SUPPLEMENTAL INFORMATION FOR SECTION 404 PERMIT APPLICATION

The following sections provide supplemental information to facilitate review of the Section 404 application for TxDOT Houston District's proposed SH 105 Improvements. The supplemental information includes the following:

1. Alternatives Analysis
2. Compliance with Section 401 of the Clean Water Act
3. Information on Endangered Species
4. Information on Cultural Resources

1. Alternatives Analysis

1.1 Purpose and Need

Project alternatives were evaluated in terms of the extent to which the alternatives will or will not satisfy the purpose and need of the project, as the purpose and need statement explains why TxDOT is developing a project.

1.1.1 Need

The proposed project is needed because increased and projected growth in the area has caused traffic demand to exceed the capacity of the existing roadway. The two-lane undivided roadway does not provide adequate mobility to accommodate the population growth or alleviate growing congestion, resulting in an increased number of serious and fatal accidents along the proposed project corridor (according to the Texas Department of Public Safety), and there is a lack of sufficient and safe turning refuge for motorists.

1.1.2 Purpose

The purpose of the proposed project is to improve safety, operational efficiency, and travel times; to accommodate growth along SH 105 from 10th Street in Conroe to Business 105 near Cleveland; and reduce the number of traffic accidents and fatalities. Along many sections in the proposed project area, SH 105 is experiencing considerable traffic congestion and a substantial number of accidents, which are anticipated to increase in future years.

1.2 Project Alternatives

1.2.1 Build Alternative (Alternative 6)

The process used to develop the proposed project alternatives followed the procedural provisions of NEPA, the CEQ Regulations, 23 CFR 771, and the FHWA Technical Advisory 6640.8A. Using a systematic, interdisciplinary approach, TxDOT used the purpose of the proposed project, public input, and environmental impact considerations to develop and evaluate the following six alternatives.

- Alternative 1: No Build Alternative
- Alternative 2: Create New Location Roadway
- Alternative 3: Widen to Four-Lane Undivided Roadway
- Alternative 4: Widen Primarily to the North to Four-Lane Divided Roadway
- Alternative 5: Widen Primarily to the South to Four-Lane Divided Roadway
- Alternative 6: Widen to the North and South to Four-Lane Divided Roadway

Alternative 6 was selected as the build alternative that was evaluated in the Environmental Assessment (EA), as the alternative would meet the proposed project's purpose and need for increased capacity, mobility, and safety of the roadway. Because Alternative 6 was selected as the build alternative, it is a practicable alternative.

SH 105, from 10th Street in Conroe to Business 105 near Cleveland, would be reconstructed and widened to the north and south to accommodate a four-lane roadway with a continuous two-way turn lane. A sidewalk is proposed on both sides of SH 105 for the entire length of the proposed project. The proposed project includes a curb and gutter system along approximately 75 percent of the proposed project with outside shoulders and open ditches along the remaining easternmost length of the proposed project. Bicycles would be accommodated for within the 15-foot shared use lanes along the north and south sides of SH 105 from 10th Street to Loop 336. From Loop 336 to Business 105, bicycles would be accommodated within the wide outside shoulders. Typically, 20 feet of additional ROW width would be required from the north and south sides of SH 105 to implement the proposed project (approximately 45 acres of additional ROW in total).

1.2.2 No Build Alternative

Under the No Build Alternative (Alternative 1), the existing roadway would not be reconstructed or widened. The No Build Alternative would not address existing or increased traffic demands or regional connectivity and would not meet the purpose and need of the proposed project; therefore, the No Build Alternative is not a practicable alternative.

1.2.3 Alternatives 6a and 6b

The EA received a Finding of No Significant Impact on February 20, 2020. During the Plans, Specifications, and Estimates (PS&E) phase of the project, two additional alternatives (i.e., Alternative 6a and Alternative 6b) were included to evaluate design considerations that could avoid and minimize impacts to the aquatic environment near the SH 105/Jefferson Chemical Road intersection and identify a less damaging alternative. Because they

meet the project's stated purpose and need, both Alternative 6a and Alternative 6b were deemed practicable alternatives.

1.2.3.1 Alternative 6a

Alternative 6a includes culvert improvements, the installation of concrete riprap at culvert outfalls, floodplain benching, and channel improvements (widening and lowering the flowline) downstream of SH 105. The proposed improvements would result in 0.05 acre (or 321 linear feet) of intermittent stream impacts and 0.09 acre of emergent wetland impacts.

1.2.3.2 Alternative 6b

Alternative 6b includes the same improvements as Alternative 6a (e.g., culvert improvements, the installation of concrete riprap at culvert outfalls, floodplain benching) but eliminates the proposed channel improvements (below the ordinary high water mark) downstream of the culvert outfall to reduce impacts to WOTUS. As a result, the proposed improvements would result in 0.02 acre (or 137 linear feet) of intermittent stream impacts and 0.09 acre of emergent wetland impacts.

