

Environmental Assessment (EA)

DRAFT

Corpus Christi International Airport (CCIA)

East G.A. Hangar No. 1 Demolition

City of Corpus Christi

Corpus Christi, Texas

January 11, 2023

This Environmental Assessment becomes a federal document when evaluated, signed, and dated by the Responsible Federal Aviation Administration (FAA) Official.

Responsible FAA Official

Date

Prepared by:



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1.0 Introduction and Background

The Corpus Christi International Airport (CCIA or Airport) is a public use airport that is owned and operated by the City of Corpus Christi (City) and serves both private and major commercial airlines. The Airport is located near State Highway (SH) 44, approximately six miles southwest of downtown Corpus Christi and approximately 21 miles from the Gulf of Mexico. A general location map of the Airport in relation to the Corpus Christi area is shown in **Appendix A: Project Location Map**.

The Airport currently occupies 2,700 acres of land with facilities that include the airfield, aviation, terminal complex, air cargo, air mail, general aviation, other facilities, and utilities. The CCIA East General Aviation (G.A.) Hangar No. 1, also known as the Gault Hangar, is located at 506 Hangar Lane at the Airport. The Gault Hangar is one of the original light aircraft storage facilities from the Airport's construction in 1961. Pictures of the Gault Hangar are provided in **Appendix A: Project Photographs**.

The Gault Hangar functioned primarily as an aviation hangar with office space to the East Side Fixed Base Operations (FBO) serving the general aviation community. The facility had been under lease and management by Signature Flight Support up until their departure in March 2020, at which point full use and maintenance reverted back to the City of Corpus Christi. In the same month, a visual evaluation was performed on behalf of the City of Corpus Christi. Age and recent damage from Hurricane Harvey revealed multiple distresses in the building structure. Corrosive environmental conditions coupled with deficiencies in the structural system of the hangar have resulted in severe deterioration over time. With several deficiencies noted, including the potential for safety hazards from future concrete pop-outs and spalls, the airport closed the facility from public entry. Since 2020, the facility has been restricted from Airport and public use.

The Gault Hangar is several decades old and there are several concerns with the overall building, its usability, and serviceability. The Federal Aviation Administration (FAA) received a request from CCIA to initiate the process of demolition of the Gault Hangar and associated office structures due to structural and safety concerns.

The proposed project is funded by CCIA. The FAA's Airport Layout Plan (ALP) approval authority for the proposed project is a federal action subject to the National Environmental Policy Act (NEPA). Therefore, FAA is required to perform an appropriate environmental review consistent with NEPA.

This Environmental Assessment (EA) assesses potential impacts associated with the Proposed Action detailed in **Section 4**. This document has been prepared per FAA Orders 5050.4B and 1050.1F, and the FAA Environmental Desk Reference for Airport Actions.

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2.0 Existing Facility

The Gault Hangar is a single-story, hyperbolic paraboloid arch, concrete aircraft hangar constructed in the early 1960's by the Braselton Construction Company. Construction was completed in 1961 with an estimated cost of \$82,000. The Hangar roof and foundation are constructed with reinforced concrete. The end walls are metal panels. The total size is approximately 28,000 square feet (SF) with 20,000 SF open hangar space and 8,000 SF office space. The concrete roof has a fully adhered membrane covering. In a letter dated April 15, 2021, the Texas Historical Commission (THC) which assumes the role of the State Historic Preservation Officer (SHPO) recommended that the Gault Hangar is eligible for listing in the National Register of Historic Places (NRHP) under Criterion C for its architectural design and engineering.

Severe structural cracks were discovered in the roof structure during a visual inspection conducted by CCIA in 2020. A structural assessment conducted by professional engineer consultants in September 2021 also found substantial structural deficiencies. The structural assessment is provided in **Appendix B**. Age and damage from past weather events, including Hurricane Harvey, caused multiple distresses in the building structure including:

- Several concrete spalls and pop-outs indicating future spalls or pop outs could occur, which is a potential safety hazard for personnel and aircraft.
- No longer being watertight resulting in developments of mold and mildew.
- Fiberglass infill panels between the concrete sub-structures are disintegrating.
- Wooden framing members are rotting.
- Cracked concrete floor and inadequately sloped floor allowing water to migrate into the hangar.
- Corrosion of exposed interior steel framing.

3.0 Purpose and Need

3.1 Need

The Proposed Action is needed due to safety concerns caused by the deteriorating structure of the hangar. Following structural assessments performed in March 2020 and September 2021, the Gault Hangar was determined to be unsafe and structurally unstable for airport use.

3.1.1 Supporting Information

An initial visual inspection of the Gault Hangar was conducted by CCIA in March 2020 that found substantial safety concerns related to cracking and falling concrete, exposed and corroded steel framing and water intrusion. The Airport subsequently closed the Hangar, and it is currently unoccupied. A second structural assessment was conducted in September 2021 that identified worsened conditions. The September 2021 Structural Observation Report, included in **Appendix**

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B, found several deficiencies in the structural integrity of the Gault Hangar. Systemic visible damage resulting from severe prolonged moisture intrusion was observed along with deterioration sustained by the existing exposed concrete hangar structure. Exposure to salt and moisture has caused portions of the existing concrete structure to crack and spall, which exposes the steel reinforcements to excessive corrosion and disintegration in some areas.

In addition to information presented in **Section 2**, large pieces of concrete have fallen from the ceiling of the hangar. The attached office spaces on each side are also infested with mold, and moisture intrusion has completely degraded the interior. The Gault Hangar's steel reinforcement is exposed in several areas to the corrosive coastal environment due to cracking and concrete spalls. The September 2021 report states that these conditions are similar to the conditions reported to have caused the 2021 collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to catastrophe. Catastrophic failure of the hangar structure poses a safety risk to the public, airport personnel, and adjacent property.

In addition, because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety by contributing to the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards for aircraft and can ultimately impact safe airport operations.

3.2 Purpose

The purpose of the Proposed Action is to address and eliminate safety concerns associated with the deteriorating Gault Hangar. All activities associated with the Proposed Action would meet current FAA Airport Construction Standards per Advisory Circular (AC) 150/5370-10H and other appropriate FAA ACs.

4.0 Alternatives Considered

NEPA and its implementing regulations require that impacts to the natural and human environment resulting from a Proposed Action and any reasonable alternatives are fully considered. Only alternatives that would meet the defined need for the Proposed Action and be operationally feasible require detailed analysis in this EA.

Two action alternatives and a no action alternative were initially considered to address the need for the Proposed Action. One of the action alternatives was dismissed and not carried forward for further review in this document; this eliminated alternative is described in **Section 4.2.1**. The no action alternative was also dismissed, however was carried forward for further review to satisfy NEPA requirements. The action alternative carried forward is the Proposed Action described in **Section 4.2.2**. The supporting alternatives analysis, as provided along with the engineering structural report, is included in **Appendix B**.

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4.1 No Action Alternative

The No Action Alternative would leave the Gault Hangar in place in its current condition. The Gault Hangar would remain closed to use and abandoned in place. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the No Action Alternative is not viable because the potential for FODs would continue, and the Gault Hangar would pose a safety risk for the immediate area and remain inoperative for airport activity.

Thus, the No Action Alternative would not meet the purpose and need for the project due to the safety implications of the deteriorating hangar. However, this option was retained to satisfy the requirements of NEPA and to maintain a baseline to allow for a comparison of impacts.

4.2 Action Alternatives

4.2.1 Remediate Structural Issues and Recommission the Gault Hangar

An alternative to remediate the known structural issues and recommission the Gault Hangar was considered. There is a high level of risk to remediate the existing elements to restore the Gault Hangar's structural integrity with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. With the known systemic failures, this approach would require extensive additional effort compared to a traditional design and construction of a new building or improvements to existing buildings.

Repairs required to bring the Gault Hangar up to habitable standards would be extensive. The Gault Hangar has two functional flaws that make it undesirable to house and protect aircraft. First, it does not have a hangar door. This is a feature most tenants expect and would be required to protect stored aircraft. Second, the existing gradual arch design of the building results in reduced ceiling heights near the sides of the hangar. This design limits the possible arrangements of aircraft that could be safely stored, therefore, limiting the usable floor space of the hangar when compared to a traditional, vertical-wall hangar. Therefore, maintaining the existing architecture effectively reduces the usable hangar area by 40 percent.

The costs associated with this alternative would be excessive, with the cost to rehabilitate the Gault Hangar estimated to be \$8 Million. Furthermore, this alternative would cover up almost all of the original materials and unique architectural elements that incentivize maintaining the current structure.

Ultimately, the alternative to remediate was eliminated from further consideration due to the inability to restore structural integrity to the facility with a standard factor of safety along with maintaining the features that make the structure historically significant, and the extensive, cost-prohibitive engineering and design associated with the remediation that may potentially cover or replace the unique features of the hangar.

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4.2.2 Demolition of the Gault Hangar

Demolition of the Gault Hangar would include removal of the hangar space and associated office structures. This alternative would eliminate the safety issues and hazards posed by the current condition of the Gault Hangar. The estimated cost for demolition is approximately \$300,000. Additionally, removal of the Gault Hangar would provide an opportunity for the CCIA to construct a more suitable and safer hangar facility to support current airport operations. While a new hangar is not programmed or funded at this time, estimated costs for constructing a new hangar, consistent with the ALP, were estimated to be approximately \$4 million. Both the cost for demolition and the potential to construct a new, more suitable hangar for current airport use is significantly less than rehabilitation of the structure.

5.0 Proposed Action

Demolition of the Gault Hangar (Proposed Action) was chosen as the most feasible and prudent alternative to address the purpose and need of the project. The Proposed Action would eliminate safety concerns associated with the Hangar and would provide an opportunity for a more suitable facility to be developed in the future.

6.0 Affected Environment, Environmental Consequences, and Mitigation

Resources were identified and impacts evaluated according to FAA Orders 1050.1F, 1050.1F Desk Reference, and 5050.4B. As described in **Section 4.1**, the No Action Alternative is retained to satisfy the requirements of NEPA and provide an environmental baseline for the proposed demolition. Agencies consulted during preparation of the EA also contributed to the evaluation of the potential effects on specific resources. or

The direct study area associated with the Proposed Action is shown in **Appendix A: Study Area and Resource Map**. The study area is approximately 1.6 acres and includes the building perimeter of the Gault Hangar (approximately 28,000 SF) and the adjoining parking lot, where temporary equipment and material storage would occur. Direct impacts are not anticipated to extend beyond this study area.

6.1 Impact Assessment

Some resource categories have been eliminated from further evaluation in this EA due to either the absence of the resource within the study area or because activities proposed would not impact baseline conditions of the resource category. Resources not present or affected by implementation of any of the alternatives are listed and discussed in **Table 1**.

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Table 1: Resources Not Present or with No Anticipated Impact

Resource	Explanation
Farmlands	Based on Natural Resources Conservation Service (NRCS) soil survey data, no farmlands were identified in the project vicinity; therefore, no farmland impacts are anticipated.
Noise and Noise-Compatible Land Use	No changes to the existing DNL (day-night average sound level) noise contours will occur due to the proposed demolition. Construction noise best management practices (BMPs) may include reduction in engine braking, ensuring functioning mufflers, and limiting night work. These activities are included in Section 9 .
Socioeconomics, Environmental Justice (EJ), and Children’s Health and Safety Risks	Demolition-related impacts will be temporary in duration and would not limit access to the Airport or reduce passenger rate. Based on the Proposed Action, no high or disproportionately adverse impacts to disadvantaged populations would occur. Long-term impacts such as changes to the existing DNL will not occur and therefore residences will not be affected. There are no reasonably foreseeable impacts to local and regional economic activity, employment, income, population, housing, public services, traffic, or social conditions.
Water Resources	No wetlands, surface waters, Wild and Scenic Rivers, or floodplains are present within the study area. This was confirmed by a site visit on March 29, 2022. No wellhead protection areas or private wells are known to occur within the study area, which is located on the Gulf Coast aquifer and is not within a Texas karst region.
Natural Resources and Energy Supply	The existing structure does not consume energy nor natural resources. The Proposed Action is not anticipated to increase consumption.
Climate	Greenhouse gases (GHGs) and climate are not relevant to the Proposed Action. No structures will be built that would directly or indirectly cause an increase in GHGs. Given the short duration of the demolition process, any temporary GHG emissions due to equipment usage will be insignificant relative to the emissions of other airport activities.

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Resource	Explanation
Coastal Resources	The CCIA is located within the Region 3 planning area of the Texas Coastal Zone Boundary; however, there will be no reasonably foreseeable direct or indirect effects to coastal resources due to the Proposed Action, and therefore the Coastal Zone Management Act does not apply. No part of the Proposed Action is located within the boundary of a system unit; therefore, the Coastal Barrier Resources Act does not apply.
Section 6(f)	No funds under the Land and Water Conservation Fund program were used in association with the Gault Hangar; therefore, Section 6(f) does not apply to the proposed project.

Source: Project Team, 2022.

No indirect effects are anticipated by the Proposed Action. An indirect effect is defined by the Council on Environmental Quality (CEQ) as those that are “caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable” (40 CFR 1508.8). No replacement facility is planned at the site at this time and demolition alone would not result in further effects later in time or distance; therefore, no indirect effects are anticipated.

Cumulative impacts are not anticipated by the Proposed Action. The CEQ regulations define a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 Code of Federal Regulations [CFR] § 1508.7). Cumulative impacts are not anticipated based on no expected indirect effects and no substantial direct impacts to resources; therefore, no incremental effects would result from the Proposed Action. The only exception is direct impacts to the NRHP-eligible Gault Hangar; however, Section 106 and Section 4(f) requirements are discussed in this EA and would require mitigation measures for the Gault Hangar as a resource eligible for the NRHP.

Resources potentially impacted by the Proposed Action and the No Action Alternative are evaluated in the following sections in accordance with FAA Order 1050.1F. These sections identify direct effects of these alternatives.

6.2 Air Quality

The US Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for six main pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, lead, and particulate matter (PM₁₀ and PM_{2.5}). Under the CAA, each state is required to implement a State Implementation Plan (SIP). Stationary

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Source Rules in the Texas Administrative Code are part of the SIP strategy to meet the NAAQS by limiting emissions from stationary sources. Conformity to the SIP is required to be reviewed for the Proposed Action.

Mobile sources of air emissions include motor vehicles and other engines and equipment that can be moved from one location to another. These are typically classified as “road sources” and “non-road sources”. Road sources include automobiles, light-duty, and heavy-duty trucks. Hazardous air pollutants (HAPs) are pollutants for which there are no NAAQS but are still regulated under the CAA because of their potentially adverse effects on human health and the environment. Mobile Source Air Toxics (MSATs) represent HAPs that are emitted by motor vehicles and non-road engines. In accordance with FAA Order 5050.4B and the 1050.1F Desk Reference, air quality impacts were evaluated for the Proposed Action.

6.2.1 Affected Environment

Nueces County is currently in attainment for all air quality standards as determined by the EPA; therefore, the CAA General Conformity Rule does not apply. In accordance with requirements outlined in the FAA Air Quality Handbook and Guidance Document (Version 3, Update 1), based on the nature and expected duration of the project, a qualitative analysis of air quality impacts is appropriate.

6.2.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not include demolition activities; therefore, increases in on-road and off-road equipment emissions would not occur.

Proposed Action

The Proposed Action would not affect airport operational emissions. During demolition activities, temporary increases in Particulate Matter (PM) and MSAT emissions may occur. The primary construction/demolition-related emissions of PM are fugitive dust and the primary MSAT source is diesel particulate matter from on-road and off-road diesel-powered equipment and vehicles.

The duration of demolition activities will likely not exceed 3 months and the Proposed Action will occur in a localized area (approximately 1.6 acres). Construction/demolition-related emissions are temporary and transient in nature. Given the short-term timeline and low-impact nature of the Proposed Action, no significant impacts to air quality are anticipated.

6.2.3 Mitigation and Best Management Practices (BMPs)

Temporary air quality impacts will be minimized using control measures contained in standard specifications, as appropriate. Incorporating the basic measures within the FAA’s Advisory

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Circular 150/5370 – 10H *Standards for Specifying Construction of Airports*, can provide a means for reducing construction emissions related to fugitive dust and combustion exhaust.

6.3 Biological Resources

6.3.1 Affected Environment

The study area and area immediately adjacent has been previously developed/disturbed by grading, apron and parking lot paving, and regular lawn maintenance/landscaping. A site visit was performed on March 29, 2022, and included an analysis of suitable habitat for rare, threatened, and endangered species.

The general vegetation profile of CCIA includes mostly open areas of maintained lawn grasses with limited tree/palm and shrub species sparsely scattered throughout. Species composition within the airport generally includes dwarf palmetto (*Sabal minor*), sabal (*Sabal sp.*), juniper (*Juniperus sp.*), mesquite (*Prosopis sp.*), and Bermuda grass (*Cynodon dactylon*). CCIA is surrounded primarily by agricultural fields with some industrial facilities to the north. A wildlife hazard assessment was published in 2011 for the Airport, identifying a variety of common birds such as starlings, doves, ducks, and swallows. The study area is dominated by maintained lawn grasses with few ornamental shrubs and sabals.

The United States Department of the Interior, Fish and Wildlife Service (USFWS) was consulted during the development of this EA. The USFWS listed twelve threatened or endangered species and one candidate species as potentially occurring within the project's general geographic area. Potential habitat does not occur within or adjacent to the study area for any federally listed species. There is no designated critical habitat located within the project area. The official IPaC (Information for Planning and Consultation) list provided by the USFWS is provided in **Appendix C**.

The Texas Parks and Wildlife Department (TPWD) identifies 64 state-listed Species of Greatest Conservation Need (SGCN) as having the potential to occur within Nueces County. The TPWD Texas Natural Diversity Database (TXNDD) was consulted as part of the biological assessment process. A 1.5-mile buffer around the study area was used to analyze the presence of Element Occurrences (EOs) of state-listed species. An EO is an area of land or water where an Element (species, a native plant community, or an animal aggregation) is or was reported present and has practical conservation value. The study area occurs within the EO ranges for the Texas windmill grass (*Chloris texensis*) and the Texas stonecrop (*Lenophyllum texanum*).

6.3.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not impact wildlife or plant species within the study area as habitat conditions would not change.

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Proposed Action

Removal of the existing lawn/landscaping within the 1.6-acre study area may occur during the demolition process. However, the March 2022 site visit revealed no suitable habitat for state- and federally listed rare, threatened, and endangered species within the study area. Additionally, removal of existing vegetation would not adversely affect wildlife or important plant species. Therefore, no direct impacts to biological resources are anticipated. Refer to the USFWS official IPaC list included in **Appendix C** and the TPWD county species list included in **Appendix D**.

6.4 Department of Transportation, Section 4(f)

Section 4(f) of the US Department of Transportation (USDOT) Act of 1966¹ protects important public resources including public parks, recreation areas, wildlife or waterfowl refuges of national, state, or local significance, and historic sites from being harmfully affected by federally funded projects. Historic structures are included if they are on, or are eligible for, the National Register of Historic Places (NRHP).

Section 4(f) as amended and codified in 49 U.S.C. § 303 of the USDOT Act of 1966, covers all evaluations of transportation projects requiring the use of Section 4(f) properties. The law states that the Secretary of Transportation may approve a transportation project that will use a Section 4(f) property only if there is no feasible and prudent alternative to using that land, and only if the program or project includes all possible planning to minimize harm to the resource.

6.4.1 Affected Environment

The Gault Hangar is eligible for listing on the NRHP (see **Section 6.6** for more details) and, therefore, falls under Section 4(f) regulations. Federally funded transportation projects that involve the use of Section 4(f) resources must undergo a formal evaluation and approval process. Compliance with Section 4(f) requirements typically is evaluated during the NEPA decision making phase, concurrent with other environmental and cultural resource studies, and was conducted for the proposed project.

6.4.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no impacts to the Gault Hangar would occur because no changes would be made to the Gault Hangar. The structure of the Gault Hangar would likely continue to

¹ Refer to 49 U.S.C. Section 303 for the US Department of Transportation Act of 1966.

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deteriorate and may require future maintenance to avoid and minimize safety concerns that might result.

Proposed Action

The Proposed Action would demolish the Gault Hangar and would result in a use of the Hangar, a structure eligible for listing on the NRHP. Because the Proposed Action proposes to demolish the Gault Hangar, an Individual Section 4(f) evaluation is required and performed.

As part of the Section 4(f) process, an alternatives analysis conducted on behalf of the Airport, coordinated with the City and FAA, determined there is no feasible and prudent alternative that meets the purpose and need. Two other alternatives were considered, abandon in place (No Action Alternative) and a remediate alternative. These alternatives are discussed in **Section 4** and the prepared report and analysis is included in **Appendix E**. The Gault Hangar is owned by the City of Corpus Christi who is the official of jurisdiction; therefore, coordination with the City was conducted.

6.4.3 Mitigation

Based on the analysis as included in **Appendix E**, there is no feasible and prudent alternative that would meet the purpose and need of the project and avoids the use of the Gault Hangar. As a result, a Memorandum of Agreement (MOA) in collaboration between FAA, CCIA, and the SHPO was developed to consider and determine mitigation measures for the Proposed Action. As detailed in the Section 106 documentation in **Appendix F** and Section 4(f) evaluation in **Appendix E**, mitigation measures include an Historic America Building Survey documentation, an exhibit memorializing the structure on Airport property, and informational materials to be made available online for public viewing.

6.5 Hazardous Materials, Solid Waste, and Pollution Prevention

Federal actions require consideration of hazardous material, solid waste, and pollution prevention impacts in NEPA documentation. Principal laws regulating the handling and disposal of hazardous materials, substances, and wastes that apply to FAA under guidance in Order 1050.1F include the Resource Conservation and Recovery Act (RCRA), as amended by the Federal Facilities Compliance Act of 1992; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund); the Community Environmental Response Facilitation Act of 1992; the Pollution Prevention Act of 1990; and the Toxic Substances Control Act of 1976 (TSCA), as amended.

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6.5.1 Affected Environment

Hazardous Materials

A database review of hazardous waste and contaminated sites was performed using the EPA NEPAssist tool (EPA 2022). There are no EPA-reported hazardous sites within the study area. There are no recorded superfund or National Priorities List (NPL) sites or brownfields within 1 mile of the study area. The closest RCRA hazardous waste handler site is 0.1 mile from the study area and is a CCIA facility (TXR000061259).

A review of petroleum storage tanks (PSTs) and leaking petroleum storage tanks (LPSTs) was performed using online GIS data from Texas Commission on Environmental Quality (TCEQ). There are no tanks within the study area (TCEQ 2022). The closest reported PST is 235 feet from the study area (RN103062071) and is also listed as a LPST due to a reported incident. This listing refers to the former East G.A. fuel farm which was removed by July 2021 and no longer contains petroleum storage tanks or leaking tanks. This case has since been closed by the TCEQ. The location has been re-paved. A letter from TCEQ is included in **Appendix C**.

In September 2020, an asbestos survey was completed for accessible areas in the hangar by a licensed Texas Department of State Health Services (TDSHS) inspector (see **Appendix D**). The survey detected the presence of asbestos-containing materials (ACM). Over a period of years, ACM may become friable and release fibers into the air that may serve as an environmental hazard within the study area. The Texas Asbestos Health Protection Rules require ACM be removed under the supervision of a Texas licensed Asbestos Abatement Contractor prior to the materials being disturbed during demolition.

Concurrent with the asbestos survey, a lead-based paint (LBP) survey was conducted in September 2020 (see **Appendix D**). A lead dust hazard was detected on structural components of the Hangar. Lead paint can be hazardous when it begins to deteriorate, which is often the case on older buildings. Because the hangar is neither categorized as “target housing” nor a “child-occupied facility”, in accordance with the revised Housing and Urban Development (HUD) Guidelines it is exempt from the Federal HUD Regulations and the Texas Environmental Lead Reduction Rules. However, the Occupational Safety and Health Administration (OSHA) suggests that any lead content identified in paint could create a hazard of lead dust exposure if paint is disturbed.

Solid Waste

According to the airport master plan, the airport generates typical industrial, construction, and municipal solid wastes that are disposed of at the J.C. Elliott Landfill and the Cefe Valenzuela Landfill, located approximately five and eight miles from the Airport, respectively (CCIA 2007). Solid waste was not observed within the study area.

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Pollution Prevention

The airport accomplishes pollution prevention through the implementation of a site-specific Spill Prevention Control and Countermeasure (SPCC), industrial Stormwater Pollution Prevention Plan (SWPPP), and individual National Pollution Discharge Elimination System (NPDES) permit.

6.5.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no hazardous materials impacts are expected to occur. However, the asbestos-containing material located in the hangar will become increasingly friable as it persists beyond the lifespan of the material, thus releasing more asbestos fibers into the air and increasing environmental hazards.

Proposed Action

The Proposed Action will not require relocations or installments of any permanent tanks and is not anticipated to introduce new regulated substances not currently utilized by the airport. There are no hazardous waste handler sites within the study area. Therefore, there will be no permanent impacts due to hazardous materials.

The Proposed Action is anticipated to have limited subsurface disturbance. Therefore, the adjacent closed LPST site is not anticipated to impact the project.

Temporary impacts will occur as a result of demolition activities and include the temporary increase of petroleum fuels on-site that are utilized by equipment and trucks. Any temporary fuel tanks or the temporary storage of other regulated materials will comply with Federal, state, and local regulations.

Demolition of the entire existing hangar (20,600 SF) is required for this project and the solid waste generated from the demolition will be handled and disposed of in accordance with applicable laws and regulations. Any ACMs and LBPs would be handled and disposed by licensed professionals in accordance with any required regulations as listed in **Section 6.5.3**.

The primary potential pollutants associated with the demolition would be sediment, building material debris, and trash entering storm sewer systems. This could affect biotic communities on Airport property or downstream of the Airport.

6.5.3 Mitigation and BMPs

General Construction BMPs (including silt fences, check dams, and other controls as appropriate) will be incorporated into demolition plans to help prevent erosion in compliance with local erosion and sediment control regulations. Additional BMPs for the Proposed Action will include designating specific areas for construction equipment staging, maintenance, and fueling. These

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areas will be designed to provide appropriate secondary containment and other control measures to avoid and/or minimize potential, inadvertent, releases of fuels, oils, and other contaminants to stormwater, soil, and groundwater within the project area. Wastes associated with construction and operations at the site will be handled in accordance with the Solid and Hazardous Waste Rules and Regulations of the state. This includes all materials that would be classified as solid and/or hazardous wastes.

Demolition activities will be required to comply with all applicable laws and permitting requirements. The airport will require construction contractors to maintain appropriate spill prevention plans and spill kits as applicable during demolition activities. Spills would be handled in accordance with airport procedures and protocols, consistent with Federal, state, and local regulations. As a spill prevention BMP, CCIA has spill kits located throughout the Airport where fuel or other potential pollutants are stored or used.

Prior to initiating construction activities associated with the Proposed Action, CCIA will obtain permit coverage under the Texas Construction General Permit (TXR150000) for Storm Water Discharges from Construction Activities. As required by the Permit, a site-specific SWPPP will be developed and implemented for the Proposed Action.

Regarding ACMs, the following recommendations were made per the ACM survey and would be followed for demolition of the Gault Hangar and LBP surveys:

- ACMs must be removed by a Texas licensed Asbestos Abatement Contractor prior to the materials being disturbed during demolition,
- All abatement or removal projects under an operation and maintenance Program be designed by a Texas licensed Asbestos Designer and a TDSHS Licenses Project Manager/Air Monitor must monitor all projects, and
- Each contractor performing tasks with personnel on-site during disturbance of LBP components are solely responsible for developing and communicating engineering controls to be implemented to reduce employee exposure to lead.

If any hazardous materials are encountered on the site during excavations, relocations, or demolition, they will be appropriately identified and properly disposed of in accordance with all applicable regulations.

6.6 Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act of 1966 requires that an initial review be made in order to determine if any properties are on, or eligible for inclusion in, the NRHP. In accordance with 40 CFR 1507.2, CEQ regulations, and Section 106 of the National Historic Preservation Act (NHPA), FAA consulted with the THC which assumes the role of the SHPO.

East G.A. Hangar No. 1 Demolition

6.6.1 Affected Environment

A review of the THC Historic Sites Atlas was conducted for the study area and no NRHP sites were identified. The FAA coordinated the Proposed Action with the SHPO in March 2021. In a letter dated April 15, 2021, the SHPO determined that the Gault Hangar was eligible for listing in the NRHP under Criterion C for its architectural design and engineering pursuant to Section 106 of the National Historic Preservation Act of 1966. The SHPO correspondence can be found in **Appendix C**.

There are no cemeteries or previously recorded archeological sites within the APE for the Proposed Action. The study area has been previously disturbed and is not conducive to archaeological finds.

6.6.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not impact any historic, architectural, archeological, or cultural resources.

Proposed Action

During coordination of the Proposed Action with the SHPO, the SHPO provided an adverse effect recommendation in a letter dated April 15, 2021 and responded that if demolition cannot be prevented on the Gault Hangar, then appropriate mitigation measures are to be prepared. In December 2021, FAA provided information to the SHPO including a Structural Observation Report and an alternatives analysis that showed no other feasible alternatives to the Proposed Action. The SHPO responded confirming the adverse effect and requesting that FAA move forward with developing mitigation.

6.6.3 Mitigation

Section 106 of the NHPA requires consultation and coordination with consulting parties, the Advisory Council for Historic Preservation (ACHP), and the SHPO. In collaboration with the SHPO and CCIA, FAA identified potential consulting parties and invited them to consult and provide input on the project. The FAA conducted a consulting party meeting on June 30, 2022 to provide a background of the project, history of the Gault Hangar, the existing conditions, and the purpose and need for the project. An opportunity for discussion and input by the consulting parties was also provided. Meeting notes, presentation slides, and associated correspondence are included in **Appendix C**.

Additionally, a letter notifying the ACHP of the adverse effect to the NRHP-eligible structure was sent on September 28, 2022. ACHP declined to participate. The CCIA, FAA, and SHPO have developed a draft MOA that outlines stipulations to mitigate the project's effect on historic

East G.A. Hangar No. 1 Demolition

properties and once finalized will satisfactorily complete FAA’s Section 106 responsibilities under the NHPA. The MOA is in draft form and will be finalized after any substantive public comments received on the EA during the 45-day comment period have been addressed. A copy of the draft MOA is provided in **Appendix F**. Various mitigation measures are outlined in the MOA that include documenting the history and design of the hangar and making the information available to the public both on-site and through the CCIA and THC websites.

Table 2 shows the Section 106 coordination and associated dates that have been conducted for the Proposed Action.

Table 2: Section 106 Coordination

Date	Description
March 1, 2021	Project review request submitted to SHPO
April 15, 2021	SHPO responded that Gault Hangar was NRHP eligible
November 23, 2021	Alternatives analysis submitted to SHPO
December 20, 2021	SHPO adverse impact determination
April 7, 2022	Coordination call with SHPO, FAA, and CCIA
May 6, 2022	Consulting party invitations sent by FAA
May 24, 2022	FAA, CCIA, and SHPO meeting to discuss mitigation measures
June 30, 2022	Consulting parties meeting
July 21, 2022	Distribution of consulting parties meeting minutes
August 19, 2022	Follow-up to consulting parties meeting input
September 27, 2022	Follow-up to additional Consulting Parties input
September 28, 2022	ACHP coordination to notify of adverse impact
October 18, 2022	ACHP declined to participate

6.7 Land Use

Consideration of the significance of impacts was determined by referencing the Airport Master Plan (AMP), ALP, and city data to identify existing and future land uses within and surrounding

East G.A. Hangar No. 1 Demolition

the Airport. Future land uses were evaluated in reviewing master plans, planning documents, and other available resources.

6.7.1 Affected Environment

The Proposed Action is located entirely within Airport-owned property. Existing land uses adjacent to the Airport include primarily agricultural and industrial. According to the City of Corpus Christi's public data, most of the land use outside of Airport property is considered vacant.

6.7.2 Environmental Consequences

No Action Alternative

The No Action Alternative would limit the amount of usable space on the airport property and use its land inefficiently for airport operations; however, no land use compatibility issues and no relocations would occur with the No Action Alternative.

Proposed Action

There are no substantial changes in land use associated with the Proposed Action. No relocations are required for the project. According to information provided by CCIA, continued growth of the Airport is anticipated. The Proposed Action would provide an opportunity to construct a new, usable structure, which would be compatible with the ultimate expansion of the Airport, in place of the Gault Hangar.

6.8 Visual Effects

6.8.1 Affected Environment

According to FAA Order 1050.1F, Order 1050.1F Environmental Desk Reference, and Order 5050.4B, the visual character of the Proposed Action was evaluated. There are currently no special purpose laws or requirements for visual effects. However, visual effects are relevant under Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the USDOT DOT Act.

Visual Resources and Visual Character

The Airport is relatively isolated, and the viewshed beyond the property line is dominated by vacant lots. Within Airport property, the viewshed consists of parking lots, roadways, airport buildings, aprons, and runways with open, scattered sparsely vegetated lawn.

The Gault Hangar provides visual character to the Airport due to its distinctive and historical architectural design, making it an NRHP-eligible structure. From the public view of the terminal and roadway, demolition of the Gault Hangar would open the skyline; however, low lying vegetation obstructs the view toward the flat façade portion of the Gault Hangar. The unique

East G.A. Hangar No. 1 Demolition

winged tipped features of the Gault Hangar can be seen by the airport apron but are not visible to the traveling public or from the airport roadways.

Light Emissions

The Gault Hangar provides minimal apron flood lighting at the mouth of the hangar, with two lights facing inside the hangar and two projecting onto the apron. The existing structure is non-reflective and does not provide a major source of glare.

6.8.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not change existing visual resources, the visual character of the study area, or light emissions.

Proposed Action

The location of the Proposed Action places the demolition well inside the Airport's property boundary. Visual character is expected to change with the removal of the Gault Hangar. Visual exposure of the airport apron will increase following demolition, causing a noticeable viewshed change for airport employees, travelers, and pilots who frequent CCIA. Therefore, the Proposed Action would have minor impacts on visual resources and would not substantially change the visual character of the study area because of the other existing airport structures that would remain.

The Proposed Action would result in elimination of the flood lighting present on the Gault Hangar, thereby resulting in a minor reduction of light emissions. The demolition work is not anticipated to require substantial night work; therefore, light emissions during demolition would not be substantial from the Proposed Action.

6.8.3 Mitigation and BMPs

The draft MOA between the CCIA, FAA, and SHPO outlines mitigation measures that include photographs and video to memorialize the Gault Hangar that would be viewable and accessible to the public on airport property. The draft MOA is provided in **Appendix F**.

7.0 Agency Coordination

Coordination letters were sent to applicable local, state, and federal agencies to solicit input regarding potential environmental and cultural resources which could be impacted by the Proposed Action. The following agencies were consulted during the preparation of this EA:

- U.S. Fish and Wildlife Service (USFWS)
- Federal Emergency Management Agency (FEMA)

East G.A. Hangar No. 1 Demolition

- Natural Resources Conservation Service (NRCS)
- Advisory Council on Historic Preservation (ACHP)
- Texas Historical Commission (THC)/ State Historic Preservation Office (SHPO)
- Texas Parks and Wildlife Department (TPWD)
- Texas Commission on Environmental Quality (TCEQ)
- Tribal Coordination

Correspondence and comments that were received are included in **Appendix C**. Correspondence with the SHPO and ACHP are located in **Appendix F**.

8.0 Public Involvement

Hardcopies of the draft EA will be made available for the public to review at the CCIA office and online on the CCIA website for 45 days. A notice affording an opportunity for a public meeting will be provided. The public and stakeholders will have 30 days to request a public meeting. A public meeting will be held if any requests are received within 30 days or if comments and questions are not resolved by any concerned parties. CCIA and FAA will coordinate with any stakeholders to resolve any concerns or comments raised in regard to the Proposed Action.

Once all public and stakeholder comments have been received and resolved, the EA will be finalized. The final EA will be prepared for public dissemination and viewing.

9.0 Commitments and Permits

- The Airport will comply with all federal, state, and local development regulations, Executive Orders and permitting requirements.
- Information on LBP and ACM survey conclusions will be provided to the contractor prior to any demolition activities.
 - All ACM identified will be removed under the supervision of a licensed Texas Asbestos Contractor prior to demolition.
 - In accordance with OSHA Regulation 29 CFR 1926.62(d)(1), it will be the responsibility of the contractor to develop and communicate controls to be implemented to reduce employee lead dust exposure for said company and personnel.
- Prior to initiating construction activities associated with the Proposed Action, CCIA will obtain permit coverage under the Texas Construction General Permit (TXR150000) for Storm Water Discharges from Construction Activities. As required by the Permit, a site-specific SWPPP will be developed and implemented for the Proposed Action.
 - Best Management Practices for stormwater pollution prevention will be employed throughout the duration of disturbance activities.

East G.A. Hangar No. 1 Demolition

- The potential impacts of fugitive dust and combustion emissions will be minimized using control measures contained in standard specifications, as appropriate.

10.0 Mitigation

- The CCIA, FAA, and SHPO have developed a draft MOA that outlines stipulations to mitigate the project's effect on historic properties and once finalized will satisfactorily complete FAA's Section 106 responsibilities under the NHPA. The MOA is in draft form and will be finalized after any substantive public comments received on the EA during the 45-day comment period have been addressed. A copy of the draft MOA is provided in **Appendix F**.

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East G.A. Hangar No. 1 Demolition

11.0 List of Preparers

The individuals listed in the **Table 3** assisted in the preparation of this EA.

Table 3: Preparers

Name	Organization	Primary Responsibility
Derek Mayo	Garver	Project Manager
Susan Chavez	Garver	Task Manager, Reviewer
Ryan Mountain	Garver	Reviewer
Michele Lopez	Garver	Lead Document Preparation
Leigh Mercer	Garver	Document Preparation
Deborah Dobson-Brown	Amaterra	Lead Historian
Kurt Korfmacher	Amaterra	Historian

East G.A. Hangar No. 1 Demolition

12.0 References

- Corpus Christi International Airport (CCIA). February 2007. *Master Plan Update*.
- Moorhead, Gerald et al., "Gault Aviation Hangar", [Corpus Christi, Texas], SAH Archipedia, eds. Gabrielle Esperdy and Karen Kingsley, Charlottesville: UVaP, 2012—, <http://sah-archipedia.org/buildings/TX-01-CC43>. Accessed: September 2022.
- Executive Order (EO) 11990, Protection of Wetlands. May 24, 1977. 42 FR 26961, 3 CFR, 1977 Comp., p. 121.
- Federal Aviation Administration (FAA). 2006. *FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions For Airport Actions*. US Department of Transportation, Federal Aviation Administration.
- FAA. 2012. *FAA Advisory Circular 150/5300-13A, Airport Design*. US Department of Transportation, Federal Aviation Administration.
- FAA. 2015. *FAA Aviation Emissions and Air Quality Handbook*. Version 3, Update 1. US Department of Transportation, Federal Aviation Administration Office of Environment and Energy.
- FAA. 2015. *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures*. US Department of Transportation, Federal Aviation Administration.
- FAA. 2020. *FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or Near Airports*. US Department of Transportation, Federal Aviation Administration.
- FAA. 2020. *FAA 1050.1F Desk Reference*. US Department of Transportation, Federal Aviation Administration Office of Environment and Energy.
- Gerald Moorhead et al., "Gault Aviation Hangar", [Corpus Christi, Texas], SAH Archipedia, eds. Gabrielle Esperdy and Karen Kingsley, Charlottesville: UVaP, 2012—, <http://sah-archipedia.org/buildings/TX-01-CC43>.
- Texas Commission on Environmental Quality (TCEQ). *TCEQ GIS Data Hub*. 2022. <https://gis-tceq.opendata.arcgis.com/>. Accessed: April 2022.
- United States Census Bureau. *Census Data*. 2022. <https://data.census.gov/cedsci/>. Accessed August 2022.
- United States Department of Agriculture, Natural Resources Conservation Service. *Web Soil Survey*. 2021. <https://websoilsurvey.nrcs.usda.gov/app/websoilsurvey.aspx>. Accessed April 2022.

East G.A. Hangar No. 1 Demolition

United States Environmental Protection Agency (EPA). *NEPAssist Tool*. 2022.

<https://nepassisttool.epa.gov/nepassist/nepamap.aspx>. Accessed: April 2022.

DRAFT

APPENDIX A
PROJECT PHOTOGRAPHS



Photo 1: East G.A. Hangar No. 1 (Gault Hangar) hangar opening and adjoining main office building. Photo taken on the airport apron, facing northwest.



Photo 2: East G.A. Hangar No. 1 (Gault Hangar) main office/entrance and adjoining storage rooms. Photo taken on the south side of the building, facing east.

APPENDIX A
PROJECT PHOTOGRAPHS



Photo 3: East G.A. Hangar No. 1 (Gault Hangar) and adjoining office/storage rooms. Photo taken on the northwest side of the building, facing east.



Photo 4: East G.A. Hangar No. 1 (Gault Hangar) hangar opening. Photo taken on the airport apron, facing southwest.

APPENDIX B

STRUCTURAL REPORT



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcement at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcement for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

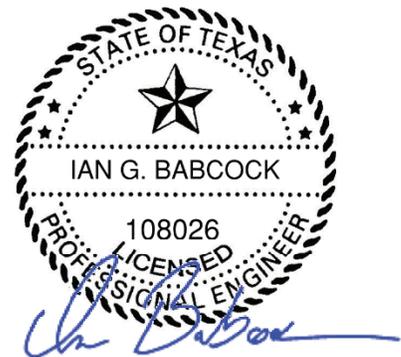
The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713



APPENDIX B

ALTERNATIVES ANALYSIS MEMO



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September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

APPENDIX C
AGENCY COORDINATION

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 22, 2021

Mr. Michael Morgan, via email
Signature Flight Support LLC
307 Brownhill Court
Woodstock, GA 30188

Re: Release Determination Activities at Signature Flight Support LLC,
574 Hangar Lane, Corpus Christi, Nueces County, Texas
Regulated Entity No. 103062071; Customer No. 600264790
PST Facility ID No. 37179; RDR ID No. 30817; R - 14

Dear Mr. Morgan:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the release determination information dated July 30, 2021. The facility to which this information refers was previously assigned Leaking Petroleum Storage Tank (LPST) ID No. 115156 and was closed with conditions as specified in the final concurrence letter dated July 17, 2002. The July 30, 2021 information does not appear to indicate that further action is required, provided that it is correct and representative of actual site conditions, and that any conditions from the previous LPST case closure continue to be satisfied.

Please note that if underground or aboveground storage tanks remain or are installed at this site, they continue to be subject to TCEQ tank registration, self-certification, financial assurance, and technical standards provisions.

Should you have questions, please contact Hailey Reier, the Project Manager, at (512) 239-2500 or hailey.reier@tceq.texas.gov. Your cooperation in this matter has been appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Joyce Sirota".

Joyce Sirota, P.G., Team Leader
PST/DCRP Section
Remediation Division

JES/HR/jes
RDR30817.RDR-NoLeaker6A.docx

cc: Former LPST No. 115156 file
Mr. Brad Parish, Apex TITAN, Inc., via email



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411
Phone: (281) 286-8282 Fax: (281) 488-5882

In Reply Refer To:
Project Code: 2022-0036816
Project Name: East G.A. Hangar No. 1 Demolition

August 26, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Tx, and Corpus Christi, Tx, have combined administratively to form the Texas Coastal Ecological Services Field Office. A map of the Texas Coastal Ecological Services Field Office area of responsibility can be found at: <http://www.fws.gov/southwest/es/TexasCoastal/Map.html>. All project related correspondence should be sent to the field office responsible for the area in which your project occurs. For projects located in southeast Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058. For projects located in southern Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; P.O. Box 81468; Corpus Christi, Texas 78468-1468. For projects located in six counties in southern Texas (Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata) please write: Santa Ana NWR, ATTN: Ecological Services Sub Office, 3325 Green Jay Road, Alamo, Texas 78516.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and

implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities

that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Texas Coastal Ecological Services Field Office

4444 Corona Drive, Suite 215

Corpus Christi, TX 78411

(281) 286-8282

Project Summary

Project Code: 2022-0036816

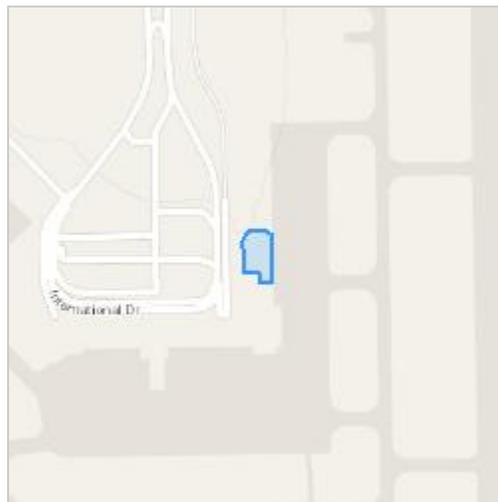
Project Name: East G.A. Hangar No. 1 Demolition

Project Type: Damage/Destruction

Project Description: East G.A. Hangar No. 1 (Gault Hangar) demolition of historic structure at Corpus Christi International Airport (CCIA).

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@27.775602650000003,-97.500428917162,14z>



Counties: Nueces County, Texas

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Hawksbill Sea Turtle <i>Eretmochelys imbricata</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle <i>Caretta caretta</i> Population: Northwest Atlantic Ocean DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Slender Rush-pea <i>Hoffmannseggia tenella</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5298	Endangered
South Texas Ambrosia <i>Ambrosia cheiranthifolia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3331	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25

NAME	BREEDING SEASON
<p>Dickcissel <i>Spiza americana</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 5 to Aug 31
<p>Gull-billed Tern <i>Gelochelidon nilotica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501</p>	Breeds May 1 to Jul 31
<p>Hudsonian Godwit <i>Limosa haemastica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936</p>	Breeds May 1 to Sep 5
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511</p>	Breeds elsewhere
<p>Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481</p>	Breeds elsewhere
<p>Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638</p>	Breeds elsewhere
<p>Painted Bunting <i>Passerina ciris</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Apr 25 to Aug 15
<p>Reddish Egret <i>Egretta rufescens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617</p>	Breeds Mar 1 to Sep 15
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere

NAME	BREEDING SEASON
Sandwich Tern <i>Thalasseus sandvicensis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 31
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wilson's Plover <i>Charadrius wilsonia</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Aug 20

Probability Of Presence Summary

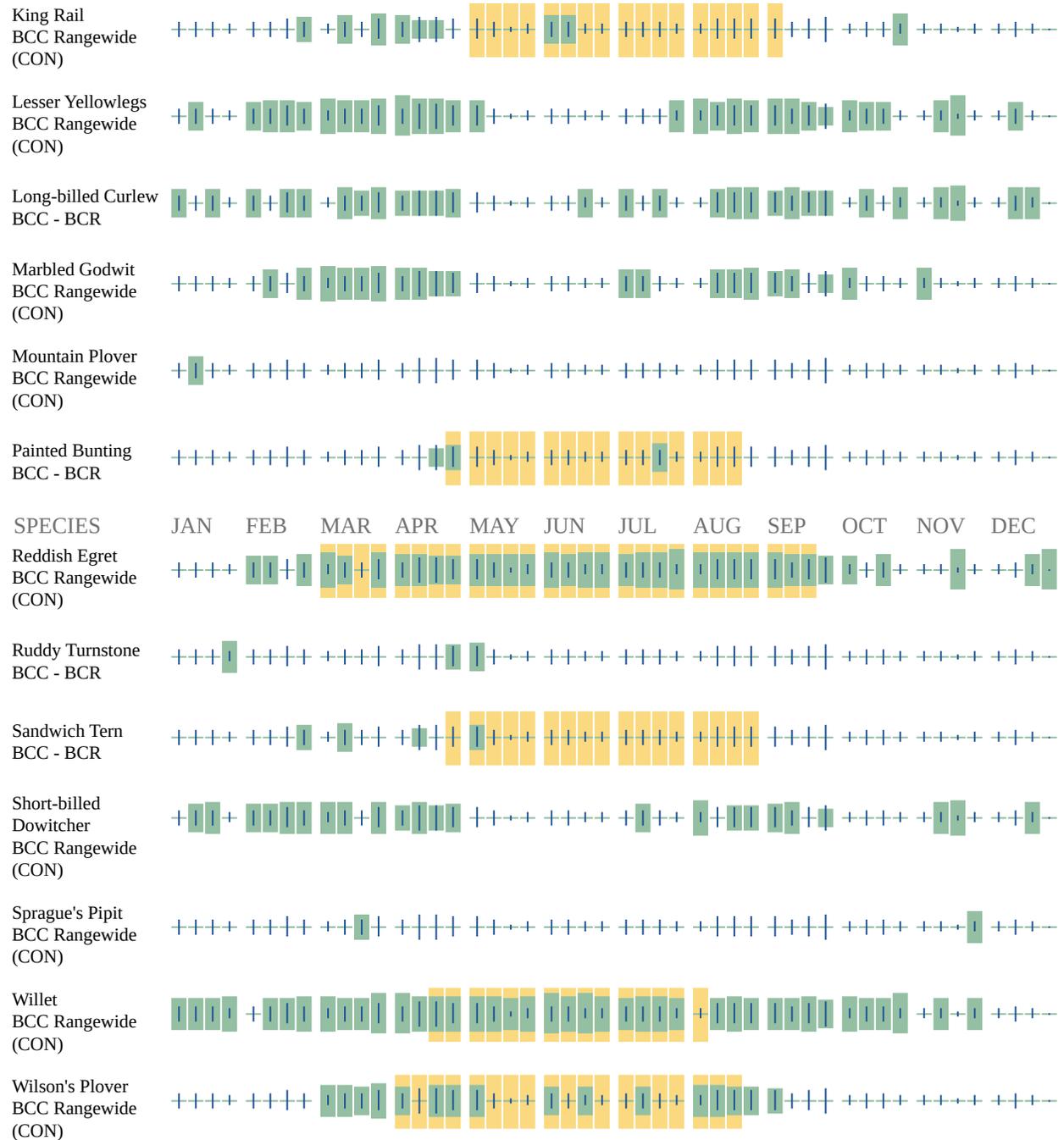
The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPaC User Contact Information

Agency: Garver LLC
Name: Leigh Mercer
Address: 3755 S Capital of Texas Hwy
Address Line 2: Ste 325
City: Austin
State: TX
Zip: 78704
Email: lcmerc@garverusa.com
Phone: 5125391966

Tribal Coordination List

Tribal Name	First Name	Last Name	Title	Letter Sent	Response
Alabama-Coushatta Tribe of Texas	Bryant	Celestine	Tribal Historic Preservation Officer	11/14/2022	N/A
Apache Tribe of Oklahoma	Bobby	Komardley	Chairman	11/14/2022	N/A
Comanche Nation, Oklahoma	Martina	Minthorn	Tribal Historic Preservation Officer	11/14/2022	N/A
Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma	Gary	McAdams	Tribal Historic Preservation Officer	11/14/2022	N/A
Ysleta Del Sur Pueblo	Javier	Loera	Tribal Historic Preservation Officer	11/14/2022	N/A
Tonkawa Tribe of Indians of Oklahoma	Lauren	Norman-Brown	Tribal Historic Preservation Officer	11/14/2022	N/A
Kickapoo Traditional Tribe of Texas	Hector	Gonzalez	Historic Preservation	11/14/2022	11/15/2022
Caddo Nation	Jonathan	Rohrer	Tribal Historic Preservation Officer	11/14/2022	N/A



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports District Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

November 15, 2022

Bryant Celestine
Tribal Historic Preservation Officer
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351

Re: Corpus Christi International Airport, Tribal Consultation, Demolition of East General Aviation Hangar No. 1, City of Corpus Christi, Nueces County

Dear Mr. Celestine,

The purpose of this letter is to seek input from federally-recognized tribal communities concerning potential environmental effects associated with a proposed demolition of the East General Aviation (GA) Hangar No. 1 (Gault Hanger), at the Corpus Christi International Airport (Airport). An overall project location map and study area map of the facility located on airport property are attached.

The Airport is proposing to demolish the Gault Hangar which is a single-story hyperbolic paraboloid arch concrete aircraft hangar constructed in the early 1960's, designed by architect Joe L. Williams and engineer Wallace R. Wilkerson. The facility operated primarily as a hangar with office space to the East Side Fixed Base Operations (FBO) serving the general aviation community. The facility had been under lease and management by Signature Flight Support until March 2020 at which time ownership reverted to the City of Corpus Christi. The Hangar has since been and is still currently under the ownership and management of the City of Corpus Christi.

Site investigations conducted by a structural engineer in 2021 identified structural deficiencies such as severe cracks in the roof structure, corrosion of exposed interior steel framing, cracked concrete floor, and disintegrating fiberglass infill panels. Age and damage from weather events such as Hurricane Harvey have revealed multiple distresses in the building structure including several concrete spalls and pop-outs which indicate that future spalls or pop outs could occur and is a potential safety hazard for personnel and aircraft. Based on the severe deterioration of the Hangar and noted safety hazards, the Airport closed the facility from public entry. Additionally, there are numerous concerns with the overall building usability and serviceability. Considering both the cost and the safety risk, demolition of the structure has been determined to be the feasible and prudent alternative.

The FAA is conducting a review of this proposed project to comply with the National Environmental Policy Act and Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. The FAA respectfully requests your review of the proposed project area and to identify historic properties that may have religious or cultural significance to your tribe.

The Federal Aviation Administration (FAA) coordinated with the Texas Historical Commission/State Historic Preservation Office (SHPO) in March 2021 and the SHPO recommended the Gault Hangar as eligible for listing in the National Register of Historic Places (NRHP). No other historic resources or archeological sites were identified. The FAA, Airport, and SHPO identified and met with consulting parties in June 2022 to discuss the project and potential mitigation options. Additionally, a letter notifying the Advisory Council for Historic Preservation (ACHP) of the adverse effect to the NRHP-eligible structure was sent on September 28, 2022, and the ACHP has chosen not to participate in the Section 106 process. The Airport, FAA and the Texas Historical Commission/SHPO are currently developing a memorandum of agreement for mitigation for the Hangar demolition.

Please provide any information to me within 30 days at the address above or via email. Thank you in advance for your assistance with this proposed project. Please feel free to contact me at 817-222-5681 or by e-mail at john.macfarlane@faa.gov if you have any questions or comments regarding the proposed project.

Sincerely,

John MacFarlane
Environmental Protection Specialist
Texas Airports Development Office

Attachments:
Project Location Map
Study Area Map

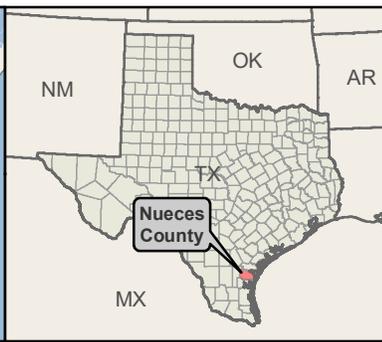
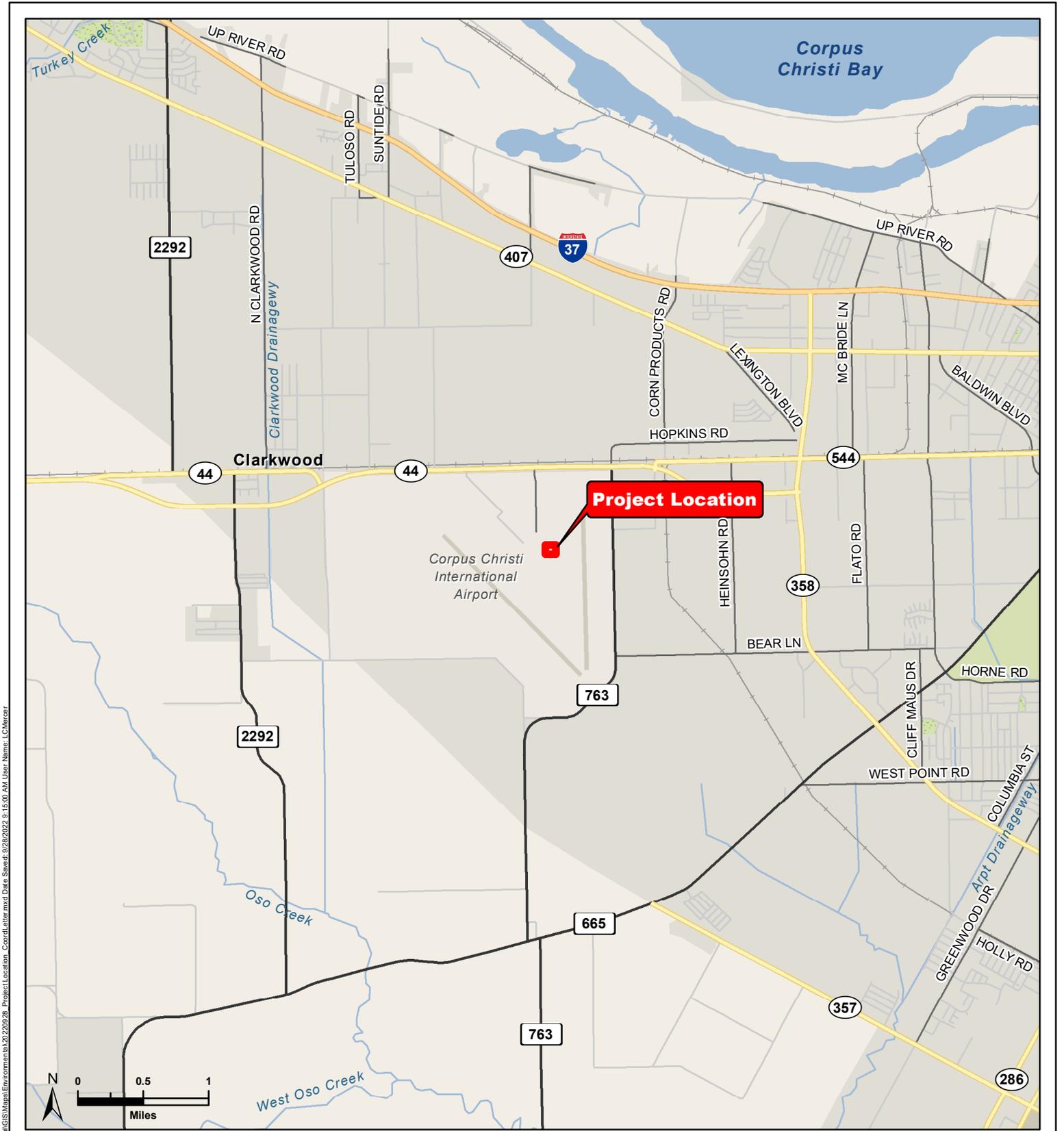





FIGURE 1: PROJECT LOCATION
 CORPUS CHRISTI INTERNATIONAL AIRPORT (CCIA):
 EAST GA HANGAR NO. 1
 (GAULT HANGAR) DEMO
 Nueces County, TX



Corpus Christi
International Airport



East GA Hangar 1
(Gault Hangar)

 Direct APE/Study Area



CCIA
CORPUS CHRISTI
INTERNATIONAL AIRPORT



FIGURE 2: STUDY AREA
CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA):
EAST GA HANGAR NO. 1
(GAULT HANGAR) DEMO
Nueces County, TX

**TRADITIONAL
COUNCIL**

CHAIRMAN
Juan Garza Jr., Kisisika

SECRETARY
Freddie Hernandez Sr., Kisakodita

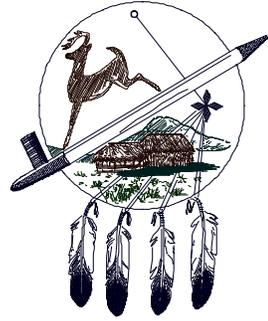
TREASURER
David Treviño, Wapikaoda

MEMBERS
Kendall Scott, Metaa
Daniel Gonzalez Sr., Pietanakaaka

KICKAPOO

**TRADITIONAL
TRIBE OF TEXAS**

2212 Rosita Valley Rd.
Eagle Pass, Texas 78852



TRIBAL COUNCIL

November 15, 2022

Mr. John J. MacFarlane
Environmental Protection Specialist
Texas Airports Development Office
10101 Hillwood Parkway
Fort Worth, Texas 76177

Re: Corpus Christi International Airport, Tribal Consultation, Demolition of East General Aviation Hangar No. 1, City of Corpus Christi, Nueces County

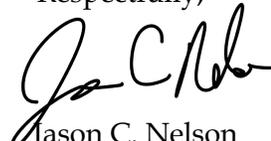
Dear Mr. MacFarlane:

Our office is in receipt of your letter dated November 15, 2022, by which you seek input from federally recognized tribal communities concerning potential environmental effects associated with a proposed demolition of the East General Aviation (GA) Hangar No. 1 (Gault Hangar), at the Corpus Christi International Airport.

With respect to the above-referenced request for input, we wish to advise you that the Kickapoo Traditional Tribe of Texas does not own land on or near the proposed project area, nor would this endeavor affect any of the Tribe's cultural, historical, or sacred sites that we are aware of. Nevertheless, the Tribe appreciates the opportunity it was granted to comment on this matter.

Should you have any further questions or concerns, please do not hesitate to contact this office at (830) 421-5388.

Respectfully,


Jason C. Nelson
General Counsel

APPENDIX D

SUPPORTING RESOURCE DOCUMENTS

- **Texas Parks and Wildlife Department - County Species List**
- **Asbestos Survey**
- **Lead Based Paint Inspection Report**

Last Update: 7/12/2022

NUECES COUNTY

AMPHIBIANS

black-spotted newt

Notophthalmus meridionalis

Terrestrial and aquatic: Terrestrial habitats used by adults are typically poorly drained clay soils that allow for the formation of ephemeral wetlands. A wide variety of vegetation associations are known to be used, such as thorn scrub and pasture. Aquatic habitats used for reproduction are a variety of ephemeral and permanent water bodies.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3

sheep frog

Hypopachus variolosus

Terrestrial and aquatic: Predominantly grassland and savanna; largely fossorial in areas with moist microclimates.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

South Texas siren (Large Form)

Siren sp. 1

Aquatic: Mainly found in bodies of quiet water, permanent or temporary, with or without submergent vegetation. Wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods, but does require some moisture to remain.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: GNRQ State Rank: S1

Strecker's chorus frog

Pseudacris streckeri

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

BIRDS

bald eagle

Haliaeetus leucocephalus

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3B,S3N

black rail

Laterallus jamaicensis

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

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NUECES COUNTY

BIRDS

black skimmer

Rynchops niger

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2B

Franklin's gull

Leucophaeus pipixcan

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2N

lark bunting

Calamospiza melanocorys

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

mountain plover

Charadrius montanus

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S2

northern aplomado falcon

Falco femoralis septentrionalis

Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species

Federal Status: LE

State Status: E

SGCN: Y

Endemic: N

Global Rank: G4T2T3

State Rank: S1

piping plover

Charadrius melodus

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NUECES COUNTY

BIRDS

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

reddish egret *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2B

rufa red knot *Calidris canutus rufa*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

sooty tern *Onychoprion fuscatus*

Primarily an offshore bird; does nest on sandy beaches and islands, breeding April-July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1B

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

swallow-tailed kite *Elanoides forficatus*

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NUECES COUNTY

BIRDS

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

Texas Botteri's sparrow *Peucaea botterii texana*

Grassland and short-grass plains with scattered bushes or shrubs, sagebrush, mesquite, or yucca; nests on ground of low clump of grasses

Federal Status:	State Status: T	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S3B

tropical parula *Setophaga pitiayumi*

Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

white-tailed hawk *Buteo albicaudatus*

Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S4B

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NUECES COUNTY

BIRDS

whooping crane *Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

wood stork *Mycteria americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

FISH

american eel *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habitats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

fat snook *Centropomus parallelus*

Occupies freshwater, estuarine, and marine areas near mangroves, rocky overhangs or protected riverbanks, but is most commonly found inshore (freshwater). Spawning occurs from March-August in freshwater. After hatching, larvae disperse with the currents to estuarine areas (Gilmore et al. 1983, McMichael and Parsons 1989). Juveniles migrate from freshwater to estuarine areas based on flow and salinity regimes.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3?

oceanic whitetip shark *Carcharhinus longimanus*

Habitat description is not available at this time.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

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NUECES COUNTY

FISH

opossum pipefish *Microphis brachyurus*

Adults are only found in low salinity waters of estuaries or freshwater tributaries within 30 miles of the coast (Gilmore 1992), where they also give birth. Young move or are carried into more saline waters off the coast after birth. Newly released larvae must have conditions near 18 ppt salinity for at least two weeks after birth to survive, indicating a physiology adapted for downstream transport to estuarine and marine environments (Frias-Torres 2002). Juvenile migration toward the ocean depends on water flow regimes, salinity, and vegetation for cover and capturing prey (Frias-Torres 2002). Seawalls, docks, and riprap construction destroy habitat and poor water quality and alteration of flow regimes may prevent migration (NMFS 2009).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3N

shortfin mako shark *Isurus oxyrinchus*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

snook *Centropomus undecimalis*

Juvenile common snook are generally restricted to the protection of riverine, salt marshes, seagrass beds, and estuary environments. These environments offer shallow water and an overhanging vegetative shoreline. Juvenile common snook can survive in waters with lower oxygen levels than adults. Adult common snook inhabit many fresh, estuarine, and marine environments including mangrove forests, beaches, river mouths, nearshore reefs, salt marshes, sea grass meadows, and near structure (pilings, artificial reefs, etc.). Adult common snook appear to be less sensitive to cold water temperatures than larvae or small juveniles. The lower lethal limit of water temperature is 48.2°-57.2° F (9°-14° C) for juveniles and 42.8°-53.6° F (6°-12° C) for adults (Hill 2005, Press 2010).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3?

southern flounder *Paralichthys lethostigma*

This is an estuarine-dependent species that inhabits riverine, estuarine and coastal waters, and prefers muddy, sandy, or silty substrates (Reagan and Wingo 1985). Individuals can tolerate wide temperature (~5-35°C) and salinity ranges (0-60 ppt). Southern Flounder spawn in offshore waters of the Gulf of Mexico from October to February (Reagan and Wingo 1985). The oceanic larval stage is pelagic and lasts 30–60 days. Metamorphosing individuals enter estuaries and migrate towards low-salinity headwaters, where settlement occurs (Burke et al. 1991, Walsh et al. 1999). The young fish enter the bays during late winter and early spring, occupying seagrass; some may move further into coastal rivers and bayous. Juveniles remain in estuaries until the onset of sexual maturation (approximately two years), at which time they migrate out of estuaries to join adults on the inner continental shelf. Adult southern flounder leave the bays during the fall for spawning in the Gulf of Mexico. They spawn for the first time when two years old at depths of 50 to 100 feet. Although most of the adults leave the bays and enter the Gulf for spawning during the winter, some remain behind and spend winter in the bays. Those in the Gulf will reenter the bays in the spring. The spring influx is gradual and does not occur with large concentrations that characterize the fall emigration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

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NUECES COUNTY

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G3G4 State Rank: SNR

Comanche harvester ant *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2

gladiator short-winged katydid *Dichopetala gladiator*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

Manfreda giant-skipper *Stallingsia maculosus*

Most skippers are small and stout-bodied; name derives from fast, erratic flight; at rest most skippers hold front and hind wings at different angles; skipper larvae are smooth, with the head and neck constricted; skipper larvae usually feed inside a leaf shelter and pupate in a cocoon made of leaves fastened together with silk

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G1 State Rank: S1

MAMMALS

barrier island Texas pocket gopher *Geomys personatus personatus*

Limited information available. Likely found in sandy soils.

