criteria

(a) Circumferential rods, lugs, bolts, and nuts shall be hot-dip galvanized after fabrication in accordance with ASTM A 153/A 153M. The bolts shall be torqued to a minimum of 40 foot-pounds. Each bolt shall be checked for torque in the presence of the Contracting Officer prior to backfilling.

(b) After installation of connecting bands, the entire exterior of each joint assembly, including bands, rods, lugs, bolts and nuts shall be given the same polymer coating as that used for fabrication of the pipe.

2.1.4 Plastic Filter Cloth

Plastic filter cloth shall be a non-woven pervious sheet of plastic yarn, consisting of a long-chain polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amide or vinylidene-chloride. The fabric shall be so constructed that yarns will retain their relative position with respect to each other. Edges of fabric shall be finished to prevent the outer yarn from pulling away from the fabric. Seams meeting strength requirements of the fabric will be permitted. Fibers of other composition may be woven into the fabric for reinforcing purposes. Durability of these fibers must be equivalent to that of the fabric. The fabric shall conform to the requirements of LSSRB 1019.01.1, and LSSRB 1019.01.2 (1) Class D usage.

2.1.5 Culvert Safety Ends

The concrete culvert safety ends shall be in accordance with LSSRB 805.

2.1.6 Other Material

All other material shall be as indicated on the drawings or as specified in other sections of these specifications.

PART 3 EXECUTION

3.1 LAYING AND JOINTING PIPE

3.1.1 Criteria

(1) The polymer precoated corrugated metal pipe to be installed beneath the new haul access road shall be in accordance with LSSRB 701, and LSSRB 1007.01. At the time of installation, the pipe shall be in good condition, free from dents or other defects. Pipe shall not be dropped to the ground, or be allowed to roll free down slopes. Any section of pipe that is damaged or becomes damaged in the course of the Contractor's operations, or that is not to line and grade shall be removed and replaced or relaid, as required, at no cost to the

Government.

(2) The pipe shall be laid in accordance with LSSRB 701.05 and LSSRB 1019.01 with ends fully and closely joined and true to grade. The coupling bands shall lap an equal portion on each section joined, and the bands shall be drawn up tight to insure a watertight joint. Ends of adjacent pipe sections shall be spaced so that the corrugations of the coupling bands mesh with those of the pipe.

(3) Coupling band bolts and damaged areas of the coupling bands and pipes shall be recoated prior to backfilling.

(4) Laying shall be with separate sections joined firmly together, with the outside laps of circumferential joints pointing upstream, and with longitudinal laps on the sides. Part paved pipe shall be installed so that the centerline of bituminous pavement in the pipe, indicated by suitable markings on the top at each end of the pipe sections, coincides with the specified alignment of pipe.

(5) Pipe shall have a painted or otherwise applied label inside the pipe indicating specified sheet thickness of the pipe. Any unprotected metal in the joints shall be given the same polymer specified coating thickness as that used for fabrication of the pipe. Interior coating shall be protected against damage from insertion or removal of struts or tie wires.

(6) Lifting lugs shall be used to facilitate moving pipe without damage to exterior or interior coatings. During installation, pipe or pipe arch shall be handled with care to preclude damage to the bituminous coating. Prior to placing of backfill, damaged areas of coupling bands and pipe shall be recoated with the same polymer coating used for fabrication of the pipe. Pipe which bituminous coating has been damaged to such an extent that satisfactory field repairs cannot be made, shall be removed and replaced. Vertical elongation, where indicated, shall be accomplished by factory elongation. Suitable markings or properly placed lifting lugs shall be provided to ensure placement of factory elongated pipe in a vertical plane.

3.1.2 Pipe Joints

The pipe placed shall have a Type 2 pipe joint conforming to LSSRB 701.06 and LSSRB 1007.08. The joint shall be wrapped with plastic filter cloth for a minimum of 12 inches wide on each side of the connecting band. The ends of the fabric shall be lapped a minimum of 10 inches. The edges and ends of the fabric shall be suitably secured for the entire circumference of the pipe.

3.1.3 Base Preparation

The bottom of the ditch to receive the pipe shall be graded to conform to the bottom and haunches of the pipe, compacted in such a manner as to form a firm and uniform surface. Where wet or otherwise unstable soil incapable of properly supporting the pipe, as determined by the Contracting Officer, is encountered in the bottom of the ditch, such material shall be removed to the depth required and replaced to the proper grade with sand or crushed stone, and compacted.

3.1.4 Backfill and Compaction

All backfill required to place the pipe shall be as specified in Section 31 24 00.00 12 EMBANKMENT, Section 32 15 00.00 12 SURFACING (GRANULAR), and as shown on the contract drawings.

