# Public Notice

**US Army Corps of Engineers**
Fort Worth District

Applicant: City of Frisco

Permit Application No.: SWF-2007-00226

Date: October 31, 2008

The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you would participate in this process.

**Regulatory Program**

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

**Section 10**

The U.S. Army Corps of Engineers is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate *all work or structures in or affecting the course, condition or capacity of navigable waters of the United States*. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

**Section 404**

The U.S. Army Corps of Engineers is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the *discharge of dredged and fill material into all waters of the United States, including wetlands*. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

**Contact**

Name: Mr. Standridge Walker

Phone Number: (817) 886-1740

JOINT PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT

AND

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUBJECT: Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States associated with the construction of Grand Park, an approximately 332-acre proposed city park located southeast of the intersection of Legacy Drive and Cotton Gin Road, in the City of Frisco, Collin County, Texas.

APPLICANT: Mr. Dudley Raymond
City of Frisco
Parks and Recreation Department
6726 Walnut Street
Frisco, Texas 75034

APPLICATION NUMBER: SWF-2007-00226

DATE ISSUED: October 31, 2008

LOCATION: The proposed city park, Grand Park, would be located on an approximately 332-acre tract southeast of the intersection of Legacy Drive and Cotton Gin Road, in the city of Frisco, Collin County, Texas (Exhibits 1 through 5 of 22, dated October 7, 2008). The proposed park is bound by Cotton Gin Road to the north and Legacy Drive to the west. The Dallas North Tollway bisects the project area near the northeast corner. The proposed project would be located approximately at UTM coordinates 700704 East and 3669520 North (Zone 14) on the Frisco and Hebron 7.5-minute USGS quadrangle maps in the USGS Hydrologic Unit 12030103.

OTHER AGENCY AUTHORIZATIONS: State Water Quality Certification

PROJECT DESCRIPTION: The applicant proposes to construct an approximately 332-acre proposed city park, Grand Park, located southeast of the intersection of Legacy Drive and Cotton Gin Road in the City of Frisco, Collin County, Texas. The proposed project would consist of a city park with associated roads and infrastructure. The proposed project would include the construction of three lakes on Stewart Creek, bank stabilization activities downstream of the proposed southernmost dam on Stewart Creek, three road crossings across waters of the U.S., and fill of an ephemeral stream associated with construction of a parking lot. The purpose of the proposed project would be to

provide a regional park with both active and passive uses for the growing population of Frisco and surrounding communities.

Waters of the U.S. identified within the project area include an approximately 9,385 linear foot (4.28 acres) perennial reach of Stewart Creek; an approximately 2,608 linear foot (0.33 acres) intermittent reach of Stream 12; approximately 12,899 linear foot (1.28 acres) ephemeral reaches of 25 ephemeral streams (Streams 2 to 11 and Streams 13 to 17); one open water feature totaling 0.46 acre; five forested wetlands totaling 4.15 acres; and three herbaceous wetlands totaling 0.80 acre (**Table 1** and Exhibits 6 through 9 of 22).

**Table 1. Summary of Waters of the U.S.**

| Waters of the U.S. | | Classification | Length (feet)* | | Average width at the OHWM (feet)** | Area (acres)* | |
|---|---|---|---|---|---|---|---|
| Stream 1 – Stewart Creek | | Perennial Stream | 9,385 | | 20 | 4.28 | |
| Stream 2 | | Ephemeral Stream | 256 | | 5 | 0.03 | |
| Stream 3 | | Ephemeral Stream | 282 | | 4 | 0.02 | |
| Forested Wetland 1 | | Forested Wetland | -- | | -- | 0.06 | |
| Forested Wetland 2 | | Forested Wetland | -- | | -- | 0.06 | |
| Forested Wetland 3 | | Forested Wetland | -- | | -- | 3.23 | |
| Herbaceous Wetland 1 | | Herbaceous Wetland | -- | | -- | 0.07 | |
| Pond 1 | | Open Water | -- | | -- | 0.46 | |
| Stream 4 | | Ephemeral Stream | 125 | | 4 | 0.01 | |
| Stream 5 | | Ephemeral Stream | 710 | | 3 | 0.05 | |
| Stream 6 | | Ephemeral Stream | 540 | | 5 | 0.06 | |
| Stream 7 Complex | Stream 7 | Ephemeral Stream | 5 | 1,940 | 5 | 0.04 | 0.13 |
| | Stream 7a | Ephemeral Stream | 3 | | 3 | 0.04 | |
| | Stream 7b | Ephemeral Stream | 2 | | 2 | 0.003 | |
| | Stream 7c | Ephemeral Stream | 3 | | 3 | 0.03 | |
| | Stream 7d | Ephemeral Stream | 1 | | 1 | 0.007 | |
| | Stream 7e | Ephemeral Stream | 2 | | 2 | 0.01 | |
| Stream 8 | | Ephemeral Stream | 208 | | 4 | 0.02 | |
| Stream 8a | | Ephemeral Stream | 79 | | 4 | 0.007 | |
| Stream 9 | | Ephemeral Stream | 938 | | 2 | 0.04 | |
| Stream 10 | | Ephemeral Stream | 104 | | 4 | 0.01 | |
| Stream 11 | | Ephemeral Stream | 192 | | 3 | 0.01 | |
| Forested Wetland 4 | | Forested Wetland | -- | | -- | 0.61 | |
| Stream 12 | | Intermittent Stream | 2,608 | | 6 | 0.33 | |
| Stream 13 | | Ephemeral Stream | 344 | | 2 | 0.02 | |
| Stream 14 | | Ephemeral Stream | 535 | | 4 | 0.05 | |
| Stream 15 | | Ephemeral Stream | 2,371 | | 4 | 0.22 | |
| Stream 15a | | Ephemeral Stream | 174 | | 4 | 0.02 | |
| Stream 15b | | Ephemeral Stream | 361 | | 4 | 0.04 | |
| Stream 15c | | Ephemeral Stream | 224 | | 2 | 0.01 | |
| Stream 16 | | Ephemeral Stream | 1,483 | | 4 | 0.13 | |
| Stream 16a | | Ephemeral Stream | 241 | | 4 | 0.02 | |
| Forested Wetland 5 | | Forested Wetland | -- | | -- | 0.19 | |
| Herbaceous Wetland 2 | | Herbaceous Wetland | -- | | -- | 0.28 | |
| Stream 17 | | Ephemeral Stream | 1,792 | | 8 | 0.38 | |
| Herbaceous Wetland 3 | | Herbaceous Wetland | -- | | -- | 0.45 | |
| **Totals:** | | | **24,892** | | -- | **11.30** | |

* The lengths and areas of the streams were measured in MicroStation.
** Represents an average width at the OHWM. However, actual widths were used for all calculations.

Stewart Creek flows onto the project site at the easternmost project boundary, flows west-southwest, and flows off the project area at the southern boundary. Stream 12 flows onto the project site at the southern boundary, flows west across the project site, and flows into Stewart Creek. The 25 ephemeral streams located on the project all ultimately flow into Stewart Creek and have average widths at the OHWM that range from one to eight feet. The open water feature (Pond 1) is located near the center of the project site closest to the western boundary and is located in the floodplain of Stewart Creek.