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G4TNR State Rank: SNR

big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

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NUECES COUNTY

MAMMALS

blue whale *Balaenoptera musculus*

Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.

Federal Status: LE State Status: E SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: SH

cave myotis bat *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S2S3

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S1S3

Gulf of Mexico Bryde's whale *Balaenoptera ricei*

Habitat description is not available at this time.

Federal Status: LE State Status: E SGCN: N
Endemic: N Global Rank: G1 State Rank: SNR

hoary bat *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S4

humpback whale *Megaptera novaeangliae*

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NUECES COUNTY

MAMMALS

Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.

Federal Status: LE State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: SNR

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

maritime pocket gopher *Geomys personatus maritimus*

Fossorial, in deep sandy soils; feeds mostly from within burrow on roots and other plant parts, especially grasses; ecologically important as prey species and in influencing soils, microtopography, habitat heterogeneity, and plant diversity

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G4T2 State Rank: S2

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S2S3

North Atlantic right whale *Eubalaena glacialis*

Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger et al 2011).

Federal Status: LE State Status: E SGCN: Y
Endemic: N Global Rank: G1 State Rank: S1

northern yellow bat *Lasiurus intermedius*

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

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NUECES COUNTY

MAMMALS

ocelot

Leopardus pardalis

Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.

Federal Status: LE

State Status: E

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S1

Padre Island kangaroo rat

Dipodomys compactus compactus

Dunes and open sandy areas near the coast.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G4T3

State Rank: S3

sei whale

Balaenoptera borealis

Habitat description is not available at this time.

Federal Status: LE

State Status: E

SGCN: N

Endemic: N

Global Rank: G3

State Rank: SNR

southern yellow bat

Lasiurus ega

Relict palm grove is only known Texas habitat. Neotropical species roosting in palms, forages over water; insectivorous; breeding in late winter. Roosts in dead palm fronds in ornamental palms in urban areas.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3S4

sperm whale

Physeter macrocephalus

Inhabits tropical, subtropical, and temperate waters world wide, avoiding icy waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.

Federal Status: LE

State Status: E

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S1

tricolored bat

Perimyotis subflavus

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S2

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NUECES COUNTY

MAMMALS

West Indian manatee *Trichechus manatus*

Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S1

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

white-nosed coati *Nasua narica*

Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1

MOLLUSKS

No accepted common name *Millerelix gracilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2G3	State Rank: S2?

REPTILES

Atlantic hawksbill sea turtle *Eretmochelys imbricata*

Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating lgae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water lmore than 65 feet deep. They feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

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NUECES COUNTY

REPTILES

green sea turtle

Chelonia mydas

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3B,S3N

Kemp's Ridley sea turtle

Lepidochelys kempii

Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.

Federal Status: LE

State Status: E

SGCN: Y

Endemic: N

Global Rank: G1

State Rank: S3

leatherback sea turtle

Dermochelys coriacea

Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the seaturtles with the longest migration (>10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.

Federal Status: LE

State Status: E

SGCN: Y

Endemic: N

Global Rank: G2

State Rank: S1S2

loggerhead sea turtle

Caretta caretta

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S4

Mexican blackhead snake

Tantilla atriceps

Terrestrial: Shrubland savanna.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S1

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NUECES COUNTY

REPTILES

slender glass lizard

Ophisaurus attenuatus

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

Tamaulipan spot-tailed earless lizard

Holbrookia subcaudalis

Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: GNR

State Rank: S2

Texas diamondback terrapin

Malaclemys terrapin littoralis

Coastal marshes, tidal flats, coves, estuaries, and lagoons behind barrier beaches; brackish and salt water; burrows into mud when inactive. Bay islands are important habitats. Nests on oyster shell beaches.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G4T3

State Rank: S2

Texas horned lizard

Phrynosoma cornutum

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S3

Texas indigo snake

Drymarchon melanurus erebennus

Terrestrial: Thornbush-chaparral woodland of south Texas, in particular dense riparian corridors. Can do well in suburban and irrigated croplands. Requires moist microhabitats, such as rodent burrows, for shelter.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5T4

State Rank: S4

Texas scarlet snake

Cemophora lineri

Terrestrial: Prefers well drained soils with a variety of forest, grassland, and scrub habitats.

Federal Status:

State Status: T

SGCN: Y

Endemic: Y

Global Rank: G2

State Rank: S1S2

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NUECES COUNTY

REPTILES

Texas tortoise *Gopherus berlandieri*

Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western hognose snake *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

western massasauga *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

PLANTS

black lace cactus *Echinocereus reichenbachii* var. *albertii*

Grasslands, thorn shrublands, mesquite woodlands on sandy, somewhat saline soils on coastal prairie, most frequently in naturally open areas sparsely covered with brush of a low stature not resulting from disturbance or along creeks in ecotonal areas between this upland type and lower areas dominated by halophytic grasses and forbs; flowering April-June

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G5T1Q	State Rank: S1

Buckley's spiderwort *Tradescantia buckleyi*

Occurs on sandy loam or clay soils in grasslands or shrublands underlain by the Beaumont Formation.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

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NUECES COUNTY

PLANTS

Cory's croton	<i>Croton coryi</i>		
Grasslands and woodland openings on barrier islands and coastal sands of South Texas, inland on South Texas Sand Sheet; Annual; Flowering July-Oct; Fruiting July-Nov			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G3	State Rank:	S3
crestless onion	<i>Allium canadense var. ecristatum</i>		
Occurs on poorly drained sites on sandy substrates within coastal prairies of the Coastal Bend area (Carr 2015).			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G5T3	State Rank:	S3
Drummond's rushpea	<i>Hoffmannseggia drummondii</i>		
Open areas on sandy clay; Perennial			
Federal Status:	State Status:	SGCN:	Y
Endemic: N	Global Rank: G3	State Rank:	S3
Elmendorf's onion	<i>Allium elmendorffii</i>		
Grassland openings in oak woodlands on deep, loose, well-drained sands; in Coastal Bend, on Pleistocene barrier island ridges and Holocene Sand Sheet that support live oak woodlands; to the north it occurs in post oak-black hickory-live oak woodlands over Queen City and similar Eocene formations; one anomalous specimen found on Llano Uplift in wet pockets of granitic loam; Perennial; Flowering March-April, May			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G2	State Rank:	S2
Greenman's bluet	<i>Houstonia parviflora</i>		
Grass pastures. Feb- Apr. (Correll and Johnston 1970).			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G3	State Rank:	S3
Jones' nailwort	<i>Paronychia jonesii</i>		
Occurs in early successional open areas on deep well-drained sand; Biennial Annual; Flowering March-Nov; Fruiting April-Nov			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G3G4	State Rank:	S3S4
Jones's rainlilly	<i>Cooperia jonesii</i>		
Hardpan swales and other seasonally moist low areas (Jones 1977). Flowering mid summer--early fall (Jul--Oct) (Flagg, Smith & Flory 2002).			
Federal Status:	State Status:	SGCN:	Y
Endemic: Y	Global Rank: G3Q	State Rank:	S3

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NUECES COUNTY

PLANTS

large selenia

Selenia grandis

Occurs in seasonally wet clayey soils in open areas; Annual; Flowering Jan-April; Fruiting Feb-April

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

lila de los Llanos

Echeandia chandleri

Most commonly encountered among shrubs or in grassy openings in subtropical thorn shrublands on somewhat saline clays of lomas along Gulf Coast near mouth of Rio Grande; also observed in a few upland coastal prairie remnants on clay soils over the Beaumont Formation at inland sites well to the north and along railroad right-of-ways and cemeteries; flowering (May-) September-December, fruiting October-December

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2S3

Mexican mud-plantain

Heteranthera mexicana

Wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S1

plains gumweed

Grindelia oolepis

Coastal prairies on heavy clay (blackland) soils, often in depressional areas, sometimes persisting in areas where management (mowing) may maintain or mimic natural prairie disturbance regimes; crawfish lands; on nearly level Victoria clay, Edroy clay, claypan, possibly Greta within Orelia fine sandy loam over the Beaumont Formation, and Harlingen clay; roadsides, railroad rights-of-ways, vacant lots in urban areas, cemeteries; flowering April-December

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

sand Brazos mint

Brazoria arenaria

Sandy areas in South Texas; Annual; Flowering/Fruiting March-April

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

slender rush-pea

Hoffmannseggia tenella

Coastal prairie grasslands on level uplands and on gentle slopes along drainages, usually in areas of shorter or sparse vegetation; soils often described as Blackland clay, but at some of these sites soils are coarser textured and lighter in color than the typical heavy clay of the coastal prairies; flowering April-November

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

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NUECES COUNTY

PLANTS

South Texas ambrosia *Ambrosia cheiranthifolia*

Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November

Federal Status: LE State Status: E SGCN: Y
Endemic: N Global Rank: G2 State Rank: S1

South Texas spikesedge *Eleocharis austrotexana*

Occurring in miscellaneous wetlands at scattered locations on the coastal plain; Perennial; Flowering/Fruiting Sept

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S3

Texas peachbush *Prunus texana*

Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3G4 State Rank: S3S4

Texas stonecrop *Lenophyllum texanum*

Found in shrublands on clay dunes (lomas) at the mouth of the Rio Grande and on xeric calcareous rock outcrops at scattered inland sites; Perennial; Flowering/Fruiting Nov-Feb

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3

Texas windmill grass *Chloris texensis*

Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2 State Rank: S2

Tharp's dropseed *Sporobolus tharpii*

Occurs on barrier islands, shores of lagoons and bays protected by the barrier islands, and on shores of a few near-coastal ponds. Plants occur at the bases of dunes, in interdune swales and sandflats, and on upper beaches. The substrate is of Holocene age.

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S3

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NUECES COUNTY

PLANTS

Tharp's rhododon

Rhododon angulatus

Deep, loose sands in sparsely vegetated areas on stabilized dunes of Pleistocene barrier islands; flowering (May-) June-September, sometimes later with appropriate rainfall

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1Q

State Rank: S1

tree dodder

Cuscuta exaltata

Parasitic on various *Quercus*, *Juglans*, *Rhus*, *Vitis*, *Ulmus*, and *Diospyros* species as well as *Acacia berlandieri* and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

velvet spurge

Euphorbia innocua

Open or brushy areas on coastal sands and the South Texas Sand Sheet; Perennial; Flowering Sept-April; Fruiting Nov-July

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S3

Welder machaeranthera

Psilactis heterocarpa

Grasslands, varying from midgrass coastal prairies, and open mesquite-huisache woodlands on nearly level, gray to dark gray clayey to silty soils; known locations mapped on Victoria clay, Edroy clay, Dacosta sandy clay loam over Beaumont and Lissie formations; flowering September-November

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G2G3

State Rank: S2S3

Wright's trichocoronis

Trichocoronis wrightii var. *wrightii*

Most records from Texas are historical, perhaps indicating a decline as a result of alteration of wetland habitats; Annual; Flowering Feb-Oct; Fruiting Feb-Sept

Federal Status:

State Status:

SGCN: Y

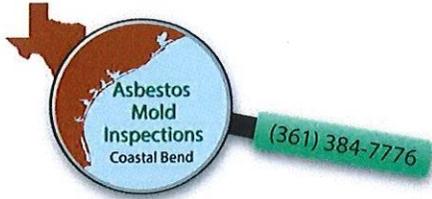
Endemic: N

Global Rank: G4T3

State Rank: S2

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September 29, 2020

Mr. Max Jones
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CB201220

**Re: Pre-Demolition Asbestos Survey
Corpus Christi International Airport – Hangar 1
586 Hangar Lane
Corpus Christi, Texas 78401
Project No: CB-20-1220**

Mr. Jones:

The following are the results of the asbestos testing conducted by Mr. Art Vallejo, Texas Department of State Health Services (TDSHS) Asbestos Inspector License #60-2313, of Astex Environmental Services (AES) at the above referenced project. On September 3, 2020, a total of thirty-nine (39) samples of suspect asbestos containing building materials were collected and sent to Environmental Analytical Services, L.L.C., Houston, Texas, TDSHS Laboratory License No.: 30-0373, for analysis by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116 Method.

Asbestos is a naturally occurring mineral that is distinguished from other minerals by the fact that it occurs in long, thin fibers. Its characteristics are that it does not burn, it is strong, it conducts heat and electricity poorly, and it is impervious to chemical corrosion, therefore, asbestos was utilized in numerous construction materials. Typically, asbestos containing materials (ACM) can be found as: fireproofing material on the steel beams of multi-story buildings; roofing shingles, felts, and tars; floor tiles and mastic, acoustic ceiling and wall textures; joint compound; and Thermal System Insulation (TSI) for pipes, ducts, and joints. Over a period of years these asbestos-containing materials may become friable, that is pulverized by hand pressure, thus releasing fibers into the air.

Limitations:

The results, findings and conclusions documented in this report are based solely on conditions observed the day(s) of the inspection (Photos **Appendix B**, if applicable). AES and its assigns make no representations or assumptions as to past or future conditions of the premises or building material content. AES representatives executed the enclosed ACBM inspection in areas (as directed by those authorizing the work to be done) that may be impacted during future

*Limited Asbestos Survey Report
Corpus Christi International Airport – Hangar 1
586 Hangar Lane, Corpus Christi, Texas 78401*

maintenance, renovation or demolition tasks. Unless directed otherwise, inspection methods used were non-destructive; that is, existing materials were not significantly disturbed or demolished in order to verify the presence of hidden ACBM. As in all ACBM testing events, bulk samples (small physical specimens) are required and were collected in the most discrete method possible in order to maintain the visual appearance of the premises. AES is not responsible for damage or repair to areas where bulk samples were required to satisfy the authorized work to be completed.

The building owner, tenant, personnel and their authorized contractors are solely responsible for reviewing and communicating with their personnel the content of the enclosed ACBM's tested (whether they tested positive for ACM or not). Furthermore, inaccessible materials (i.e. areas where no access was possible or permitted) were not documented or tested. Additional materials found that do not appear to match the description of the enclosed sample results must be tested prior to disturbance. Materials visually identified as non-asbestos were not sampled (i.e. fiberglass, foam rubber, wood, carpet, glass, etc).

As authorized, this report has been generated to comply with regulatory requirements and assist in the identification of ACBM at the project site. The enclosed is not intended to be utilized as a State required asbestos abatement work plan (Design Specification) or as a bidding document for asbestos abatement. AES licensed and certified personnel are available to assist with said documentation if it is required for this project.

Laboratory Results

The results are detailed below, and the laboratory analytical sheets can be found in the Appendix.

Sample No.	Material	Location	Results
1220-01	Acoustic Ceiling Material	Main Building, Office Spaces	None Detected
1220-02	Acoustic Ceiling Material	Main Building, Office Spaces	None Detected
1220-03	Acoustic Ceiling Material	Main Building, Office Spaces	None Detected
1220-04	Ceramic Floor/Grout	Main Building, Office Spaces	None Detected
1220-05	Ceramic Floor/Grout	Main Building, Office Spaces	None Detected
1220-06	Ceramic Floor/Grout	Main Building, Office Spaces	None Detected
1220-07	Sheetrock/Joint Compound	Main Building, Office Spaces	None Detected
1220-08	Sheetrock/Joint Compound	Main Building, Office Spaces	None Detected
1220-09	Sheetrock/Joint Compound	Main Building, Office Spaces	None Detected
1220-10	Vinyl Floor Tile/Mastic (Tan)	Main Building, Office Spaces	None Detected
1220-11	Vinyl Floor Tile/Mastic (Tan)	Main Building, Office Spaces	None Detected
1220-12	Vinyl Floor Tile/Mastic (Tan)	Main Building, Office Spaces	None Detected
1220-13	Popcorn Ceiling Texture	Main Building, Office Spaces	None Detected
1220-14	Popcorn Ceiling Texture	Main Building, Office Spaces	None Detected
1220-15	Popcorn Ceiling Texture	Main Building, Office Spaces	None Detected
1220-16	Duct Insulation Mastic	Main Building, Office Spaces	None Detected
1220-17	Duct Insulation Mastic	Main Building, Office Spaces	None Detected

*Limited Asbestos Survey Report
 Corpus Christi International Airport – Hangar 1
 586 Hangar Lane, Corpus Christi, Texas 78401*

Sample No.	Material	Location	Results
1220-18	Duct Insulation Mastic	Main Building, Office Spaces	None Detected
1220-19	Duct Insulation Mastic	Inside Bay 1	None Detected
1220-20	Duct Insulation Mastic	Inside Bay 1	None Detected
1220-21	Duct Insulation Mastic	Inside Bay 1	None Detected
1220-22	Sheetrock/Joint Compound (Grey Wall)	Inside Bay 1	Point Count: 0.75%, Chrysotile
1220-23	Sheetrock/Joint Compound (Tan Wall)	Inside Bay 1	Point Count: 0.50%, Chrysotile
1220-24	Sheetrock/Joint Compound (Blue Wall)	Inside Bay 1	Point Count: 0.75%, Chrysotile
1220-25	Fiber Glass Seam Mastic (Black)	Inside Bay 1	Mastic: 5%, Chrysotile
1220-26	Fiber Glass Seam Mastic (Black)	Inside Bay 1	Not Analyzed Positive Stop
1220-27	Fiber Glass Seam Mastic (Black)	Inside Bay 1	Not Analyzed Positive Stop
1220-28	Seam Caulk (White)	Inside Bay 1, Metal Support	None Detected
1220-29	Seam Caulk (White)	Inside Bay 1, Metal Support	None Detected
1220-30	Seam Caulk (White)	Inside Bay 1, Metal Support	None Detected
1220-31	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-32	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-33	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-34	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-35	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-36	Roof Vapor Barrier	Exterior Cement Roof	None Detected
1220-37	Exterior Window Caulking	Exterior Window	None Detected
1220-38	Exterior Window Caulking	Exterior Window	None Detected
1220-39	Exterior Window Caulking	Exterior Window	None Detected

CONCLUSIONS AND RECOMMENDATIONS:

Based on the analytical results found in **Appendix A**, the following conclusions and recommendations are offered:

1. **The following building materials have been laboratory analyzed to be asbestos containing and must be removed by a Texas licensed Asbestos Abatement Contractor prior to the materials being disturbed during renovation/demolition:**
 - **All Black Seam Mastic within Bay 1 and where found throughout**
2. **The asbestos containing material listed above must be removed under the supervision of a Texas Asbestos Consultant prior to renovation/demolition.**
3. **The Texas Asbestos Health Protection Rules (TAHPR) require all abatement or removal projects not under an Operation and Maintenance Program be designed (specifications and drawings) by a Texas licensed Asbestos Designer (e.g. Astex Environmental Services). Additionally, a TDSHS Licensed Project Manager/Air Monitor must monitor all projects.**

If you or any permitting agencies have questions regarding this report I can be reached at (210) 828-9800.

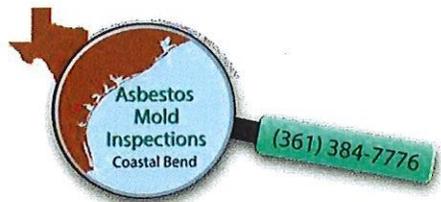
Sincerely,



Stephen Jimenez
Astex Environmental Services
TDSHS Asbestos Consultant #10-5764

9.29-20

Date



Asbestos Mold Inspections Coastal Bend

2732 S. Padre Island Drive • Corpus Christi, TX 78415
(361) 384-7776

www.asbestosmoldcoastalbend.com

info@amicoastalbend.com

September 29, 2020

Mr. Max Jones
Capital Improvements Program Manager
City of Corpus Christi
1201 Leopard Street
Corpus Christi, TX 78401
P: (361) 826-3389
E: maxj@cctexas.com



CB201220

**Re: *Lead-Based Paint (LBP) Inspection Report
Corpus Christi International Airport – Hangar 1
586 Hangar Lane
Corpus Christi, Texas 78401
Project No.: CB-20-1220***

Mr. Jones:

Pursuant to your request on September 23, 2020, Mr. Arthur Vallejo, Texas Department of State Health Services (TDSHS), Lead Inspector, #2060891, of Astex Environmental Services (Astex), TDSHS Lead Firm #2110460, inspected the above referenced site located at 586 Hangar Lane, Corpus Christi, Texas 78401 for the purpose of performing a visual examination as well as conducting a Lead-Based Paint (LBP) Survey. For this survey, Astex conducted lead-based paint testing utilizing a Niton X-Ray Fluorescence (XRF) portable paint analyzer.

Summary of Results

Utilizing the XRF, Astex secured a total of sixty-five (65) individual paint readings from randomly selected interior & exterior surfaces. In accordance with the Environmental Protection Agency (EPA), and the Federal Housing and Urban Development (HUD) Guidelines, all XRF readings with levels at or above 1.0 mg/cm² are considered to be *positive* for Lead content.

- **The gray door components located within the hangar analyzed above 1.0 mg/cm² and are identified as *positive* or lead containing. (See Photos)**

*Lead-Based Paint (LBP) Inspection Report
Corpus Christi International Airport – Hangar 1
586 Hangar Lane, Corpus Christi, Texas*

This XRF testing was conducted in order to pre-determine the potential representative lead content of the building's components and it is important to note that this limited testing is not intended to identify all painted components that are or are not lead-containing but rather give an indication of a potential lead hazard that may be present.

Conclusions

Based on the above OSHA criteria and XRF testing, the following Conclusions are offered:

- **A lead dust hazard is present on structural components for the hangar building.**
- **Since this building is neither categorized as “target housing” nor a “child-occupied facility,” in accordance with the revised “HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing” (HUD Guidelines), it is exempt from the Federal HUD Regulations and the Texas Environmental Lead Reduction Rules (TELRR); however, the Occupational Safety and Health (OSHA) definition that ANY lead content identified in paint could create a hazard of Lead Dust exposure if paint is deteriorated and/or disturbed.**
- **See XRF Component Specific Analytical Results attached.**

Recommendations

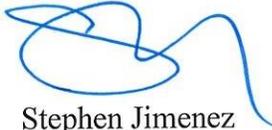
- OSHA Regulation, 29 CFR 1926.62(d)(1) indicates employees performing lead-related tasks (e.g. manual demolition of structures, manual scraping, manual sanding, heat gun applications, and power tool cleaning with dust collection systems) should be monitored for exposure to lead particulate. Each contractor performing tasks with personnel on-site during disturbance of LBP components are solely responsible for the respiratory program for said company and personnel.
- Each contractor performing tasks with personnel on-site during disturbance of LBP components are solely responsible for developing and communicating Engineering Controls to be implemented to reduce employee exposure to lead for said company and personnel.
- In the United States, the Resource Conservation and Recovery Act (RCRA) of 1976 led to establishment of federal standards for the disposal of solid waste and hazardous waste. RCRA requires that industrial wastes and other wastes must be characterized following testing protocols published by EPA.
 - ~ A toxicity characteristic leaching procedure (TCLP) is a soil sample extraction method for chemical analysis employed as an analytical method to simulate leaching through a landfill. The testing methodology is used to determine if a waste is characteristically hazardous, i.e., classified as one of the "D" listed wastes by the U.S. Environmental Protection Agency (EPA). The extract is analyzed for substances appropriate to the protocol (for this application Lead TCLP).

***Lead-Based Paint (LBP) Inspection Report
Corpus Christi International Airport – Hangar 1
586 Hangar Lane, Corpus Christi, Texas***

- ~ AES recommends at least one (1) TCLP Lead sample be collected and delivered to a certified and licensed laboratory for the characterization of lead content by volume for the appropriate waste stream disposal (a list of licensed laboratories may be provided by and AES representative upon request).

If you have any questions regarding any part of this report, please do not hesitate to call me at (210) 828-9800.

Sincerely,
Astex Environmental Services
TDSHS Lead Firm #2110460



Stephen Jimenez
TDSHS Lead Risk Assessor #2071040

APPENDIX E
SECTION 4(F) DOCUMENTATION

US Department of Transportation
Federal Aviation Administration

DOT Section 303(c) Evaluation for the
East General Aviation Hangar No. 1 (Gault Hangar)
Corpus Christi International Airport
Corpus Christi, Texas

January 2023

This Department of Transportation Section 303(c) Evaluation (Section 4(f) Evaluation) is submitted for review pursuant to the following public law requirements: Section 102(2)(c) of the National Environmental Policy Act of 1969; 49 USC 41706; Section 303 of 49 USC Code, Subtitle I; Section 106 of the National Historic Preservation Act of 1966.

For Further Information:

John MacFarlane
Environmental Protection Specialist
Federal Aviation Administration
Texas Airports District Office
10101 Hillwood Parkway
Fort Worth, TX 76177

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ENGINEERING EXISTING CONDITIONS ANALYSIS

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I. INTRODUCTION

Section 303 was initially codified in Title 49 of United States Code (USC) § 1653(f) (Section 4(f) of the USDOT Act of 1966). In 1983, § 1653(f) was reworded and recodified as Title 49 USC § 303, but still commonly referred to as Section 4(f). Congress amended Section 4(f) in 2005 when it enacted the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users.

Section 4(f)/303 prohibits the use of land of significant publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic properties for transportation projects unless the Federal Aviation (FAA) Administration determines that there are no feasible and prudent avoidance alternatives and that all possible planning to minimize harm has occurred.

The FAA is considering a request by the Corpus Christi International Airport (Airport) to demolish the Gault Hangar (Hangar), which is in an advanced stage of deterioration. The Hangar was recommended eligible for listing on the National Register of Historic Places (NRHP) by the Texas Historical Commission (THC), which assumes the role of State Historic Preservation Officer (SHPO), in 2021 and is therefore considered a Section 4(f) resource. No other Section 4(f) resources are present.

EXISTING AIRPORT ENVIRONS

The Corpus Christi International Airport (CCIA or Airport) is a public use airport that is owned and operated by the City of Corpus Christi (City) and serves both private and major commercial airlines. The Airport is located near State Highway (SH) 44, approximately six miles southwest of downtown Corpus Christi.

The Airport currently occupies 2,700 acres of land with facilities that include the airfield, aviation, terminal complex, air cargo, air mail, general aviation, other facilities, and utilities. The CCIA East General Aviation (G.A.) Hangar No. 1, also known as the Gault Hangar, is located at 506 Hangar Lane at the Airport. The Gault Hangar is one of the original light aircraft storage facilities from the Airport's construction in 1961 (Attachment 1).

The project area is approximately 1.6 acres and includes the building perimeter of the Gault Hangar (approx. 28,000 SF) and the adjoining parking lot, where temporary equipment and material storage will occur. Direct impacts are not anticipated to extend past this perimeter.

The area directly adjacent to the project area includes a hangar and associated offices to the north, a runway apron to the east, a parking lot and vehicle wash station to the south, and Hangar Lane to the west beyond which is the airport parking lot. All adjacent areas are within the CCIA property boundary.

PURPOSE AND NEED

The Council on Environmental Quality (CEQ) Regulations implementing the National Environmental Policy Act (NEPA) require that a NEPA document specify the purpose and need to which an agency is responding in proposing alternatives (40 C.F.R. SS 1502.13).

Purpose

The purpose of the Proposed Action is to address and eliminate safety concerns associated with the deteriorating Gault Hangar. All activities associated with the Proposed Action would meet current FAA Airport Construction Standards per Advisory Circular (AC) 150/5370-10H and other appropriate FAA ACs.

Need

The Proposed Action is needed due to safety concerns caused by the deteriorating structure of the hangar. Following structural assessments performed in March 2020 and September 2021, the Gault Hangar was determined to be unsafe and structurally unstable for airport use (Attachment 2).

Supporting Information

An initial assessment of the Gault Hangar was conducted by CCIA in March 2020 that found substantial structural deficiencies. The Airport subsequently closed the Hangar, and it is currently unoccupied. A second structural assessment was conducted in September 2021 that identified worsened conditions. The September 2021 Structural Observation Report found several deficiencies in the structural integrity of the Gault Hangar. Systemic visible damage resulting from severe prolonged moisture intrusion was observed along with deterioration sustained by the existing exposed concrete hangar structure. Exposure to salt and moisture has caused portions of the existing concrete structure to crack and spall which exposes the steel reinforcements to excessive corrosion and disintegration in some areas.

Age and damage from past weather events including Hurricane Harvey caused multiple distresses in the building structure including:

- Several concrete spalls and pop-outs indicate that future spalls or pop outs could occur which is a potential safety hazard for personnel and aircraft.
- No longer being watertight resulting in developments of mold and mildew.
- Fiberglass infill panels between the concrete sub-structures are disintegrating.
- Wooden framing members are rotting.
- Cracked concrete floor and inadequately sloped floor allowing water to migrate into the hangar.
- Corrosion of exposed interior steel framing.

In addition, large pieces of concrete have fallen from the ceiling of the hangar. The attached office spaces on each side are also infested with mold, and moisture intrusion has completely degraded the interior. The Hangar's steel reinforcement is exposed in several areas to the corrosive coastal environment due to cracking and concrete spalls. The September 2021 report states that these conditions are like the conditions reported to have caused the 2021 collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to catastrophe. Catastrophic failure of the hangar structure poses a safety risk to the public, airport personnel, and adjacent property.

In addition, because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety by contributing to the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards for aircraft and can ultimately impact safe airport operations.

II. IDENTIFYING DOT SECTION 4(F) RESOURCES

DOT Section 4(f) lands are defined as "any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from an historic site of national, state, or local significance." (23 U.S.C. 138 Preservation of Parklands). To identify probable DOT Section 4(f) resources, historic databases were reviewed regarding sites which were either listed to the NRHP or were considered eligible for listing to the NRHP.

According to Section 4(f) requirements, an historic site is significant only if the site is listed on or eligible for listing on the NRHP. The Hangar was found to be eligible for listing on the NRHP by the THC in 2021 (Attachment 3).

Gault Aviation was a private air company in Corpus Christi, Texas owned by Roger and Elaine Gault (Baxter 1980). Around 1960 the couple hired architect Joseph "Joe" Williams to design an office and hangars for their business. Williams hired engineer Wallace Wilkerson to design the project. Construction was finished in 1961 and would host many events from recreational flying to being a popular campaign event spot for Ronald Reagan. Gault Aviation, while partnered with the Corpus Christi International Airport, was more of a smaller, "mom-and-pop" business that focused on customer service and introducing the pleasures of flying to a broader audience.

The Gaults

Roger Gault was born in Buda, Texas in 1914. In 1941 the Corpus Christi Navy Air Station was the primary training facility for the Navy. According to *Flying Magazine*, in 1940, Roger was a professional pilot and instructor for the Civilian Pilot Training Program (Baxter 1980), which is where he met Elaine. Elaine Fruge, Roger's future wife, was a student in San Marcos and one of the few women chosen to be trained as a civilian pilot (Baxter 1980). Around 1946, Roger and Elaine borrowed money to purchase five planes, four cubs and a T-craft, and started teaching GI Bill students to fly (Baxter 1980).

Elaine was chosen to fly for the Civilian Pilot Training Program (CPTP) before the US entered World War II (WWII). This program was created by President Roosevelt in 1938 in hopes of having a surplus of trained pilots enlisted in the military for WWII. The CPTP trained 435,165 pilots from 1939 to 1944. When the US entered WWII, even though women were enrolled in the program, they were not allowed to enlist in the war. According to the National Museum of the United States Air Force, the CPTP trained 2,500 women by mid-1941. Elaine passed away on January 22, 2000. Roger passed away on December 31, 2010 (www.legacy.com).

Gault Aviation Business Development

While recreational aircraft were being created in the 1920s and 1930s, the culture of flying for fun was revitalized by a new wave of people who had been trained to fly during WWII. Post-WWII, America experienced an economic boom in the 1960s. Smaller planes were more affordable because companies started using parts from old WWII aircraft to build planes. Companies like Piper and Cessna advertised in the *Corpus Christi Caller-Times* stating that planes drive like cars normalizing their recreational use. Piper and Cessna were manufacturing thousands of four- and two-seater planes for beginners per year. According to an advertisement in the *Corpus Christi Caller-Times*, a Piper Cherokee, one of the more common Piper aircraft for beginners, was used by Gault Aviation for their introductory flight lessons (Swann, 1966).

Gault Aviation announced private flying lessons in Corpus Christi via the *Corpus Christi Caller-Times* in 1962. They provided beginner-model planes, mostly Piper Cherokees, and let women fly for free. In an advertisement from 1964, married couples could fly for free if the wife signed her husband up for flying lessons (Rouson, 1964). Also in the 1960s, during the All-Woman Transcontinental Flying Races, one of the airports documented that one of the times to refuel was at the Corpus Christi International Airport, where Gault Aviation resided. This can be corroborated with the All-Woman Transcontinental Air Races Inc. Powder Puff Derby pamphlet for their 22nd annual flying race (Evans, 1968).

Gault Aviation was constantly advertised as a plane club for all genders and all ages. A plane club is where students and seasoned pilots can fly shareable planes. According to an article written by the *Corpus Christi Caller-Times* titled "Fancy Maneuvers Out in Today's Air Lanes," Gault Aviation would charge \$9/hour to fly a two-seater plane and up-to \$50/hour to fly a six-seater plane. While there were specials throughout the years offered by Gault Aviation for trainees to fly for free, obtaining your license through Gault Aviation would cost between \$450-\$550. This course, like most at the time, would require at least 40

hours of flying time plus taking a 3-hour exam with the Federal Aviation Association (Duncan, 1962). The Gaults retired in 1980 and sold the business to Van Dusen Airport Services.

Architect and Engineer

Joe Leon Williams was born in Austin, Texas in 1926. He served as a photographer for the U.S. Navy during World War II. In 1951 he received his Bachelor of Architecture from the University of Texas in Austin then moved to San Antonio for employment. In the mid-1950s he moved to Corpus Christi to start work on the Petroleum Tower (811 N Carancahua St. built 1959). Williams was a Senior Architect for the Tower of Americas and Hemisfair in San Antonio, Texas in the 1960s and designed the Buccaneer Bowl in Corpus Christi (4320 S. Alameda built 1961, razed by 1985). Mentioned in their 1955 June Issue, Williams received an honorable mentions award from the American Institute of Architects for his specular MOD {Modular} House, and concrete pod home designs (Texas Architect, 1955; www.legacy.com 2008). He served on the Corpus Christi Landmark Commission and was a member of American Institute of Architects (AIA). It's possible that the reason the Gaults chose Williams is because of his previous work with concrete structures and expertise in insulating concrete homes.

Wallace "Wally" Wilkerson was born in 1928 in Hearne, Texas. He served in the Navy during WWII then attended the University of Texas in Austin at the same time as Joe Williams and graduated with a degree in Architecture in 1951 (www.legacy.com 2005). After graduating, Wilkerson did his tenure at Richard Colley's office in Corpus Christi. This is where he was influenced by Colley's work and was introduced to Felix Candela's designs with thin-shell concrete. While working for Colley, Wilkerson is credited with designing the precast concrete tetrapods that made its space frame viable. Wilkerson built three other structures after building the Gault Hangar out of thin shell concrete and is recalled by the Society of Architectural Historians to say this type of concrete is the most structurally sound substance to build with {The Colley Associates Architects and Engineers collection}.

Design and Condition of Hangar

Construction of the Gault Aviation hangar started in 1961 by the Braselton Construction Company. The building consisted of 12 thin-shell (3-inch) concrete hyperbolic paraboloid structures, which were cast-in-place, and fused together (Greenwood 1961). The thrust of the roof is supported by post-tensioned tendons buried under the floor slab, thus allowing for large open areas with no internal columns (ENR 1961: 29). The 30,000 square foot building (150 x150 feet) had an estimated cost of \$82,000 and was completed in 1961 (Greenwood 1961; ENR 1961: 29).

A visual engineering inspection of the Gault Hangar in 2021 revealed severe concrete spalling, extensive exposure of rebar, and corrosion of steel. These conditions exist throughout the building and were specifically noted at the primary structural supports (Babcock 2021). The report stated the hangar had been inspected in 2011 noting structural deficiencies and recommendations for improvement. Another inspection (date unknown) specifically for Hangars 1 through 3 noted that the conditions had worsened since 2011 (Babcock 2021).

Located in the coastal city of Corpus Christi, the hangar is roughly four miles inland from Nueces Bay. This location has exposed the Hangar to decades of exposure and abrasion from salt and sand. Because the building is open, both the interior and exterior have been exposed. According to the 2021 inspection, "The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration" (Babcock 2021: 2). Spalling of concrete has exposed the underlying steel rebar and components to the abrasive environment thus corroding the steel reinforcement of the structure. The engineer stated that the issues were systemic and would likely increase exponentially given the current condition and ongoing exposure to the elements. The engineer recommended demolishing the building (Babcock 2021: 6).

Additionally, corrosive elements of storms, tropical storms, and hurricanes contributed to the damage of the hangar. According to the National Academy of Sciences, architecturally, thin-shelled concrete is extremely fragile because it cannot be manipulated geometrically during construction. If the curves in its structure are not sound, a dome made of thin-shell concrete could begin to collapse by mere "wind vibrations or live loads." Thin-shell concrete also needs proper insulation when in environments where the climate is wet and windy, like in Corpus Christi (National Academy of Sciences 1961).

Two major hurricanes reached land in Corpus Christi, Hurricane Celia in 1970 and Hurricane Allen in 1980. According to the National Weather Service and KRIS 6 News, while Celia was a Category Three hurricane, recorded winds at the Corpus Christi International Airport would be categorized as a Category Five hurricane (Nelson 2020). Celia's wind at the time of hitting the airport was 125 miles-per-hour (mph) and peaked between 161-180mph (National Weather Service 2022). Per an article from the *Corpus Christi Caller-Times* by Steve McGonigle, Hurricane Allen sustained winds of 92mph when it hit the airport and produced 10.35 inches of rain in two days, which is about a third of the rainfall Corpus Christi experiences per year (McGonigle 1980).

Corpus Christi Airport History

The Texas Air Company was the first municipal airport to be established in Corpus Christi. The company was created by two veteran pilots from WWI, W.C. "Cliff" Maus and Bob Maverick, who bought the land for \$27,621. While Maus and Maverick initially were using their planes to help farmers with crop-dusting in 1928, business flights were offered in 1929. During this time the city's population was growing exponentially and had doubled by 1930. In 1932, the airline decided to expand and began offering mail services via American Airlines. Due to the economic prosperity the airport and newly found oil brought to the city, financial impacts from the Great Depression were mitigated and, after WWII, the airport expanded to cover over 400 acres.

This airport and its convenience to the public inspired the Navy and civilians to fund the \$6 million Corpus Christi International Airport on 1,800 acres. This airport would replace the Texas Air Company, later renamed Cliff Maus airport, in 1960. This is the same year Roger and Elaine Gault commissioned Joseph Williams and Wallace Wilkerson to construct the hangar for Gault Aviation. The convenience of flying in the 1930s was during the height of the Texas Air Company.

III. ALTERNATIVE ANALYSIS

METHODOLOGY FOR DETERMINATION OF IMPACTS

Per DOT guidance, each DOT Section 4(f) resource is evaluated for potential impacts associated with each of the alternatives considered, including a no-build option. The potential impact criteria evaluated for each site includes direct impacts and constructive use impacts.

Direct Impacts/Physical Use

Direct impacts, or physical "use", refer to physical taking/acquisition of a Section 4(f) resource for incorporation into a transportation project. In determining direct impacts, each proposed alternative was evaluated to determine if the alternative would impact one of the identified Section 4(f) resources.

Indirect Impacts/Constructive Use

"Use" within the context of Section 4(f) includes not only actual physical taking of such resources, but also indirect impacts as well. Indirect impacts may rise to the level of a "use" termed "constructive use" if due to the proximity of the project, the activities, features, or attributes of the site's vital functions are

substantially impaired. The definition of constructive use adopted for this study is based on FAA Order 1050.1E Appendix A, Paragraph 6.2f:

Substantial impairment occurs only when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. A project which respects a park's territorial integrity may still, by means of noise, air pollution, or otherwise, dissipate its aesthetic value, harm its wildlife, defoliate its vegetation, and take it in every practical sense. For section 4(f) purposes, the impairment must be substantial.

DOT SECTION 4(F) FEASIBLE AND PRUDENT REQUIREMENTS

Programs or projects requiring the use of Section 4(f) lands will not be approved by the FAA unless there is no prudent and feasible alternative to the use of such land, and such programs and projects include all possible planning to minimize harm resulting from the use. The term "feasible" refers to sound engineering principles, while the term "prudent" refers to rationale judgment. According to FAA Order 5050.4B, a project may be possible (feasible), but not rational when one considers safety, policy, environmental, social, or economic consequences. The following factors are to be used to decide if an alternative is prudent (FAA Order 5050.4B, National Environmental Policy Act Implementing Instructions for Airport Actions, 10:10):

- Does it meet the project's purpose and need?
- Does it cause extraordinary safety or operational problems?
- Are there unique problems or truly unusual factors present with the alternative?
- Does it cause unacceptable and severe adverse social, economic, or environmental impacts?
- Does it cause extraordinary community disruptions?
- Does it cause additional construction, maintenance, or operational costs of an extraordinary magnitude?
- Does it result in accumulation of factors that collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes?

ALTERNATIVES

In determining indirect impacts, each proposed alternative was evaluated to determine if the alternative would directly/indirectly impact a Section 4(f) resource. Attachment 2 presents the existing conditions of the Hangar.

Alternative 1: No Action Alternative - Abandon in Place

Abandon in place is an option considered for the Gault Hangar. Based on a structural assessment performed by a licensed structural engineer in September 2021, the Hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Foreign object debris (FOD) from falling concrete pieces of the Hangar is also a safety concern and issue for Airport operations. Due to the unsafe nature of the existing structure and the proximity to other occupied structures and the runway, the abandon in place option is not viable as it risks life and property, and is not a prudent and feasible alternative.

Alternative 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when

compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required. During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be of an extraordinary magnitude for the Airport to incur. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design {60%, 90%, 100%, and Issue for Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 {20,600 sf @ \$200 per sf}
- Selective Demolition in Office Spaces: \$100,000 {5,000 sf @ \$20 per sf}
- Construction of Improvements to Office Spaces \$2,000,000 {5,000 sf @ \$400 per sf}
- New Custom Hangar door: \$200,000
- Professional services during construction {Material Testing, Full Time Observation, Construction Administration} \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. Similarly, the office space finished area is approximately 5,000 sf but the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and obscure the unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a feasible and prudent option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

Alternative 3: Demolition of Hangar Structure

Demolition of the existing Hangar No. 1 was considered. The following represents a rough order magnitude cost opinion for demolition of the existing hangar.

- Demolition of existing Hangar: \$300,000

Demolition of the Gault Hangar would include removal of the hangar space and associated office structures. This alternative would eliminate the safety issues and hazards posed by the current deteriorating structure and reduce the potential for FOD. Additionally, the estimated cost for demolition of the Hangar is approximately \$300,000 which is significantly less than the cost estimated for Alternative 2.

The hangar is both a safety concern and an inefficient use of the airport as a federally funded asset. The shape of the structure restricts useable square footage with reduced heights at the edges of the hangar. The same is true of the interior, the useable square footage of the office space is reduced due to the structure shape. In addition, the superstructure shape restricts the installation of a standard hangar door, which is a crucial element to an aircraft hangar and to be able to condition the air in the hangar, otherwise, the salt-laden coastal winds will continue to create corrosive conditions. Removal of the Gault Hangar would provide an opportunity for the CCIA to construct a more suitable and safer hangar facility to support current airport operations. While a new hangar is not programmed or funded at this time, estimated costs for constructing a new hangar were estimated to be approximately \$4 million. Both the cost for demolition and potential construction of a new, more suitable hangar for current airport use is roughly half the cost estimated for rehabilitation of the existing structure.

Demolition of the Gault Hangar is considered the most feasible and prudent alternative based on reducing the safety hazards and reducing the cost burden to the Airport.

IV. COORDINATION

The FAA implemented a public involvement and agency coordination program for the Proposed Project to gather input and discuss potential impacts.

COORDINATION WITH OFFICIALS WITH JURISDICTION AND CONSULTING PARTIES

Meetings occurred between the staff of the FAA, the SHPO, and the Airport, and consulting parties. The SHPO concurred with all eligibility determinations and proposed mitigation for the project as outlined in the MOA. Attachment 3 contains all written correspondence, findings, and the MOA.

Per guidance of the SHPO, the Advisory Council of Historic Preservation (ACHP) was notified of the adverse effects to the Hangar and were notified on September 28, 2022. The ACHP responded on October 18, 2022, with a default decision to decline intervention or comment in the process; however, the ACHP did express a willingness to reconsider this decision at the invitation of the SHPO or consulting party. Attachment 4 contains the notification package sent to the ACHP and their response.

A meeting specific to the consulting parties occurred on June 30, 2022. The purpose of the meeting was to discuss 1) the reasons for the Proposed Project, 2) the potential impacts of the Proposed Project, and 3) potential mitigation options for the identified impacts. Attachment 5 has the sign-in sheet for the meeting, comments submitted, and a follow-up reply by FAA addressing the concerns raised by select consulting parties.

COORDINATION WITH THE PUBLIC

A Notice Affording an Opportunity for Public Hearing is anticipated to be published in 2022 once the draft Environmental Assessment (EA) document has been reviewed and approved by the FAA for circulation. If anyone requests a public hearing, then FAA will hold one at that time.

V. FINDINGS

After careful and thorough consideration, the FAA determined that there are no feasible and prudent alternatives to the use of Section 4(f) resource.

Alternative 1: No Action Alternative - Abandon in Place

- *Adverse Effect:* No adverse effect.
- *Suitability to Purpose and Need:* This alternative would retain the Hangar in place. It would not meet the purpose and need of the Proposed Project as it would not address the safety concerns presented by the continued deterioration of the Hangar.
- *Prudent and Feasible?* No. This alternative does not meet the purpose and need, and presents extraordinary safety and operational problems.
- *Conclusion:* This alternative would not result in an adverse effect to historic properties under Section 106 but is not prudent and feasible as it does not meet the purpose and need of the Proposed Project.

Alternative 2: Remediate Structural Issues and Recommission Building

- *Adverse Effect:* Impacts to integrity of design, materials, workmanship, and feeling necessitated by remediation would result in an adverse effect to the historic property.
- *Suitability to Purpose and Need:* This alternative would retain the Hangar in place and eliminate safety concerns presented by the deterioration of the Hangar. It would meet the purpose and need of the project.
- *Prudent and Feasible?* No. This alternative would require extensive additional engineering and design of a new structural system that would be cost prohibitive and result in an adverse effect to a historic property. The resulting space would be less useful than the original design of the Hangar due to the improvements necessitated by its remediation and preservation. Collectively, the factors presented by this alternative have adverse impacts that present unique problems and reach extraordinary magnitudes.
- *Conclusion:* This alternative, while meeting the purpose and need of the Proposed Project, is not prudent and feasible as outlined above.

Alternative 3: Demolition of Hangar Structure

- *Adverse Effect:* Demolition of the Hangar would result in an adverse effect.
- *Suitability to Purpose and Need:* This alternative would remove the Hangar and thus eliminate the safety concerns presented by the deterioration of the Hangar. It would meet the purpose and need of the project.
- *Prudent and Feasible?* Yes. This alternative, while resulting in an adverse effect under Section 106, would not otherwise result in a collection of factors that present unique problems or reach extraordinary magnitudes.
- *Conclusion:* This alternative meets the purpose and need of the of the Proposed Project and is prudent and feasible. The adverse effect can be mitigated through the Section 106 process.

As demonstrated in Section IV of this evaluation, other alternatives considered would either fail to meet the purpose and need or result in extraordinary financial impacts. Alternative 3, the Proposed Action, includes mitigation to resolve adverse effects and to appropriately document the structure for airport users and for the general public. Mitigation measures are documented in the MOA.

Based upon the above considerations, there is no feasible and prudent alternative to the use of the Hangar and the Proposed Action includes all possible planning to minimize harm resulting from such use.

DRAFT

BIBLIOGRAPHY

Babcock, Ian. PE

2021 Corpus Christi International Airport (CCIA). Structure Observation Report of East General Aviation Hangar 1. Garver project No. 21A06174.

Baxter, Gordon

1980 "Roger and Elaine Gault," *Flying Magazine*, August 1980.
https://books.google.com/books?id=x7uL1mu5PkUC&pg=PA106&lpg=PA106&dq=roger+gault+aviation+navy&source=bl&ots=j30gGEAqC9&sig=ACfU3U3yxdp_VjB2DAceSoWjV5QAJ0xX8w&hl=en&sa=X&ved=2ahUKewjUkrffy574AhVLIWoFHQN6DmMQ6AF6BAgeEAM#v=onepage&q=roger%20gault%20aviation%20navy&f=false. Accessed May 6, 2022.

Cactus

1951 University of Texas at Austin, Cactus. pp. 250, 258, 389, 423, 609.
https://repositories.lib.utexas.edu/bitstream/handle/2152/61571/University_of_Texas_Austin_TX_1951.txt?sequence=3&isAllowed=y accessed June 8, 2022

Corpus Christi Caller-Times

1962 Gault Aviation, photographed image, accessed May 13, 2022.

1962 "Fancy Maneuvers Out in Today's Air Lanes," Duncan, Bill
<https://www.newspapers.com/image/758390175/?terms=gault%20aviation%20flying%20school&match=1>. Accessed May 5, 2022.

1964 "Announcing Private Pilot Ground School," {Piper sales and services, June 23, 1964).
<https://www.newspapers.com/image/758456317/?terms=gault%20aviation%20flying%20school&match=1>. Accessed May 6, 2022.

1966 Swann, Roy. "This Could Be You: Come Fly! It's Piper Fun-to-Fly Time," {Piper sales and services, June 3, 1966.) <https://www.newspapers.com/image/756466707/>. Accessed May 10, 2022.

1980 McGonigle, Steve, "Allen was a real killer," August 17, 1980.
<https://www.newspapers.com/image/757740525/?terms=corpus%20christi%20international%20airport%20hurricane&match=1>. Accessed May 10, 2022.

2005 "Wallace Reed Wilkerson," Obituary. September 18, 2005.
<https://www.legacy.com/us/obituaries/caller/name/wallace-wilkerson-obituary?pid=189523526>. Accessed May 4, 2022.

2008 "Joe Leon Williams," Obituary. October 25, 2008.
<https://www.legacy.com/us/obituaries/caller/name/joe-williams-obituary?pid=189530873>. Accessed May 4, 2022.

2010 "Roger Gault," Obituary. January 3, 2010.
<https://www.legacy.com/us/obituaries/caller/name/roger-gault-obituary?pid=189537345>. Accessed May 4, 2022.

Engineering News-Record

1961 "Prestressing Resists H-P Thrusts." October 19, 1961, p. 29.

Evans, Barbara, Lois Fairbank, and Marian Andrews Lopez.

1968 "22nd ANNUAL Powder Puff Derby," All-Woman Transnational Air Race Inc., 1968.
https://www.airraceclassic.org/pdf/programs/AWTARProgram_1968.pdf. Accessed May 5, 2022.

Federal Aviation Administration

Order 5050.4B, National Environmental Policy Act Implementing Instructions for Airport Actions, 10:10

Gerald Moorhead et al., "Volkswagen Porsche of Corpus Christi {Bird Pontiac Automobiles)", [Corpus Christi, Texas], SAH Archipedia, eds. Gabrielle Esperdy and Karen Kingsley, Charlottesville: UVaP, 2012-, <http://sah-archipedia.org/buildings/TX-01-CC40>. Last accessed: June 14, 2022.

National Museum of the United States Air Force

"Civil Pilot Training Program," <https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196137/civilian-pilot-training-program/#:~:text=In%20the%20United%20States%2C%20a,the%20country%20would%20need%20soon>. Accessed 05/06/2022.

National Weather Service, Corpus Christi, Texas Weather Forecast Office

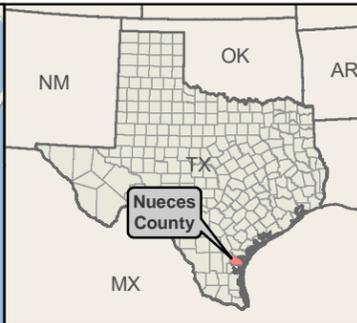
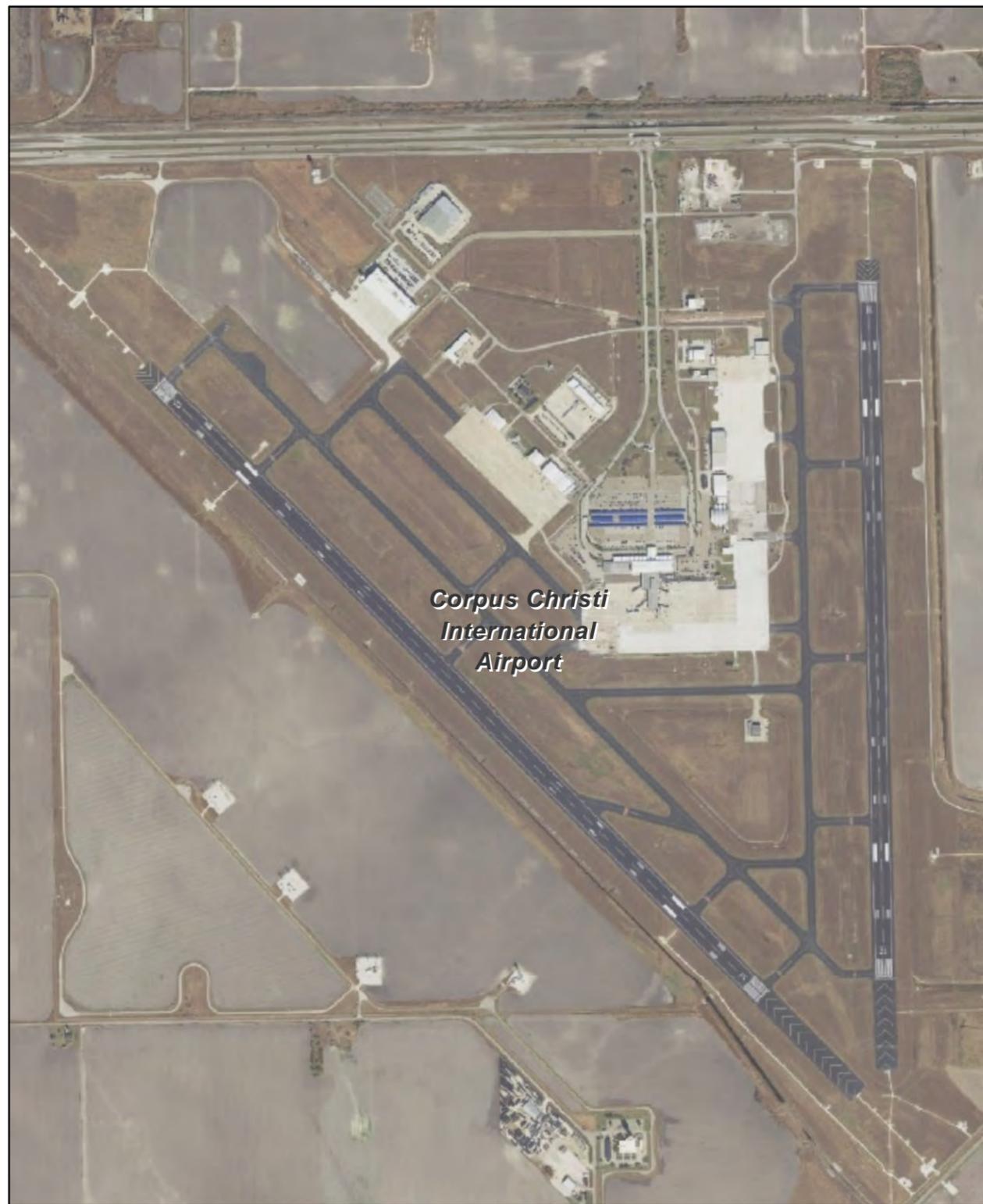
1970 "Hurricane Celia - August 3, 1970,". <https://www.weather.gov/crp/hurricanecelia>. Accessed June 2, 2022

Texas Architect, June Issue 1955, Vol. 6 No.2, <https://usmodernist.org/TA/TA-1955-06.pdf>.

DRAFT

**ATTACHMENT 1
PROJECT MAP AND VICINITY LOCATION**

Document Path: L:\2021\1\A01174 - CRP Hangar Demo Environmental\GIS\Mapa\Environmental\2023\2023 - Workshop.mxd Date Saved: 3/23/2023 4:19:53 PM User Name: LCMciece




SITE VICINITY
CCIA: HANGAR NO. 1 DEMO
Nueces County, TX

ATTACHMENT 2
ENGINEERING EXISTING CONDITIONS ANALYSIS

DRAFT



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcing at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcing for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





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September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

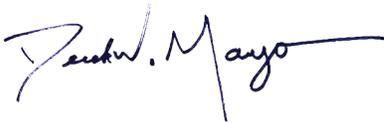
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

ATTACHMENT 3
SHPO CORRESPONDANCE AND MEMORANDUM OF AGREEMENT

DRAFT

TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at <http://www.thc.state.tx.us/crm/crmsend.shtml>.

- This is a new submission.
- This is additional information relating to THC tracking number(s): _____

Project Information			
PROJECT NAME Demolition of East General Aviation (GA) Hangar No. 1			
PROJECT ADDRESS 506 Hangar Lane		PROJECT CITY Corpus Christi	PROJECT ZIP CODE(S) 78406
PROJECT COUNTY OR COUNTIES Nueces County			
PROJECT TYPE (Check all that apply)			
<input type="checkbox"/> Road/Highway Construction or Improvement	<input type="checkbox"/> Repair, Rehabilitation, or Renovation of Structure(s)		
<input type="checkbox"/> Site Excavation	<input type="checkbox"/> Addition to Existing Structure(s)		
<input type="checkbox"/> Utilities and Infrastructure	<input checked="" type="checkbox"/> Demolition or Relocation of Existing Structure(s)		
<input type="checkbox"/> New Construction	<input type="checkbox"/> None of these		
BRIEF PROJECT DESCRIPTION: Please explain the project in one or two sentences. More details should be included as an attachment to this form. The Corpus Christi International Airport (CCIA) proposes the demolition of East General Aviation (GA) Hangar No. 1. The airport has closed the hangar, which was built in the early 1960s, from public entry due to several structural deficiencies, including the potential for safety hazards from future pop-outs and spalls. See attached letter for additional details.			

Project Contact Information			
PROJECT CONTACT NAME Derek Mayo		TITLE Senior Project Manager	ORGANIZATION Garver
ADDRESS 285 SE Inner Loop, Suite 110		CITY Georgetown	STATE ZIP CODE TX 78626
PHONE 503-720-8777		EMAIL DWMayo@garverusa.com	

Federal Involvement (Section 106 of the National Historic Preservation Act)			
Does this project involve approval, funding, permit, or license from a federal agency?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
FEDERAL AGENCY Federal Aviation Administration (FAA)		FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE	
CONTACT PERSON John MacFarlane		PHONE 817-222-5681	
ADDRESS Texas Airports Districts Office, ASW-650 10101 Hillwood Parkway, Fort Worth, TX 76177		EMAIL John.MacFarlane@faa.gov	

State Involvement (Antiquities Code of Texas)			
Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
CURRENT OR FUTURE OWNER OF THE PUBLIC LAND City of Corpus Christi			
CONTACT PERSON Victor Gonzalez		PHONE 361-2890171 Ext. 1231	
ADDRESS 1000 International Dr Corpus Christi, TX 78406		EMAIL Victor@cctexas.com	

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?
 Yes (Please complete this section) No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.
No ground disturbance will occur as the existing foundation will remain in place.

Describe the previous and current land use, conditions, and disturbances.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?
 Yes (Please complete this section) No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?
 Yes, name of property or district: No Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
East G.A. Hangar No. 2	Between 1960-1978	Google Earth Historical Imagery
Office building immediate north of East G.A. Hangar No. 1	Between 1989-1995	Google Earth Historical Imagery
Outbuilding south of East G.A. Hangar No. 1	Between 1990-1995	Google Earth Historical Imagery

Attachments

[Please see detailed instructions regarding attachments.](#)

Include the following with each submission:

- Project Work Description
- Maps
- Identification of Historic Properties
- Photographs

For Section 106 reviews only, also include:

- Consulting Parties/Public Notification
- Area of Potential Effects
- Determination of Eligibility
- Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

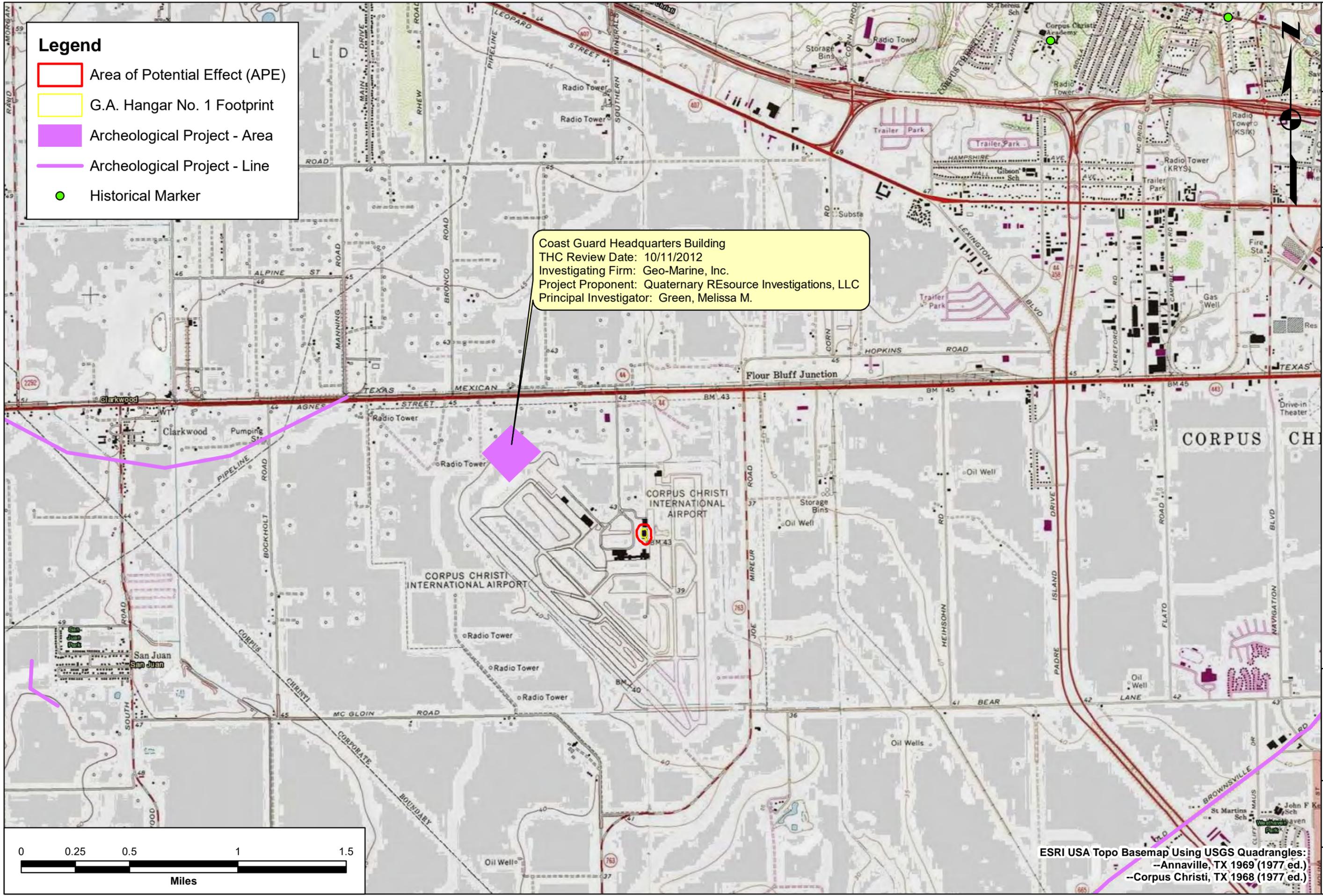
Mark Wolfe
 State Historic Preservation Officer
 Texas Historical Commission
 P.O. Box 12276, Austin, TX 78711-2276 (mail service)
 108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint
- Archeological Project - Area
- Archeological Project - Line
- Historical Marker

Coast Guard Headquarters Building
THC Review Date: 10/11/2012
Investigating Firm: Geo-Marine, Inc.
Project Proponent: Quaternary REsource Investigations, LLC
Principal Investigator: Green, Melissa M.



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

SITE LOCATION MAP & NRHP DATA IN PROJECT AREA

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE 1

ESRI USA Topo Basemap Using USGS Quadrangles:
--Annaville, TX 1969 (1977, ed.)
--Corpus Christi, TX 1968 (1977, ed.)

