

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AGENDA ITEM REQUEST
for a Petition for Rulemaking

AGENDA REQUESTED: August 12, 2020

DATE OF REQUEST: July 24, 2020

INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED: Andreea Vasile, Agenda Coordinator, (512) 239-1806

CAPTION: Docket No. 2020-0836-PET. Consideration of a petition for rulemaking under Section 20.15 of 30 TAC Chapter 20, Rulemaking.

The petition was filed with the Texas Commission on Environmental Quality (commission) on June 23, 2020 by Lake Houston Area Grassroots Flood Prevention Initiative (petitioner). The petitioner requested that the commission adopt a new rule that would establish best management practices for commercial sand mining and other lawful purposes within the San Jacinto River Watershed. (Shelby Williams, Michael Parr II) (Project No. 2020-044-PET-NR)

L'Oreal W. Stepney, P.E.
Acting Deputy Director

David Galindo
Division Director

Andreea Vasile
Agenda Coordinator

Texas Commission on Environmental Quality

Interoffice Memorandum

To: Commissioners **Date:** July 24, 2020

Thru: Bridget C. Bohac, Chief Clerk
Toby Baker, Executive Director

From: L'Oreal W. Stepney, P.E., Acting Deputy Director
Office of Water

Subject: Consideration of a Petition for Rulemaking

Docket No.: 2020-0836-PET

Project No.: 2020-044-PET-NR

Who Submitted the Petition:

On June 23, 2020, the Texas Commission on Environmental Quality (commission) received a petition from Lake Houston Area Grassroots Flood Prevention Initiative (petitioner).

What the Petitioner Requests:

The petitioner requested that the commission adopt a new rule that would establish best management practices for commercial sand mining and other lawful purposes within the San Jacinto River Watershed.

Recommended Action and Justification:

The executive director recommends approval of the petition to initiate rulemaking with stakeholder involvement. Through the stakeholder process, the executive director would identify and evaluate the appropriate best management practices that are technically supported for the sand mining industry to control the discharge of pollutants within stormwater discharges. The rulemaking would define specific areas within the watershed that would be regulated and would add a new chapter within the 30 TAC Chapter 311 Watershed Protection Rules.

Applicable Law:

- Texas Government Code, §2001.021, establishes the procedures by which an interested person may petition a state agency for the adoption of a rule;
- 30 TAC §20.15, provides such procedures specific to the commission;
- Texas Water Code (TWC), §5.013, General Jurisdiction of Commission, establishes general jurisdiction of the commission over other areas of responsibility as assigned to the commission under TWC and other laws of the state;
- TWC, §5.102, General Powers, establishes the commission's authority necessary to carry out its jurisdiction;
- TWC, §5.103, Rules, and §5.105, General Policy, authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013, and other state laws; and
- TWC, §5.120, Conservation and Quality of Environment, requires the commission to administer the law to promote judicious use and maximum conservation and protection of the environment and the natural resources of the state.

Commissioners

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July 24, 2020

Re: Docket No. 2020-0836-PET

Agency Contacts:

Shelby Williams, Project Manager, Water Quality Division, (512) 239-4968

Michael Parr II, Staff Attorney, (512) 239-0611

Andreea Vasile, Agenda Coordinator, (512) 239-1806

Attachment:

Petition

cc: Chief Clerk, 2 copies
Executive Director's Office
Jim Rizk
Morgan Johnson
Brody Burks
Office of General Counsel
Shelby Williams
Michael Parr II
Andreea Vasile

June 19, 2020

Toby Baker
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin Texas 78711-3087

Re: Proposed Rulemaking

Dear Mr. Baker:

Please find enclosed the revised Proposed Original Petition for Rulemaking of the Lake Houston Area Grassroots Flood Prevention Initiative (FPI). FPI has made the changes to the document to reference and incorporate specific rule language as requested. FPI proposes the adoption of a new rule that would establish best management practices for commercial sand mining and other lawful purposes within the San Jacinto Watershed. As TACA indicated in their letter of June 12, 2020 we have been working with TACA on this Rulemaking initiative.

We understand that TACA has also included an example draft guidance document in their submittal. We would also like to submit our version with the following CAVEAT: This is merely a draft document and NOT intended in any way to be a final submittal. It is definitely still a work in progress. With little or no technical advice on our side, we had intended to rely on TCEQ for the expertise in these areas. We would expect that this would be a part of a Regulatory Guidance basis to be supplemented by current Regulatory documents, such as RG-500 of Title 30, Chapter 213, with enforcement protocols included.

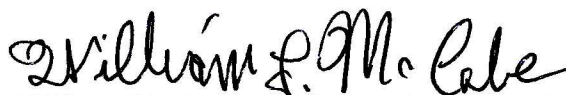
We would expect that Title 30, Chapter 213 and Chapter 311, Subchapter H would also give some guidance on Restoration and Reclamation.

Thank you in advance for your attention to this matter.

Respectfully submitted,



David Feille, authorized representative for Lake Houston Area Grassroots Flood Prevention Initiative



William McCabe, authorized representative for Lake Houston Area Grassroots Flood Prevention Initiative

Enclosure

PETITION FOR RULEMAKING
BY THE LAKE HOUSTON AREA
GRASSROOTS FLOOD PREVENTION
INITIATIVE

TO ADOPT NEW RULES FOR SAND
MINING BEST MANAGEMENT
PRACTICES IN THE SAN JACINTO
RIVER WATERSHED

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BEFORE THE TEXAS COMMISSION
ON ENVIRONMENTAL QUALITY

ORIGINAL PETITION FOR RULEMAKING

The Lake Houston Area Grassroots Flood Prevention Initiative (“FPI”) files this Original Petition for Rulemaking to the Texas Commission on Environmental Quality (the “Commission”) requesting that the Commission adopt a new rule establishing best management practices for the area within the San Jacinto Watershed as defined below. Petitioner respectfully requests that the Commission consider this Petition and adopt the attached proposed new rule. Pursuant to the provisions of 30 Tex. Admin. Code (TAC) Sec. 20.15, Petitioner shows the following:

**I. THE LAKE HOUSTON AREA GRASSROOTS FLOOD PREVENTION
INITIATIVE (FPI)**

The FPI is a citizens committee created following the flooding in the Lake Houston Area from Hurricane Harvey. The purpose is to bring community stakeholders together to evaluate the community’s needs in order to prepare and execute a long term recovery plan. The FPI is a concerted effort to bring citizens, municipalities, schools, colleges, employers, non-profits, neighborhood councils and social services organizations to work together to assist in recovering and protecting the Lake

Houston Area from future pollution and to protect water quality. We have also engaged the appropriate local government organizations in our area. The address for the FPI is c/o David Feille; 19607 Suncove Lane, Humble, TX 77346.

