SH 36 Wetland Mitigation Plan

HISTORY

A United States Army Corps of Engineers (USACE) permit (SWG-2004-1704) was previously issued for the State Highway (SH) 36 project on October 31, 2008.

Table 1: Proposed Impacts as per 2008 Individual Permit

Impacts to wetlands	2.23 acres
Impacts to waters	1.42 acres
Credits withdrawn from CBMB in 2008	11 credits *

*NOTE: The previous permit calculated all impacts in acres regardless of whether the impact was to streams or wetlands and mitigation was based on the lump sum. As stream mitigation was not typically required at the time of the issuance of the permit, it is assumed that all mitigation required from the CBMB was for impacts to wetlands.

The project was delayed due to costs and areas were not filled as authorized. The project has now developed to the point that it is ready for construction; however, the permit expired December 31, 2013.

UPDATED DELINEATION – CALCULATION OF TOTAL PROPOSED IMPACTS

The updated wetland delineation resulted in the identification of 52 wetlands (8.660 acres) within the project area. Based on current design, the proposed project would impact 8.434 acres of potentially jurisdictional wetlands.

Table 2: Updated Impacts as per 2017 Individual Permit Request

Waters of the US	Total Acreage	Proposed Impacts
Wetland (52 total)	8.660 acres	8.434 acres

CALCULATION OF CREDITS NEEDED

Mitigation credits were purchased from the Coastal Bottomlands Mitigation Bank for this project in 2008; TxDOT is proposing to purchase additional credits to account for the remaining balance.

Table 3: Calculation of Remaining Balance for Purchase of Credit

	Wetland
Current Proposed Impacts	8.434 acres
Previously Mitigated Impacts	2.230 acres

*Steam impacts were generally not mitigated for separately in 2008. For purposes of calculating remaining mitigation needs, TxDOT is considering the credits purchased in 2008 as compensation for the impacts to wetlands alone.

**Stream impacts were minimized during the design phase of this project through the planned use of bridges at water crossings where feasible, including Water 24.

SEARCH FOR MITIGATION - APPROACH

The new federal guidelines (33 CFR Parts 325 and 332 and 40 CFR Part 230) list the following priority order for providing mitigation: mitigation banks, ILF programs, PRM using a watershed approach, PRM on-site, and PRM off-site.

Based on the USACE hierarchy preference outlined in the April 2008 Rule entitled "Compensatory Mitigation for Losses of Aquatic Resources" (33 CFR 325-332) to purchase credits at an approved mitigation bank, pay into an existing ILF program, or perform project specific mitigation on-site or off-site via PRM, an analysis was performed to investigate all options available for mitigation of unavoidable impacts to wetlands and streams.

TxDOT performed an exhaustive search for all available mitigation in and near the watershed of the project (see attached "Mitigation Availability" spreadsheet).

WETLAND MITIGATION PROPOSAL

To remain consistent with mitigation authorized under the previous permit, TxDOT proposes to purchase nineteen (19) credits at the Coastal Bottomlands Mitigation Bank to mitigate for the remaining wetland impacts (6.204 acres). The amount of credits required was calculated using an average ratio of 3:1.

On-site Alternatives:

There are no on-site alternatives available. The area within the existing ROW will be used for construction of roadway or detention. Stream mitigation within the ROW of an existing roadway facility provides limited value.

Practicability of self-sustaining aquatic resource:

Wetlands: Generally, the mitigation site has established successes to facilitate development of a work plan.

Easements and Encumbrances:

Wetlands: The mitigation banking instrument for Coastal Bottomlands Mitigation Bank was signed February 12, 2012.

SH 36 Wetland Mitigation Plan

Baseline Information:

Wetlands: The number of wetland credits is based on a routine wetland delineation performed to the standards of the USACE's 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Regional Supplement. The wetland delineations were performed and a Preliminary Jurisdictional Determination was submitted to the USACE with the individual permit application.

Mitigation Work Plan:

Credits have been released and will be purchased upon issuance of the Individual Permit at Coastal Bottomlands Mitigation Bank and managed in accordance with the MBI.

Determination of Credits:

Determination of wetland credits have been submitted as part of this permit application and based on the approved MBI of the Coastal Bottomlands Mitigation Bank.

Maintenance Plan:

A maintenance plan has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Site Protection Instrument:

A site protection plan has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Performance Standards:

A performance standard has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Monitoring Requirements:

A monitoring plan has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Long-term Management Plan

A long-term management plan has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Adaptive Management Plan

An adaptive management plan has already been prepared for Coastal Bottomlands Mitigation Bank as part of the MBI approval process.