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

STREET
MAP
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE
2

ESRI Open Street Map



East
GA
Fuel
Farm

East GA
Hangar No. 2

Office
Building

East GA Apron

TWY M

Rental Car
Ready
Return Lot

Terminal Parking Lot

International Boulevard

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

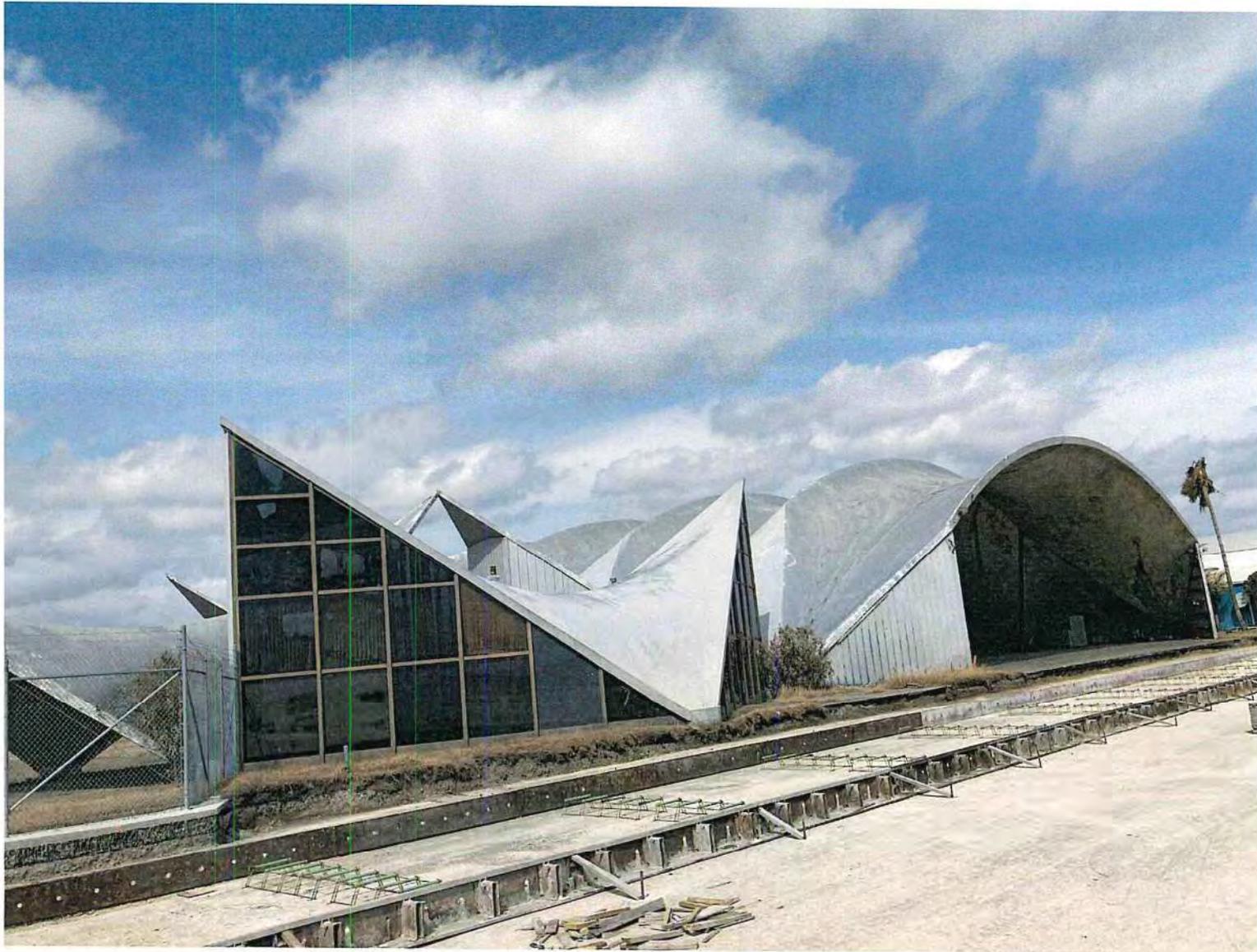
PROJECT
VICINITY
AND
AREA OF
POTENTIAL
EFFECT
(APE)
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

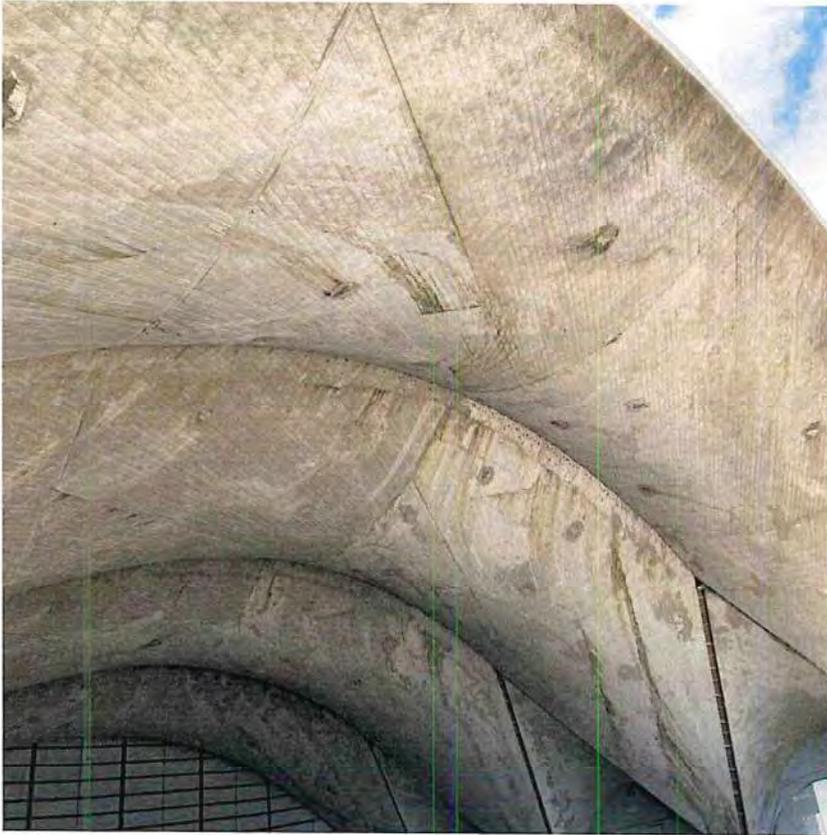
**FIGURE
3**



2020 ESRI Aerial Imagery



East General Aviation (GA) Hangar No. 1, which is proposed for demolition. Photograph taken near the southeast edge of the APE facing northwest.



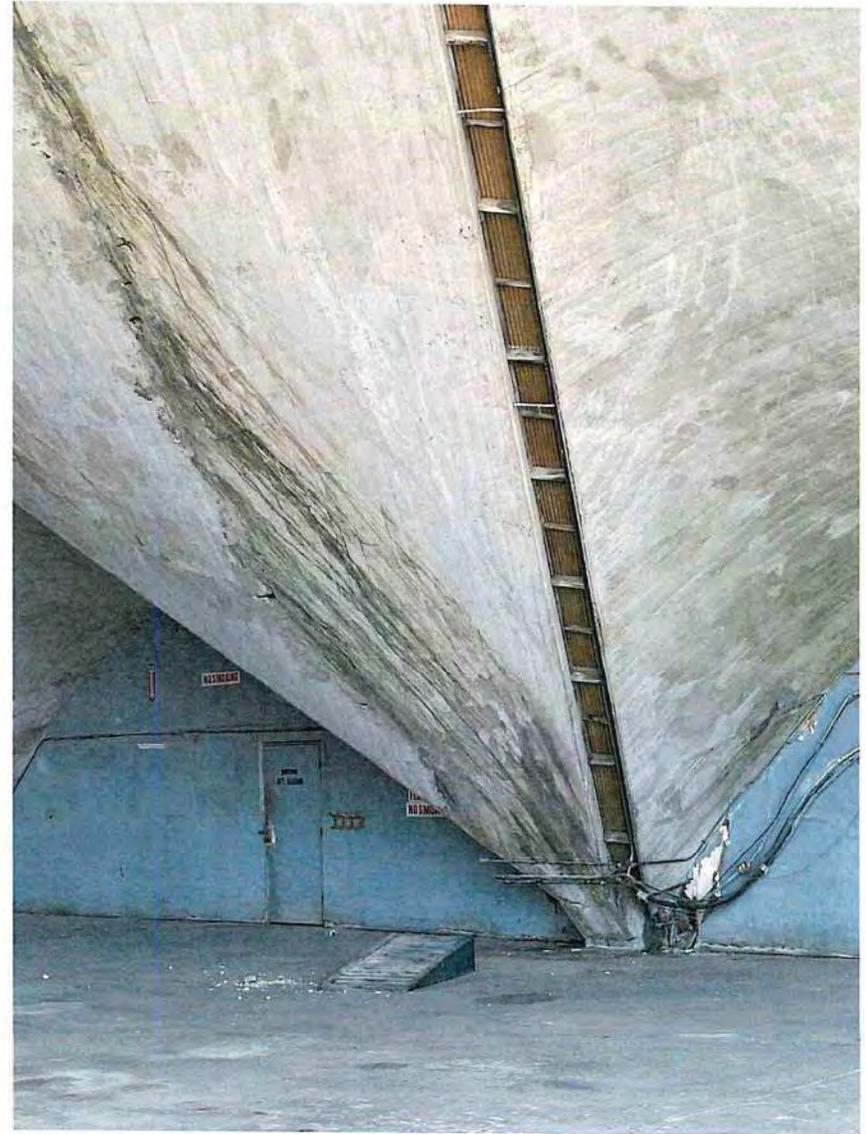
East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.



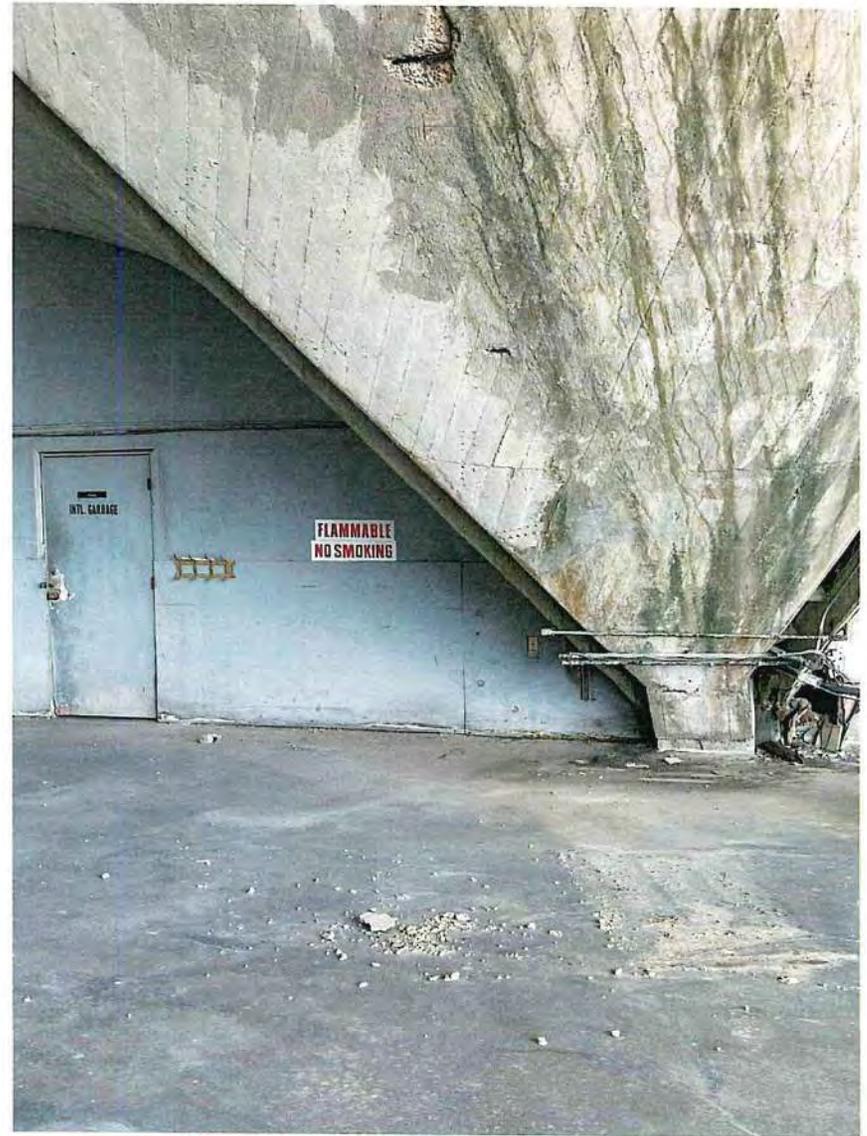
View of concrete roofing along east edge of East GA Hangar No. 1.



View of concrete ceiling and side wall from inside the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



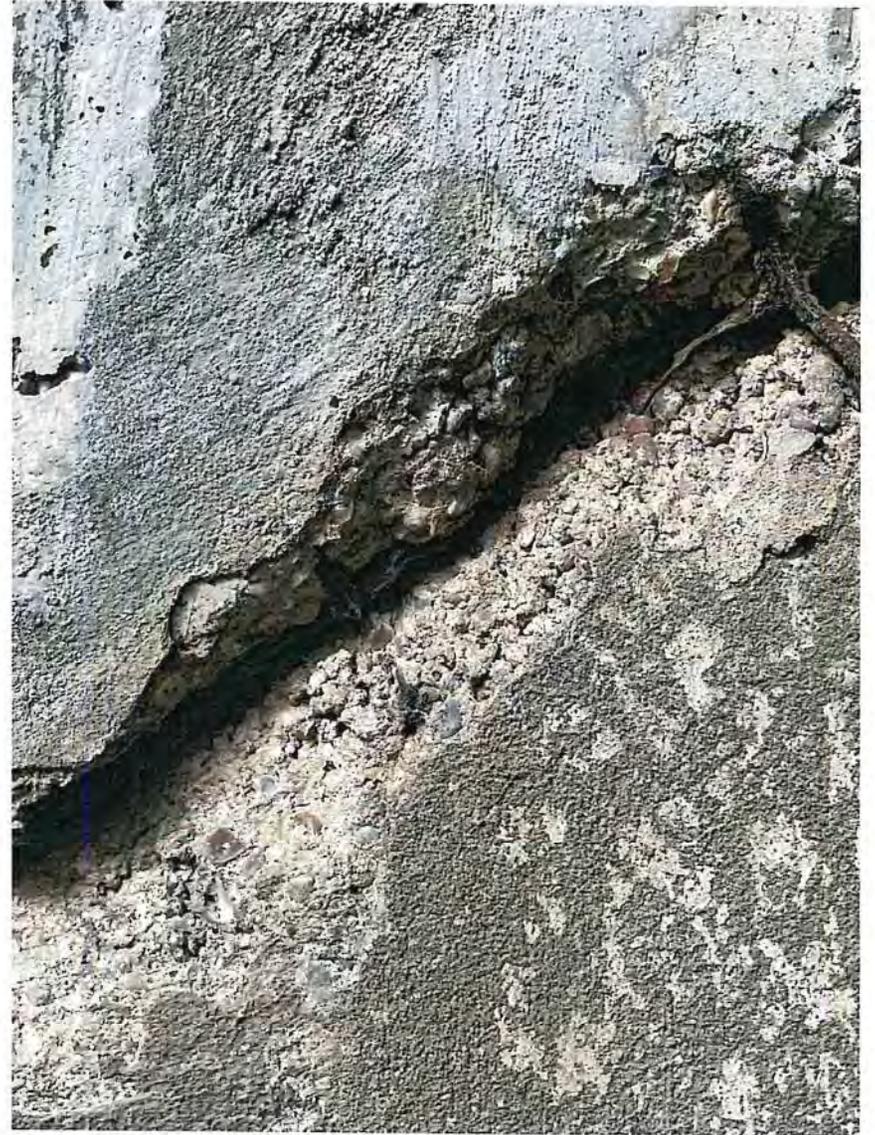
View of deteriorating concrete within the East GA Hangar No. 1.



View of deteriorating concrete within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



Large shard of concrete that has fallen from the East GA Hangar No. 1 structure.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports District Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

March 19, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

RE: Section 106 Consultation Initiation for Proposed Building Demolition, Corpus Christi International Airport, Corpus Christi, Texas

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) is initiating the process for the approval of the Airport Layout Plan at Corpus Christi International Airport (CRP) for the proposed demolition of one structure, which has been determined to be an ‘undertaking’ subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 of 36 CFR Part 800 (as amended). Maps and photos are included as Attachment A and additional photos and estimated cost to repair/rehabilitate the hangar are included as Attachment B. The proposed project is also subject to the National Environmental Policy Act (NEPA).

The East General Aviation Hangar No.1, once known as the Gault Aviation Hangar¹, is a single-story hyperbolic paraboloid arch concrete aircraft hangar constructed in 1961. The architect is Joe L. Williams. The facility has most recently served as a hangar with office space for the East Side Fixed Base Operations (FBO) serving the general aviation community. The FAA has determined an appropriate area of potential effects (APE) for the proposed undertaking to be 100 feet around the structure proposed to be demolished. Based on a cursory review of the area, there are no other structures within 100 feet of the hangar that would be eligible for listing on the National Register.

The FAA determined that the hangar may embody the distinctive characteristics of a type, period or method of construction; or represent the work of a master; or possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction. However, deterioration of the materials originally used to construct the hangar has resulted in a loss of the property’s integrity of materials. Hurricanes Harvey and Hanna both made landfall at Corpus Christi and caused damage to area infrastructure from flooding and storm-force winds. A recent preliminary structural assessment revealed multiple structural issues which could create safety issues for airport personnel and could result in the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. The hangar is not well-suited to for modern aircraft, and

¹ <https://sah-archipedia.org/buildings/TX-01-CC43>

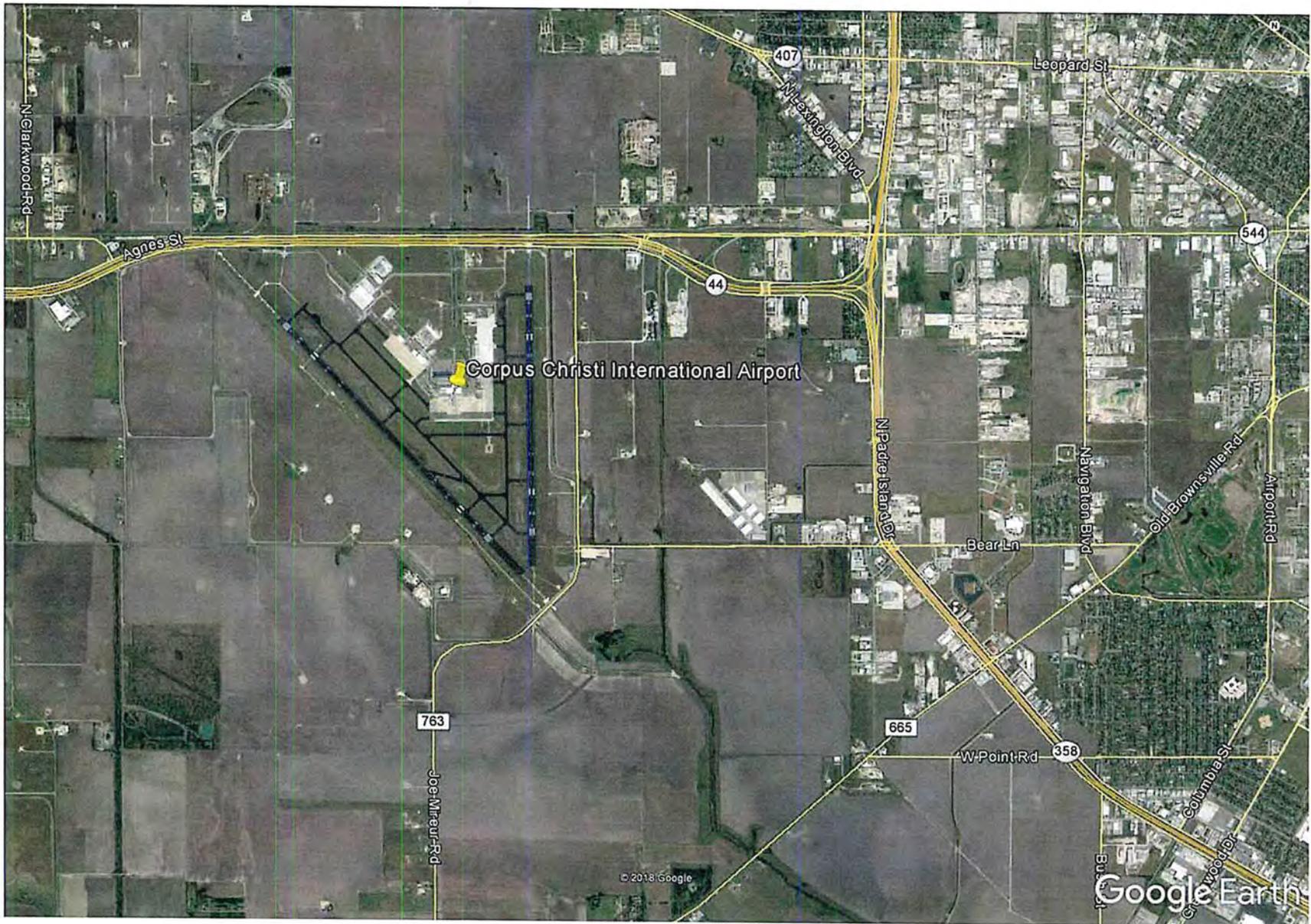
as mentioned in Attachment B, does not have a hangar door and has height limitations due to its inherent design. In addition, the estimated cost to rehabilitate the hangar is approximately \$4.5M, which the sponsor believes is cost prohibitive. Therefore, the FAA has determined that the hangar is not eligible for the National Register and the demolition of the hangar will have no effect to historic properties.

If you have any comments or questions on this undertaking, please contact me directly at 817-222-5681 or at john.macfarlane@faa.gov.

Sincerely,

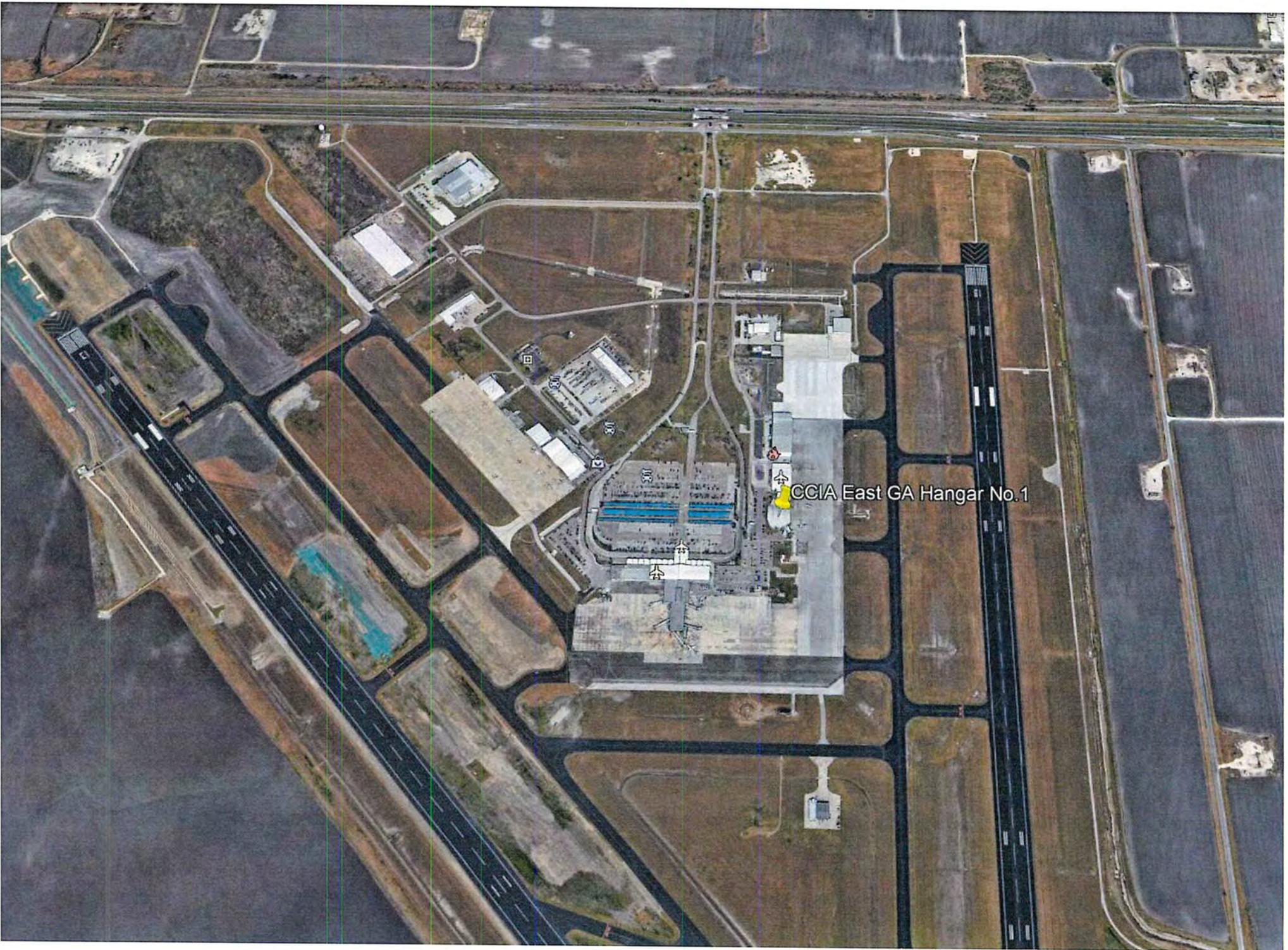
John MacFarlane
Environmental Protection Specialist
Texas Airports District Office

ATTACHMENT A



Corpus Christi International Airport Location Map

Figure 1



CCIA East GA Hangar No. 1



CCIA East CA Hangar No.1

Google Earth

EAST GA
HANGAR 1

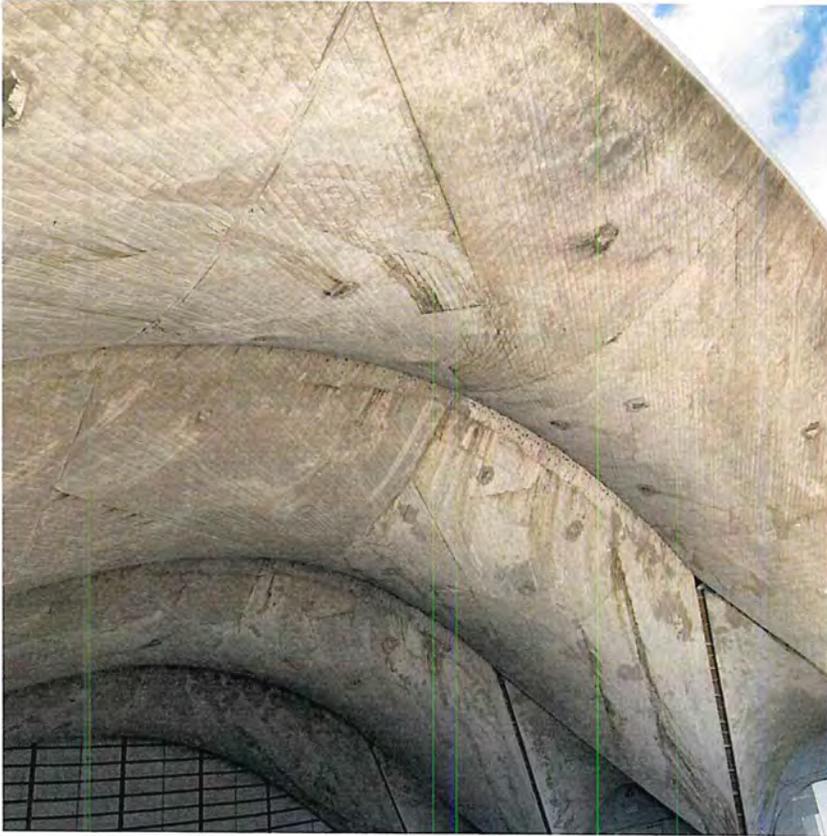
OFFICE
BUILDING

EAST GA
HANGAR 2

EAST GA
HANGAR 3



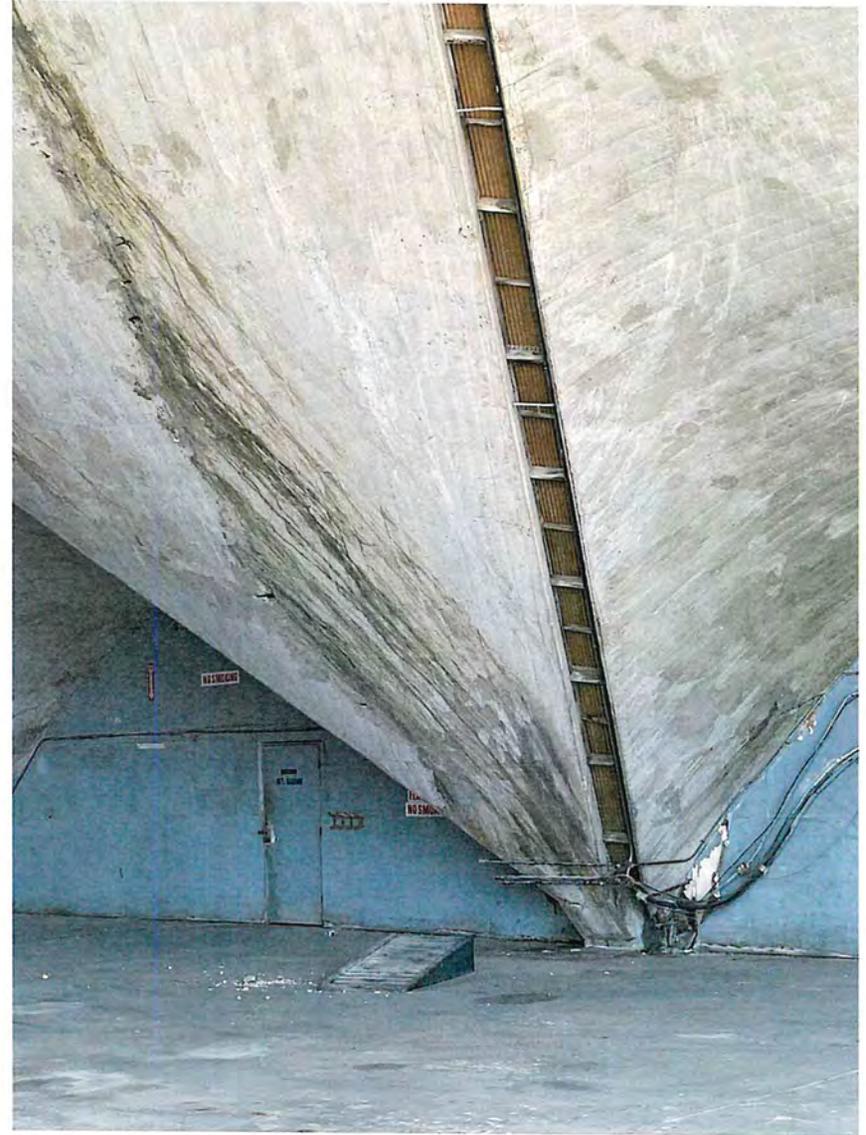


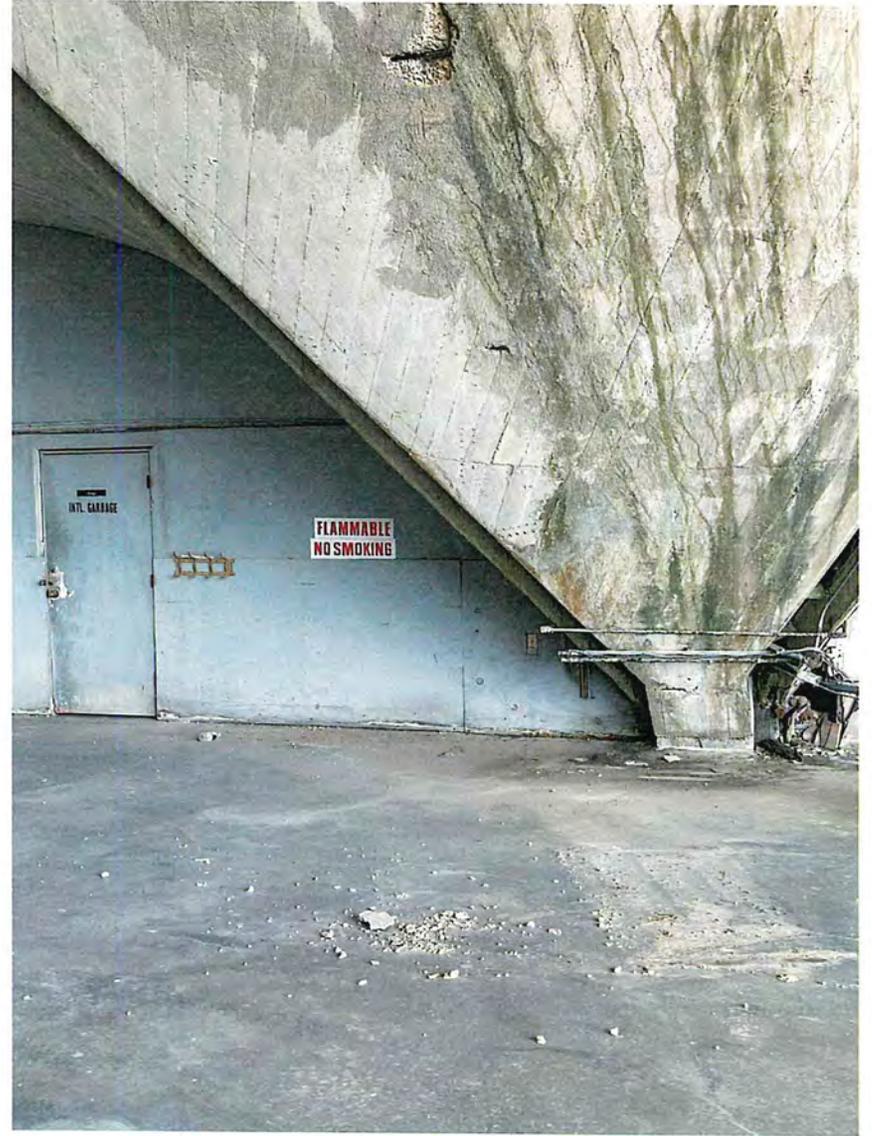


East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.











ATTACHMENT B



3755 S. Capital of Texas Highway
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Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

March 9, 2021

Mr. Victor Gonzalez
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

RE: CCIA EGA Hangar 1 Condition and Recommendations

Regarding EGA Hangar 1 and the recent Visual Inspection Report conducted on the East General Aviation Hangars at CCIA (Garver Task Order 24), we have summarized the findings for EGA Hangar 1 below.

EGA Hangar 1

EGA Hangar 1 is several decades old and there are several concerns with the overall building, its usability, and serviceability. The primary concern with the structure is safety. Several pop outs and spall have occurred, see figures below. It is our opinion that the facility not be occupied in its current condition.



Figure 1 - EGA Hangar 1



Figure 2 - Chunk of Concrete that Fell off Structure



Figure 3 - Interior view of the hangar ceiling, note popout/spall exposing steel reinforcement.



Figure 5 - Popout/Spall exposing reinforcing steel



Figure 4 - Additional popout/spalls exposing steel reinforcement



Figure 6 - Popout/Spall exposing reinforcing steel



Figure 7 - Spall on concrete eave exposing steel reinforcement



Figure 8 - Popout/Spall in finished office area exposing steel reinforcing

With several deficiencies noted, including the safety hazards from future popouts and spalls, repairs required to bring this building up to habitable standards would be extensive. In addition, the hangar has two functional flaws which make it undesirable to house and protect aircraft: The first being that it does not have a hangar door, which is a feature most tenants expect. The other is that with the shape of the hangar being a relatively gradual arch, the ceiling height reduces near the sides of the hangar. This limits the possible arrangements of aircraft and the number of aircraft that could be safely stored in the hangar, considering aircraft tail heights.

To bring the building to habitable standards, the following improvements would be recommended:

1. Repair roof system to be watertight (Approx. 33,000 sf).
2. Repair concrete spalls/popouts, protect any exposed steel reinforcing with appropriate coating. This may include additional structural support and an underside membrane (Approx. 33,000 sf).
3. Treat all exposed corroded steel components with a rust inhibiting coating.
4. Demolish and rebuild all finished office spaces to current building codes (Approx. 6,000 sf), including exterior walls, windows, doors, mechanical, electrical, and plumbing.
5. Remove any large plants that are in contact with the building and re-grade.

The approximate cost to rehabilitate the existing hangar would be in excess of \$4.5 Million.

Since the repair required is extensive and the design isn't well suited as a hangar, the airport may consider demolishing the structure and re-building a new hangar in its place when funding allows.

The approximate cost to demolish the Hangar would be \$250,000.

Let us know if you have any questions.

Thanks,

Derek Mayo, PE PMP
Garver LLC

From: Info_Tech@thc.state.tx.us
To: [MacFarlane, John \(FAA\)](#)
Subject: Project Review Submission
Date: Friday, March 19, 2021 1:50:46 PM

Thank you for submitting project: Corpus Christi International Airport Gault Hangar

Tracking Number: 202107070

Due Date: 4/18/2021 12:03:34 PM

TEXAS HISTORICAL COMMISSION

From: noreply@thc.state.tx.us
To: [MacFarlane, John \(FAA\); reviews@thc.state.tx.us](mailto:MacFarlane, John (FAA); reviews@thc.state.tx.us)
Subject: Section 106 Submission
Date: Thursday, April 15, 2021 4:26:33 PM



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202107070

Date: 04/15/2021

Corpus Christi International Airport Gault Hangar
1000 International Drive
Corpus Christi, TX 78406

Description: The proposed project would demolish a 1961 aviation hangar.

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst, Hansel Hernandez, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: The THC History Programs Division, led by Justin Kockritz, has completed its review of the submitted materials. The former Gault Hangar, designed by architect Joe L. Williams and engineer Wallace Wilkerson, features a unique and

exuberant application of thin-shell concrete and vaulted hyperbolic paraboloid forms. Before working on this hangar, Wilkerson worked directly with architect Richard Colley who collaborated with Mexican architect and thin-shell concrete master Félix Candela on projects including the Texas Instruments Semiconductor Building in Dallas and the Great Southwest Industrial Park in Arlington. Based on available information, THC recommends that the Hangar is eligible for listing in the National Register of Historic Places under Criterion C for its design and engineering. Although there are areas of spalling and there have been alterations such as the infilling of the smaller flanking shells, THC recommends that the Hangar retains sufficient historic integrity to convey its historic significance. Division of Architecture: Given the age of the building, its architectural pedigree, its historical significance, and its high level of integrity, we strongly urge reconsideration of the demolition. We ask that the FAA explore the feasibility of developing a plan for its rehabilitation. We certainly welcome the discussion of any alternative to demolition. If demolition cannot be prevented and the adverse effect avoided, please notify us of your intent to negotiate appropriate mitigation and enter into a Memorandum of Agreement to execute that mitigation.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, hansel.hernandez@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

November 23, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Re: Response to Initial Coordination - THC Tracking #202107070
Corpus Christi International Airport (CCIA)
Gault Hangar Demolition Project
Corpus Christi, Texas

Dear Mr. Wolfe,

In accordance with Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas, this letter is to inform the Texas Historical Commission (THC) of the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) in Nueces County, Texas. In response to the letter received from your office dated on April 15, 2021, we have coordinated with our environmental and engineering consultant and provide this letter as notification of our intent to negotiate appropriate mitigation and to enter into a Memorandum of Agreement (MOA) to execute such mitigation.

The Gault Hangar, also known as East General Aviation (G.A.) Hangar No. 1, and the associated office structures are planned for demolition due to safety concerns. A recent structural assessment of the hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Based on this assessment it was determined that the hangar is unsafe and demolition is recommended. Findings of the structural assessment are discussed in the enclosed Structural Observation Report. Photographs of the East General Aviation (G.A.) Hangar No. 1 are also enclosed.

Options to demolition and to avoid adverse impacts were considered and evaluated, including abandon in place and remediation of existing structure. However, due to the unsafe conditions of the existing structure, abandon in place is not a reasonable option as it risks life and property. Because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety with the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. Remediating the existing structure is also not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell. A preliminary options analysis summary is also enclosed for your reference.

We understand that with our intention to proceed with the proposed demolition, we must continue to work with the Federal Aviation Administration (FAA) and THC to ensure compliance with Section 106 and Section 4(f). These evaluations will be conducted concurrently with the FAA's National Environmental Policy Act process. Section 106 procedures will be followed and

conducted by our professional historic consultants, alongside our federal partner, the FAA. Additional cultural resource surveys would be conducted as necessary and mitigation measures will be proposed, which could take many forms, such as a brochure including the history and architectural renderings of the hangar. An MOA will be prepared with FAA oversight and mitigation measures will be refined with continued consultation with the THC and with consulting parties.

Thank you for your time in reviewing this submittal. If you have any questions or wish to discuss this further, please feel free to contact me.

Sincerely,

Victor Gonzalez
Development and Construction Manager
Aviation Department
City of Corpus Christi

Enclosures:

Site Photographs
Structural Observation Report
Options Analysis Summary

cc: Derek Mayo – Project Manager, Garver, Inc.
John MacFarlane - Environmental Protection Specialist, FAA



Photo 1. View of front side of Gault Hangar.



Photo 2. Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 3. Sever concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 4. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 5. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 6. Severe concrete spalling and corroded steel reinforcing at existing support.



Photo 7. Severe concrete spalling and severely corroded steel reinforcing at roof line. Blue is interior wall.



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September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcing at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcing for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





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September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

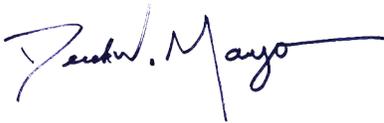
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

From: [MacFarlane, John \(FAA\)](#)
To: ["Victor Gonzalez"](#); [Mayo, Derek W.](#); ["Tyler Miller"](#); [Chavez, Susan W.](#); [Mountain, Ryan C.](#); [Elsy Borgstedte Sanchez, Marcelino \(FAA\)](#)
Subject: FW: Section 106 Submission
Date: Monday, December 20, 2021 1:45:00 PM
Attachments: [Consulting Party Invitation to American Airlines Retirees Committee.doc](#)

Please assemble a list of potential consulting parties. A letter similar to the attached will be sent to those we identify as consulting parties. Please send me the list and a draft letter based on the attached for my review. Once we have our consulting parties and a draft MOA, then we'll contact the ACHP.

John

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, December 20, 2021 11:21 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; reviews@thc.state.tx.us
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202203939
Date: 12/20/2021
Corpus Christi International Airport Gault Hangar
1000 International Drive

Description: Response to THC's 4/15/2021 letter stating that CCIA intends to continue the 106 consultation process and enter into an MOA to demolish the Gault hangar (East Aviation Hangar No. 1).

Dear john.macfarlane@faa.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst and Ashley Salie, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs that the scope of work to demolish the Gault Hangar at the Corpus Christi International Airport, which is eligible for listing in the National Register of Historic Places under Criterion C, Architecture, will have an adverse effect on historic properties. Please submit the adverse effect determination to the ACHP and provide its response to THC. Additionally, please gather consulting parties for additional mitigation input on adverse effects. THC looks forward participating in future meetings to discuss mitigation of the adverse effect.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, ashley.salie@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

From: [Ashley Salie, NCIDQ](#)
To: [MacFarlane, John \(FAA\)](#); [Justin Kockritz](#)
Cc: [McMath, Dean \(FAA\)](#); [Foreman, Melissa \(FAA\)](#); [Alex Toprac](#)
Subject: RE: Corpus Christi International Airport Gault Hangar, THC Tracking #202203939
Date: Tuesday, September 13, 2022 4:04:44 PM
Attachments: [thc_email_logo_65px_e6b590e5-b608-48df-a46f-bbaf70308c09.png](#)
[thc_email_signature_url_2_9467b7d4-3cf0-4ad6-a56a-a173b9a5102c.png](#)
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[thc_email_signature_twitter_18px_a0320705-84ac-453d-b948-ce7b9ec24d9b.png](#)
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[thc_email_signature_yt_18px_87f9dc8d-8149-47b9-988d-88c487090614.png](#)
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[thc_email_signature_email_18px_61592cdc-f8f6-43c2-83c5-648830375491.png](#)
[rp23_email_sig_promo_2a05dbdf-82ce-4e95-9f54-fa6033d9a6b4.jpg](#)

Hi John,

Thanks for your email regarding ACHP notification. Yes, even though we concurred with the adverse effect determination, it is still part of the regulatory process to [notify the ACHP](#) so they have the opportunity to be involved with the project if they so choose. As you know, the ACHP often declines to participate in the mitigation process, and we presume they will not participate on this project, either, as it seems to be fairly straightforward.

Please let us know if you have any other questions!

Sincerely,

Ashley



Ashley Salie, NCIDQ

Program Coordinator, Texas Preservation Trust Fund Grant and Easement Programs
Division of Architecture
P.O. Box 12276, Austin, Texas 78711-2276
Phone: +1 512 463 6047
Fax: + 1 512 463 6095



From: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Sent: Tuesday, September 13, 2022 2:48 PM
To: Ashley Salie, NCIDQ <Ashley.Salie@thc.texas.gov>; Justin Kockritz <Justin.Kockritz@thc.texas.gov>
Cc: McMath, Dean (FAA) <Dean.Mcmath@faa.gov>; Foreman, Melissa (FAA) <Melissa.Foreman@faa.gov>
Subject: Corpus Christi International Airport Gault Hangar, THC Tracking #202203939

CAUTION: External Email – This email originated from outside the THC email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin and Ashley,

Your 12/20/2021 letter stated to submit the adverse effect determination to the ACHP and provide its response to THC. However, the THC concurs with the scope of work to demolish the hangar and that this undertaking will be an adverse effect. The THC also appears to agree with the mitigation offered that will be included in the MOA. In our experience, if the SHPO concurs with the agency scope of work and adverse effect, and that the project is not controversial, coordination with the ACHP is not necessary. If however, there was a disagreement between our agencies, then the ACHP would be brought into the loop. Therefore, is it still the THC's recommendation to coordinate with the ACHP?

Thank you,

John MacFarlane

Environmental Protection Specialist

Federal Aviation Admin.

Texas Airports District Office

Phone: 817-222-5681

DRAFT

MEMORANDUM OF AGREEMENT

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

WHEREAS, the City of Corpus Christi, acting through its Corpus Christi International Airport (CCIA), is proposing demolition of the Gault Hangar at CCIA due to safety concerns (Attachment A: Project Description); and

WHEREAS, the proposed Gault Hangar Project (the Project) traverses through the county of Nueces (Attachment B: Location Map); and

WHEREAS, the Gault Hangar, is also known as East General Aviation Hangar No. 1 and has associated office structures; and

WHEREAS, a structural engineering assessment of the Gault Hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition; and

WHEREAS, the Project is an undertaking as defined in 36 C.F.R. § 800.16 (2014) subject to review under Section 106 of the National Historic Preservation Act [54 U.S.C. § 306108 (2014)] (NHPA) and its implementing regulations at 36 C.F.R. § 800 (2014), and the Federal Aviation Administration (FAA) and CCIA have consulted with the Texas Historical Commission (THC) acting as the State Historic Preservation Officer (SHPO) to consider the effects of the undertaking on historic properties; and

WHEREAS, the FAA submitted a Request for SHPO Coordination on March 15, 2021, describing the proposed project of the demolition of the Gault Hangar; and

WHEREAS, in a letter dated April 15, 2021, the SHPO responded recommending that the Gault Hangar is eligible for listing in the National Register of Historic Places (NRHP) and responded that if demolition cannot be prevented on the Gault Hangar, then appropriate mitigation measures are to be prepared and the FAA will enter into a Memorandum of Agreement (MOA) to execute the mitigation; and

WHEREAS, on November 23, 2021, FAA responded to the April 15, 2021, SHPO letter stating that the CCIA will coordinate with their environmental and engineering consultants to negotiate appropriate mitigation and to enter into a MOA to execute the mitigation, and FAA provided to the SHPO a structural Observation Report of the Gault Hangar which described the deterioration of the resource; and

WHEREAS, on December 20, 2021, the SHPO responded via electronic THC Review and Compliance (eTRAC) recommending that demolition of the resource would have an adverse

effect on historic properties, and acknowledged the FAA's intention to continue the Section 106 consultation process and to enter into an MOA to resolve adverse effects pursuant to 36 C.F.R. § 800.6(c) (2014), which will govern the implementation of the undertaking and satisfy FAA's obligation to comply with Section 106; and

WHEREAS, on December 20, 2021, the SHPO responded via eTRAC that the FAA will submit to the Advisory Council on Historic Preservation (ACHP) the adverse effect determination and to provide the ACHP's response to the SHPO, and that the FAA prepare a list of consulting parties for additional mitigation input on the adverse effects; and mitigation measures, and developing the MOA; and

WHEREAS, pursuant to 36 C.F.R. § 800.6(a)(1) (2014), FAA notified the ACHP of the determination of adverse effect and intention to enter into a MOA with specified documentation on September 28, 2022, and the ACHP chose not to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii) on October 18, 2022; and,

WHEREAS, CCIA will have roles and responsibilities in the implementation of this MOA, and FAA invited CCIA to sign this MOA as an Invited Signatory; and

WHEREAS, the FAA held a meeting with consulting parties [Nina Nixon-Mendez, Corpus Christi Historic Preservation Officer; Ben Koush, Ben Koush Associates; David Richter, Richter Architects; Jay Porterfield, American Institute of Architects Corpus Christi Chapter; and Christopher Medina for Elizabeth Porterfield, MidTexMod] and the SHPO on June 30, 2022, to discuss the project, the condition of the Gault Hangar, and to present proposed mitigation measure options; and

WHEREAS, the FAA provided meeting notes and documentation of the June 30, 2022, meeting, including the engineering structural report and responses to consulting parties' input, to the consulting parties on August 19, 2022; and

WHEREAS, the FAA has invited the consulting parties to each sign the MOA as a concurring party per FAA policy; and

WHEREAS, a Draft Environmental Assessment (EA) is being prepared to inform the public of the potential environmental, social, and economic impacts associated with the proposed Gault Hangar Project and the No-Build Alternative; and

NOW, THEREFORE, FAA, CCIA, and the SHPO agree that the Project shall be implemented in accordance with the following stipulations to consider the effect of the Project on historic properties, mitigating the adverse effect on historic properties, and satisfactorily completing FAA's Section 106 responsibilities under the NHPA.

STIPULATIONS

The FAA, in coordination with CCIA, will ensure that the following stipulations are implemented and will be included as conditions for the demolition of the Gault Hangar:

I. Professional Qualification Standards

CCIA will ensure that all actions prescribed by this MOA are carried out by, or under the direct supervision of, qualified professional(s) who meet the appropriate standards in the applicable disciplines as outlined in the *Secretary of the Interior's Professional Qualifications Standards* (36 C.F.R. § 61),

II. Modified Historic American Building Survey Documentation of the Hangar

- A. CCIA will prepare documentation of the Hangar to meet modified Historic American Building Survey (HABS) Level I standards. The HABS Level I standards are defined in the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. Modified Level I documentation will include:
1. Archival-quality prints of photographs documenting the Hangar's present appearance and major structural or decorative details taken using large-format black and white film and processed following the National Park Service guidelines for prints;
 2. Written report, including history and physical description, following the outline format for HABS Level I documentation;
 3. U.S. Geological Survey topographic map identifying the location of the Hangar; and
 4. Preparation of 3D documentation using drone technology to produce digital documentation in lieu of measured drawings of the Hangar, since the original drawings do not exist.
- B. CCIA will submit a draft of the modified HABS Level I documentation via the eTRAC System to the SHPO. The SHPO will have 30 calendardays upon receipt to review and comment on a draft of the documentation. Failure by the SHPO to provide comments in accordance with this stipulation may be taken to indicate acceptance by both parties. CCIA will make a good-faith effort to address any comments provided by the SHPO.
- C. Upon acceptance of the draft documentation by the SHPO, or determination by SHPO that the documentation is sufficient, demolition of the Hangar may commence.

- D. Within 45 days of the acceptance of the draft documentation by the SHPO, final documentation, including archival prints of photo documentation, will be provided to the SHPO, and CCIA. Final print documentation will be printed on archival paper, and negatives will be provided to the CCIA. Digital files will be provided to the SHPO, CCIA, City Historic Preservation Office, Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library on archival media.
- E. The final documentation will not meet HABS standards and is *not* to be submitted to the HABS Collection in the Library of Congress.

III. Interpretive Sign

To provide education information to the public upon completion of the Hangar demolition and for its use within the newly proposed pedestrian/travelers outdoor space, CCIA will design and install an interpretive sign detailing the history of the Hangar as well as the history of the Corpus Christi International Airport.

- A. CCIA will develop the interpretive sign's content and design, in consultation with SHPO. The interpretive sign will include narrative historic context and historic photographs. The sign will be fabricated of weather resistant materials.
- B. CCIA will submit a draft design plan for the interpretive sign to SHPO via eTRAC. The draft design plan will include, but is not limited to, information on size, location, materials, design, and content of the interpretive sign. SHPO will have 30 calendar days to provide comments on the draft design plan. If SHPO does not provide comments within 30 calendar days, CCIA will assume concurrence and proceed according to the submitted plan.
- C. CCIA will consult with SHPO to address comments provided in accordance with Stipulation IIIB and submit a final design plan via eTRAC for SHPO concurrence. SHPO will have 30 calendar days to accept or amend the final design plan.
- D. CCIA will install the interpretive sign following creation of the new pedestrian space located on airport property. Location of the pedestrian space to be determined by CCIA.

IV. Timed-Lapsed Videography of Demolition of Hangar

To provide educational information related to construction methods and materials, CCIA will conduct videography during the demolition of the Hangar.

- A. Videography shall be conducted in time-lapsed sequence to show demolition of areas of the Hangar.
- B. Videography shall be posted to the CCIA website and/or to a social media platform which is maintained by the CCIA.

V. Preparation of CCIA Website Information

To provide educational information to the public, CCIA will prepare a historic context for posting to the CCIA website.

- A. The historic context will discuss the development of the Hangar, and the relationship of the company who constructed the Hangar, to the CCIA.

VI. Preparation of QR Code Describing History of Hangar

For ease of access to data posted online as part of this MOA, CCIA will produce a graphical quick response (QR) code linking to the online data.

- A. The QR code shall be prepared using commercially available software and provided on the interpretive sign and any print material related to the Hangar.
- B. The QR code shall be created once CCIA has established a permanent online location for the digital data.

VII. Preparation of Article on Hangar for Posting to Texas Online

To provide educational information to the general public, CCIA will prepare an entry for posting to the Texas State Historical Association (TSHA) Handbook of Texas. The Handbook is a digital state encyclopedia which is free and accessible on the internet for teachers, scholars, students, and the public.

- A. The entry will discuss the history of the developers, flying clubs, construction methodology, and impact of the Hangar to the community and the CCIA.
- B. The CCIA will submit the entry to the TSHA for review, and if accepted, the TSHA will post the entry to their website.

VIII. Preparation of 3D Modeling on Hangar for Posting to CCIA Website linked to QR Code and as Attachment to HABS Documentation

To provide the equivalent of architectural drawings of the Hangar, 3D Modeling will be prepared and attached to the HABS Documentation package, as part of Stipulation II. The 3D Modeling will also be used by the CCIA on their website (Stipulation V) and attached to the QR Code (Stipulation VI).

- A. Digital files of the modeling will be supplemented with a summary letter report. The digital files (each category may have multiple files) may consist of 1) a 3D object file (.obj) or alternative scaled to real-world dimensions; 2) a material and/or texture file

(.mtl and/or .jpg); 3) optional original digital source photos (.jpg); and/or 4) optional Agisoft Metashape working file(s) (.psx) and/or archive file (.psx).

- B. A summary report will be prepared which will describe the drone images which were captured. A DVD will be provided with the images to SHPO, CCIA, the City Historic Preservation Office, the Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library.
- C. The digital files will be made available on the CCIA's website or equivalent for the general public to view, with links provided through their website and through the QR Code.

IX. Inadvertent Discoveries

In the event that the Project will affect a previously unidentified property that may be eligible for inclusion in the NRHP, CCIA shall require work in the area of the discovery to cease until actions that will consider the effects of the Project on the property can be implemented. CCIA shall immediately notify FAA of the discovery and provide FAA with the information required to request the SHPO's comments pursuant to 36 CFR 800.11(b)(2)(ii).

Letters requesting input and comment were sent to federally recognized Indian tribes on November 15, 2022. One response was received on November 15, 2022, from the Kickapoo Traditional Tribe of Texas stating no known effects to any cultural or historical sites are anticipated from the proposed project. No other responses were received from federally recognized Indian tribes.

If Native American human remains and/or objects subject to the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001 et seq.], i.e., burials, associated and unassociated funerary objects, sacred objects and objects of cultural patrimony, are encountered during the Project, CCIA shall immediately notify the FAA so that FAA can consult with the appropriate federally recognized Indian tribe(s) to determine appropriate treatment measures for these human remains in agreement with 36 CFR 800.13(b)(3) (2014). It shall be the responsibility of CCIA to either preserve in place or repatriate these human remains, depending on the agreed upon determination of the tribe(s). If remains / objects subject to NAGPRA are encountered prior to completion of the transfer, the rules of NAGPRA disposition will be followed by CCIA. Nothing in this agreement shall be construed to contradict this stipulation.

In the event of inadvertent discovery of archaeological materials not subject to NAGPRA, work shall immediately stop in the area of discovery and FAA shall comply with 36 CFR 800.13(b)(3) (2014) to notify and consult with the SHPO, federally recognized Indian tribes that might attach significance to the property, and the Advisory Council on Historic Preservation (ACHP).

X. Dispute Resolution

- A. Should the signatories to this MOA object within 30 days to any plans or other documents provided by CCIA or others for review pursuant to this agreement, or to any actions proposed or initiated by CCIA pursuant to this MOA, CCIA shall consult with the objecting party to resolve the objection. If CCIA determines that the objection cannot be resolved, CCIA shall forward all documentation relevant to the dispute to the FAA and to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:
1. Provide FAA with recommendations, which FAA will consider in reaching a final decision regarding the dispute; or
 2. Notify FAA that it will comment pursuant to 36 CFR 800.7(a)(4) and proceed to comment; and
 3. Any ACHP comment will be considered by FAA in accordance with 36 CFR 800.7 with reference to the subject of the dispute.
- B. Any recommendations or comment provided by the ACHP will pertain only to the subject of the dispute; FAA's responsibility to carry out all other actions under this MOA that are not the subjects of the dispute will remain unchanged.
- C. At any time during implementation of the measures stipulated in this MOA by FAA, if an objection to any such measure or its manner of implementation is raised by interested parties, then FAA shall consider the objection and consult, as appropriate, with the objecting party and the consulting parties to attempt to resolve the objection.

XI. Amendments

- A. The signatories to this MOA may request that this MOA be revised, whereby the parties will consult to consider whether such revision is necessary, pursuant to 36 CFR 800.6 (c)(1).
- B. If it is determined that revisions to this MOA are necessary, then FAA and the signatories shall consult pursuant to 36 CFR Part 800.13(1), as appropriate, to make such revisions; except that, reviewing parties must comment on, or signify their acceptance of, the proposed changes to the MOA in writing within 30 days of their receipt.

XII. Termination of Agreement

- A. The signatories to this MOA may terminate this MOA by providing 30 days written notice to the other signatory parties, pursuant to 36 CFR 800.6 (c)(i). During the period after notification and prior to termination, CCIA and the other signatories will

consult to seek agreement on amendments or other actions that would avoid termination. In the event of termination, FAA will comply with 36 CFR 800.4 through 800.6 regarding individual undertakings.

C. The parties agree that this MOA will become null and void upon completion of all mitigative measures stipulated herein.

XIII. Effective Date and Duration

The effective date of this MOA shall be the date of the last signature by a signatory. Unless amended in accordance with Stipulation XI or terminated in accordance with Stipulation XII, this MOA will remain in effect for 5 years. This MOA may be extended for an additional 5 years by a letter from the FAA with written concurrence from the SHPO and CCIA.

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

SIGNATORY PARTIES:

FEDERAL AVIATION ADMINISTRATION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
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SIGNATORY PARTIES:

CORPUS CHRISTI INTERNATIONAL AIRPORT

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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**SIGNATORY PARTIES:
TEXAS STATE HISTORIC PRESERVATION OFFICER**

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
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CONCURRING PARTIES:

CITY OF CORPUS CHRISTI HISTORIC PRESERVATION OFFICER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

NUECES COUNTY HISTORICAL COMMISSION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
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CONCURRING PARTIES:

AMERICAN INSTITUTE OF ARCHITECTS, CORPUS CHRISTI CHAPTER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
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CONCURRING PARTIES:

RICHTER ARCHITECTS

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
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CONCURRING PARTIES:

MIDTEXMOD

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
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OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

BEN KOUSH ASSOCIATES

By: _____ Date _____

Printed Name: _____

FILED:

Advisory Council on Historic Preservation

By: _____ Date _____

Printed Name: _____

**ATTACHMENT A
PROJECT DESCRIPTION**

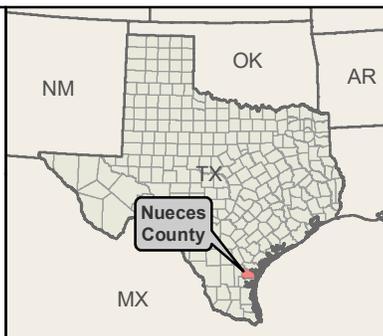
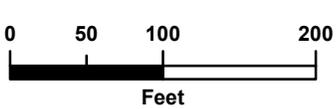
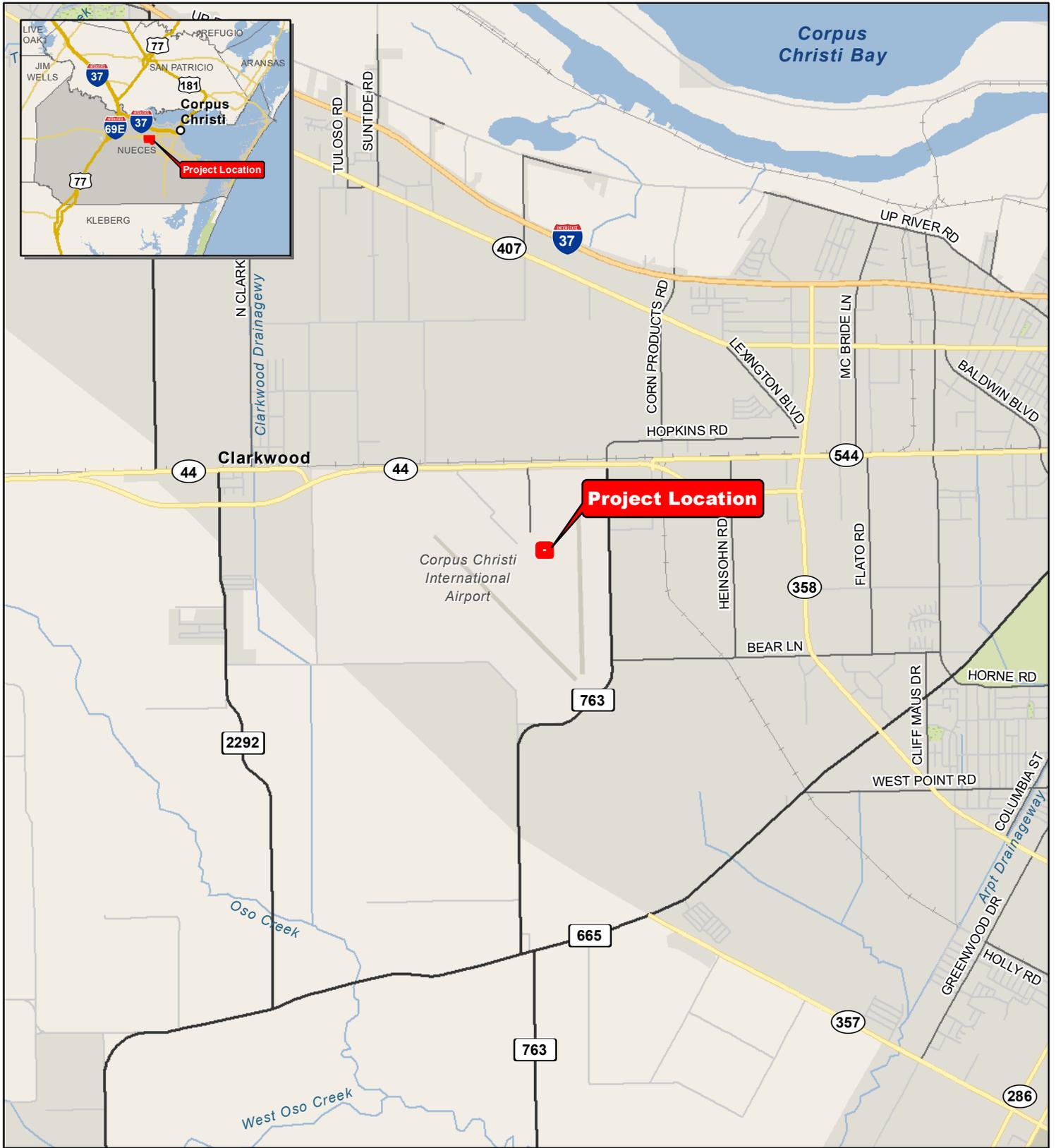
**Corpus Christi International Airport
Gault Hangar Demolition
Project Description**

The proposed project consists of demolition of the Gault Hangar and associated office structures located at the Corpus Christi International Airport (CCIA), also known as East General Aviation Hangar No. 1. The CCIA or Airport is a public use airport that is owned and operated by the City of Corpus Christi (City) and serves both private and major commercial airlines. The Airport is located off of TX-44, west of downtown Corpus Christi and TX-358.

The Hangar is one of the original light aircraft storage facilities from the Airport's construction in 1961. The Hangar's architecture is a distinctive application of thin shell concrete construction including vaulted hyperbolic paraboloid structures reminiscent of the flying buttress (Moorhead 2012). This unique historic architecture, designed by Joe L. Williams and engineered by Wallace R. Wilkerson, makes the Gault Aviation Hangar an NRHP-eligible historic site.

A structural assessment of the Hangar performed in August 2021 indicated that the Hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition which poses a safety concern. The Hangar is currently unoccupied due to the structural condition, including spalling concrete and corroded steel, which poses a hazard for occupants and to the adjacent runway operations.

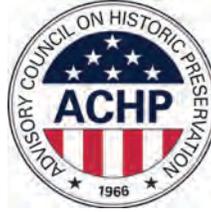
**ATTACHMENT B
LOCATION MAP**



PROJECT LOCATION
 CCIA: HANGAR NO. 1 DEMO
 Nueces County, TX

ATTACHMENT 4
ADVISORY COUNCIL OF HISTORIC PRESERVATION NOTIFICATION

DRAFT



Advisory Council on Historic Preservation Electronic Section 106 Documentation Submittal System (e106) Form

Send to: e106@achp.gov

Please review the instructions at www.achp.gov/e106-email-form prior to completing this form. Questions about whether to use the e106 form should be directed to the assigned ACHP staff member in the Office of Federal Agency Programs.

I. Basic information

1. Purpose of notification. Indicate whether this documentation is to:

- Notify the ACHP of a finding that an undertaking may adversely affect historic properties
- Invite the ACHP to participate in a Section 106 consultation
- Propose to develop a project Programmatic Agreement (project PA) for complex or multiple undertakings in accordance with 36 C.F.R. 800.14(b)(3)
- Supply additional documentation for a case already entered into the ACHP record system
- File an executed MOA or PA with the ACHP in accordance with 800.6(b)(iv) (where the ACHP did not participate in consultation)
- Other, please describe
[Click here to enter text.](#)

2. ACHP Project Number (If the ACHP was previously notified of the undertaking and an ACHP Project Number has been provided, enter project number here and skip to Item 7 below):

The ACHP has not been previously notified.