II. BRIEF EXPLANATION OF PROPOSED AMENDMENT

Currently, there are no watershed or river-basin-specific rules for the management and use of the sand mining areas in the San Jacinto River Watershed. The proposed rule would establish best management practices for sand mines in the San Jacinto River Watershed. It is FPI's intent that these proposed rules would have limited applicability and would not apply across the entire San Jacinto River Watershed. Consequently, the San Jacinto River Watershed would be narrowly defined as only the watersheds of the following and its tributaries:

- The East Fork of the San Jacinto River in Montgomery County, Harris County and Liberty County
- Peach Creek in Montgomery County
- Caney Creek in Montgomery and Harris County
- The West Fork of the San Jacinto River, to encompass tributaries that feed in below Lake Conroe Dam in Montgomery County and Harris County (to include Lake Creek, Spring Creek and Cypress Creek) terminating at the Lake Houston Dam in Harris County

FPI will work with the TCEQ and interested stakeholders to ensure final rule language is consistent with this intent.

III. TEXT OF PROPOSED AMENDMENT

FPI proposes the adoption of a new rule to be located in a new subchapter following Subchapter I of Chapter 311 Watershed Protection, Title 30 Texas Administrative Code. FPI proposes the following text of the new rule:

**SUBCHAPTER J: BEST MANAGEMENT PRACTICES FOR AGGREGATE
PRODUCTION OPERATIONS WITHIN THE SAN JACINTO RIVER BASIN**

311.101. Definitions.

The following words and terms, when used in this subchapter, have the following meanings.

(1) Aggregate Production Operations – A site that is subject to the requirements under Chapter 342 of this title (relating to Regulation of Certain Aggregate Production Operations).

(2) Best management practices (BMPs) – management practices, developed to minimize or prevent water pollution and/or eliminate additional sedimentation and/or turbidity coming from APOs.

(3) San Jacinto River Watershed – For the purposes of this subchapter the San Jacinto River Watershed is defined only as described above which will be subject to the requirements of the subchapter.

311.102. Purpose.

The purpose of this chapter is to regulate certain activities through Best Management Practices (BMP's) related to Aggregate Production Operations (APO) that have the potential to negatively impact water quality within the San Jacinto River Watershed.

1) The Executive Director shall develop and maintain a guidance document of Best Management Practices to minimize water pollution from APOs within the San Jacinto River Watershed as defined in this subchapter. The Best Management Practices shall be based on technically supported information that are generally relied upon by professionals in the environmental protection field. The BMP Document shall be updated regularly on an interval

determined by the executive director to allow for technological advancements and improved practices.

2) The Best Management Practices required by this chapter shall be implemented by any APO currently operating or seeking to operate in the portion of the San Jacinto Watershed as defined herein and all that are required to obtain a permit subject to the requirements of Chapters 205 and 305 of this title (relating to General Permits for Waste Discharges and Consolidated Permits) within the San Jacinto River Watershed.

3) These rules specifically apply to the San Jacinto River Watershed as defined in this subchapter and are not intended to be applied to any other basins or watersheds in the state of Texas.

4) Control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director determine that such measures have been used inappropriately, or incorrectly, the applicant must replace or modify the controls in a timely manner.

IV. AUTHORITY FOR PROPOSED RULE

The new rule is proposed to be adopted pursuant to § 26.011 of the Texas Water Code, which requires the Commission to administer the provisions of Chapter 26 Water Quality Control and to establish the level of quality to be maintained in, and to control the quality of, the water in this state as provided by Chapter 26. Waste discharges or impending waste discharges covered by the provisions of Chapter 26 are subject to reasonable rules adopted or issued by the Commission in the public interest.

V. INJURY OR INEQUITY RESULTING FROM FAILURE TO ADOPT PROPOSED RULE

Under the “status quo” there are no watershed or river-basin-specific rules for the best management practices of sand mines in the San Jacinto River Watershed. Moreover, this area has rapidly developed with new residential and commercial properties. As a result, Petitioner has been involved in multiple meetings to discuss how best to create best management practices that improve water quality, protect human health, and improve environmental quality. Adoption of the proposed rule would improve the management of the San Jacinto River Watershed for the mutual benefit of Petitioner and similarly situated businesses and residents of Texas. This proposed rule is in the public’s interest.

Introduction

This document is intended to be a guide for Regulators of activities, practices and processes in order to ensure that aggregate production operations in the San Jacinto River watershed sustain water quality in the area. Best Management Practices (BMPs) should be based on specific characteristics of each site unique to each operation, and that can allow the most efficient means of protecting and preserving water quality to be achieved. This document is intended to accommodate three key aspects of each facility's characteristics to enable the best possible outcomes for environmental protection:

1. Each facility is unique and has different elements of operations, including location, proximity to water bodies and riverway area, types of material being processed and utilized, size of footprint, type of processing equipment being used, along with a variety of other factors. Thus, deviations from any of the Best Management Practices listed below can be granted by the appropriate Regulatory Agency, as requested.
2. Each facility is dynamic in the nature of its operations, and can change as time moves forward, specifically in regard to areas being actively mined, buffer zones, processing methodology, equipment and operational changes. The selection of Best Management Practices that are applicable for one phase of a facility's operation may not fit the needs to accommodate future changes or phases, and they should be able to be adjusted appropriately as the facility evolves and/or as the geology of the mining area varies. Furthermore, other techniques may arise through technological innovation or advancement that are contemplated in this document which could subsequently be utilized as Best Management Practices in the future. Those possibilities should be accommodated as effectively as possible, with approval of the appropriate Regulatory Agency.
3. Land use is continually changing around facilities, and this can include development of adjacent properties or other construction projects which may change the impact of

stormwater flows onto and potentially impacting aggregate production operations. As such, certain Best Management Practices may need to be adapted to these changing conditions (as determined by the appropriate Regulatory Agency) to ensure that direct and indirect impacts from surrounding properties are sufficiently avoided, minimized or properly addressed.

Typical Best Management Practices for Non-Point Sources

Soil conservation and mitigation should be addressed during the initial phase of any surface disturbing activity. These are physical, structural, or managerial practices designed to prevent or reduce pollutants in the discharge of water offsite. Typical BMPs include redirecting storm water to prevent mixing with process water, coverage of chemical storage areas, and proper secondary containment to address spills. These are particularly important in areas where water flow is concentrated. Sediment loads discharged to streams should be minimized, if not eliminated altogether, by implementing successful and proven BMPs.

Select appropriate vegetative and structural controls, housekeeping practices, and post construction/storm water management measures and controls prior to, during and after land disturbing activities. Also, language in deeds, covenants, leases etc., may require sediment and erosion controls be installed and left in-place after mining is complete. There are basically two types of controls: 1) vegetative and 2) structural.

