An Intensive Cultural Resources Survey of the Proposed Culebra 58F – Phase IIB (Laven to upstream of Culebra) Drainage Improvement Project
City of San Antonio, Bexar County, Texas
AN INTENSIVE CULTURAL RESOURCES
SURVEY OF THE PROPOSED CULEBRA 58F – PHASE IIB
(LAVEN TO UPSTREAM OF CULEBRA)
DRAINAGE IMPROVEMENT PROJECT
CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS

WBS ELEMENT: 40-00050
ENVIRONMENTAL PROJECT CODE: 07-614E2-016CIPII

Prepared for:
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Capital Improvement Management Services
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Abstract

The City of San Antonio (COSA) contracted PBS&J to perform cultural resources investigations of their proposed Culebra 58F – Phase IIB Drainage Improvement Project in San Antonio, Bexar County. The project will modify Zarzamora Creek from Laven Drive to a distance of approximately 590 meters (m) (1,600 feet [ft]) upstream of Culebra Road. Impacts will consist of modifications to the creek’s existing channel, the addition of sanitary sewer improvements, and a tree planting strip. The project’s length will total 975 m (3,200 ft), and its widths will range between approximately 76.2 m (250 ft) and 152.4 m (500 ft), resulting in an area of approximately 27.5 acres (11.1 hectares [ha]). An additional 30 acres (12.1 ha) south of Zarzamora Creek may be used for access roads and temporary staging areas.

Archeological investigations included intensive pedestrian survey and geoarcheological trenching of approximately 10.4 acres (4.2 ha), resulting in a total of 13 shovel tests and 6 backhoe trenches. All proved negative for cultural materials. Due to historic dumping and filling, no investigations were conducted within the area of potential effect south of Zarzamora Creek. It is recommended that no further archeological investigation is necessary and that construction of the proposed drainage improvements be allowed to proceed.
Management Summary

PBS&J was contracted by the City of San Antonio, Bexar County, Texas, to perform a cultural resources study for the proposed Culebra 58F – Phase IIB Drainage Improvement Project. The project will modify Zarzamora Creek from Laven Drive to a distance of approximately 590 meters (m) (1,600 feet [ft]) upstream of Culebra Road. Impacts will consist of modifications to the creek’s existing channel and the addition of sanitary sewer improvements and a tree planting strip. The project’s length will total 975 m (3,200 ft), and its widths will range between approximately 76.2 m (250 ft) and 152.4 m (500 ft), resulting in an area of approximately 27.5 acres (11.1 hectares [ha]). An additional 30 acres south of Zarzamora Creek may be used for access roads and temporary staging areas.

A Texas Antiquities Permit was obtained from the Texas Historical Commission, and the work was conducted under Permit no. 5488. Mike Smith, the Principal Investigator, and Casey Hanson performed the intensive pedestrian survey on January 12, 2010. Robert Rogers, PBS&J geoarcheologist, and Mike Smith conducted backhoe trenching on January 21, 2010, assisted by Angel Lopez and Jesse Estrada of Jerdon Enterprise, L.P.

No cultural resources investigations were conducted south of Zarzamora Creek due to historic dumping and filling, which extended into the Cretaceous soils below. Environmental testing of this portion of the project area was performed by Medina Consulting Company, Inc., from January 20 to January 21, 2010.
I. INTRODUCTION

The City of San Antonio (COSA) contracted PBS&J to perform cultural resources investigations of their proposed Culebra 58F – Phase IIB Drainage Improvement Project in San Antonio, Bexar County, Texas (Figure 1). The project will modify Zarzamora Creek from Laven Drive to a distance of approximately 590 meters (m) (1,600 feet [ft]) upstream of Culebra Road (Figure 2). Impacts will consist of modifications to the creek’s existing channel and the addition of sanitary sewer improvements and a tree planting strip. The project’s length will total 975 m (3,200 ft), and its widths will range between approximately 76.2 m (250 ft) and 152.4 m (500 ft), resulting in an area of approximately 27.5 acres (11.1 hectares [ha]). An additional 30 acres south of Zarzamora Creek may be used for access roads and temporary staging areas.