Forested wetlands and herbaceous wetlands are located throughout the project area. Forested Wetland 1 (0.06 acres) located adjacent to an ephemeral stream and Forested Wetland 2 (0.06 acre) is located on-channel to the same ephemeral stream. Forested Wetlands 3 and 4 (3.23 acres and 0.61 acre, respectively) are adjacent to Stewart Creek. Both of these forested wetlands appeared to be located within remnant channels of Stewart Creek. Forested Wetland 5 (0.19 acre) is located adjacent/between two ephemeral streams and receives the majority of its hydrology from excess drainage associated with an adjacent residential development and railroad right-of-way. Vegetation present at the forested wetlands within the project site includes Virginia wildrye (*Elymus virginicus*), Osage orange (*Maclura pomifera*), cedar elm (*Ulmus crassifolia*), greenbrier (*Smilax bona-nox*), American elm (*Ulmus americana*), coralberry (*Symphoricarpos orbiculatus*), alligatorweed (*Alternanthera philoxeroides*), black willow (*Salix nigra*), giant ragweed (*Ambrosia trifida*), poison ivy (*Toxicodendron radicans*), cattail (*Typha latifolia*), cocklebur (*Xanthium strumarium*), curly dock (*Rumex crispus*), green ash (*Fraxinus pennsylvanica*), honey locust (*Gleditsia triacanthos*), annual sumpweed (*Iva annua*), goldenrod (*Solidago* sp.), and dewberry (*Rubus trivialis*).

Herbaceous Wetland 1 (0.07 acre) is located adjacent to Pond 1, and is situated within the floodplain of Stewart Creek. Herbaceous Wetland 2 (0.28 acre) is located adjacent to an ephemeral stream and appears to receive the majority of its hydrology from excess drainage associated with an adjacent residential development and railroad right-of-way. Herbaceous Wetland 3 (0.45 acre) is located adjacent to an intermittent stream. This wetland appears to have been formed by overflow water from the intermittent stream. Vegetation present at the herbaceous wetlands within the project area includes curly dock, spikerush (*Eleocharis sp.*), cocklebur, annual sumpweed, false indigo (*Amorpha fruticosa*), alligatorweed, giant ragweed, dewberry, goldenrod, cattail, American elm saplings, and green ash saplings.

A functional assessment of waters of the U.S. within the project site was performed using a modified version of the Proper Functioning Condition (PFC) method originally developed by the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and the Natural Resources Conservation Service (NRCS). Waters of the U.S. were assessed based on four assessment categories, including: 1) vegetation/structure, 2) hydrology, 3) soils, and 4) landscape setting. Each of the four assessment categories have multiple individual evaluation criteria associated with them and each were assigned a value rating (i.e., a score of 1 through 5). The value rating for each of the four assessment categories were totaled and a percentage was determined. An overall value rating and percentage was also determined based on the four assessment categories. ***Table 2*** summarizes

the results of the functional assessment worksheets.

**Table 2. Results of Functional Assessment of Waters of the U.S. within the Project Site**

| Functional Assessment ID Point | Total Existing Value Rating | Total Possible Rating Points Available | Total Percentage Score |
|---|---|---|---|
| Stewart Creek (Stream 1) – Reach 1 | 52 | 80 | 65% |
| Stewart Creek (Stream 1) – Reach 2 | 57 | 80 | 71% |
| Stewart Creek (Stream 1) – Reach 3 | 52 | 80 | 65% |
| Stewart Creek (Stream 1) – Reach 4 | 32 | 80 | 40% |
| Stewart Creek (Stream 1) – Reach 5 | 54 | 80 | 68% |
| Stewart Creek (Stream 1) – Reach 6 | 64 | 80 | 80% |
| Stewart Creek (Stream 1) – Reach 7 | 60 | 80 | 75% |
| Stewart Creek (Stream 1) – Reach 8 | 66 | 80 | 83% |
| Intermittent Stream 12 | 59 | 80 | 74% |
| Ephemeral Streams* | 57 | 75 | 76% |
| Ephemeral Stream 4 | 56 | 75 | 75% |
| Ephemeral Stream 9 | 48 | 75 | 64% |
| Ephemeral Stream 17 | 76 | 75 | 61% |
| Forested Wetlands 1 and 2 | 73 | 100 | 73% |
| Forested Wetland 3 | 88 | 100 | 88% |
| Forested Wetland 4 | 76 | 100 | 76% |
| Forested Wetland 5 | 70 | 100 | 70% |
| Herbaceous Wetland 1 | 81 | 100 | 81% |
| Herbaceous Wetland 2 | 70 | 100 | 70% |
| Herbaceous Wetland 3 | 74 | 100 | 74% |
| Pond 1 | 91 | 95 | 85% |

* Assessment included all ephemeral streams within the project area, except Streams 4, 9, and 17. An explanation of this exclusion is provided in the text below.

Results of Functional Assessment

The primary factors affecting the functions of Stewart Creek are those associated with the developed watershed upstream of the project area in addition to effect associated with recent construction of the Dallas North Tollway across the stream. The lower scores of Reaches 1 through 5 are directly related to the development upstream from the project. The developed watershed creates a high peak flow and velocity during storm events. As a result, Reaches 1 through 5 exhibit more downcutting and vertically unstable banks. Downstream areas (i.e., Reaches 6 through 8), the stream exhibit changing morphology associated with high velocities. Consequently, these areas are exhibiting increased sinuosity and development of point bars on inside curves. Another influencing factor is the width and type of vegetation present with the riparian corridor. In the southern portion of the property the width of the riparian buffer increases and may be directly correlated to the stability of the stream channel and banks.

Stream 12 and the group of ephemeral streams evaluated together exhibited similar characteristics. These streams are relatively stable, with some vertical cutting of the banks observed. All of these

streams have average species diversity and all vegetation structures are present. Streams 4 and 17 only have herbaceous species present within the riparian corridor and no mature species were observed. Both Streams 4 and 17 are stable streams with no downcutting or vertical cutting banks observed. Both of these streams are straight channels. Stream 17 is dominated by cattail and had the potential for water quality concerns since it receives runoff directly from an adjacent railroad right-of-way and from the adjacent residential development that is located upstream. All of these factors contributed to the lower score for Stream 17.

The majority of Stream 9 is located in an upland setting. It exhibits a narrow wooded riparian corridor which is absent of mature species. The area surrounding Stream 9 has been farmed in the past which has contributed to the erosion and sedimentation observed within the stream. A large amount of trash situated within the channel of the stream that could result in water quality concerns. The stream is relatively straight with an active headcut at the headwaters of the stream.

The majority of the forested wetlands, herbaceous wetlands, and the open water pond are highly functional. They all provide filtration of water runoff before it enters Stewart Creek. None of these areas exhibited any signs of instability by erosion or human disturbances. They are all dependent on runoff from adjacent streams and uplands and some are dependent on floodwater from Stewart Creek. As a result, all of the wetlands and open water experience fluctuation of water levels due to the dependence on precipitation for hydrology.