A. Vegetative Controls

Vegetation is an inexpensive and effective way to protect soil from erosion. It also decreases erosion from flowing water by reducing its velocity. Roots hold soil and increase infiltration. Topsoil should be added where existing soils are not suitable for adequate vegetative growth. Amendments may include composted manures, sawdust or even treated sludge. However, APOs must check with the TCEQ Solid Waste Department before using sludge applications and follow the applicable regulations.

Vegetative buffer zones are undisturbed or planted vegetated areas that surround a development, land disturbance activity or that border an intermittent stream or permanent water body. Buffer zones aid in sediment filtration and removal by slowing surface water flow through these areas. Construction site runoff should be dispersed over the entire buffer zone if possible. A minimum 100-foot buffer zone is recommended adjacent to perennial streams > 20' in width, 50 feet for perennial streams <20' in width and 35' for intermittent streams.

Sod stabilization, the most effective vegetative practice available, involves establishing long-term stands of grass with sod on exposed surfaces. When installed and maintained properly, sodding can be more than 99 percent effective in reducing erosion.

Protection of trees involves preserving and protecting selected trees that exist on the site prior to development. Mature trees provide extensive canopy and root systems that hold soil in place. Shade trees also keep soils from drying rapidly and becoming susceptible to erosion, as well as increasing property value. Consideration should be given to the tree root structure. Some trees root structure equal the size of the tree crown canopy. If trees die or no longer viable for soil stabilization for any reason, then they must be replaced within 30 days with an equivalent or better soil stabilizing tree by the operating APO.

Tillage, with lime and fertilizer, to maintain adequate soil pH and nutrient content, may be important before seeding. The local county agent and/or the Natural Resources Conservation Service (NRCS) can analyze soil for lime and fertilizer needs.

Temporary seeding is the planting of fast-growing annual grasses to hold the soil in areas that will not be disturbed again for 30 or more days. For long-term protection (greater than one year), permanent seeding should be initiated. Mulching helps insure seed growth and maintains soil moisture, and helps prevent erosion. It is essential when slopes are steep, the weather is hot or dry, and soil conditions are poor. The local county agent and/or the NRCS can analyze soil for lime and fertilizer needs.

Permanent seeding is the use of perennial grass (with trees & shrubs) to stabilize the soil. A seeding chart lists recommended perennials, depending on your geographic area. Vegetation is often not fully established until one year from planting. Inspect, repair and re-seed as needed, evaluating choice of seed and quantities of lime and fertilizer. Use temporary seeding if the time of year is not appropriate for permanent seeding. The local county agent and/or the NRCS can analyze soil for lime and fertilizer needs.

Mulching is the placement of hay, grass, wood chips, straw, or synthetic material on the soil. Mulch holds moisture, lessens temperature extremes and retards erosion on steep slopes during seed establishment. Soils that cannot be seeded due to the season should be mulched to provide temporary protection.

Erosion & Sediment Control Blankets are machine-produced mats of straw or other fibers held together with netting that provide temporary or permanent stabilization in critical areas, such as slopes or channels, so that vegetation may be established. These blankets often contain seeds to help establish vegetation.

Surface roughening, using heavy equipment, creates horizontal grooves across the slope which reduces runoff velocity/erosion and aid the growth of seed. Roughened slopes should be immediately seeded and mulched.

B. Structural Controls

Structural controls divert flows away from disturbed areas, reduce runoff velocities, filter sediment and remove sediment by ponding. Various types of structural controls are described below.

Temporary structures are installed before and during construction. After removing temporary storm water controls the area should be vegetated.

Permanent structures remain after construction.

Diversion ridges, berms or channels of stabilized soil can divert runoff from disturbed areas or sediment-laden runoff into sediment basins. If diversions will remain in place more than 30 days, they should be covered with temporary or permanent vegetation. Diversions must have enough slope to assure drainage, but not enough to cause erosion within the channel. Allow sufficient room around diversions to permit machine re-grading, if needed. The maximum allowable drainage area is five acres.

Silt fences are typically used below disturbed areas to capture sediment from sheet flow. Six to eight inches of the fence material should be buried in a trench about four inches deep and four inches wide. Silt fences that are not buried have no useful function and are a waste of money. The maximum slope length behind a fence is typically 100 feet with maximum gradient of two horizontal feet to one vertical foot (2:1 or 45 degree slope). Silt fences should never be installed across streams, whether flowing or intermittent. They may be placed in minor swales or ditch lines where the maximum contributing drainage area is no more than two acres. The fencing must be maintained and sediment removed when deposits reach one-half the fence height. After the fence is no longer needed, the area should be graded, seeded and mulched.

Straw bale barriers are also used on small disturbed areas to capture sediment from sheet flow. The drainage area must be restricted to 1/8 acre per 100 feet of barrier. Maximum gradient behind the barrier is three horizontal to one vertical. The barrier must be located so that the water depth does not exceed one foot at any point. Straw bales, with bindings oriented around the sides, shall be entrenched a minimum of four inches and anchored with two stakes driven toward the previously laid bale. Straw bales that are not buried are improperly installed, have no useful function, are a waste of money, and could result in substantial fines due to improper placement and subsequent sediment discharge.

Gaps between bales shall be wedged with straw. Loose straw scattered immediately uphill increases barrier efficiency. Under no circumstances should straw bale barriers be placed in flowing streams. For minor dry swales, the end bale bottoms shall be higher than the middle bale top to assure runoff will not flow around the barrier. Repair damaged bales, end runs and undercutting. Remove sediment when it reaches one-half barrier height. When upslope areas are stabilized, remove bales and grade, seed and mulch barrier line.

Sediment basins allow retention and deposition of sediment prior to discharge or recycling. Sediment basins are made by diking, excavating or a combination of the two. Because of typical basin shapes and embankment side slope requirements of 2:1 or less, the capacity of the basin may be estimated by using the trapezoidal rule approximation of $40\% \times \text{height} \times \text{surface area}$. Sediment should be removed when the volume has been reduced to 27yd³ per acre drainage area. The length should be twice the width, with maximum surface area and outlet as far from the inlet as possible. If using a dike, it must be well compacted and vegetated, with an outlet pipe or coarse aggregate spillway. Install basins prior to construction but not in flowing streams. Use diversions to direct drainage to basins.

Riprap outlet protection is placed at the outlet end of culverts or channels to reduce the depth, velocity and energy of water so that the flow will not erode the receiving stream.