The project is located on lands owned by COSA, a subdivision of the State of Texas, thereby requiring compliance with the Antiquities Code of Texas (TAC) of 1977, as revised through 1995 (Texas Natural Resource Code: Title 9, Chapter 191). Furthermore, because it would include substantial modification of portions of Zarzamora Creek, the project would require a Clean Water Act Section 404 Individual Permit, thereby necessitating compliance with Section 106 of the National Historic Preservation Act.

The cultural resources investigations included both intensive pedestrian survey and geoarcheological trenching. These investigations were designed to (1) locate and record all archeological resources present within environmentally safe portions of the project area, (2) preliminarily assess their eligibility status for listing on the National Register of Historic Places (NRHP) and as State Archeological Landmarks (SAL); and (3) provide site-specific recommendations for all NRHP- or SAL-eligible sites or sites with an unknown eligibility status. Due to the project’s negative results, they will be presented below using the Council of Texas Archeologists’ Short Report Format.
II. DEFINITION OF STUDY AREA

The proposed project area is located in northwest San Antonio along Zarzamora Creek. Zarzamora Creek has its headwaters approximately 8 kilometers (km) (5 miles) north of the project area. It flows in a south-southeasterly direction, having its confluence with the San Antonio River about 11.2 km (7 miles) southeast of the project area. Soils in the area are mapped as belonging to the Trinity and Frio series (undifferentiated). Both Trinity and Frio soils are taxonomically classified as Vertisols, and formed in recent calcareous alluvium (Taylor et al. 1962). These are frequently flooded and thus harbor the potential for buried cultural resources. Soils of the Houston series of black gravelly clay lie along the margins of the project area. These developed in uplands over the calcareous clay and marl of the Upper Cretaceous-aged Taylor and Navarro formations (Bureau of Economic Geology 1974), and are thus presumed to have low potential for intact cultural surfaces.

The floodplain of Zarzamora Creek is approximately 152 m (500 ft) wide in the project area (Figure 3). According to a local informant, Angel Lopez of Jerdon, the floodplain was widened and deepened during drainage improvements in the 1970s.

Figure 3. Overview of Zarzamora Creek floodplain north from Culebra Road, facing northwest.
II. Definition of Study Area

DEFINITION OF AREA OF POTENTIAL EFFECT

Because the project impacts and completed construction will be at or below the grade of surrounding neighborhoods, and because the completed project will not cause any substantial increases in noise or other visual alterations to the surrounding area, the project’s Area of Potential Effect (APE) is limited to the project’s mapped footprint (see Figure 2). During construction of the proposed project, impacts to the APE north of Culebra Road will consist primarily of COSA’s excavation to modify the existing channel, but will also include sanitary sewer improvements by the San Antonio Water System (SAWS). South of Culebra Road, the only modifications north of Zarzamora Creek will be the addition of a tree planting strip. South of Zarzamora Creek there will be significant excavation of soils to widen the drainage channel, but the current footprint of the jurisdictional waters of Zarzamora Creek will not be modified. Additional impacts will likely include the creation of new access roads and temporary staging areas for the removal of spoils. The exact locations of the latter have yet to be determined, but are anticipated to be placed somewhere within a roughly 30-acre, COSA-owned, wooded plot south of Culebra Road and west of Laven Road (Figure 4).

Currently, the portion of Zarzamora Creek north of Culebra Road lies within a thin strip of undeveloped land, bordered on both sides by residential development (see Figure 4). To the south, commercial properties lie between Culebra Road and Zarzamora Creek, which has been heavily impacted by prior channelization. Much of this area was inundated at the time of the survey (Figure 5). For the most part, the project area south of Zarzamora Creek is wooded, though some portions have been subjected to mechanical disturbances.