Construction of the proposed project (Exhibits 10 through 13 of 22) would impact approximately 7,589 linear feet (3.44 acres) of perennial stream, 104 linear feet (0.01 acre) of intermittent stream, 5,318 linear feet (0.40 acre) of ephemeral stream, 0.46 acre of open water, 1.03 acres of forested wetlands, and 0.07 acre of herbaceous wetlands (**Table 3**). The total impact to waters of the U.S. would be 5.41 acres with approximately 2,500 cubic yards of fill material being placed in waters of the U.S. The majority of the impacts would result from the construction of three on-channel lakes. Other impacts would be associated with park roads that would provide access from main thoroughfares to the north and south of the proposed park, the construction of a parking area for the park, and bank stabilization along Stewart Creek below the southernmost dam. Representative cross-sections of proposed impacted areas are provided in Exhibits 14 through 19 of 22.

**Table 3: Proposed Impacts to Waters of the U.S.**

| Waters of the U.S. | Classification | Approximate Linear Length (Feet) | Approximate Area (Acres) |
|---|---|---|---|
| **Potential Impacts Resulting from Upper Pool** | | | |
| Stream 1 – Stewart Creek | Perennial Stream | 2,855 | 1.36 |
| Stream 2 | Ephemeral Stream | 143 | 0.02 |
| Stream 3 | Ephemeral Stream | 282 | 0.02 |
| Forested Wetland 1 | Forested Wetland | -- | 0.06 |
| Forested Wetland 2 | Forested Wetland | -- | 0.06 |
| **Total Impact at Upper Pool:** | | **3,280** | **1.52** |
| **Potential Impacts Resulting from Lower Pool** | | | |
| Stream 1 – Stewart Creek | Perennial Stream | 675 | 0.29 |

**Table 3: Proposed Impacts to Waters of the U.S.**

| Waters of the U.S. | Classification | Approximate Linear Length (Feet) | Approximate Area (Acres) |
|---|---|---|---|
| Forested Wetland 3 | Forested Wetland 3 | -- | 0.02 |
| | **Total Impact at Lower Pool:** | **675** | **0.31** |
| **Potential Impacts Resulting from Activity Lake** | | | |
| Stream 1 – Stewart Creek | Perennial Stream | 3,300 | 1.43 |
| Stream 4 | Ephemeral Stream | 125 | 0.01 |
| Herbaceous Wetland 1 | Herbaceous Wetland | -- | 0.07 |
| Pond 1 | Open Water | -- | 0.46 |
| Stream 5 | Ephemeral Stream | 710 | 0.05 |
| Stream 6 | Ephemeral Stream | 540 | 0.06 |
| Stream 7 | Ephemeral Stream | 346 | 0.04 |
| Stream 7a | Ephemeral Stream | 602 | 0.04 |
| Stream 7b | Ephemeral Stream | 76 | 0.003 |
| Stream 7c | Ephemeral Stream | 389 | 0.03 |
| Stream 7d | Ephemeral Stream | 285 | 0.007 |
| Stream 7e | Ephemeral Stream | 242 | 0.01 |
| Stream 8 | Ephemeral Stream | 208 | 0.02 |
| Stream 8a | Ephemeral Stream | 79 | 0.007 |
| | **Total Impact at Activity Lake:** | **6,902** | **2.24** |
| **Potential Impacts from Proposed Park Roads** | | | |
| Forested Wetland 3 | Forested Wetland | -- | 0.89 |
| Stream 12 | Intermittent Stream | 104 | 0.01 |
| Stream 15 | Ephemeral Stream | 288 | 0.03 |
| Stream 15 | Ephemeral Stream | 65 | 0.01 |
| | **Total Impact from Park Roads:** | **457** | **0.94** |
| **Potential Impact From Proposed Parking Areas and Festival Green** | | | |
| Stream 9 | Ephemeral Stream | 938 | 0.04 |
| | **Total Impact from Parking Areas:** | **938** | **0.04** |
| **Potential Impact from Bank Protection along Stewart Creek** | | | |
| Stream 1- Stewart Creek | Perennial Stream | 759 | 0.36 |
| | **Total Impact from Bank Protection:** | **759** | **0.36** |
| | **TOTAL IMPACTS TO WATERS OF THE U.S.:** | **13,011** | **5.41** |

During project planning, the applicant considered six alternatives in an effort to avoid and minimize adverse impacts to waters of the U.S. These alternatives included the Proposed Alternative, four Alternative Actions, and a No Action Alternative. A brief description of the alternatives analysis for the project is provided in **Table 4** with more details given in the following paragraphs.

**Table 4. Summary of Alternatives Analysis**

| Alternative | Approximate Area of On-Channel Impoundment (surface acres) | Approximate Impact to Waters of the U.S. (linear feet) | Approximate Impact to Waters of the U.S (acres) |
|---|---|---|---|
| Proposed Alternative | 16.5 | 13,011 | 5.41 |
| Alternative 1 – Civic Plaza | 32 | 18,000 | 7.2 |
| Alternative 2 – Festival Frisco | 16 | 4,100 | 3.2 |
| Alternative 3 – Great Lake | 6.0 | 2,200 | 3.2 |
| Alternative 4 – Master Plan Concept Revision | 22 | 11,000 | 4.7 |

Applicant's Preferred Alternative

The proposed alternative would include the construction of three lakes on Stewart Creek (Exhibit 20 of 22). This alternative will flood 7,589 linear feet of Stewart Creek. The Upper Pool would be located east of the Dallas North Tollway and would consist of two lakes that would cover approximately 7.3 surface acres. The Lower Pool would be located west of the Dallas North Tollway and would consist of two lakes that would cover approximately 3.4 surface acres. The third lake (Activity Lake) would be located directly downstream of the Lower Pool and would cover approximately 14.0 surface acres. Additionally, 759 linear feet of Stewart Creek would be impacted by bank stabilization activities downstream of the dam for the Activity Lake. Approximately 0.89 acre of forested wetland would be impacted by a road crossing that would provide access to Grand Park from Cotton Gin Road. An additional road would impact 104 linear feet of intermittent stream and 353 linear feet of ephemeral stream. This road way would provide access to Grand Park from Stonebrook Parkway. A parking lot area located just to the west of the Activity Lake would also impact 938 linear feet of ephemeral stream.

The objective of the Applicant's Preferred Alternative would be to focus recreational activities around the three lakes. The Upper Pool would serve as a gathering place for the proposed Civic Complex, where a group pavilion and waterfront promenade is proposed. The Lower Pool would also include a waterfront promenade, a hike/bike trail that would provide interaction to riparian corridor to the north of the Lower Pool, and a festival hall that would be located on the waterfront in association with the waterfront promenade. The Activity Lake would provide many water-based recreational activities, including fishing and boating (paddle and row boats). A hike/bike trail would be located around the perimeter of the Activity Lake and a children's playground would be located along the lake edge that would include a carousel, covered group pavilion, and picnic areas.

The remaining areas within the park would be a mix of open space and mixed-use development. Over 150 acres of the park would remain as open space in both upland areas and the remaining (i.e., downstream) portions of Stewart Creek, its associated tributaries, and their riparian corridors. The upland open space areas would include a trail network, a festival greenway and performance stage, and overflow parking areas for park users (i.e. overflow parking on grassy areas, not paved). The riparian corridor of Stewart Creek would have a network of nature trails and a proposed miniature train would traverse the corridor. The northwestern portion of the project area would include a mixed-use development. The entire portion of the mixed-use development would be built in uplands, resulting in no impacts to waters of the U.S.