Check dams are small dams constructed across swales or drainage ditches (lateral or wing ditches) to reduce flow velocity and erosion. They are not used in flowing streams. Check dams can be constructed of stone, straw bales, or logs, with a maximum height of two feet. The check dam center must be at least 6 inches lower than the outer edges to prevent erosion around the edges. The maximum spacing between dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam. Accumulated sediment should be removed from behind the check dams when it reaches one half the dam height. Erosion around dam edges should be corrected immediately, insuring that the dam center is six inches lower than the edges. In grass-lined ditches, grass must be established prior to dam removal. The dam

site should be seeded and mulched or sodded, as needed. This practice is limited to small open channels that drain 10 acres or less.

Construction entrance/exits are aggregate stabilized site entrances which reduce sediment tracked onto public roads. Aggregate should be at least six inches thick and 50 feet long. Tire washing may also be needed.

Housekeeping Practices. Pollutants that may enter storm water from construction sites because of poor housekeeping include various petroleum products, paints, solvents, litter, debris, sanitary waste and sediment from unstabilized areas. Good housekeeping practices include:

- designated areas for equipment maintenance and repair;
- waste receptacles at convenient locations;
- regular collection of waste;
- protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic or hazardous materials; and
- adequately maintained sanitary facilities.

Post Construction/Storm Water Management Measures. The Construction General Permit requires the SWPPP to describe measures that will be installed to control pollutants in storm water after construction is complete. These controls include, but are not limited to, one or more of the following:

Retention Ponds provides complete onsite storage and treatment of a specific volume of storm water runoff by using infiltration, evaporation and recycling. The average volume is typically the first inch or half inch of storm water runoff containing the first flush of pollutants.

Vegetated swales and natural depressions are grass-lined areas that filter sediments from runoff thus helping to prevent erosion. Vegetated swales should have side slopes of 4:1 or less.

Erosion and sediment controls shall be constructed and the stabilization measures shall be applied in the order that was indicated in the implementation sequence. It is important that employees are aware of the SWPPP and that it is readily available. The owner or prime contractor must inspect and maintain controls, recording damages or deficiencies and corrective measures.

Pre-Mining Phase

The pre-mining phase of a project requires advanced planning of the mining process itself and consideration of post-closure options for the site. The property to be mined should be evaluated to determine whether a sufficient amount of reserves of adequate quality exist in order to profitably mine the site. This evaluation also typically includes the location of the property with respect to existing transportation networks and the end market.

Locate mines outside of floodways as identified in the FEMA NFHL and or the local community floodplain permitting regulations. Prohibited activities include the operation of any quarry within 1,500 feet of a navigable water body.

A. Site Evaluation

The targeted property to be mined should be evaluated in terms of how the overall mining process will take place. This is typically called a Mine Plan. It typically includes location of processing plant, office and support facilities, haul road and/or access routes, product staging areas and overburden placement. An evaluation of the soil type(s) in the area planned for mining is valuable. Susceptibility of erosion to these soils should be known in the pre-planning stages. Since sands, silts and clays act differently when worked by earthmoving equipment, knowledge of the soil type(s) can reduce the cost incurred during site preparation. Detailed soil survey maps for each County are available at the United States Department of Agriculture (USDA).

It is a prudent practice to evaluate whether or not wetlands exist on the property under consideration for mining. The evaluation should be performed by an experienced wetlands scientist following the 1987 U.S. Army Corps of Engineers' Wetland Manual. This process may also be performed by personnel from the appropriate District Office of the U.S. Army Corps of Engineers. Although the US Army Corps of Engineers can perform a wetland evaluation, however, it typically takes longer for them to conduct this evaluation. Not performing a wetland evaluation can lead to serious violations, including mitigation of impacted wetlands within the same watershed area, if it is found later that wetlands existed and were impacted without an appropriate U.S. Army Corps of Engineers permit.

They also need to do an Threatened and Endangered Species assessment.

Operators need to be aware of local floodplain and drainage regulations and meet any local regulations including obtain any appropriate community floodplain development permits. Note: some communities are regulating to the 0.2% risk area (aka the 500 year floodplain) and/or have requirements for any landscape changes in the low risk flood zone area (unshaded X zone.). You are encouraged to check with the local community before performing any work. In addition be mindful if your property extends across multiple jurisdictions as they may have different regulations.

B. Understanding Site Drainage

It is important to determine the pre-existing drainage patterns and the areas where concentrated flow may exit for a potential mine site. Drainage areas are those locations of the site where runoff will flow in one preferential direction or towards particular discharge points. Understanding these factors will greatly enhance your selection and design of appropriate sediment control structures (i.e., BMPs) such as culverts, to minimize any adverse impacts to the site.

1. Surface Water Flow

Identifying the receiving waters (i.e., lake, stream, pond or wetland) is vital before site preparation can take place. If sensitive water bodies are downstream (i.e., wild and scenic

rivers, recreational streams, natural aquatic sites, private ponds and lakes or receiving streams listed on the 303(d) list) extra erosion controls may be needed. If the TMDL has already been developed, it may not allow additional inputs to the receiving stream. Any new activity located near the water body would then have to either purchase waste load allocations from existing permitted discharge facilities on the receiving stream or design their facility to completely recycle their intended wastewater and stormwater. Therefore it is important to know which water bodies have had TMDLs developed for them or are scheduled for TMDLs.

Understanding site drainage can be obtained by using the appropriate United States Geological Survey (USGS) Topographic Quadrangle map(s) for the area in question and studying the drainage features across the property. These maps show changes in elevation by a series of contour lines. These lines can be used to determine slope of the ground surface through the site to identify drainage patterns. Actual inspection of the property during or after a rainfall event can provide a substantial amount of information regarding how surface water flows across the subject site.

2. Ground Water Conditions

It is important to preserve the quality of ground water in Texas. Ground water comes from aquifers which transmit water through the subsurface. It is important to understand that mining of a potable aquifer can negatively affect the well yield of a potable well.

The following BMPs will help guide a ground water preservation effort:

- When a new sand and gravel operation is being considered, it is prudent to first check the TCEQ water well database to determine if registered public and private drinking water supply wells are located nearby.
- Perform a visual check for possible unregistered private wells in the immediate vicinity of the new sand and gravel pit (see distance guidelines below).
- The perimeter of the new sand and gravel wet mining pit should be located at least 1,000 feet from all public supply wells and at least 100 feet from all private drinking water wells. The 1,000-foot distance is based on ordinances being passed by local agencies which could prohibit new sand/gravel pits from locating within a 1,000-foot radial boundary from any water well

serving an active public water system. See the **TEXAS REFERENCE** Code distance guideline for reference.

The potential for artesian ground water conditions exists in some areas of the state. This type of situation would require the operator to obtain a National Pollution Discharge Elimination System (NPDES) Permit in order to treat any artesian water commingling with process water.

C. Site Preparation

Site preparatory activities should be initiated at the mine site only after surface water drainage and ground water conditions are thoroughly understood and appropriate permits have been obtained.