PREVIOUS ENVIRONMENTAL SITE ASSESSMENTS SOUTH OF CULEBRA ROAD

In March 2009, Medina Consulting Company conducted a Phase I Environmental Site Assessment of the proposed Culebra 58F – Phase IIB Drainage Improvement Project (Medina 2009). Their work included an analysis of surface conditions and known or recognized hazards within or adjacent to the project limits. They determined that there were “Recognized Environmental Conditions” associated with unpermitted landfills in the project vicinity, as well as with illegal dumping within and to the south and southwest of the project area. Their recommendations included conducting a Phase II Environmental Site Assessment “to assess the presence of buried solid waste and concentration and extent of impacts within the proposed project limits” (Medina Consulting Company 2009:ii).
In addition to the study noted above, remediation work was conducted in the previous Culebra construction phases (Phase I and Phase IIA) (Medina 2007; Westbrook 2006). Approximately 12,380 cubic yards of impacted soil were removed, transported, and disposed of at a Texas Commission of Environmental Quality-licensed disposal facility (Medina 2007). Impacted soil consisted of roofing shingles, construction debris, steel rebar, lumber, automotive parts, glass, plastic, asphalt, and soil. Based on the environmental investigations and remediation work, it appeared that the impacted soil extended beyond the project limits. It is highly likely that these materials may be present in the area of the proposed Culebra 58F -Phase IIB Drainage Improvement Project.
III. METHODOLOGY

RECORDS REVIEW

Prior to the beginning of the fieldwork, a records review was conducted to determine whether any previously recorded archeological sites, properties listed on the NRHP, State Archeological Landmarks (SALs), cemeteries, or Historical Markers are present within, or close to, the proposed project. This review utilized the files of the Texas Archeological Research Laboratory (TARL), the Texas Historical Commission’s (THC) Texas Archeological Sites Atlas Online (Atlas), the Texas Historic Sites Atlas, the 1931 Stoner System aerial photographs and property maps of Bexar County, as well as 1965 aerals and U.S. Geological Survey topographic maps.

PEDESTRIAN SURVEY

During the pedestrian survey, transects were walked on each side of the drainage, with shovel tests placed judgmentally at intervals of roughly 100 m (328 ft). Shovel tests were approximately 30 centimeter (cm) (12 inches) in diameter and excavated in arbitrary levels not exceeding 10 cm (4 inches). Whenever possible, they were excavated to subsoil (the Bt horizon), although some were terminated due to inundation. The excavated soil from each shovel test was sifted through 0.64-cm (0.25-inch) mesh hardware cloth when possible. Clayey matrices were hand-sorted and visually inspected. Information relating to each shovel test was recorded in a shovel test log, including a description of the sediments present, the general environmental setting of the shovel test, its position as marked by a Global Positioning System (GPS) unit, and any additional comments. All shovel tests were backfilled upon completion. Collection was to be limited to rare or unusual artifacts or those that could not be fully assessed in the field; no artifacts were encountered.

GEOARCHEOLOGICAL TRENCHING

Backhoe trenches were excavated along the portion of the project area north of Culebra Road and within zones of 30 m (100 ft) in width on either side of the drainage channel. Mechanical excavations were placed at intervals of roughly 100 m (328 ft), on alternating sides of the creek, for a total of six trenches in all. These were placed at the judgment of the geoarcheologist based on the likelihood of intact soils as well as backhoe accessibility.
IV. RESULTS

RECORDS REVIEW

According to the records review, there are no previously recorded sites, NRHP properties, SALS, cemeteries or historical markers plotted within 3 km (1.9 miles) of the proposed project area. A review of the 1931 Stoner System aerial photographs and property maps of Bexar County identified two structures that appear to be situated within 150 m (500 ft) of the project area south of Culebra Road; however, 1965 aerials and topographic maps show no remaining traces of these.

Only one previous investigation is listed within the proposed project area, a 1981 Texas Department of Transportation survey of Culebra Road (Weir 1981a). No sites were recorded during this survey. The nearest recorded archeological sites, located approximately 3.5 km (2.2 miles) to the west along Leon Creek, are 41BX555 (Weir 1981b), 41BX1534, 41BX1535, and 41BX1536 (Smith 2003). These were prehistoric sites that yielded lithic debitage and burned rock, for the most part within shallow and/or disturbed contexts. Site 41BX1536, however, possesses a deeply buried prehistoric component, which has been recommended for further testing to evaluate its potential eligibility for listing in the NRHP and for designation as a SAL (Smith 2003).