-- End of Section --

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STONE CONSTRUCTION

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SECTION 35 31 19.04 12

STONE CONSTRUCTION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment and materials, and performing all operations in connection with furnishing and placing the graded stone and other incidental work as may be necessary to complete the stone placement as specified herein and as shown on the drawings.

1.2 MEASUREMENT AND PAYMENT

The unit of measurement of stone satisfactorily placed in the work will be the ton (2,000 pounds). Quantities will be computed to the nearest whole ton. Stone shall be delivered by truck from a quarry or railroad siding. It shall be weighed on approved scales before being placed in the work. The scales shall be located as near the site of the work as is practicable and shall be tested as often as necessary to ensure accurate weights, as determined by the Contracting Officer. The Contractor shall furnish the scales and shall weigh the stone in the presence of a Contracting Officer's Representative, who will certify to the correctness thereof. Weight certificates furnished by a public weighmaster will be acceptable in lieu of such procedures when authorized by the Contracting Officer. Payment will be made at the contract unit price per ton for "Stone_R-90 - OW", if Optional Work is exercised. Price and payment shall constitute full compensation for furnishing all plant, labor, materials and equipment for testing, hauling, handling, placing and maintaining the graded stone.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C 127	(2015) Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate

1.4 QUALITY CONTROL

1.4.1 General

The Contractor shall inspect all materials before they are incorporated into the work for compliance with contract requirements and any material found to be defective will be rejected. All information pertaining to the inspection shall be recorded and included in quality control reports furnished the Contracting Officer. The Contractor shall establish and maintain quality control for construction operations to assure compliance with contact requirements, and maintain records of his/her quality control

for all construction operations. The quality control reports shall include, but not be limited to, the following:

(1) Equipment. Type, size, and suitability for construction of the prescribed work.

(2) Submission of stone samples for quality testing, if from other than approved sources, as specified in paragraph Sources and Evaluation Testing.

(3) Quality of stone meets the requirements specified.

(4) Quantity of stone delivered and placed each day.

(5) Gradation of Stone. Gradation tests of stone shall be accomplished at the quarry. Tests by weight shall be made by the Contractor in the presence of the Contracting Officer's Representative. The Contractor shall notify the Contracting Officer not less than 3 working days in advance of each test. In the event of nonavailability of the Government representative, the Contractor shall perform the tests and certify to the Contracting Officer that the stone shipped complies with the specifications. A minimum of one test shall be performed for each 25,000 tons, or fraction thereof, of stone supplied to the Government from each source. Each test sample shall be representative of the stone being shipped and shall consist of not less than 15 tons. Percentage determinations shall be made for each stone weight specified. Gradation test data shall be recorded on MVN form 602-R "Gradation Test Data Sheet", a copy of which is shown at the end of this section. Failure of the test on the initial sample and on an additional sample will be considered cause for rejection of the quarry and/or quarry process, and all stone represented by the failed tests shall be set aside and not incorporated into the work. Any additional tests required because of the failure of an initial test sample will not be considered as one of the other required tests. Certification and test results shall represent stone shipped from the quarry and must be received by the Government representative before the stone is used in the work. The Contractor shall designate on the test form that portion (in tons) of the lot tested which is applicable to this contract. Any deviation from the reported tonnage shall be corrected on a revised gradation test form. The Contracting Officer may direct, under the Contract Clause "INSPECTION OF CONSTRUCTION" (FAR 52.246-12), additional testing of stone furnished to the worksite if the stone appears, by visual inspection, to be of questionable gradation or quality. Refer to paragraph MVN STANDARD TEST METHOD FOR GRADATION OF STONE for the gradation test method.

(6) Compliance Surveys. Upon completion of suitable reaches of berm erosion protection, the Contractor shall perform, plot and submit compliance cross section surveys at a maximum of 50 feet intervals, berm transitions and breakpoints. All sections shall be taken at locations corresponding to the Government original survey. They shall be plotted by the Contractor on a minimum scale of 1 inch equals 10 feet horizontally and 1 inch equals 5 feet vertically with the theoretical design cross section and allowable grade tolerances superimposed thereon.

1.4.2 Reporting

The original and two copies of these records, as well as the records of

corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Graded Stone

2.1.1.1 General

All stone shall be of a hard, durable quality such as will not disintegrate under the elements or be easily broken in handling. It shall be clean and free from earth, dust, or other refuse. The faces of individual pieces of stone shall be roughly angular, not rounded, in shape. Field stone will not be accepted.