Once the proposed mine site is understood in terms of surface water drainage and ground water conditions, site preparation can be initiated.

1. Construction of Access and Haul Roads

Access or secondary and/or haul roads are a necessary component of a sand and gravel mining operation, especially on large pieces of property which can require the construction of several roads. Care must be taken in the construction of those roads so as to minimize impacts to the environment. Roads should be designed to drain at all times by using crowning, graveling, compacting, ditching, and/or culverting. Proper construction and maintenance of permanent or temporary access or haul roads is of vital importance. Road systems should be kept in serviceable condition to minimize erosion by rainfall runoff and normal vehicle use. Where necessary, road surfaces should be graveled if the base does not already contain sufficient aggregate.

a. Crowning of Roads – Road surfaces, when constructed, should be crowned or out-sloped to dissipate surface runoff and minimize erosion of the roadbed.

b. Graveling and Compacting – Graveling and compacting of the road surface allows for a more permanent and less maintenance-required road surface. It minimizes loose sediment runoff or tracking of sediment during wet periods onto public roads or highways.

c. Ditching and Culverting – Ditches (diversion, lateral and/or wing ditches) and culverts can be temporary or permanent drainage structures that, when adequately sized for a specific use, carry water flow from rainfall alongside or underneath a roadbed. Ditches and culverts should be sized based on anticipated rainfall events for the specific region of the state where it is being constructed. These structures should be installed at the time of roadway construction. Ditches should be sloped to prevent silting and to allow for maintenance (i.e., digging out sediment buildup). Ditches and culverts should be kept free of debris and obstructions in order for them to allow unrestricted passage of water. Typically ditches can be used for routing surface water flow away from adjacent properties offsite.

d. Silt Fencing – Simple, readily available and inexpensive silt fencing can aid in soil erosion caused by surface runoff provided it is installed correctly. The fencing must be installed and secured beneath the ground surface to prevent undermining or under-washing from occurring. The silt fencing must be inspected routinely and after each event to ensure it is not damaged and will function as designed.

2. Land Clearing and Grubbing Activities

Experienced and trained equipment operators should be used during this stage of the mining process so that soil disturbance, compaction and displacement are only provided on those areas ready for immediate use. It is prudent construction practice to install/construct sediment holding basins before major site grading takes place. These basins can catch and hold surface runoff before it leaves the site. Additionally, diverting upslope water around a planned area for disturbance is also good practice. It is strongly recommended that areas not be disturbed until such time as is necessary to facilitate the impending excavation or mining use of the area.

Factors contributing to timing of clearing and processing include mine plan sequencing, nature

of the deposit, product mix and market demand factors unique to a particular site. While these operational and economic parameters will in part dictate the timing on clearing, each site should avoid unnecessary land disturbance activities to the maximum extent practical. The time of year of land clearing and grubbing activities takes place can also minimize the impact that inclement weather can have on disturbed/affected areas. If possible, disturbed areas that are not actively being mined should be temporarily stabilized or covered with appropriate vegetation as soon as possible to minimize erosion and other impacts on the environment.

It is very important to only clear and grub acreage needed for the immediate term. Clearing or grubbing too much land too early in the construction phase of the mining operation will dramatically increase the potential for environmental impacts from surface water runoff and will increase the costs to control runoff from the mining site.

Moreover, it is also very important to remember that no mechanized earth-moving or land-clearing equipment (i.e., bulldozers, trackhoes, graders, etc.) may be operated within a wetland without first obtaining a Section 404 wetland permit from the appropriate U.S. Army Corps of Engineers District Office. (again how do we include Threatened and Endangered Species.

A minimum 100-foot buffer zone is should be observed adjacent to perennial streams and water bodies in the San Jacinto River Watershed. Certain limited regulated activities will be allowed within this buffer zone. In all cases disturbed areas shall be stabilized within 30 days of the uses excluded above.

3. Stripping Activities

Stripping is a term used to describe the removal of overburden material or material which is present atop the valuable sand and gravel reserves. The overburden material is typically comprised of the valuable topsoil near the immediate ground surface and then the vadose zone

soil (i.e., soil above the normal water table). Composition or makeup of the overburden material is typically clay, silt and fine sand. The topsoil material can be temporarily stockpiled for future use in post-mining activities. However, physical space limitations may limit the amount of overburden material that may be stockpiled at any given time. The cost to strip the material, typically using a trackhoe and haul trucks, can outweigh the value of holding on to this material for future use. Once a mining operation has created a mine pit, concurrent reclamation allows for much of the overburden material to be placed back into the mine pit. This negates or minimizes the cost of hauling it to an area of the mine property for temporary storage.

During the stripping phase of the mining process, care should be taken to not affect or disturb too great of an area such that surface runoff cannot be controlled effectively. Normally, surface water flow is directed to the pit to keep the water table high in extended periods of dry weather.

It is a prudent practice and a recommended BMP to allow enough undisturbed buffer at property boundaries to provide sufficient lateral support of property lines.

Mining Phase

A. Dredging Activities

After stripping away overburden material to expose the mineable sand and gravel reserves, the dredging process begins. Dredging is performed by suction and pumping to a wash plant where the material is separated using a sizing screen. Water generated during the pumping process is allowed to flow back into the pit. Sand is typically separated from the gravel and either stockpiled or allowed to flow back into the pit via a sand flume. Gravel is stockpiled, conveyed or loaded into a haul truck for transport to a separate screening plant for further sizing. Sized aggregate is stockpiled onsite until its sale.

B. Effective Use of Dikes

Mines create dikes, in some cases, by not removing a designated strip of natural land between dredging pits and rivers. The wider the dikes, the stronger and more resistant they are to erosion and hydraulic forces. Wider dikes with gentler slopes can also better sustain natural vegetation which binds their soil and reduces erosion. Wider dikes create a greater safety margin over time, especially against erosion on the cut bank sides of rivers. Properly sloped dikes will deflect and diffuse incoming energy. Wider dikes, if vegetated, can slow currents entering/leaving mines and trap sand. And finally, wider dikes give the river room to expand during floods. Sloping dikes more gradually strengthens their resistance to floods, but by itself will not prevent erosion, especially on cutbanks. Planting them with grass and/or native trees and other vegetation can bind the soil, slow water down, reduce erosion and help retain sand within the mine boundaries.

C. Aggregate Wash Plant Area (Wet Processing)

Process wastewater is any water that is used for or results from the production, clean-up, or use of any raw material, intermediate product, finished product, byproduct, or waste product. Wastewater treatment alters the characteristics of the wastewater before discharge and it is often required to achieve compliance. Examples of treatment include pH adjustment and either physical or chemical means to settle solids prior to discharge to surface water.