1.2.4 Least Environmentally Damaging Practicable Alternative

Both Alternative 6a and Alternative 6b would result in greater than 0.10 acre of WOTUS impacts at a single and complete crossing and would require compensatory mitigation. Wetland impacts are identical for both alternatives; therefore, the wetland mitigation burden is also identical for both alternatives. However, Alternative 6b reduces stream impacts by 184 linear feet, which could result in cost savings on mitigation credits, and reduction of disturbance to the existing natural streambed. Additionally, impacts for both alternatives would not exceed the Nationwide Permit threshold of 0.5 acre of impact to non-tidal waters. Therefore, Alternative 6b was deemed the least environmentally damaging practicable alternative (LEDPA). It should be noted, other design considerations such as the use of a retaining wall (Crossing 7, **Appendix A**, **Sheet 17** of **24**), bridges, and reduced detention footprints (Crossing 8, **Appendix A**, **Sheets 18** to **22** of **24**) were incorporated into both alternatives 6a and 6b as part of the PS&E process to reduce adverse impacts to the aquatic environment to the maximum practicable extent.

2. Compliance with Section 401 of the Clean Water Act

Section 401 of the Clean Water Act compliance requires the use of best management practices (BMPs) to manage potential pollutants on construction sites to protect water quality. All USACE Section 404 Individual Permit applications require individual Section 401 certification from the Texas Commission on Environmental Quality (TCEQ). The proposed project would temporarily and permanently impact approximately 1.46 acres of wetlands and 0.1 acre/708 linear feet of stream. Because the proposed impacts would directly impact less than 3 acres of waters of the U.S., less than 1,500 linear feet of stream, and would not affect rare and ecologically significant wetlands, the project qualifies as a Tier I project. Thus, a Tier I TCEQ Water Quality Certification is required. A Pre-filing Meeting Request will be submitted to TCEQ at least 30 days prior to submitting a Section 401 Water Quality Certification Request (Certification Request), which will also be accompanied by a Tier I

Checklist (**Appendix E**). The project would implement approved BMPs such as temporary vegetation and/or sod for erosional control, vegetative filter strips for post-construction total suspended solids controls, and silt fencing for sediment control. As such, Section 401 requirements would be met, and no long-term water quality impacts are expected because of the proposed project.

3. Information on Threatened and Endangered Species

In accordance with Section 7 of the Endangered Species Act (ESA), TxDOT, as the lead federal agency, evaluated the potential for the project to (1) directly or indirectly affect federally listed, or proposed to be listed, threatened or endangered species or (2) to directly or indirectly destroy or adversely modify critical habitat. A list generated by the U.S. Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) tool identified four federally listed threatened or endangered and candidate species as potentially occurring in Montgomery, Texas:

- Piping plover (*Charadrius melodus*) - Threatened
- Red knot (*Caladris canutus rufa*) - Threatened
- Red-cockaded woodpecker (*Picoides borealis*) - Endangered
- Monarch butterfly (*Danaus plexippus*) – Candidate

No designated critical habitat for any of those species is in or near the project area. In addition, according to the IPaC, the piping plover and red knot are only given consideration for wind energy projects. Therefore, an analysis of effects of these species was not carried forward. TxDOT conducted a habitat assessment and consulted with the USFWS for technical assistance in 2018 for the red-cockaded woodpecker. It was determined that the project area does not support suitable foraging habitat or nesting colonies for the species. As a result, TxDOT determined that the project will have no effect on the red-cockaded woodpecker or other federally listed or proposed threatened or endangered species, and no further coordination with the USFWS was required under Section 7 of the ESA. TxDOT's threatened and endangered species determinations and documentation of compliance with the ESA are provided in the project's Final EA (dated February 2020) and Finding of No Significant Impact (signed February 20, 2020).

The Texas Parks and Wildlife (TPWD) rare, threatened, or endangered species of Texas (RTEST) by County was evaluated to determine the potential for the project to impact state-listed and rare species that may occur within Montgomery County. Review of the TPWD RTEST by County list identified a total of 58 species with 17 species designated as threatened or endangered and 41 species designated as species of greatest conservation need (SGCN). Although the interior least tern is included in the RTEST, it is stated that the avian species was delisted and removed as an SGCN. Five state-listed species (wood stork, chub shiner, western creek chubsucker, Rafinesque's big-eared bat, and sandbank pocketbook) and 24 SGCN may be impacted because of the proposed project. As such, appropriate BMPs would be implemented. Please reference **Appendix F** for the USFWS IPaC species list, TPWD RTEST for Montgomery County, TXDOT species analysis spreadsheet, and TPWD concurrence correspondence.

4. Information on Cultural Resources

In accordance with Section 106 of the National Historic Preservation Act (NHPA), TxDOT as the lead federal agency, evaluated the potential for the proposed project to affect properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). TxDOT conducted background reviews and field surveys for both non-archeological historic resources and archeological resources within the project area, excluding the two proposed detention basin areas. None of the documented archeological resources are recommended eligible for the NRHP; therefore, it was determined that the proposed project will have no adverse effect on historic properties or cultural resources. TxDOT's historic properties documentation was cleared as of April 20, 2017 and are provided in the project's Final Environmental Assessment (dated February 2020) and Finding of No Significant Impact (signed February 20, 2020). Additional background reviews and field surveys were conducted in the proposed detention basin locations in 2021/2022. Based on the results of the archeological survey, it was determined that the proposed detention basins would have no adverse effect on historic properties or cultural resources. Concurrence from the Texas Historical Commission (THC) regarding the results of these additional surveys is pending as of the date of this submittal.