2.1.1.2 Sources and Evaluation Testing

Stone shall be obtained in accordance with the General Provision entitled "STONE SOURCES" (see Section 01100 GENERAL PROVISIONS). If the Contractor proposes to furnish stone from a source not listed in "STONE SOURCES" attached at the end of Section 01100, the Government will make such investigations as necessary to determine whether acceptable stone can be produced from the proposed source. Satisfactory service records on work outside the Corps of Engineers will be acceptable. If no such records are available, the Government will make tests to assure the acceptability of the stone. The tests to which the stone may be subjected will include petrographic analysis, specific gravity, abrasion, unit weight, absorption, wetting and drying, freezing and thawing and such other tests as may be considered necessary by the Contracting Officer. The following guidance is provided for use by the Contractor in analyzing a source of stone not listed in "STONE SOURCES". Stone that weighs less than 155 pounds per cubic foot or has more than 2 percent absorption will not be accepted unless other tests and service records show that the stone is satisfactory. The method of test for unit weight and absorption will be ASTM C 127 except that unit weight will be calculated in accordance with note 5 using bulk specific gravity, S.S.D. Samples of stone from a source not listed in "STONE SOURCES" shall be submitted to the Contracting Officer for testing and acceptance prior to delivery of any stone to the site of the work. Samples shall consist of at least seven pieces of stone, roughly cubical in shape and weighing not less than 100 pounds each. All such samples shall be taken by the Contractor under the supervision of the Contracting Officer. The samples shall be shipped at the Contractor's expense to the U.S. Army Engineer Research and Development Center (ERDC), 3909 Halls Ferry Road, Vicksburg, Mississippi, at least 90 days in advance of the time of the placing of the stone is expected to begin. The tests will be conducted in accordance with applicable Corps of Engineers methods of tests and will be performed at the U.S. Army Engineer Research and Development Center (ERDC), Vicksburg, Mississippi. The cost of testing will be borne by the Government.

2.1.1.3 Size

Stone shall be in pieces, each shipment shall be graded approximately as follows:

Percent Lighter By Weight	Stone Weight in Lbs.

100	90 Pounds to 40 Pounds
50	40 Pounds to 20 Pounds
15	20 Pounds to 5 Pounds

2.2 MVN STANDARD TEST METHOD FOR GRADATION OF STONE

2.2.1 General

2.2.1.1 Sample Selection

The most important part of the test and the least precise is the selection of a representative sample. No "standard" can be devised; larger quarry run stone is best sampled at the shot or muck pile by given direction to the loader; small graded stone is best sampled by random selection from the transporting vehicles. If possible, all parties should take part in the sample selection, and agree before the sample is run, that the sample is representative.

2.2.1.2 Selection of Size for Separation

It is quite possible and accurate to run a gradation using any convenient sizes for separation, without reference to specifications. After the test is plotted on a curve, then the gradation limits may be plotted. Overlapping gradations with this method are no problem. It is usually more convenient, however, to select points from the gradation limit, such as the minimum 50 percent size, the minimum 15 percent size, and one or two others, as separate points.

2.2.2 Procedure

(1) Select a representative sample (See paragraph Sample Selection), weigh and dump on hard stand.

(2) Select specific sizes (see example) on which to run "individual weight larger than" test. Procedure is similar to the standard aggregate gradation test for "individual weight retained".

(3) Determine the largest size stone in the sample. (100 percent size).

(4) Separate by "size larger than" the selected weights, starting with the larger sizes. Use reference stones, with identified weights, for visual comparison in separating the obviously "larger than" stones. Stones that appear close to the specific weight must be individually weighed to determine size grouping. Weigh each size group, either individually or cumulatively.

(5) Subparagraph (4) will result in "individual weight retained" figures. Calculate individual percent retained (heavier than) and cumulative percent retained and cumulative percent passing (lighter than). Plot percent passing, along with the specification limits on ENG Form 4055 and fill-in and document test on MVN Form 602-R.

EXAMPLE GRADATION

SPECIFICATIONS

STONE WEIGHT IN LBS.	INDIVIDUAL PERCENT RETAINED
75 - 125	10 max.
25 - 74	40 - 60
6 - 24	20 - 40
<6	15 max.

EXAMPLE WORKSHEET

STONE WEIGHT IN LBS.	INDIVIDUAL WEIGHT IN POUNDS	INDIVIDUAL % RETAINED	SPECIFICATIONS	
+125	0	0	0	0
75 - 125	2,600	30	30	0
25 - 74	16,200	35	65	5
6 - 24	10,000	25	90	0
< 6	3,200	10	100	0
TOTAL	32,000 lbs.			

NOTE: Largest stone 125 lbs.

PART 3 EXECUTION

3.1 CONSTRUCTION

3.1.1 General

The graded stone shall be placed over the interior channel bottom as shown on the drawings.

3.1.2 Placement

The large stone shall be well distributed throughout the mass and the finished structure shall be free from pockets of small stone and clusters of larger stone. Excavation for floating plant on the protected or flood side of the levee will not be permitted. The Contractor shall take measures to minimize the duration of exposure of embankment to wave action so as to minimize erosion. Where erosion has occurred, the Contractor shall restore the area to design grade and section at no additional cost to the Government.