BMPs required during this portion of the mining process include proper berming and/or ditching of pump water from the dredge to the wash plant and back into the open pit. The pump water is typically allowed to flow back into the mining pit to avoid unpermitted process water from potentially leaving the property.

Runoff from the stockpiles should be controlled by routing this water back to the open pit. Rainfall runoff from these stockpiles should also be directed to the open pit. Other BMPs should include silt fencing, berms and vegetated buffers, as needed.

C. Aggregate Processing Plant Area (Dry Processing)

Although significant amounts of sand and gravel are used for fill, bedding, subbase, and basecourse without processing, most domestic sand and gravel is processed prior to use. The processing of sand and gravel for a specific market involves the use of different combinations of washers, screens, and classifiers to segregate particle sizes; crushers to reduce oversized material; and storage and loading facilities.

After being transported to the processing plant, the wet sand and gravel (raw feed) is stockpiled or emptied directly into a hopper, which typically is covered with a set of parallel bars to screen trash or debris. From the hopper, the material is transported to fixed or vibrating scalping screens by gravity, belt conveyors, hydraulic pump, or bucket elevators. The scalping screens separate the oversize material from the smaller sizes. The oversize material may be directed to a crusher for size reduction, to produce crushed aggregate or manufactured sand. Crushing generally is carried out in one or two stages. Following crushing, the material is returned to the screening operation for additional sizing.

Alternatively, oversize material (>2-inch) may be used for erosion control, reclamation, or other uses. The material that passes through the scalping screen is fed into a battery of sizing screens, which generally consist of horizontal or sloped, single or multi-deck vibrating screens. Rotating trommel screens with water sprays are also used to process and wash wet sand and gravel. Screening separates the sand and gravel into different sizes. Water is sprayed onto the material throughout the screening process in order to remove clays and other deleterious material. After screening, the sized gravel is transported to stockpiles, storage bins, or, in some cases, to crushers by belt conveyors, bucket elevators, or screw conveyors. The sand is freed from clay and organic impurities by log washers or rotary scrubbers. After scrubbing, the sand typically is sized by water classification. Wet and dry screening are rarely used to size the sand. After classification, the sand is dewatered using screws, cyclones, or hydroseparators. Material may also be rod-milled to produce smaller sized fractions, although this practice is not common in the industry. After processing, the sand is transported to storage bins or stockpiles by belt conveyors, bucket elevators, or screw conveyors. Any water from the stockpiles should be

controlled by routing this water back to the open pit. Rainfall runoff from these stockpiles should also be directed to the open pit. Other BMPs should include silt fencing, berms and vegetated buffers, as needed. Overall, location of stockpiles, along with processing equipment should be placed at the highest elevation on the site practicable to minimize if not prevent impacts from potential flooding.

D. Maintenance Area(s)

Good site management is critical to the control of contamination of storm water. Storm water quickly picks up pollutants from improperly stored materials, spills, and erosion. Coverage for toxic materials, site grading, channeling of storm water, preventative maintenance, and employee training are very usual and prudent to curtail potential problems associated with pollutant-laden storm water discharge. Source control should be provided for activities such as fueling, loading and unloading liquids, and outside storage of raw materials. A Spill Prevention Control & Countermeasures (SPCC) Plan must be in place to implement spill prevention and response. Ongoing inspection assures that site management is having the desired effect. Fuel and oil storage and handling facilities should be located some distance from the main sediment and wash water retention facility. All such facilities should be equipped with approved containment, monitoring, and collection systems. It is recommended that fuel storage be done above ground. Runoff from adjacent surfaces should be routed to a retention pond that can be monitored and cleaned in the event of a spill.

Each facility that is located in the floodplain is also encouraged to have an Emergency Flood Operations plan. If equipment can be removed prior to the flood event that is highly recommended but trigger criteria and how the equipment can be removed must be identified before the event occurs. Also who is responsible to make the decision to remove equipment must be identified.

E. Petroleum Product Storage & Handling Area

1. Regulatory Requirements

A written SPCC Plan is required to meet federal regulatory requirements for any facility that has a total aggregate petroleum product (i.e., oil, diesel fuel, gasoline, used oil, etc.) storage capacity greater than 1,320 gallons in containers 55 gallons or greater.

2. BMPs

The federal rules and regulations regarding the proper storage, handling and transfer of petroleum products are extensive. There are many types of BMPs associated with these practices. Some of the more important BMPs follow:

- During fuel transfer activities, signs should be posted instructing drivers to remain with their trucks at all times to prevent overfill or spillage.
- Fuel delivery drivers should be instructed on proper procedures, including chocking of wheels or locking brakes prior to offloading fuel, and checking that all hoses are properly disconnected prior to removing chocks or unlocking brakes for departure.
- In the event of an equipment failure all fuel transfer areas should have secondary containment adequate to contain the contents of the largest single compartment of any tank truck utilized in the facility or the discharged material should be directed to a containment pond through the use of berms and swales.
- Use drip pans or buckets at disconnection points of hoses and/or piping to collect drippage of oil.
- All storage tanks should be inspected once per month for signs of fatigue or failure that could lead to the spillage of fluid. Documentation of these inspections are required. Any item noted that is leaking, corroded, deteriorated or has a high potential for discharging oil into the environment should be promptly repaired.
- All pollution prevention equipment should be examined once per month to ensure such equipment is in good operating condition. A monthly report should be filled out by the inspector and kept onsite as part of the facility records.
- All bulk oil and lubricant storage tanks should have secondary containment for the purpose of containing any spills caused by rupture or leakage of the storage tank.

- All secondary containment structures should have a minimum free board to account for precipitation events.

110% of the capacity of the largest storage tank within the containment and should be constructed of material impervious to contents of the tank.

- All containment structures should be equipped with manually operated gate valves used solely for the drainage of rainwater that could accumulate in the containment area. If the containment structure does not have a valve, a sump should be available to allow a portable pump to drain the containment area. All manually operated valves should be locked closed when not in use.
- Accumulated rainwater should be visually inspected prior to discharge to ensure that there is no sheen due to the presence of a petroleum product. Water with a sheen should never be discharged, but may be pumped for disposal, allowed to evaporate, or removed by some other appropriate method. Documentation of this visual inspection is required.

3. Oil Discharge Response & Cleanup

In the event of an oil discharge within the plant area, all manpower and equipment available should be utilized to prevent the discharge from reaching a Waters of the State waterway. The most important steps that need to be taken are stopping the discharge and controlling its impact to the environment.

Procedure to be followed in the event of a discharge:

- The first person to notice the discharge should immediately notify the plant superintendent; the superintendent, in turn, should simultaneously implement best management practices to capture the discharge.
- Depending on the size of the spill, the Local Emergency Planning Commission (LEPC) and State Emergency Planning Commission (SEPC) should be notified.
- If possible, the source of the leak should be plugged and/or valves closed to prevent further leakage.

