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September 18, 2009

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Re: Permit Application Number SWG-1997-02901  
Harris County Toll Road Authority

Permit application number SWG-1997-02901, dated August 18, 2009, proposes to construct Segment E of the Grand Parkway (State Highway 99) as a four-lane highway within 400 feet of right-of-way (ROW). The proposed project would impact a total of 72.79 acres of wetlands. The project is located between Interstate 10 and U.S. 290 in Harris County, Texas. Please be aware that a written response to a Texas Parks and Wildlife Department (TPWD) recommendation or informational comment received by a state governmental agency on or after September 1, 2009 may be required by state law. For further guidance, please see Texas Parks & Wildlife Code Section 12.0011 at the following website: <http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.i2.htm>.

TPWD participated in a site visit on September 15, 2009 with representatives from the applicant's wetland consultant, the applicant's NEPA consultant, and the following agencies: U.S. Fish and Wildlife Service (USFWS), Environmental Protection Agency (EPA), Texas Commission on Environmental Quality (TCEQ), Texas Department of Transportation (TxDOT), and the Federal Highway Administration (FHWA). The project area is located on undeveloped land on the Katy Prairie, an area characterized as having relatively flat topography dominated by pastures, agricultural land, and grasslands with few forested areas except near riparian zones. The proposed project crosses Mason Creek, South Mayde Creek, Bear Creek, Langham Creek, Cypress Creek and their extensive floodplains. Numerous palustrine wetlands are scattered throughout the project area. Bear Creek, Cypress Creek, and the proposed detention basin north of Franz Road were evaluated during the site visit in addition to the following wetland areas: 1, 13, 14, 15, 17, 32, and 33. Palustrine emergent (PEM) wetlands, palustrine scrub-shrub (PSS) wetlands, and palustrine forested (PFO) wetlands were observed on-site. Wetlands 13-15 were low-quality PEM wetlands in pastureland deemed "isolated" by the applicant. The Bear Creek riparian zone was high quality habitat with a diversity of plant and bird species present including black willow (*Salix nigra*), green ash (*Fraxinus pennsylvanica*), yaupon holly (*Ilex vomitoria*), deciduous holly (*Ilex decidua*), red-shouldered hawk (*Buteo lineatus*), Carolina wren (*Thryothorus ludovicianus*), and blue-gray gnatcatcher (*Polioptila caerulea*). Cypress Creek had steep banks with isolated pools as the dominant instream habitat type along with abundant rootwad cover and scattered woody debris. Sand was the dominant substrate type due to the "sugar sands" in which

Cypress Creek naturally flows. Wetlands 32 and 33 were high quality habitats within the Cypress Creek floodplain. Wetland 33 is the largest wetland in the proposed project area. The southern portion of Wetland 33 consisted of deep open water bordered by PFO wetland vegetation. Duckweed (*Lemna* sp.), an important food for migratory waterfowl, was abundant in the pond. Wetland 33 is an excellent example of wetlands on the Katy Prairie that have been identified by the North American Waterfowl Management Plan as having international significance (Texas Mid-Coast Initiative Team 1990).

In addition to providing habitat for fish and wildlife, palustrine wetlands have other important functions and values. Wetlands perform water quality functions by trapping excess sediment from runoff and also by limiting nutrient (nitrogen, phosphorus) transport downstream to receiving waterbodies such as Galveston Bay. In addition, these wetlands also reduce flood damage by storing stormwater and slowly releasing it to receiving waterbodies, thus decreasing flood peaks and duration – a service that is costly to replicate.

TPWD has concerns regarding the proposed project and mitigation plan. Roads affect wildlife by altering and isolating habitat, hindering the movement of wildlife, and promoting extensive wildlife mortality. These effects are perhaps most evident when roads are constructed through wetlands (Findley and Bourdages 2000, Ashley and Robinson 1996). In addition, the vast majority of mortality associated with roads impacts amphibians and reptiles (Ashley and Robinson 1996). These species migrate along and across highways to find suitable foraging, breeding, and overwintering sites while at other times they use roadside habitat itself (e.g., for thermoregulation). Construction of the proposed project will permanently bisect wildlife habitat and will directly impact wildlife as described above.

Building roads generally increases development, and this project would most likely encourage further residential and commercial development on the remaining undeveloped land in western Harris County. The construction of impervious structures and surfaces associated with development typically leads to a decrease in downstream water quality. All of the waterbodies crossed by the proposed project (Mason Creek, South Mayde Creek, Bear Creek, Langham Creek, and Cypress Creek) are currently listed as impaired waterbodies on the TCEQ's 303(d) List for elevated bacteria levels. Therefore, the applicant's proposed impacts will individually and cumulatively contribute to the continued degradation of water quality within those waterbodies, Lake Houston and, ultimately, Galveston Bay.