PEDESTRIAN SURVEY

Shovel testing was conducted on the north side of Zarzamora Creek south of Culebra Road and on both sides of the creek north of the road (see Figure 3 and Table 1). Shovel tests were placed at intervals of roughly 100 m at the discretion of the field archeologists. Archeologists placed 3 shovel tests south of Culebra Road in the tree planting strip, and 10 shovel tests north of Culebra Road. All shovel tests proved negative for cultural materials or features.

GEOARCHEOLOGICAL TRENCHING

Geoarcheological investigations utilizing mechanical excavation equipment were performed along Zarzamora Creek; five were placed north of Culebra Road, and one was placed south of the road on the north side of the creek (see Figure 4). The purpose of the investigations was to assess the project area for the potential of harboring deeply buried archeological sites. The following profile descriptions are provided.
Table 1. Shovel Tests

<table>
<thead>
<tr>
<th>Test#</th>
<th>Level</th>
<th>Depth</th>
<th>P=Pos/ N =Neg</th>
<th>Soil Color</th>
<th>Soil Texture</th>
<th>Description</th>
<th>Comments/Reason for Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1–3</td>
<td>0–30</td>
<td>N</td>
<td>10YR 5/1, gray</td>
<td>Clay with cobbles</td>
<td>Floodplain, north of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>2</td>
<td>1–3</td>
<td>0–30</td>
<td>N</td>
<td>2.5Y 6/2, light brownish gray</td>
<td>Clay with cobbles</td>
<td>Floodplain, north of creek</td>
<td>Clay/marl</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>0–10</td>
<td>N</td>
<td>10YR 5/1, gray</td>
<td>Clay</td>
<td>Floodplain, north of creek</td>
<td></td>
</tr>
<tr>
<td>2–3</td>
<td>10–30</td>
<td>N</td>
<td>2.5Y 6/2, light brownish gray</td>
<td>Clay with cobbles</td>
<td></td>
<td>Clay</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1–3</td>
<td>1–30</td>
<td>N</td>
<td>10YR 3/1, very dark grayish brown</td>
<td>Clay with cobbles</td>
<td>Upland edge, east of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>0–5</td>
<td>N</td>
<td>10YR 4/1, dark gray</td>
<td>Loam</td>
<td>Upland edge, west of creek</td>
<td>Modern trash</td>
</tr>
<tr>
<td>1–2</td>
<td>5–15</td>
<td>N</td>
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<td>Clay with cobbles</td>
<td></td>
<td>Clay/cobbles</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1–3</td>
<td>1–30</td>
<td>N</td>
<td>10YR 3/1, very dark grayish brown</td>
<td>Clay with cobbles</td>
<td>Upland edge, east of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>7</td>
<td>1–3</td>
<td>0–30</td>
<td>N</td>
<td>10YR 5/1, gray</td>
<td>Clay with cobbles</td>
<td>Floodplain, west of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1–10</td>
<td>N</td>
<td>10YR 5/1, gray</td>
<td>Clay</td>
<td>Floodplain, east of creek</td>
<td></td>
</tr>
<tr>
<td>2–3</td>
<td>10–30</td>
<td>N</td>
<td>2.5Y 6/2, light brownish gray</td>
<td>Clay/Marl</td>
<td></td>
<td>Clay</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1–2</td>
<td>0–15</td>
<td>N</td>
<td>10YR 3/1, very dark grayish brown</td>
<td>Clay with cobbles</td>
<td>Upland edge, west of creek</td>
<td>Clay, cobbles, possible disturbance</td>
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<tr>
<td>10</td>
<td>1–2</td>
<td>0–20</td>
<td>N</td>
<td>2.5Y 6/2, light brownish gray</td>
<td>Clay with cobbles</td>
<td>Floodplain, west of creek</td>
<td>Dense cobbles</td>
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<td>11</td>
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<td>Clay with cobbles</td>
<td>Upland edge, east of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>12</td>
<td>1–3</td>
<td>0–25</td>
<td>N</td>
<td>10YR 3/1, very dark grayish brown</td>
<td>Clay with cobbles</td>
<td>Upland edge, west of creek</td>
<td>Clay</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>0–10</td>
<td>N</td>
<td>10YR 5/1, gray</td>
<td>Clay</td>
<td>Floodplain, east of creek</td>
<td></td>
</tr>
<tr>
<td>2–3</td>
<td>10–30</td>
<td>N</td>
<td>2.5Y 6/2, light brownish gray</td>
<td>Clay/Marl</td>
<td></td>
<td>Clay</td>
<td></td>
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</table>
Backhoe Trench Descriptions

