US Army Corps of Engineers ®
Fort Worth District

Public Notice

Applicant: Texas Lehigh Cement Company LP

Project No.: SWF-2016-00283

Date: November 15, 2017

The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

Regulatory Program

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

Section 10

The U.S. Army Corps of Engineers is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate *all work or structures in or affecting the course, condition or capacity of navigable waters of the United States*. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

Section 404

The U.S. Army Corps of Engineers is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the *discharge of dredged and fill material into all waters of the United States, including wetlands*. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

Contact

Name: Mr. John Derinzy

Phone Number: (817) 886-1742

JOINT PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT

AND

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUBJECT: Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States for the proposed 136-acre quarry expansion and relocation of Bunton Branch (an intermittent stream) in Buda, Hays County, Texas.

APPLICANT: Texas Lehigh Cement Company LP (TLCC)
c/o Mr. Larry Covert
P.O. Box 610
Buda, Texas 78610

APPLICATION NUMBER: SWF-2016-00283

DATE ISSUED: November 15, 2017

LOCATION: The proposed Bunton Branch Relocation Project (Project) is located at 701 Cement Plant Road, Buda, Hays County, Texas. The Project is located at the southern portion of the existing TLCC Quarry property, which is currently open field and encompasses the headwaters of Bunton Branch. The proposed Project area is located on the Buda, Texas U.S. Geological Survey (USGS) 7.5-minute series topographic map. The proposed project is located at approximately 30° 02’ 04.41” North latitude and -97° 51’ 38.99” West longitude (Figure 2). The project area is located in the San Marcos Watershed, Hydrologic Unit Code (HUC) 12100203.

OTHER AGENCY AUTHORIZATIONS: State Water Quality Certification

PROJECT DESCRIPTION: The applicant, Texas Lehigh Cement Company (TLCC), proposes to discharge approximately 12,584 cubic yards of dredged and fill material into approximately 7.8 acres of waters of the United States in conjunction with the construction, operation, and expansion of an existing limestone mining company, including 4.6 acres of herbaceous emergent wetlands, 1.1 acres (3,899 linear feet) of intermittent stream with intermittent pools, and 2.1 acres of open water (non-wetland agricultural impoundments) along Bunton Branch. No temporary impacts are proposed.

TLCC is proposing the expansion of their existing mining operation in Buda, Texas to meet the needs of the oil and gas industry clients. Specifically, the oil and gas industry requires a highly specialized type of Portland cement (referred to as oil well cement), and TLCC indicates they are only one of three known companies in Texas that provides this product to the industry. The applicant states that the proposed project would allow for the safe recovery of oil well cement quality limestone, enable oil and gas customer demand to be met, and avoid limiting oil and gas development activity in and around Texas.

The applicant proposes to relocate the upper reaches of Bunton Branch (an intermittent stream) on a 136 acre expansion of the current quarry operations. Bunton Branch is currently located on the north and east side of the project area and is proposed to be re-established along the western project boundary within an engineered channel. The primary source of hydrology to Bunton Branch within the project area is TLCC's discharge of accumulated stormwater and surface water runoff from the active TLCC quarry to the north. Therefore, the hydrology within this stream feature has been enhanced by TLCC, and is not anticipated to change as a result of the proposed project.

As part of the project, TLCC proposes to relocate Bunton Branch to the western and southern property boundary in order to convey flows (pumped stormwater and surface water runoff) from the TLCC property. TLCC believes the proposed relocation and configuration of Bunton Branch, including structural integrity, has been designed by a professional engineer with the objective to convey necessary flows, and to maximize natural stream establishment and long term function within the channel. According to TLCC, the proposed relocation of Bunton Branch will not result in a change to the hydrology of Bunton Branch due to continued pumping from the quarry to the north, and will not change the conditions of a limestone bedrock streambed. With the installation of a meandering pilot channel, TLCC believes the engineered channel will develop to similar conditions, including abutting wetlands, as what currently exists within the stream, thus limiting long-term impacts to water resources associated with Bunton Branch. The applicant is not proposing to use the relocated channel as compensatory mitigation. To meet the anticipated compensatory mitigation requirements of the relocation, TLCC is proposing off-site permittee responsible mitigation (PRM) for impacts to 3,899 linear feet of streambed, 4.6 acres of wetland waters, and 2.1 acres of open water.

The proposed relocation of Bunton Branch and channel design specifications of the engineered channel are depicted on the attached figures. Bunton Branch upstream of the project area is channelized for stormwater flow. The engineered channel would begin at the confluence of the channelized Bunton Branch and the unnamed tributary to Bunton Branch. TLCC indicates the engineered channel is designed to accommodate a 100-year storm event plus 1-foot of freeboard from the unnamed tributary to Bunton Branch, as it is anticipated that pumping of accumulated stormwater into Bunton Branch would occur following a storm event, and not concurrently. The anticipated velocities during this storm event are 8-10 cubic feet per second (cfs). The Bunton Branch engineered channel would include the excavation into primarily limestone bedrock to an average depth of 5 feet (range of 3-10 feet) for approximately 0.85 mile. The channel bottom

will average approximately 130 feet wide with 4:1 side slopes. Additionally, TLCC proposes to install a 20-foot wide, 1-foot deep meandering pilot channel to be lined with 1-foot of 3-inch to 5-inch limestone throughout the channel bottom to promote focused stream flow, prevent scour, erosion, and extreme temperature increases during warmer months. TLCC believes that the lining of the pilot channel is anticipated to promote sedimentation and naturalization within the channel. The pilot channel is anticipated to overflow the banks during smaller storm and pumping events and provide hydrology conducive to the establishment wetlands within the channel bottom.