- A front-end loader should be immediately available to build a berm or dike with dry sand to absorb the discharge if the secondary containment should fail.
- If the discharge is too large for plant personnel to contain and clean-up, a contractor should be contacted.

After the leak is repaired, the discharged product should be recovered from the secondary containment and used as intended, if possible, or disposed of in accordance with current state and federal regulations. If contaminated sand or contaminated surface soils are generated, they must be disposed of in accordance with current state and federal regulations.

If the amount of the discharge is sufficient to be reportable or if the discharge leaves the plant property, notification should be made to the appropriate environmental department as soon as possible. The SPCC coordinator should notify all appropriate agencies immediately.

In the event of a discharge on the concrete in the shop or other hard surface, the following procedure should be used:

- Absorbents should be used to keep the discharge from leaving the hard surface.
- The source of the discharge should be identified and the leak rectified by whatever means necessary.
- Absorbents should be used.
- Used absorbent should be placed in a drum (labeled with USED ABSORBENT, NON-HAZARDOUS). The drum must have a lid, which is kept on at all times when not in use. The drum should have the first date the used absorbent was placed in the drum. The drum should be kept under a roofed structure to prevent storm water contamination.
- If any discharged material has left the impervious surface, the media contaminated from the discharge should be properly removed and disposed of in accordance with all applicable local, state and federal environmental regulations.

Post-Mining Phase

A. Establish performance bonds to guarantee remediation of breaches and/or repurposing of mined areas once mining is complete. Reclamation or remediation of sand mines, and repair of breaches should be covered by performance bonds. Obtaining a permit requires a mine to file a remediation plan, but it does not force mines to remediate. Operators can simply walk away from pits, creating safety hazards, eyesores, and economic development headaches for communities.

B. Site Stabilization

The Post Mining Phase reclamation is dependent on the agreement with the landowner.

These activities may involve the stabilization of inactive mining pit or borrow areas with herbaceous perennial plants, stabilizing the soil, preventing wind or water erosion from causing on-site or off-site damage and improving the aesthetic appeal and the ability of the site to support wildlife. This practice is applicable to sand and gravel borrow areas which have had the soil profile replaced to approximate original conditions or where the soil profile has been removed.

Soil characteristics need to be evaluated to help maintain soil stability and prevent erosion. Some sites may require specific and detailed engineering plans, while others should apply general guidelines to meet site stabilization objectives. The following guidelines may be used to ease the tasks of meeting site stabilization objectives.

Slope stability: Cut and fill slopes should not exceed 2:1 to provide better stability. Gentler slopes (3:1) are preferred to facilitate seeding efforts. Long slopes should be avoided to help prevent erosion and to allow access for seeding, mulching, and maintenance.

Diversions: Construct diversions at tops of slopes to divert runoff away from the slope banks to a stable outlet.

Chutes: Construct aggregate lined chutes or equivalent to conduct concentrated flow of water to stable outlets.

Soil Conservation: Reclamation of abandoned roads require reshaping, recontouring, and resurfacing with topsoil and seeding for vegetative growth. Removal of structures such as bridges, culverts, cattle guards and signs is recommended. In addition, the regarding of sand stockpiles should be removed from property boundaries to eliminate the potential for offsite discharge from stormwater flow.

It is prudent to practice good soil conservation and seed bare ground during the post-mining phase to aid in minimizing and/or reducing the potential for stormwater to wash sediment loads from unvegetated areas into nearby waterways. Natural regeneration takes time and during that process much sediment could be washed away as sheet, rill or gully erosion over that period.

In performing active revegetation, seeds that are conducive to the season and type of soil present should be used to vegetate any bare areas. Mulching (using hay or erosion control blankets, for example) also aids in seed germination and helps prevent or minimize sheet, rill and gully erosion. The NRCS office can help in the proper selection of the types of seeds and nutrients required for proper vegetative growth.

C. Debris & Waste Removal

Typical debris from sand and gravel mining usually involves trees and shrubs generated from the land clearing stage of the mining process. These trees and shrubs may be placed back into the mined portion of the property and covered with overburden material. This debris can also be stockpiled and burned if the local Fire Marshall and state regulatory authority allows and approves of this process beforehand.

The following guidelines apply to the open burning of trees, brush, grass, wood, and any vegetation in the clearing of land, right-of-way maintenance operations, and agricultural crop

burning. This includes the open burning of structures or material for fire training, open burning for management of forests and wildlife or the disposal of a fire hazard.

- Prevailing winds during the burn should be away from any city or any occupied residence likely to be affected by the smoke to the best extent possible;
- The amount of dirt in the material being burned should be minimized to reduce smoldering;
- Oils, rubber, tires, railroad ties, treated wood, and any other material creating unreasonable amounts of smoke or air pollutants may not be burned;
- No hazardous waste or material shall be burned.
- Open burning should be conducted between sunrise and before sunset. This allows for good smoke dispersion.
- Fuel should not be added outside the timelines listed above.
- An open burn should be extinguished completely to ensure smoldering of material does not persist;
- Open burning should not obscure visibility or create a traffic hazard on any public road or airport right of way;
- The following entities should be notified of when and where the open burn will occur: local fire department, municipality nearest the burn, the county sheriff's department and any military, commercial, county, municipal or private airport or landing strip that may be affected by the open burn. Many complaints and disputes can be avoided by informing people ahead of time of the open burn. Operators should always ensure they follow all local fire department and community notification procedures. It is very important to contact your local fire department. Also make sure a burn ban is not in place. This will ensure that sufficient personnel will be available in the event that control of the burn is lost.
- Common sense precautions, such as having someone watch the fire until it is extinguished and assuring smoke doesn't impact residences or impair vehicular travel on highways, should be followed.

D. Property Grading

After the mining activities are completed, grading of the property should be conducted. This minimizes non-point source stormwater pollution (i.e., sediment fines) from impacting potential pathways such as streams, creeks, tributaries, lakes, etc.

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Glossary

Access road — A temporary or permanent access route for vehicular traffic.

Aggregate — Hard materials such as sand, gravel, and crushed stone, used for mixing with cementing or bituminous material to form concrete, mortar, or asphalt, or used alone as in railroad ballast, road base, landscaping rock, or graded fill.

Aquifer — A permeable underground strata of material that typically consists of various sizes of sand and gravel, that allows water to pass through.

Artesian — Ground water which flows to the surface under natural pressure without any pumping.

Best management practices (BMPs) — Management practices, developed to minimize or prevent non-point source water pollution.

Buffer — A relatively undisturbed section of vegetated or forested land adjacent to an area requiring special attention or protection such as a stream or lake.