**Backhoe Trench 1** (Figure 6)

Orientation: East-West  
Length: 3.2 m  
Width: 90 cm  
Depth: 70 cm

Trench 1 was excavated in the floodplain of Zarzamora Creek, on the northeast side of the creek’s channel, 61 m (200 ft) south of Culebra Road. Vegetation in the area consisted of grasses, and ground conditions were wet from recent rains. The trench contained disturbed deposits associated from past widening of the Zarzamora Creek floodplain. Sediments observed in the trench consisted of a mix of clay and caliche with modern trash throughout. The water table was encountered at a depth of 70 cm below the surface.

Figure 6. Backhoe Trench 1, facing east.
**Backhoe Trench 2** (Figure 7)

Orientation: Southwest-Northeast  
Length: 5 m  
Width: 90 cm  
Depth: 80 cm  

Trench 2 was excavated in the floodplain of Zarzamora Creek, 61 m (200 ft) north of Culebra Road. The trench was placed on the east side of the creek, within 30 m (98.4 ft) of the creek.

**Zone 1: 0–15 cm**  
Thin bedded; abrupt, smooth boundary; pale brown (10YR 6/3) sandy clay loam; weak, fine, subangular blocky structure; friable. Recent overbank flood deposit.

**Zone 2: 15–35 cm**  
Medium bedded; abrupt, smooth boundary; very dark grayish brown (10YR 3/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss horizon.

**Zone 3: 35–75 cm**  
Dense SiO₂ gravels, subround to round, 10-cm maximum diameter.

**Zone 4: 75–80+ cm**  
Lower boundary not encountered; caliche.

Figure 7. Backhoe Trench 2, facing northeast.
**Backhoe Trench 3** (Figure 8)

Orientation: East/West  
Length: 4.8 m  
Width: 90 cm  
Depth: 70 cm

Trench 3 was excavated in the floodplain of Zarzamora Creek north of Culebra Road. The trench was placed on the east side of the creek, within 20 m (65.6 ft) of the creek, and 91.4 m (300 ft) north of Trench 2.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Zone 1: 0–40 cm</td>
<td>Thin bedded; abrupt, smooth boundary; pale brown (10YR 6/3) sandy clay loam; weak, fine, subangular blocky structure; friable; contains plastic at base of zone. Recent overbank flood deposit.</td>
</tr>
<tr>
<td>Zone 2: 40–80 cm</td>
<td>Medium bedded; abrupt, smooth boundary; very dark grayish brown (10YR 3/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss horizon.</td>
</tr>
<tr>
<td>Zone 3: 80+ cm</td>
<td>Lower boundary not encountered; dense SiO₂ gravels, subround to round, 10 cm maximum diameter.</td>
</tr>
</tbody>
</table>

Figure 8. Backhoe Trench 3, facing north.
V. Results

**Backhoe Trench 4** (Figure 9)

Orientation: East–West  
Length: 5 m  
Width: 90 cm  
Depth: 70 cm

Trench 4 was excavated in the floodplain of Zarzamora Creek north of Culebra Road. The trench was placed on the east side of the creek, within 20 m (65.6 ft) of the creek, and 182.9 m (600 ft) north of Trench 3.

**Zone 1: 0–50 cm**  
Thin bedded; abrupt, smooth boundary; pale brown (10YR 6/3) sandy clay loam; weak, fine, subangular blocky structure; friable; contains metal at base of zone. Recent overbank flood deposit.