TLCC proposes to install rock gabion baskets approximately every 500 feet throughout the engineered channel to allow for velocity dissipation and increased sedimentation and vegetation within the channel bottom. Near the southern project area at the confluence of the relocated and natural stream channel, TLCC proposes to install rip rap for approximately 6,250 square yards to allow for further filtration of sediment and suspended soils at the confluence of the engineered channel and tie in to the natural channel. The scheduling and timing of the proposed relocation would allow for the Bunton Branch engineered channel to be constructed and stabilized prior to tying into the natural Bunton Branch on the southern side of the project area. Following construction on the southern side of the project area, hydrology from the channelized Bunton Branch and unnamed tributary to Bunton Branch would be allowed to flow through the engineered channel.

EXISTING CONDITIONS

VEGETATION: Vegetation within the project area outside potentially jurisdictional areas consisted primarily of upland mesquite shrubland and tame grassland vegetative communities. The mesquite shrubland was dominated by mesquite trees (*Prosopis glandulosa*, FACU) and common hackberry (*Celtis occidentalis*, FACU). The tame grassland consisted primarily of mixed naturalized grasses including Bermuda grass (*Cynodon dactylon*, FACU), prairie love grass (*Eragrostis intermedia*, NI), rye grass (*Lolium perenne*, FACU) and various other grass species. Vegetation within the mapped PEM wetlands is documented on the associated wetland data forms (Appendix A). The dominant vegetation within the mapped PEM wetlands and adjacent to the linear stream feature and on-channel pond included marshelder (*Iva annua*, FAC), varius species of spikerush (*Eleocharis* sp., FACW-OBL), and cattails (*Typha latifolia*, FAC).

SOILS: The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Hays County was used to determine the soil types in the project review area. Five soil mapping units were identified in the project area: Austin-Castephen complex, 1 to 3 percent slopes (AuB); Houston Black clay, 1 to 3 percent slopes (HoB); Branyon clay, 0 to 1 percent slopes (ByA); Tinn clay, 0 to 1 percent slopes, frequently flooded (Tn); Water (W). Of these, Tinn clay, 0 to 1 percent slopes, frequently flooded (Tn) is included on the NRCS National List of Hydric Soils for Hays County (NRCS, 2015).

HYDROLOGY: The Project area is located within the HUC 12100203 associated with the San

Marcos Watershed, which encompasses an approximately 1,367 square mile drainage area. The project area is located at the confluence of Bunton Branch and an unnamed tributary mapped as an intermittent stream on the Buda, Texas USGS 7.5-minute topographic maps. The project area is located approximately 0.79 mile downstream of the mapped intermittent stream headwaters for Bunton Branch, and approximately 1.7 miles downstream of the headwaters of the unnamed tributary.

Hydrology and surface water runoff within the project area is altered due to the on-going discharge of accumulated stormwater from the active TLCC quarry. TLCC pumps accumulated stormwater and surface water runoff from the active quarry into a detention pond for sediment deposition, which then discharges through an overflow pipe into a vegetated swale, and ultimately into Bunton Branch supporting the stream and adjacent wetlands. Based on the average annual pumping since the 1980s, it is anticipated that the man modified hydrology has become the "new normal" condition within the project area.

ALTERNATIVE SITES AND ALTERNATIVE LAYOUTS: The applicant has prepared an alternatives analysis. The USACE has not reviewed this analysis. TLCC considered six possibilities for alternatives including;

1. Applicant's Preferred Alternative- Southern continuation of the mining expansion to include across Bunton Branch and the western relocation of the Bunton Branch on TLCC Property.
2. No-action alternative
3. Vertical Alternative- Opening of 4th bench within existing quarry footprint.
4. Horizontal Alternatives identified below.
    a. Northeastern Alternative- Expansion of quarry north of Cement Plant Road to property owned by TLCC.
    b. Northwestern Alternative- Expansion of quarry across UP railroad tracks to land currently developed as ethanol transfer facility by Flint Hills Resources.
    c. Eastern Alternative- Expansion of quarry east to land owned by Lehigh (TLCC Parent Company).
    d. Western Alternative- Expansion of quarry west, across UP railroad tracks into land planned for Plum Creek mixed-use development.
5. Off-Site Alternative- Hauling oil well cement quality limestone material to TLCC cement plant by adjacent UP railroad.
6. Creek avoidance southern continuation alternative- Avoiding impacts to Bunton Branch by the creation of new mining bench west of Bunton Branch.

TLCC believes the no action alternative, alternative 2, would not result in impacts to waters of the U.S, but also would not meet the proposed purpose and need to continue operations and support the oil and gas industry. Therefore, according to the applicant, the no-action alternative is not practical to provide additional oil well cement quality limestone to meet the project need.

The vertical alternative, alternative 3, would not impact waters of the U.S., and was considered by the applicant. The project and existing quarry footprint is located within the Edwards Aquifer

region. There are currently no impacts to the Edwards Aquifer as a result of current operations; no groundwater infiltration is occurring into the quarry facility, and the Edwards Aquifer is monitored at an onsite well. Additionally, the deposit of oil well quality limestone is approximately 90 feet deep. Therefore, the limestone required to meet the project need could not be obtained by the vertical alternative, and it is considered impractical by the applicant.

Horizontal alternatives a-d, to the northeast, northwest, east, and west were considered by the applicant. These horizontal alternatives were determined to either be planned for existing or future development by others and unavailable for purchase by TLCC, or based on TLCC research, did not contain any reserves of the oil well cement quality limestone necessary to meet the proposed project purpose and need.