3.2 GRADE TOLERANCES

All berm erosion protection work shall be constructed to the design grades and sections shown on the drawings. For graded stone, at all points, a tolerance of plus six inches will be allowed in the design grades and sections. Material that is placed outside the allowable tolerance will not be paid for.

-- End of Section --

GRADATION TEST DATA SHEET

Quarry_____ Type of Stone Tested _____

Date of Test_____ Testing Rate_____ Tons

TEST REPRESENTS

Contract No.	District	Tons
	Total	

GRADATION

Stone Weight (lbs)	Weight Retained (lbs)	Individual Percent Retained	Cumulative		Specification Requirement
			Percent Retained	Percent Passing	
Total Weight					

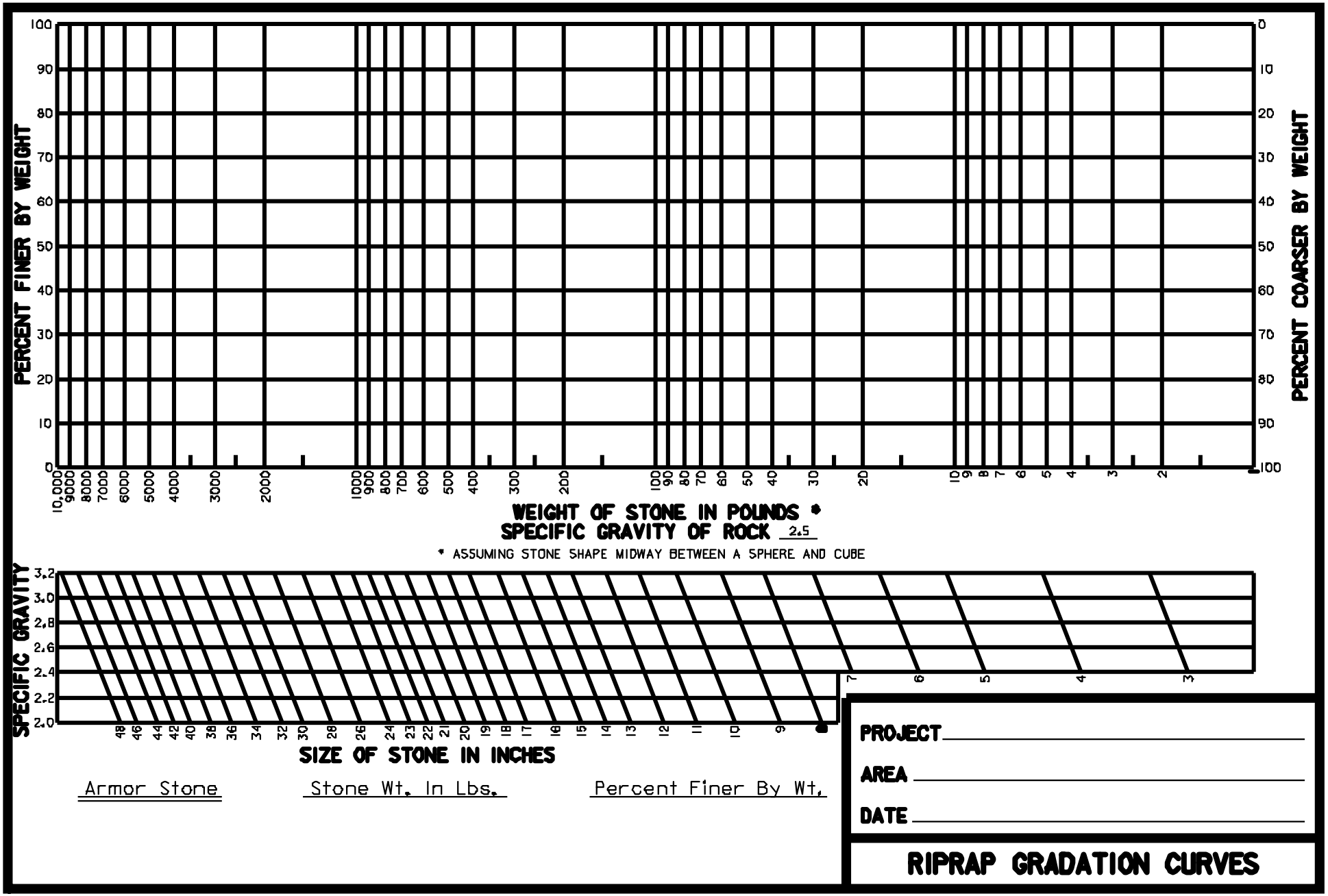
Remarks:_____

I certify that the above sample is representative of the total tonnage covered by this test report.

Contractor Representative_____

Government Representative_____

MVN FORM 602-R
Jun 02



PROJECT _____

AREA _____

DATE _____

RIPRAP GRADATION CURVES

ENG FORM 4055