**Zone 2: 50–70 cm**  
Medium bedded; abrupt, smooth boundary; very dark grayish brown (10YR 3/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss horizon.

**Zone 3: 70+ cm**  
Lower boundary not encountered; dense SiO₂ gravels, subround to round, 10 cm maximum diameter.

Figure 9. Backhoe Trench 4, facing northwest.
V. Results

**Backhoe Trench 5** (Figure 10)

Orientation: East–West  
Length: 4.9 m  
Width: 90 cm  
Depth: 90 cm

Trench 5 was excavated in the floodplain of Zarzamora Creek north of Culebra Road. The trench was placed on the west side of the creek, within approximately 15 m (49.2 ft) of the channel.

Zone 1: 0–20 cm Thin bedded; abrupt, smooth boundary; pale brown (10YR 6/3) sandy clay loam; weak, fine, subangular blocky structure; friable; Recent overbank flood deposit.

Zone 2: 20–70 cm Medium bedded; abrupt, smooth boundary; dark grayish brown (10YR 4/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss1 horizon.

Zone 3: 70–90 cm Medium bedded; abrupt, smooth boundary; very dark grayish brown (10YR 3/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss2 horizon.

Zone 4: 90+ cm Lower boundary not encountered; dense SiO₂ gravels, subround to round, 10 cm maximum diameter.

Figure 10. Backhoe Trench 5, facing north.
**Backhoe Trench 6** (Figure 11)

Orientation: East–West  
Length: 5 m  
Width: 90 cm  
Depth: 90 cm

Trench 5 was excavated in the floodplain of Zarzamora Creek north of Culebra Road. The trench was placed on the west side of the creek, within approximately 15 m (49.2 ft) of the channel, and 106.7 m (350 ft) south of Trench 5.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–27 cm</td>
<td>Thin bedded; abrupt, smooth boundary; pale brown (10YR 6/3) sandy clay loam; weak, fine, subangular blocky structure; friable; Recent overbank flood deposit.</td>
</tr>
<tr>
<td>27–70 cm</td>
<td>Medium bedded; abrupt, smooth boundary; dark grayish brown (10YR 4/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss1 horizon.</td>
</tr>
<tr>
<td>70–90 cm</td>
<td>Medium bedded; abrupt, smooth boundary; very dark grayish brown (10YR 3/2) clay, coarse, strong, blocky structure; friable; slickensides. Bss2 horizon.</td>
</tr>
<tr>
<td>90+ cm</td>
<td>Lower boundary not encountered; dense SiO$_2$ gravels, subround to round, 10 cm maximum diameter.</td>
</tr>
</tbody>
</table>

Figure 11. Backhoe Trench 6, facing southwest.
Other than recent debris (e.g., candy wrappers), no buried cultural materials were observed in any of the excavated backhoe trenches. Each of the trenches exhibited evidence of past subsurface disturbances, which probably occurred in the 1970s during previous drainage improvements to Zarzamora Creek. These past subsurface disturbances have removed all of the original A soil horizon, leaving only remnants of the underlying B soil horizons. These were underlain by dense gravel deposits which evidence the high velocity nature of past flood episodes. Such turbulent conditions would not have been conducive to archeological site preservation. No further geoarchaeological investigations are recommended.

ENVIRONMENTAL INVESTIGATIONS

Due to the presence of known contaminants adjacent to the project area and the possibility of hazardous materials within the project area south of Zarzamora Creek, COSA hired Medina Consulting Company, Inc. (Medina), to perform a Phase II Environmental Site Assessment of the area prior to the construction of the proposed Culebra 58F – Phase IIB Drainage Improvement Project.

On January 20 and 21, 2010, Medina excavated a series of 11 backhoe trenches to “to determine if soil contamination exists from the unpermitted landfill historically located to the southwest and within the proposed project” (Medina 2010:4). Because of the unknown level of contaminants and potential exposure to dangerous substances, the THC concurred that the trenching for Medina’s environmental site assessment be allowed to proceed without the presence of an archeologist (Appendix).