The potential to haul in off-site oil well cement quality limestone, alternative 5, was determined to be logistically impractical by TLCC. TLCC is one of three known companies in Texas which provides this product to the oil and gas industry, so finding a consistent off-site provider is difficult, and impacts to waters of the U.S. are undetermined at this point. Additionally, it is anticipated that this alternative would increase the manufacturing cost of the final product to a point that it would be uncompetitive in the marketplace. Additionally, the UP railroad has specific loading and unloading requirements which TLCC operations would not be able to meet.

The creek avoidance southern continuation, alternative 6, across the creek would avoid the majority of direct impacts to waters of the U.S. However, direct impacts associated with the installation of a crossing over Bunton Branch would still occur. The avoidance of the creek would require the opening of a new bench and pose indirect impacts to Bunton Branch and direct impacts to air quality. Opening a new bench from across the creek, would result in access to additional reserves, but potentially could compromise the structural integrity of the creek potentially posing a safety concern to mine workers. Ultimately, it is anticipated that two working surfaces on both sides of the creek would result in creek failure due to a decrease in structural integrity. Additionally, the opening of a new bench on the west side of the creek would result in in increased haul time and the need for an additional haul truck, which would impact the air quality in an area approaching non-attainment status.

Ultimately, alternatives considered were determined by the applicant to be impractical to meet the proposed project need. Additionally, direct and indirect impacts to waters of the U.S. and impacts to air quality were evaluated by the applicant. According to the applicant, the alternatives were determined to be impractical and/ or more environmentally damaging as compared to the preferred alternative.

TLCC therefore believes, in order to meet the proposed need, impacts to Bunton Branch, a surface water in the State is considered the least environmentally damaging practical alternative.

COMPENSATORY MITIGATION: To compensate for permanent impact to and loss of function of waters of the U.S., the applicant is proposing to provide compensatory mitigation through off -site permittee-responsible mitigation within the San Marcos River watershed.

TLCC is proposing off-site permittee responsible mitigation with Riverbank Conservation at Cooke Creek (Site). It is believed by TLCC that the proposed mitigation would be designed to, over time, improve various chemical, physical and biological functions within the Cooke Creek project area. The proposed mitigation activities at the Cooke Creek Site include: the re-establishment and rehabilitation of approximately 6,315 LF of intermittent streams, the re-establishment and enhancement of up to 24 acres of riparian wetlands; the re-establishment of a native, woody riparian community; and the exclusion of cattle from approximately 45 acres of floodplain habitat, which will be protected permanently by conservation easement. All mitigation credit generated at the Cooke Creek Site would be utilized to offset the applicants proposed impacts to Bunton Branch.

PUBLIC INTEREST REVIEW FACTORS: This application will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue, issue with modifications, or conditions, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

STATE WATER QUALITY CERTIFICATION: This project would result in a direct impact of greater than three acres of waters of the state or 1,500 linear feet of streams (or a combination of the two is above the threshold), and as such would not fulfill Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the Clean Water Act, and Title 30, Texas

Administrative Code Section 279.1-13 to determine if the work would comply with State water quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. **Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087.** The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

ENDANGERED AND THREATENED SPECIES: The USACE has reviewed the U.S. Fish and Wildlife Service's latest published version of endangered and threatened species to determine if any may occur in the project area. The proposed project would be located in a Hays County where several Edwards Aquifer species are known to occur as listed as threatened or endangered species under the authority of the Endangered Species Act of 1973, as amended. These species include the threatened San Marcos salamander (*Eurycea nana)* and the endangered Texas blind salamander (*Eurycea rathbuni)*, Fountain darter (*Etheostoma fonticola)*, San Marcos gambusia (*Gmbusia georgei)*, Comal Springs riffle beetle (*Heterelmis comalensis)*, the Comal Springs drypoid beetle (*Stygoparnus comalensis*), and Texas wild rice (*Zizania texana*). In addition to Edwards Aquifer species, the endangered Barton Springs salamander (*Eurycea sosorum)* also has the potential to occur in Hays County. Other endangered species are known to occur or may occur as migrants. These species include the black-capped Vireo (*Vireo atricapilla*), goldencheeked warbler (*Dendroica chrysoparia*), whooping crane (*Grus americana*), and Red wolf (*Canis rufus)*. The USFWS has issued a "No Action Required" letter dated January 8, 2015. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

NATIONAL REGISTER OF HISTORIC PLACES: The USACE has reviewed the latest complete published version of the National Register of Historic Places and found no listed properties to be in the project area. However, presently unknown scientific, archaeological, cultural or architectural data may be lost or destroyed by the proposed work under the requested permit.

FLOODPLAIN MANAGEMENT: The USACE is sending a copy of this public notice to the local floodplain administrator. In accordance with 44 CFR part 60 (Flood Plain Management Regulations Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing fact upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