TPWD has concerns regarding indirect impacts to potential wetlands located immediately off-site and the proposed wetlands to be avoided on-site. Specifically, TPWD believes wetland quality would be impacted by fragmentation, disturbance, shading from proposed bridge spans, etc., thereby

decreasing wetland functions and values. Based on review of aerial imagery in the applicant's wetland delineation report, portions of the following impacted wetlands appear to extend beyond the boundary of the proposed ROW: 3 (to the west and east), 5 (to the east), 17 (to the east), 24 (to the east), 31 (to the west), 32 (to the west and east), 34 (to the west), 43 (to the north), 45 (to the north and south), 48 (to the south), 54 (to the west and east), and 55 (to the east). Regarding the proposed wetlands to be avoided on-site, TPWD believes that depressional wetlands on the Katy Prairie have a hydrologic link to streams such as Cypress Creek and Bear Creek. For example, floodplain modeling for the Cypress Creek watershed was recently recalibrated by the Harris County Flood Control District (HCFCD) resulting in a significant increase in the size of the floodplain. Therefore, some of the wetlands identified as "isolated" (i.e. non-jurisdictional), may now be jurisdictional due to their presence on the recently-expanded floodplain. Regardless of their jurisdictional status, these on-site wetlands perform water quality maintenance functions that are critical to the goals of the Clean Water Act, and thus they should not be subject to adverse impacts without mitigation. In addition, to be in compliance with Executive Order 11990, federally funded projects require mitigation for impacts to all wetlands. Therefore, TPWD requests the applicant evaluate and compensate for indirect impacts to all of the proposed wetlands to be avoided on-site. Specifically, TPWD recommends all of the identified natural wetlands, including those that would have temporary impacts, in Table 1 of the applicant's proposed Conceptual Mitigation Plan be included in compensatory mitigation.

TPWD also has concerns regarding the applicant's proposed mitigation plan. TPWD agrees with the applicant's proposal to perform compensatory mitigation for emergent wetlands at the Katy-Cypress Wetlands Mitigation Bank (KCWMB) and for forested wetlands at the Greens Bayou Wetland Mitigation Bank (GBWMB) with the recommendation that the forested wetland impacts be mitigated at a 7:1 ratio at the GBWMB. However, the GBWMB is located outside of the project's watersheds (off-site) and does not contain coastal prairie wetlands (out-of-kind). The Katy Prairie is a remnant of the great tallgrass prairie that stretched from the Gulf of Mexico to Canada. Historically, the Katy Prairie was subject to periodic fires and contained a considerable amount of emergent wetland areas. Currently, the Katy Prairie has been identified as a unique natural area that provides habitat for rare and endangered species of plants and animals. The Katy Prairie represents an endangered ecosystem found only in North America with less than 1% of the original coastal tallgrass prairie remaining. Therefore, TPWD recommends the applicant perform compensatory mitigation on the Katy Prairie by purchasing as many credits as possible from the KCWMB for emergent wetland impacts. If a sufficient number of wetland mitigation credits are unavailable from the KCWMB, TPWD recommends the applicant mitigate any remaining emergent wetland impacts by acquiring additional land through coordination with the Katy Prairie Conservancy – an organization formed specifically to protect Katy Prairie habitats through land acquisition and other

conservation strategies – and completing a creation or restoration-based mitigation plan. The mitigation plan should include a defined target plant community and hydrologic regime and also include a minimum five year monitoring plan to ensure those targets are met. The mitigation plan should contain all components included in the Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 332); Final Rule issued April 10, 2008. The applicant should provide the mitigation plan to TPWD and other resource agencies for review and comment prior to any issuance of this permit.

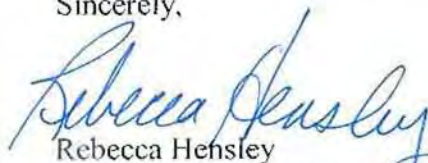
The Final Environmental Impact Statement (FEIS; Volume II, Section 4.10.3.2) and Record of Decision (ROD; Section V, Section J.2) stated that compensatory mitigation would be considered for non-regulated, non-wetland resources (e.g., riparian habitats, upland forests, etc.). Therefore, TPWD recommends the 20.7 acres of forest impacts, including 4.9 acres of riparian forest impacts, described in the FEIS and ROD be mitigated by contributing to the Spring Creek Greenway In-Lieu Fee Program to preserve and restore riparian habitat on Spring Creek. As an alternative, compensation for the 4.9 acres of riparian forest impacts may include a contribution to the acquisition of flood easements containing riparian forest remnants within Segment E project area watersheds. In addition, for the purpose of non-regulatory mitigation, the “isolated” wetlands on-site should be considered as a non-regulated resource and mitigated as recommended above.

Based on the project plans in the Public Notice, TPWD is concerned that the proposed locations of detention basins and floodplain mitigation basins will negatively impact wetlands, forest habitat, and riparian zones. Therefore, TPWD recommends the applicant avoid these important habitats by finding alternative locations for the proposed basins. In the event a proposed basin can not avoid wetlands, forest habitat, and riparian zones, TPWD recommends the applicant perform compensatory mitigation for those impacts.

As currently proposed, TPWD recommends denial of this permit application.

Questions can be directed to Mr. Mike Morgan at (281) 534-0146 or Mr. Jamie Schubert at (281) 534-0135 in Dickinson, Texas.

Sincerely,



Rebecca Hensley  
Regional Director, Ecosystem Resources Program  
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RH:WJS:MNM

References:

Ashley, E.P., and J.T. Robinson. 1996. Road mortality of amphibians, reptiles, and other wildlife on the Long Point Causeway, Lake Erie, Ontario. *The Canadian-Field Naturalist* 110(3):403-412.

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