3. Name of federal agency (If multiple agencies, list them all and indicate whether one is the lead agency):

Federal Aviation Administration (FAA)

4. Name of undertaking/project (Include project/permit/application number if applicable):

Corpus Christi International Airport (CCIA), East General Aviation (G.A.) Hangar No. 1 (Gault Hanger), 506 Hangar Lane, Corpus Christi, Nueces County, Texas

Texas Historical Commission Tracking #202107070. (State Historic Preservation Office)

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 ☐ Washington, DC 20001-2637

Phone: 202-517-0200 ☐ Fax: 202-517-6381 ☐ achp@achp.gov ☐ www.achp.gov

- 5. Location of undertaking** (Indicate city(s), county(s), state(s), land ownership, and whether it would occur on or affect historic properties located on tribal lands):

Corpus Christi, Nueces County, Texas

The City of Corpus Christi owns the land in which the airport is located.

The Gault Hanger is not located on tribal lands.

- 6. Name and title of federal agency official and contact person for this undertaking**, including email address and phone number:

John MacFarlane

Environmental Protection Specialist

Federal Aviation Administration

Texas Airports District Office

10101 Hillwood Parkway

Fort Worth, Texas 76177

817-222-5681

John.MacFarlane@faa.gov

II. Information on the Undertaking*

- 7. Describe the undertaking and nature of federal involvement** (if multiple federal agencies are involved, specify involvement of each):

Undertaking

The project is proposing to demolish the existing Corpus Christi International Airport East General Aviation (G.A) Hangar No. 1 (Gault Hangar) and the associated office structures due to safety concerns.

In 2021, the CCIA hired Garver USA to conduct a structural observation report of the Gault Hangar. The assessment determined that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Based on the assessment, it was determined that the hangar is unsafe, and demolition is recommended.

Nature of Federal Involvement

The CCIA is funding the entire project.

- 8. Describe the Area of Potential Effects (APE):**

The current area of potential effect (APE) is recommended to be a radius of 100 feet around the three identified historic properties located at CCIA.

- 9. Describe steps taken to identify historic properties:**

On March 1, 2021, CCIA initiated coordination with the SHPO/THC under the Antiquities Code of Texas and Section 106 to identify historic properties over 45 years of age. The documentation presented to the SHPO/THC stated that the East Aviation (G.A.) Hangar No. 1, the office building immediate north of East General Aviation (G.A) Hangar No. 1, and the outbuilding south of East General Aviation (G.A.) Hangar No. 1 as meeting this time threshold. Documentation included presenting the project APE of a 100-foot radius around the three historic properties, and photographs showing the three

historic properties presented, as well as current conditions of Hangar No. 1.

For archeology, the March 1, 2021, SHPO/THC coordination indicated that there would be no ground disturbance. The coordination documentation indicated that the project was located within previously disturbed areas and not likely to contain intact archeological deposits and recommended that no further work was needed.

On April 15, 2021, the SHPO/THC concurred with FAA's determination that the East General Aviation (G.A.) Hangar No. 1 was eligible for listing in the NRHP under Criterion C for its design and engineering. SHPO/THC also strongly urged CCIA to reconsider the demolition of the Gault Hangar. SHPO/THC requested that the CCIA explore a plan for its rehabilitation as opposed to demolition. If rehabilitation cannot be performed, then the SHPO/THC requested notification by the CCIA of their intent to negotiate the appropriate mitigation measures and enter into a Memorandum of Agreement (MOA). The SHPO/THC provided comment on archaeology stating that no identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present.

CCIA responded to the SHPO/THC's April 15, 2021 letter on November 23, 2021, with a Structural Observation Report of the East General Aviation (G.A) Hangar No. 1. The report details the current condition of the Gault Hangar stating that it suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Based on the assessment, it was determined that the hangar is unsafe, and demolition is recommended. The CCIA agreed to continue working with the FAA to ensure compliance with NEPA and the Section 106 process. CCIA stated that work on establishing mitigation options, preparation of the MOA, and coordination with the ACHP will occur.

The SHPO/THC responded to the November 23, 2021, submittal on December 20, 2021, stating that they concur on the adverse impact to the Gault Hanger. They also provided further comment stating that they look forward to reviewing possible mitigation options with potential consulting parties in the future. The SHPO/THC requested notifying the ACHP of the project, and then to coordinate with them to discuss the mitigation measures along with the response from the ACHP regarding the adverse effect.

10. Describe the historic property (or properties) and any National Historic Landmarks within the APE (or attach documentation or provide specific link to this information):

Construction of the Gault Hangar started in 1961 by the Braselton Construction Company. The building consisted of 12 thin-shell (3-inch) reinforced concrete hyperbolic paraboloid arch roof structures, with several independent concrete arches spanning the width of the hangar. The arches were cast-in-place and fused together. The thrust of the roof is supported by post-tensioned tendons buried under the floor slab thus allowing for large open areas with no internal columns. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the elements with no door. The 30,000 square foot building (150 x150 feet) had an estimated cost \$82,000 and was completed in 1961.

While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing. The hangar is in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The hangar is completely open on one end and is not air conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that

has failed, and the concrete shell has cracked in several locations, allowing moisture penetration. The concrete structure is cracking and spalling, which in turn is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees are evident throughout the concrete roof and walls of the hangar, and several sizable concrete spalls appear to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing, which has led to the steel being severely corroded and disintegrated in some areas.

11. Describe the undertaking's effects on historic properties:

The Project undertaking will have an adverse impact to the historic properties due to demolition of the resource.

12. Explain how this undertaking would adversely affect historic properties (include information on any conditions or future actions known to date to avoid, minimize, or mitigate adverse effects):

The SHPO/THC determined the undertaking would have an adverse impact to the NRHP eligible East General Aviation (G.A.) Hangar No 1. Demolishing Hangar No. 1 would be an adverse impact as the project will be removing the Gault Hangar, which would destroy the historic integrity of materials, design, and workmanship, thus negating its eligibility to the NRHP under Criterion C.

Avoidance Measures

An assessment to avoid or abandon the Hangar was performed by a licensed structural engineer. The hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the avoidance/abandon in place option is not viable as it risks life and property.

Minimize

Remediation of structural issues of the hangar was considered during the assessment by the licensed structural engineer. Since there are known systemic failures, remediation of the structural elements to restore structural integrity to the hangar with a standard factor of safety is unattainable. Remediation would require that a redundant structural support system be created to bypass and support the existing structure.

Mitigate

Mitigation efforts may include:

Article on THC Historic Sites Atlas

- An article documenting the history of the hangar posted on the THC Historic Sites Atlas which is a resource that historians can use and is available to the public.

Historic American Building Survey (HABS)

- HABS Level 1 is a way of documenting significant resources which includes detailed photographs, drawings, and a historic context. The purpose is to tell the whole story of the building and to archive the resource. 3D Modeling has been proposed by the SHPO instead of architectural hand measured

drawings since the original drawings were destroyed. The 3D modeling will provide dimensions, measurements, and a document for future research in both static and video format.

Interpretative Exhibit

- An interpretive exhibit provides history and photos of the hangar and would be accessible to travelers of the airport and pedestrians. A location has been proposed outside the terminal in a publicly accessible area of the Airport.

QR code

- A QR code provides easy access to information posted online and could be included on various materials, including articles, interpretive sign, and linked to the project website.

CCIA website info

- Webpage hosted on the Airport website with information and links to resources.

Videography

- Recording of demolition that can be used as a learning resource by engineers to see how the hangar was constructed and details on the structural components.

13. Provide copies or summaries of the views provided to date by any consulting parties, Indian tribes or Native Hawai'ian organizations, or the public, including any correspondence from the SHPO and/or THPO.

No views were provided by Indian tribes or Native Hawaiian organizations for the project.

Views and responses were provided by consulting parties at the June 30, 2022, presentation:

Consulting Party Input Received

1. Consulting Party: David Richter, Local Architect and Local Preservation Stakeholder

Comment: Mr. Richter suggested that the Airport consider stabilizing the structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. He also suggested a review of the structure from a 3rd party with thin concrete expertise.

Response: The purpose of the project is to address the safety concerns posed by the deteriorating structure. Large pieces of concrete haven fallen from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. Chunks of concrete from the hangar have been found near the adjacent runway apron which poses a safety hazard for both people and aircraft.

The Airport considered and evaluated the possibility of repairing the existing structure. Repair and rehabilitation of the structure proved economically and logistically challenging. Costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. Patch and repair of concrete and other elements would not fully address the safety concerns since the existing substructure exhibits severe deterioration. The structural assessment performed by a registered professional engineer in 2021 identified systemic failure of the steel reinforcement due to prolonged exposure to the corrosive coastal environment and determined that the existing superstructure is not salvageable. With the known systemic failures, there is no reasonable way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety.

Through research and investigation of the hangar, the project team did not identify any individuals with a level of expertise beyond persons who conducted the structural assessment in 2021.

2. Consulting Party: Jay Porterfield, Corpus Christi AIA Chapter

Comment: Mr. Porterfield inquired as to whether portions of the structure might be viable to keep and potentially display.

Response: Because of the systemic and excessive water intrusion, mold, and structural deterioration throughout the hangar, portions of the structure were not deemed reasonable to salvage. The Airport also considered whether sections of the hangar could be removed and placed in a location for interpretive display. However, it was determined that this option would not be reasonable and prudent due to the deteriorated state of the concrete and lack of available public space at the Airport to house a meaningful display.

3. Consulting Party: Ben Koush, Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission

Comment: Mr. Koush inquired about the use of special tax credits for discounts on the construction and repair of the structure.

Response: Several stipulations would need to be met to take advantage of federal and state historic rehabilitation tax credits. The Airport is owned and operated by the City of Corpus Christi which limits their ability to apply for tax credits. The City could lease the building to a private for-profit or non-profit entity as a 39-year lease on the property and apply for tax credits, but the private or non-profit entity would have to pay for the rehabilitation project which is a significant cost. Furthermore, alternative uses of a rehabilitated structure were not considered due to regulatory guidelines, safety, and liability. The structural assessment report of the hangar indicates that it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements.

4. Consulting Party: Ben Koush, Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission

Comment: Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.

Response: Due to the structural deficiencies identified with the hangar and excessive cost for rehabilitation, adaptive reuse of the hangar was not considered as a viable alternative.

5. Consulting Party: Nina Nixon-Mendez, Corpus Christi Historic Preservation Officer

Comment: Ms. Nixon-Mendez agreed with the proposed mitigation options presented. She also suggested consideration of creating a 3-D model of the structure as mitigation.

Response: A virtual 3-D model of the structure will be considered as one of the proposed mitigation options.

6. Consulting Party: Christopher Medina, MidTexMod

Comment: Mr. Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, for wider distribution and a larger internet presence.

Response: This suggestion will be included in the proposed mitigation options.

III. Additional Information

14. Please indicate the status of any consultation that has occurred to date, including whether there are any unresolved concerns or issues the ACHP should know about in deciding whether to participate in consultation. Providing a list of consulting parties, including email addresses and phone numbers if known, can facilitate the ACHP's review response.

On May 24, 2022, a meeting was held with the Texas SHPO (Texas Historical Commission – THC) to discuss the project and to present mitigation measures for the hangar. The THC recommended that a presentation be made to potential consulting parties (see below information).

On May 6, 2022, emails were sent to the consulting parties listed below. All letters were sent and were documented as having been received by all parties on May 6, 2022. As of today's date, responses have been received from six of the eight consulting parties.

Kathy Wemer (Responded 5/06/2022, declined to participate)
Nueces County Historical Commission
518 Peerman Place
Corpus Christi, TX 78411
rboyd@stx.rr.com

Nina Nixon-Mendez (Responded 5/6/2022)
Corpus Christi Historic Preservation Officer
Assistant City Manager
2406 Leopard Street
Corpus Christi, TX 78408
ninam@cctexas.com

John Montalvo (did not respond)
Nueces County Historical Society
President
P.O. Box 60003
Corpus Christi, TX 78466-0003
info@nuecescountyhistoricalsociety.org

South Texas Flying Club At KCRP (did not respond)
P.O. Box 60526
Corpus Christi, TX 78406
info@southtexasflyingclub.org

Jay Porterfield (Responded 5/6/2022)
AIA Corpus Christi Chapter
President
6262 Weber Road, Suite 310
Corpus Christi, TX 78413-4031
361.854.1471
jporterfield@sntarchitects.com

David and Elizabeth Chu Richter (Responded 5/6/2022)
Architect and Preservationists
201 South Upper Broadway
Corpus Christi, Texas 78401
361-882-1288
drichter@richterarchitects.com

Elizabeth Porterfield (Responded 5/6/2022)
MidTexMod
President
PO Box 12734
Austin, Texas 78711
737-236-0113
Rowan14@hotmail.com
info@midtexmod.org

Ben Koush (Responded 5/30/2022)
Ben Koush Associates
816 Wilkes Street
Houston, Texas 77009
713-456-0092
ben@benkoush.com

On June 30, 2022, the presentation was conducted with the consulting parties who responded, and their views and concerns are documented in item number 13 above.

15 Does your agency have a website or website link where the interested public can find out about this project and/or provide comments? Please provide relevant links:

No website or website link is available.

16. Is this undertaking considered a “major” or “covered” project listed on the Federal Infrastructure Projects Permitting Dashboard? If so, please provide the link:

The Gault Hanger is not a major undertaking, however, it will be listed on the Permitting Dashboard for Federal Infrastructure Projects because of a 2016 Secretary of Transportation memorandum stating that all Department of Transportation (DOT) Operating Administrations shall use the Dashboard to track projects covered by Environmental Assessments and Environmental Impact Statements.

The following are attached to this form (check all that apply):

- Section 106 consultation correspondence
- Maps, photographs, drawings, and/or plans
- Additional historic property information
- Consulting party list with known contact information
- Other:

**Section 106 Coordination
With Structural Evaluation**

TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at <http://www.thc.state.tx.us/crm/crmsend.shtml>.

- This is a new submission.
- This is additional information relating to THC tracking number(s): _____

Project Information			
PROJECT NAME Demolition of East General Aviation (GA) Hangar No. 1			
PROJECT ADDRESS 506 Hangar Lane		PROJECT CITY Corpus Christi	PROJECT ZIP CODE(S) 78406
PROJECT COUNTY OR COUNTIES Nueces County			
PROJECT TYPE (Check all that apply)			
<input type="checkbox"/> Road/Highway Construction or Improvement	<input type="checkbox"/> Repair, Rehabilitation, or Renovation of Structure(s)		
<input type="checkbox"/> Site Excavation	<input type="checkbox"/> Addition to Existing Structure(s)		
<input type="checkbox"/> Utilities and Infrastructure	<input checked="" type="checkbox"/> Demolition or Relocation of Existing Structure(s)		
<input type="checkbox"/> New Construction	<input type="checkbox"/> None of these		
BRIEF PROJECT DESCRIPTION: Please explain the project in one or two sentences. More details should be included as an attachment to this form. The Corpus Christi International Airport (CCIA) proposes the demolition of East General Aviation (GA) Hangar No. 1. The airport has closed the hangar, which was built in the early 1960s, from public entry due to several structural deficiencies, including the potential for safety hazards from future pop-outs and spalls. See attached letter for additional details.			

Project Contact Information			
PROJECT CONTACT NAME Derek Mayo		TITLE Senior Project Manager	ORGANIZATION Garver
ADDRESS 285 SE Inner Loop, Suite 110		CITY Georgetown	STATE ZIP CODE TX 78626
PHONE 503-720-8777		EMAIL DWMayo@garverusa.com	

Federal Involvement (Section 106 of the National Historic Preservation Act)			
Does this project involve approval, funding, permit, or license from a federal agency?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
FEDERAL AGENCY Federal Aviation Administration (FAA)		FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE	
CONTACT PERSON John MacFarlane		PHONE 817-222-5681	
ADDRESS Texas Airports Districts Office, ASW-650 10101 Hillwood Parkway, Fort Worth, TX 76177		EMAIL John.MacFarlane@faa.gov	

State Involvement (Antiquities Code of Texas)			
Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
CURRENT OR FUTURE OWNER OF THE PUBLIC LAND City of Corpus Christi			
CONTACT PERSON Victor Gonzalez		PHONE 361-2890171 Ext. 1231	
ADDRESS 1000 International Dr Corpus Christi, TX 78406		EMAIL Victor@cctexas.com	

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?
 Yes (Please complete this section) No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.
No ground disturbance will occur as the existing foundation will remain in place.

Describe the previous and current land use, conditions, and disturbances.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?
 Yes (Please complete this section) No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?
 Yes, name of property or district: No Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
East G.A. Hangar No. 2	Between 1960-1978	Google Earth Historical Imagery
Office building immediate north of East G.A. Hangar No. 1	Between 1989-1995	Google Earth Historical Imagery
Outbuilding south of East G.A. Hangar No. 1	Between 1990-1995	Google Earth Historical Imagery

Attachments

[Please see detailed instructions regarding attachments.](#)

Include the following with each submission:

- Project Work Description
- Maps
- Identification of Historic Properties
- Photographs

For Section 106 reviews only, also include:

- Consulting Parties/Public Notification
- Area of Potential Effects
- Determination of Eligibility
- Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

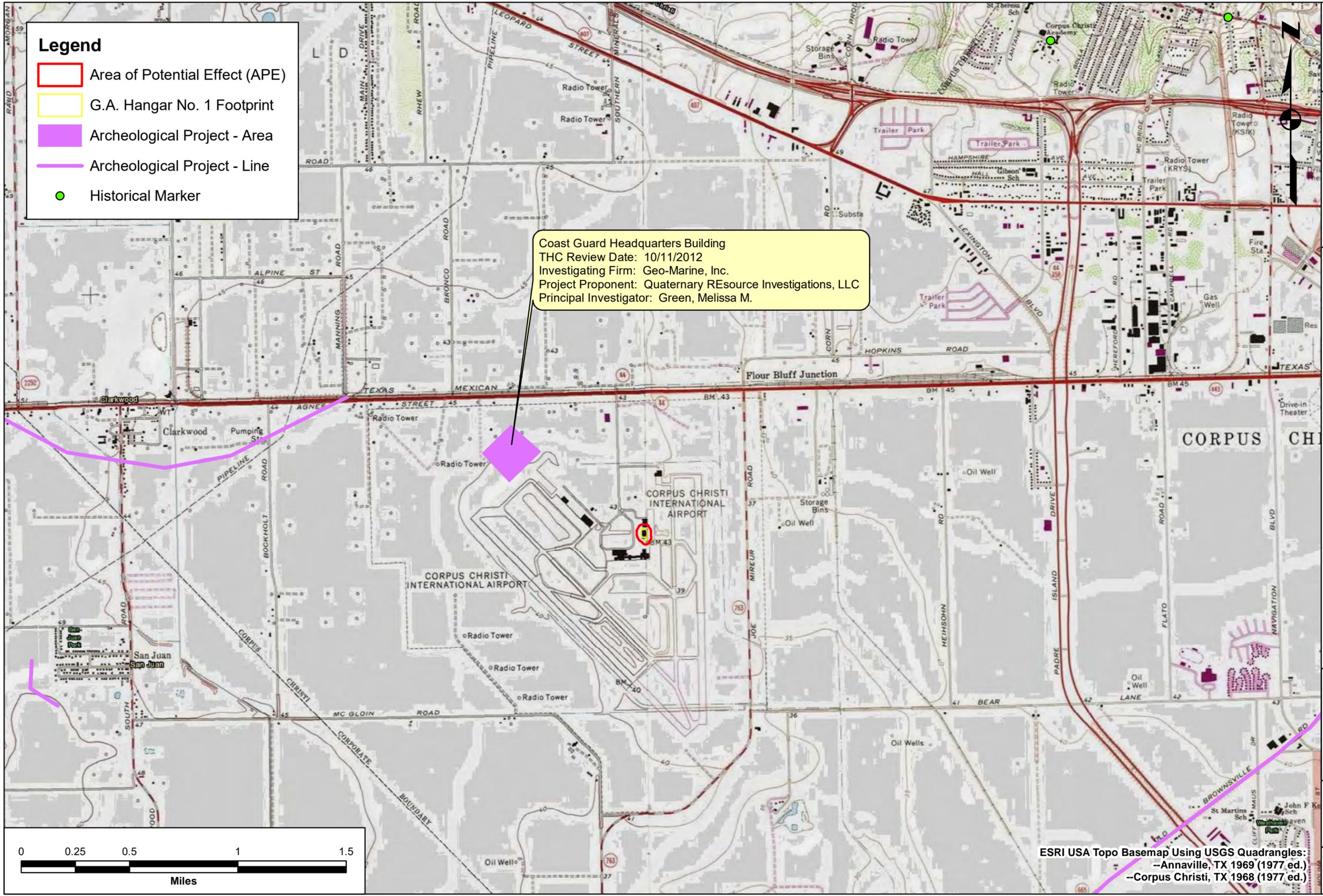
Mark Wolfe
 State Historic Preservation Officer
 Texas Historical Commission
 P.O. Box 12276, Austin, TX 78711-2276 (mail service)
 108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint
- Archeological Project - Area
- Archeological Project - Line
- Historical Marker

Coast Guard Headquarters Building
THC Review Date: 10/11/2012
Investigating Firm: Geo-Marine, Inc.
Project Proponent: Quaternary REsource Investigations, LLC
Principal Investigator: Green, Melissa M.



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

SITE LOCATION MAP & NRHP DATA IN PROJECT AREA

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE 1

ESRI USA Topo Basemap Using USGS Quadrangles:
--Annaville, TX 1969 (1977, ed.)
--Corpus Christi, TX 1968 (1977, ed.)

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

STREET
MAP
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE
2

ESRI Open Street Map



East
GA
Fuel
Farm

East GA
Hangar No. 2

Office
Building

East GA Apron

TWY M

Rental Car
Ready
Return Lot

Terminal Parking Lot

International Boulevard

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

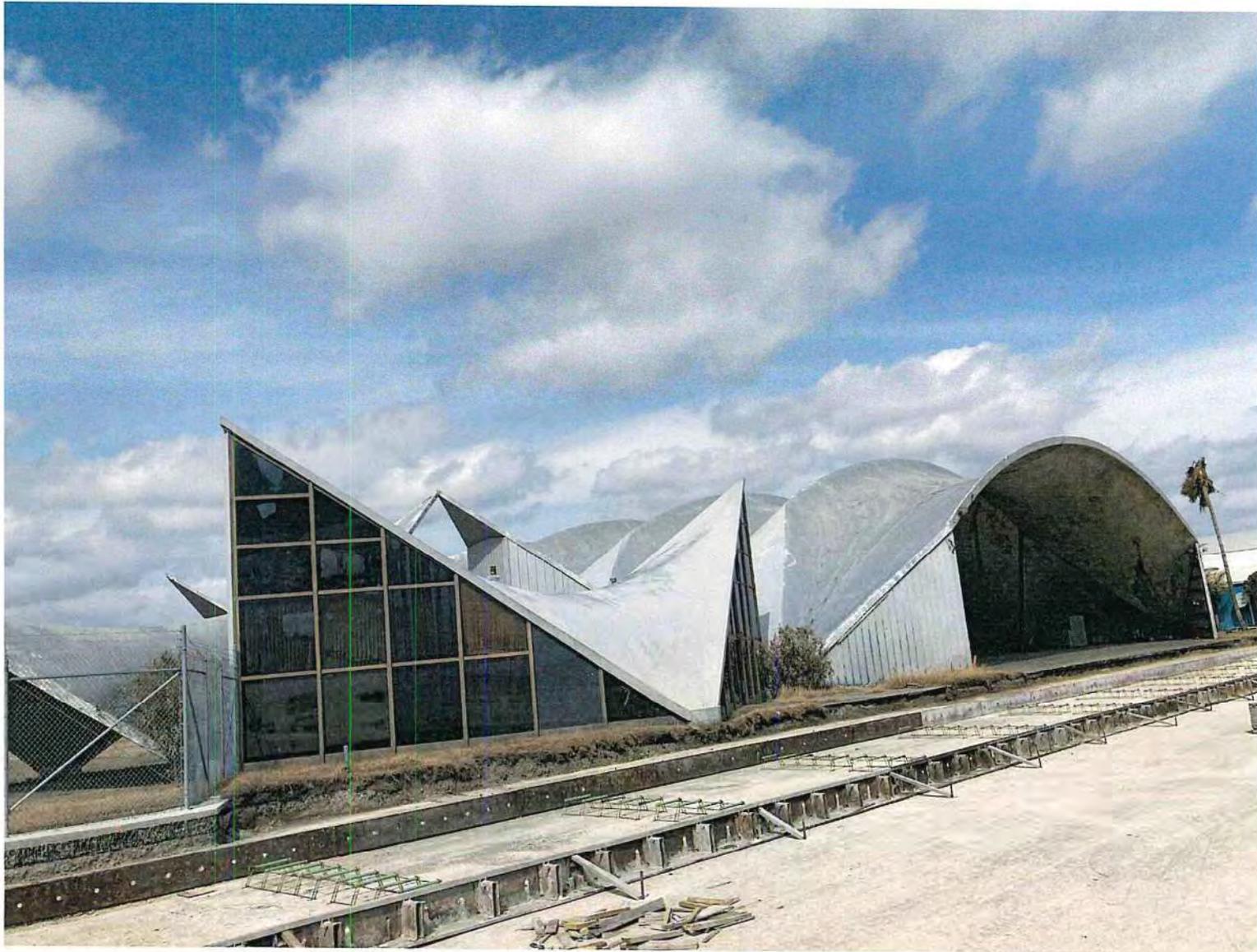
PROJECT
VICINITY
AND
AREA OF
POTENTIAL
EFFECT
(APE)
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

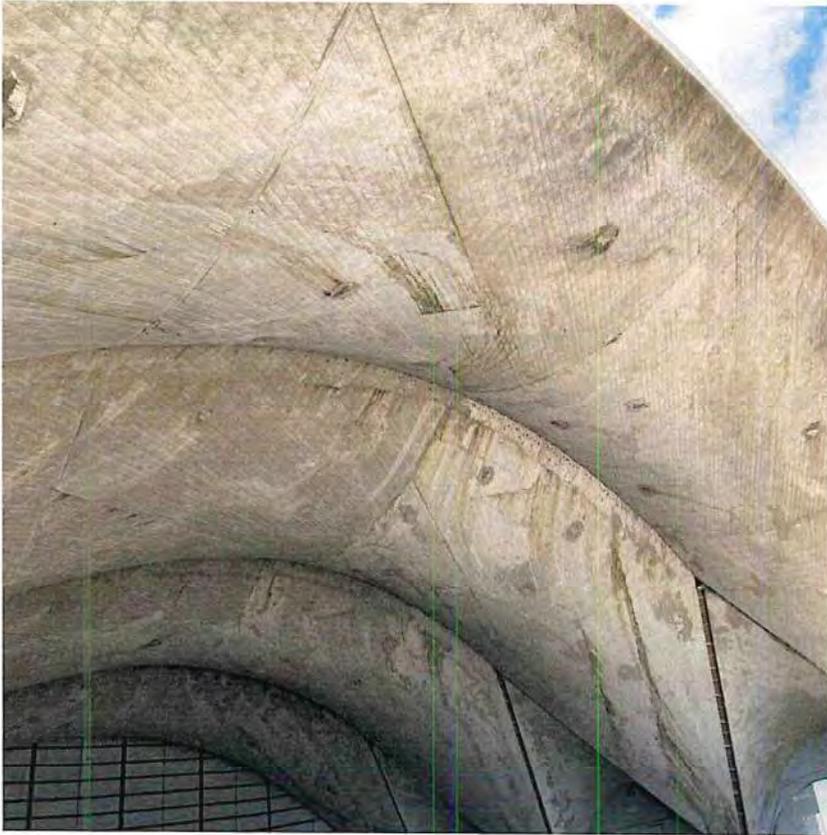
**FIGURE
3**



2020 ESRI Aerial Imagery



East General Aviation (GA) Hangar No. 1, which is proposed for demolition. Photograph taken near the southeast edge of the APE facing northwest.



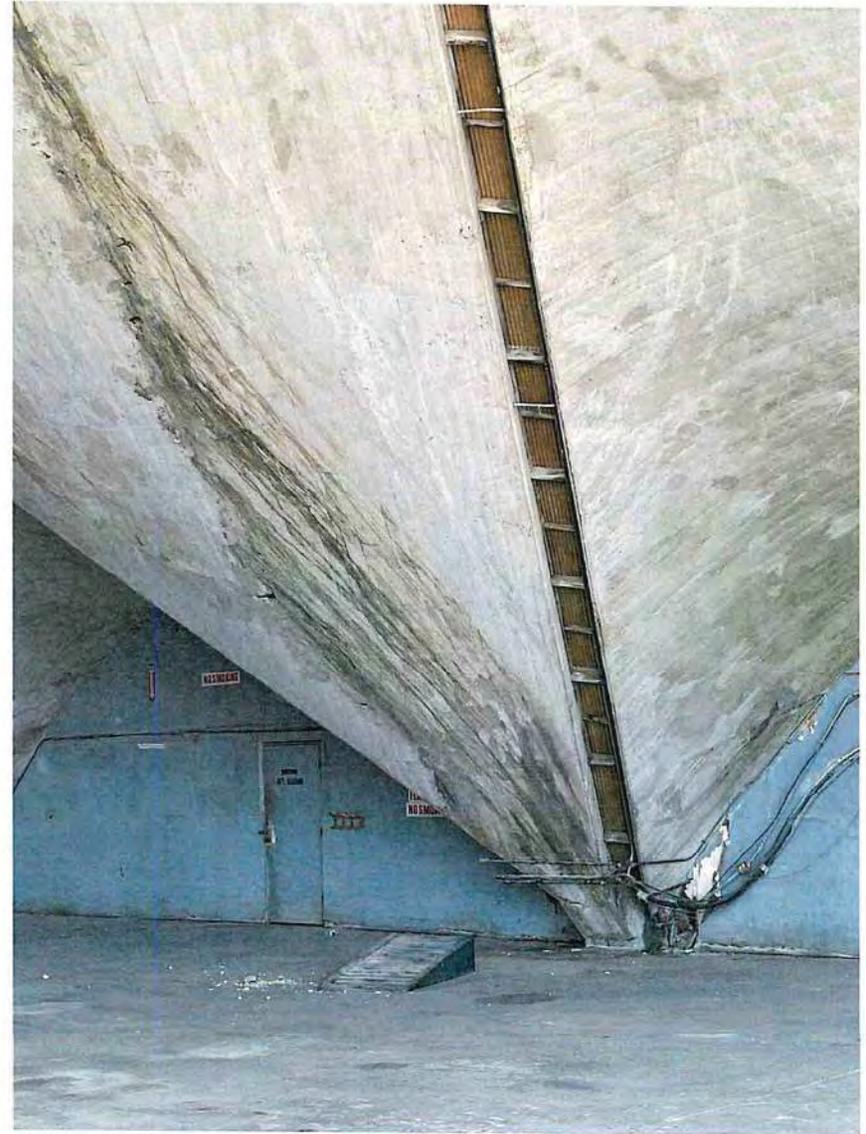
East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.



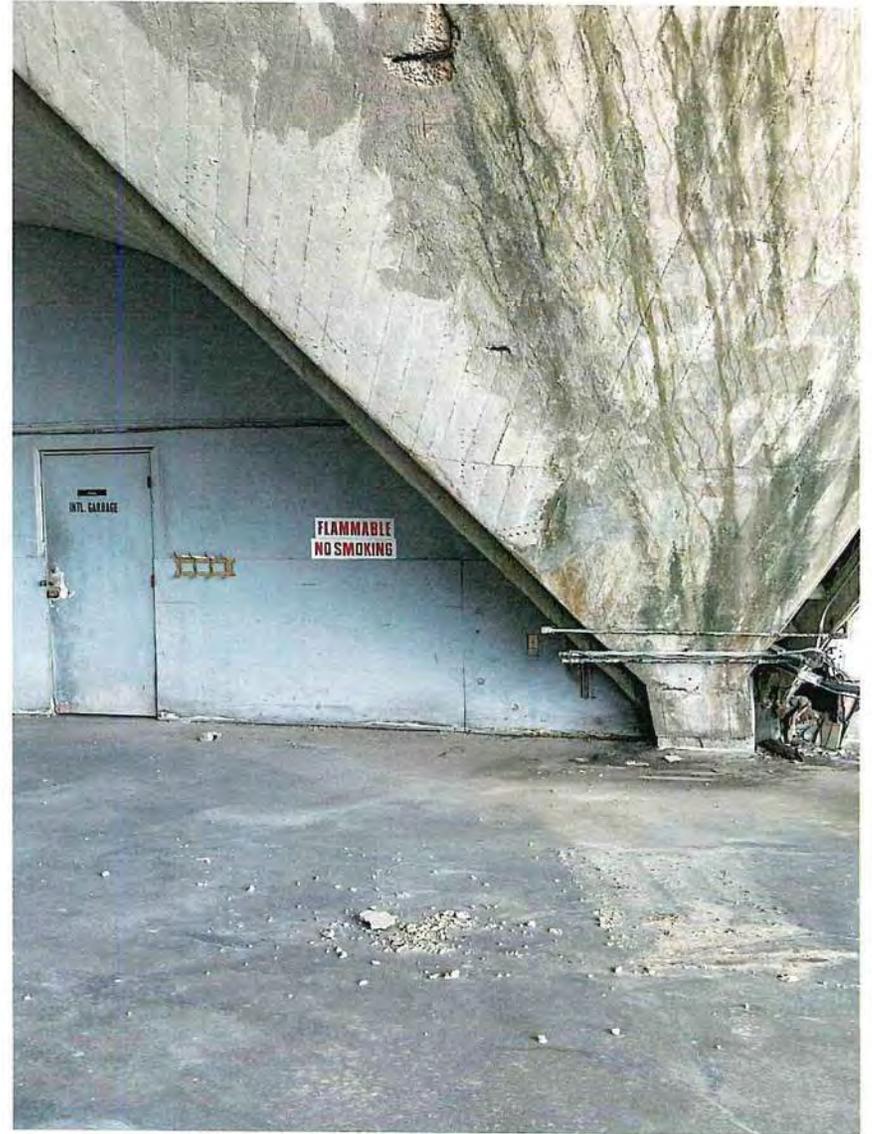
View of concrete roofing along east edge of East GA Hangar No. 1.



View of concrete ceiling and side wall from inside the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



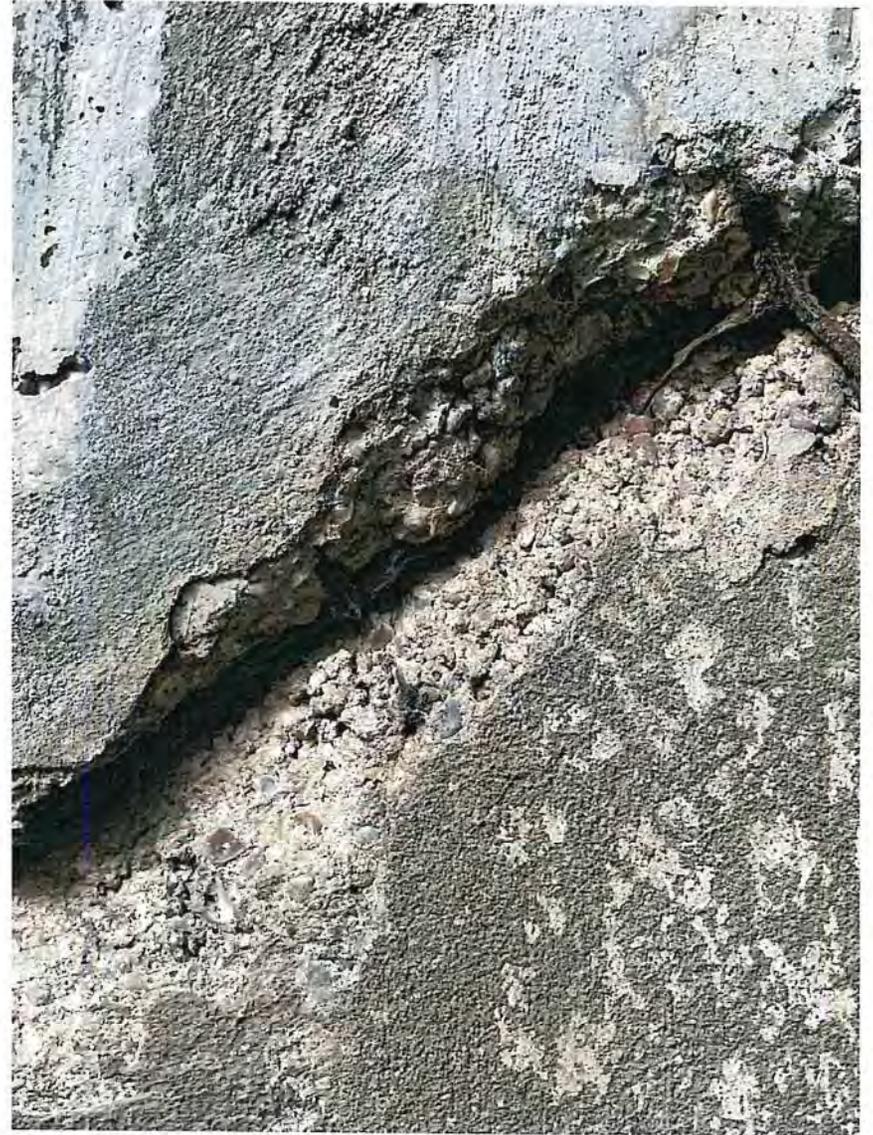
View of deteriorating concrete within the East GA Hangar No. 1.



View of deteriorating concrete within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



Large shard of concrete that has fallen from the East GA Hangar No. 1 structure.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports District Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

March 19, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

RE: Section 106 Consultation Initiation for Proposed Building Demolition, Corpus Christi International Airport, Corpus Christi, Texas

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) is initiating the process for the approval of the Airport Layout Plan at Corpus Christi International Airport (CRP) for the proposed demolition of one structure, which has been determined to be an ‘undertaking’ subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 of 36 CFR Part 800 (as amended). Maps and photos are included as Attachment A and additional photos and estimated cost to repair/rehabilitate the hangar are included as Attachment B. The proposed project is also subject to the National Environmental Policy Act (NEPA).

The East General Aviation Hangar No.1, once known as the Gault Aviation Hangar¹, is a single-story hyperbolic paraboloid arch concrete aircraft hangar constructed in 1961. The architect is Joe L. Williams. The facility has most recently served as a hangar with office space for the East Side Fixed Base Operations (FBO) serving the general aviation community. The FAA has determined an appropriate area of potential effects (APE) for the proposed undertaking to be 100 feet around the structure proposed to be demolished. Based on a cursory review of the area, there are no other structures within 100 feet of the hangar that would be eligible for listing on the National Register.

The FAA determined that the hangar may embody the distinctive characteristics of a type, period or method of construction; or represent the work of a master; or possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction. However, deterioration of the materials originally used to construct the hangar has resulted in a loss of the property’s integrity of materials. Hurricanes Harvey and Hanna both made landfall at Corpus Christi and caused damage to area infrastructure from flooding and storm-force winds. A recent preliminary structural assessment revealed multiple structural issues which could create safety issues for airport personnel and could result in the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. The hangar is not well-suited to for modern aircraft, and

¹ <https://sah-archipedia.org/buildings/TX-01-CC43>

as mentioned in Attachment B, does not have a hangar door and has height limitations due to its inherent design. In addition, the estimated cost to rehabilitate the hangar is approximately \$4.5M, which the sponsor believes is cost prohibitive. Therefore, the FAA has determined that the hangar is not eligible for the National Register and the demolition of the hangar will have no effect to historic properties.

If you have any comments or questions on this undertaking, please contact me directly at 817-222-5681 or at john.macfarlane@faa.gov.

Sincerely,

John MacFarlane
Environmental Protection Specialist
Texas Airports District Office

ATTACHMENT B



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

March 9, 2021

Mr. Victor Gonzalez
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

RE: CCIA EGA Hangar 1 Condition and Recommendations

Regarding EGA Hangar 1 and the recent Visual Inspection Report conducted on the East General Aviation Hangars at CCIA (Garver Task Order 24), we have summarized the findings for EGA Hangar 1 below.

EGA Hangar 1

EGA Hangar 1 is several decades old and there are several concerns with the overall building, its usability, and serviceability. The primary concern with the structure is safety. Several pop outs and spall have occurred, see figures below. It is our opinion that the facility not be occupied in its current condition.



Figure 1 - EGA Hangar 1



Figure 2 - Chunk of Concrete that Fell off Structure



Figure 3 - Interior view of the hangar ceiling, note popout/spall exposing steel reinforcement.



Figure 5 - Popout/Spall exposing reinforcing steel



Figure 4 - Additional popout/spalls exposing steel reinforcement



Figure 6 - Popout/Spall exposing reinforcing steel



Figure 7 - Spall on concrete eave exposing steel reinforcement



Figure 8 - Popout/Spall in finished office area exposing steel reinforcing

With several deficiencies noted, including the safety hazards from future popouts and spalls, repairs required to bring this building up to habitable standards would be extensive. In addition, the hangar has two functional flaws which make it undesirable to house and protect aircraft: The first being that it does not have a hangar door, which is a feature most tenants expect. The other is that with the shape of the hangar being a relatively gradual arch, the ceiling height reduces near the sides of the hangar. This limits the possible arrangements of aircraft and the number of aircraft that could be safely stored in the hangar, considering aircraft tail heights.

To bring the building to habitable standards, the following improvements would be recommended:

1. Repair roof system to be watertight (Approx. 33,000 sf).
2. Repair concrete spalls/popouts, protect any exposed steel reinforcing with appropriate coating. This may include additional structural support and an underside membrane (Approx. 33,000 sf).
3. Treat all exposed corroded steel components with a rust inhibiting coating.
4. Demolish and rebuild all finished office spaces to current building codes (Approx. 6,000 sf), including exterior walls, windows, doors, mechanical, electrical, and plumbing.
5. Remove any large plants that are in contact with the building and re-grade.

The approximate cost to rehabilitate the existing hangar would be in excess of \$4.5 Million.

Since the repair required is extensive and the design isn't well suited as a hangar, the airport may consider demolishing the structure and re-building a new hangar in its place when funding allows.

The approximate cost to demolish the Hangar would be \$250,000.

Let us know if you have any questions.

Thanks,

Derek Mayo, PE PMP
Garver LLC

From: Info_Tech@thc.state.tx.us
To: [MacFarlane, John \(FAA\)](#)
Subject: Project Review Submission
Date: Friday, March 19, 2021 1:50:46 PM

Thank you for submitting project: Corpus Christi International Airport Gault Hangar

Tracking Number: 202107070

Due Date: 4/18/2021 12:03:34 PM

TEXAS HISTORICAL COMMISSION

From: noreply@thc.state.tx.us
To: [MacFarlane, John \(FAA\); reviews@thc.state.tx.us](mailto:MacFarlane, John (FAA); reviews@thc.state.tx.us)
Subject: Section 106 Submission
Date: Thursday, April 15, 2021 4:26:33 PM



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202107070

Date: 04/15/2021

Corpus Christi International Airport Gault Hangar
1000 International Drive
Corpus Christi, TX 78406

Description: The proposed project would demolish a 1961 aviation hangar.

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst, Hansel Hernandez, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: The THC History Programs Division, led by Justin Kockritz, has completed its review of the submitted materials. The former Gault Hangar, designed by architect Joe L. Williams and engineer Wallace Wilkerson, features a unique and

exuberant application of thin-shell concrete and vaulted hyperbolic paraboloid forms. Before working on this hangar, Wilkerson worked directly with architect Richard Colley who collaborated with Mexican architect and thin-shell concrete master Félix Candela on projects including the Texas Instruments Semiconductor Building in Dallas and the Great Southwest Industrial Park in Arlington. Based on available information, THC recommends that the Hangar is eligible for listing in the National Register of Historic Places under Criterion C for its design and engineering. Although there are areas of spalling and there have been alterations such as the infilling of the smaller flanking shells, THC recommends that the Hangar retains sufficient historic integrity to convey its historic significance. Division of Architecture: Given the age of the building, its architectural pedigree, its historical significance, and its high level of integrity, we strongly urge reconsideration of the demolition. We ask that the FAA explore the feasibility of developing a plan for its rehabilitation. We certainly welcome the discussion of any alternative to demolition. If demolition cannot be prevented and the adverse effect avoided, please notify us of your intent to negotiate appropriate mitigation and enter into a Memorandum of Agreement to execute that mitigation.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, hansel.hernandez@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

November 23, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Re: Response to Initial Coordination - THC Tracking #202107070
Corpus Christi International Airport (CCIA)
Gault Hangar Demolition Project
Corpus Christi, Texas

Dear Mr. Wolfe,

In accordance with Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas, this letter is to inform the Texas Historical Commission (THC) of the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) in Nueces County, Texas. In response to the letter received from your office dated on April 15, 2021, we have coordinated with our environmental and engineering consultant and provide this letter as notification of our intent to negotiate appropriate mitigation and to enter into a Memorandum of Agreement (MOA) to execute such mitigation.

The Gault Hangar, also known as East General Aviation (G.A.) Hangar No. 1, and the associated office structures are planned for demolition due to safety concerns. A recent structural assessment of the hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Based on this assessment it was determined that the hangar is unsafe and demolition is recommended. Findings of the structural assessment are discussed in the enclosed Structural Observation Report. Photographs of the East General Aviation (G.A.) Hangar No. 1 are also enclosed.

Options to demolition and to avoid adverse impacts were considered and evaluated, including abandon in place and remediation of existing structure. However, due to the unsafe conditions of the existing structure, abandon in place is not a reasonable option as it risks life and property. Because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety with the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. Remediating the existing structure is also not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell. A preliminary options analysis summary is also enclosed for your reference.

We understand that with our intention to proceed with the proposed demolition, we must continue to work with the Federal Aviation Administration (FAA) and THC to ensure compliance with Section 106 and Section 4(f). These evaluations will be conducted concurrently with the FAA's National Environmental Policy Act process. Section 106 procedures will be followed and

conducted by our professional historic consultants, alongside our federal partner, the FAA. Additional cultural resource surveys would be conducted as necessary and mitigation measures will be proposed, which could take many forms, such as a brochure including the history and architectural renderings of the hangar. An MOA will be prepared with FAA oversight and mitigation measures will be refined with continued consultation with the THC and with consulting parties.

Thank you for your time in reviewing this submittal. If you have any questions or wish to discuss this further, please feel free to contact me.

Sincerely,

Victor Gonzalez
Development and Construction Manager
Aviation Department
City of Corpus Christi

Enclosures:

Site Photographs
Structural Observation Report
Options Analysis Summary

cc: Derek Mayo – Project Manager, Garver, Inc.
John MacFarlane - Environmental Protection Specialist, FAA



Photo 1. View of front side of Gault Hangar.



Photo 2. Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 3. Sever concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 4. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 5. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 6. Severe concrete spalling and corroded steel reinforcing at existing support.

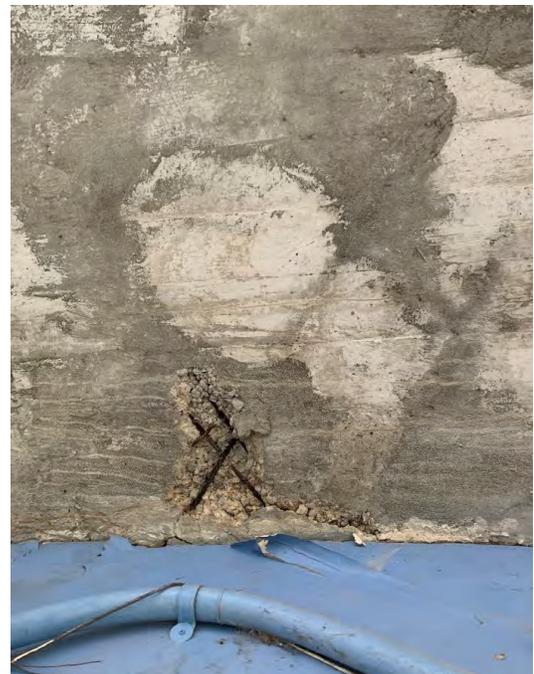


Photo 7. Severe concrete spalling and severely corroded steel reinforcing at roof line. Blue is interior wall.



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September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcing at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcing for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





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TEL 512.485.0009
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September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

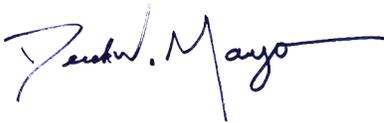
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

From: [MacFarlane, John \(FAA\)](#)
To: ["Victor Gonzalez"](#); [Mayo, Derek W.](#); ["Tyler Miller"](#); [Chavez, Susan W.](#); [Mountain, Ryan C.](#); [Elsy Borgstedte Sanchez, Marcelino \(FAA\)](#)
Subject: FW: Section 106 Submission
Date: Monday, December 20, 2021 1:45:00 PM
Attachments: [Consulting Party Invitation to American Airlines Retirees Committee.doc](#)

Please assemble a list of potential consulting parties. A letter similar to the attached will be sent to those we identify as consulting parties. Please send me the list and a draft letter based on the attached for my review. Once we have our consulting parties and a draft MOA, then we'll contact the ACHP.

John

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, December 20, 2021 11:21 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; reviews@thc.state.tx.us
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202203939
Date: 12/20/2021
Corpus Christi International Airport Gault Hangar
1000 International Drive

Description: Response to THC's 4/15/2021 letter stating that CCIA intends to continue the 106 consultation process and enter into an MOA to demolish the Gault hangar (East Aviation Hangar No. 1).

Dear john.macfarlane@faa.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst and Ashley Salie, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs that the scope of work to demolish the Gault Hangar at the Corpus Christi International Airport, which is eligible for listing in the National Register of Historic Places under Criterion C, Architecture, will have an adverse effect on historic properties. Please submit the adverse effect determination to the ACHP and provide its response to THC. Additionally, please gather consulting parties for additional mitigation input on adverse effects. THC looks forward participating in future meetings to discuss mitigation of the adverse effect.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, ashley.salie@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

From: [Ashley Salie, NCIDQ](#)
To: [MacFarlane, John \(FAA\)](#); [Justin Kockritz](#)
Cc: [McMath, Dean \(FAA\)](#); [Foreman, Melissa \(FAA\)](#); [Alex Toprac](#)
Subject: RE: Corpus Christi International Airport Gault Hangar, THC Tracking #202203939
Date: Tuesday, September 13, 2022 4:04:44 PM
Attachments: [thc_email_logo_65px_e6b590e5-b608-48df-a46f-bbaf70308c09.png](#)
[thc_email_signature_url_2_9467b7d4-3cf0-4ad6-a56a-a173b9a5102c.png](#)
[thc_email_signature_fb_18px_f52434f2-a1bc-4678-9a22-33dd4606f18b.png](#)
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[thc_email_signature_email_18px_61592cdc-f8f6-43c2-83c5-648830375491.png](#)
[rp23_email_sig_promo_2a05dbdf-82ce-4e95-9f54-fa6033d9a6b4.jpg](#)

Hi John,

Thanks for your email regarding ACHP notification. Yes, even though we concurred with the adverse effect determination, it is still part of the regulatory process to [notify the ACHP](#) so they have the opportunity to be involved with the project if they so choose. As you know, the ACHP often declines to participate in the mitigation process, and we presume they will not participate on this project, either, as it seems to be fairly straightforward.

Please let us know if you have any other questions!

Sincerely,

Ashley



Ashley Salie, NCIDQ

Program Coordinator, Texas Preservation Trust Fund Grant and Easement Programs
Division of Architecture
P.O. Box 12276, Austin, Texas 78711-2276
Phone: +1 512 463 6047
Fax: + 1 512 463 6095



From: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Sent: Tuesday, September 13, 2022 2:48 PM
To: Ashley Salie, NCIDQ <Ashley.Salie@thc.texas.gov>; Justin Kockritz <Justin.Kockritz@thc.texas.gov>
Cc: McMath, Dean (FAA) <Dean.Mcmath@faa.gov>; Foreman, Melissa (FAA) <Melissa.Foreman@faa.gov>
Subject: Corpus Christi International Airport Gault Hangar, THC Tracking #202203939

CAUTION: External Email – This email originated from outside the THC email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin and Ashley,

Your 12/20/2021 letter stated to submit the adverse effect determination to the ACHP and provide its response to THC. However, the THC concurs with the scope of work to demolish the hangar and that this undertaking will be an adverse effect. The THC also appears to agree with the mitigation offered that will be included in the MOA. In our experience, if the SHPO concurs with the agency scope of work and adverse effect, and that the project is not controversial, coordination with the ACHP is not necessary. If however, there was a disagreement between our agencies, then the ACHP would be brought into the loop. Therefore, is it still the THC's recommendation to coordinate with the ACHP?

Thank you,

John MacFarlane

Environmental Protection Specialist

Federal Aviation Admin.

Texas Airports District Office

Phone: 817-222-5681



October 18, 2022

John MacFarlane
Environmental Protection Specialist
Federal Aviation Administration
Texas Airports District Office
10101 Hillwood Parkway
Fort Worth, Texas 76177

Ref: *Demolition of the Corpus Christi International Airport East General Aviation Hangar No. 1
506 Hangar Lane, Corpus Christi, Nueces County, Texas
ACHP Project Number: 18809*

Dear Mr. MacFarlane:

On September 28, 2022, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Because the ACHP did not respond within 15 days with a decision regarding our non-participation, the ACHP assumes that the Federal Aviation Administration continued the consultation to resolve adverse effects.

However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Texas State Historic Preservation Office and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

If you have any questions or require our further assistance, please contact Ms. Jaime Loichinger at 202-517-0219 or by e-mail at jloichinger@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

DRAFT

**ATTACHMENT 5
INTERESTED PARTIES MEETINGS**

Consulting Parties (updated August 2022)

Name	Contact information	Letter/email sent	Response Y/N
Nueces County Historical Commission	Kathy Wemer 518 Peerman Pl Corpus Christi, TX 78411 rboyd@stx.rr.com	5/6/22	Yes
Corpus Christi Historic Preservation Officer	Nina Nixon-Mendez, Asst. City Manager 2406 Leopard St Corpus Christi, TX78408 ninam@cctexas.com	5/6/22	Yes
Nueces County Historical Society	John Montalvo, President PO Box 60003 Corpus Christi, TX 78466-0003 info@nuecescountyhistoricalsociety.org	5/6/22	No
South Texas Flying Club at KCRP	PO Box 60526 Corpus Christi, TX 78406 info@southtexasflyingclub.org	5/6/22	No
Corpus Christi AIA Chapter	Jay Porterfield, AIA jporterfield@sntarchitects.com 6262 Weber Road, Suite 310 Corpus Christi, TX 78413-4031 p: 361.854.1471 f: 361.854.1470	5/6/22	Yes
Richter Architects (Local Architect and local preservation stakeholders)	David Richter and Elizabeth Chu Richter 201 South Upper Broadway Corpus Christi, Texas 78401 drichter@richterarchitects.com (361) 882-1288	5/6/22	Yes
MidTexMod	Elizabeth Porterfield, President P.O. Box 12734 Austin, Texas 78711 Her personal email is: rowan14@hotmail.com 737-236-0113 (office) info@midtexmod.org	5/6/22	Yes
Ben Koush Associates (Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission)	Ben Koush 816 Wilkes Street Houston, TX 77009 ben@benkoush.com 713.456.0092	5/6/22	Yes

**Corpus Christi International Airport
Gault Hangar Section 106 Consultation
Response to Consulting Party Comments – June 30, 2022**

The Federal Aviation Administration (FAA) contacted potentially interested members of the public and organizations on May 6, 2022 to request participation as a consulting party for the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (CCIA) as part of Section 106 of the National Historic Preservation Act consultation activities. On June 9, 2022, the interested consulting parties were invited to participate in a meeting to provide information about the proposed undertaking and mitigation options, and to provide input. The meeting was held virtually on June 30, 2022. Eighteen people participated, including five invited consulting parties, three representatives from the FAA, three representatives from the CCIA, and two representatives from the Texas State Historic Preservation Office (SHPO), and five consulting team members. The team provided a presentation of the background of the hangar, the existing condition, purpose and need for the project, consultation activities, and mitigation options. An open discussion period followed the presentation. This document has been developed to provide response to the comments and input received during the consulting parties meeting.

Consulting Party Input Received

1. Consulting Party: David Richter

Comment: Mr. Richter suggested that the Airport consider stabilizing the structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. He also suggested a review of the structure from a 3rd party with thin concrete expertise.

Response: The purpose of the project is to address the safety concerns posed by the deteriorating structure. Large pieces of concrete have fallen from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. Chunks of concrete from the hangar have been found near the adjacent runway apron which poses a safety hazard for both people and aircraft.

The Airport considered and evaluated the possibility of repairing the existing structure. Repair and rehabilitation of the structure proved economically and logistically challenging. Costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. Patch and repair of concrete and other elements would not fully address the safety concerns since the existing substructure exhibits severe deterioration. The structural assessment performed by a registered professional engineer in 2021 identified systemic failure of the steel reinforcement due to prolonged exposure to the corrosive coastal environment and determined that the existing superstructure is not salvageable. With the known systemic failures, there is no reasonable way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety.

Through research and investigation of the hangar, the project team did not identify any individuals with a level of expertise beyond persons who conducted the structural assessment in 2021.

2. Consulting Party: Jay Porterfield

Comment: Mr. Porterfield inquired as to whether portions of the structure might be viable to keep and potentially display.

Response: Because of the systemic and excessive water intrusion, mold, and structural deterioration throughout the hangar, portions of the structure were not deemed reasonable to salvage. The Airport also considered whether sections of the hangar could be removed and placed in a location for interpretive display. However, it was determined that this option would not be reasonable and prudent due to the deteriorated state of the concrete and lack of available public space at the Airport to house a meaningful display.

3. Consulting Party: Ben Koush

Comment: Mr. Koush inquired about the use of special tax credits for discounts on the construction and repair of the structure.

Response: Several stipulations would need to be met to take advantage of federal and state historic rehabilitation tax credits. The Airport is owned and operated by the City of Corpus Christi which limits their ability to apply for tax credits. The City could lease the building to a private for-profit or non-profit entity as a 39-year lease on the property and apply for tax credits, but the private or non-profit entity would have to pay for the rehabilitation project which is a significant cost. Furthermore, alternative uses of a rehabilitated structure was not considered due to regulatory guidelines, safety, and liability. The structural assessment report of the hangar indicates that it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements.

4. Consulting Party: Ben Koush

Comment: Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.

Response: Due to the structural deficiencies identified with the hangar and excessive cost for rehabilitation, adaptive reuse of the hangar was not considered as a viable alternative.

5. Consulting Party: Nina Nixon-Mendez

Comment: Ms. Nixon-Mendez agreed with the proposed mitigation options presented. She also suggested consideration of creating a 3-D model of the structure as mitigation.

Response: A virtual 3-D model of the structure will be considered as one of the proposed mitigation options.

6. Consulting Party: Christopher Medina

Comment: Mr. Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, for wider distribution and a larger internet presence.

Response: This suggestion will be included in the proposed mitigation options.



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Meeting Notes

Date: 06/30/2022

Project: CCIA Gault Hangar

Location: MS Teams

Participants: Ashley Salie and Justin Kockritz, (THC); Tyler Miller, Victor Gonzales and John Johnson (CCIA); Marcelino Sanchez, John MacFarlane and Melissa Foreman (FAA); Deborah Dobson-Brown and Kurt Korfmacher (AmaTerra); Susan Chavez, Derek Mayo, and Michele Lopez (Garver)

Consulting Parties: Nina Nixon, Ben Koush, David Richter, Jay Porterfield, Christopher Medina for Elizabeth Porterfield

RE: Consulting Parties Meeting

I. Welcome/Introductions

John MacFarlane (FAA) welcomed participants to the call and introduced the project and purpose of the call which is to provide information on the demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) and provide an opportunity for discussion and feedback from the consulting parties. All participants then introduced themselves. Susan Chavez (Garver) provided a brief overview of meeting and agenda.

II. Project Background

- a. Deborah Dobson-Brown presented a history of the Gault Hangar which included the following points:
 - o Roger Gault opened a civilian pilot training program.
 - o In 1960, Roger Gault hired Joseph Williams, who hired Wallace Wilkerson (Engineer), to construct a hangar for the flight school.
 - o The structure is a 30,000 square foot, thin-shelled concrete hangar with no internal columns. The design accommodated multiple aircrafts and storage at the time.
 - o Three other thin-shelled concrete structures were constructed by Williams.
 - o The estimated cost of construction was \$32,000 and construction was completed in 1961.
 - o The hangar was privately owned and located on property under a 40-year lease with the City of Corpus Christi, which ended in March 2020.
- b. Derek Mayo discussed the structural assessment performed by Garver and the condition of the structure.
 - o A visual inspection was conducted by a licensed structural engineer in 2021.
 - o The Airport has not occupied the structure because of the unsafe conditions.
 - o There have been several instances of concrete falling from ceiling (1.5 ft piece of concrete is shown in photo in presentation).
 - o Severe concrete cracking and spalling, exposed corroded steel, and flaking, as well as failed roofing were observed during the structural assessment.
 - o Additionally, the steel reinforcement is close to thin concrete shell and exposed in some areas.



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- The hangar was found to be in complete disrepair, with evidence of roof leaks and moisture penetration.
 - No record of drawings could be found which would indicate the construction methods and inspection.
 - The hangar was constructed on land leased from the Airport, and the tenant was responsible for the structure. The City inherited the structure once the lease was up.
 - The structural assessment found that the structure was unsafe.
- c. The Purpose and Need of the project was presented.
- The purpose of the project is to eliminate the safety risk.
 - The project is needed because the existing structure is structurally deficient and poses a safety hazard.
- d. The Alternatives that were considered to address the safety issue of the hangar were discussed as follows:
- Abandon in place. This alternative does not meet the purpose and need because the safety issue would still exist.
 - Remediate structural issues. This alternative is not reasonable or feasible because it is not certain that remediation would be able to improve the structural issues to a safe condition. Additionally, the cost for the extensive repairs and renovation that would be required are excessive and are not reasonable for the Airport.
 - Demolish Structure. The alternative to demolish the structure is the proposed action that the Airport has decided to move forward and what we are discussing today. This alternative would remove the safety issues and is a reasonable cost.
 - Derek Mayo presented additional information on the safety issues associated with the condition of the hangar. He stated that foreign object debris (FOD) is an airside concern because crumbling concrete from the structure can get blown onto the adjacent runway causing a hazard for aircraft. Additionally, the wings of the hangar structure protrude over an adjacent structure with the potential to damage the adjacent structure.

III. National Environmental Policy Act (NEPA)

- a. The project is subject to the National Environmental Policy Act (NEPA). An overview of the regulations and processes required by NEPA was discussed. An Environmental Assessment is currently being prepared for the project.
- b. Section 4(f) of the Department of Transportation Act requires consideration of alternatives when a project will cause adverse impacts to a historic resource. Section 4(f) documentation is currently being prepared for review and approval by FAA.
- c. Section 106 of the National Historic Preservation Act (NHPA) is in process. This consulting parties meeting is part of the process, as well as coordination with the State Historic Preservation Officer (Texas Historical Commission (THC)) and the Advisory Council on Historic Preservation (ACHP).



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IV. Coordination Completed

Coordination completed to date was presented and includes:

- March 2021 – initiated review with THC
- April 2021 – THC determined that the hangar was eligible for the National Register of Historic Places (NRHP) and requested justification for the demolition and analysis of alternatives to avoid or minimize impacts to the hangar.
- November 2021 - Alternatives and justification for demolition, including structural assessment report, submitted to THC
- December 2021 – THC responded with an adverse impact determination and requested development of mitigation options to offset the adverse impact of the project and coordination with consulting parties and ACHP.
- April 2022 – Coordination call conducted with FAA, Airport, and THC to discuss potential mitigation options and identify consulting parties.
- May 2022 – Consulting party invitations sent.
- June 2022 – Consulting party meeting held (today).

V. Mitigation Options

Deborah Dobson-Brown discussed the proposed mitigation options that were developed in coordination with THC, FAA and the Airport. She described the following mitigation options:

- Article on THC Historic Sites Atlas
 - An article documenting the history of the hangar posted on the THC Historic Sites Atlas which is a resource that historians can use and is available to the public.
- Historic American Building Survey (HABS)
 - HABS is a way of documenting significant resources which includes detailed photographs and a summary. The purpose is to tell whole story of the building and to archive as a resource.
- Interpretative sign
 - An interpretive sign provides history and photos of the hangar and would be accessible to travelers of the airport and pedestrians. A location has been proposed outside the terminal in a publicly accessible area of the Airport.
- QR code
 - A QR code provides easy access to information posted online and could be included on various materials, including articles, interpretive sign, and linked to project website.
- CCIA website info
 - Webpage hosted on the Airport website with information and links to resources.
- Videography



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- Recording of demolition that can be used as a learning resource by engineers to see how the hangar was constructed and structural components.

VI. Discussion

A discussion of the project and mitigation options followed the presentation. A summary of the discussion is as follows:

- Nina Nixon-Mendez asked why the rehabilitate option was not reasonable. The project team responded that the option was not reasonable because it would require construction of a whole other superstructure which may not keep the integrity of the structure and negate the purpose of rehabilitation. Additionally, the cost of rehabilitation was significant.
- Ms. Nixon requested a copy of the structural report. The project team stated that it would be sent to the consulting parties.
- David Richter – stated that he can understand the engineer’s observations, but what is salvageable cannot always be observable. He would like for the Airport to look into stabilizing this structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. Is there another way to have this structure survive? Mr. Richter suggested a performance review from a 3rd party reviewer/ engineer with thin concrete expertise.
- It was discussed that the Airport has no immediate plans for the area after demolition.
- Jay Porterfield asked whether any portions of the structure that might be viable to keep? Derek Mayo stated that water damage seems to permeate through the entire structure which would make it difficult to keep portions of the structure.
- John McFarlane (FAA) stated that the Airport can look at small portions to memorialize the structure at a different or similar location and can look into cost for patch and repair. However, costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. The airport must consider cost to make this a viable project. It was discussed that the process for conducting the repairs is also a safety issue which must also be considered.
- Mr. Richter stated that documentation of the building is not nearly the same as presence of the building. He stated that thin shell concrete can be very efficient and robust. Due diligence should include an engineer with expertise for thin shelled structure to review hangar and look at possibility to be repaired. It would be prudent to refer to an expert and the cost to get an expert to review.
- Ben Koush asked if special tax credits could be used for discounts on the construction and repair. The project team responded that tax credits had not been discussed as a funding source for rehabilitation. Justin Kockritz (THC) responded that although the hangar is not listed on the NRHP, it may be possible to go through the listing process while applying for tax credit program. The process to list a property on NRHP is typically 18-24 months. Justin indicated that tax credits would be 20% federal tax credit and 25% state tax credit. Justin offered to send follow-up information on the program.
- Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.
- Ms. Nixon agreed with the proposed mitigation options presented. She also suggested 3-D models might be something to consider as well.