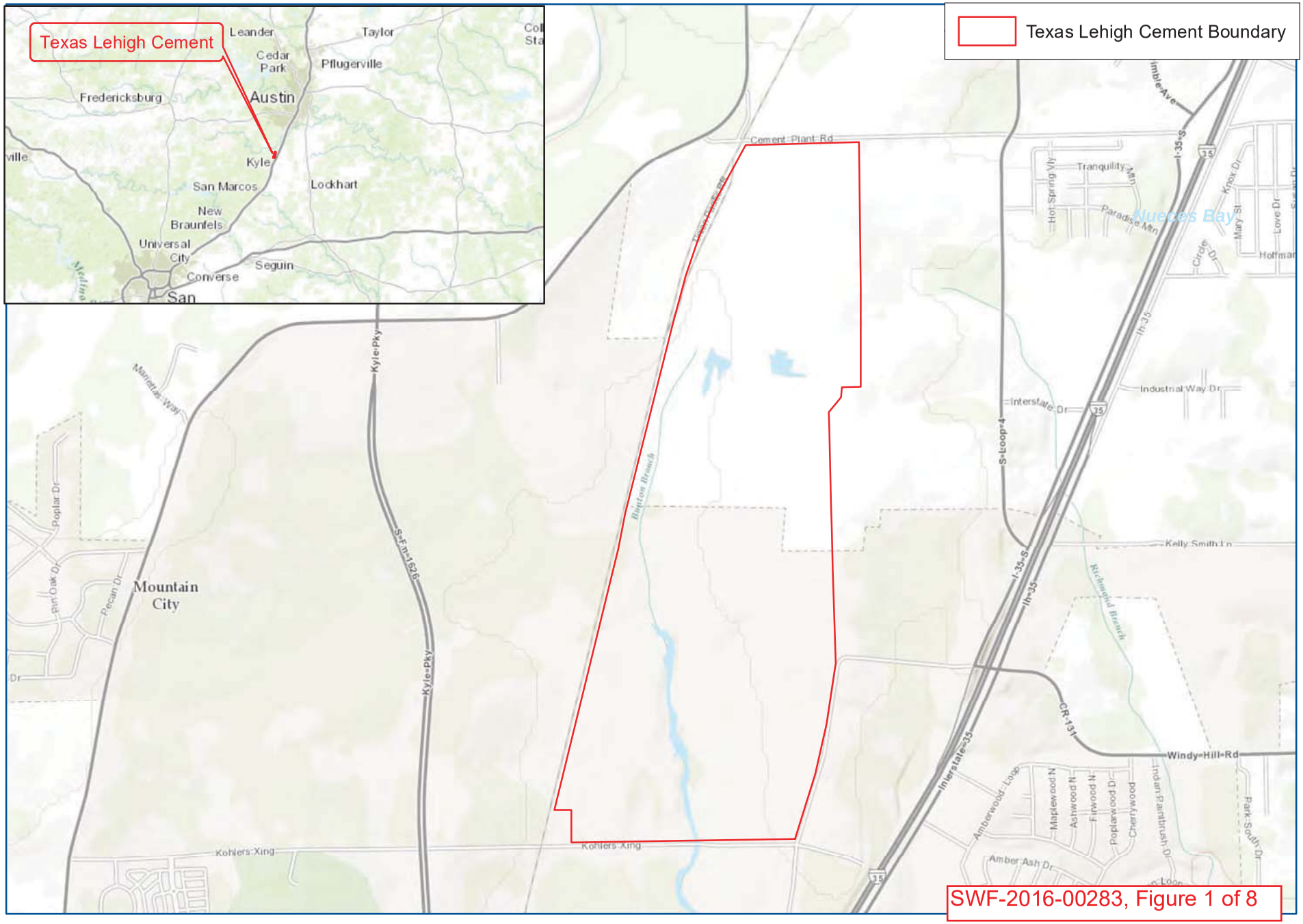
PUBLIC HEARING: Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before December 16, 2017, which is the close of the comment period. Extensions of the comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to ; Regulatory Branch, CESWF-DE-R; U. S. Army Corps of Engineers; Post Office Box 17300; Fort Worth, Texas 76102-0300. You may visit the Regulatory Branch in Room 3A37 of the Federal Building at 819 Taylor Street in Fort Worth between 8:00 A.M. and 3:30 P.M., Monday through Friday. Telephone inquiries should be directed to (817) 886-1731. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

DISTRICT ENGINEER
FORT WORTH DISTRICT
CORPS OF ENGINEERS

ATTACHMENTS:

FIGURE 1: VICINITY MAP
FIGURE 2: SITE LAYOUT MAP
FIGURE 3: SITE MAP, BUNTON BRANCH RELOCATION
FIGURE 4: USGS TOPOGRAPHIC MAP, BUNTON BRANCH RELOCAITON
FIGURE 5: NATIONAL WETLAND INVENTORY MAP, BUNTON BRANCH RELOCATION
FIGURE 6: FLOODPLAIN AND SOILS, BUNTON BRANCH RELOCAITON
FIGURE 7: WATERS OF THE U.S., BUNTON BRANCH RELOACITON
FIGURE 8: FLOODPLAIN CHANNEL, MITIGAITON LAYOUT INCLUDING PILOT CHANNEL AND EROSION CONTROLS



Map Sources:
ESRI Basemaps-
Bing Hybrid
Datum: GCS NAD 1983

N

Meters
0 580 1,160

Feet
0 1,900 3,800

zephyr

Texas Lehigh Cement Corporation

Figure 1 - Vicinity Map

File Location: H:\Texas Lehigh\014122 - 2014 General Consulting\Bunton Creek CLOMR

Drafted By: C. Fischer	Reviewed By: S. McVey	Project No.: 014122	Date: 05.06.2014

Map Sources:
ESRI Basemaps-
Bing Hybrid
Datum: GCS NAD 1983

N

Meters
0 480 960

Feet
0 1,500 3,000

zephyr

Texas Lehigh Cement Corporation

Figure 2 - Site Layout Map

File Location: H:\Texas Lehigh\014122 - 2014 General Consulting\Bunton Creek CLOMR

Drafted By: C. Fischer	Reviewed By: S. McVey	Project No.: 014122	Date: 05.06.2014