The applicant selected this alternative because it achieves the project goal of providing the recreational activities that the City of Frisco plans to provide for their citizens and activities that would attract citizens to utilize the park. Additionally, the applicant intends to provide green space along Stewart Creek from the heart of the city to Lake Lewisville. The proposed Grand Park project would be the first major step to achieve the applicant's goal.

Alternative 1 – Civic Plazas

This alternative would include the construction of a chain of four lakes along Stewart Creek, which would total approximately 32 acres of surface water. This alternative also proposes the inclusion of a youth/extreme sports complex and mixed-use development along the northwest and southeast corners of the project site. The Civic Plaza concept includes the development of multiple pavilion areas within the park and the development of a garden space near the center of the project site. The northeastern portion of the project site would be dedicated to a performance art center with associated parking and retail space.

Impacts to waters of the U.S. would increase due to the addition of a fourth lake. The majority of Stewart Creek within the project area would be impacted. Additionally, multiple road crossings were proposed at Stewart Creek and its associated tributaries. The addition of a mixed-use development in the southeast corner of the project site would also cause additional impacts to tributaries of Stewart Creek. This expansion would result in an increase of approximately 1.8 acres in impacts to waters of the U.S. as compared to the preferred alternative.

This alternative was not selected by the applicant because of the increased impacts to waters of the U.S. The chain of lakes would extend along a longer portion of Stewart Creek. Additionally, the City felt the amount of hard plaza/paved area was excessive. The City wanted more green space for community gatherings. The Civic Plaza concept divided the park into many small spaces that would not allow for large group events and could not meet the applicant's proposed purpose.

Alternative 2 – Festival Frisco

This alternative would include the construction of two on-channel lakes along Stewart Creek, which would create approximately 16 acres of surface water. This alternative would also include a stage/amphitheater that could provide opportunities for open-air movies, festivals, and concerts within the central portion of the park. A festival hall would also be constructed that could accommodate large group events for members of the community. This alternative would also provide high impact zones including a Kid's Place with a train and carousel, a youth zone with extreme sports, and a performance arts center. Additionally, retail/housing developments would be located in the northern and southwest upland portions of the park. This alternative would allow approximately half of Stewart Creek within the project area to remain as a natural riparian corridor.

While impacts to Stewart Creek would be reduced due to the reduction of on-channel impoundments, the impacts to Forested Wetland 3 would significantly increase over the proposed alternative. Over half of this forested wetland would be impacted by the lower on-channel impoundment.

Alternative 3 – Great Lake

This alternative would include the construction of one on-channel lake along Stewart Creek with a surface area of approximately six acres. Additionally, one large lake would be constructed within uplands near the center of the park. This alternative would focus recreational opportunities around the large upland lake. A building would also be constructed at the large upland lake that would

provide a place for civic gatherings. High impact zones would include a civic plaza on the large upland lake with active fountain features and a marina café that would provide waterfront dining. Paddle boats and canoe rentals would be available for use on the large lake as well as fishing opportunities. Approximately three-quarters of Stewart Creek within the project area would remain as a natural riparian corridor.

Impacts to Stewart Creek would be greatly reduced by this alternative because only one on-channel pond is proposed. However, like Alternative 2, the location and width of the on-channel pond would cause significant impacts to Forested Wetland 3.

The cost associated with building the upland lake was not feasible to the applicant. Additionally, this alternative would reduce the amount of open green space in the center of the park and would also limit the amount of space for large group events within the park.

Alternative 4 – Master Plan Concept Revision

This alternative would include the construction of three on-channel lakes on Stewart Creek, which would total approximately 22 acres of surface water. The recreational opportunities would be relatively similar to that of the preferred alternative. The main difference between the preferred alternative and this alternative would be the addition of an island within the activity lake (southernmost lake). This would require the majority of the eastern shore to be reinforced with a hard edge.

Impacts to Stewart Creek would be similar to that of the preferred alternative and impacts to other waters of the U.S. would be relatively similar to that of the preferred alternative.

The City determined the island concept to be impracticable because of the increased cost associated with the development of the park and the amount hard edge along the lake shore. There was also a safety concern with the propose Kid's Place being completely surrounded by water.

No Action Alternative

The no-action alternative would include no construction of any kind on the subject property. This alternative was not considered viable due to the fact that it would not allow for the development of the property in a park, therefore not meeting the goals of the applicant. Additionally, the park is not developed, the applicant will most likely not retain ownership of the property. Due to the location of the project site adjacent to a major railroad line and the Dallas North Tollway, the project site would be a prime location for commercial or residential development. This likely development would almost certainly include direct impacts to waters of the U.S. and would definitely include indirect impacts to the waters. Perhaps more importantly, private development of the property would likely restrict public access to the Stewart Creek corridor, which would not be in the interest of the citizens of Frisco. The plan for a contiguous open space and riparian corridor along Stewart Creek to Lake Lewisville would not occur. Most likely, development along the Dallas North Tollway corridor would intensify the pressure to develop the proposed project site in the future.

The applicant believes they have taken all practicable measures to avoid and minimize impacts to waters of the U.S. The applicant plans to avoid and minimize impacts to waters of the U.S. by retaining 1,796 linear feet of Stewart Creek, 2,504 linear feet of intermittent stream, 7,581 linear feet of ephemeral stream, 3.12 acres of forested wetlands, and 0.73 acre of herbaceous wetlands within the southern portion of the project area in its natural state. During the design of the on-channel lake system, care was taken into consideration to avoid impacts to portions of Forested Wetland 3 by the Lower Pool.

Mitigation Area

The applicant proposes to mitigate impacts to waters of the U.S. with on-site and off-site mitigation immediately downstream at an adjoining tract (**Tables 5 and 6** and Exhibits 21 and 22 of 22). Mitigation banking credits would be used to offset any shortfall of compensation that on-site and off-site mitigation does not provide. On-site mitigation would include the preservation of 2,357 linear feet (1.11 acres) of perennial stream (Stewart Creek), 2,504 linear feet (0.32 acres) of intermittent stream, 7,468 linear feet (0.87 acre) of ephemeral streams, 3.12 acres of forested wetlands, and 0.73 acre of herbaceous wetlands. A total of 40.55 acres of wooded riparian corridor associated with the floodplain of Stewart Creek would be protected by on-site mitigation.

