



FM2222 Bypass Study Annual Update Report

Prepared by:

Nico Hauwert, Ph.D., Professional Geoscientist #5171,
City of Austin Balcones Canyonlands Preserve Wildlands Conservation Division

Date: January 13, 2023

In February 2018, TxDOT and the USFWS agreed to direct mitigation fees for monitoring, cave restoration and hydrogeological studies on City of Austin Balcones Canyonlands Preserves (AW BCP) near FM 2222 and FM 620 to offset any possible impacts from construction of a bypass road to alleviate traffic. AW BCP believes the best protection for adjacent and nearby preserves is a deeper understanding of the resources there, restoration of massive loss of cave habitat from historical filling, and it is grateful to TxDOT for supporting this research through funding support. TxDOT directed a **\$390,655** U.S. Fish & Wildlife Service mitigation fee for monitoring and restoration on nearby AW BCP in August 2018. As a prerequisite for hydrogeological studies expected in FY22, BCP is locating springs, assessing the presence of salamanders and other subterranean life, and restoring previously filled caves and extending deeper portions of known caves in the area. A sufficiently deep portion of the caves must be excavated of fill to open drip areas that can be monitored and traced to, in order to delineate water source infiltration areas. The excavation also potentially restores new habitat, opens nutrient input connectivity, and allows monitoring of the caves. By monitoring the fauna and cave drips in newly opened passages and rooms, we can assess potential changes in humidity and ecosystem. Delineation of surface and subsurface catchments for cave drips and springs will help in defining sustainable preserve areas for cave and spring ecosystems.

- In FY2018 AW BCP expended \$1,782 in spring assessments related to this study.
- In FY2019, AW BCP expended a minimum of \$46,069 for cave restoration on Cortana, Park West, and Stovepipe along with spring assessments related to this study (FY19 report Appendix T3).
- In FY20 expenditures of \$79,967 were made for contracting cave restoration and purchasing supplies related to this study. In FY21, a minimum of \$101,182 was expended as detailed below, primarily for cave restoration. In late FY21, AW BCP also completed a master contract for cave restoration to facilitate this work.
- In FY21, AW BCP tabulated total expenditures of **\$101,182 related to this mitigation, including** cave restoration on Stovepipe (Canyon Creek), Parke West, Kent Butler, Sam Hamilton, and Cortaña preserves, spring assessments for aquatic life, and archeological analysis of artifacts from the Stovepipe Karst Preserve during cave restoration.

The minimum total contracting and supply expenditures by AW BCP for this project at the end of FY22 is about **\$294,467**. Some additional expenditures related to water-quality sampling and drip monitoring have not been compiled or reported since it has not yet been analyzed as part of a hydrogeological study.

Table 1. Tabulation of Some FY22 Contracted Expenditures Related to FM2222 Bypass Mitigation

Category	Preserve	Cave	Contractor	Contracted Amount
Total Mitigation				\$390,655
Pre FY22 Expenditures				\$229,000
FY22 Cave Restoration	Stovepipe	Coffee Mug Cave	Zarria Environmental	\$10,175
	Stovepipe	Gaping Maw Cave	Zarria Environmental	\$24,035.00
	Stovepipe	Sacred Grove Cave	Zarria Environmental	\$19,635
	Cortaña	Black-Cap Cave	Zarria Environmental	\$10,175
	Park West	Elm Cave	4Caves	\$15,510
FY22 Archeological Analysis	Stovepipe	Mossy Elm	Ron Ralph	\$1,690
FY22 Spring Faunal Surveys	Cortaña, Park West, Kent Butler, Concordia	---	Wren DayTree	\$8,282
FY22Total				\$65,467
Total FT18-22 Sum				\$294,467
Remaining				\$96,188

The associated FY22 cave restoration is described in the BCP FY 22 Annual Report in Appendix I. Balcones Canyonlands Preserve Karst Monitoring and Management FY 2022 Annual Report p.22 and P. 52-58. The results of spring faunal surveys are included in the appendices of the BCP FY 22 Annual Report as: 2022 Summary of City of Austin Spring Management activities on the Balcones Canyonlands Preserve by Crystal Datri and Colin Strickland. Analysis and reporting of archeological data is still underway.