Financial Assurances:

Financial assurances will be set up in accordance with the MBI for Coastal Bottomlands Mitigation Bank.

SH 36 Stream Mitigation Plan

Compensation

Site Selection:

Stream:

The permittee proposes to mitigate for the proposed impacts to 5,041 linear feet of stream by purchasing stream credits at an approved stream mitigation bank, the Katy Prairie Stream Umbrella Bank (KPSUMB). The KPSUMB released credits in 2016 which far exceeds the mitigation need of the proposed SH 36 project. Preliminary coordination between TxDOT-HOU and the KPSUMB Project Manager has been initiated and if requested by the USACE-Galveston District, a signed letter on KPSUMB letterhead can be developed to issue available credits.

Based on the USACE hierarchy preference outlined in the April 2008 Rule entitled "Compensatory Mitigation for Losses of Aquatic Resources" (33 CFR 325-332) to purchase credits at an approved mitigation bank, pay into an existing ILF program, or perform project specific mitigation on-site or off-site via PRM, an analysis was performed to investigate all options available for mitigation of unavoidable impacts to streams. Credits are available at KPSUMB, so paying into an existing ILF program or PRM is not anticipated, as purchasing credits from an approved mitigation bank would be higher on the hierarchy preference for compensatory mitigation. TxDOT-HOU is proposing to purchase credits at the KPSUMB at a ratio of 3:1 based on the proposed project being located immediately adjacent to the secondary service area of the KPSUMB. While the proposed project is outside of the secondary service area, the relative functions and values of the streams at the project site and the KPSUMB are in kind. Streams in the project area and KPSUMB possess similar hydrologic regimes and plant community types. Both sites are within the Level IV Ecoregion: Northern Humid Gulf Coastal Prairie, and are tallgrass prairie streams draining into wooded bottoms in coastal Texas. While the riparian buffer of the project stream has been degraded through agriculture and grazing, in its natural state would have a similar plant community to the streams at KPSUMB. Additionally, aquatic life use, including the aquatic flora and fauna, of the two systems is comparable. It is at the discretion of the USACE District Engineer for mitigation outside of the primary and secondary service area. The proposed project impacts approximately 5,041 linear feet of channel, equating to a compensation requirement, per the USAC-Galveston District Level 1 Standard Operating Procedure for stream assessment, of 4,055 stream credits. At a 3:1 ratio this would equate to a total of **12,165 credits** purchased from the KPSUMB to offset the potential impacts associated with the SH 36 project.

On-site Alternatives:

There are no on-site alternatives available. The area within the existing ROW will be used for construction of roadway or detention. Stream mitigation within the ROW of an existing roadway facility provides limited value.

Practicability of self-sustaining aquatic resource:

Stream: Generally, the mitigation site has established successes to facilitate development of a work plan.

For KPSUMB, the approved work plan is a procurement of the credits on a ratio for secondary service area

of 3:1. KPSUMB uses the USACE-Galveston Stream SOP analysis after the credit sale to facilitate the mechanics of credit/debit accounting as required by the MBI.

Easements and Encumbrances:

Stream: The mitigation banking instrument for KPSUMB was signed February 12, 2012.

Baseline Information:

Stream: The number of stream credits is based on a routine wetland and stream delineation performed to the standards of the USACE's 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Regional Supplement. The wetland delineations were performed and a Preliminary Jurisdictional Determination was submitted to the USACE with the individual permit application.

Mitigation Work Plan:

Credits have been released and will be purchased upon issuance of the Individual Permit at KPSUMB and managed in accordance with each MBI.

Determination of Credits:

Stream credits will be determined using the Galveston Districts approved Level 1 Standard Operating Procedure (SOP) for assessing streams. A Level 1 Stream Assessment has been performed on the impacts sites as well as on the mitigation site. A copy of the Level 1 assessments for the impact sites is included as Attachment D. Level 1 stream assessment has been performed on the mitigation property. A copy of the stream report for the mitigation property is held by the mitigation provider, KPSUMB.

Maintenance Plan:

A maintenance plan has already been prepared for KPSUMB as part of the MBI approval process.

Site Protection Instrument:

A site protection plan has already been prepared for KPSUMB as part of the MBI approval process.

Performance Standards:

A performance standard has already been prepared for KPSUMB as part of the MBI approval process.

Monitoring Requirements:

A monitoring plan has already been prepared for KPSUMB as part of the MBI approval process.

Long-term Management Plan

A long-term management plan has already been prepared for KPSUMB as part of the MBI approval process.

Adaptive Management Plan

An adaptive management plan has already been prepared for KPSUMB as part of the MBI approval process.

Financial Assurances:

Financial assurances will be set up in accordance with the MBI for KPSUMB.