Datum: GCS NAD83 Sources: ESRI- Streets & World Imagery Basemaps; National Hydrologic Dataset (NHD)

Project Boundary

Proposed Stream Alignment

NHD Stream

zephyr

Figure 1 - Site Map

Bunton Branch Relocation

Texas Lehigh Cement Company LP
Hays County, Texas

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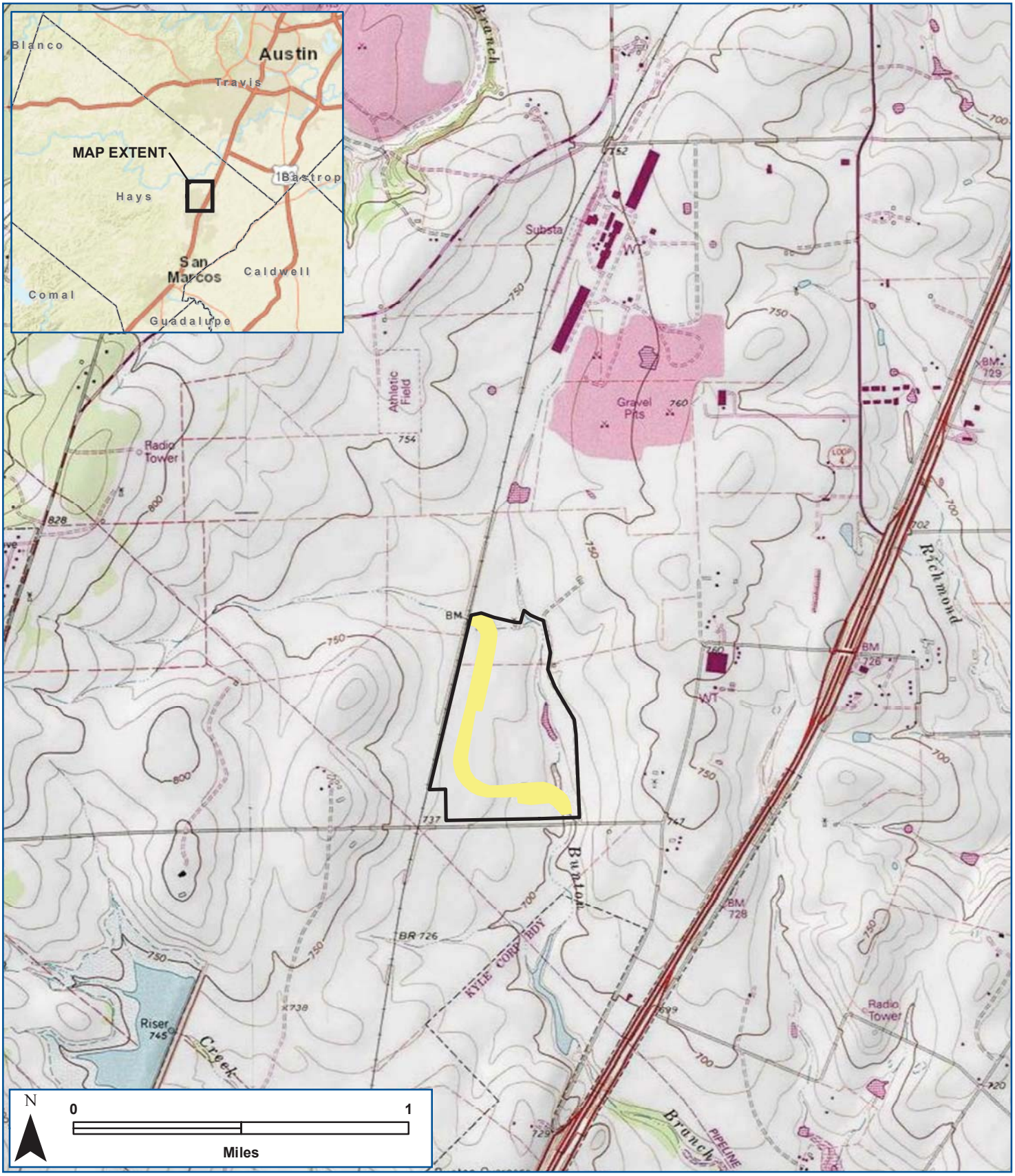
Drafted By:	Reviewed By:	Project ID:	Date:
J. Knowles	M. Johnson	016281	7/25/2017

SWF-2016-00283, Figure 3 of 8



Datum: GCS NAD83 Sources: ESRI- Streets & USGS Topo- Buda & Mtn City Quadrangles

Project Area

Proposed Stream Alignment

zephyr

Figure 2 - USGS Topographic Map

Bunton Branch Relocation

Texas Lehigh Cement Company LP
Hays County, Texas

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Drafted By:	Reviewed By:	Project ID:	Date:
J. Knowles	M. Johnson	016281	7/25/2017

SWF-2016-00283, Figure 4 of 8

Datum: GCS NAD83 Sources: ESRI- World Imagery Basemap; USFWS-National Wetlands Inverntory (NWI)

Proposed Stream Alignment
Project Area
NWI Wetland Type
Freshwater Emergent Wetland
Freshwater Pond
Riverine

zephyr

Figure 3- National Wetland Inventory Map
Bunton Branch Relocation
Texas Lehigh Cement Company LP
Hays County, Texas