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- Christopher Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, where they could post on their website for wider distribution. This would provide a larger internet presence to various websites with structure history and information.

VII. Next Steps/Action Items

- Project team will provide assessment and follow-up from discussion by the group today.
- FAA will follow up with consulting parties, either by email or another meeting.
- Project team will distribute the 2021 Structural Assessment.
- Preparation of Memorandum of Agreement (MOA) that will include the mitigation options and will be signed by FAA, THC, and the Airport.
- Coordination with ACHP.
- Preparation of Draft EA.

From: [MacFarlane, John \(FAA\)](#)
To: [David Richter](#)
Cc: [Jay Porterfield](#); rboyd@stx.rr.com; ben@benkoush.com; info@midtexmod.org; aiacced@aiacorporuschristi.org; [Nina Nixon-Mendez](#); [Elizabeth Porterfield](#); [Chavez, Susan W.](#); [Victor Gonzalez](#); [John R Johnson](#); [Elsy Borgstedte](#); [Tyler Miller](#); [Lopez, Michele A.](#); [Deborah Dobson-Brown](#); [Kurt Korfmacher](#); [Mayo, Derek W.](#); [Foreman, Melissa \(FAA\)](#); [Justin Kockritz](#); [Ashley Salie](#); [Alex Toprac](#); [Sanchez, Marcelino \(FAA\)](#)
Subject: RE: CCIA Gault Hangar Responses to Consulting Party Meeting

We appreciate the attention and concern by the consulting party members. Based on careful consideration, the FAA, with input from CCIA and its consultants, finds that it is not feasible or prudent to rehabilitate the hangar.

The rehabilitation must be both feasible and prudent. An alternative is not feasible if it cannot be built as a matter of sound engineering judgment. Based on the method of construction, the cost would likely be extraordinary and the airport would not likely be able to fund such a project within its budget. Mr. Richter mentioned in his email that a structural engineer at an engineering firm stated that he thinks it could be feasibly restored. However, would that company be interested in taking on the project and what would be the source of funding. We investigated the use of federal and state tax credits to offset rehabilitation costs. Because the hangar is owned by the City of Corpus Christi (a government agency), it cannot apply for tax credits. If the building had a use under a private for-profit or non-profit entity, that private entity could apply for the tax credits. They would have to agree to a 39-year lease on the property and pay for the rehabilitation project. However, finding an eligible and interested entity to take over the hangar would again be very difficult and may not be in the best interest of the airport. It would ultimately be the airport's decision whether to sign a lease with an outside for- or non-profit entity.

An alternative would not be prudent if it results in unacceptable safety or operational problems and it results in additional construction, maintenance, or operational cost of an extraordinary magnitude. Again, with the cost to rehabilitate likely to be extraordinarily high for the airport to incur (because they would not be able to apply for tax credits). Without the necessary funds to properly rehab it, the hangar will continue to deteriorate and has potential to create foreign object debris (FOD) during high winds and/or hurricane conditions. FOD is any object, live or not, located in an inappropriate location in the airport environment that has the capacity to injure airport or air carrier personnel and damage aircraft.

The hangar is both a safety concern and an inefficient use of the airport as a federally funded asset. Even if the structure was sound, it is not a structure suitable for efficient use by airport users. The shape of the structure restricts useable square footage with reduced heights at the edges of the hangar. The same is true of the interior, the useable square footage of the office space is reduced due to the structure shape. In addition, the superstructure shape restricts the installation of a standard hangar door, which is a crucial element to an aircraft hangar and to be able to condition the air in the hangar, otherwise, the salt-laden coastal winds will continue to create corrosive conditions.

In addition, the consulting party meeting was held on June 30, 2022. We believe there was ample time to provide comments after the June 30 meeting, typically 30 days.

Moreover, the stakeholders proposed mitigation will likely generate more awareness and appreciation for the structure than the current situation. Many aren't aware of the hangar as the front of the building faces the airfield, which is not open to the public and the rear of the hangar is not notably visible from the public side of the airport. The proposed mitigation will bring to light the history behind the hangar.

Thank you for your participation and we look forward to providing each of you a draft copy of the Memorandum of Agreement (MOA) which will contain proposed mitigation measures. We will soon be submitting a package to the Advisory Council on Historic Preservation notifying them of the project and the process thus far.

Thanks,
John MacFarlane
Environmental Protection Specialist
Federal Aviation Admin.
Texas Airports District Office
Phone: 817-222-5681

From: David Richter <drichter@richterarchitects.com>
Sent: Monday, September 19, 2022 9:00 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Cc: Jay Porterfield <jporterfield@sntarchitects.com>; rboyd@stx.rr.com; ben@benkoush.com; info@midtexmod.org; aiaced@aiacorporuschristi.org; Nina Nixon-Mendez <NinaM@cctexas.com>; Elizabeth Porterfield <rowan14@hotmail.com>; Chavez, Susan W. <SWChavez@GarverUSA.com>; Victor Gonzalez <Victor@cctexas.com>; John R Johnson <johnrj@cctexas.com>; Elsy Borgstedte <elsyb@cctexas.com>; Tyler Miller <tylerm@cctexas.com>; Lopez, Michele A. <MALopez@GarverUSA.com>; Deborah Dobson-Brown <ddbrown@amaterra.com>; Kurt Korfmacher <kkorfmacher@amaterra.com>; Mayo, Derek W. <DWMayo@GarverUSA.com>; Foreman, Melissa (FAA) <Melissa.Foreman@faa.gov>; Justin Kockritz <Justin.Kockritz@thc.texas.gov>; Ashley Salie <Ashley.Salie@thc.texas.gov>; Alex Toprac <Alex.Toprac@thc.texas.gov>; Sanchez, Marcelino (FAA) <Marcelino.Sanchez@faa.gov>
Subject: Re: CCIA Gault Hangar Responses to Consulting Party Meeting

Consulting Party Colleagues,

At the conclusion of the June 30 meeting, it was my impression that there were still open questions and pending considerations related to the ultimate disposition of the Gault Aviation Building. A follow-up meeting was discussed. In that spirit, I made a call to Adam Johnson from Walter P Moore Engineering a

structural engineer with whom I frequently work. WPM is a national structural engineering firm headquartered in Houston and with 24 offices in the US and 6 international. WPM has active projects with thin-shell concrete, both new construction (typically for storm shelters) and restoration (a similar historic hangar). I sent Adam a copy of the engineering study for the Gault Aviation Building for his review. He subsequently shared the report with a WPM engineer colleague who specializes in thin-shell concrete structures and sits on a national committee for thin-shell concrete at the American Concrete Institute. The colleague's initial reaction from his review of the report was that he thinks that the Gault building could be feasibly restored. He further indicated that should there be a desire to save it, visual observations from a site visit could verify feasibility with more confidence.

We have an unfortunate history in Corpus Christi of demolishing buildings that are not seen to have current useful purpose even if there is no better or immediate use for their site. The net result is that our architectural legacy is very thin for a city of our size and age. It is notable that among the Consulting Parties on this committee are representatives of a Houston architectural history/advocacy group that recognize that thin-shell architecture represents an important part of Corpus Christi's architectural legacy and identity. It is one of life's ironies that others often see qualities in us that we do not see in ourselves. I think it is likely that in any other major city in Texas this building would be seen as a valuable financial and cultural asset and not be at risk to be demolished to create an open site of undesigned purpose.

This is a significant and valuable building. It is of a style and engineering/construction technology that is essentially a lost art - one that was uniquely prevalent in Corpus Christi in the 1960s. Thin-shell buildings are now being recognized, rehabilitated and treasured where they still exist across the country. Additionally, it is entirely possible that cost to structurally repair and stabilize the building may be similar or even less than the cost to demolish. It is my opinion that it would be prudent to undertake additional study before moving forward with demolition.

Respectfully submitted,

David Richter, FAIA

David Richter, FAIA
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Corpus Christi, Texas 78401
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www.richterarchitects.com

From: "MacFarlane, John (FAA)" <John.MacFarlane@faa.gov>
To: "Jay Porterfield" <jporterfield@sntarchitects.com>, rboyd@stx.rr.com, "ben@benkoush.com" <ben@benkoush.com>, "info@midtexmod.org" <info@midtexmod.org>, "David Richter" <drichter@richterarchitects.com>, "aiacced@aiacorporuschristi.org" <aiacced@aiacorporuschristi.org>, "Nina Nixon-Mendez" <NinaM@cctexas.com>, "Elizabeth Porterfield" <rowan14@hotmail.com>
Cc: "Chavez, Susan W." <SWChavez@GarverUSA.com>, "Victor Gonzalez" <Victor@cctexas.com>, "John R Johnson" <johnrj@cctexas.com>, "Elsy Borgstedte" <elsyb@cctexas.com>, "Tyler Miller" <tylerm@cctexas.com>, "Lopez, Michele A." <MALopez@GarverUSA.com>, "Deborah Dobson-Brown" <ddbrown@amaterra.com>, "Kurt Korfmacher" <kkorfmacher@amaterra.com>, "Mayo, Derek W." <DWMayo@GarverUSA.com>, "Foreman, Melissa (FAA)" <Melissa.Foreman@faa.gov>, "Justin Kockritz" <Justin.Kockritz@thc.texas.gov>, "Ashley Salie" <Ashley.Salie@thc.texas.gov>, "Alex Toprac" <Alex.Toprac@thc.texas.gov>, "Sanchez, Marcelino (FAA)" <Marcelino.Sanchez@faa.gov>
Sent: Friday, August 19, 2022 10:40:36 AM
Subject: CCIA Gault Hangar Responses to Consulting Party Meeting

All,

I'd like to thank you all for attending the June 30, 2022 consulting party meeting for the Gault Hangar at CCIA. Your thoughts and comments on ideas for dealing with the hangar are greatly appreciated. I have attached the meeting presentation, meeting notes, and FAA/CCIA responses to your comments. CCIA previously emailed the engineering report for your review. FAA/CCIA are currently drafting the Memorandum of Agreement (MOA), the document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties.

When the terms and conditions for resolving adverse effects have been negotiated between the FAA and Texas Historical Commission, the MOA will be executed. An executed and implemented MOA is evidence of the FAA's compliance with Section 106. The FAA will provide each consulting party with a copy of the executed MOA along with the Advisory Council on Historic Preservation (ACHP) prior to approving the undertaking. The Final Environmental Assessment (EA) will include the executed MOA.

Thanks,

John MacFarlane

Environmental Protection Specialist

Federal Aviation Admin.

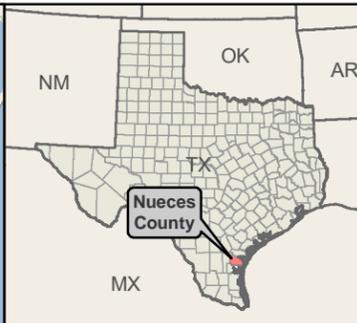
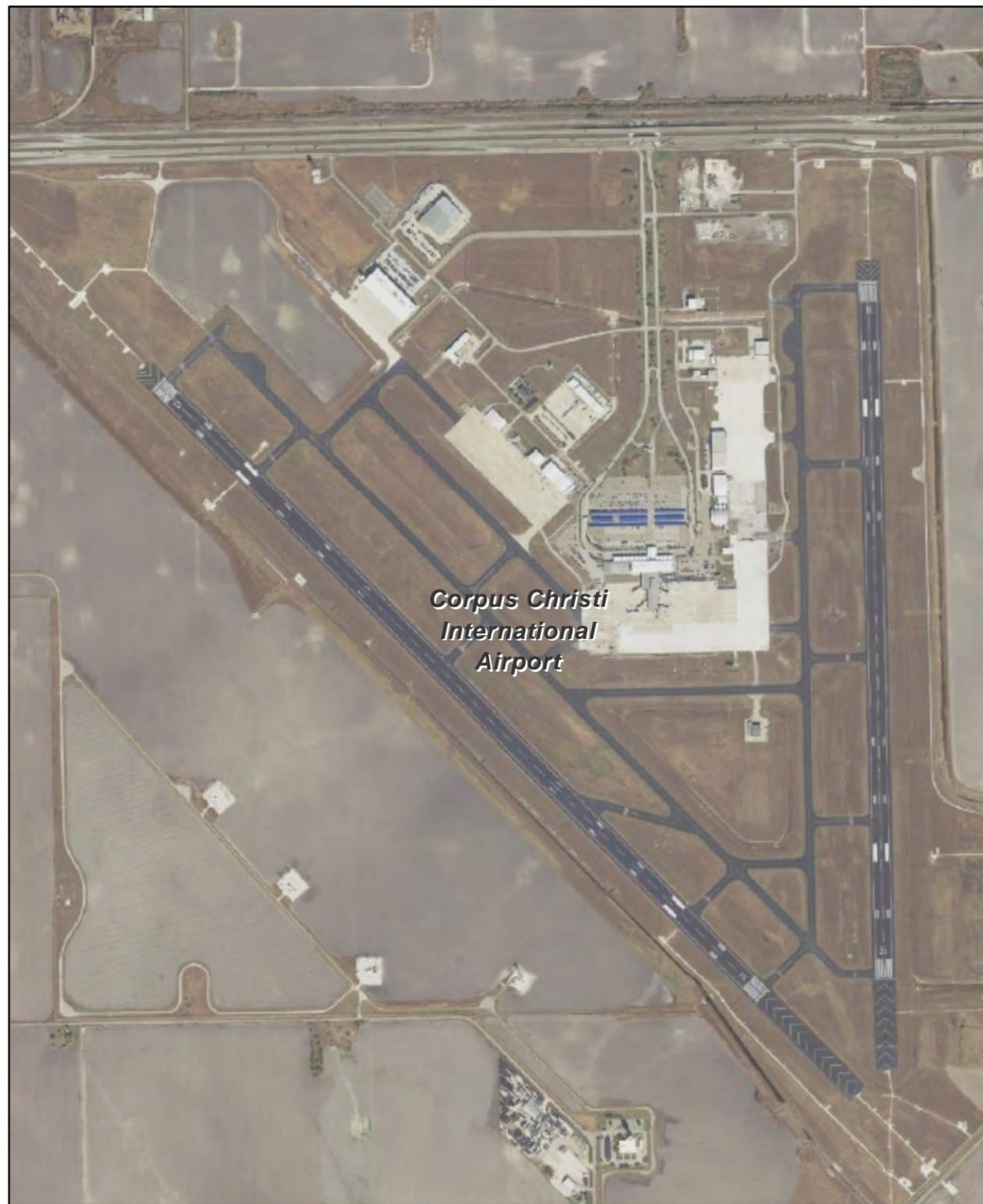
Texas Airports District Office

Phone: 817-222-5681

DRAFT

**ATTACHMENT 1
PROJECT MAP AND VICINITY LOCATION**

Document Path: L:\2021\1\AAE174 - CRP Hangar Demo Environmental\GIS\MapaEnvironmental\20230323 - Workshop.mxd Date Saved: 3/23/2023 4:19:53 PM User Name: LCMciece




SITE VICINITY
CCIA: HANGAR NO. 1 DEMO
Nueces County, TX

ATTACHMENT 2
ENGINEERING EXISTING CONDITIONS ANALYSIS

DRAFT



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FAX 512.485.0010
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September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcement at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcement for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

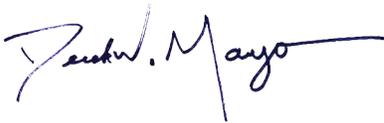
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

ATTACHMENT 3
SHPO CORRESPONDANCE AND MEMORANDUM OF AGREEMENT

DRAFT

TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at http://www.thc.state.tx.us/crm/crmsend.shtml.

- This is a new submission.
This is additional information relating to THC tracking number(s):

Project Information
PROJECT NAME: Demolition of East General Aviation (GA) Hangar No. 1
PROJECT ADDRESS: 506 Hangar Lane
PROJECT CITY: Corpus Christi
PROJECT ZIP CODE(S): 78406
PROJECT COUNTY OR COUNTIES: Nueces County
PROJECT TYPE: Demolition or Relocation of Existing Structure(s)

Project Contact Information
PROJECT CONTACT NAME: Derek Mayo
TITLE: Senior Project Manager
ORGANIZATION: Garver
ADDRESS: 285 SE Inner Loop, Suite 110
CITY: Georgetown
STATE: TX
ZIP CODE: 78626
PHONE: 503-720-8777
EMAIL: DWMayo@garverusa.com

Federal Involvement (Section 106 of the National Historic Preservation Act)
Does this project involve approval, funding, permit, or license from a federal agency?
Yes (Please complete this section)
FEDERAL AGENCY: Federal Aviation Administration (FAA)
FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE:
CONTACT PERSON: John MacFarlane
PHONE: 817-222-5681
ADDRESS: Texas Airports Districts Office, ASW-650
10101 Hillwood Parkway, Fort Worth, TX 76177
EMAIL: John.MacFarlane@faa.gov

State Involvement (Antiquities Code of Texas)
Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?
Yes (Please complete this section)
CURRENT OR FUTURE OWNER OF THE PUBLIC LAND: City of Corpus Christi
CONTACT PERSON: Victor Gonzalez
PHONE: 361-2890171 Ext. 1231
ADDRESS: 1000 International Dr
Corpus Christi, TX 78406
EMAIL: Victor@cctexas.com

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?
 Yes (Please complete this section) No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.
No ground disturbance will occur as the existing foundation will remain in place.

Describe the previous and current land use, conditions, and disturbances.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?
 Yes (Please complete this section) No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?
 Yes, name of property or district: No Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
East G.A. Hangar No. 2	Between 1960-1978	Google Earth Historical Imagery
Office building immediate north of East G.A. Hangar No. 1	Between 1989-1995	Google Earth Historical Imagery
Outbuilding south of East G.A. Hangar No. 1	Between 1990-1995	Google Earth Historical Imagery

Attachments

[Please see detailed instructions regarding attachments.](#)

Include the following with each submission:

- Project Work Description
- Maps
- Identification of Historic Properties
- Photographs

For Section 106 reviews only, also include:

- Consulting Parties/Public Notification
- Area of Potential Effects
- Determination of Eligibility
- Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

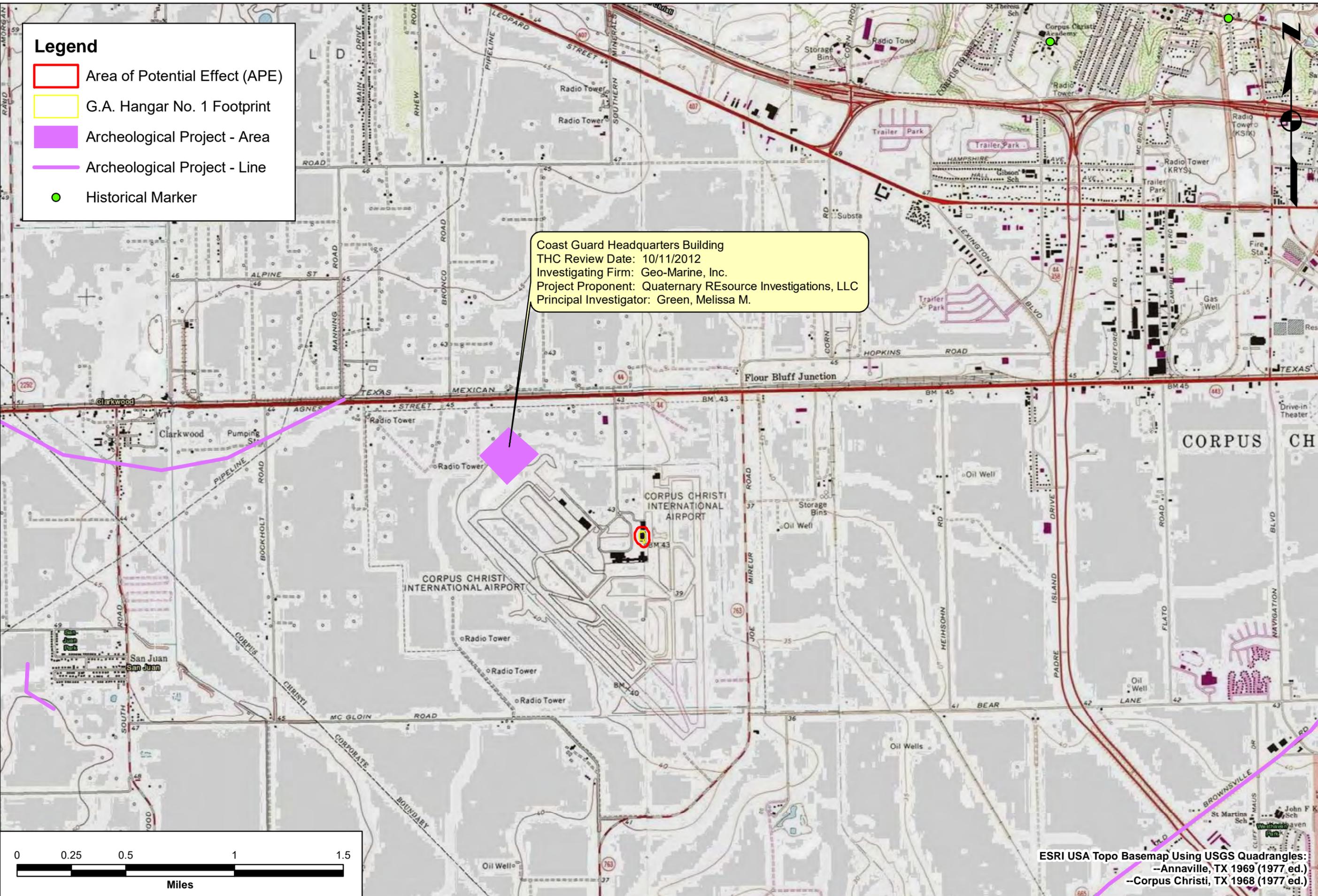
Mark Wolfe
 State Historic Preservation Officer
 Texas Historical Commission
 P.O. Box 12276, Austin, TX 78711-2276 (mail service)
 108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint
- Archeological Project - Area
- Archeological Project - Line
- Historical Marker

Coast Guard Headquarters Building
 THC Review Date: 10/11/2012
 Investigating Firm: Geo-Marine, Inc.
 Project Proponent: Quaternary REsource Investigations, LLC
 Principal Investigator: Green, Melissa M.



ESRI USA Topo Basemap Using USGS Quadrangles:
 --Annaville, TX 1969 (1977 ed.)
 --Corpus Christi, TX 1968 (1977 ed.)



285 SE Inner Loop
 Suite 110
 Georgetown, TX 78626
 (512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
 CORPUS CHRISTI, TEXAS
 DEMOLITION OF EAST G.A. HANGAR NO. 1

SITE LOCATION MAP & NRHP DATA IN PROJECT AREA

JOB NO.: 20A6170P
 DATE: MAR 2021
 DESIGNED BY: CPS
 DRAWN BY: CPS

FIGURE 1

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

STREET
MAP
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE
2

ESRI Open Street Map



East
GA
Fuel
Farm

East GA
Hangar No. 2

Office
Building

East GA Apron

TWY M

Rental Car
Ready
Return Lot

Terminal Parking Lot

International Boulevard

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

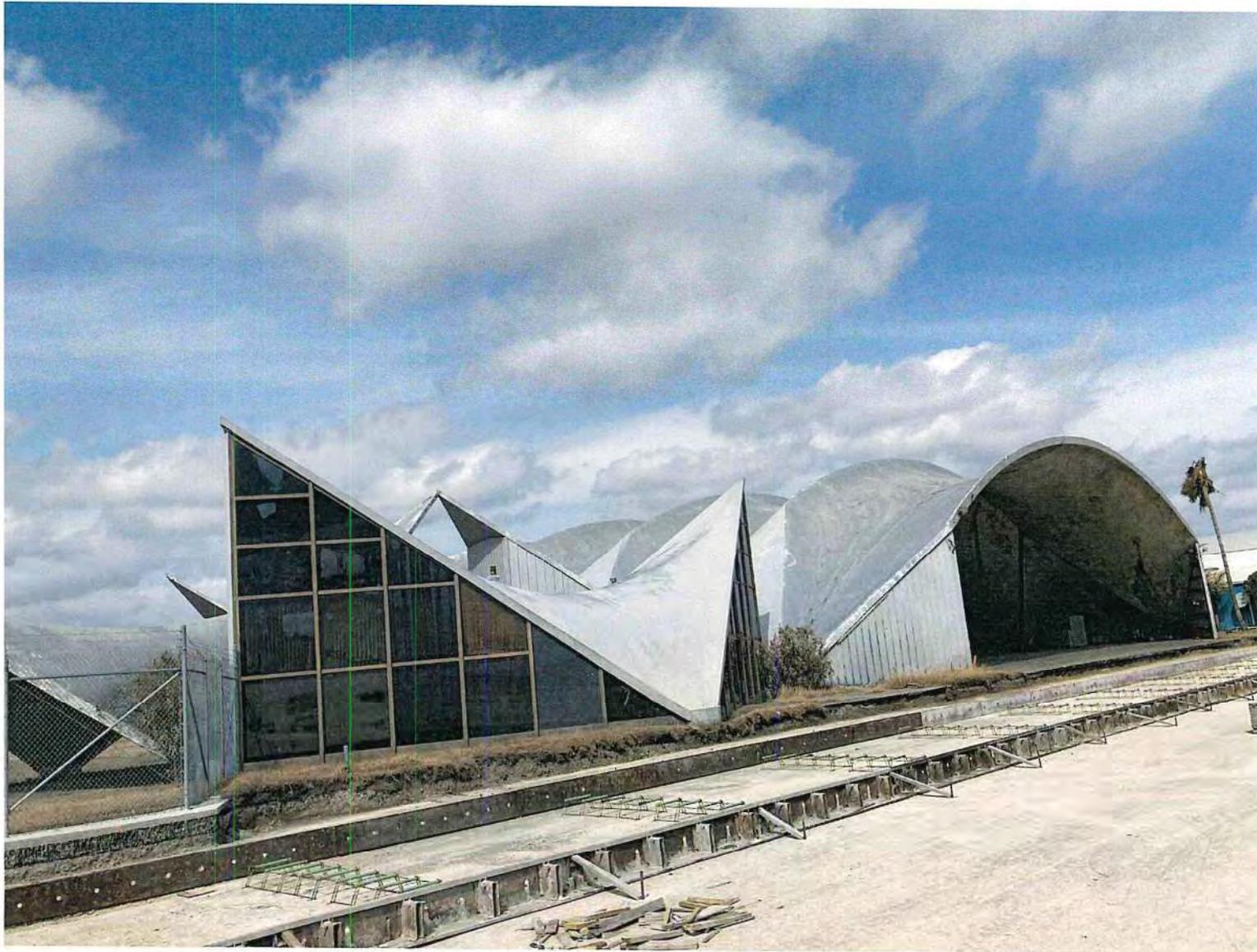
PROJECT
VICINITY
AND
AREA OF
POTENTIAL
EFFECT
(APE)
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

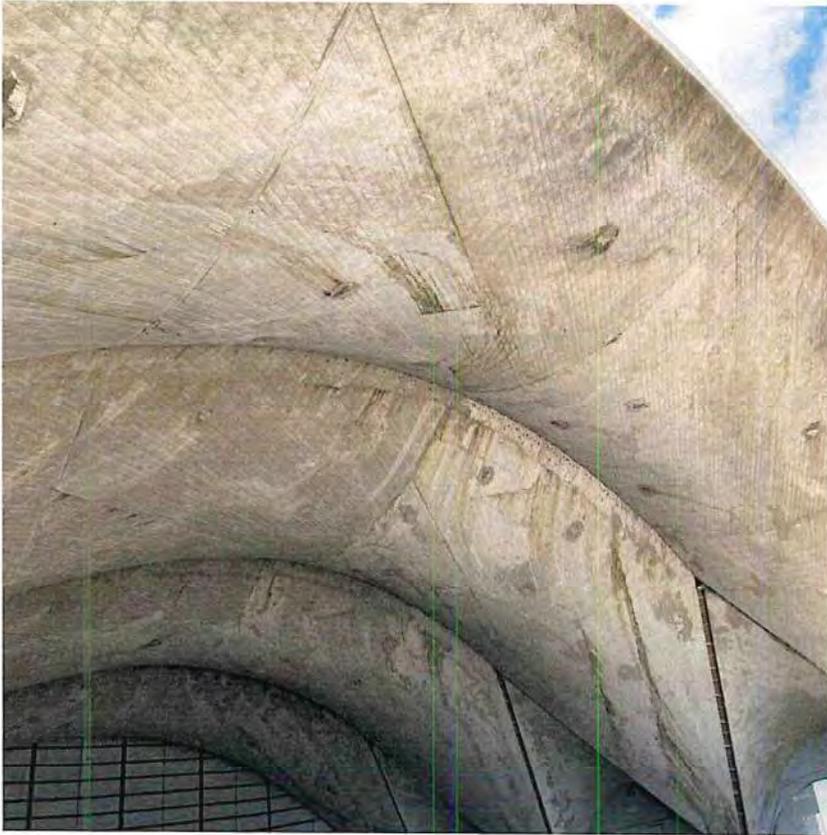
**FIGURE
3**



2020 ESRI Aerial Imagery



East General Aviation (GA) Hangar No. 1, which is proposed for demolition. Photograph taken near the southeast edge of the APE facing northwest.



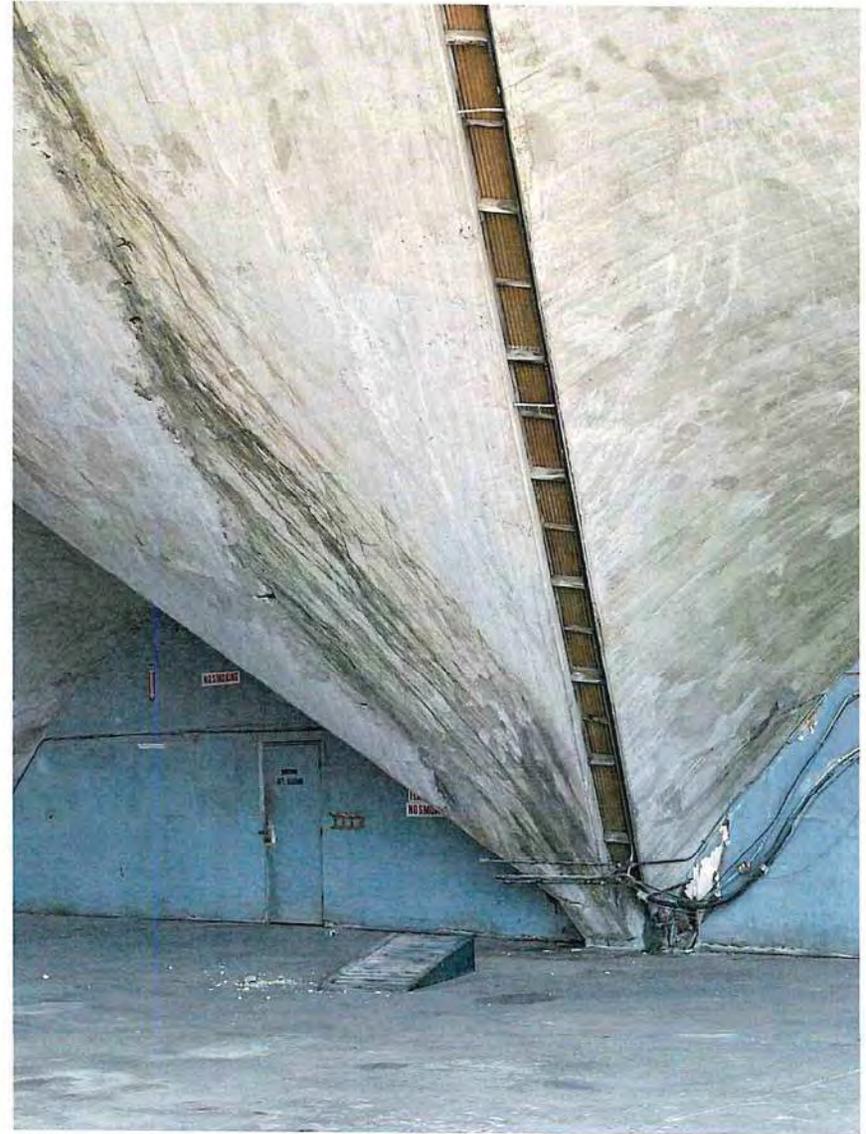
East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.



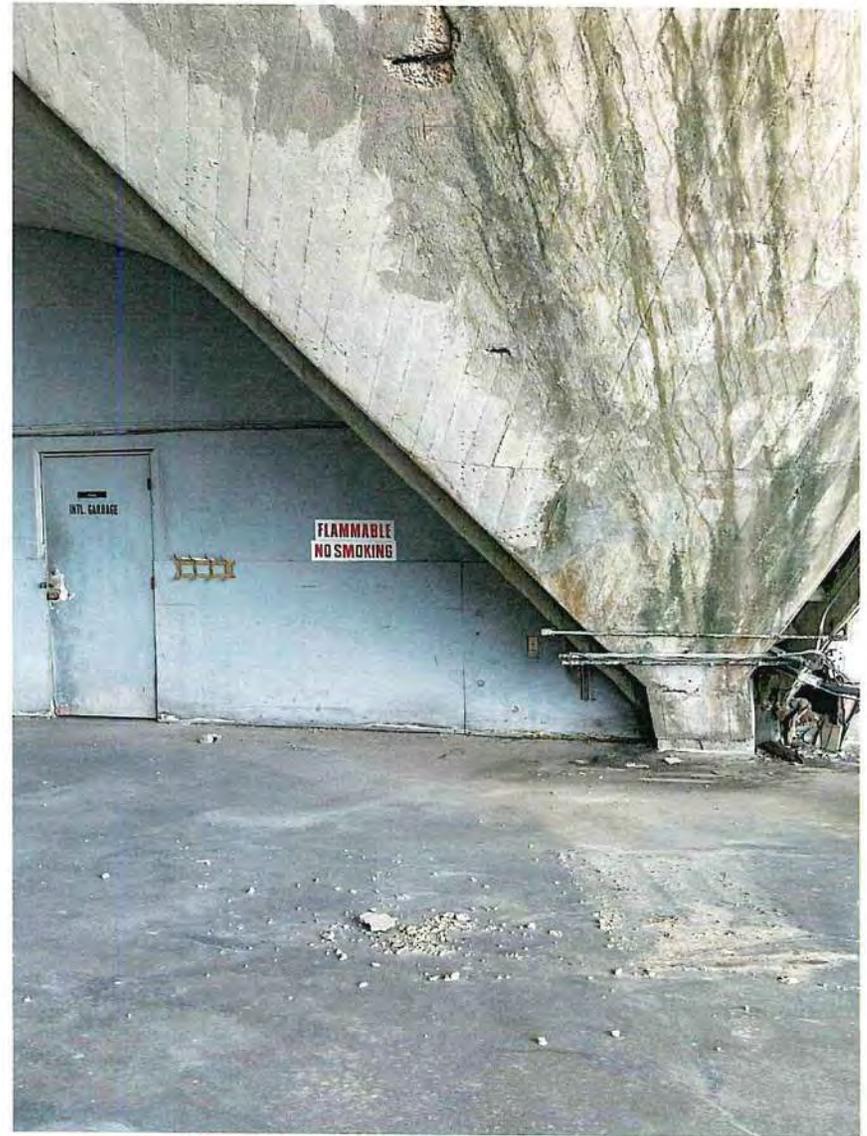
View of concrete roofing along east edge of East GA Hangar No. 1.



View of concrete ceiling and side wall from inside the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



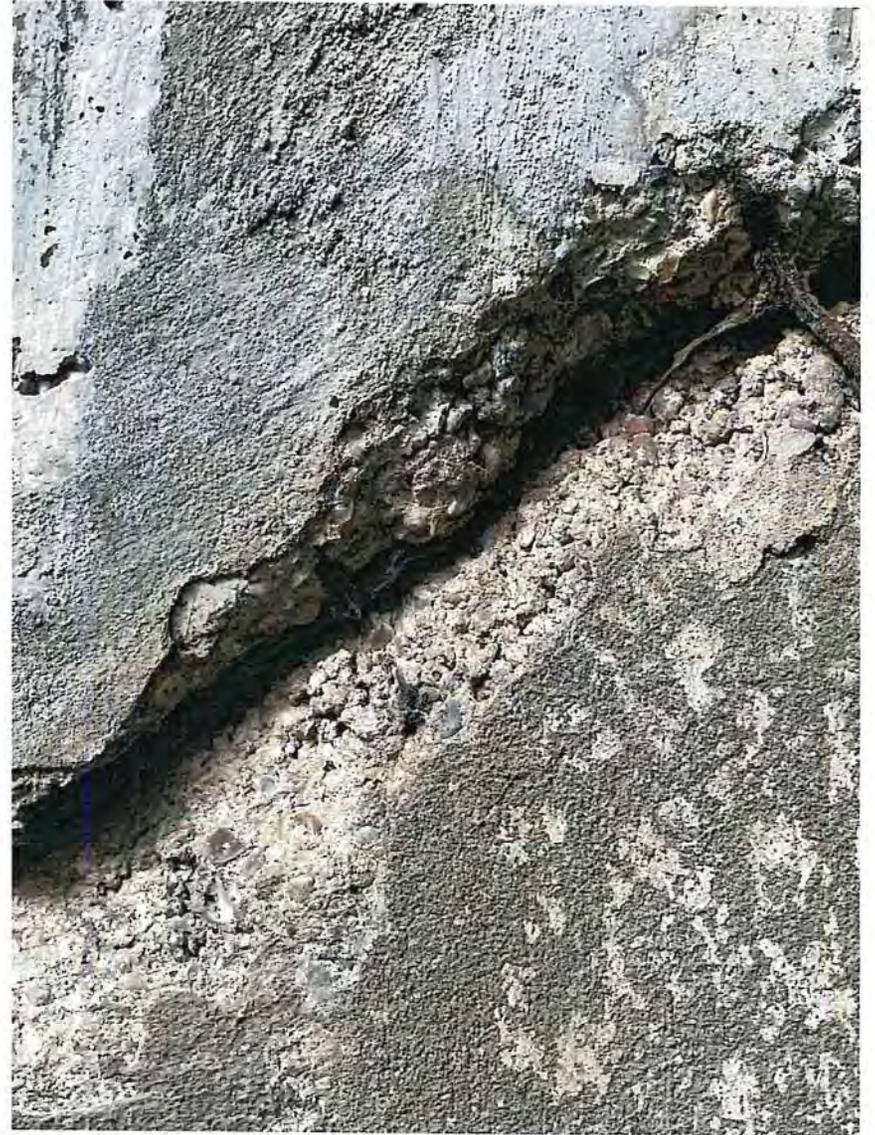
View of deteriorating concrete within the East GA Hangar No. 1.



View of deteriorating concrete within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



Large shard of concrete that has fallen from the East GA Hangar No. 1 structure.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports District Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

March 19, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

RE: Section 106 Consultation Initiation for Proposed Building Demolition, Corpus Christi International Airport, Corpus Christi, Texas

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) is initiating the process for the approval of the Airport Layout Plan at Corpus Christi International Airport (CRP) for the proposed demolition of one structure, which has been determined to be an ‘undertaking’ subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 of 36 CFR Part 800 (as amended). Maps and photos are included as Attachment A and additional photos and estimated cost to repair/rehabilitate the hangar are included as Attachment B. The proposed project is also subject to the National Environmental Policy Act (NEPA).

The East General Aviation Hangar No.1, once known as the Gault Aviation Hangar¹, is a single-story hyperbolic paraboloid arch concrete aircraft hangar constructed in 1961. The architect is Joe L. Williams. The facility has most recently served as a hangar with office space for the East Side Fixed Base Operations (FBO) serving the general aviation community. The FAA has determined an appropriate area of potential effects (APE) for the proposed undertaking to be 100 feet around the structure proposed to be demolished. Based on a cursory review of the area, there are no other structures within 100 feet of the hangar that would be eligible for listing on the National Register.

The FAA determined that the hangar may embody the distinctive characteristics of a type, period or method of construction; or represent the work of a master; or possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction. However, deterioration of the materials originally used to construct the hangar has resulted in a loss of the property’s integrity of materials. Hurricanes Harvey and Hanna both made landfall at Corpus Christi and caused damage to area infrastructure from flooding and storm-force winds. A recent preliminary structural assessment revealed multiple structural issues which could create safety issues for airport personnel and could result in the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. The hangar is not well-suited to for modern aircraft, and

¹ <https://sah-archipedia.org/buildings/TX-01-CC43>

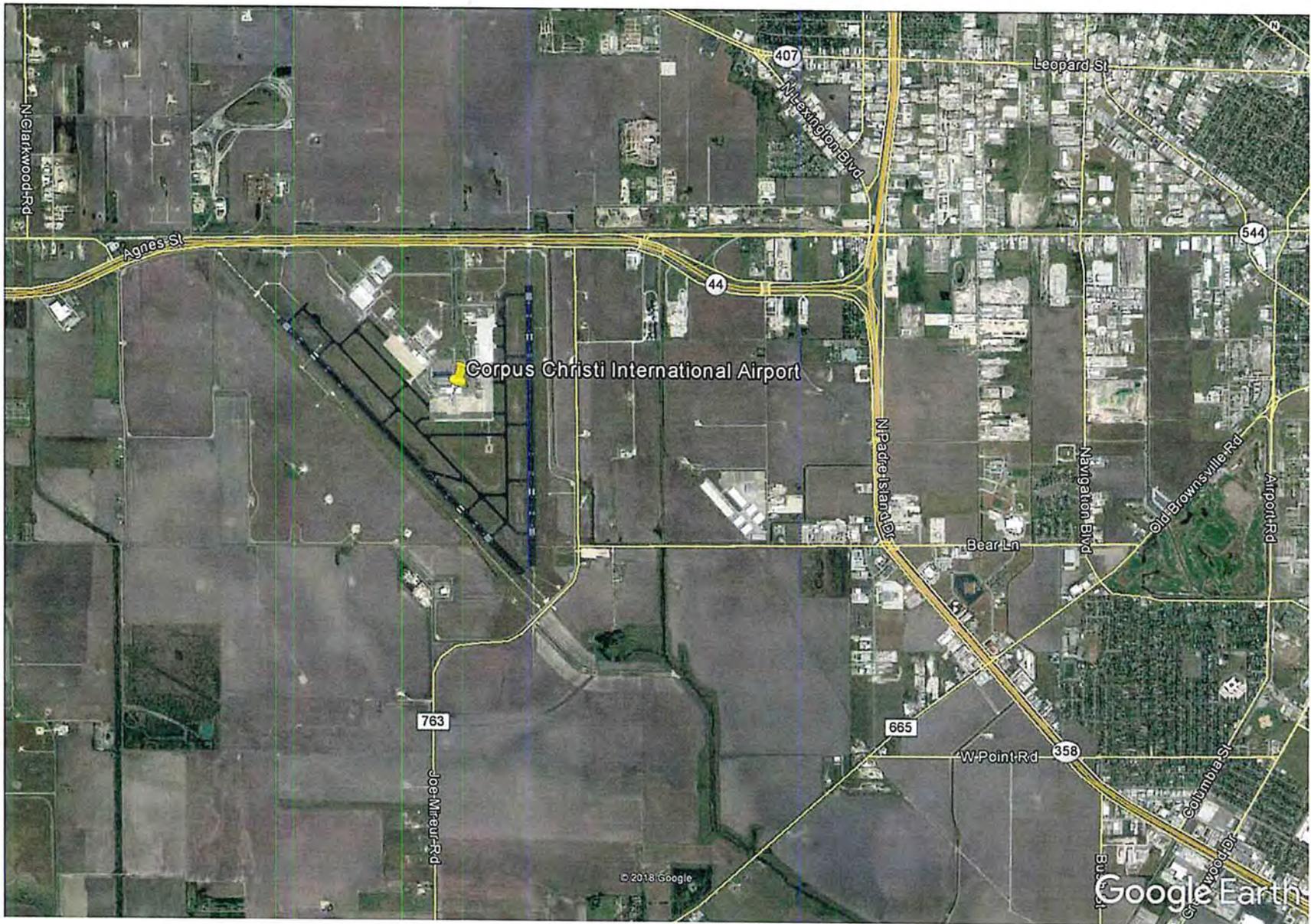
as mentioned in Attachment B, does not have a hangar door and has height limitations due to its inherent design. In addition, the estimated cost to rehabilitate the hangar is approximately \$4.5M, which the sponsor believes is cost prohibitive. Therefore, the FAA has determined that the hangar is not eligible for the National Register and the demolition of the hangar will have no effect to historic properties.

If you have any comments or questions on this undertaking, please contact me directly at 817-222-5681 or at john.macfarlane@faa.gov.

Sincerely,

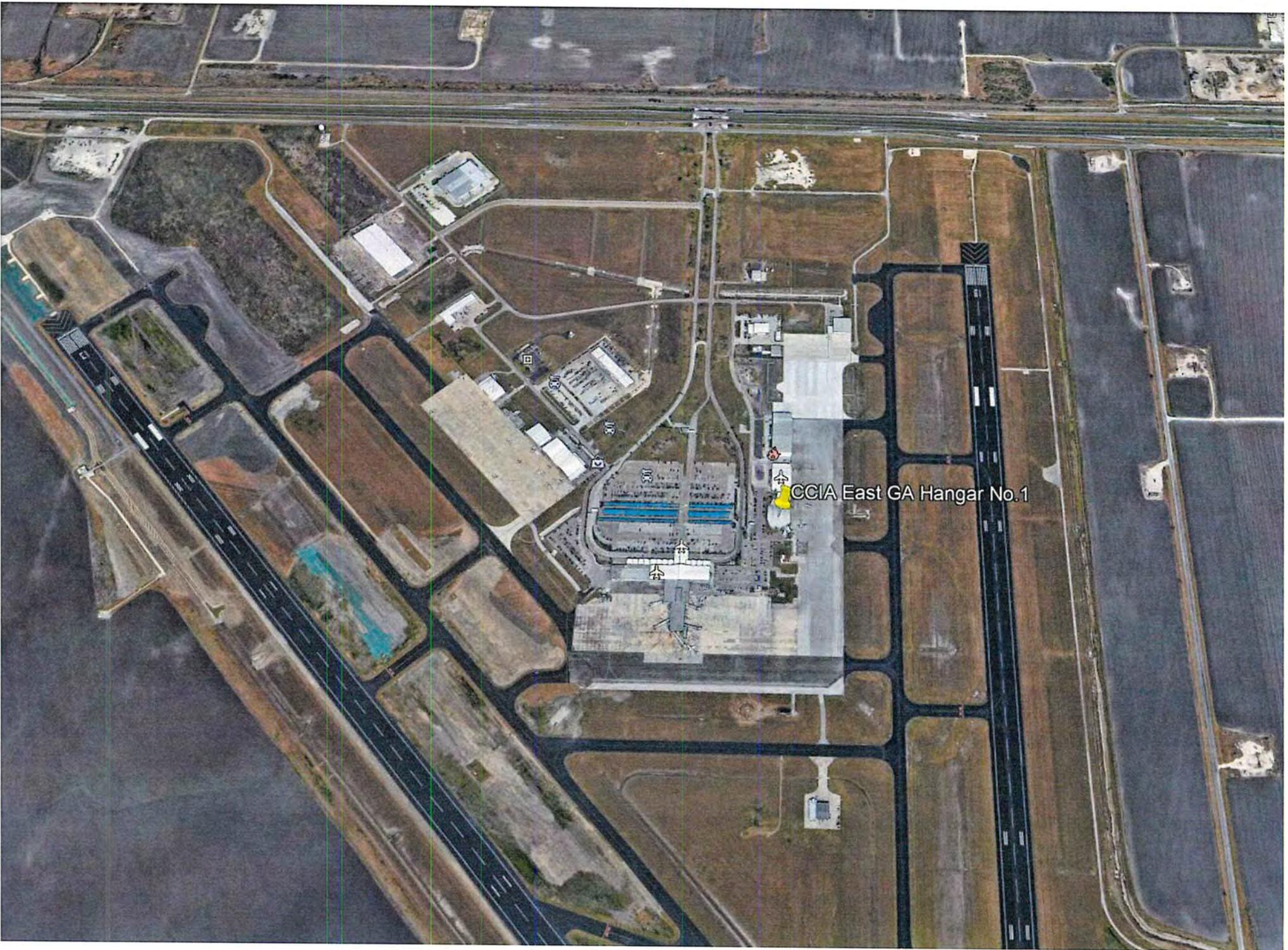
John MacFarlane
Environmental Protection Specialist
Texas Airports District Office

ATTACHMENT A

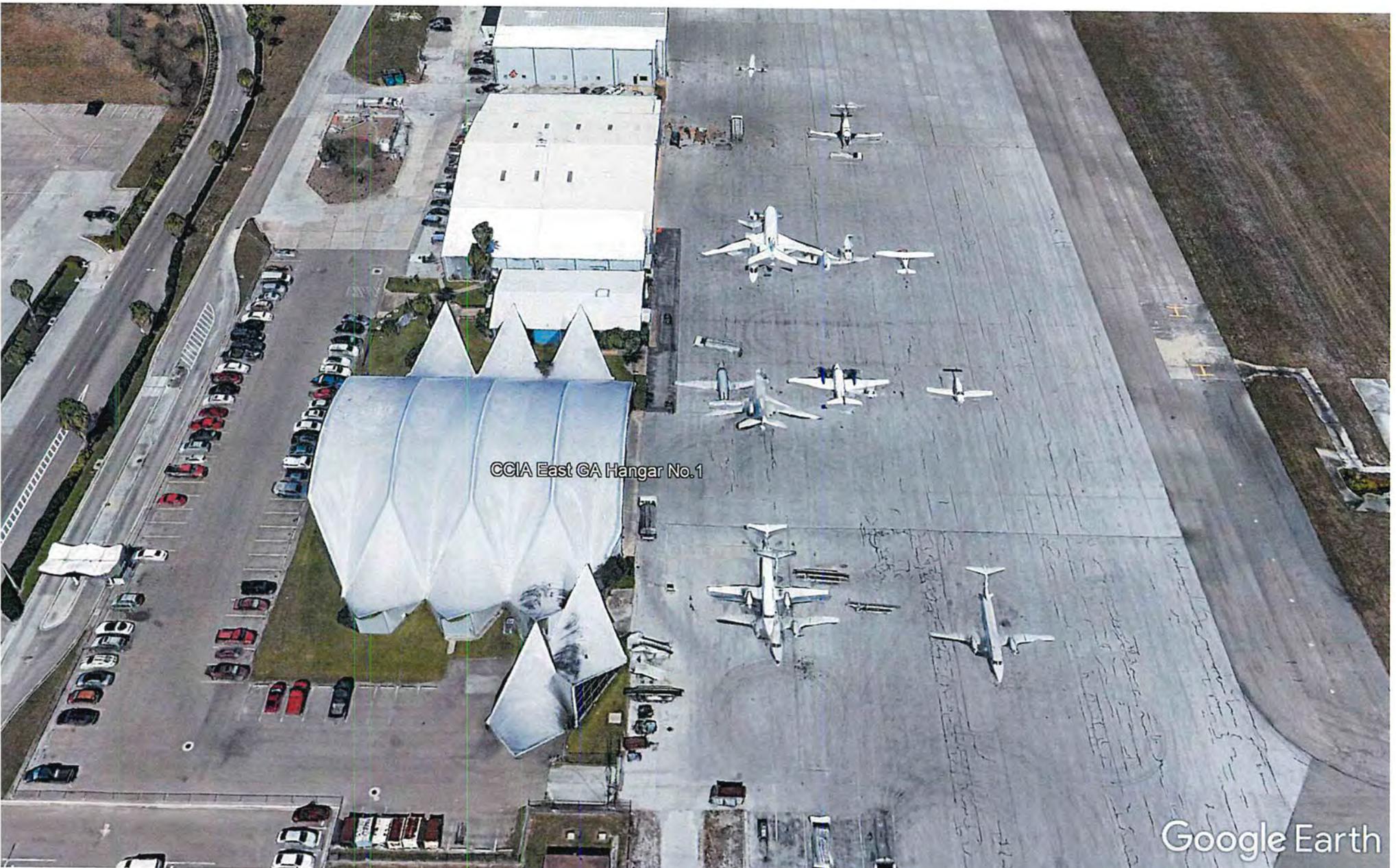


Corpus Christi International Airport Location Map

Figure 1



CCIA East GA Hangar No. 1



CCIA East CA Hangar No.1

EAST GA
HANGAR 1

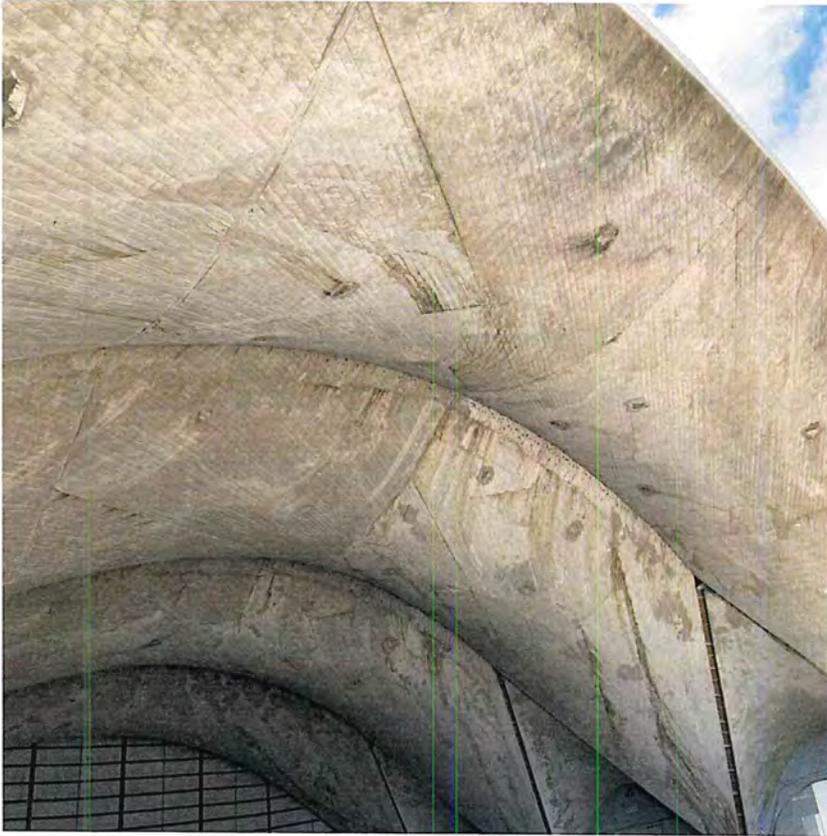
OFFICE
BUILDING

EAST GA
HANGAR 2

EAST GA
HANGAR 3



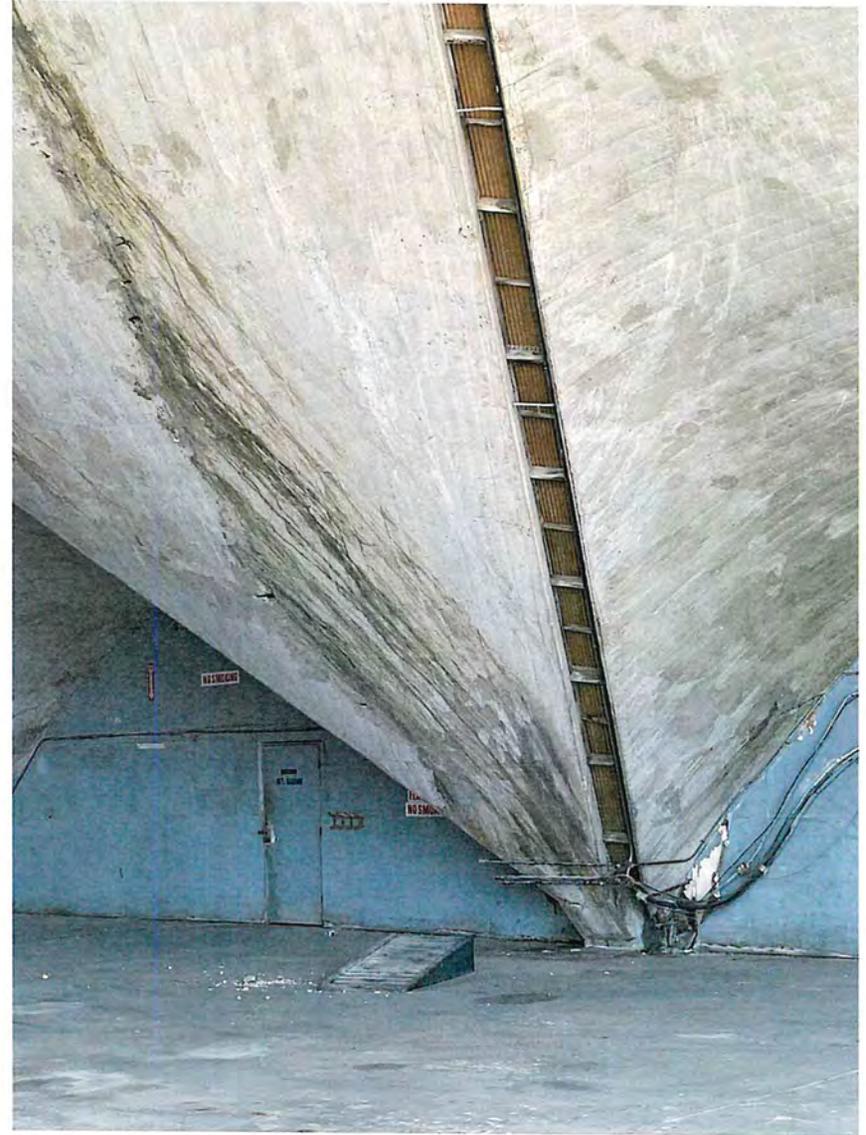


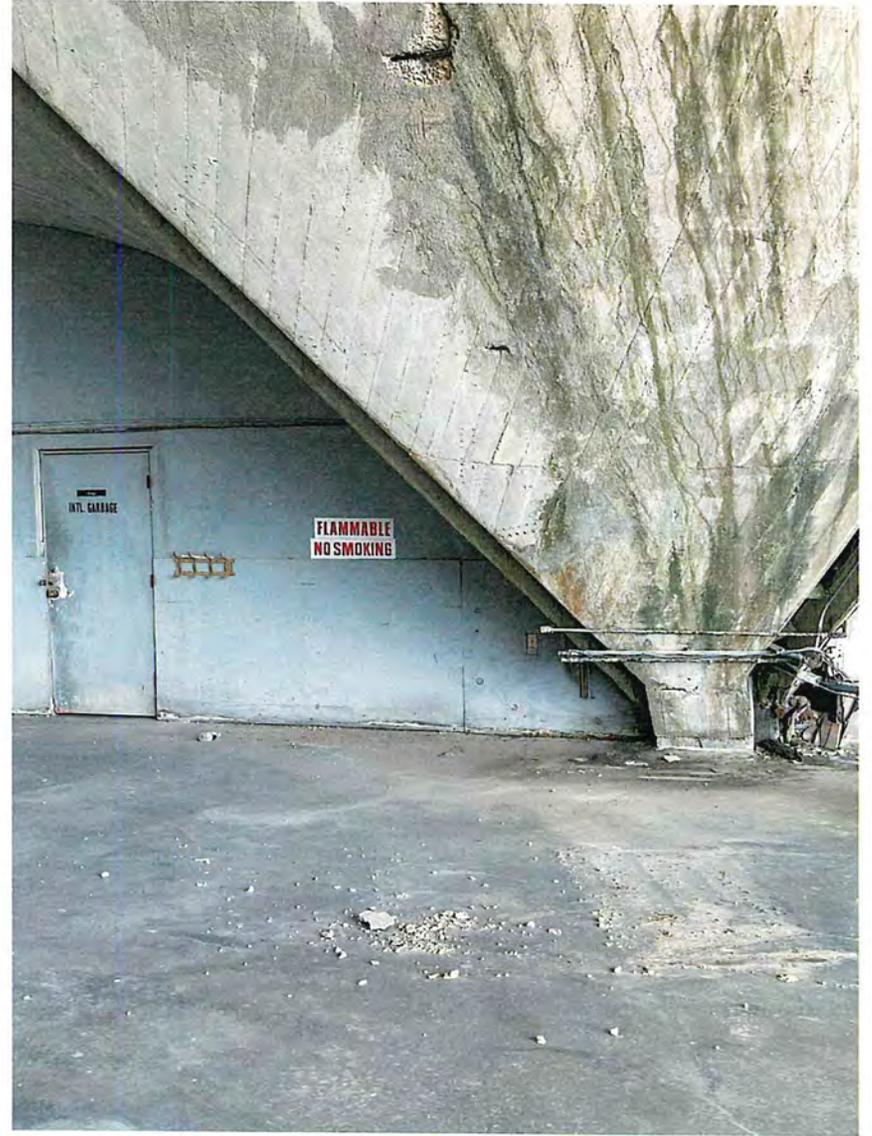


East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.











ATTACHMENT B



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

March 9, 2021

Mr. Victor Gonzalez
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

RE: CCIA EGA Hangar 1 Condition and Recommendations

Regarding EGA Hangar 1 and the recent Visual Inspection Report conducted on the East General Aviation Hangars at CCIA (Garver Task Order 24), we have summarized the findings for EGA Hangar 1 below.

EGA Hangar 1

EGA Hangar 1 is several decades old and there are several concerns with the overall building, its usability, and serviceability. The primary concern with the structure is safety. Several pop outs and spall have occurred, see figures below. It is our opinion that the facility not be occupied in its current condition.



Figure 1 - EGA Hangar 1



Figure 2 - Chunk of Concrete that Fell off Structure



Figure 3 - Interior view of the hangar ceiling, note popout/spall exposing steel reinforcement.



Figure 5 - Popout/Spall exposing reinforcing steel



Figure 4 - Additional popout/spalls exposing steel reinforcement



Figure 6 - Popout/Spall exposing reinforcing steel



Figure 7 - Spall on concrete eave exposing steel reinforcement



Figure 8 - Popout/Spall in finished office area exposing steel reinforcing

With several deficiencies noted, including the safety hazards from future popouts and spalls, repairs required to bring this building up to habitable standards would be extensive. In addition, the hangar has two functional flaws which make it undesirable to house and protect aircraft: The first being that it does not have a hangar door, which is a feature most tenants expect. The other is that with the shape of the hangar being a relatively gradual arch, the ceiling height reduces near the sides of the hangar. This limits the possible arrangements of aircraft and the number of aircraft that could be safely stored in the hangar, considering aircraft tail heights.

To bring the building to habitable standards, the following improvements would be recommended:

1. Repair roof system to be watertight (Approx. 33,000 sf).
2. Repair concrete spalls/popouts, protect any exposed steel reinforcing with appropriate coating. This may include additional structural support and an underside membrane (Approx. 33,000 sf).
3. Treat all exposed corroded steel components with a rust inhibiting coating.
4. Demolish and rebuild all finished office spaces to current building codes (Approx. 6,000 sf), including exterior walls, windows, doors, mechanical, electrical, and plumbing.
5. Remove any large plants that are in contact with the building and re-grade.

The approximate cost to rehabilitate the existing hangar would be in excess of \$4.5 Million.

Since the repair required is extensive and the design isn't well suited as a hangar, the airport may consider demolishing the structure and re-building a new hangar in its place when funding allows.

The approximate cost to demolish the Hangar would be \$250,000.

Let us know if you have any questions.

Thanks,

Derek Mayo, PE PMP
Garver LLC

From: Info_Tech@thc.state.tx.us
To: [MacFarlane, John \(FAA\)](#)
Subject: Project Review Submission
Date: Friday, March 19, 2021 1:50:46 PM

Thank you for submitting project: Corpus Christi International Airport Gault Hangar

Tracking Number: 202107070

Due Date: 4/18/2021 12:03:34 PM

TEXAS HISTORICAL COMMISSION

From: noreply@thc.state.tx.us
To: [MacFarlane, John \(FAA\); reviews@thc.state.tx.us](mailto:MacFarlane, John (FAA); reviews@thc.state.tx.us)
Subject: Section 106 Submission
Date: Thursday, April 15, 2021 4:26:33 PM



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202107070

Date: 04/15/2021

Corpus Christi International Airport Gault Hangar
1000 International Drive
Corpus Christi, TX 78406

Description: The proposed project would demolish a 1961 aviation hangar.

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst, Hansel Hernandez, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: The THC History Programs Division, led by Justin Kockritz, has completed its review of the submitted materials. The former Gault Hangar, designed by architect Joe L. Williams and engineer Wallace Wilkerson, features a unique and

exuberant application of thin-shell concrete and vaulted hyperbolic paraboloid forms. Before working on this hangar, Wilkerson worked directly with architect Richard Colley who collaborated with Mexican architect and thin-shell concrete master Félix Candela on projects including the Texas Instruments Semiconductor Building in Dallas and the Great Southwest Industrial Park in Arlington. Based on available information, THC recommends that the Hangar is eligible for listing in the National Register of Historic Places under Criterion C for its design and engineering. Although there are areas of spalling and there have been alterations such as the infilling of the smaller flanking shells, THC recommends that the Hangar retains sufficient historic integrity to convey its historic significance. Division of Architecture: Given the age of the building, its architectural pedigree, its historical significance, and its high level of integrity, we strongly urge reconsideration of the demolition. We ask that the FAA explore the feasibility of developing a plan for its rehabilitation. We certainly welcome the discussion of any alternative to demolition. If demolition cannot be prevented and the adverse effect avoided, please notify us of your intent to negotiate appropriate mitigation and enter into a Memorandum of Agreement to execute that mitigation.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, hansel.hernandez@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

November 23, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Re: Response to Initial Coordination - THC Tracking #202107070
Corpus Christi International Airport (CCIA)
Gault Hangar Demolition Project
Corpus Christi, Texas

Dear Mr. Wolfe,

In accordance with Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas, this letter is to inform the Texas Historical Commission (THC) of the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) in Nueces County, Texas. In response to the letter received from your office dated on April 15, 2021, we have coordinated with our environmental and engineering consultant and provide this letter as notification of our intent to negotiate appropriate mitigation and to enter into a Memorandum of Agreement (MOA) to execute such mitigation.

The Gault Hangar, also known as East General Aviation (G.A.) Hangar No. 1, and the associated office structures are planned for demolition due to safety concerns. A recent structural assessment of the hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Based on this assessment it was determined that the hangar is unsafe and demolition is recommended. Findings of the structural assessment are discussed in the enclosed Structural Observation Report. Photographs of the East General Aviation (G.A.) Hangar No. 1 are also enclosed.

