City of San Antonio

Agenda Memorandum

File Number: 19-3588

Agenda Item Number: 26.

Agenda Date: 5/30/2019

In Control: City Council A Session

DEPARTMENT: Transportation & Capital Improvements (TCI)

DEPARTMENT HEAD: Razi Hosseini, P.E., R.P.L.S.

COUNCIL DISTRICTS IMPACTED: Citywide

SUBJECT:

City Research Agreement with the University of Texas at San Antonio

SUMMARY:

An ordinance authorizing a research agreement with the University of Texas at San Antonio (UTSA) in the amount of $49,000.00 for a study evaluating flood protection strategies to alleviate super storm impacts on the City's transportation infrastructure and environment.

BACKGROUND INFORMATION:

The National Center for Environmental Information (NCEI) and the National Oceanic and Atmospheric Administration (NOAA) evaluates the impacts of severe weather events have on the nation. NCEI's data reveals between 1980 and 2017, damages from severe storms and flooding cost the United States $320.9 billion. Hurricane Harvey alone broke rainfall records for the U.S. with more than 50 inches of rain and produced unprecedented flooding in Eastern Texas with total estimated damages of $160 billion and approximately 60 fatalities.

The City of San Antonio lies within a region prone to flooding in Texas referred to as Flash Flood Alley, which constitutes one of the most flood prone areas of the North American continent. This region is experiencing one of the fastest growing population rates in the U.S. and is especially vulnerable to super storms because it is partially located in an area characterized by rugged natural drainage and intense rainfall events referred to as the Balcones Escarpment.

The agreement with UTSA for a super storm study will provide the City with the necessary research

information to develop a framework capable of predicting super storm impacts to transportation infrastructure and the environment. The Upper San Antonio and Leon Creek watersheds were selected as part of the study because the Upper San Antonio watershed has one of the most developed, urban area flood control systems in the U.S., while the Leon Creek watershed is unprotected against large storm events.

ISSUE:

This ordinance authorizes a research agreement with the University of Texas at San Antonio (UTSA) in the amount of $49,000.00 for a study to evaluate flood protection strategies to alleviate super storm impacts on the City's transportation infrastructure and environment.

This study will evaluate regional flood protection strategies to alleviate impacts of super storms in highly populated urban areas and will contribute to the development of a framework capable of predicting impacts super storms will have on the City's transportation infrastructure and environment.

Additional objectives of the study will include the exploration of alternative flood protection structures to minimize storm damages and maximize the resilience of transportation systems in metropolitan areas, educating City staff on floodplain super storm mapping incorporating potential climate change impacts for future planning and the enhancement of public awareness super storms have within their environment.

ALTERNATIVES:

City Council could choose not to approve this ordinance; however, the City would not receive patent or technology credit and would lose the opportunity to access simulation modeling data of the Upper San Antonio and Leon Creek watersheds resulting from the study.

FISCAL IMPACT:

This ordinance authorizes a one-time payment in the amount of $49,000.00 payable to the University of Texas at San Antonio for a study evaluating flood protection strategies to alleviate super storm impacts on the City's transportation infrastructure and environment. Funding for this agreement is available and included in the FY 2019 Adopted Storm Water Operating Fund Budget.

RECOMMENDATION:

Staff recommends approval of this ordinance to authorize a research agreement with the University of Texas at San Antonio in the amount of $49,000.00 for the super storm study on the Upper San Antonio and Leon Creek watersheds.