**Table 5. Proposed On-site and Off-site Mitigation.**

| Mitigation Element Number | Mitigation Type | Associated Waters of the U.S. | Amount of Waters of the U.S. Associated with Mitigation Activity | Wooded Riparian Corridor Associated with Mitigation Activity |
|---|---|---|---|---|
| **On-Site Mitigation** | | | | |
| 1a | Stream Preservation[1] | Stewart Creek (Perennial Stream) | 561 lf (0.27 ac) | 4.37 ac 780 ft. avg. width |
| 1b | Stream Preservation | Stewart Creek (Perennial Stream) | 1,796 lf (0.84 ac) | 18.07 ac 560 ft avg. width |
| | Stream Preservation | Streams 10 and 11 (Ephemeral Stream) | 296 lf (0.02 ac) | --[2] |
| 1c | Stream Preservation | Stream 12 (Intermittent Stream) | 2,504 lf (0.32 ac) | 11.21 a. 340 ft avg. width |
| | Stream Preservation | Streams 13 and 14 (Ephemeral Streams) | 879 lf (0.07 ac) | --[3] |
| 1d | Stream Preservation | Stream 15, 15a, 16, and 16a (Ephemeral Streams) | 3,916 lf (0.35 ac) | 5.44 ac 450 ft avg. width |
| 1e | Stream Preservation | Stream 15b and 15c (Ephemeral Stream) | 585 lf (0.05 ac) | 1.46 ac 140 ft avg. width |
| 1f | Stream Preservation | Stream 17 (Ephemeral Stream) | 1,792 lf (0.38 ac) | --[4] |
| 2a | Wetland Preservation | Forested Wetland 3 | 2.32 ac | N/A |
| 2b | Wetland Preservation | Forested Wetland 4 | 0.61 ac | --[2] |
| 2c | Wetland Preservation | Forested Wetland 5 | 0.19 ac | N/A |
| 2d | Wetland Preservation | Herbaceous Wetlands 2 and 3 | 0.73 ac | N/A |
| **Off-Site Mitigation** | | | | |
| 3 | Stream Preservation | Stewart Creek (Perennial Creek) | 4,024 lf (2.15 ac) | 19.1 ac 300 ft avg. width |
| | Stream Preservation | Streams 2 through 11b (Ephemeral Streams) | 1,853 lf (1.32 ac) | --[5] |
| | Wetland Preservation | Herbaceous Wetlands 1 to 3 | 0.03 ac | --[5] |
| | Open Water Preservation | Pond 1 | 0.18 ac | --[5] |
| 4 | Bio-Engineering | Stewart Creek | 2,259 lf (1.18 ac) | N/A |

## Table 5. Proposed On-site and Off-site Mitigation.

| Mitigation Element Number | Mitigation Type | Associated Waters of the U.S. | Amount of Waters of the U.S. Associated with Mitigation Activity | Wooded Riparian Corridor Associated with Mitigation Activity |
|---|---|---|---|---|
| | Stabilization (Eroded Bank) | (Perennial Stream) | | |
| 5 | Bio-Engineering Stabilization (Downcut Channel) | Stream 13, 17, and 17a (Ephemeral Streams) | 712 lf (0.11 ac) | N/A |
| 6 | Wetland Enhancement | Herbaceous Wetlands 4, 5, and 7 | 6.90 ac | N/A |
| 7 | Open Water Enhancement | Pond 4 | 1.29 ac | N/A |
| 8 | Stream Enhancement | Stewart Creek (Perennial Stream) | 3,699 lf (1.98 ac) | Creation of 26.6 acres of wooded riparian corridor 400 ft avg. width |

[1] Preservation includes the portion of Stewart Creek that will be armored downstream of the Activity Lake dam.
[2] Wooded riparian corridor area is included with that represented for Stewart Creek (Mitigation Element 1b).
[3] Wooded riparian corridor area is included with that represented for Stream 12.
[4] No wooded riparian corridor is associated with Stream 17.
[5] Wooded riparian corridor area is included with that represented for Stewart Creek (Mitigation Element 3).
N/A – No wooded riparian corridor is associated with the mitigation activity.

## Table 6. Total Preservation and Enhancement Provided by Mitigation Plan.

| Mitigation Type | Waters of the U.S. | Amount of Waters of the U.S. associated with the Mitigation Activity |
|---|---|---|
| **On-Site Mitigation** | | |
| Preservation | Perennial Stream | 2,357 lf (1.11 ac) |
| Preservation | Intermittent Stream | 2,504 lf (0.32 ac) |
| Preservation | Ephemeral Stream | 7,468 lf (0.87 ac) |
| **Sub-Total On-Site Stream Preservation:** | | **12,329 lf (2.30 ac)** |
| Preservation | Forested Wetland | 3.12 ac |
| Preservation | Herbaceous Wetland | 0.73 ac |
| **Sub-Total On-Site Wetland Preservation:** | | **3.85 ac** |
| ***Sub-Total On-Site Mitigation:*** | | ***12,329 lf (6.15 ac)*** |
| **Off-Site Mitigation** | | |
| Preservation | Perennial Stream | 4,024 lf (2.15 ac) |
| Preservation | Ephemeral Stream | 1,853 lf (1.32 ac) |
| **Sub-Total Off-Site Stream Preservation:** | | **5,877 lf (3.47 ac)** |
| Preservation | Herbaceous Wetlands | 0.03 ac |
| Preservation | Open Water | 0.18 ac |
| **Sub-Total Off-Site Preservation:** | | **5,877 lf (3.68 ac)** |
| Enhancement | Herbaceous Wetlands | 6.90 ac |
| Enhancement | Open Water | 1.29 ac |
| Enhancement | Perennial Stream | 5,958 lf (3.16 ac) |
| Enhancement | Ephemeral Stream | 712 lf (0.11 ac) |
| **Sub-Total Off-Site Enhancement:** | | **6,670 lf (11.46 ac)** |
| ***Sub-Total Off-Site Mitigation:*** | | ***12,547 lf (15.14 ac)*** |
| ***TOTAL OVERALL MITIGATION:*** | | ***24,876 lf (21.29 ac)*** |

Off-site mitigation would also include preservation of 4,024 linear foot perennial reach of (2.15 acres) of perennial Stewart Creek, 1,853 linear foot (1.32 acres) reach of ephemeral stream, 0.03 acre of herbaceous wetlands, and 0.18 acre of open water. Off-site mitigation would also include bank stabilization using bio-engineering techniques within three areas of Stewart Creek that are exhibiting severe erosion. This work would result in 2,259 linear feet (1.18 acres) of enhancement to Stewart Creek. Approximately, 712 linear feet (0.11 acres) of ephemeral stream channels (i.e., tributaries to Stewart Creek) that exhibit severe downcutting would also be stabilized using bio-engineering practices. Three herbaceous wetlands, totaling 6.90 acres, would be enhanced by removing invasive cattail and re-planting the wetlands with a more diverse group of wetland plant species. Fish habitat structures and tree plantings (shade for aquatic organisms and fish) would be added around the fringe of the open water feature (1.29 acres) located in the floodplain of Stewart Creek. And finally, approximately 3,699 linear feet (1.98 acres) of Stewart Creek would be enhanced by adding a wooded riparian corridor which would result in 26.6 acres of additional riparian wooded corridor along Stewart Creek.