Options to demolition and to avoid adverse impacts were considered and evaluated, including abandon in place and remediation of existing structure. However, due to the unsafe conditions of the existing structure, abandon in place is not a reasonable option as it risks life and property. Because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety with the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. Remediating the existing structure is also not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell. A preliminary options analysis summary is also enclosed for your reference.

We understand that with our intention to proceed with the proposed demolition, we must continue to work with the Federal Aviation Administration (FAA) and THC to ensure compliance with Section 106 and Section 4(f). These evaluations will be conducted concurrently with the FAA's National Environmental Policy Act process. Section 106 procedures will be followed and

conducted by our professional historic consultants, alongside our federal partner, the FAA. Additional cultural resource surveys would be conducted as necessary and mitigation measures will be proposed, which could take many forms, such as a brochure including the history and architectural renderings of the hangar. An MOA will be prepared with FAA oversight and mitigation measures will be refined with continued consultation with the THC and with consulting parties.

Thank you for your time in reviewing this submittal. If you have any questions or wish to discuss this further, please feel free to contact me.

Sincerely,

Victor Gonzalez
Development and Construction Manager
Aviation Department
City of Corpus Christi

Enclosures:

Site Photographs
Structural Observation Report
Options Analysis Summary

cc: Derek Mayo – Project Manager, Garver, Inc.
John MacFarlane - Environmental Protection Specialist, FAA



Photo 1. View of front side of Gault Hangar.



Photo 2. Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 3. Sever concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 4. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 5. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 6. Severe concrete spalling and corroded steel reinforcing at existing support.

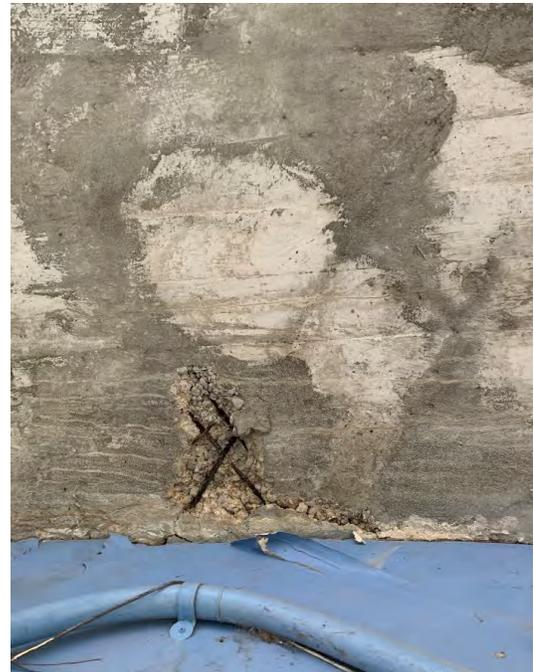


Photo 7. Severe concrete spalling and severely corroded steel reinforcing at roof line. Blue is interior wall.



3755 S. Capital of Texas Highway
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TEL 512.485.0009
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www.GarverUSA.com

September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcing at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcing for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





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September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

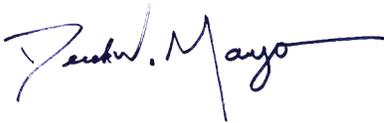
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

From: [MacFarlane, John \(FAA\)](#)
To: ["Victor Gonzalez"](#); [Mayo, Derek W.](#); ["Tyler Miller"](#); [Chavez, Susan W.](#); [Mountain, Ryan C.](#); [Elsy Borgstedte Sanchez, Marcelino \(FAA\)](#)
Subject: FW: Section 106 Submission
Date: Monday, December 20, 2021 1:45:00 PM
Attachments: [Consulting Party Invitation to American Airlines Retirees Committee.doc](#)

Please assemble a list of potential consulting parties. A letter similar to the attached will be sent to those we identify as consulting parties. Please send me the list and a draft letter based on the attached for my review. Once we have our consulting parties and a draft MOA, then we'll contact the ACHP.

John

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, December 20, 2021 11:21 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; reviews@thc.state.tx.us
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202203939
Date: 12/20/2021
Corpus Christi International Airport Gault Hangar
1000 International Drive

Description: Response to THC's 4/15/2021 letter stating that CCIA intends to continue the 106 consultation process and enter into an MOA to demolish the Gault hangar (East Aviation Hangar No. 1).

Dear john.macfarlane@faa.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst and Ashley Salie, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs that the scope of work to demolish the Gault Hangar at the Corpus Christi International Airport, which is eligible for listing in the National Register of Historic Places under Criterion C, Architecture, will have an adverse effect on historic properties. Please submit the adverse effect determination to the ACHP and provide its response to THC. Additionally, please gather consulting parties for additional mitigation input on adverse effects. THC looks forward participating in future meetings to discuss mitigation of the adverse effect.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, ashley.salie@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

DRAFT

Memorandum of Agreement

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

WHEREAS, the City of Corpus Christi, acting through its Corpus Christi International Airport (CCIA), is proposing demolition of the Gault Hangar at CCIA due to safety concerns (Attachment A: Project Description); and

WHEREAS, the proposed Gault Hangar Project (the Project) traverses through the county of Nueces (Attachment B: Location Map); and

WHEREAS, the Gault Hangar, is also known as East General Aviation Hangar No. 1 and has associated office structures; and

WHEREAS, a structural engineering assessment of the Gault Hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition; and

WHEREAS, the Project is an undertaking as defined in 36 C.F.R. § 800.16 (2014) subject to review under Section 106 of the National Historic Preservation Act [54 U.S.C. § 306108 (2014)] (NHPA) and its implementing regulations at 36 C.F.R. § 800 (2014), and the Federal Aviation Administration (FAA) and CCIA have consulted with the Texas Historical Commission (THC) acting as the State Historic Preservation Officer (SHPO) to consider the effects of the undertaking on historic properties; and

WHEREAS, the FAA submitted a Request for SHPO Coordination on March 15, 2021, describing the proposed project of the demolition of the Gault Hangar; and

WHEREAS, in a letter dated April 15, 2021, the SHPO responded recommending that the Gault Hangar is eligible for listing in the National Register of Historic Places (NRHP) and responded that if demolition cannot be prevented on the Gault Hangar, then appropriate mitigation measures are to be prepared and the FAA will enter into a Memorandum of Agreement (MOA) to execute the mitigation; and

WHEREAS, on November 23, 2021, FAA responded to the April 15, 2021, SHPO letter stating that the CCIA will coordinate with their environmental and engineering consultants to negotiate appropriate mitigation and to enter into a MOA to execute the mitigation, and FAA provided to the SHPO a structural Observation Report of the Gault Hangar which described the deterioration of the resource; and

WHEREAS, on December 20, 2021, the SHPO responded via electronic THC Review and Compliance (eTRAC) recommending that demolition of the resource would have an adverse

effect on historic properties, and acknowledged the FAA's intention to continue the Section 106 consultation process and to enter into an MOA to resolve adverse effects pursuant to 36 C.F.R. § 800.6(c) (2014), which will govern the implementation of the undertaking and satisfy FAA's obligation to comply with Section 106; and

WHEREAS, on December 20, 2021, the SHPO responded via eTRAC that the FAA will submit to the Advisory Council on Historic Preservation (ACHP) the adverse effect determination and to provide the ACHP's response to the SHPO, and that the FAA prepare a list of consulting parties for additional mitigation input on the adverse effects; and mitigation measures, and developing the MOA; and

WHEREAS, pursuant to 36 C.F.R. § 800.6(a)(1) (2014), FAA notified the ACHP of the determination of adverse effect and intention to enter into a MOA with specified documentation on September 28, 2022, and the ACHP chose not to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii) on October 18, 2022; and,

WHEREAS, CCIA will have roles and responsibilities in the implementation of this MOA, and FAA invited CCIA to sign this MOA as an Invited Signatory; and

WHEREAS, the FAA held a meeting with consulting parties [Nina Nixon-Mendez, Corpus Christi Historic Preservation Officer; Ben Koush, Ben Koush Associates; David Richter, Richter Architects; Jay Porterfield, American Institute of Architects Corpus Christi Chapter; and Christopher Medina for Elizabeth Porterfield, MidTexMod] and the SHPO on June 30, 2022, to discuss the project, the condition of the Gault Hangar, and to present proposed mitigation measure options; and

WHEREAS, the FAA provided meeting notes and documentation of the June 30, 2022, meeting, including the engineering structural report and responses to consulting parties' input, to the consulting parties on August 19, 2022; and

WHEREAS, the FAA has invited the consulting parties to each sign the MOA as a concurring party per FAA policy; and

WHEREAS, a Draft Environmental Assessment (EA) is being prepared to inform the public of the potential environmental, social, and economic impacts associated with the proposed Gault Hangar Project and the No-Build Alternative; and

NOW, THEREFORE, FAA, CCIA, and the SHPO agree that the Project shall be implemented in accordance with the following stipulations to consider the effect of the Project on historic properties, mitigating the adverse effect on historic properties, and satisfactorily completing FAA's Section 106 responsibilities under the NHPA.

STIPULATIONS

The FAA, in coordination with CCIA, will ensure that the following stipulations are implemented and will be included as conditions for the demolition of the Gault Hangar:

I. Professional Qualification Standards

CCIA will ensure that all actions prescribed by this MOA are carried out by, or under the direct supervision of, qualified professional(s) who meet the appropriate standards in the applicable disciplines as outlined in the *Secretary of the Interior's Professional Qualifications Standards* (36 C.F.R. § 61),

II. Modified Historic American Building Survey Documentation of the Hangar

A. CCIA will prepare documentation of the Hangar to meet modified Historic American Building Survey (HABS) Level I standards. The HABS Level I standards are defined in the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. Modified Level I documentation will include:

1. Archival-quality prints of photographs documenting the Hangar's present appearance and major structural or decorative details taken using large-format black and white film and processed following the National Park Service guidelines for prints;
2. Written report, including history and physical description, following the outline format for HABS Level I documentation;
3. U.S. Geological Survey topographic map identifying the location of the Hangar; and
4. Preparation of 3D documentation using drone technology to produce digital documentation in lieu of measured drawings of the Hangar, since the original drawings do not exist.

B. CCIA will submit a draft of the modified HABS Level I documentation via the eTRAC System to the SHPO. The SHPO will have 30 calendardays upon receipt to review and comment on a draft of the documentation. Failure by the SHPO to provide comments in accordance with this stipulation may be taken to indicate acceptance by both parties. CCIA will make a good-faith effort to address any comments provided by the SHPO.

C. Upon acceptance of the draft documentation by the SHPO, or determination by SHPO that the documentation is sufficient, demolition of the Hangar may commence.

- D. Within 45 days of the acceptance of the draft documentation by the SHPO, final documentation, including archival prints of photo documentation, will be provided to the SHPO, and CCIA. Final print documentation will be printed on archival paper, and negatives will be provided to the CCIA. Digital files will be provided to the SHPO, CCIA, City Historic Preservation Office, Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library on archival media.
- E. The final documentation will not meet HABS standards and is *not* to be submitted to the HABS Collection in the Library of Congress.

III. Interpretive Sign

To provide education information to the public upon completion of the Hangar demolition and for its use within the newly proposed pedestrian/travelers outdoor space, CCIA will design and install an interpretive sign detailing the history of the Hangar as well as the history of the Corpus Christi International Airport.

- A. CCIA will develop the interpretive sign's content and design, in consultation with SHPO. The interpretive sign will include narrative historic context and historic photographs. The sign will be fabricated of weather resistant materials.
- B. CCIA will submit a draft design plan for the interpretive sign to SHPO via eTRAC. The draft design plan will include, but is not limited to, information on size, location, materials, design, and content of the interpretive sign. SHPO will have 30 calendar days to provide comments on the draft design plan. If SHPO does not provide comments within 30 calendar days, CCIA will assume concurrence and proceed according to the submitted plan.
- C. CCIA will consult with SHPO to address comments provided in accordance with Stipulation IIIB and submit a final design plan via eTRAC for SHPO concurrence. SHPO will have 30 calendar days to accept or amend the final design plan.
- D. CCIA will install the interpretive sign following creation of the new pedestrian space located on airport property. Location of the pedestrian space to be determined by CCIA.

IV. Timed-Lapsed Videography of Demolition of Hangar

To provide educational information related to construction methods and materials, CCIA will conduct videography during the demolition of the Hangar.

- A. Videography shall be conducted in time-lapsed sequence to show demolition of areas of the Hangar.
- B. Videography shall be posted to the CCIA website and/or to a social media platform which is maintained by the CCIA.

V. Preparation of CCIA Website Information

To provide educational information to the public, CCIA will prepare a historic context for posting to the CCIA website.

- A. The historic context will discuss the development of the Hangar, and the relationship of the company who constructed the Hangar, to the CCIA.

VI. Preparation of QR Code Describing History of Hangar

For ease of access to data posted online as part of this MOA, CCIA will produce a graphical quick response (QR) code linking to the online data.

- A. The QR code shall be prepared using commercially available software and provided on the interpretive sign and any print material related to the Hangar.
- B. The QR code shall be created once CCIA has established a permanent online location for the digital data.

VII. Preparation of Article on Hangar for Posting to Texas Online

To provide educational information to the general public, CCIA will prepare an entry for posting to the Texas State Historical Association (TSHA) Handbook of Texas. The Handbook is a digital state encyclopedia which is free and accessible on the internet for teachers, scholars, students, and the public.

- A. The entry will discuss the history of the developers, flying clubs, construction methodology, and impact of the Hangar to the community and the CCIA.
- B. The CCIA will submit the entry to the TSHA for review, and if accepted, the TSHA will post the entry to their website.

VIII. Preparation of 3D Modeling on Hangar for Posting to CCIA Website linked to QR Code and as Attachment to HABS Documentation

To provide the equivalent of architectural drawings of the Hangar, 3D Modeling will be prepared and attached to the HABS Documentation package, as part of Stipulation II. The 3D Modeling will also be used by the CCIA on their website (Stipulation V) and attached to the QR Code (Stipulation VI).

- A. Digital files of the modeling will be supplemented with a summary letter report. The digital files (each category may have multiple files) may consist of 1) a 3D object file (.obj) or alternative scaled to real-world dimensions; 2) a material and/or texture file

(.mtl and/or .jpg); 3) optional original digital source photos (.jpg); and/or 4) optional Agisoft Metashape working file(s) (.psx) and/or archive file (.psx).

- B. A summary report will be prepared which will describe the drone images which were captured. A DVD will be provided with the images to SHPO, CCIA, the City Historic Preservation Office, the Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library.
- C. The digital files will be made available on the CCIA's website or equivalent for the general public to view, with links provided through their website and through the QR Code.

IX. Inadvertent Discoveries

In the event that the Project will affect a previously unidentified property that may be eligible for inclusion in the NRHP, CCIA shall require work in the area of the discovery to cease until actions that will consider the effects of the Project on the property can be implemented. CCIA shall immediately notify FAA of the discovery and provide FAA with the information required to request the SHPO's comments pursuant to 36 CFR 800.11(b)(2)(ii).

Letters requesting input and comment were sent to federally recognized Indian tribes on November 15, 2022. One response was received on November 15, 2022, from the Kickapoo Traditional Tribe of Texas stating no known effects to any cultural or historical sites are anticipated from the proposed project. No other responses were received from federally recognized Indian tribes.

If Native American human remains and/or objects subject to the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001 et seq.], i.e., burials, associated and unassociated funerary objects, sacred objects and objects of cultural patrimony, are encountered during the Project, CCIA shall immediately notify the FAA so that FAA can consult with the appropriate federally recognized Indian tribe(s) to determine appropriate treatment measures for these human remains in agreement with 36 CFR 800.13(b)(3) (2014). It shall be the responsibility of CCIA to either preserve in place or repatriate these human remains, depending on the agreed upon determination of the tribe(s). If remains / objects subject to NAGPRA are encountered prior to completion of the transfer, the rules of NAGPRA disposition will be followed by CCIA. Nothing in this agreement shall be construed to contradict this stipulation.

In the event of inadvertent discovery of archaeological materials not subject to NAGPRA, work shall immediately stop in the area of discovery and FAA shall comply with 36 CFR 800.13(b)(3) (2014) to notify and consult with the SHPO, federally recognized Indian tribes that might attach significance to the property, and the Advisory Council on Historic Preservation (ACHP).

X. Dispute Resolution

- A. Should the signatories to this MOA object within 30 days to any plans or other documents provided by CCIA or others for review pursuant to this agreement, or to any actions proposed or initiated by CCIA pursuant to this MOA, CCIA shall consult with the objecting party to resolve the objection. If CCIA determines that the objection cannot be resolved, CCIA shall forward all documentation relevant to the dispute to the FAA and to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:
1. Provide FAA with recommendations, which FAA will consider in reaching a final decision regarding the dispute; or
 2. Notify FAA that it will comment pursuant to 36 CFR 800.7(a)(4) and proceed to comment; and
 3. Any ACHP comment will be considered by FAA in accordance with 36 CFR 800.7 with reference to the subject of the dispute.
- B. Any recommendations or comment provided by the ACHP will pertain only to the subject of the dispute; FAA's responsibility to carry out all other actions under this MOA that are not the subjects of the dispute will remain unchanged.
- C. At any time during implementation of the measures stipulated in this MOA by FAA, if an objection to any such measure or its manner of implementation is raised by interested parties, then FAA shall consider the objection and consult, as appropriate, with the objecting party and the consulting parties to attempt to resolve the objection.

XI. Amendments

- A. The signatories to this MOA may request that this MOA be revised, whereby the parties will consult to consider whether such revision is necessary, pursuant to 36 CFR 800.6 (c)(1).
- B. If it is determined that revisions to this MOA are necessary, then FAA and the signatories shall consult pursuant to 36 CFR Part 800.13(1), as appropriate, to make such revisions; except that, reviewing parties must comment on, or signify their acceptance of, the proposed changes to the MOA in writing within 30 days of their receipt.

XII. Termination of Agreement

- A. The signatories to this MOA may terminate this MOA by providing 30 days written notice to the other signatory parties, pursuant to 36 CFR 800.6 (c)(i). During the period after notification and prior to termination, CCIA and the other signatories will

consult to seek agreement on amendments or other actions that would avoid termination. In the event of termination, FAA will comply with 36 CFR 800.4 through 800.6 regarding individual undertakings.

C. The parties agree that this MOA will become null and void upon completion of all mitigative measures stipulated herein.

XIII. Effective Date and Duration

The effective date of this MOA shall be the date of the last signature by a signatory. Unless amended in accordance with Stipulation XI or terminated in accordance with Stipulation XII, this MOA will remain in effect for 5 years. This MOA may be extended for an additional 5 years by a letter from the FAA with written concurrence from the SHPO and CCIA.

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

SIGNATORY PARTIES:

FEDERAL AVIATION ADMINISTRATION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
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SIGNATORY PARTIES:

CORPUS CHRISTI INTERNATIONAL AIRPORT

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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**SIGNATORY PARTIES:
TEXAS STATE HISTORIC PRESERVATION OFFICER**

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

CITY OF CORPUS CHRISTI HISTORIC PRESERVATION OFFICER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

NUECES COUNTY HISTORICAL COMMISSION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

AMERICAN INSTITUTE OF ARCHITECTS, CORPUS CHRISTI CHAPTER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

RICHTER ARCHITECTS

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

MIDTEXMOD

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

BEN KOUSH ASSOCIATES

By: _____ Date _____

Printed Name: _____

FILED:

Advisory Council on Historic Preservation

By: _____ Date _____

Printed Name: _____

**ATTACHMENT A
PROJECT DESCRIPTION**

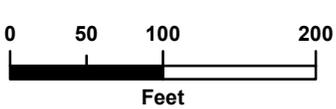
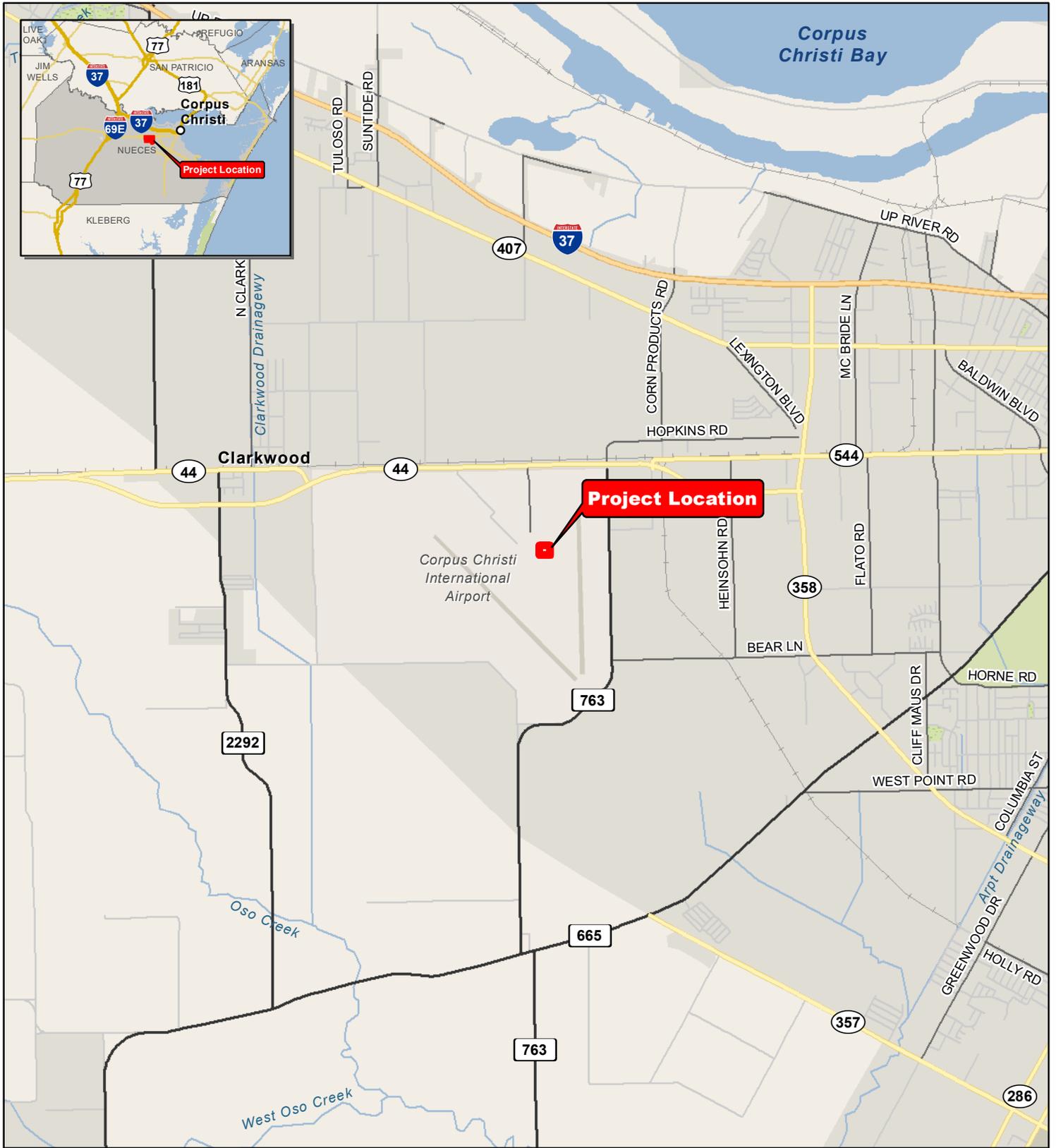
**Corpus Christi International Airport
Gault Hangar Demolition
Project Description**

The proposed project consists of demolition of the Gault Hangar and associated office structures located at the Corpus Christi International Airport (CCIA), also known as East General Aviation Hangar No. 1. The CCIA or Airport is a public use airport that is owned and operated by the City of Corpus Christi (City) and serves both private and major commercial airlines. The Airport is located off of TX-44, west of downtown Corpus Christi and TX-358.

The Hangar is one of the original light aircraft storage facilities from the Airport's construction in 1961. The Hangar's architecture is a distinctive application of thin shell concrete construction including vaulted hyperbolic paraboloid structures reminiscent of the flying buttress (Moorhead 2012). This unique historic architecture, designed by Joe L. Williams and engineered by Wallace R. Wilkerson, makes the Gault Aviation Hangar an NRHP-eligible historic site.

A structural assessment of the Hangar performed in August 2021 indicated that the Hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition which poses a safety concern. The Hangar is currently unoccupied due to the structural condition, including spalling concrete and corroded steel, which poses a hazard for occupants and to the adjacent runway operations.

**ATTACHMENT B
LOCATION MAP**



PROJECT LOCATION
 CCIA: HANGAR NO. 1 DEMO
 Nueces County, TX

ATTACHMENT 4
ADVISORY COUNCIL OF HISTORIC PRESERVATION NOTIFICATION

DRAFT



Advisory Council on Historic Preservation Electronic Section 106 Documentation Submittal System (e106) Form

Send to: e106@achp.gov

Please review the instructions at www.achp.gov/e106-email-form prior to completing this form. Questions about whether to use the e106 form should be directed to the assigned ACHP staff member in the Office of Federal Agency Programs.

I. Basic information

1. Purpose of notification. Indicate whether this documentation is to:

- Notify the ACHP of a finding that an undertaking may adversely affect historic properties
- Invite the ACHP to participate in a Section 106 consultation
- Propose to develop a project Programmatic Agreement (project PA) for complex or multiple undertakings in accordance with 36 C.F.R. 800.14(b)(3)
- Supply additional documentation for a case already entered into the ACHP record system
- File an executed MOA or PA with the ACHP in accordance with 800.6(b)(iv) (where the ACHP did not participate in consultation)
- Other, please describe
[Click here to enter text.](#)

2. ACHP Project Number (If the ACHP was previously notified of the undertaking and an ACHP Project Number has been provided, enter project number here and skip to Item 7 below):

The ACHP has not been previously notified.

3. Name of federal agency (If multiple agencies, list them all and indicate whether one is the lead agency):

Federal Aviation Administration (FAA)

4. Name of undertaking/project (Include project/permit/application number if applicable):

Corpus Christi International Airport (CCIA), East General Aviation (G.A.) Hangar No. 1 (Gault Hanger), 506 Hangar Lane, Corpus Christi, Nueces County, Texas

Texas Historical Commission Tracking #202107070. (State Historic Preservation Office)

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 ☐ Washington, DC 20001-2637

Phone: 202-517-0200 ☐ Fax: 202-517-6381 ☐ achp@achp.gov ☐ www.achp.gov

- 5. Location of undertaking** (Indicate city(s), county(s), state(s), land ownership, and whether it would occur on or affect historic properties located on tribal lands):

Corpus Christi, Nueces County, Texas

The City of Corpus Christi owns the land in which the airport is located.

The Gault Hanger is not located on tribal lands.

- 6. Name and title of federal agency official and contact person for this undertaking**, including email address and phone number:

John MacFarlane

Environmental Protection Specialist

Federal Aviation Administration

Texas Airports District Office

10101 Hillwood Parkway

Fort Worth, Texas 76177

817-222-5681

John.MacFarlane@faa.gov

II. Information on the Undertaking*

- 7. Describe the undertaking and nature of federal involvement** (if multiple federal agencies are involved, specify involvement of each):

Undertaking

The project is proposing to demolish the existing Corpus Christi International Airport East General Aviation (G.A.) Hangar No. 1 (Gault Hangar) and the associated office structures due to safety concerns.

In 2021, the CCIA hired Garver USA to conduct a structural observation report of the Gault Hangar. The assessment determined that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Based on the assessment, it was determined that the hangar is unsafe, and demolition is recommended.

Nature of Federal Involvement

The CCIA is funding the entire project.

- 8. Describe the Area of Potential Effects (APE):**

The current area of potential effect (APE) is recommended to be a radius of 100 feet around the three identified historic properties located at CCIA.

- 9. Describe steps taken to identify historic properties:**

On March 1, 2021, CCIA initiated coordination with the SHPO/THC under the Antiquities Code of Texas and Section 106 to identify historic properties over 45 years of age. The documentation presented to the SHPO/THC stated that the East Aviation (G.A.) Hangar No. 1, the office building immediate north of East General Aviation (G.A.) Hangar No. 1, and the outbuilding south of East General Aviation (G.A.) Hangar No. 1 as meeting this time threshold. Documentation included presenting the project APE of a 100-foot radius around the three historic properties, and photographs showing the three

historic properties presented, as well as current conditions of Hangar No. 1.

For archeology, the March 1, 2021, SHPO/THC coordination indicated that there would be no ground disturbance. The coordination documentation indicated that the project was located within previously disturbed areas and not likely to contain intact archeological deposits and recommended that no further work was needed.

On April 15, 2021, the SHPO/THC concurred with FAA's determination that the East General Aviation (G.A.) Hangar No. 1 was eligible for listing in the NRHP under Criterion C for its design and engineering. SHPO/THC also strongly urged CCIA to reconsider the demolition of the Gault Hangar. SHPO/THC requested that the CCIA explore a plan for its rehabilitation as opposed to demolition. If rehabilitation cannot be performed, then the SHPO/THC requested notification by the CCIA of their intent to negotiate the appropriate mitigation measures and enter into a Memorandum of Agreement (MOA). The SHPO/THC provided comment on archaeology stating that no identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present.

CCIA responded to the SHPO/THC's April 15, 2021 letter on November 23, 2021, with a Structural Observation Report of the East General Aviation (G.A) Hangar No. 1. The report details the current condition of the Gault Hangar stating that it suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Based on the assessment, it was determined that the hangar is unsafe, and demolition is recommended. The CCIA agreed to continue working with the FAA to ensure compliance with NEPA and the Section 106 process. CCIA stated that work on establishing mitigation options, preparation of the MOA, and coordination with the ACHP will occur.

The SHPO/THC responded to the November 23, 2021, submittal on December 20, 2021, stating that they concur on the adverse impact to the Gault Hanger. They also provided further comment stating that they look forward to reviewing possible mitigation options with potential consulting parties in the future. The SHPO/THC requested notifying the ACHP of the project, and then to coordinate with them to discuss the mitigation measures along with the response from the ACHP regarding the adverse effect.

10. Describe the historic property (or properties) and any National Historic Landmarks within the APE (or attach documentation or provide specific link to this information):

Construction of the Gault Hangar started in 1961 by the Braselton Construction Company. The building consisted of 12 thin-shell (3-inch) reinforced concrete hyperbolic paraboloid arch roof structures, with several independent concrete arches spanning the width of the hangar. The arches were cast-in-place and fused together. The thrust of the roof is supported by post-tensioned tendons buried under the floor slab thus allowing for large open areas with no internal columns. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the elements with no door. The 30,000 square foot building (150 x150 feet) had an estimated cost \$82,000 and was completed in 1961.

While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing. The hangar is in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The hangar is completely open on one end and is not air conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that

has failed, and the concrete shell has cracked in several locations, allowing moisture penetration. The concrete structure is cracking and spalling, which in turn is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees are evident throughout the concrete roof and walls of the hangar, and several sizable concrete spalls appear to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing, which has led to the steel being severely corroded and disintegrated in some areas.

11. Describe the undertaking's effects on historic properties:

The Project undertaking will have an adverse impact to the historic properties due to demolition of the resource.

12. Explain how this undertaking would adversely affect historic properties (include information on any conditions or future actions known to date to avoid, minimize, or mitigate adverse effects):

The SHPO/THC determined the undertaking would have an adverse impact to the NRHP eligible East General Aviation (G.A.) Hangar No 1. Demolishing Hangar No. 1 would be an adverse impact as the project will be removing the Gault Hangar, which would destroy the historic integrity of materials, design, and workmanship, thus negating its eligibility to the NRHP under Criterion C.

Avoidance Measures

An assessment to avoid or abandon the Hangar was performed by a licensed structural engineer. The hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the avoidance/abandon in place option is not viable as it risks life and property.

Minimize

Remediation of structural issues of the hangar was considered during the assessment by the licensed structural engineer. Since there are known systemic failures, remediation of the structural elements to restore structural integrity to the hangar with a standard factor of safety is unattainable. Remediation would require that a redundant structural support system be created to bypass and support the existing structure.

Mitigate

Mitigation efforts may include:

Article on THC Historic Sites Atlas

- An article documenting the history of the hangar posted on the THC Historic Sites Atlas which is a resource that historians can use and is available to the public.

Historic American Building Survey (HABS)

- HABS Level 1 is a way of documenting significant resources which includes detailed photographs, drawings, and a historic context. The purpose is to tell the whole story of the building and to archive the resource. 3D Modeling has been proposed by the SHPO instead of architectural hand measured

drawings since the original drawings were destroyed. The 3D modeling will provide dimensions, measurements, and a document for future research in both static and video format.

Interpretative Exhibit

- An interpretive exhibit provides history and photos of the hangar and would be accessible to travelers of the airport and pedestrians. A location has been proposed outside the terminal in a publicly accessible area of the Airport.

QR code

- A QR code provides easy access to information posted online and could be included on various materials, including articles, interpretive sign, and linked to the project website.

CCIA website info

- Webpage hosted on the Airport website with information and links to resources.

Videography

- Recording of demolition that can be used as a learning resource by engineers to see how the hangar was constructed and details on the structural components.

13. Provide copies or summaries of the views provided to date by any consulting parties, Indian tribes or Native Hawai'ian organizations, or the public, including any correspondence from the SHPO and/or THPO.

No views were provided by Indian tribes or Native Hawaiian organizations for the project.

Views and responses were provided by consulting parties at the June 30, 2022, presentation:

Consulting Party Input Received

1. Consulting Party: David Richter, Local Architect and Local Preservation Stakeholder

Comment: Mr. Richter suggested that the Airport consider stabilizing the structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. He also suggested a review of the structure from a 3rd party with thin concrete expertise.

Response: The purpose of the project is to address the safety concerns posed by the deteriorating structure. Large pieces of concrete haven fallen from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. Chunks of concrete from the hangar have been found near the adjacent runway apron which poses a safety hazard for both people and aircraft.

The Airport considered and evaluated the possibility of repairing the existing structure. Repair and rehabilitation of the structure proved economically and logistically challenging. Costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. Patch and repair of concrete and other elements would not fully address the safety concerns since the existing substructure exhibits severe deterioration. The structural assessment performed by a registered professional engineer in 2021 identified systemic failure of the steel reinforcement due to prolonged exposure to the corrosive coastal environment and determined that the existing superstructure is not salvageable. With the known systemic failures, there is no reasonable way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety.

Through research and investigation of the hangar, the project team did not identify any individuals with a level of expertise beyond persons who conducted the structural assessment in 2021.

2. Consulting Party: Jay Porterfield, Corpus Christi AIA Chapter

Comment: Mr. Porterfield inquired as to whether portions of the structure might be viable to keep and potentially display.

Response: Because of the systemic and excessive water intrusion, mold, and structural deterioration throughout the hangar, portions of the structure were not deemed reasonable to salvage. The Airport also considered whether sections of the hangar could be removed and placed in a location for interpretive display. However, it was determined that this option would not be reasonable and prudent due to the deteriorated state of the concrete and lack of available public space at the Airport to house a meaningful display.

3. Consulting Party: Ben Koush, Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission

Comment: Mr. Koush inquired about the use of special tax credits for discounts on the construction and repair of the structure.

Response: Several stipulations would need to be met to take advantage of federal and state historic rehabilitation tax credits. The Airport is owned and operated by the City of Corpus Christi which limits their ability to apply for tax credits. The City could lease the building to a private for-profit or non-profit entity as a 39-year lease on the property and apply for tax credits, but the private or non-profit entity would have to pay for the rehabilitation project which is a significant cost. Furthermore, alternative uses of a rehabilitated structure were not considered due to regulatory guidelines, safety, and liability. The structural assessment report of the hangar indicates that it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements.

4. Consulting Party: Ben Koush, Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission

Comment: Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.

Response: Due to the structural deficiencies identified with the hangar and excessive cost for rehabilitation, adaptive reuse of the hangar was not considered as a viable alternative.

5. Consulting Party: Nina Nixon-Mendez, Corpus Christi Historic Preservation Officer

Comment: Ms. Nixon-Mendez agreed with the proposed mitigation options presented. She also suggested consideration of creating a 3-D model of the structure as mitigation.

Response: A virtual 3-D model of the structure will be considered as one of the proposed mitigation options.

6. Consulting Party: Christopher Medina, MidTexMod

Comment: Mr. Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, for wider distribution and a larger internet presence.

Response: This suggestion will be included in the proposed mitigation options.

III. Additional Information

14. Please indicate the status of any consultation that has occurred to date, including whether there are any unresolved concerns or issues the ACHP should know about in deciding whether to participate in consultation. Providing a list of consulting parties, including email addresses and phone numbers if known, can facilitate the ACHP's review response.

On May 24, 2022, a meeting was held with the Texas SHPO (Texas Historical Commission – THC) to discuss the project and to present mitigation measures for the hangar. The THC recommended that a presentation be made to potential consulting parties (see below information).

On May 6, 2022, emails were sent to the consulting parties listed below. All letters were sent and were documented as having been received by all parties on May 6, 2022. As of today's date, responses have been received from six of the eight consulting parties.

Kathy Wemer (Responded 5/06/2022, declined to participate)
 Nueces County Historical Commission
 518 Peerman Place
 Corpus Christi, TX 78411
rboyd@stx.rr.com

Nina Nixon-Mendez (Responded 5/6/2022)
 Corpus Christi Historic Preservation Officer
 Assistant City Manager
 2406 Leopard Street
 Corpus Christi, TX 78408
ninam@cctexas.com

John Montalvo (did not respond)
 Nueces County Historical Society
 President
 P.O. Box 60003
 Corpus Christi, TX 78466-0003
info@nuecescountyhistoricalsociety.org

South Texas Flying Club At KCRP (did not respond)
 P.O. Box 60526
 Corpus Christi, TX 78406
info@southtexasflyingclub.org

Jay Porterfield (Responded 5/6/2022)
AIA Corpus Christi Chapter
President
6262 Weber Road, Suite 310
Corpus Christi, TX 78413-4031
361.854.1471
jporterfield@sntarchitects.com

David and Elizabeth Chu Richter (Responded 5/6/2022)
Architect and Preservationists
201 South Upper Broadway
Corpus Christi, Texas 78401
361-882-1288
drichter@richterarchitects.com

Elizabeth Porterfield (Responded 5/6/2022)
MidTexMod
President
PO Box 12734
Austin, Texas 78711
737-236-0113
Rowan14@hotmail.com
info@midtexmod.org

Ben Koush (Responded 5/30/2022)
Ben Koush Associates
816 Wilkes Street
Houston, Texas 77009
713-456-0092
ben@benkoush.com

On June 30, 2022, the presentation was conducted with the consulting parties who responded, and their views and concerns are documented in item number 13 above.

15 Does your agency have a website or website link where the interested public can find out about this project and/or provide comments? Please provide relevant links:

No website or website link is available.

16. Is this undertaking considered a “major” or “covered” project listed on the Federal Infrastructure Projects Permitting Dashboard? If so, please provide the link:

The Gault Hanger is not a major undertaking, however, it will be listed on the Permitting Dashboard for Federal Infrastructure Projects because of a 2016 Secretary of Transportation memorandum stating that all Department of Transportation (DOT) Operating Administrations shall use the Dashboard to track projects covered by Environmental Assessments and Environmental Impact Statements.

The following are attached to this form (check all that apply):

- Section 106 consultation correspondence
- Maps, photographs, drawings, and/or plans
- Additional historic property information
- Consulting party list with known contact information
- Other:

**Section 106 Coordination
With Structural Evaluation**

TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at <http://www.thc.state.tx.us/crm/crmsend.shtml>.

- This is a new submission.
- This is additional information relating to THC tracking number(s): _____

Project Information			
PROJECT NAME Demolition of East General Aviation (GA) Hangar No. 1			
PROJECT ADDRESS 506 Hangar Lane		PROJECT CITY Corpus Christi	PROJECT ZIP CODE(S) 78406
PROJECT COUNTY OR COUNTIES Nueces County			
PROJECT TYPE (Check all that apply)			
<input type="checkbox"/> Road/Highway Construction or Improvement	<input type="checkbox"/> Repair, Rehabilitation, or Renovation of Structure(s)		
<input type="checkbox"/> Site Excavation	<input type="checkbox"/> Addition to Existing Structure(s)		
<input type="checkbox"/> Utilities and Infrastructure	<input checked="" type="checkbox"/> Demolition or Relocation of Existing Structure(s)		
<input type="checkbox"/> New Construction	<input type="checkbox"/> None of these		
BRIEF PROJECT DESCRIPTION: Please explain the project in one or two sentences. More details should be included as an attachment to this form. The Corpus Christi International Airport (CCIA) proposes the demolition of East General Aviation (GA) Hangar No. 1. The airport has closed the hangar, which was built in the early 1960s, from public entry due to several structural deficiencies, including the potential for safety hazards from future pop-outs and spalls. See attached letter for additional details.			

Project Contact Information			
PROJECT CONTACT NAME Derek Mayo		TITLE Senior Project Manager	ORGANIZATION Garver
ADDRESS 285 SE Inner Loop, Suite 110		CITY Georgetown	STATE ZIP CODE TX 78626
PHONE 503-720-8777		EMAIL DWMayo@garverusa.com	

Federal Involvement (Section 106 of the National Historic Preservation Act)			
Does this project involve approval, funding, permit, or license from a federal agency?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
FEDERAL AGENCY Federal Aviation Administration (FAA)		FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE	
CONTACT PERSON John MacFarlane		PHONE 817-222-5681	
ADDRESS Texas Airports Districts Office, ASW-650 10101 Hillwood Parkway, Fort Worth, TX 76177		EMAIL John.MacFarlane@faa.gov	

State Involvement (Antiquities Code of Texas)			
Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?			
<input checked="" type="checkbox"/> Yes (Please complete this section)		<input type="checkbox"/> No (Skip to next section)	
CURRENT OR FUTURE OWNER OF THE PUBLIC LAND City of Corpus Christi			
CONTACT PERSON Victor Gonzalez		PHONE 361-2890171 Ext. 1231	
ADDRESS 1000 International Dr Corpus Christi, TX 78406		EMAIL Victor@cctexas.com	

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?
 Yes (Please complete this section) No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.
No ground disturbance will occur as the existing foundation will remain in place.

Describe the previous and current land use, conditions, and disturbances.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?
 Yes (Please complete this section) No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?
 Yes, name of property or district: No Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
East G.A. Hangar No. 2	Between 1960-1978	Google Earth Historical Imagery
Office building immediate north of East G.A. Hangar No. 1	Between 1989-1995	Google Earth Historical Imagery
Outbuilding south of East G.A. Hangar No. 1	Between 1990-1995	Google Earth Historical Imagery

Attachments

[Please see detailed instructions regarding attachments.](#)

Include the following with each submission:

- Project Work Description
- Maps
- Identification of Historic Properties
- Photographs

For Section 106 reviews only, also include:

- Consulting Parties/Public Notification
- Area of Potential Effects
- Determination of Eligibility
- Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

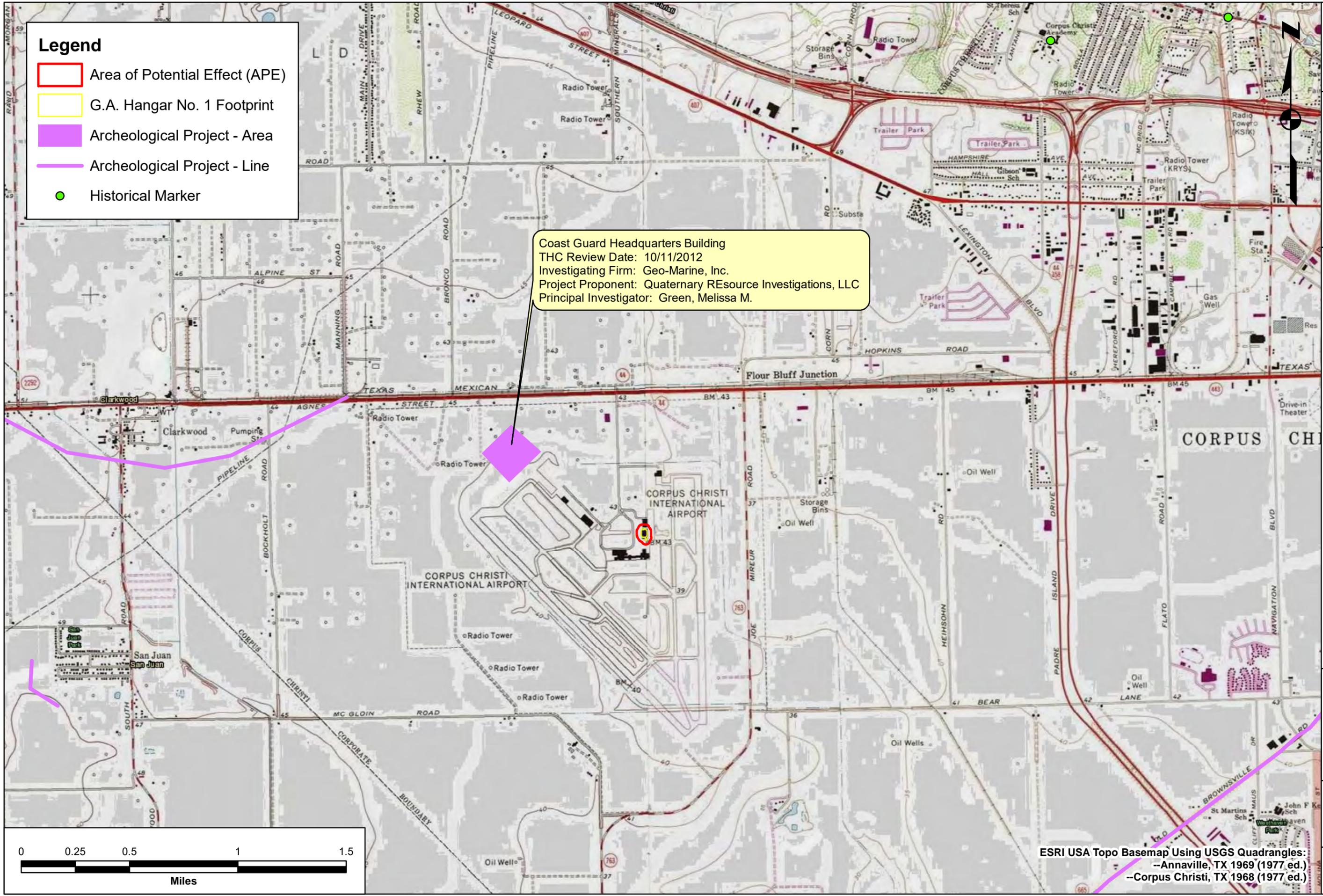
Mark Wolfe
 State Historic Preservation Officer
 Texas Historical Commission
 P.O. Box 12276, Austin, TX 78711-2276 (mail service)
 108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint
- Archeological Project - Area
- Archeological Project - Line
- Historical Marker

Coast Guard Headquarters Building
THC Review Date: 10/11/2012
Investigating Firm: Geo-Marine, Inc.
Project Proponent: Quaternary REsource Investigations, LLC
Principal Investigator: Green, Melissa M.



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

SITE LOCATION MAP & NRHP DATA IN PROJECT AREA

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE 1

ESRI USA Topo Basemap Using USGS Quadrangles:
--Annaville, TX 1969 (1977, ed.)
--Corpus Christi, TX 1968 (1977, ed.)

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

STREET
MAP
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE
2

ESRI Open Street Map



East
GA
Fuel
Farm

East GA
Hangar No. 2

Office
Building

East GA Apron

TWY M

Rental Car
Ready
Return Lot

Terminal Parking Lot

International Boulevard

Legend

- Area of Potential Effect (APE)
- G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

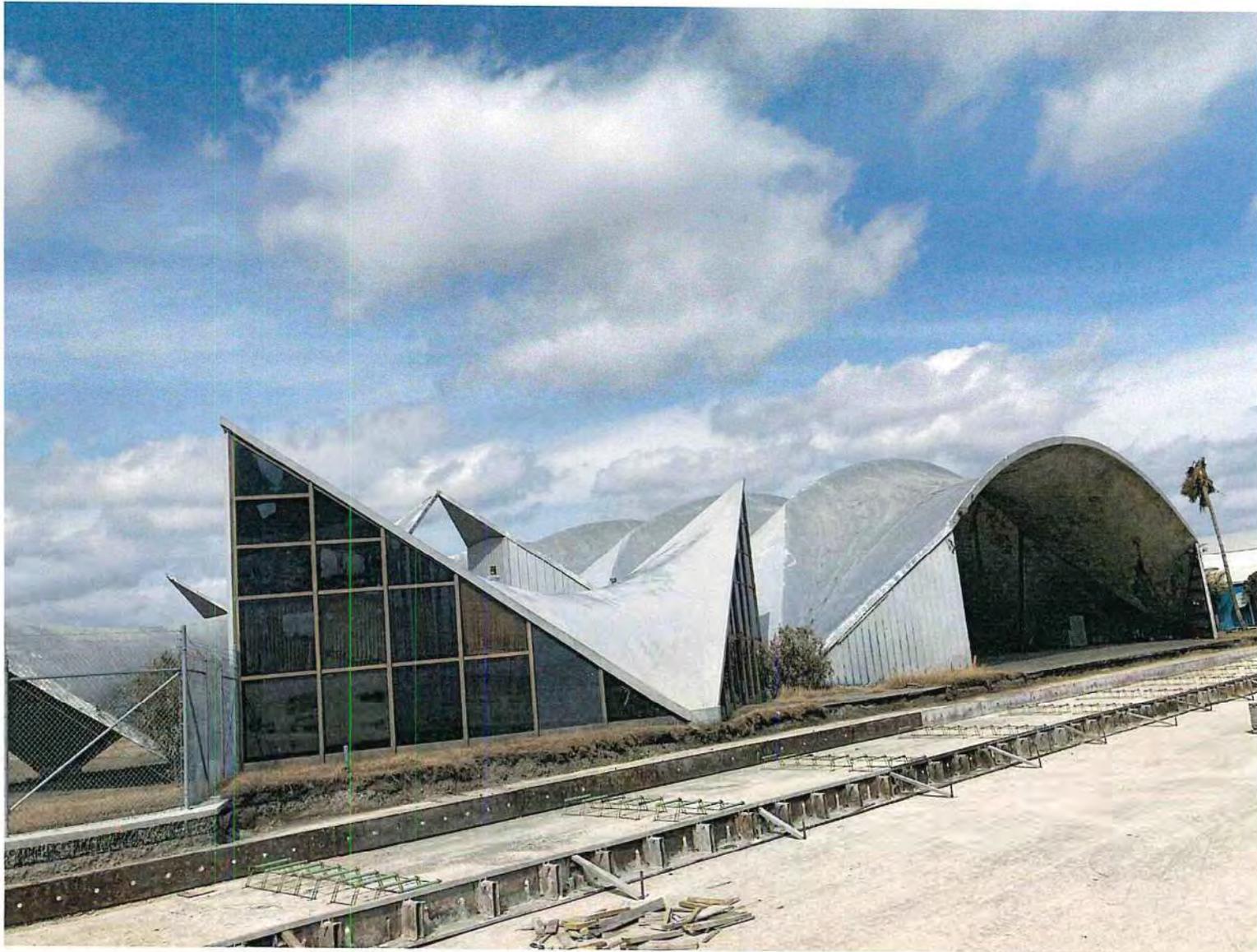
PROJECT
VICINITY
AND
AREA OF
POTENTIAL
EFFECT
(APE)
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

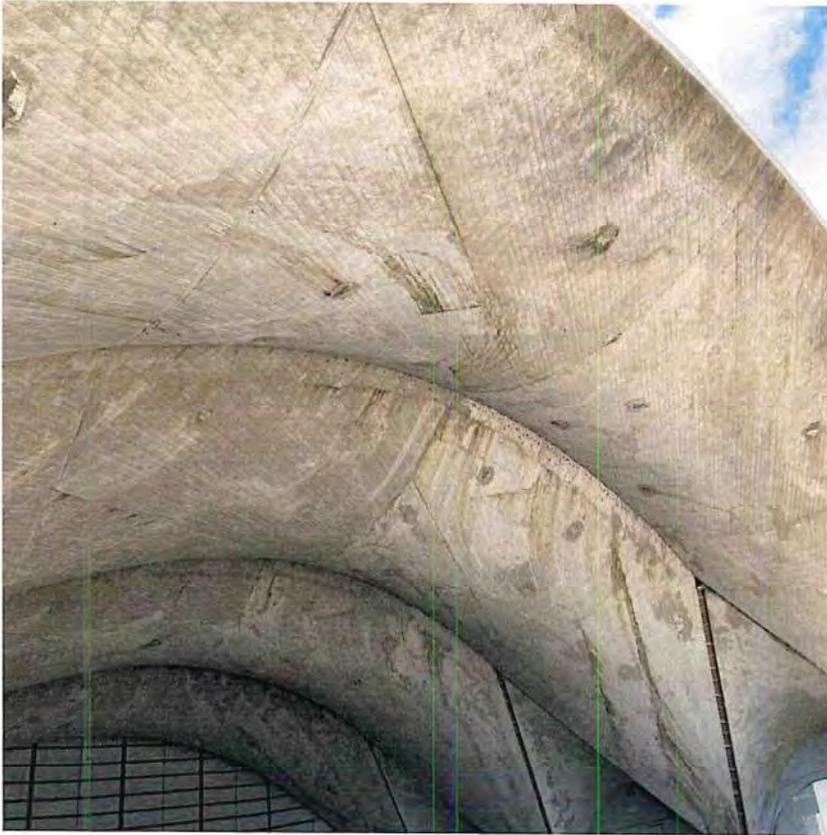
**FIGURE
3**



2020 ESRI Aerial Imagery



East General Aviation (GA) Hangar No. 1, which is proposed for demolition. Photograph taken near the southeast edge of the APE facing northwest.



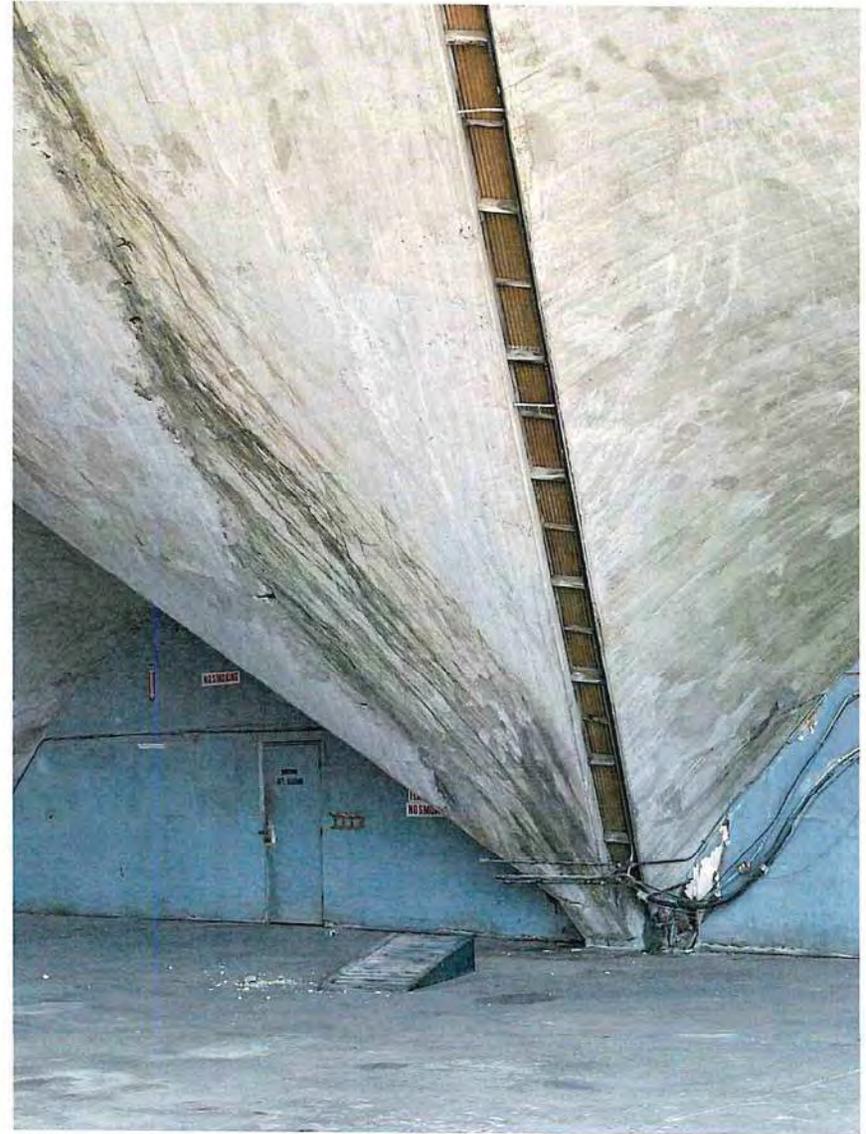
East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.



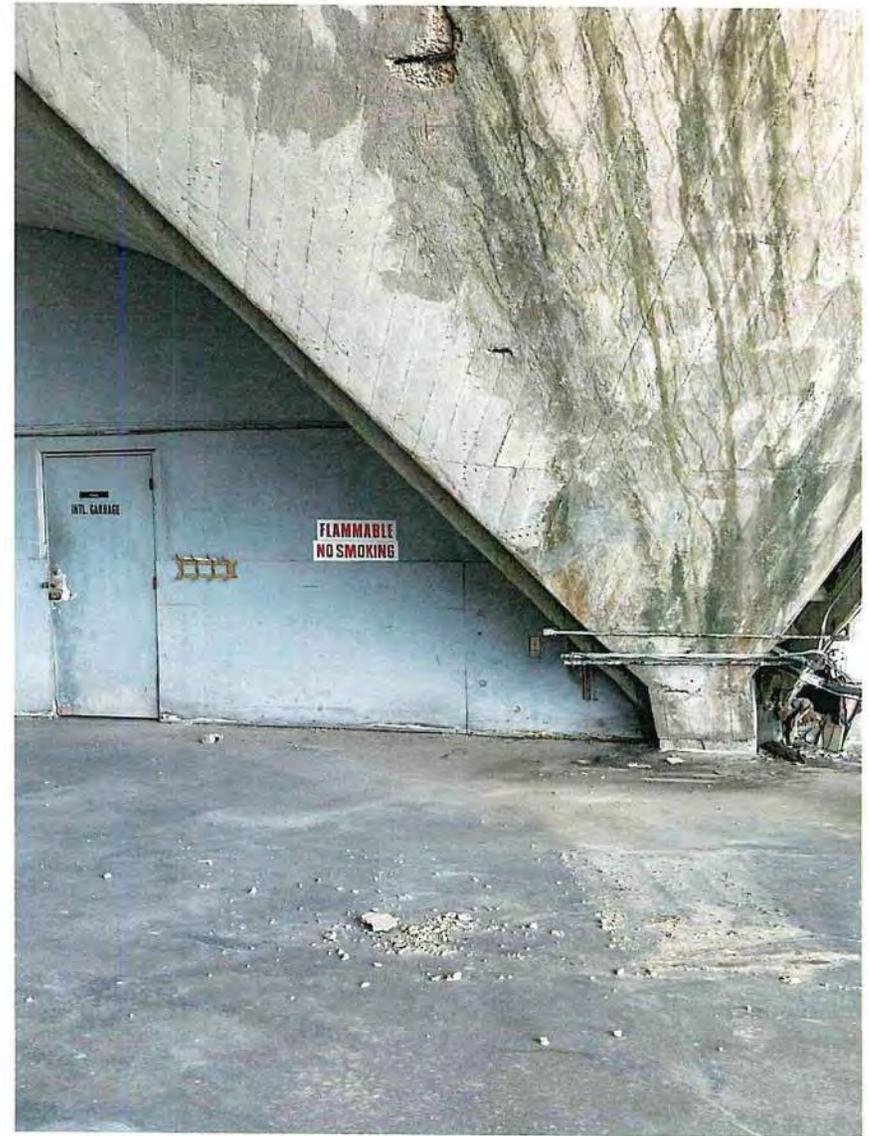
View of concrete roofing along east edge of East GA Hangar No. 1.



View of concrete ceiling and side wall from inside the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



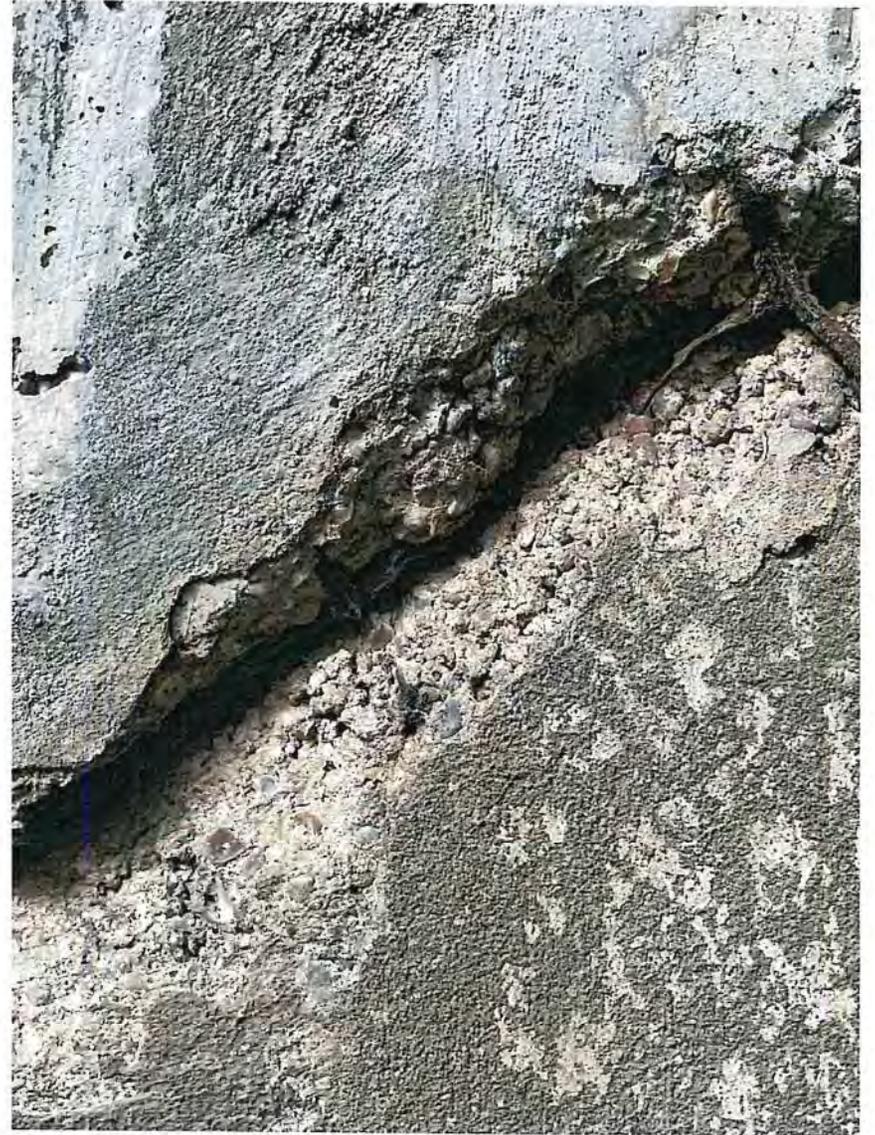
View of deteriorating concrete within the East GA Hangar No. 1.



View of deteriorating concrete within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



Large shard of concrete that has fallen from the East GA Hangar No. 1 structure.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports District Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

March 19, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

RE: Section 106 Consultation Initiation for Proposed Building Demolition, Corpus Christi International Airport, Corpus Christi, Texas

Dear Mr. Wolfe:

The Federal Aviation Administration (FAA) is initiating the process for the approval of the Airport Layout Plan at Corpus Christi International Airport (CRP) for the proposed demolition of one structure, which has been determined to be an ‘undertaking’ subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 of 36 CFR Part 800 (as amended). Maps and photos are included as Attachment A and additional photos and estimated cost to repair/rehabilitate the hangar are included as Attachment B. The proposed project is also subject to the National Environmental Policy Act (NEPA).

The East General Aviation Hangar No.1, once known as the Gault Aviation Hangar¹, is a single-story hyperbolic paraboloid arch concrete aircraft hangar constructed in 1961. The architect is Joe L. Williams. The facility has most recently served as a hangar with office space for the East Side Fixed Base Operations (FBO) serving the general aviation community. The FAA has determined an appropriate area of potential effects (APE) for the proposed undertaking to be 100 feet around the structure proposed to be demolished. Based on a cursory review of the area, there are no other structures within 100 feet of the hangar that would be eligible for listing on the National Register.

The FAA determined that the hangar may embody the distinctive characteristics of a type, period or method of construction; or represent the work of a master; or possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction. However, deterioration of the materials originally used to construct the hangar has resulted in a loss of the property’s integrity of materials. Hurricanes Harvey and Hanna both made landfall at Corpus Christi and caused damage to area infrastructure from flooding and storm-force winds. A recent preliminary structural assessment revealed multiple structural issues which could create safety issues for airport personnel and could result in the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. The hangar is not well-suited to for modern aircraft, and

¹ <https://sah-archipedia.org/buildings/TX-01-CC43>

as mentioned in Attachment B, does not have a hangar door and has height limitations due to its inherent design. In addition, the estimated cost to rehabilitate the hangar is approximately \$4.5M, which the sponsor believes is cost prohibitive. Therefore, the FAA has determined that the hangar is not eligible for the National Register and the demolition of the hangar will have no effect to historic properties.

If you have any comments or questions on this undertaking, please contact me directly at 817-222-5681 or at john.macfarlane@faa.gov.

Sincerely,

John MacFarlane
Environmental Protection Specialist
Texas Airports District Office

ATTACHMENT B



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

March 9, 2021

Mr. Victor Gonzalez
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

RE: CCIA EGA Hangar 1 Condition and Recommendations

Regarding EGA Hangar 1 and the recent Visual Inspection Report conducted on the East General Aviation Hangars at CCIA (Garver Task Order 24), we have summarized the findings for EGA Hangar 1 below.

EGA Hangar 1

EGA Hangar 1 is several decades old and there are several concerns with the overall building, its usability, and serviceability. The primary concern with the structure is safety. Several pop outs and spall have occurred, see figures below. It is our opinion that the facility not be occupied in its current condition.



Figure 1 - EGA Hangar 1



Figure 2 - Chunk of Concrete that Fell off Structure



Figure 3 - Interior view of the hangar ceiling, note popout/spall exposing steel reinforcement.