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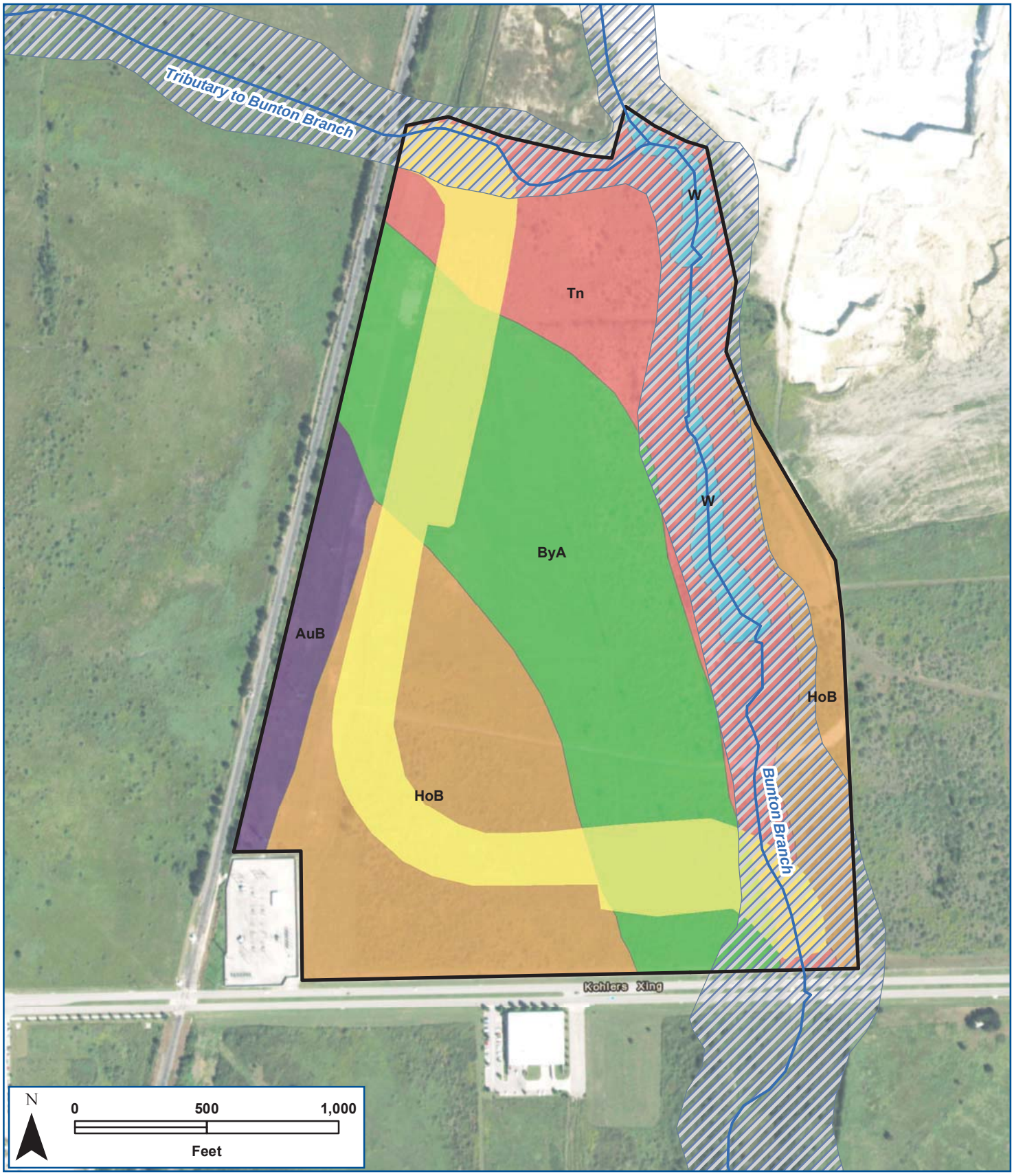
Drafted By:	Reviewed By:	Project ID:	Date:
J. Knowles	M. Johnson	016281	7/25/2017

SF-2016-00283, Figure 5 of 8



Datum: GCS NAD83 Sources: ESRI- World Imagery Basemap; USDA Web Soil Survey data; FEMA- NFHL