PUBLIC INTEREST REVIEW FACTORS: This application will be reviewed in accordance with 33 CFR 320-331, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue, issue with modifications, or conditions, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

STATE WATER QUALITY CERTIFICATION: This project would result in a direct impact of greater than three acres of waters of the state or 1,500 linear feet of streams (or a combination of the two is above the threshold), and as such would not fulfill Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the Clean Water Act, and Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with State water quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. **Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087.** The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The complete application may be reviewed in the USACE's office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

ENDANGERED AND THREATENED SPECIES: The USACE has reviewed the U.S. Fish and Wildlife Service's latest published version of endangered and threatened species list to determine if any may occur in the project area. The proposed project would be located in a county where the whooping crane (*Grus americana*) and least tern (*Sterna antillarum*) are known to occur or may occur as migrants. The whooping crane and least tern are endangered species. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

NATIONAL REGISTER OF HISTORIC PLACES: The project site was surveyed for the presence of historic and prehistoric cultural resources. A historic site (41DN550), an early twentieth century homestead, was recorded during the archaeological survey. No buried cultural deposits were uncovered and no evidence of prehistoric occupation was found. Due to the dilapidated condition and modifications to the residence and the absence of diagnostic artifacts, the site is not considered eligible for nomination to the National Register of Historic Sites. Buried sites without surface expression may yet be identified during construction. Concurrence from the Texas Historic Commission, which stated no additional consultation was required, was received in a letter dated June 27, 2008. If previously unidentified sites are encountered, they will be assessed for eligibility to the National Register of Historic Places and the need for additional treatment prior to impacts.

FLOODPLAIN MANAGEMENT: The USACE is sending a copy of this public notice to the local floodplain administrator. In accordance with 44 CFR part 60 (Flood Plain Management Regulations

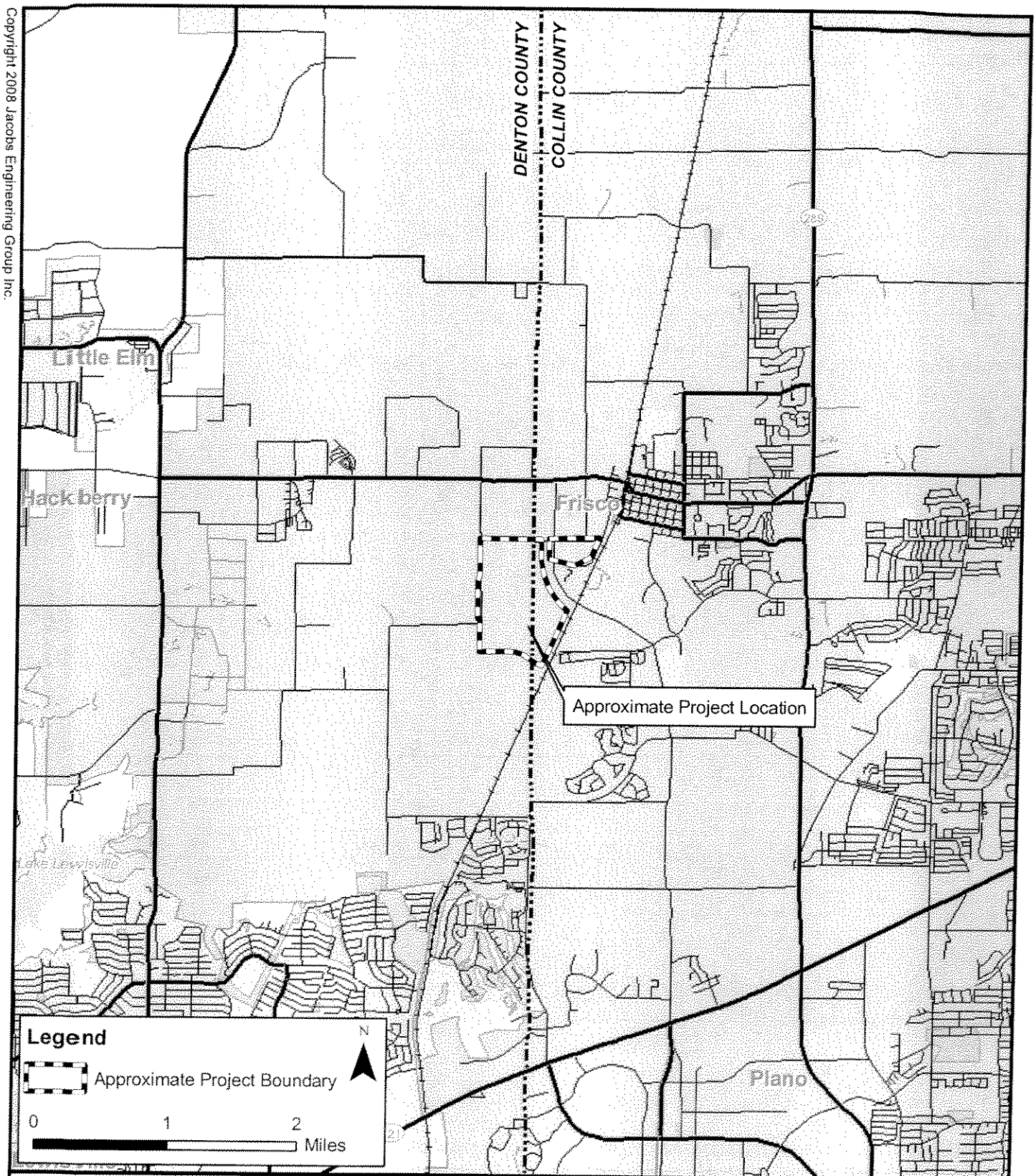
Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing information upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

PUBLIC HEARING: Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before December 1, 2008, which is the close of the comment period. Extensions of the comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to ; Regulatory Branch, CESWF-PER-R; U. S. Army Corps of Engineers; Post Office Box 17300; Fort Worth, Texas 76102-0300. You may visit the Regulatory Branch in Room 3A37 of the Federal Building at 819 Taylor Street in Fort Worth between 8:00 A.M. and 3:30 P.M., Monday through Friday. Telephone inquiries should be directed to (817) 886-1731. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