Figure 5 - Popout/Spall exposing reinforcing steel



Figure 4 - Additional popout/spalls exposing steel reinforcement



Figure 6 - Popout/Spall exposing reinforcing steel



Figure 7 - Spall on concrete eave exposing steel reinforcement



Figure 8 - Popout/Spall in finished office area exposing steel reinforcing

With several deficiencies noted, including the safety hazards from future popouts and spalls, repairs required to bring this building up to habitable standards would be extensive. In addition, the hangar has two functional flaws which make it undesirable to house and protect aircraft: The first being that it does not have a hangar door, which is a feature most tenants expect. The other is that with the shape of the hangar being a relatively gradual arch, the ceiling height reduces near the sides of the hangar. This limits the possible arrangements of aircraft and the number of aircraft that could be safely stored in the hangar, considering aircraft tail heights.

To bring the building to habitable standards, the following improvements would be recommended:

1. Repair roof system to be watertight (Approx. 33,000 sf).
2. Repair concrete spalls/popouts, protect any exposed steel reinforcing with appropriate coating. This may include additional structural support and an underside membrane (Approx. 33,000 sf).
3. Treat all exposed corroded steel components with a rust inhibiting coating.
4. Demolish and rebuild all finished office spaces to current building codes (Approx. 6,000 sf), including exterior walls, windows, doors, mechanical, electrical, and plumbing.
5. Remove any large plants that are in contact with the building and re-grade.

The approximate cost to rehabilitate the existing hangar would be in excess of \$4.5 Million.

Since the repair required is extensive and the design isn't well suited as a hangar, the airport may consider demolishing the structure and re-building a new hangar in its place when funding allows.

The approximate cost to demolish the Hangar would be \$250,000.

Let us know if you have any questions.

Thanks,

Derek Mayo, PE PMP
Garver LLC

From: Info_Tech@thc.state.tx.us
To: [MacFarlane, John \(FAA\)](#)
Subject: Project Review Submission
Date: Friday, March 19, 2021 1:50:46 PM

Thank you for submitting project: Corpus Christi International Airport Gault Hangar

Tracking Number: 202107070

Due Date: 4/18/2021 12:03:34 PM

TEXAS HISTORICAL COMMISSION

From: noreply@thc.state.tx.us
To: [MacFarlane, John \(FAA\); reviews@thc.state.tx.us](mailto:MacFarlane, John (FAA); reviews@thc.state.tx.us)
Subject: Section 106 Submission
Date: Thursday, April 15, 2021 4:26:33 PM



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202107070

Date: 04/15/2021

Corpus Christi International Airport Gault Hangar
1000 International Drive
Corpus Christi, TX 78406

Description: The proposed project would demolish a 1961 aviation hangar.

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst, Hansel Hernandez, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: The THC History Programs Division, led by Justin Kockritz, has completed its review of the submitted materials. The former Gault Hangar, designed by architect Joe L. Williams and engineer Wallace Wilkerson, features a unique and

exuberant application of thin-shell concrete and vaulted hyperbolic paraboloid forms. Before working on this hangar, Wilkerson worked directly with architect Richard Colley who collaborated with Mexican architect and thin-shell concrete master Félix Candela on projects including the Texas Instruments Semiconductor Building in Dallas and the Great Southwest Industrial Park in Arlington. Based on available information, THC recommends that the Hangar is eligible for listing in the National Register of Historic Places under Criterion C for its design and engineering. Although there are areas of spalling and there have been alterations such as the infilling of the smaller flanking shells, THC recommends that the Hangar retains sufficient historic integrity to convey its historic significance. Division of Architecture: Given the age of the building, its architectural pedigree, its historical significance, and its high level of integrity, we strongly urge reconsideration of the demolition. We ask that the FAA explore the feasibility of developing a plan for its rehabilitation. We certainly welcome the discussion of any alternative to demolition. If demolition cannot be prevented and the adverse effect avoided, please notify us of your intent to negotiate appropriate mitigation and enter into a Memorandum of Agreement to execute that mitigation.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, hansel.hernandez@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

November 23, 2021

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Re: Response to Initial Coordination - THC Tracking #202107070
Corpus Christi International Airport (CCIA)
Gault Hangar Demolition Project
Corpus Christi, Texas

Dear Mr. Wolfe,

In accordance with Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas, this letter is to inform the Texas Historical Commission (THC) of the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) in Nueces County, Texas. In response to the letter received from your office dated on April 15, 2021, we have coordinated with our environmental and engineering consultant and provide this letter as notification of our intent to negotiate appropriate mitigation and to enter into a Memorandum of Agreement (MOA) to execute such mitigation.

The Gault Hangar, also known as East General Aviation (G.A.) Hangar No. 1, and the associated office structures are planned for demolition due to safety concerns. A recent structural assessment of the hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Based on this assessment it was determined that the hangar is unsafe and demolition is recommended. Findings of the structural assessment are discussed in the enclosed Structural Observation Report. Photographs of the East General Aviation (G.A.) Hangar No. 1 are also enclosed.

Options to demolition and to avoid adverse impacts were considered and evaluated, including abandon in place and remediation of existing structure. However, due to the unsafe conditions of the existing structure, abandon in place is not a reasonable option as it risks life and property. Because of potential hurricanes and high winds along the coast, the deteriorating structure could potentially cause impacts to aircraft safety with the presence of foreign object debris (FOD) on the airfield. FOD creates safety hazards and can ultimately impact safe airport operations by damaging aircraft. Remediating the existing structure is also not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell. A preliminary options analysis summary is also enclosed for your reference.

We understand that with our intention to proceed with the proposed demolition, we must continue to work with the Federal Aviation Administration (FAA) and THC to ensure compliance with Section 106 and Section 4(f). These evaluations will be conducted concurrently with the FAA's National Environmental Policy Act process. Section 106 procedures will be followed and

conducted by our professional historic consultants, alongside our federal partner, the FAA. Additional cultural resource surveys would be conducted as necessary and mitigation measures will be proposed, which could take many forms, such as a brochure including the history and architectural renderings of the hangar. An MOA will be prepared with FAA oversight and mitigation measures will be refined with continued consultation with the THC and with consulting parties.

Thank you for your time in reviewing this submittal. If you have any questions or wish to discuss this further, please feel free to contact me.

Sincerely,

Victor Gonzalez
Development and Construction Manager
Aviation Department
City of Corpus Christi

Enclosures:

Site Photographs
Structural Observation Report
Options Analysis Summary

cc: Derek Mayo – Project Manager, Garver, Inc.
John MacFarlane - Environmental Protection Specialist, FAA



Photo 1. View of front side of Gault Hangar.



Photo 2. Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 3. Sever concrete spalling and corroded steel reinforcing at existing primary structural support.



Photo 4. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 5. Concrete roof structure of Gault Hangar overhanging an adjacent office building.



Photo 6. Severe concrete spalling and corroded steel reinforcing at existing support.

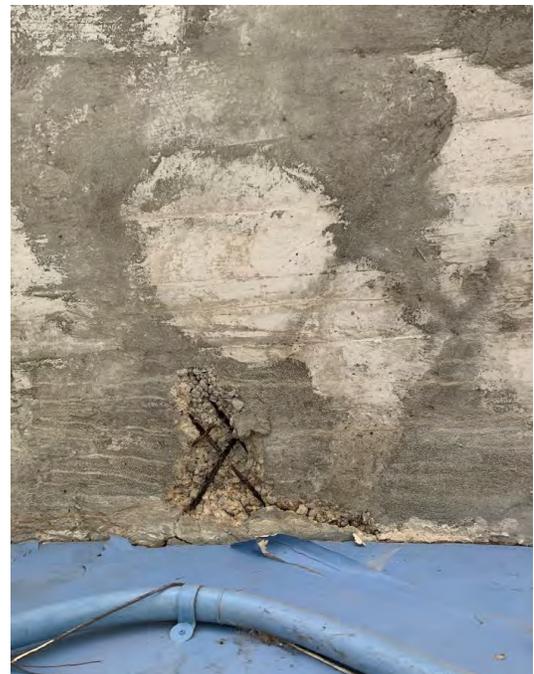


Photo 7. Severe concrete spalling and severely corroded steel reinforcing at roof line. Blue is interior wall.



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

September 30, 2021

Corpus Christi International Airport
1000 International Drive
Corpus Christi, Texas 78406

Attention: Mr. Victor Gonzalez
Development & Construction Manager
Department of Aviation

Re: Corpus Christi International Airport (CCIA)
Structural Observation Report of East General Aviation Hangar 1
Garver Project No. 21A06174

Dear Mr. Gonzalez:

As a structural engineer on behalf of Garver, I am pleased to submit this letter summarizing my observation of and recommendations for the existing East General Aviation (EGA) Airplane Hangar 1 located at Corpus Christi International Airport (CCIA) in Corpus Christi, Texas.

Introduction

On Wednesday, August 25, 2021, I performed a visual observation of the existing EGA Hangar 1 focused on structural building elements that could be observed from the ground level. The primary structure of the existing hangar building appears to be comprised of a thin shell reinforced concrete hyperbolic paraboloid arch roof with several independent concrete arches spanning the width of the hangar. The end wall on the back side of the hangar appears to be framed with pre-engineered metal building (PEMB) framed end wall, and the front side of the hangar is open to the exterior elements with no door.



Figure 1: Existing EGA Hangar 1

It is my understanding that an assessment of the existing hangar in question was conducted by another firm in 2011 which noted several structural deficiencies and provided recommendations for improvements. Additionally, Garver recently issued a Visual Inspection Report for EGA Hangars 1 through 3, which noted that the conditions have worsened. The intent of my observation to observe the structural related issues that were raised in the previous reports and to provide recommendations for the structural building elements that require repair and/or remediation in the immediate future. Please note that this was a visual observation only. The observations and recommendations included in this letter are based on extensive past structural engineering experience.

Structural Observations

Corpus Christi is located in a coastal region where sodium chloride (salt) air is present creating a highly corrosive environment. The existing concrete hangar structure is completely exposed open on one end and is not conditioned, exposing the thin shell concrete roof structure to corrosive salt and sulfur compounds that are carried by sea spray, mist, fog, and/or prevailing winds. The top of the concrete thin shell roof structure has an applied roofing membrane that has failed, and the concrete shell has cracked in several locations, allowing moisture penetration.

Based on my visual observation, there is systemic visible damage due to severe prolonged moisture damage and salt deterioration sustained by the existing exposed concrete hangar structure. This is causing portions of the existing concrete structure to crack and spall, which, in turn, is exposing the steel reinforcing to excessive corrosion due to the highly corrosive environment. Abundant cracking and spalling of varying degrees were observed throughout the concrete roof and walls of the hangar structure and several sizable concrete spalls appeared to have recently fallen from the bottom side of the roof structure. The spalling has exposed the steel reinforcing and much of the steel is closer to the concrete surface than it should be. It appears that the likely cause for the significant moisture damage that has developed is due to a combination of poor original construction practices, water penetration due to the roof system not being watertight, and a lack of maintenance over the life of the facility.

Upon closer visual observation of several areas of spalling, where steel reinforcing is now exposed, the steel reinforcing appears to be severely corroded and disintegrating in some instances. Given the long-term exposure to moisture intrusion from above and the corrosive, humid environment inside the hangar due to the lack of a hangar door, it is likely there are several more unobservable areas of severely corroded and disintegrating steel reinforcing located throughout the existing structure.



Figure 2: Spalling concrete and severely corroded steel reinforcing at existing roof.



Figure 3: Spalling concrete and severely corroded steel reinforcing at existing roof.



See Figure 5 for concentrated view of structural section loss in both concrete section and steel reinforcing at one of the primary structural supports.

Figure 4: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Structural section loss in both concrete section and steel reinforcing for one of the primary structural supports.

Figure 5: Severe concrete spalling and corroded steel reinforcing at existing primary structural support.



Figure 6: Severe concrete spalling and corroded steel reinforcing at existing structural support.



Figure 7: Severe concrete spalling and exposed unprotected steel reinforcing at structural support.

Record Drawings

It is my understanding that the existing hangar structure was originally privately constructed and owned prior to the ownership being reverted to the City of Corpus. As a result, CCIA does not have record drawings for the building structure on file and record as-built structural drawings were not reviewed in conjunction with my observation. While record drawings could not be reviewed, the quality control during construction was lacking as evidenced by the lack of proper minimum concrete cover over the steel reinforcing.

Conclusion and Recommendations

The existing hangar structure has suffered and continues to suffer from prolonged long-term moisture damage and salt deterioration, and it is currently unknown what "Factor-of-Safety" (against catastrophic failure) may exist at this time. The extensive damage and deterioration are systemic issues that will likely expand exponentially. Given the current highly deteriorated structural condition of the hangar combined with the highly corrosive environment, it is my professional opinion that the hangar is unsafe, and it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements. Therefore, it is my recommendation that the existing hangar concrete hangar be demolished as soon as possible. In the meantime, it is recommended that access to the hangar be entirely restricted, and precautions be taken to protect life-safety and adjacent structures from catastrophic failure.

Please call me if you have any questions.

Sincerely,



Ian Babcock, PE
Structural Engineer | Texas Engineering Team Leader
Garver
Texas Engineering Firm No. 5713





3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

September 26, 2021

Victor Gonzalez
Development and Construction Manager
Department of Aviation
Corpus Christi International Airport
1000 International Dr.
Corpus Christi, TX 78406

Re: Options Analysis Technical Memo for (CCIA East G.A. Hangar No. 1 “Gault Hangar”)

1.0 Summary of Existing Conditions

The existing East General Aviation (G.A.) Hangar No. 1, also known as the “Gault Hangar”, at the Corpus Christi International Airport (CCIA) has been deemed unsafe and recommended for demolition (see Figure 1). There have been large pieces of concrete falling from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. There are several areas where steel reinforcement has been exposed to the corrosive coastal environment due to cracking and concrete spalls. These conditions are similar to the conditions reported to have caused the recent collapse of an apartment complex in Florida, where systemic reinforcement damage and exposure to a corrosive environment ultimately contributed to that catastrophe. With the systemic failure of the reinforcement in Hangar No. 1, the existing superstructure is not salvageable. The following options have been considered for the next steps.



Figure 1: East G.A. Hangar No. 1 “Gault Hangar”

1.1 Option 1: Abandon in Place

Abandon in place is an option considered for Hangar No. 1. A structural assessment of Hangar No. 1 was performed by a licensed structural engineer in August 2021. Based on the assessment, the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition. Due to the unsafe nature of the existing structure and the proximity to other occupied structures, the abandon in place option is not viable as it risks life and property.

1.2 Option 2: Remediate Structural Issues and Recommission Building

An option to remediate the known structural issues and recommission the hangar was also considered. However, with the known systemic failures, there is no way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety. Remediation would require a redundant structural system that would bypass and support the existing structure. This approach would require extensive additional effort during design and construction when compared to a traditional design and construction of a new building or improvements to existing buildings.

During design, reverse engineering and re-design of the existing facility would be required to be able to model and analyze the existing structure for the design of the new structural system. The design of the redundant structure would need to include the additional loading impact from the existing structure which would need to be supported by the new structure along with other standard loads. Geotechnical investigations and forensic investigations of the existing structure would also be required.

During construction extensive falsework would be required to temporarily support the existing structure and keep construction workers safe. Mold and other remediation would also be required.

Rough Order Magnitude Costs

The costs associated with this option would be excessive. See below for a rough order magnitude cost opinion:

- Geotechnical Investigations and Forensic Testing: \$50,000
- Lidar Scanning and Topographic Survey: \$50,000
- Reverse Engineering of Existing Building: \$300,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$400,000
- Additional Falsework \$200,000
- Construction Improvements to Hangar Bay: \$4,200,000 (20,600 sf @ \$200 per sf)
- Selective Demolition in Office Spaces: \$100,000 (5,000 sf @ \$20 per sf)
- Construction of Improvements to Office Spaces \$2,000,000 (5,000 sf @ \$400 per sf)

- New Custom Hangar door: \$200,000
- Professional services during construction (Material Testing, Full Time Observation, Construction Administration) \$400,000
- Historical Observation During Construction \$100,000
- Total Costs: **\$8,000,000**

Resulting Usable Space

If this option was implemented, given the design of the building with edges sloping down to a zero height, this limits the usable floor space of the hangar when compared to a traditional hangar with vertical walls on the edges. This same concept applies to office spaces on the side where 7 feet of height is required for usable floor space. While the existing hangar is 20,600 square feet (sf), the effective usable hangar area is just over 12,000 sf. And while the office space finished area is approximately 5,000 sf, the usable area is only 3,000 sf.

Maintaining original materials

This option would cover up almost all the original material used to construct the building and unique architectural elements such as the shape of the concrete shell superstructure.

Summary

Remediating the existing structure is not considered a reasonable or feasible option based on the known systemic structural failures and inability to restore structural integrity to the facility with a standard factor of safety. Additionally, extensive engineering and design of a new structural system would be required that would be cost prohibitive and would potentially cover up any unique features of the hangar including the shape of the concrete shell.

1.3 Option 3: Demolish Structure and Construct New Hangar

Demolition of the existing Hangar No. 1 and construct a new hangar was considered. This option would provide a safe and usable structure for the CCIA. While a new hangar is not programmed to be funded at this time, estimated costs for constructing a new hangar with similar usable floor space was prepared to compare costs with remediating the existing structure. The following represents a rough order magnitude cost opinion for demolition of the existing hangar and construction of a new hangar with the same usable floor space for offices and hangar use.

- Demolition of existing hangar: \$300,000
- Topographic Survey: \$15,000
- Geotechnical Investigations: \$20,000
- New Structure and Building Design (60%, 90%, 100%, and Issue For Bid Drawings and Specifications): \$350,000
- Construction of New Metal Building Hangar Building with Office Space

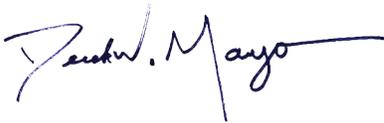
- Hangar Bay: \$2,400,000 (12,000 sf @ \$200 per sf)
- Office Space \$900,000 (3,000 @ \$300 per sf)
- Professional Services During Construction \$350,000
- Total Costs: \$4,335,000

Summary

Demolition and construction of a new hangar is approximately half the cost as the remediate option and provides a safer alternative for usable floor space. Additionally, the amount of usable floor space would be diminished with the remediate option.

2.0 Recommendation

Based on the evaluation of the three alternative options for Hangar No. 1, Option 3 demolition of Hangar No. 1 and construction of a new hangar, is the recommended option.

A handwritten signature in black ink that reads "Derek Mayo". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Derek Mayo, PE, PMP

From: [MacFarlane, John \(FAA\)](#)
To: ["Victor Gonzalez"](#); [Mayo, Derek W.](#); ["Tyler Miller"](#); [Chavez, Susan W.](#); [Mountain, Ryan C.](#); [Elsy Borgstedte Sanchez, Marcelino \(FAA\)](#)
Subject: FW: Section 106 Submission
Date: Monday, December 20, 2021 1:45:00 PM
Attachments: [Consulting Party Invitation to American Airlines Retirees Committee.doc](#)

Please assemble a list of potential consulting parties. A letter similar to the attached will be sent to those we identify as consulting parties. Please send me the list and a draft letter based on the attached for my review. Once we have our consulting parties and a draft MOA, then we'll contact the ACHP.

John

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, December 20, 2021 11:21 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; reviews@thc.state.tx.us
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202203939
Date: 12/20/2021
Corpus Christi International Airport Gault Hangar
1000 International Drive

Description: Response to THC's 4/15/2021 letter stating that CCIA intends to continue the 106 consultation process and enter into an MOA to demolish the Gault hangar (East Aviation Hangar No. 1).

Dear john.macfarlane@faa.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst and Ashley Salie, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs that the scope of work to demolish the Gault Hangar at the Corpus Christi International Airport, which is eligible for listing in the National Register of Historic Places under Criterion C, Architecture, will have an adverse effect on historic properties. Please submit the adverse effect determination to the ACHP and provide its response to THC. Additionally, please gather consulting parties for additional mitigation input on adverse effects. THC looks forward participating in future meetings to discuss mitigation of the adverse effect.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, ashley.salie@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.



October 18, 2022

John MacFarlane
Environmental Protection Specialist
Federal Aviation Administration
Texas Airports District Office
10101 Hillwood Parkway
Fort Worth, Texas 76177

Ref: *Demolition of the Corpus Christi International Airport East General Aviation Hangar No. 1
506 Hangar Lane, Corpus Christi, Nueces County, Texas
ACHP Project Number: 18809*

Dear Mr. MacFarlane:

On September 28, 2022, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Because the ACHP did not respond within 15 days with a decision regarding our non-participation, the ACHP assumes that the Federal Aviation Administration continued the consultation to resolve adverse effects.

However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Texas State Historic Preservation Office and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

If you have any questions or require our further assistance, please contact Ms. Jaime Loichinger at 202-517-0219 or by e-mail at jloichinger@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

DRAFT

**ATTACHMENT 5
INTERESTED PARTIES MEETINGS**

Consulting Parties (updated August 2022)

Name	Contact information	Letter/email sent	Response Y/N
Nueces County Historical Commission	Kathy Wemer 518 Peerman Pl Corpus Christi, TX 78411 rboyd@stx.rr.com	5/6/22	Yes
Corpus Christi Historic Preservation Officer	Nina Nixon-Mendez, Asst. City Manager 2406 Leopard St Corpus Christi, TX78408 ninam@cctexas.com	5/6/22	Yes
Nueces County Historical Society	John Montalvo, President PO Box 60003 Corpus Christi, TX 78466-0003 info@nuecescountyhistoricalsociety.org	5/6/22	No
South Texas Flying Club at KCRP	PO Box 60526 Corpus Christi, TX 78406 info@southtexasflyingclub.org	5/6/22	No
Corpus Christi AIA Chapter	Jay Porterfield, AIA jporterfield@sntarchitects.com 6262 Weber Road, Suite 310 Corpus Christi, TX 78413-4031 p: 361.854.1471 f: 361.854.1470	5/6/22	Yes
Richter Architects (Local Architect and local preservation stakeholders)	David Richter and Elizabeth Chu Richter 201 South Upper Broadway Corpus Christi, Texas 78401 drichter@richterarchitects.com (361) 882-1288	5/6/22	Yes
MidTexMod	Elizabeth Porterfield, President P.O. Box 12734 Austin, Texas 78711 Her personal email is: rowan14@hotmail.com 737-236-0113 (office) info@midtexmod.org	5/6/22	Yes
Ben Koush Associates (Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission)	Ben Koush 816 Wilkes Street Houston, TX 77009 ben@benkoush.com 713.456.0092	5/6/22	Yes

**Corpus Christi International Airport
Gault Hangar Section 106 Consultation
Response to Consulting Party Comments – June 30, 2022**

The Federal Aviation Administration (FAA) contacted potentially interested members of the public and organizations on May 6, 2022 to request participation as a consulting party for the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (CCIA) as part of Section 106 of the National Historic Preservation Act consultation activities. On June 9, 2022, the interested consulting parties were invited to participate in a meeting to provide information about the proposed undertaking and mitigation options, and to provide input. The meeting was held virtually on June 30, 2022. Eighteen people participated, including five invited consulting parties, three representatives from the FAA, three representatives from the CCIA, and two representatives from the Texas State Historic Preservation Office (SHPO), and five consulting team members. The team provided a presentation of the background of the hangar, the existing condition, purpose and need for the project, consultation activities, and mitigation options. An open discussion period followed the presentation. This document has been developed to provide response to the comments and input received during the consulting parties meeting.

Consulting Party Input Received

1. Consulting Party: David Richter

Comment: Mr. Richter suggested that the Airport consider stabilizing the structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. He also suggested a review of the structure from a 3rd party with thin concrete expertise.

Response: The purpose of the project is to address the safety concerns posed by the deteriorating structure. Large pieces of concrete haven fallen from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. Chunks of concrete from the hangar have been found near the adjacent runway apron which poses a safety hazard for both people and aircraft.

The Airport considered and evaluated the possibility of repairing the existing structure. Repair and rehabilitation of the structure proved economically and logistically challenging. Costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. Patch and repair of concrete and other elements would not fully address the safety concerns since the existing substructure exhibits severe deterioration. The structural assessment performed by a registered professional engineer in 2021 identified systemic failure of the steel reinforcement due to prolonged exposure to the corrosive coastal environment and determined that the existing superstructure is not salvageable. With the known systemic failures, there is no reasonable way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety.

Through research and investigation of the hangar, the project team did not identify any individuals with a level of expertise beyond persons who conducted the structural assessment in 2021.

2. Consulting Party: Jay Porterfield

Comment: Mr. Porterfield inquired as to whether portions of the structure might be viable to keep and potentially display.

Response: Because of the systemic and excessive water intrusion, mold, and structural deterioration throughout the hangar, portions of the structure were not deemed reasonable to salvage. The Airport also considered whether sections of the hangar could be removed and placed in a location for interpretive display. However, it was determined that this option would not be reasonable and prudent due to the deteriorated state of the concrete and lack of available public space at the Airport to house a meaningful display.

3. Consulting Party: Ben Koush

Comment: Mr. Koush inquired about the use of special tax credits for discounts on the construction and repair of the structure.

Response: Several stipulations would need to be met to take advantage of federal and state historic rehabilitation tax credits. The Airport is owned and operated by the City of Corpus Christi which limits their ability to apply for tax credits. The City could lease the building to a private for-profit or non-profit entity as a 39-year lease on the property and apply for tax credits, but the private or non-profit entity would have to pay for the rehabilitation project which is a significant cost. Furthermore, alternative uses of a rehabilitated structure was not considered due to regulatory guidelines, safety, and liability. The structural assessment report of the hangar indicates that it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements.

4. Consulting Party: Ben Koush

Comment: Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.

Response: Due to the structural deficiencies identified with the hangar and excessive cost for rehabilitation, adaptive reuse of the hangar was not considered as a viable alternative.

5. Consulting Party: Nina Nixon-Mendez

Comment: Ms. Nixon-Mendez agreed with the proposed mitigation options presented. She also suggested consideration of creating a 3-D model of the structure as mitigation.

Response: A virtual 3-D model of the structure will be considered as one of the proposed mitigation options.

6. Consulting Party: Christopher Medina

Comment: Mr. Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, for wider distribution and a larger internet presence.

Response: This suggestion will be included in the proposed mitigation options.



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Meeting Notes

Date: 06/30/2022

Project: CCIA Gault Hangar

Location: MS Teams

Participants: Ashley Salie and Justin Kockritz, (THC); Tyler Miller, Victor Gonzales and John Johnson (CCIA); Marcelino Sanchez, John MacFarlane and Melissa Foreman (FAA); Deborah Dobson-Brown and Kurt Korfmacher (AmaTerra); Susan Chavez, Derek Mayo, and Michele Lopez (Garver)

Consulting Parties: Nina Nixon, Ben Koush, David Richter, Jay Porterfield, Christopher Medina for Elizabeth Porterfield

RE: Consulting Parties Meeting

I. Welcome/Introductions

John MacFarlane (FAA) welcomed participants to the call and introduced the project and purpose of the call which is to provide information on the demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) and provide an opportunity for discussion and feedback from the consulting parties. All participants then introduced themselves. Susan Chavez (Garver) provided a brief overview of meeting and agenda.

II. Project Background

- a. Deborah Dobson-Brown presented a history of the Gault Hangar which included the following points:
 - o Roger Gault opened a civilian pilot training program.
 - o In 1960, Roger Gault hired Joseph Williams, who hired Wallace Wilkerson (Engineer), to construct a hangar for the flight school.
 - o The structure is a 30,000 square foot, thin-shelled concrete hangar with no internal columns. The design accommodated multiple aircrafts and storage at the time.
 - o Three other thin-shelled concrete structures were constructed by Williams.
 - o The estimated cost of construction was \$32,000 and construction was completed in 1961.
 - o The hangar was privately owned and located on property under a 40-year lease with the City of Corpus Christi, which ended in March 2020.
- b. Derek Mayo discussed the structural assessment performed by Garver and the condition of the structure.
 - o A visual inspection was conducted by a licensed structural engineer in 2021.
 - o The Airport has not occupied the structure because of the unsafe conditions.
 - o There have been several instances of concrete falling from ceiling (1.5 ft piece of concrete is shown in photo in presentation).
 - o Severe concrete cracking and spalling, exposed corroded steel, and flaking, as well as failed roofing were observed during the structural assessment.
 - o Additionally, the steel reinforcement is close to thin concrete shell and exposed in some areas.



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- The hangar was found to be in complete disrepair, with evidence of roof leaks and moisture penetration.
 - No record of drawings could be found which would indicate the construction methods and inspection.
 - The hangar was constructed on land leased from the Airport, and the tenant was responsible for the structure. The City inherited the structure once the lease was up.
 - The structural assessment found that the structure was unsafe.
- c. The Purpose and Need of the project was presented.
- The purpose of the project is to eliminate the safety risk.
 - The project is needed because the existing structure is structurally deficient and poses a safety hazard.
- d. The Alternatives that were considered to address the safety issue of the hangar were discussed as follows:
- Abandon in place. This alternative does not meet the purpose and need because the safety issue would still exist.
 - Remediate structural issues. This alternative is not reasonable or feasible because it is not certain that remediation would be able to improve the structural issues to a safe condition. Additionally, the cost for the extensive repairs and renovation that would be required are excessive and are not reasonable for the Airport.
 - Demolish Structure. The alternative to demolish the structure is the proposed action that the Airport has decided to move forward and what we are discussing today. This alternative would remove the safety issues and is a reasonable cost.
 - Derek Mayo presented additional information on the safety issues associated with the condition of the hangar. He stated that foreign object debris (FOD) is an airside concern because crumbling concrete from the structure can get blown onto the adjacent runway causing a hazard for aircraft. Additionally, the wings of the hangar structure protrude over an adjacent structure with the potential to damage the adjacent structure.

III. National Environmental Policy Act (NEPA)

- a. The project is subject to the National Environmental Policy Act (NEPA). An overview of the regulations and processes required by NEPA was discussed. An Environmental Assessment is currently being prepared for the project.
- b. Section 4(f) of the Department of Transportation Act requires consideration of alternatives when a project will cause adverse impacts to a historic resource. Section 4(f) documentation is currently being prepared for review and approval by FAA.
- c. Section 106 of the National Historic Preservation Act (NHPA) is in process. This consulting parties meeting is part of the process, as well as coordination with the State Historic Preservation Officer (Texas Historical Commission (THC)) and the Advisory Council on Historic Preservation (ACHP).



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IV. Coordination Completed

Coordination completed to date was presented and includes:

- March 2021 – initiated review with THC
- April 2021 – THC determined that the hangar was eligible for the National Register of Historic Places (NRHP) and requested justification for the demolition and analysis of alternatives to avoid or minimize impacts to the hangar.
- November 2021 - Alternatives and justification for demolition, including structural assessment report, submitted to THC
- December 2021 – THC responded with an adverse impact determination and requested development of mitigation options to offset the adverse impact of the project and coordination with consulting parties and ACHP.
- April 2022 – Coordination call conducted with FAA, Airport, and THC to discuss potential mitigation options and identify consulting parties.
- May 2022 – Consulting party invitations sent.
- June 2022 – Consulting party meeting held (today).

V. Mitigation Options

Deborah Dobson-Brown discussed the proposed mitigation options that were developed in coordination with THC, FAA and the Airport. She described the following mitigation options:

- Article on THC Historic Sites Atlas
 - An article documenting the history of the hangar posted on the THC Historic Sites Atlas which is a resource that historians can use and is available to the public.
- Historic American Building Survey (HABS)
 - HABS is a way of documenting significant resources which includes detailed photographs and a summary. The purpose is to tell whole story of the building and to archive as a resource.
- Interpretative sign
 - An interpretive sign provides history and photos of the hangar and would be accessible to travelers of the airport and pedestrians. A location has been proposed outside the terminal in a publicly accessible area of the Airport.
- QR code
 - A QR code provides easy access to information posted online and could be included on various materials, including articles, interpretive sign, and linked to project website.
- CCIA website info
 - Webpage hosted on the Airport website with information and links to resources.
- Videography



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- Recording of demolition that can be used as a learning resource by engineers to see how the hangar was constructed and structural components.

VI. Discussion

A discussion of the project and mitigation options followed the presentation. A summary of the discussion is as follows:

- Nina Nixon-Mendez asked why the rehabilitate option was not reasonable. The project team responded that the option was not reasonable because it would require construction of a whole other superstructure which may not keep the integrity of the structure and negate the purpose of rehabilitation. Additionally, the cost of rehabilitation was significant.
- Ms. Nixon requested a copy of the structural report. The project team stated that it would be sent to the consulting parties.
- David Richter – stated that he can understand the engineer’s observations, but what is salvageable cannot always be observable. He would like for the Airport to look into stabilizing this structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. Is there another way to have this structure survive? Mr. Richter suggested a performance review from a 3rd party reviewer/ engineer with thin concrete expertise.
- It was discussed that the Airport has no immediate plans for the area after demolition.
- Jay Porterfield asked whether any portions of the structure that might be viable to keep? Derek Mayo stated that water damage seems to permeate through the entire structure which would make it difficult to keep portions of the structure.
- John McFarlane (FAA) stated that the Airport can look at small portions to memorialize the structure at a different or similar location and can look into cost for patch and repair. However, costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. The airport must consider cost to make this a viable project. It was discussed that the process for conducting the repairs is also a safety issue which must also be considered.
- Mr. Richter stated that documentation of the building is not nearly the same as presence of the building. He stated that thin shell concrete can be very efficient and robust. Due diligence should include an engineer with expertise for thin shelled structure to review hangar and look at possibility to be repaired. It would be prudent to refer to an expert and the cost to get an expert to review.
- Ben Koush asked if special tax credits could be used for discounts on the construction and repair. The project team responded that tax credits had not been discussed as a funding source for rehabilitation. Justin Kockritz (THC) responded that although the hangar is not listed on the NRHP, it may be possible to go through the listing process while applying for tax credit program. The process to list a property on NRHP is typically 18-24 months. Justin indicated that tax credits would be 20% federal tax credit and 25% state tax credit. Justin offered to send follow-up information on the program.
- Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.
- Ms. Nixon agreed with the proposed mitigation options presented. She also suggested 3-D models might be something to consider as well.



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- Christopher Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, where they could post on their website for wider distribution. This would provide a larger internet presence to various websites with structure history and information.

VII. Next Steps/Action Items

- Project team will provide assessment and follow-up from discussion by the group today.
- FAA will follow up with consulting parties, either by email or another meeting.
- Project team will distribute the 2021 Structural Assessment.
- Preparation of Memorandum of Agreement (MOA) that will include the mitigation options and will be signed by FAA, THC, and the Airport.
- Coordination with ACHP.
- Preparation of Draft EA.

From: [MacFarlane, John \(FAA\)](#)
To: [David Richter](#)
Cc: [Jay Porterfield](#); rboyd@stx.rr.com; ben@benkoush.com; info@midtexmod.org; aiaced@aiacorporuschristi.org; [Nina Nixon-Mendez](#); [Elizabeth Porterfield](#); [Chavez, Susan W.](#); [Victor Gonzalez](#); [John R Johnson](#); [Elsy Borgstedte](#); [Tyler Miller](#); [Lopez, Michele A.](#); [Deborah Dobson-Brown](#); [Kurt Korfmacher](#); [Mayo, Derek W.](#); [Foreman, Melissa \(FAA\)](#); [Justin Kockritz](#); [Ashley Salie](#); [Alex Toprac](#); [Sanchez, Marcelino \(FAA\)](#)
Subject: RE: CCIA Gault Hangar Responses to Consulting Party Meeting

We appreciate the attention and concern by the consulting party members. Based on careful consideration, the FAA, with input from CCIA and its consultants, finds that it is not feasible or prudent to rehabilitate the hangar.

The rehabilitation must be both feasible and prudent. An alternative is not feasible if it cannot be built as a matter of sound engineering judgment. Based on the method of construction, the cost would likely be extraordinary and the airport would not likely be able to fund such a project within its budget. Mr. Richter mentioned in his email that a structural engineer at an engineering firm stated that he thinks it could be feasibly restored. However, would that company be interested in taking on the project and what would be the source of funding. We investigated the use of federal and state tax credits to offset rehabilitation costs. Because the hangar is owned by the City of Corpus Christi (a government agency), it cannot apply for tax credits. If the building had a use under a private for-profit or non-profit entity, that private entity could apply for the tax credits. They would have to agree to a 39-year lease on the property and pay for the rehabilitation project. However, finding an eligible and interested entity to take over the hangar would again be very difficult and may not be in the best interest of the airport. It would ultimately be the airport's decision whether to sign a lease with an outside for- or non-profit entity.

An alternative would not be prudent if it results in unacceptable safety or operational problems and it results in additional construction, maintenance, or operational cost of an extraordinary magnitude. Again, with the cost to rehabilitate likely to be extraordinarily high for the airport to incur (because they would not be able to apply for tax credits). Without the necessary funds to properly rehab it, the hangar will continue to deteriorate and has potential to create foreign object debris (FOD) during high winds and/or hurricane conditions. FOD is any object, live or not, located in an inappropriate location in the airport environment that has the capacity to injure airport or air carrier personnel and damage aircraft.

The hangar is both a safety concern and an inefficient use of the airport as a federally funded asset. Even if the structure was sound, it is not a structure suitable for efficient use by airport users. The shape of the structure restricts useable square footage with reduced heights at the edges of the hangar. The same is true of the interior, the useable square footage of the office space is reduced due to the structure shape. In addition, the superstructure shape restricts the installation of a standard hangar door, which is a crucial element to an aircraft hangar and to be able to condition the air in the hangar, otherwise, the salt-laden coastal winds will continue to create corrosive conditions.

In addition, the consulting party meeting was held on June 30, 2022. We believe there was ample time to provide comments after the June 30 meeting, typically 30 days.

Moreover, the stakeholders proposed mitigation will likely generate more awareness and appreciation for the structure than the current situation. Many aren't aware of the hangar as the front of the building faces the airfield, which is not open to the public and the rear of the hangar is not notably visible from the public side of the airport. The proposed mitigation will bring to light the history behind the hangar.

Thank you for your participation and we look forward to providing each of you a draft copy of the Memorandum of Agreement (MOA) which will contain proposed mitigation measures. We will soon be submitting a package to the Advisory Council on Historic Preservation notifying them of the project and the process thus far.

Thanks,
John MacFarlane
Environmental Protection Specialist
Federal Aviation Admin.
Texas Airports District Office
Phone: 817-222-5681

From: David Richter <drichter@richterarchitects.com>
Sent: Monday, September 19, 2022 9:00 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Cc: Jay Porterfield <jporterfield@sntarchitects.com>; rboyd@stx.rr.com; ben@benkoush.com; info@midtexmod.org; aiaced@aiacorporuschristi.org; Nina Nixon-Mendez <NinaM@cctexas.com>; Elizabeth Porterfield <rowan14@hotmail.com>; Chavez, Susan W. <SWChavez@GarverUSA.com>; Victor Gonzalez <Victor@cctexas.com>; John R Johnson <johnrj@cctexas.com>; Elsy Borgstedte <elsyb@cctexas.com>; Tyler Miller <tylerm@cctexas.com>; Lopez, Michele A. <MALopez@GarverUSA.com>; Deborah Dobson-Brown <ddbrown@amaterra.com>; Kurt Korfmacher <kkorfmacher@amaterra.com>; Mayo, Derek W. <DWMayo@GarverUSA.com>; Foreman, Melissa (FAA) <Melissa.Foreman@faa.gov>; Justin Kockritz <Justin.Kockritz@thc.texas.gov>; Ashley Salie <Ashley.Salie@thc.texas.gov>; Alex Toprac <Alex.Toprac@thc.texas.gov>; Sanchez, Marcelino (FAA) <Marcelino.Sanchez@faa.gov>
Subject: Re: CCIA Gault Hangar Responses to Consulting Party Meeting

Consulting Party Colleagues,

At the conclusion of the June 30 meeting, it was my impression that there were still open questions and pending considerations related to the ultimate disposition of the Gault Aviation Building. A follow-up meeting was discussed. In that spirit, I made a call to Adam Johnson from Walter P Moore Engineering a

structural engineer with whom I frequently work. WPM is a national structural engineering firm headquartered in Houston and with 24 offices in the US and 6 international. WPM has active projects with thin-shell concrete, both new construction (typically for storm shelters) and restoration (a similar historic hangar). I sent Adam a copy of the engineering study for the Gault Aviation Building for his review. He subsequently shared the report with a WPM engineer colleague who specializes in thin-shell concrete structures and sits on a national committee for thin-shell concrete at the American Concrete Institute. The colleague's initial reaction from his review of the report was that he thinks that the Gault building could be feasibly restored. He further indicated that should there be a desire to save it, visual observations from a site visit could verify feasibility with more confidence.

We have an unfortunate history in Corpus Christi of demolishing buildings that are not seen to have current useful purpose even if there is no better or immediate use for their site. The net result is that our architectural legacy is very thin for a city of our size and age. It is notable that among the Consulting Parties on this committee are representatives of a Houston architectural history/advocacy group that recognize that thin-shell architecture represents an important part of Corpus Christi's architectural legacy and identity. It is one of life's ironies that others often see qualities in us that we do not see in ourselves. I think it is likely that in any other major city in Texas this building would be seen as a valuable financial and cultural asset and not be at risk to be demolished to create an open site of undesigned purpose.

This is a significant and valuable building. It is of a style and engineering/construction technology that is essentially a lost art - one that was uniquely prevalent in Corpus Christi in the 1960s. Thin-shell buildings are now being recognized, rehabilitated and treasured where they still exist across the country. Additionally, it is entirely possible that cost to structurally repair and stabilize the building may be similar or even less than the cost to demolish. It is my opinion that it would be prudent to undertake additional study before moving forward with demolition.

Respectfully submitted,

David Richter, FAIA

David Richter, FAIA
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Corpus Christi, Texas 78401
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From: "MacFarlane, John (FAA)" <John.MacFarlane@faa.gov>
To: "Jay Porterfield" <jporterfield@sntarchitects.com>, rboyd@stx.rr.com, "ben@benkoush.com" <ben@benkoush.com>, "info@midtexmod.org" <info@midtexmod.org>, "David Richter" <drichter@richterarchitects.com>, "aiacced@aiacorporuschristi.org" <aiacced@aiacorporuschristi.org>, "Nina Nixon-Mendez" <NinaM@cctexas.com>, "Elizabeth Porterfield" <rowan14@hotmail.com>
Cc: "Chavez, Susan W." <SWChavez@GarverUSA.com>, "Victor Gonzalez" <Victor@cctexas.com>, "John R Johnson" <johnrj@cctexas.com>, "Elsy Borgstedte" <elsyb@cctexas.com>, "Tyler Miller" <tylerm@cctexas.com>, "Lopez, Michele A." <MALopez@GarverUSA.com>, "Deborah Dobson-Brown" <ddbrown@amaterra.com>, "Kurt Korfmacher" <kkorfmacher@amaterra.com>, "Mayo, Derek W." <DWMayo@GarverUSA.com>, "Foreman, Melissa (FAA)" <Melissa.Foreman@faa.gov>, "Justin Kockritz" <Justin.Kockritz@thc.texas.gov>, "Ashley Salie" <Ashley.Salie@thc.texas.gov>, "Alex Toprac" <Alex.Toprac@thc.texas.gov>, "Sanchez, Marcelino (FAA)" <Marcelino.Sanchez@faa.gov>
Sent: Friday, August 19, 2022 10:40:36 AM
Subject: CCIA Gault Hangar Responses to Consulting Party Meeting

All,

I'd like to thank you all for attending the June 30, 2022 consulting party meeting for the Gault Hangar at CCIA. Your thoughts and comments on ideas for dealing with the hangar are greatly appreciated. I have attached the meeting presentation, meeting notes, and FAA/CCIA responses to your comments. CCIA previously emailed the engineering report for your review. FAA/CCIA are currently drafting the Memorandum of Agreement (MOA), the document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties.

When the terms and conditions for resolving adverse effects have been negotiated between the FAA and Texas Historical Commission, the MOA will be executed. An executed and implemented MOA is evidence of the FAA's compliance with Section 106. The FAA will provide each consulting party with a copy of the executed MOA along with the Advisory Council on Historic Preservation (ACHP) prior to approving the undertaking. The Final Environmental Assessment (EA) will include the executed MOA.

Thanks,

John MacFarlane

Environmental Protection Specialist

Federal Aviation Admin.

Texas Airports District Office

Phone: 817-222-5681

APPENDIX F

SECTION 106 DOCUMENTATION AND MEMORANDUM OF AGREEMENT

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

WHEREAS, the City of Corpus Christi, acting through its Corpus Christi International Airport (CCIA), is proposing demolition of the Gault Hangar at CCIA due to safety concerns (Attachment A: Project Description); and

WHEREAS, the proposed Gault Hangar Project (the Project) traverses through the county of Nueces (Attachment B: Location Map); and

WHEREAS, the Gault Hangar, is also known as East General Aviation Hangar No. 1 and has associated office structures; and

WHEREAS, a structural engineering assessment of the Gault Hangar indicates that the hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in a highly deteriorated structural condition; and

WHEREAS, the Project is an undertaking as defined in 36 C.F.R. § 800.16 (2014) subject to review under Section 106 of the National Historic Preservation Act [54 U.S.C. § 306108 (2014)] (NHPA) and its implementing regulations at 36 C.F.R. § 800 (2014), and the Federal Aviation Administration (FAA) and CCIA have consulted with the Texas Historical Commission (THC) acting as the State Historic Preservation Officer (SHPO) to consider the effects of the undertaking on historic properties; and

WHEREAS, the FAA submitted a Request for SHPO Coordination on March 15, 2021, describing the proposed project of the demolition of the Gault Hangar; and

WHEREAS, in a letter dated April 15, 2021, the SHPO responded recommending that the Gault Hangar is eligible for listing in the National Register of Historic Places (NRHP) and responded that if demolition cannot be prevented on the Gault Hangar, then appropriate mitigation measures are to be prepared and the FAA will enter into a Memorandum of Agreement (MOA) to execute the mitigation; and

WHEREAS, on November 23, 2021, FAA responded to the April 15, 2021, SHPO letter stating that the CCIA will coordinate with their environmental and engineering consultants to negotiate appropriate mitigation and to enter into a MOA to execute the mitigation, and FAA provided to the SHPO a structural Observation Report of the Gault Hangar which described the deterioration of the resource; and

WHEREAS, on December 20, 2021, the SHPO responded via electronic THC Review and Compliance (eTRAC) recommending that demolition of the resource would have an adverse

effect on historic properties, and acknowledged the FAA's intention to continue the Section 106 consultation process and to enter into an MOA to resolve adverse effects pursuant to 36 C.F.R. § 800.6(c) (2014), which will govern the implementation of the undertaking and satisfy FAA's obligation to comply with Section 106; and

WHEREAS, on December 20, 2021, the SHPO responded via eTRAC that the FAA will submit to the Advisory Council on Historic Preservation (ACHP) the adverse effect determination and to provide the ACHP's response to the SHPO, and that the FAA prepare a list of consulting parties for additional mitigation input on the adverse effects; and mitigation measures, and developing the MOA; and

WHEREAS, pursuant to 36 C.F.R. § 800.6(a)(1) (2014), FAA notified the ACHP of the determination of adverse effect and intention to enter into a MOA with specified documentation on September 28, 2022, and the ACHP chose not to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii) on October 18, 2022; and,

WHEREAS, CCIA will have roles and responsibilities in the implementation of this MOA, and FAA invited CCIA to sign this MOA as an Invited Signatory; and

WHEREAS, the FAA held a meeting with consulting parties [Nina Nixon-Mendez, Corpus Christi Historic Preservation Officer; Ben Koush, Ben Koush Associates; David Richter, Richter Architects; Jay Porterfield, American Institute of Architects Corpus Christi Chapter; and Christopher Medina for Elizabeth Porterfield, MidTexMod] and the SHPO on June 30, 2022, to discuss the project, the condition of the Gault Hangar, and to present proposed mitigation measure options; and

WHEREAS, the FAA provided meeting notes and documentation of the June 30, 2022, meeting, including the engineering structural report and responses to consulting parties' input, to the consulting parties on August 19, 2022; and

WHEREAS, the FAA has invited the consulting parties to each sign the MOA as a concurring party per FAA policy; and

WHEREAS, a Draft Environmental Assessment (EA) is being prepared to inform the public of the potential environmental, social, and economic impacts associated with the proposed Gault Hangar Project and the No-Build Alternative; and

NOW, THEREFORE, FAA, CCIA, and the SHPO agree that the Project shall be implemented in accordance with the following stipulations to consider the effect of the Project on historic properties, mitigating the adverse effect on historic properties, and satisfactorily completing FAA's Section 106 responsibilities under the NHPA.

STIPULATIONS

The FAA, in coordination with CCIA, will ensure that the following stipulations are implemented and will be included as conditions for the demolition of the Gault Hangar:

I. Professional Qualification Standards

CCIA will ensure that all actions prescribed by this MOA are carried out by, or under the direct supervision of, qualified professional(s) who meet the appropriate standards in the applicable disciplines as outlined in the *Secretary of the Interior's Professional Qualifications Standards* (36 C.F.R. § 61),

II. Modified Historic American Building Survey Documentation of the Hangar

- A. CCIA will prepare documentation of the Hangar to meet modified Historic American Building Survey (HABS) Level I standards. The HABS Level I standards are defined in the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. Modified Level I documentation will include:
1. Archival-quality prints of photographs documenting the Hangar's present appearance and major structural or decorative details taken using large-format black and white film and processed following the National Park Service guidelines for prints;
 2. Written report, including history and physical description, following the outline format for HABS Level I documentation;
 3. U.S. Geological Survey topographic map identifying the location of the Hangar; and
 4. Preparation of 3D documentation using drone technology to produce digital documentation in lieu of measured drawings of the Hangar, since the original drawings do not exist.
- B. CCIA will submit a draft of the modified HABS Level I documentation via the eTRAC System to the SHPO. The SHPO will have 30 calendardays upon receipt to review and comment on a draft of the documentation. Failure by the SHPO to provide comments in accordance with this stipulation may be taken to indicate acceptance by both parties. CCIA will make a good-faith effort to address any comments provided by the SHPO.
- C. Upon acceptance of the draft documentation by the SHPO, or determination by SHPO that the documentation is sufficient, demolition of the Hangar may commence.

- D. Within 45 days of the acceptance of the draft documentation by the SHPO, final documentation, including archival prints of photo documentation, will be provided to the SHPO, and CCIA. Final print documentation will be printed on archival paper, and negatives will be provided to the CCIA. Digital files will be provided to the SHPO, CCIA, City Historic Preservation Office, Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library on archival media.
- E. The final documentation will not meet HABS standards and is *not* to be submitted to the HABS Collection in the Library of Congress.

III. Interpretive Sign

To provide education information to the public upon completion of the Hangar demolition and for its use within the newly proposed pedestrian/travelers outdoor space, CCIA will design and install an interpretive sign detailing the history of the Hangar as well as the history of the Corpus Christi International Airport.

- A. CCIA will develop the interpretive sign's content and design, in consultation with SHPO. The interpretive sign will include narrative historic context and historic photographs. The sign will be fabricated of weather resistant materials.
- B. CCIA will submit a draft design plan for the interpretive sign to SHPO via eTRAC. The draft design plan will include, but is not limited to, information on size, location, materials, design, and content of the interpretive sign. SHPO will have 30 calendar days to provide comments on the draft design plan. If SHPO does not provide comments within 30 calendar days, CCIA will assume concurrence and proceed according to the submitted plan.
- C. CCIA will consult with SHPO to address comments provided in accordance with Stipulation IIIB and submit a final design plan via eTRAC for SHPO concurrence. SHPO will have 30 calendar days to accept or amend the final design plan.
- D. CCIA will install the interpretive sign following creation of the new pedestrian space located on airport property. Location of the pedestrian space to be determined by CCIA.

IV. Timed-Lapsed Videography of Demolition of Hangar

To provide educational information related to construction methods and materials, CCIA will conduct videography during the demolition of the Hangar.

- A. Videography shall be conducted in time-lapsed sequence to show demolition of areas of the Hangar.
- B. Videography shall be posted to the CCIA website and/or to a social media platform which is maintained by the CCIA.

V. Preparation of CCIA Website Information

To provide educational information to the public, CCIA will prepare a historic context for posting to the CCIA website.

- A. The historic context will discuss the development of the Hangar, and the relationship of the company who constructed the Hangar, to the CCIA.

VI. Preparation of QR Code Describing History of Hangar

For ease of access to data posted online as part of this MOA, CCIA will produce a graphical quick response (QR) code linking to the online data.

- A. The QR code shall be prepared using commercially available software and provided on the interpretive sign and any print material related to the Hangar.
- B. The QR code shall be created once CCIA has established a permanent online location for the digital data.

VII. Preparation of Article on Hangar for Posting to Texas Online

To provide educational information to the general public, CCIA will prepare an entry for posting to the Texas State Historical Association (TSHA) Handbook of Texas. The Handbook is a digital state encyclopedia which is free and accessible on the internet for teachers, scholars, students, and the public.

- A. The entry will discuss the history of the developers, flying clubs, construction methodology, and impact of the Hangar to the community and the CCIA.
- B. The CCIA will submit the entry to the TSHA for review, and if accepted, the TSHA will post the entry to their website.

VIII. Preparation of 3D Modeling on Hangar for Posting to CCIA Website linked to QR Code and as Attachment to HABS Documentation

To provide the equivalent of architectural drawings of the Hangar, 3D Modeling will be prepared and attached to the HABS Documentation package, as part of Stipulation II. The 3D Modeling will also be used by the CCIA on their website (Stipulation V) and attached to the QR Code (Stipulation VI).

- A. Digital files of the modeling will be supplemented with a summary letter report. The digital files (each category may have multiple files) may consist of 1) a 3D object file (.obj) or alternative scaled to real-world dimensions; 2) a material and/or texture file

(.mtl and/or .jpg); 3) optional original digital source photos (.jpg); and/or 4) optional Agisoft Metashape working file(s) (.psx) and/or archive file (.psx).

- B. A summary report will be prepared which will describe the drone images which were captured. A DVD will be provided with the images to SHPO, CCIA, the City Historic Preservation Office, the Corpus Christi Libraries Department, and Texas A&M University – Corpus Christi library.
- C. The digital files will be made available on the CCIA's website or equivalent for the general public to view, with links provided through their website and through the QR Code.

IX. Inadvertent Discoveries

In the event that the Project will affect a previously unidentified property that may be eligible for inclusion in the NRHP, CCIA shall require work in the area of the discovery to cease until actions that will consider the effects of the Project on the property can be implemented. CCIA shall immediately notify FAA of the discovery and provide FAA with the information required to request the SHPO's comments pursuant to 36 CFR 800.11(b)(2)(ii).

Letters requesting input and comment were sent to federally recognized Indian tribes on November 15, 2022. One response was received on November 15, 2022, from the Kickapoo Traditional Tribe of Texas stating no known effects to any cultural or historical sites are anticipated from the proposed project. No other responses were received from federally recognized Indian tribes.

If Native American human remains and/or objects subject to the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001 et seq.], i.e., burials, associated and unassociated funerary objects, sacred objects and objects of cultural patrimony, are encountered during the Project, CCIA shall immediately notify the FAA so that FAA can consult with the appropriate federally recognized Indian tribe(s) to determine appropriate treatment measures for these human remains in agreement with 36 CFR 800.13(b)(3) (2014). It shall be the responsibility of CCIA to either preserve in place or repatriate these human remains, depending on the agreed upon determination of the tribe(s). If remains / objects subject to NAGPRA are encountered prior to completion of the transfer, the rules of NAGPRA disposition will be followed by CCIA. Nothing in this agreement shall be construed to contradict this stipulation.

In the event of inadvertent discovery of archaeological materials not subject to NAGPRA, work shall immediately stop in the area of discovery and FAA shall comply with 36 CFR 800.13(b)(3) (2014) to notify and consult with the SHPO, federally recognized Indian tribes that might attach significance to the property, and the Advisory Council on Historic Preservation (ACHP).

X. Dispute Resolution

- A. Should the signatories to this MOA object within 30 days to any plans or other documents provided by CCIA or others for review pursuant to this agreement, or to any actions proposed or initiated by CCIA pursuant to this MOA, CCIA shall consult with the objecting party to resolve the objection. If CCIA determines that the objection cannot be resolved, CCIA shall forward all documentation relevant to the dispute to the FAA and to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:
1. Provide FAA with recommendations, which FAA will consider in reaching a final decision regarding the dispute; or
 2. Notify FAA that it will comment pursuant to 36 CFR 800.7(a)(4) and proceed to comment; and
 3. Any ACHP comment will be considered by FAA in accordance with 36 CFR 800.7 with reference to the subject of the dispute.
- B. Any recommendations or comment provided by the ACHP will pertain only to the subject of the dispute; FAA's responsibility to carry out all other actions under this MOA that are not the subjects of the dispute will remain unchanged.
- C. At any time during implementation of the measures stipulated in this MOA by FAA, if an objection to any such measure or its manner of implementation is raised by interested parties, then FAA shall consider the objection and consult, as appropriate, with the objecting party and the consulting parties to attempt to resolve the objection.

XI. Amendments

- A. The signatories to this MOA may request that this MOA be revised, whereby the parties will consult to consider whether such revision is necessary, pursuant to 36 CFR 800.6 (c)(1).
- B. If it is determined that revisions to this MOA are necessary, then FAA and the signatories shall consult pursuant to 36 CFR Part 800.13(1), as appropriate, to make such revisions; except that, reviewing parties must comment on, or signify their acceptance of, the proposed changes to the MOA in writing within 30 days of their receipt.

XII. Termination of Agreement

- A. The signatories to this MOA may terminate this MOA by providing 30 days written notice to the other signatory parties, pursuant to 36 CFR 800.6 (c)(i). During the period after notification and prior to termination, CCIA and the other signatories will

consult to seek agreement on amendments or other actions that would avoid termination. In the event of termination, FAA will comply with 36 CFR 800.4 through 800.6 regarding individual undertakings.

C. The parties agree that this MOA will become null and void upon completion of all mitigative measures stipulated herein.

XIII. Effective Date and Duration

The effective date of this MOA shall be the date of the last signature by a signatory. Unless amended in accordance with Stipulation XI or terminated in accordance with Stipulation XII, this MOA will remain in effect for 5 years. This MOA may be extended for an additional 5 years by a letter from the FAA with written concurrence from the SHPO and CCIA.

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

SIGNATORY PARTIES:

FEDERAL AVIATION ADMINISTRATION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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SIGNATORY PARTIES:

CORPUS CHRISTI INTERNATIONAL AIRPORT

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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**SIGNATORY PARTIES:
TEXAS STATE HISTORIC PRESERVATION OFFICER**

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

CITY OF CORPUS CHRISTI HISTORIC PRESERVATION OFFICER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

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CONCURRING PARTIES:

NUECES COUNTY HISTORICAL COMMISSION

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
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Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

CONCURRING PARTIES:

AMERICAN INSTITUTE OF ARCHITECTS, CORPUS CHRISTI CHAPTER

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
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CONCURRING PARTIES:

RICHTER ARCHITECTS

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

CONCURRING PARTIES:

MIDTEXMOD

By: _____ Date _____

Printed Name: _____

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL AVIATION ADMINISTRATION (FAA), CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA), AND THE TEXAS STATE HISTORIC PRESERVATION
OFFICER (SHPO), REGARDING THE GAULT HANGAR PROJECT, CORPUS CHRISTI,
NUECES COUNTY, TEXAS**

Execution of this Memorandum of Agreement by the signatories consisting of the FAA, CCIA, and the SHPO, its subsequent filing with the ACHP, and implementation of its terms evidence that FAA has afforded the ACHP the opportunity to comment on the Project and that FAA has considered the effect of the Project on historic properties.

CONCURRING PARTIES:

BEN KOUSH ASSOCIATES

By: _____ Date _____

Printed Name: _____

FILED:

Advisory Council on Historic Preservation

By: _____ Date _____

Printed Name: _____

**ATTACHMENT A
PROJECT DESCRIPTION**

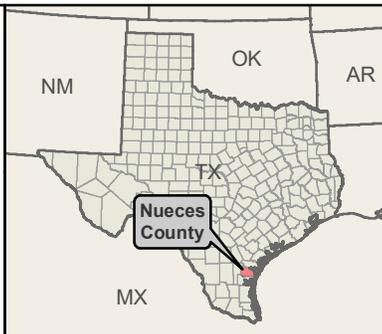
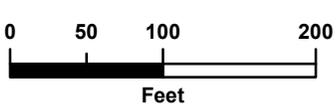
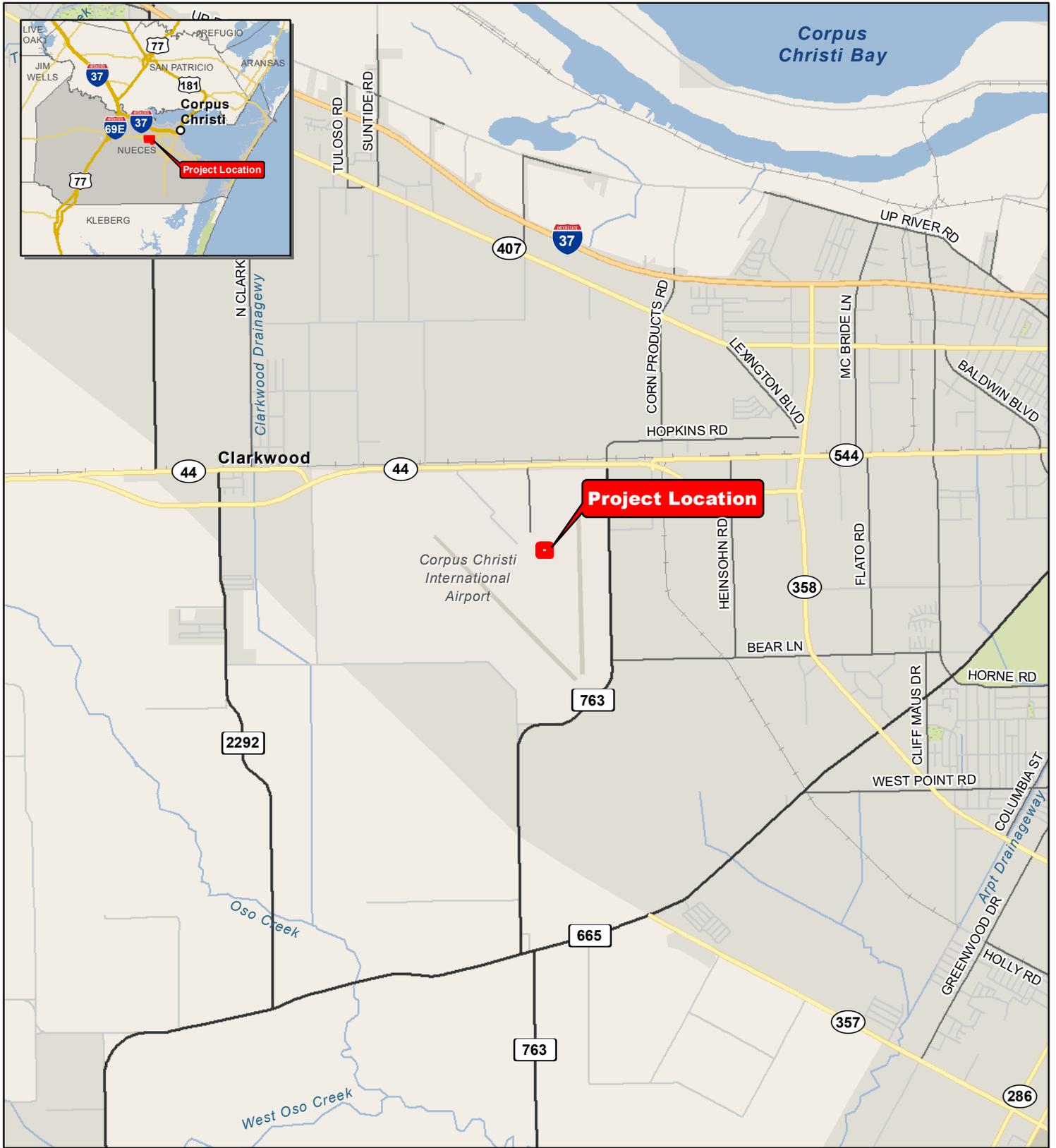
**Corpus Christi International Airport
Gault Hangar Demolition
Project Description**

The proposed project consists of demolition of the Gault Hangar and associated office structures located at the Corpus Christi International Airport (CCIA), also known as East General Aviation Hangar No. 1. The CCIA or Airport is a public use airport that is owned and operated by the City of Corpus Christi (City) and serves both private and major commercial airlines. The Airport is located off of TX-44, west of downtown Corpus Christi and TX-358.

The Hangar is one of the original light aircraft storage facilities from the Airport's construction in 1961. The Hangar's architecture is a distinctive application of thin shell concrete construction including vaulted hyperbolic paraboloid structures reminiscent of the flying buttress (Moorhead 2012). This unique historic architecture, designed by Joe L. Williams and engineered by Wallace R. Wilkerson, makes the Gault Aviation Hangar an NRHP-eligible historic site.

A structural assessment of the Hangar performed in August 2021 indicated that the Hangar suffers from prolonged moisture damage and severe systemic corrosion of steel reinforcing and is in highly deteriorated structural condition which poses a safety concern. The Hangar is currently unoccupied due to the structural condition, including spalling concrete and corroded steel, which poses a hazard for occupants and to the adjacent runway operations.

**ATTACHMENT B
LOCATION MAP**



PROJECT LOCATION
 CCIA: HANGAR NO. 1 DEMO
 Nueces County, TX

From: [MacFarlane, John \(FAA\)](#)
To: e106@achp.gov
Cc: [Justin Kockritz](#); [Ashley Salie](#); [Chavez, Susan W.](#); [Victor Gonzalez](#); ddbrown@amaterra.com; [Lopez, Michele A.](#); [John R Johnson](#); [Tyler Miller](#); [Mayo, Derek W.](#); [Walker, Judith \(FAA\)](#); [McMath, Dean \(FAA\)](#); [Foreman, Melissa \(FAA\)](#); [Sanchez, Marcelino \(FAA\)](#)
Subject: Corpus Christi International Airport (CCIA), East General Aviation (G.A.) Hangar No. 1 (Gault Hanger), 506 Hangar Lane, Corpus Christi, Nueces County, Texas
Date: Wednesday, September 28, 2022 12:50:37 PM
Attachments: [CCIA GaultHangar ACHP Coordination Letter 09282022.docx](#)
[CCIA GaultHangar ACHP Coordination Docs Package 09282022.pdf](#)

The Federal Aviation Administration is hereby notifying the Advisory Council on Historic Preservation of a finding of adverse effect.