NHD Stream
Proposed Relocation Path
Project Area
1% annual chance floodplain

USDA Soil Type
AuB
ByA
HoB
Tn
Water

zephyr

Figure 4- Floodplain & Soils

Bunton Branch Relocation

Texas Lehigh Cement Company LP
Hays County, Texas

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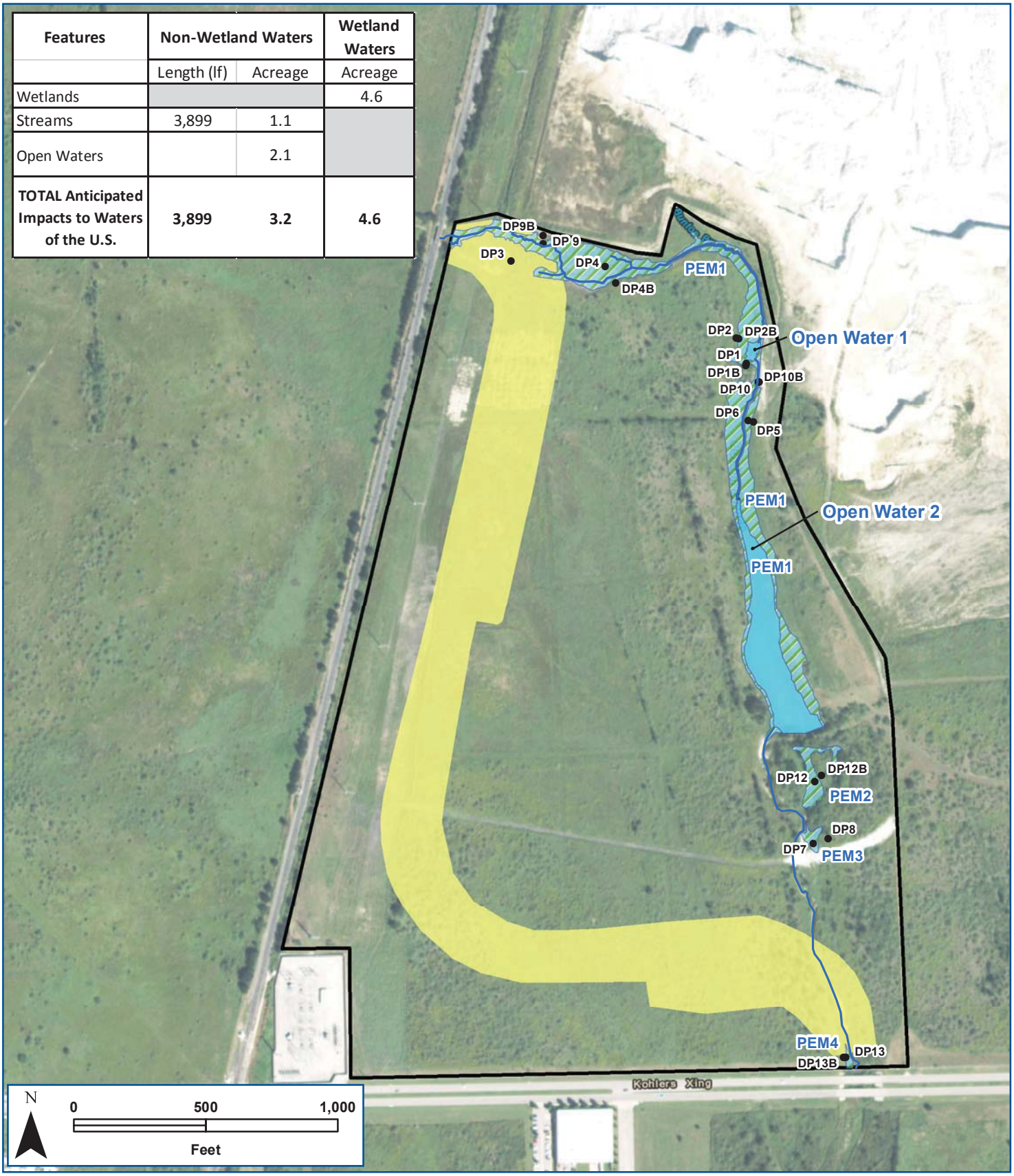
Drafted By:	Reviewed By:	Project ID:	Date:
J. Knowles	M. Johnson	016281	7/24/2017

SWF-2016-00283, Figure 6 of 8

Features	Non-Wetland Waters		Wetland Waters
	Length (lf)	Acreage	Acreage
Wetlands			4.6
Streams	3,899	1.1	
Open Waters		2.1	
TOTAL Anticipated Impacts to Waters of the U.S.	**3,899**	**3.2**	**4.6**



Datum: GCS NAD83 Sources: ESRI- World Imagery Basemap

Project Area
Proposed Stream Alignment
Bunton Branch
Wetland
Open Water

zephyr

SWF-2016-00283, Figure 7 of 8

Figure 5 -Waters of the U.S.
Bunton Branch Relocation
Texas Lehigh Cement Company LP
Hays County, Texas

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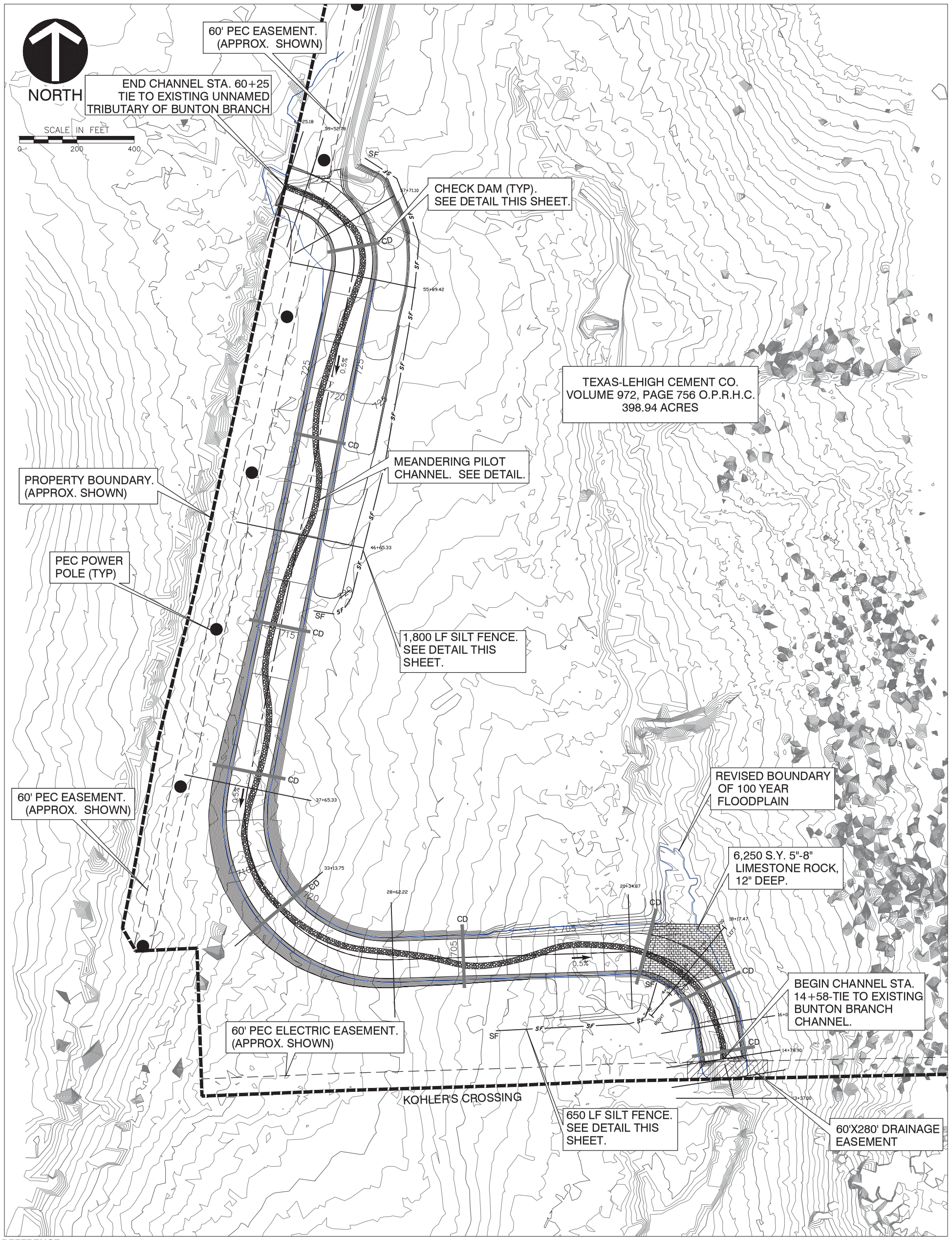
Drafted By:	Reviewed By:	Project ID:	Date:
J. Knowles	M. Johnson	016281	7/25/2017