DISTRICT ENGINEER
FORT WORTH DISTRICT
CORPS OF ENGINEERS



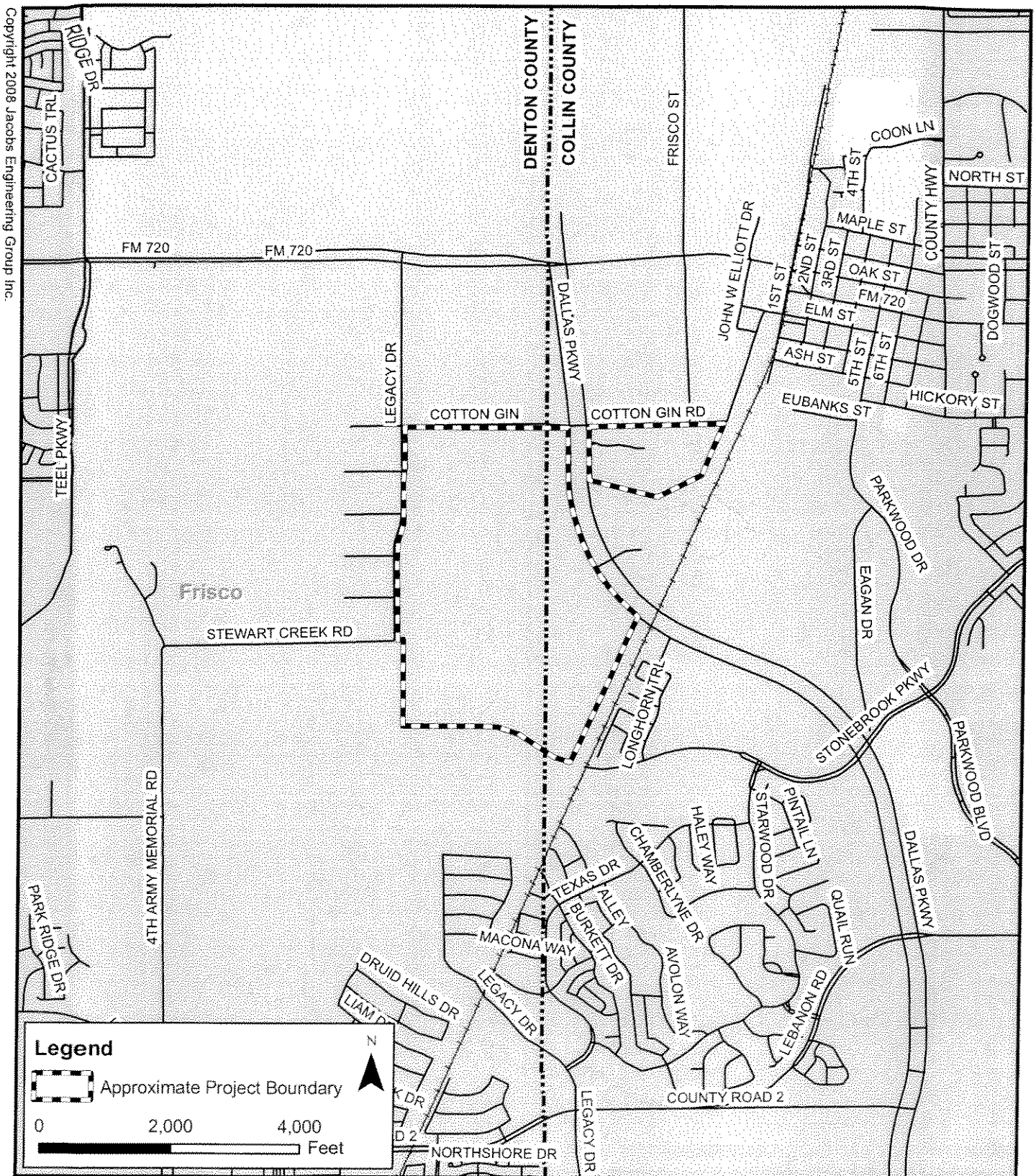

**Vicinity Map**
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

JACOBS Carter Burgess

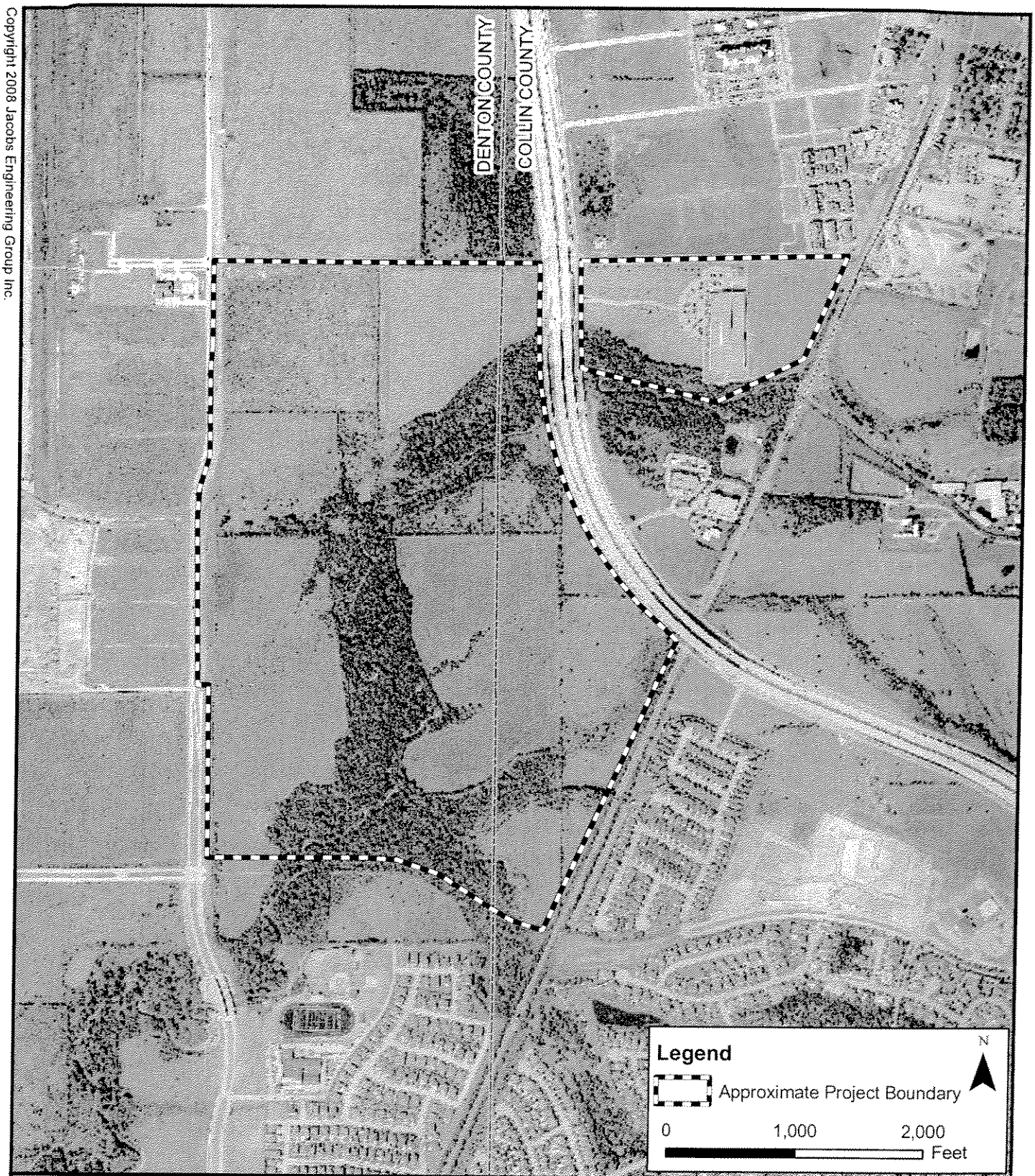
Source: Environmental Systems Research Institute (2006)

**Exhibit**

**1 of 22**




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess | **Local Area Map**<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | Source: Environmental Systems Research Institute (2006) | **Exhibit**<br>**2 of 22** |