Thanks,
John MacFarlane
Environmental Protection Specialist
Federal Aviation Admin.
Texas Airports District Office
Phone: 817-222-5681

From: [MacFarlane, John \(FAA\)](#)
To: ["Victor Gonzalez"](#); [Mayo, Derek W.](#); ["Tyler Miller"](#); [Chavez, Susan W.](#); [Mountain, Ryan C.](#); [Elsy Borgstedte](#)
Cc: [Sanchez, Marcelino \(FAA\)](#)
Subject: FW: Section 106 Submission
Date: Monday, December 20, 2021 1:45:00 PM
Attachments: [Consulting Party Invitation to American Airlines Retirees Committee.doc](#)

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, December 20, 2021 11:21 AM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; reviews@thc.state.tx.us
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202203939
Date: 12/20/2021
Corpus Christi International Airport Gault Hangar
1000 International Drive

Description: Response to THC's 4/15/2021 letter stating that CCIA intends to continue the 106 consultation process and enter into an MOA to demolish the Gault hangar (East Aviation Hangar No. 1).

Dear john.macfarlane@faa.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst and Ashley Salie, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: THC concurs that the scope of work to demolish the Gault Hangar at the Corpus Christi International Airport, which is eligible for listing in the National Register of Historic Places under Criterion C, Architecture, will have an adverse effect on historic properties. Please submit the adverse effect determination to the ACHP and provide its response to THC. Additionally, please gather consulting parties for additional mitigation input on adverse effects. THC looks forward participating in future meetings to discuss mitigation of the adverse effect.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, ashley.salie@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

**Corpus Christi International Airport
Gault Hangar Section 106 Consultation
Response to Consulting Party Comments – June 30, 2022**

The Federal Aviation Administration (FAA) contacted potentially interested members of the public and organizations on May 6, 2022 to request participation as a consulting party for the proposed demolition of the Gault Hangar at the Corpus Christi International Airport (CCIA) as part of Section 106 of the National Historic Preservation Act consultation activities. On June 9, 2022, the interested consulting parties were invited to participate in a meeting to provide information about the proposed undertaking and mitigation options, and to provide input. The meeting was held virtually on June 30, 2022. Eighteen people participated, including five invited consulting parties, three representatives from the FAA, three representatives from the CCIA, and two representatives from the Texas State Historic Preservation Office (SHPO), and five consulting team members. The team provided a presentation of the background of the hangar, the existing condition, purpose and need for the project, consultation activities, and mitigation options. An open discussion period followed the presentation. This document has been developed to provide response to the comments and input received during the consulting parties meeting.

Consulting Party Input Received

1. Consulting Party: David Richter

Comment: Mr. Richter suggested that the Airport consider stabilizing the structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. He also suggested a review of the structure from a 3rd party with thin concrete expertise.

Response: The purpose of the project is to address the safety concerns posed by the deteriorating structure. Large pieces of concrete haven fallen from the ceiling of the hangar for several years and the attached office space on each side is infested with mold and completely deteriorated due to excessive moisture intrusion. Chunks of concrete from the hangar have been found near the adjacent runway apron which poses a safety hazard for both people and aircraft.

The Airport considered and evaluated the possibility of repairing the existing structure. Repair and rehabilitation of the structure proved economically and logistically challenging. Costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. Patch and repair of concrete and other elements would not fully address the safety concerns since the existing substructure exhibits severe deterioration. The structural assessment performed by a registered professional engineer in 2021 identified systemic failure of the steel reinforcement due to prolonged exposure to the corrosive coastal environment and determined that the existing superstructure is not salvageable. With the known systemic failures, there is no reasonable way to remediate the existing structural elements to restore structural integrity to the hangar with a standard factor of safety.

Through research and investigation of the hangar, the project team did not identify any individuals with a level of expertise beyond persons who conducted the structural assessment in 2021.

2. Consulting Party: Jay Porterfield

Comment: Mr. Porterfield inquired as to whether portions of the structure might be viable to keep and potentially display.

Response: Because of the systemic and excessive water intrusion, mold, and structural deterioration throughout the hangar, portions of the structure were not deemed reasonable to salvage. The Airport also considered whether sections of the hangar could be removed and placed in a location for interpretive display. However, it was determined that this option would not be reasonable and prudent due to the deteriorated state of the concrete and lack of available public space at the Airport to house a meaningful display.

3. Consulting Party: Ben Koush

Comment: Mr. Koush inquired about the use of special tax credits for discounts on the construction and repair of the structure.

Response: Several stipulations would need to be met to take advantage of federal and state historic rehabilitation tax credits. The Airport is owned and operated by the City of Corpus Christi which limits their ability to apply for tax credits. The City could lease the building to a private for-profit or non-profit entity as a 39-year lease on the property and apply for tax credits, but the private or non-profit entity would have to pay for the rehabilitation project which is a significant cost. Furthermore, alternative uses of a rehabilitated structure was not considered due to regulatory guidelines, safety, and liability. The structural assessment report of the hangar indicates that it is not possible to fully remediate the existing structure to a safe condition that meets today's code requirements.

4. Consulting Party: Ben Koush

Comment: Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.

Response: Due to the structural deficiencies identified with the hangar and excessive cost for rehabilitation, adaptive reuse of the hangar was not considered as a viable alternative.

5. Consulting Party: Nina Nixon-Mendez

Comment: Ms. Nixon-Mendez agreed with the proposed mitigation options presented. She also suggested consideration of creating a 3-D model of the structure as mitigation.

Response: A virtual 3-D model of the structure will be considered as one of the proposed mitigation options.

6. Consulting Party: Christopher Medina

Comment: Mr. Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, for wider distribution and a larger internet presence.

Response: This suggestion will be included in the proposed mitigation options.



3755 S. Capital of Texas Highway
Suite 325
Austin, TX 78704
TEL 512.485.0009
FAX 512.485.0010
www.GarverUSA.com

Meeting Notes

Date: 06/30/2022

Project: CCIA Gault Hangar

Location: MS Teams

Participants: Ashley Salie and Justin Kockritz, (THC); Tyler Miller, Victor Gonzales and John Johnson (CCIA); Marcelino Sanchez, John MacFarlane and Melissa Foreman (FAA); Deborah Dobson-Brown and Kurt Korfmacher (AmaTerra); Susan Chavez, Derek Mayo, and Michele Lopez (Garver)

Consulting Parties: Nina Nixon, Ben Koush, David Richter, Jay Porterfield, Christopher Medina for Elizabeth Porterfield

RE: Consulting Parties Meeting

I. Welcome/Introductions

John MacFarlane (FAA) welcomed participants to the call and introduced the project and purpose of the call which is to provide information on the demolition of the Gault Hangar at the Corpus Christi International Airport (Airport) and provide an opportunity for discussion and feedback from the consulting parties. All participants then introduced themselves. Susan Chavez (Garver) provided a brief overview of meeting and agenda.

II. Project Background

- a. Deborah Dobson-Brown presented a history of the Gault Hangar which included the following points:
 - o Roger Gault opened a civilian pilot training program.
 - o In 1960, Roger Gault hired Joseph Williams, who hired Wallace Wilkerson (Engineer), to construct a hangar for the flight school.
 - o The structure is a 30,000 square foot, thin-shelled concrete hangar with no internal columns. The design accommodated multiple aircrafts and storage at the time.
 - o Three other thin-shelled concrete structures were constructed by Williams.
 - o The estimated cost of construction was \$32,000 and construction was completed in 1961.
 - o The hangar was privately owned and located on property under a 40-year lease with the City of Corpus Christi, which ended in March 2020.
- b. Derek Mayo discussed the structural assessment performed by Garver and the condition of the structure.
 - o A visual inspection was conducted by a licensed structural engineer in 2021.
 - o The Airport has not occupied the structure because of the unsafe conditions.
 - o There have been several instances of concrete falling from ceiling (1.5 ft piece of concrete is shown in photo in presentation).
 - o Severe concrete cracking and spalling, exposed corroded steel, and flaking, as well as failed roofing were observed during the structural assessment.
 - o Additionally, the steel reinforcement is close to thin concrete shell and exposed in some areas.



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- The hangar was found to be in complete disrepair, with evidence of roof leaks and moisture penetration.
 - No record of drawings could be found which would indicate the construction methods and inspection.
 - The hangar was constructed on land leased from the Airport, and the tenant was responsible for the structure. The City inherited the structure once the lease was up.
 - The structural assessment found that the structure was unsafe.
- c. The Purpose and Need of the project was presented.
- The purpose of the project is to eliminate the safety risk.
 - The project is needed because the existing structure is structurally deficient and poses a safety hazard.
- d. The Alternatives that were considered to address the safety issue of the hangar were discussed as follows:
- Abandon in place. This alternative does not meet the purpose and need because the safety issue would still exist.
 - Remediate structural issues. This alternative is not reasonable or feasible because it is not certain that remediation would be able to improve the structural issues to a safe condition. Additionally, the cost for the extensive repairs and renovation that would be required are excessive and are not reasonable for the Airport.
 - Demolish Structure. The alternative to demolish the structure is the proposed action that the Airport has decided to move forward and what we are discussing today. This alternative would remove the safety issues and is a reasonable cost.
 - Derek Mayo presented additional information on the safety issues associated with the condition of the hangar. He stated that foreign object debris (FOD) is an airside concern because crumbling concrete from the structure can get blown onto the adjacent runway causing a hazard for aircraft. Additionally, the wings of the hangar structure protrude over an adjacent structure with the potential to damage the adjacent structure.

III. National Environmental Policy Act (NEPA)

- a. The project is subject to the National Environmental Policy Act (NEPA). An overview of the regulations and processes required by NEPA was discussed. An Environmental Assessment is currently being prepared for the project.
- b. Section 4(f) of the Department of Transportation Act requires consideration of alternatives when a project will cause adverse impacts to a historic resource. Section 4(f) documentation is currently being prepared for review and approval by FAA.
- c. Section 106 of the National Historic Preservation Act (NHPA) is in process. This consulting parties meeting is part of the process, as well as coordination with the State Historic Preservation Officer (Texas Historical Commission (THC)) and the Advisory Council on Historic Preservation (ACHP).



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IV. Coordination Completed

Coordination completed to date was presented and includes:

- March 2021 – initiated review with THC
- April 2021 – THC determined that the hangar was eligible for the National Register of Historic Places (NRHP) and requested justification for the demolition and analysis of alternatives to avoid or minimize impacts to the hangar.
- November 2021 - Alternatives and justification for demolition, including structural assessment report, submitted to THC
- December 2021 – THC responded with an adverse impact determination and requested development of mitigation options to offset the adverse impact of the project and coordination with consulting parties and ACHP.
- April 2022 – Coordination call conducted with FAA, Airport, and THC to discuss potential mitigation options and identify consulting parties.
- May 2022 – Consulting party invitations sent.
- June 2022 – Consulting party meeting held (today).

V. Mitigation Options

Deborah Dobson-Brown discussed the proposed mitigation options that were developed in coordination with THC, FAA and the Airport. She described the following mitigation options:

- Article on THC Historic Sites Atlas
 - An article documenting the history of the hangar posted on the THC Historic Sites Atlas which is a resource that historians can use and is available to the public.
- Historic American Building Survey (HABS)
 - HABS is a way of documenting significant resources which includes detailed photographs and a summary. The purpose is to tell whole story of the building and to archive as a resource.
- Interpretative sign
 - An interpretive sign provides history and photos of the hangar and would be accessible to travelers of the airport and pedestrians. A location has been proposed outside the terminal in a publicly accessible area of the Airport.
- QR code
 - A QR code provides easy access to information posted online and could be included on various materials, including articles, interpretive sign, and linked to project website.
- CCIA website info
 - Webpage hosted on the Airport website with information and links to resources.
- Videography



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- Recording of demolition that can be used as a learning resource by engineers to see how the hangar was constructed and structural components.

VI. Discussion

A discussion of the project and mitigation options followed the presentation. A summary of the discussion is as follows:

- Nina Nixon-Mendez asked why the rehabilitate option was not reasonable. The project team responded that the option was not reasonable because it would require construction of a whole other superstructure which may not keep the integrity of the structure and negate the purpose of rehabilitation. Additionally, the cost of rehabilitation was significant.
- Ms. Nixon requested a copy of the structural report. The project team stated that it would be sent to the consulting parties.
- David Richter – stated that he can understand the engineer’s observations, but what is salvageable cannot always be observable. He would like for the Airport to look into stabilizing this structure and perform patch and repair of spots of disrepair, and to explore maintenance and pricing for roofing and patching. Is there another way to have this structure survive? Mr. Richter suggested a performance review from a 3rd party reviewer/ engineer with thin concrete expertise.
- It was discussed that the Airport has no immediate plans for the area after demolition.
- Jay Porterfield asked whether any portions of the structure that might be viable to keep? Derek Mayo stated that water damage seems to permeate through the entire structure which would make it difficult to keep portions of the structure.
- John McFarlane (FAA) stated that the Airport can look at small portions to memorialize the structure at a different or similar location and can look into cost for patch and repair. However, costs of rehabilitating this unique structure outweighs the benefit to keeping the structural integrity. The airport must consider cost to make this a viable project. It was discussed that the process for conducting the repairs is also a safety issue which must also be considered.
- Mr. Richter stated that documentation of the building is not nearly the same as presence of the building. He stated that thin shell concrete can be very efficient and robust. Due diligence should include an engineer with expertise for thin shelled structure to review hangar and look at possibility to be repaired. It would be prudent to refer to an expert and the cost to get an expert to review.
- Ben Koush asked if special tax credits could be used for discounts on the construction and repair. The project team responded that tax credits had not been discussed as a funding source for rehabilitation. Justin Kockritz (THC) responded that although the hangar is not listed on the NRHP, it may be possible to go through the listing process while applying for tax credit program. The process to list a property on NRHP is typically 18-24 months. Justin indicated that tax credits would be 20% federal tax credit and 25% state tax credit. Justin offered to send follow-up information on the program.
- Mr. Koush also asked if adaptive reuse options like at Hobby Airport in Houston and LAX could be considered.
- Ms. Nixon agreed with the proposed mitigation options presented. She also suggested 3-D models might be something to consider as well.



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- Christopher Medina suggested that website and other information developed as part of mitigation could be shared with other groups, such as MidTexMod, where they could post on their website for wider distribution. This would provide a larger internet presence to various websites with structure history and information.

VII. Next Steps/Action Items

- Project team will provide assessment and follow-up from discussion by the group today.
- FAA will follow up with consulting parties, either by email or another meeting.
- Project team will distribute the 2021 Structural Assessment.
- Preparation of Memorandum of Agreement (MOA) that will include the mitigation options and will be signed by FAA, THC, and the Airport.
- Coordination with ACHP.
- Preparation of Draft EA.

Gault Hangar Demolition Project

CCIA
CORPUS CHRISTI
INTERNATIONAL
AIRPORT



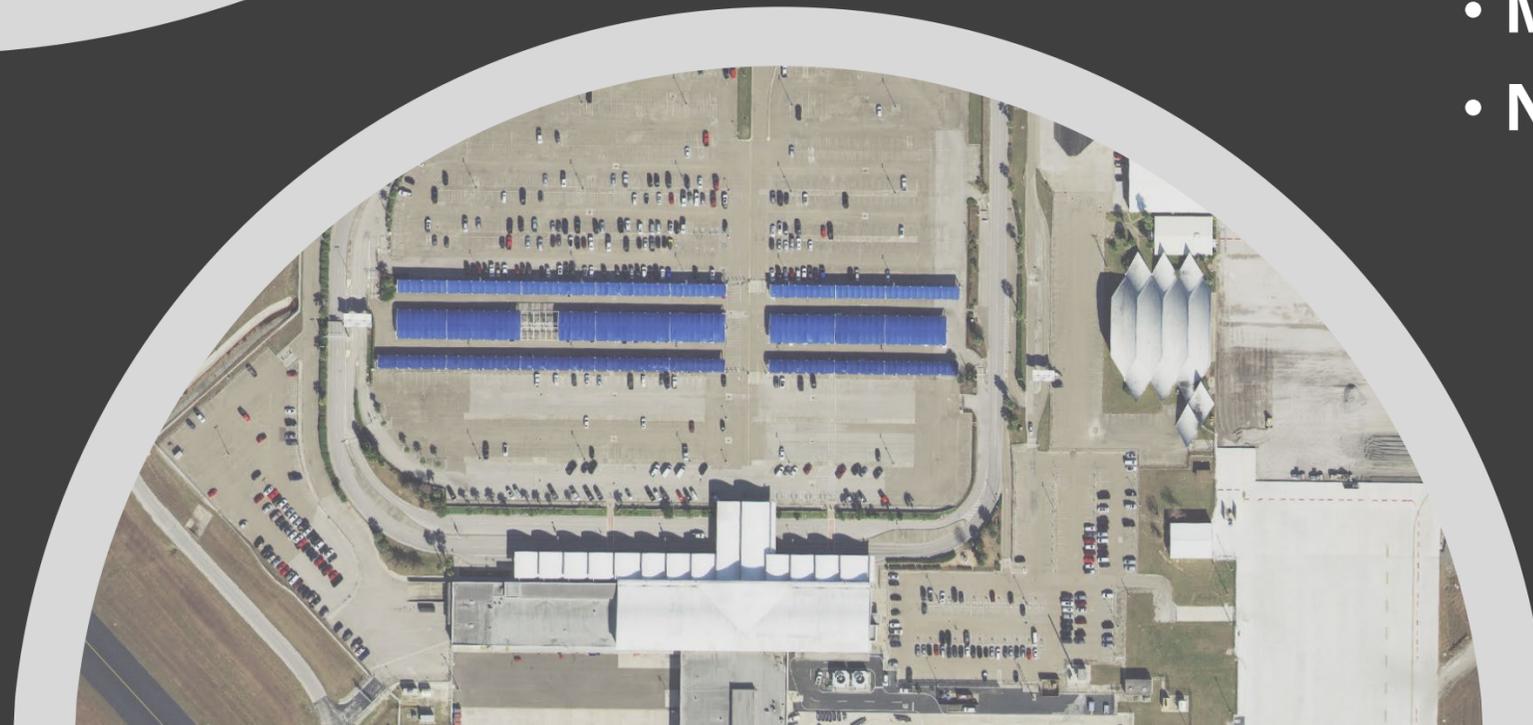


Meeting Purpose

- **Project Overview**
- **Consulting Party Role**
 - Provide input on Mitigation Options
- **Coordination Process**
 - Section 106
 - National Environmental Policy Act (NEPA)

Agenda

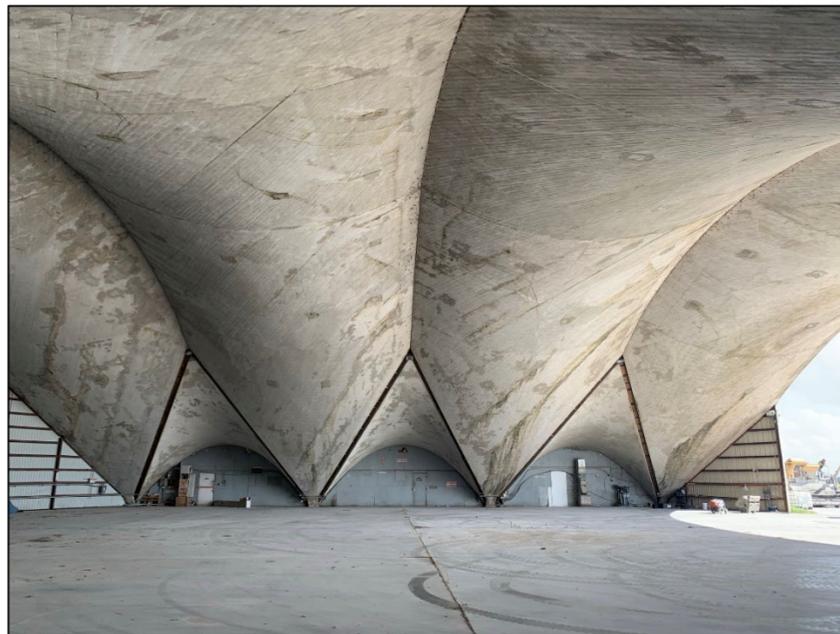
- **Project Background**
 - History of the Hangar
 - Structural Assessment
 - Purpose and Need
 - Alternatives Considered
- **National Environmental Policy Act**
- **Coordination Conducted**
- **Mitigation Options & Discussion**
- **Next Steps**



History of the Hangar



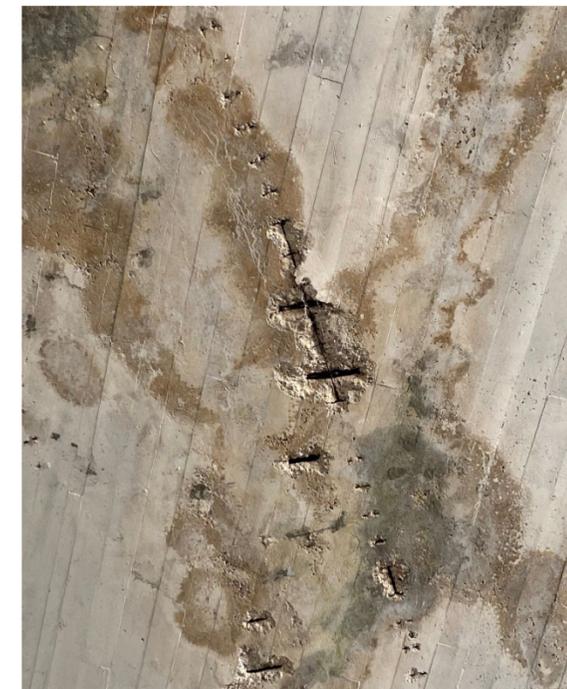
- Architect
- Year Built
- Notable Features



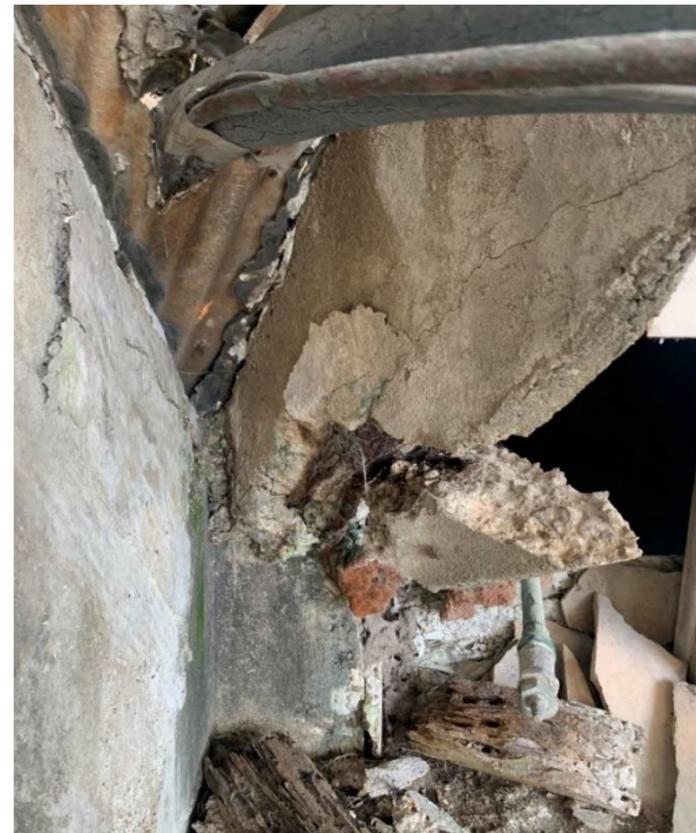


2021 Structural Report

- Confirmed previous 2011 structural report findings
- Features of Concern/Deficiencies:
 - Concrete cracking and spalling
 - Severely corroded steel reinforcements
 - Excessive corrosion
 - Failed roofing membrane/moisture infiltration
- Determined structurally deficient and safety hazard



Purpose and Need



The proposed project is needed because the existing structure is structurally deficient and poses a safety concern.

The purpose of the proposed project is to address safety concerns associated with the deteriorating hangar structure.



Alternatives Considered

- Abandon in Place (safety not addressed)
- Remediate Structural Issues and Recommission Building (not reasonable/feasible)
- Demolish Structure (proposed action)



National Environmental Policy Act (NEPA)

- Initiated preparation of draft Environmental Assessment
- Section 4(f) – no feasible and prudent alternative to minimize harm to the structure
- Section 106 Process consulting with State Historic Preservation Office (SHPO) and Advisory Council on Historic Preservation (ACHP)

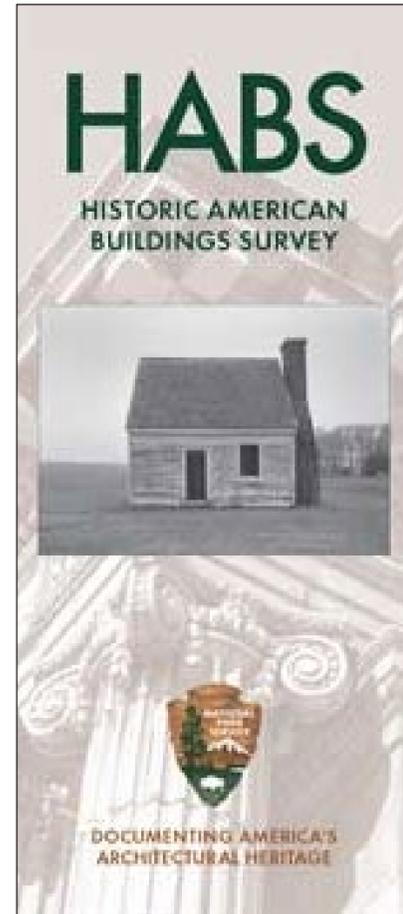
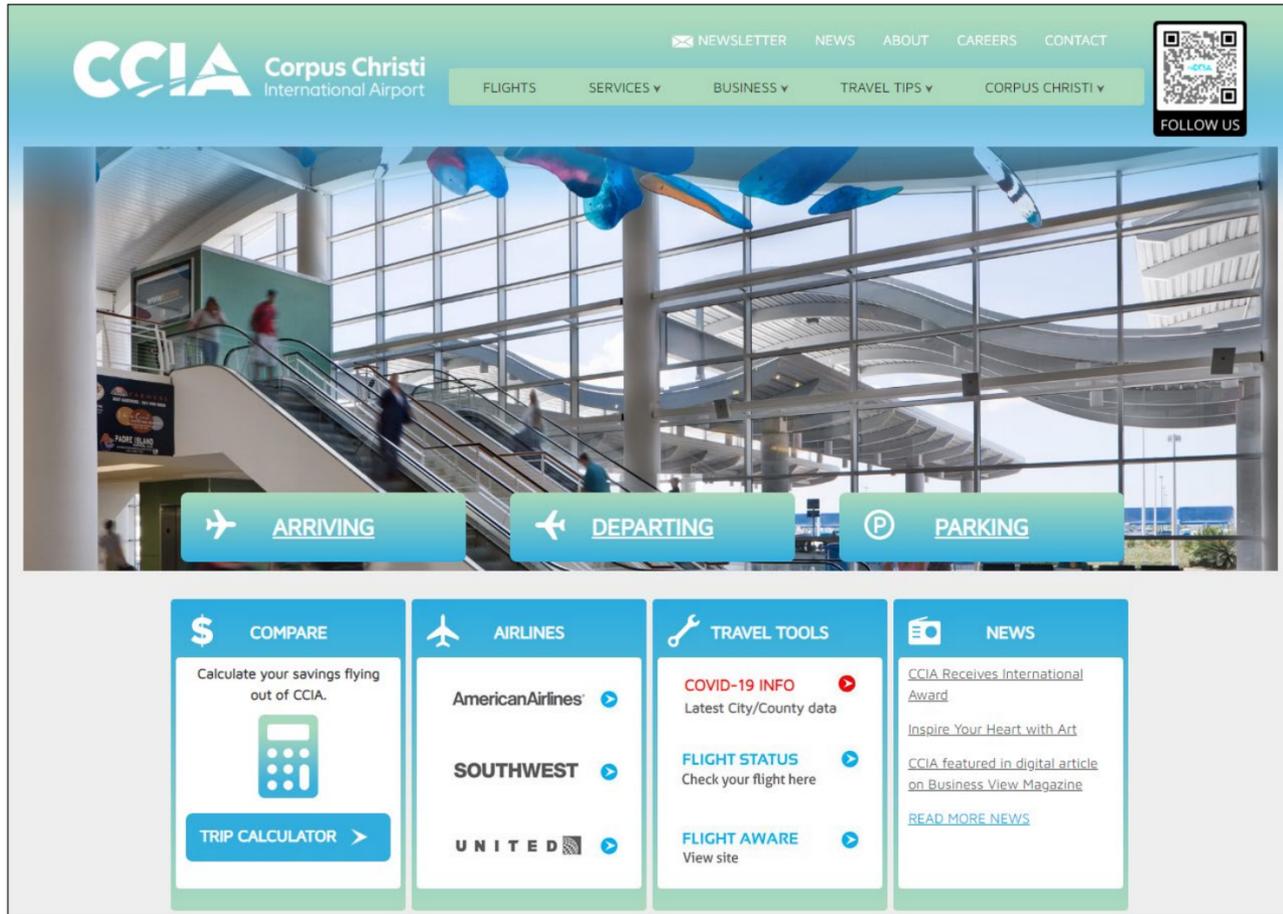


Coordination Conducted

Timeline:

- March 1, 2021 – Project review request submitted to Texas Historical Commission (THC)
- April 15, 2021 – THC responded that Hangar was National Register of Historic Places (NRHP) eligible
- Nov. 23, 2021 – Submitted alternatives/demo justification to THC
- Dec. 20, 2021 – THC adverse impact determination
- April 7, 2022 – Coordination call with THC
- May 6, 2022 – Consulting party invitations sent by FAA
- June 30, 2022 – Consulting Parties Meeting





Mitigation Options

1. Article on Texas Historical Commission Historic Sites Atlas
2. Historic American Building Survey (HABS)
3. Interpretive sign
4. QR code to link to online information
5. CCIA website information
6. Videography of demolition

Discussion



Mitigation Option: Possible Location for Interactive Sign



Next Steps



- Finalize Mitigation Options
- Memorandum of Agreement
 - Review/Approval by Texas Historical Commission, FAA, CCIA
- ACHP Coordination Invitation
- Section 4(f) Documentation
 - Review/Approval by FAA
- Environmental Assessment
 - Review/Approval by FAA
- Anticipated Environmental Clearance

Consulting Parties (updated August 2022)

Name	Contact information	Letter/email sent	Response Y/N
Nueces County Historical Commission	Kathy Wemer 518 Peerman Pl Corpus Christi, TX 78411 rboyd@stx.rr.com	5/6/22	Yes
Corpus Christi Historic Preservation Officer	Nina Nixon-Mendez, Asst. City Manager 2406 Leopard St Corpus Christi, TX78408 ninam@cctexas.com	5/6/22	Yes
Nueces County Historical Society	John Montalvo, President PO Box 60003 Corpus Christi, TX 78466-0003 info@nuecescountyhistoricalsociety.org	5/6/22	No
South Texas Flying Club at KCRP	PO Box 60526 Corpus Christi, TX 78406 info@southtexasflyingclub.org	5/6/22	No
Corpus Christi AIA Chapter	Jay Porterfield, AIA jporterfield@sntarchitects.com 6262 Weber Road, Suite 310 Corpus Christi, TX 78413-4031 p: 361.854.1471 f: 361.854.1470	5/6/22	Yes
Richter Architects (Local Architect and local preservation stakeholders)	David Richter and Elizabeth Chu Richter 201 South Upper Broadway Corpus Christi, Texas 78401 drichter@richterarchitects.com (361) 882-1288	5/6/22	Yes
MidTexMod	Elizabeth Porterfield, President P.O. Box 12734 Austin, Texas 78711 Her personal email is: rowan14@hotmail.com 737-236-0113 (office) info@midtexmod.org	5/6/22	Yes
Ben Koush Associates (Serves on Texas Historical Commission State Board of Review and the Houston Archaeological and Historical Commission)	Ben Koush 816 Wilkes Street Houston, TX 77009 ben@benkoush.com 713.456.0092	5/6/22	Yes



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Texas Airports Development Office

FAA-ASW-650
10101 Hillwood Parkway
Fort Worth, Texas 76177

May 4, 2022

Ben Koush
Ben Koush Associates
816 Wilkes Street
Houston, TX 77009

**RE: Invitation to Section 106 Consultation for the Corpus Christi International Airport (CCIA)
Gault Hangar Demolition Project, Corpus Christi, Nueces County, Texas**

To Whom it May Concern:

The Federal Aviation Administration (FAA) is initiating the process for the demolition of the Gault Hangar, also known as East General Aviation (G.A.) Hangar No. 1, and its associated office structures located at the Corpus Christi International Airport (CCIA) due to structural deficiencies and safety concerns (Project). Based on a recent structural assessment of the facilities, the Airport proposes demolition of the structures because age and recent damage from Hurricane Harvey have revealed multiple distresses in the building structure. Alternatives to demolition and to avoid adverse impacts were considered and evaluated. Considering both the cost and the risk of unknown performance, the recommended action is demolition.

The demolition of the Gault Hangar is an “undertaking” subject to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR Part 800. A project location map is included as Attachment 1 and a specific site vicinity map is included as Attachment 2 to this letter.

Pursuant to 36 CFR § 800.4, FAA, in coordination with the CCIA and the Texas Historical Commission (THC), have determined the Gault Hangar is eligible for listing on the National Register of Historic Places (NRHP) under Criterion C, Architecture. Based on the Project, the FAA has determined the undertaking would result in an adverse effect on the Gault Hangar. In a letter dated April 15, 2021, the THC concurred with FAA’s eligibility determination. THC’s letter is Attachment 3 to this letter.

In compliance with Section 106 requirements, potential measures to avoid, minimize, or mitigate adverse impacts to the Gault Hangar were considered. Accordingly, FAA – in coordination with the THC, CCIA, and stakeholders interested in serving as consulting parties – will develop a Memorandum of Agreement (MOA). An MOA is a legally binding document that outlines the minimization and mitigation stipulations for the Gault Hangar Project. The FAA, the

THC, and the CCIA will approve and sign the MOA. As a consulting party, you or your organization will have the opportunity to offer input to the FAA regarding the Gault Hangar. The FAA will provide consulting parties with a draft of the MOA to review and discuss at a stakeholder meeting. By separate notice, the FAA will provide you with details of the stakeholder meeting that will take place in the near future.

The FAA has identified you as potentially having an interest in the undertaking. Pursuant to 36 CFR § 800.2(c) and § 800.3(f), the FAA is inviting you to participate in the Section 106 consultation process as a consulting party.

The proposed Project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The FAA has initiated preparation of an Environmental Assessment report (EA) to meet its regulatory obligations. The FAA will contact you when the draft EA has been prepared and issued for public comment so that you may review and provide any comments you may have. The agency intends to complete Section 106 in conjunction with the NEPA process.

If you wish to participate in the Section 106 process as a consulting party, please contact me via mail or email at John.MacFarlane@faa.gov within 15 days of receipt of this letter.

Sincerely,



John MacFarlane
Environmental Protection Specialist
Texas Airports District Office

Enclosures:

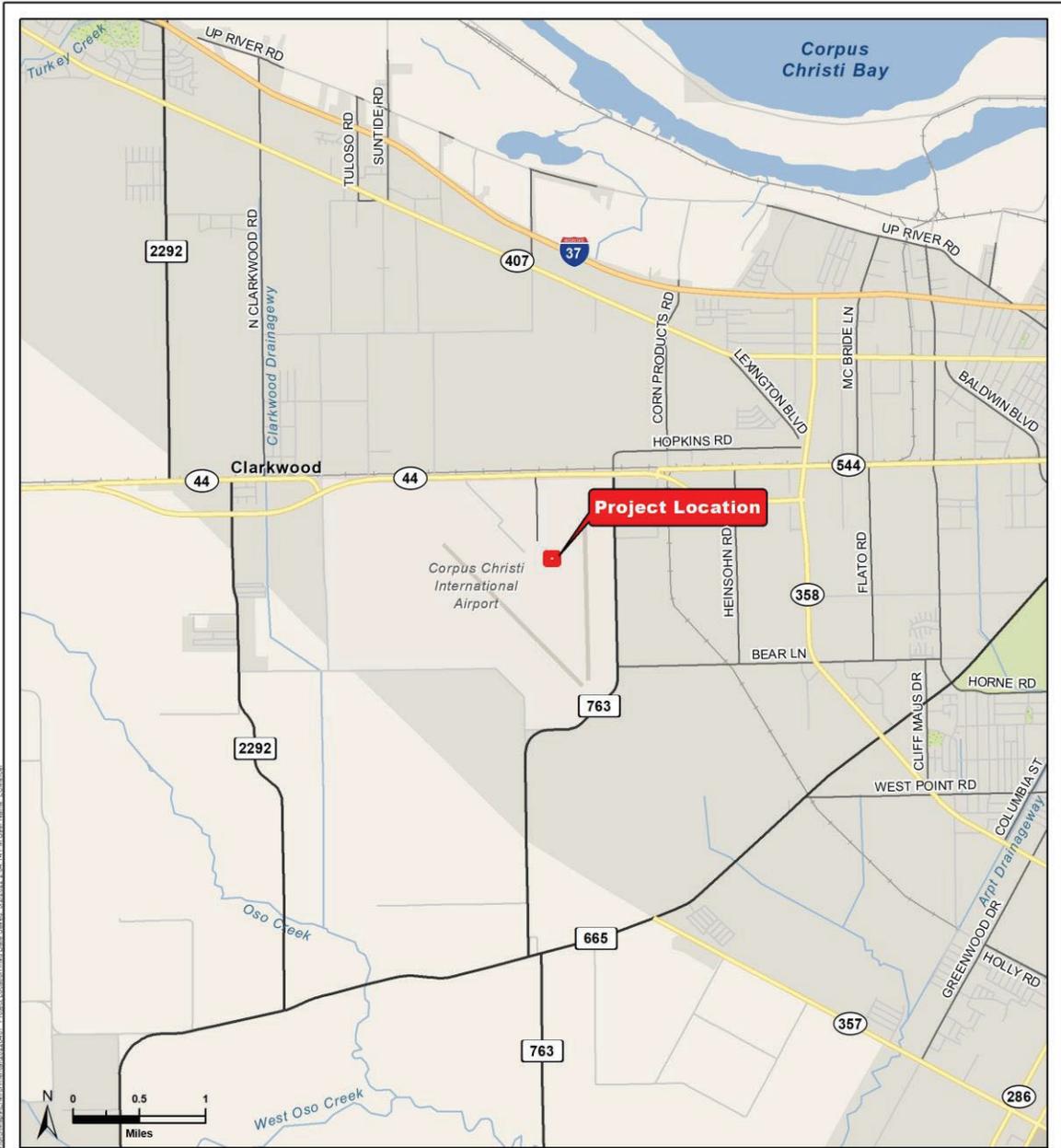
Project Location Map

Site Vicinity Map

THC Eligibility Concurrence Letter

Cc: Mr. Mark Wolfe, State Historic Preservation Officer, Texas Historical Commission
Mr. Victor Gonzalez, Development and Construction Manager, Corpus Christi International Airport
Mr. John Johnson, Program Specialist, Corpus Christi International Airport

Attachment 1. Project Location



PROJECT LOCATION
 CORPUS CHRISTI INTERNATIONAL AIRPORT (CCIA);
 EAST GA HANGAR NO. 1
 (GAULT HANGAR) DEMO
 Nueces County, TX

Attachment 2. Site Vicinity



CCIA
CORPUS CHRISTI
INTERNATIONAL
AIRPORT

GARVER

SITE VICINITY
CORPUS CHRISTI
INTERNATIONAL AIRPORT (CCIA):
EAST GA HANGAR NO. 1
(GAULT HANGAR) DEMO
Nueces County, TX

Attachment 3. THC Eligibility Concurrence Letter

From: noreply@thc.state.tx.us
To: [MacFarlane, John \(FAA\); reviews@thc.state.tx.us](mailto:MacFarlane, John (FAA); reviews@thc.state.tx.us)
Subject: Section 106 Submission
Date: Thursday, April 15, 2021 4:26:33 PM



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202107070

Date: 04/15/2021

Corpus Christi International Airport Gault Hangar
1000 International Drive
Corpus Christi, TX 78406

Description: The proposed project would demolish a 1961 aviation hangar.

Dear John MacFarlane:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Justin Kockritz, Jeff Durst, Hansel Hernandez, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- Property/properties are eligible for listing or already listed in the National Register of Historic Places.
- Adverse effects on historic properties.

Archeology Comments

- No identified historic properties, archeological sites, or other cultural resources are present or affected. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: The THC History Programs Division, led by Justin Kockritz, has completed its review of the submitted materials. The former Gault Hangar, designed by architect Joe L. Williams and engineer Wallace Wilkerson, features a unique and

exuberant application of thin-shell concrete and vaulted hyperbolic paraboloid forms. Before working on this hangar, Wilkerson worked directly with architect Richard Colley who collaborated with Mexican architect and thin-shell concrete master Félix Candela on projects including the Texas Instruments Semiconductor Building in Dallas and the Great Southwest Industrial Park in Arlington. Based on available information, THC recommends that the Hangar is eligible for listing in the National Register of Historic Places under Criterion C for its design and engineering. Although there are areas of spalling and there have been alterations such as the infilling of the smaller flanking shells, THC recommends that the Hangar retains sufficient historic integrity to convey its historic significance. Division of Architecture: Given the age of the building, its architectural pedigree, its historical significance, and its high level of integrity, we strongly urge reconsideration of the demolition. We ask that the FAA explore the feasibility of developing a plan for its rehabilitation. We certainly welcome the discussion of any alternative to demolition. If demolition cannot be prevented and the adverse effect avoided, please notify us of your intent to negotiate appropriate mitigation and enter into a Memorandum of Agreement to execute that mitigation.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: justin.kockritz@thc.texas.gov, Jeff.Durst@thc.texas.gov, hansel.hernandez@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:

Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at <http://www.thc.state.tx.us/crm/crmsend.shtml>.

- This is a new submission.
- This is additional information relating to THC tracking number(s): _____

Project Information		
PROJECT NAME Demolition of East General Aviation (GA) Hangar No. 1		
PROJECT ADDRESS 506 Hangar Lane	PROJECT CITY Corpus Christi	PROJECT ZIP CODE(S) 78406
PROJECT COUNTY OR COUNTIES Nueces County		
PROJECT TYPE (Check all that apply)		
<input type="checkbox"/> Road/Highway Construction or Improvement	<input type="checkbox"/> Repair, Rehabilitation, or Renovation of Structure(s)	
<input type="checkbox"/> Site Excavation	<input type="checkbox"/> Addition to Existing Structure(s)	
<input type="checkbox"/> Utilities and Infrastructure	<input checked="" type="checkbox"/> Demolition or Relocation of Existing Structure(s)	
<input type="checkbox"/> New Construction	<input type="checkbox"/> None of these	
BRIEF PROJECT DESCRIPTION: Please explain the project in one or two sentences. More details should be included as an attachment to this form. The Corpus Christi International Airport (CCIA) proposes the demolition of East General Aviation (GA) Hangar No. 1. The airport has closed the hangar, which was built in the early 1960s, from public entry due to several structural deficiencies, including the potential for safety hazards from future pop-outs and spalls. See attached letter for additional details.		

Project Contact Information			
PROJECT CONTACT NAME Derek Mayo	TITLE Senior Project Manager	ORGANIZATION Garver	
ADDRESS 285 SE Inner Loop, Suite 110	CITY Georgetown	STATE TX	ZIP CODE 78626
PHONE 503-720-8777	EMAIL DWMayo@garverusa.com		

Federal Involvement (Section 106 of the National Historic Preservation Act)	
Does this project involve approval, funding, permit, or license from a federal agency?	
<input checked="" type="checkbox"/> Yes (Please complete this section)	<input type="checkbox"/> No (Skip to next section)
FEDERAL AGENCY Federal Aviation Administration (FAA)	FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE
CONTACT PERSON John MacFarlane	PHONE 817-222-5681
ADDRESS Texas Airports Districts Office, ASW-650 10101 Hillwood Parkway, Fort Worth, TX 76177	EMAIL John.MacFarlane@faa.gov

State Involvement (Antiquities Code of Texas)	
Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?	
<input checked="" type="checkbox"/> Yes (Please complete this section)	<input type="checkbox"/> No (Skip to next section)
CURRENT OR FUTURE OWNER OF THE PUBLIC LAND City of Corpus Christi	
CONTACT PERSON Victor Gonzalez	PHONE 361-2890171 Ext. 1231
ADDRESS 1000 International Dr Corpus Christi, TX 78406	EMAIL Victor@cctexas.com

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?
 Yes (Please complete this section) No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.
No ground disturbance will occur as the existing foundation will remain in place.

Describe the previous and current land use, conditions, and disturbances.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?
 Yes (Please complete this section) No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?
 Yes, name of property or district: No Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
East G.A. Hangar No. 2	Between 1960-1978	Google Earth Historical Imagery
Office building immediate north of East G.A. Hangar No. 1	Between 1989-1995	Google Earth Historical Imagery
Outbuilding south of East G.A. Hangar No. 1	Between 1990-1995	Google Earth Historical Imagery

Attachments
[Please see detailed instructions regarding attachments.](#)
 Include the following with each submission:

- Project Work Description
- Maps
- Identification of Historic Properties
- Photographs

For Section 106 reviews only, also include:

- Consulting Parties/Public Notification
- Area of Potential Effects
- Determination of Eligibility
- Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

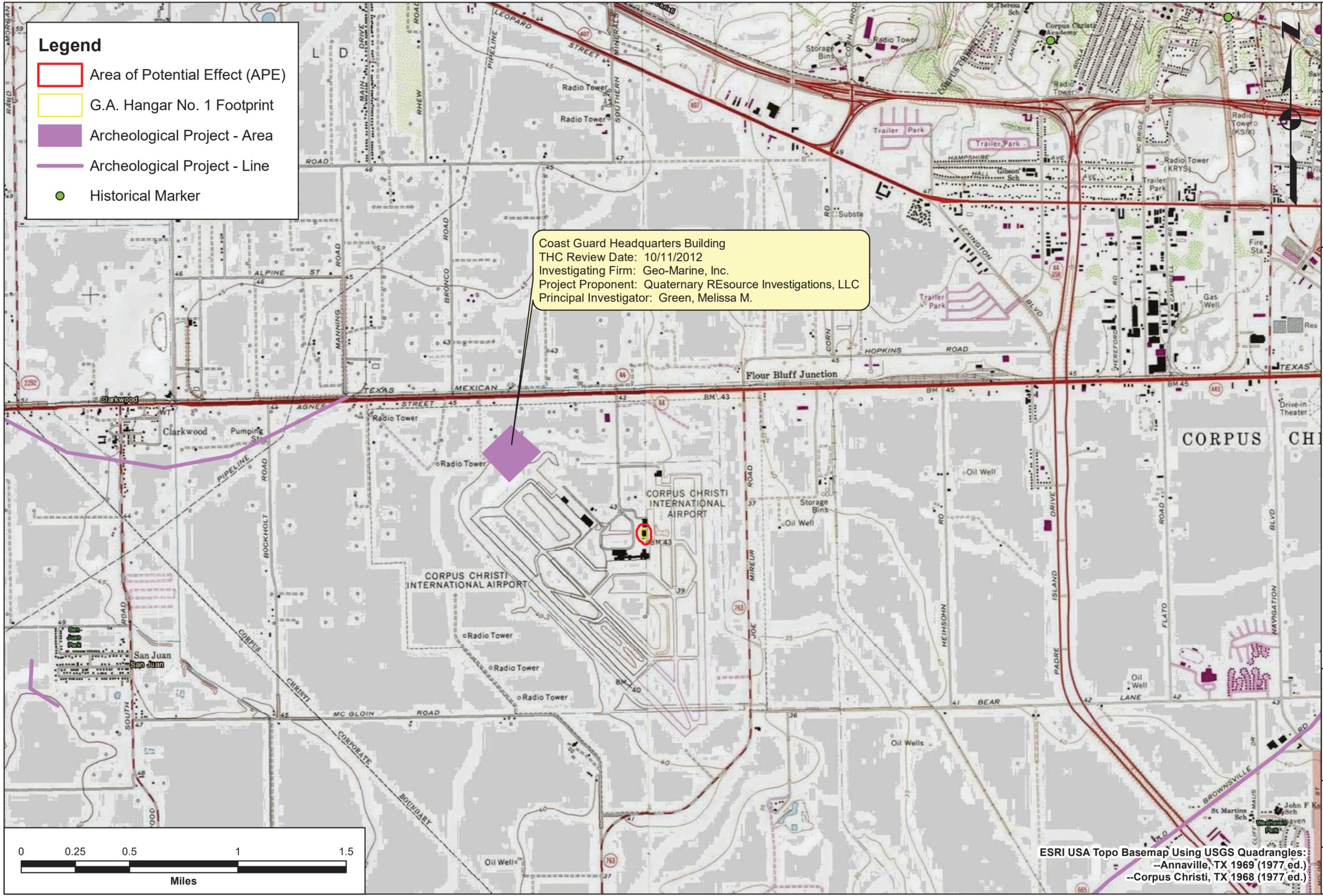
Mark Wolfe
 State Historic Preservation Officer
 Texas Historical Commission
 P.O. Box 12276, Austin, TX 78711-2276 (mail service)
 108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint
-  Archeological Project - Area
-  Archeological Project - Line
-  Historical Marker

Coast Guard Headquarters Building
 THC Review Date: 10/11/2012
 Investigating Firm: Geo-Marine, Inc.
 Project Proponent: Quaternary REsource Investigations, LLC
 Principal Investigator: Green, Melissa M.



ESRI USA Topo Basemap Using USGS Quadrangles:
 --Annville, TX 1969 (1977, ed.)
 --Corpus Christi, TX 1968 (1977, ed.)



285 SE Inner Loop
 Suite 110
 Georgetown, TX 78626
 (512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
 CORPUS CHRISTI, TEXAS
 DEMOLITION OF EAST G.A. HANGAR NO. 1

SITE LOCATION MAP & NRHP DATA IN PROJECT AREA

JOB NO.: 20A6170P
 DATE: MAR 2021
 DESIGNED BY: CPS
 DRAWN BY: CPS

FIGURE 1

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

STREET
MAP
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

FIGURE
2

ESRI Open Street Map



East
GA
Fuel
Farm

East GA
Hangar No. 2

Office
Building

East GA Apron

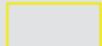
TWY M

Rental Car
Ready
Return Lot

Terminal Parking Lot

International Boulevard

Legend

-  Area of Potential Effect (APE)
-  G.A. Hangar No. 1 Footprint



285 SE Inner Loop
Suite 110
Georgetown, TX 78626
(512) 485-0020



CORPUS CHRISTI INTERNATIONAL AIRPORT
CORPUS CHRISTI, TEXAS
DEMOLITION OF EAST G.A. HANGAR NO. 1

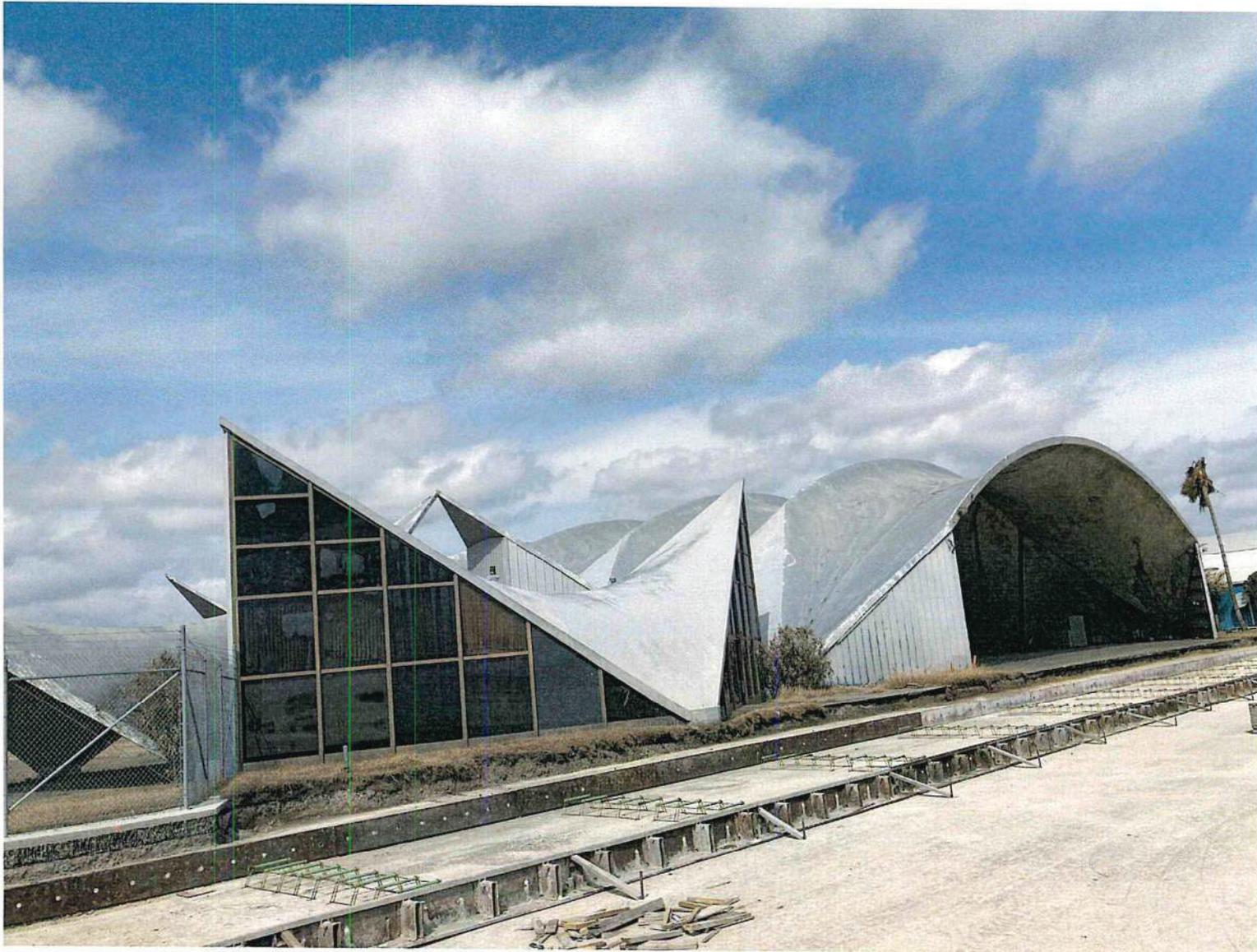
PROJECT
VICINITY
AND
AREA OF
POTENTIAL
EFFECT
(APE)
EXHIBIT

JOB NO.: 20A6170P
DATE: MAR 2021
DESIGNED BY: CPS
DRAWN BY: CPS

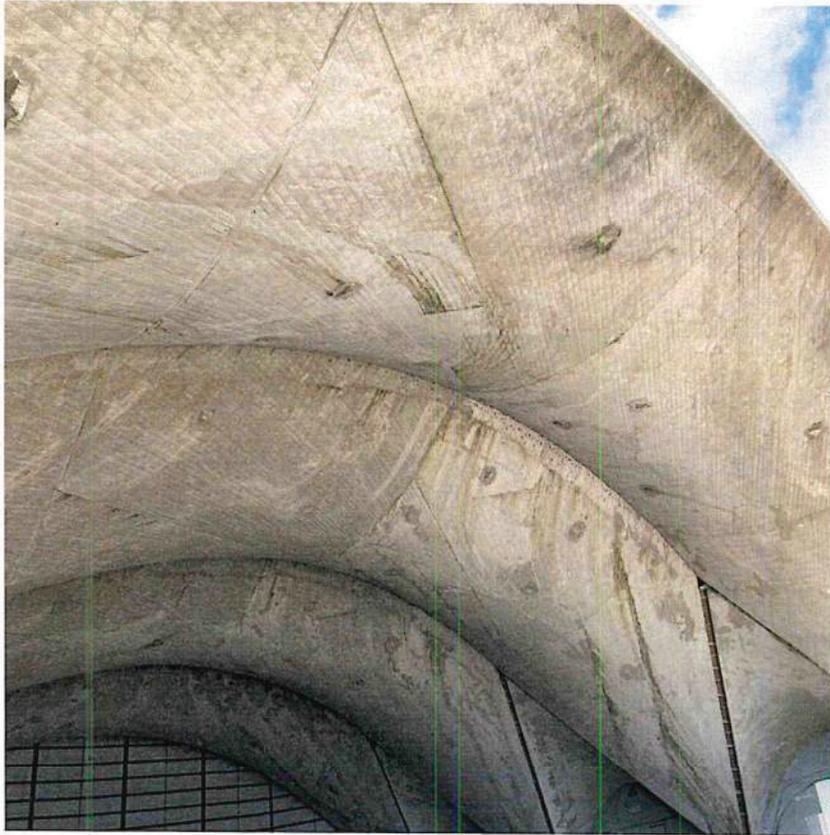
**FIGURE
3**



2020 ESRI Aerial Imagery



East General Aviation (GA) Hangar No. 1, which is proposed for demolition. Photograph taken near the southeast edge of the APE facing northwest.



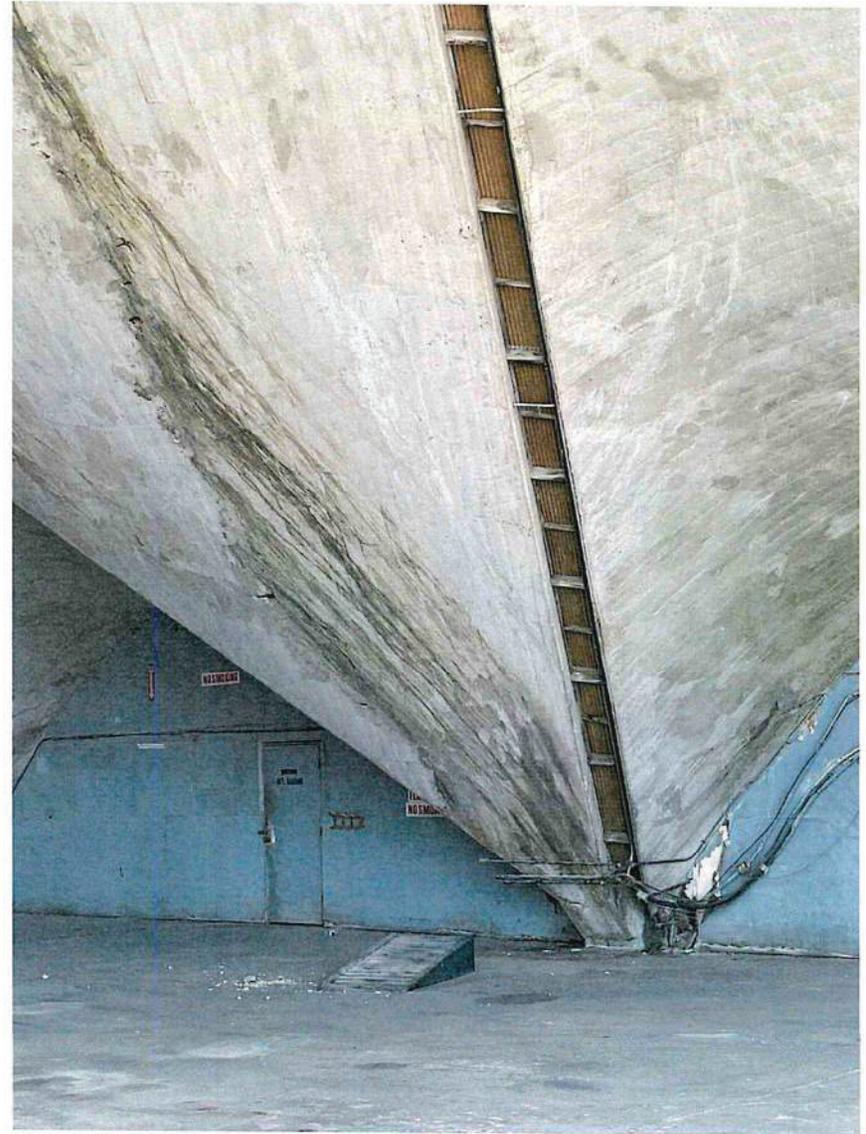
East GA Hangar No.1 Facing west inside Hangar.



East GA Hangar No.1 Facing ceiling of Hangar.



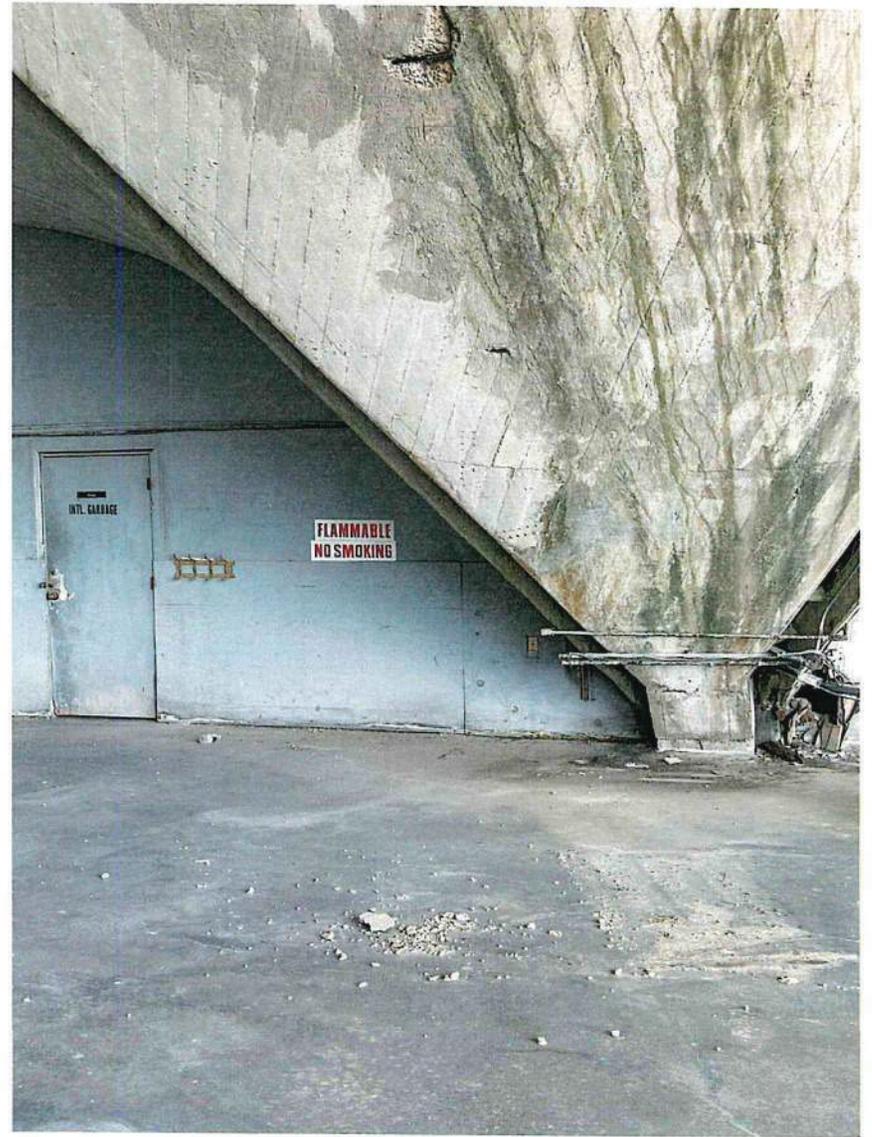
View of concrete roofing along east edge of East GA Hangar No. 1.



View of concrete ceiling and side wall from inside the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



View of deteriorating concrete side walls within the East GA Hangar No. 1.



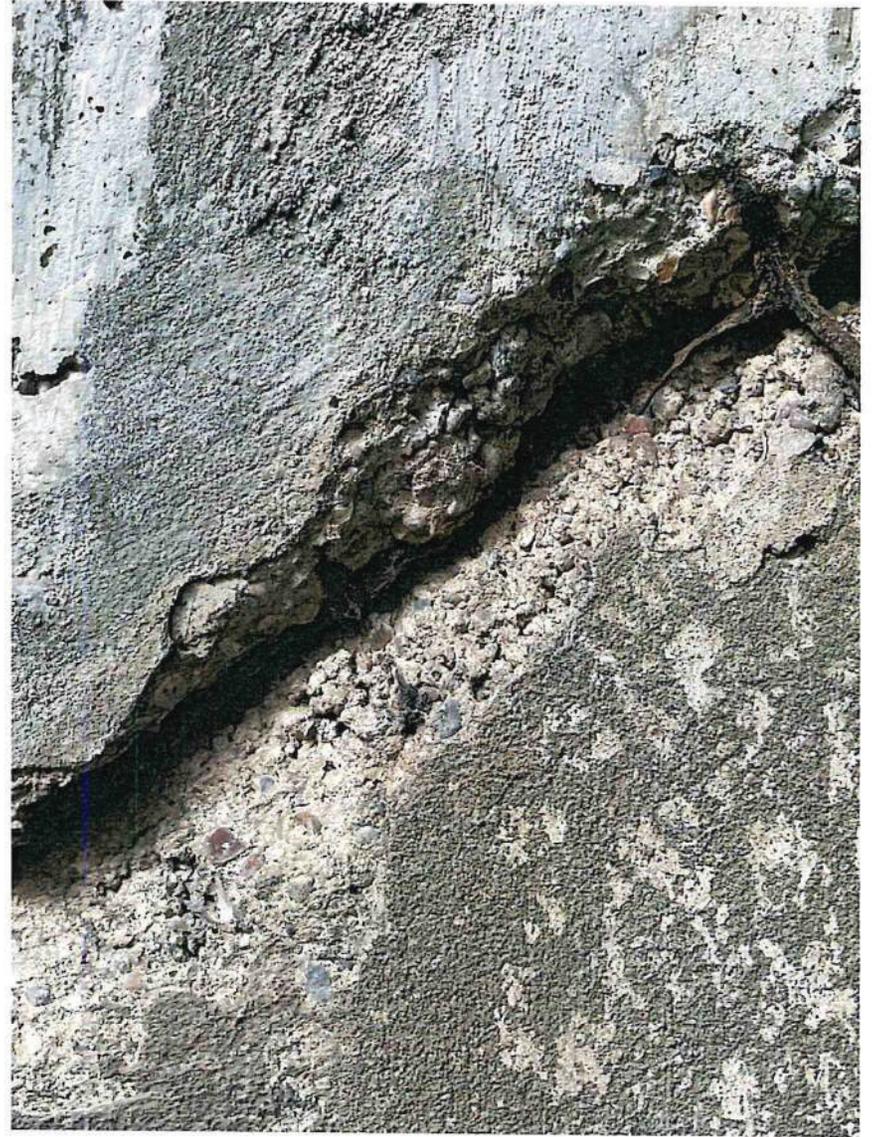
View of deteriorating concrete within the East GA Hangar No. 1.



View of deteriorating concrete within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



View of large crack in concrete side wall within the East GA Hangar No. 1.



Large shard of concrete that has fallen from the East GA Hangar No. 1 structure.

APPENDIX G
PUBLIC INVOLVEMENT