Channel — A natural stream which conveys surface runoff water within well-defined banks.

Contour — An imaginary line on the surface of the earth connecting points of the same elevation.

Contour line — A line drawn on a map connecting points of the same elevation.

Culvert — Pipe made of metal, plastic, or other suitable material; installed under roads to transmit water from the roadway or side ditches, storm runoff, seeps and drains.

Diversion berm or swale — A diversion dam constructed across a road or a trail to remove and disperse surface runoff in a manner which adequately protects the soil resource and limits sediment transportation.

Diversion ditch — A drainage depression or ditch built across a slope to divert surface water from that slope.

Ephemeral stream — A water course generally without a well-defined channel that flows only in response to rainfall. These streams flow less than 20% of the year during normal rainfall conditions. Flows along a course that may or may not have a well-defined channel.

Erosion — The detachment and transportation of soil particles.

Grade — The slope of a road, usually expressed as a percent.

Gravel – Unconsolidated, naturally

Gravel – Unconsolidated, naturally occurring rounded rock fragments resulting from erosion, consisting predominantly of particles larger than sand, such as boulders, cobbles, pebbles, and granules.

Ground water – That part of the subsurface water in the zone where all the voids are filled with water. Loosely, all subsurface water as distinct from surface water.

Gully – An eroded channel at least 12 inches deep.

Intermittent stream – A watercourse that flows in a well-defined channel for 20–90% of the year during normal rainfall conditions.

Jurisdictional waters or wetlands – Areas subject to the regulations of the Clean Water Act of 1987; generally, concave or low lying topographic forms that collect, store, or flow water frequently enough to favor a majority of plants that are adapted to saturated soil conditions.

Mitigation -

Mulching – Covering an area loosely with some material to hold soil in place and facilitate revegetation. Straw, bark, hay, or wood fibers are common mulches.

Natural regeneration – The planned regeneration of a forest that either uses existing trees as a source of seed or encourages sprouting from stumps or roots.

Non-point source pollution – Pollution which is 1) induced by natural processes, including precipitation, seepage, percolation, and runoff; 2) not traceable to any discrete or identifiable facility; 3) controllable through the utilization of best management practices.

Nutrients – Mineral elements in the forest ecosystem such as nitrogen, phosphorus, and potassium, usually insoluble compounds that are present naturally or they may be added to the forest environment as forest chemicals, such as fertilizer.

Parallel or side ditch – A drainage ditch alongside and parallel to a road.

Perennial stream – A watercourse that flows continuously (at least 90% of the year) in a well-defined channel.

Permanent road — A high specification permanent road which is maintained periodically and serves as a main artery in a network of roads.

Point source pollution — Sources of water pollution which can be traced to a specific discharge pipe or location.

Pollution — The presence in a body of water (or soil or air) of substances of such character and in such quantities that the natural quality of the environment is impaired or rendered harmful to health and life or offensive to the senses.

Regeneration — The young tree crop replacing older trees removed by harvest or disaster; the process of replacing old trees with young.

Rill erosion — An erosion process in which numerous small channels only several inches deep are formed. Occurs mainly on disturbed and exposed soils.

Riparian — The land adjacent to and pertaining to the banks of streams, rivers, or other water bodies with a high density, diversity and productivity of plants and animal species.

San Jacinto River Watershed — NEED DEFINITION.

Sand — Granular material resulting from rock disintegration, consisting primarily of particles having a diameter in the range of 2 mm (about the size of a pinhead) to 1/16 mm (like very fine sand paper).

Secondary road — A road constructed for a particular use or single operation and normally abandoned upon completion of the operation.

Sediment — Soil material suspended in air or water which is being transported or moved from its original site; the material which is deposited.

Sheet erosion — The removal of a fairly uniform layer of soil from the soil surface by water runoff.

Site preparation — A general term for removing unwanted vegetation and other material — if necessary — and soil preparation carried out before replanting.

Slope — Steepness of the land expressed as the amount (in percent) of vertical fall per 100 ft. of horizontal distance.

Soil — The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Soil conservation — Using the soil within the limits of its physical characteristics and protecting it from unalterable limitations of climate and topography.

Stream — A well-defined natural channel that has a flow anywhere below its headwaters greater than 5 cubic feet per second at least 50% of the time (**EPA—US Army Corps of Engineers**). A permanently or intermittently flowing body of water that follows a defined course.

Stream bank — The boundaries of a stream which contain normal flows.

Suspended sediments — Particles of rock, sand, soil and organic detritus carried in suspension in the water column. Typically carried by flowing water but not always the case. Very small particle size sediments (i.e., clays) may stay suspended for extremely long periods of time (i.e., months or years).

Turbidity — Reduced clarity of surface water because of the presence of suspended fine particles (i.e., sediment) usually in the form of clays and silts.

Water body — An area of standing water with relatively little or slow movement (pond, lake, bay, slough).

Water pollution — Contamination or other alteration of the physical, chemical or biological properties of any natural waters of the state, or other such discharge of any liquid, gaseous or solid substance into any waters of the state, as well, or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life. (**EPA definition**)

Water quality — A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.

Watershed area — All land and water within the confines of a drainage divide. Watersheds are determined by the United States Geological Survey (USGS).

Wetlands — Geographic area characteristically supporting hydrophytes, hydric soils, and some saturation or flooding during the growing season.

Wing ditch — A water turnout or diversion ditch constructed to move and disperse water away from the road and side ditches into adjacent undisturbed areas so that the volume and velocity of water is reduced on slopes. It is the same as a lateral or diversion ditch.

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Texas Commission on Environmental Quality



**DECISION OF THE COMMISSION
REGARDING THE PETITION FOR RULEMAKING
FILED BY LAKE HOUSTON AREA GRASSROOTS FLOOD PREVENTION INITIATIVE**

Docket No. 2020-0836-PET
Rule Project No. 2020-044-PET-NR

On August 12, 2020, the Texas Commission on Environmental Quality (Commission) considered the petition for rulemaking filed by the Lake Houston Area Grassroots Flood Prevention Initiative (petitioner). The petitioner filed the request on June 23, 2020 and requested that the Commission adopt a new rule that would establish best management practices for commercial sand mining and other lawful purposes within the San Jacinto River Watershed.

IT IS THEREFORE ORDERED BY THE COMMISSION, pursuant to Administrative Procedure Act, Texas Government Code, § 2001.021 and Texas Water Code, §§ 5.013, 5.102, 5.103, 5.105, and 5.120 to initiate rulemaking concerning the issues raised in the petition.

This Decision constitutes the decision of the Commission as required by Administrative Procedure Act, Tex. Gov't Code Ann., § 2001.21(c)(2). (West 2016).

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Jon Niermann, Chairman

Date Signed