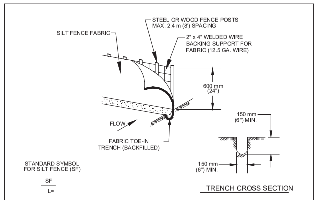
SWF-2016-00283, Figure 8 of 8



NORTH
SCALE IN FEET
0
200
400
60' PEC EASEMENT. (APPROX. SHOWN)
END CHANNEL STA. 60+25 TIE TO EXISTING UNNAMED TRIBUTARY OF BUNTON BRANCH
CHECK DAM (TYP). SEE DETAIL THIS SHEET.
TEXAS-LEHIGH CEMENT CO. VOLUME 972, PAGE 756 O.P.R.H.C. 398.94 ACRES
MEANDERING PILOT CHANNEL. SEE DETAIL.
PROPERTY BOUNDARY. (APPROX. SHOWN)
PEC POWER POLE (TYP)
1,800 LF SILT FENCE. SEE DETAIL THIS SHEET.
60' PEC EASEMENT. (APPROX. SHOWN)
REVISED BOUNDARY OF 100 YEAR FLOODPLAIN
6,250 S.Y. 5"-8" LIMESTONE ROCK, 12" DEEP.
BEGIN CHANNEL STA. 14+58-TIE TO EXISTING BUNTON BRANCH CHANNEL.
60' PEC ELECTRIC EASEMENT. (APPROX. SHOWN)
KOHLER'S CROSSING
650 LF SILT FENCE. SEE DETAIL THIS SHEET.
60'X280' DRAINAGE EASEMENT

REFERENCE

1. EXISTING TOPOGRAPHY DATA FROM AERIAL LIDAR SURVEY CONDUCTED BY CAPCOG DATED 2006.



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

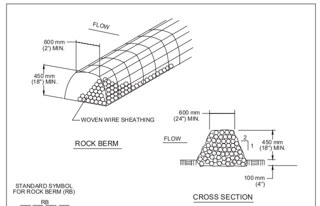
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS	09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1

SILT FENCE DETAIL

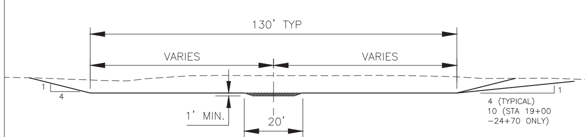


NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		ROCK BERM	
RECORD COPY SIGNED BY MORGAN BYARS	8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1

CHECK DAM DETAIL



TYPICAL CHANNEL SECTION WITH PILOT CHANNEL

NOTES:
1. 20' WIDE PILOT CHANNEL TO BE LINED 12" THICK WITH 3"-5" LIMESTONE. PILOT CHANNEL SHALL MEANDER PER PLAN AND GRADING SHOWN. REFERS TO TOP OF PILOT CHANNEL GRADE.

LEGEND

- EXISTING CONTOUR
- PROPOSED CHANNEL CONTOUR
- PROPERTY BOUNDARY
- SF — SILT FENCE
- CD — CHECK DAM
- PROPOSED LIMIT OF 100 YEAR FLOODPLAIN
- EXISTING EASEMENT

REVISION RECORD

NO	DATE	DESCRIPTION

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Texas Registered Engineering Firm F-38

TEXAS LEHIGH CEMENT CO.
BUNTON BRANCH CHANNEL RELOCATION
KOHLER'S CROSSING
KYLE, TEXAS

DRAWN BY: JCM	CHECKED BY: AWM	APPROVED BY: AWM
DATE: JULY 2017	DWG SCALE: 1"=200	PROJECT NO: 143-131

FLOODPLAIN CHANNEL MITIGATION LAYOUT INCLUDING PILOT CHANNEL AND EROSION CONTROLS

DRAWING NO.: 1

SHEET 1 OF 1

STATE OF TEXAS
ADAM W. MEHEVEC
84736