The site assessment’s program of backhoe trenching found discarded materials or construction and demolition debris in 9 out of 11 trenches, to depths ranging between 1.2 m (4 ft) and 3.7 m (12 ft), and averaging 2.1 m (7 ft). Based on these results, Medina estimates that 82 percent of the soils to be removed by the project south of Zarzamora Creek may include such artificial fill (Medina 2010:2). While levels above the Texas Specific Background Concentrations were found for arsenic in one trench and lead in the majority of the trenches where debris was found, all concentrations were below the detection limits of toxicity characteristic leaching procedure analyses.
V. RECOMMENDATIONS

Neither the pedestrian survey nor the geoarcheological investigations of the proposed Culebra 58F – Phase IIB Drainage Improvement Project in San Antonio, Bexar County, Texas, revealed evidence of cultural resources. No artifacts or features were observed either on the surface or within the subsurface testing. Thirteen shovel tests and 6 backhoe trenches were placed across the accessible portions of the APE, an area of roughly 10.4 acres (4.2 ha). The APE south of Zarzamora Creek was not investigated by archeologists due to the presence of historical dumping and filling and possible contamination. Environmental testing revealed that the majority of trenches contained fill of construction and demolition debris to depths often exceeding those of the proposed project impacts (Medina 2010).

Due to the results of the intensive pedestrian survey, geoarcheological trenching, and environmental site assessment, no additional archeological investigations are recommended. It is the recommendation of the Principal Investigator that the proposed 58F – Phase IIB Drainage Improvement Project be allowed to proceed.
VI. REFERENCES

Bureau of Economic Geology

Medina Consulting Company (Medina)


Smith, M., M. Cliff, R. Rogers, and K. Jecker
2003  *A Cultural Resources Investigation of the Proposed Culebra/Loop 410 (Leon Creek) Regional Storm Water Facility, Bexar County, Texas*. PBS&J, Austin.

Taylor, F.B., R.B. Hailey, and D.L. Richmond
1962  *Soil Survey of Bexar County, Texas*. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Experiment Station.

Weir, F.
1981a  *Letter Report: MH 44 In San Antonio on Culebra Road from Callaghan Road to 24th Street, Cultural Resources Assessment, Bexar County, Texas*. SDHPT, Austin.

1981b  *Letter Report: Testing of Archaeological Sites 41 BX555 and 41BX556, IH 410 In the City of San Antonio from 0.5 mile SW of Military Drive, NE to Culebra Road*. SDHPT, Austin.

Westbrook, R.L.
2006  *Phase Two Environmental Site Assessment: Culebra #58F Phase II Drainage, Zarzamora Creek to Laven Drive, Bexar County, San Antonio, Texas 78228*. Prepared by City of San Antonio, Environmental Services Department, Environmental Management Division, San Antonio.
Appendix

Letter to Texas Historical Commission, June 11, 2009
and Concurrence, July 3, 2009
June 11, 2009

Mr. Mark Denton
Texas Historical Commission
Department of Antiquities Protection
P.O. Box 12276
Austin, Texas 78711-2276
FAX 512-475-4872

RE: Proposed Culebra 58F – Phase II B (Laven to upstream of Culebra) Drainage Improvement Project, City of San Antonio, Bexar County, Texas

Dear Mr. Denton:

The City of San Antonio (COSA) has contracted PBS&J to perform a cultural resources assessment of their proposed Culebra 58F – Phase II B Drainage Improvement Project in San Antonio, Bexar County, Texas (Attachment, USGS topo map). This project will modify Zarzamora Creek from Laven Drive to a distance of 1,600 feet (ft) (587 meters [m]) upstream of Culebra Road, a total of 3,200 ft (975 m; Attachment, aerial). The project is located on lands owned by COSA, thereby necessitating compliance with the Texas Antiquities Code. Furthermore, because it will include substantial modification of Zarzamora Creek, the project will require an individual Clean Water Act Section 404 permit, thereby necessitating compliance with Section 106 of the National Historic Preservation Act. This letter is intended to present the results of PBS&J’s cultural resources assessment and to initiate Section 106 consultation for the proposed project between COSA, the Texas Historical Commission (THC), and the United States Army Corps of Engineers (USACE).

Because the project impacts and completed characteristics will be at or below the grade of surrounding neighborhoods, and because the completed project will not cause any substantial increases in noise or other indirect impacts upon the surrounding area, it is recommended that the project’s Area of Potential Effect (APE) be limited to the project’s mapped footprint (Attachment, topographic map). Currently, the portion of Zarzamora Creek north of Culebra Road lies within a thin strip of undeveloped land, bordered on both sides by residential development (Figure 1). South of Culebra Road, the creek has been heavily impacted by prior channelization (Figure 2). For the most part, the southern end of the project area occupies undeveloped woods, some portions of which have been subjected to mechanical disturbances (Figure 3). Impacts to the APE by the proposed project will consist primarily of excavation to modify the existing channel, and will also include the creation of new access roads and of staging areas for the removal of spoils. The exact locations of the latter have yet to be determined, but are anticipated to be placed somewhere within the roughly 30-acre, COSA-owned, wooded plot south of Culebra Road and west of Laven Road.

A records search was conducted at the Texas Archeological Research Laboratory (TARL) and on the THC’s Texas Archeological Sites Atlas Online (Atlas) to determine whether any previously recorded archeological sites, properties listed on the National Register of Historic Places (NRHP),
State Archeological Landmarks (SALs), cemeteries, or Historical Markers are present within, or close to, the proposed project. A review of the 1931 Stoner System aerial photographs and property maps of Bexar County identified two structures that appear to be situated within 500 feet of the project area south of Culebra Road; however, modern aerials and topographic maps show no remaining traces of these. According to the records search, no previously recorded sites, NRHP properties, SALs, cemeteries or historical markers have been plotted within 3 kilometers of the proposed project area.

Only one previous investigation is listed within the proposed project area, a 1981 Texas Department of Transportation survey of Culebra Road (Weir 1981a). No sites were recorded during this survey. The nearest recorded archeological sites, located approximately 3.5 km to the west along Leon Creek, are 41BX555 (Weir 1981b), 41BX1534, 41BX1535, 41BX1536 (Smith 2003). These were prehistoric sites that yielded lithic debitage and burned rock, for the most part within shallow and/or disturbed contexts. Site 41BX1536, however, possesses a deeply buried prehistoric component, which has been recommended for further testing to evaluate its potential eligibility for listing in the NRHP and for designation as a SAL (Smith 2003).

Soils in the majority of the proposed project area are mapped as belonging to the alluvial soils of the Tinn and Frio series, which occupy the floodplain of Zarzamora Creek (Taylor et al. 1962). These are frequently flooded and thus harbor the potential for buried cultural resources. Soils of the Houston series of black gravelly clay lie along the margins of the project area. These developed in uplands over the calcareous clay and marl of the Upper Cretaceous-aged Taylor and Navarro formations (Bureau of Economic Geology 1974), and are thus presumed to have low potential for intact cultural surfaces.

Based on the mapped alluvium within the APE and the possibility for encountering buried cultural resources, PBS&J, in consultation with the City Archeologist of COSA and the Regulatory Archaeologist of the USACE, recommends a pedestrian walkover of the floodplain north of Culebra Road to locate any surface sites and identify potential areas for mechanical trenching. Trenching will also occur within the floodplain of Zarzamora Creek south of Culebra Road. Due to the shallower upland soils beyond the floodplain south of Culebra Road, investigations will consist of an intensive pedestrian survey, supplemented by shovel testing, to identify any surface or shallowly buried sites.

Trenches will be excavated along the entire length of the project area and within zones of 100 ft (30 meters) in width on either side of the drainage channel. Mechanical excavation will be placed at intervals of roughly 100 m, alternating sides of the creek, for an approximate total of 10 trenches in all. These will be placed at the judgment of the supervising archeologist based on the likelihood of intact soils as well as backhoe accessibility. The results will then be summarized within a report, conforming to the standards of the Council of Texas Archeologists, for review by the THC, as required by the Texas Antiquities Code.

Thank you, and please contact me at (512) 342-3362 if you have any questions or comments.

Sincerely,

Michael Smith, Ph.D.
Staff Archeologist