JACOBS
Carter Burgess

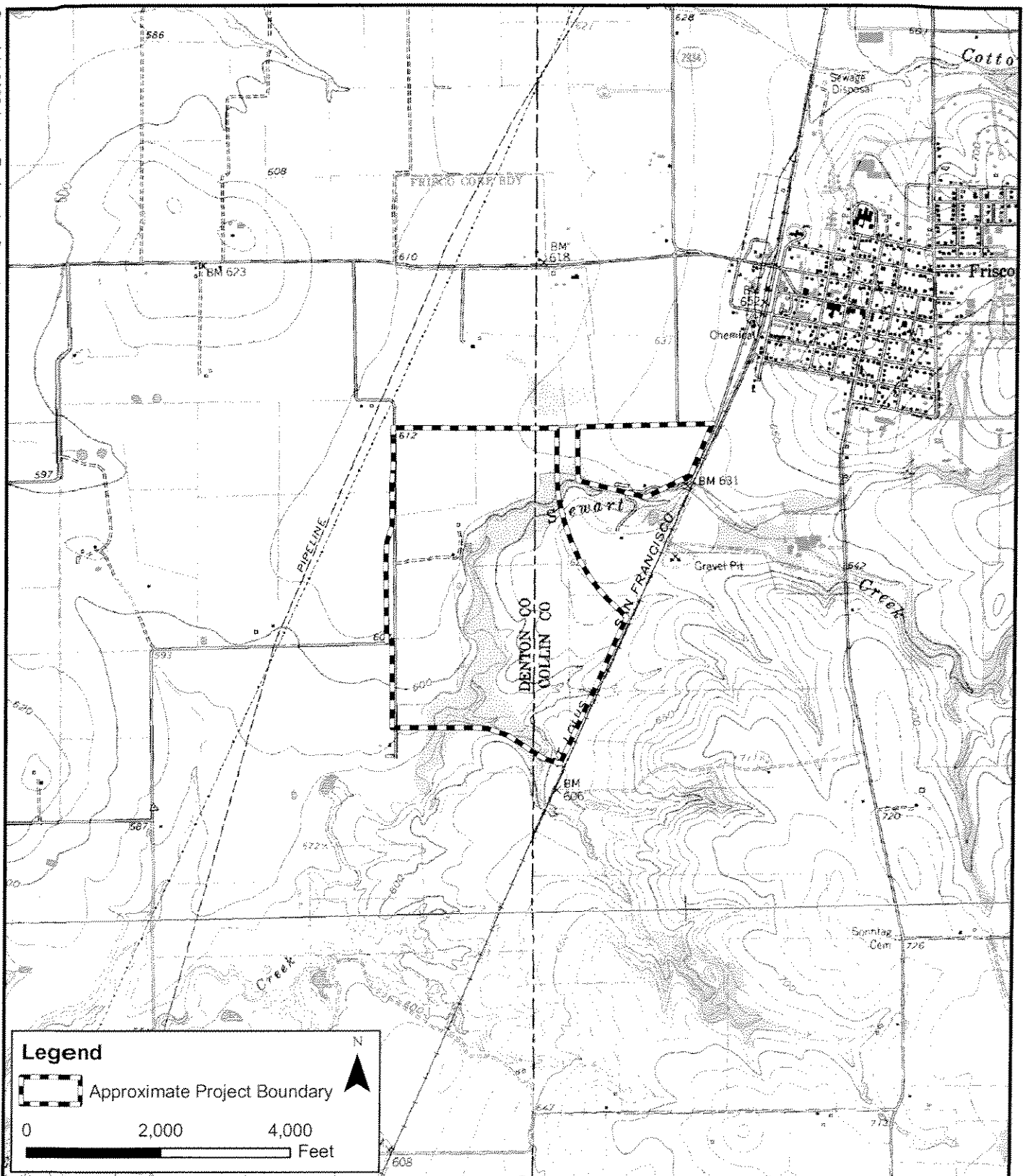
**2007 Aerial Photograph Map**

Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Source: AE Imagery (2007)

**Exhibit**

**3 of 22**



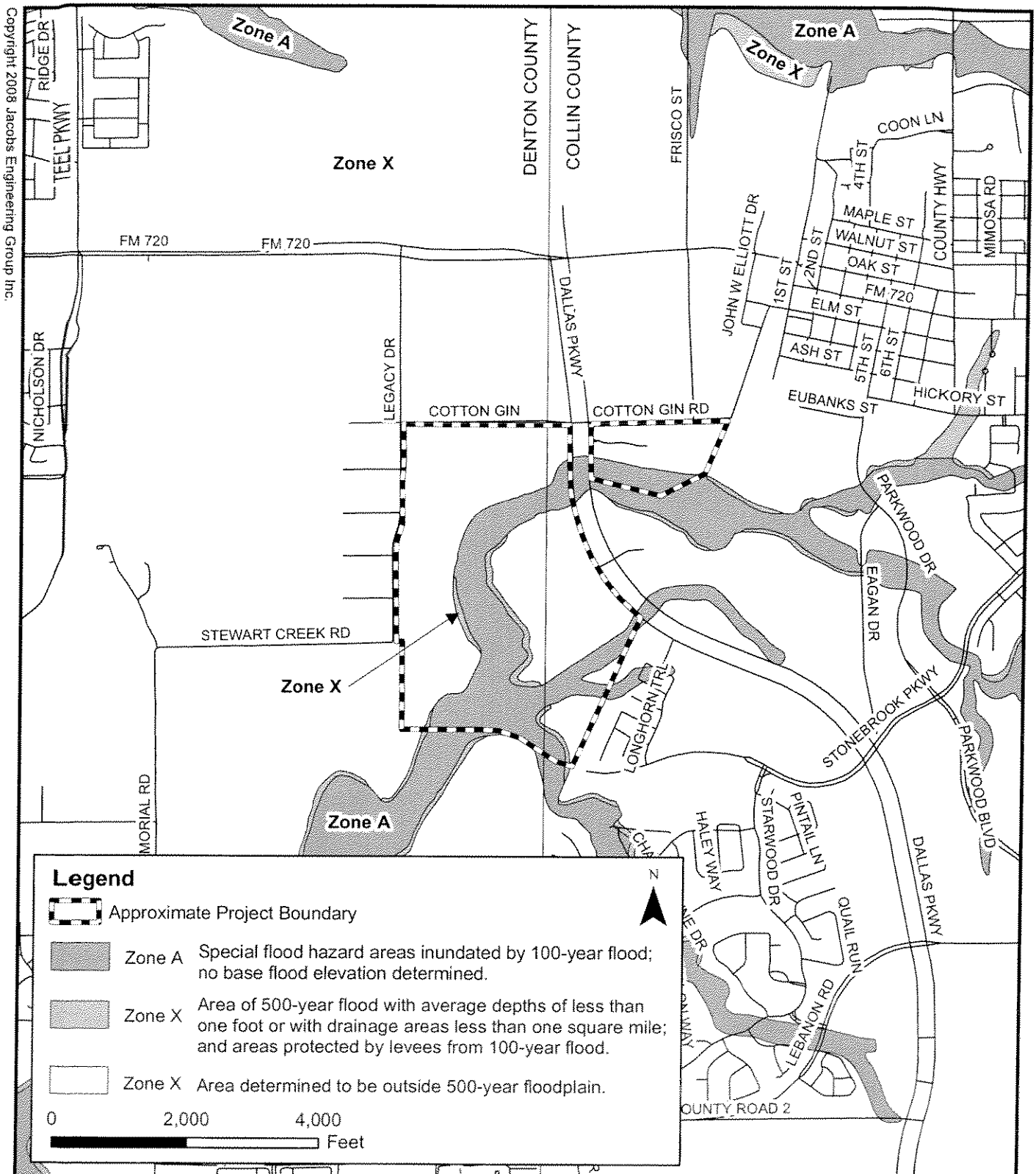

**JACOBS Carter Burgess**

**USGS Topographic Map**
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

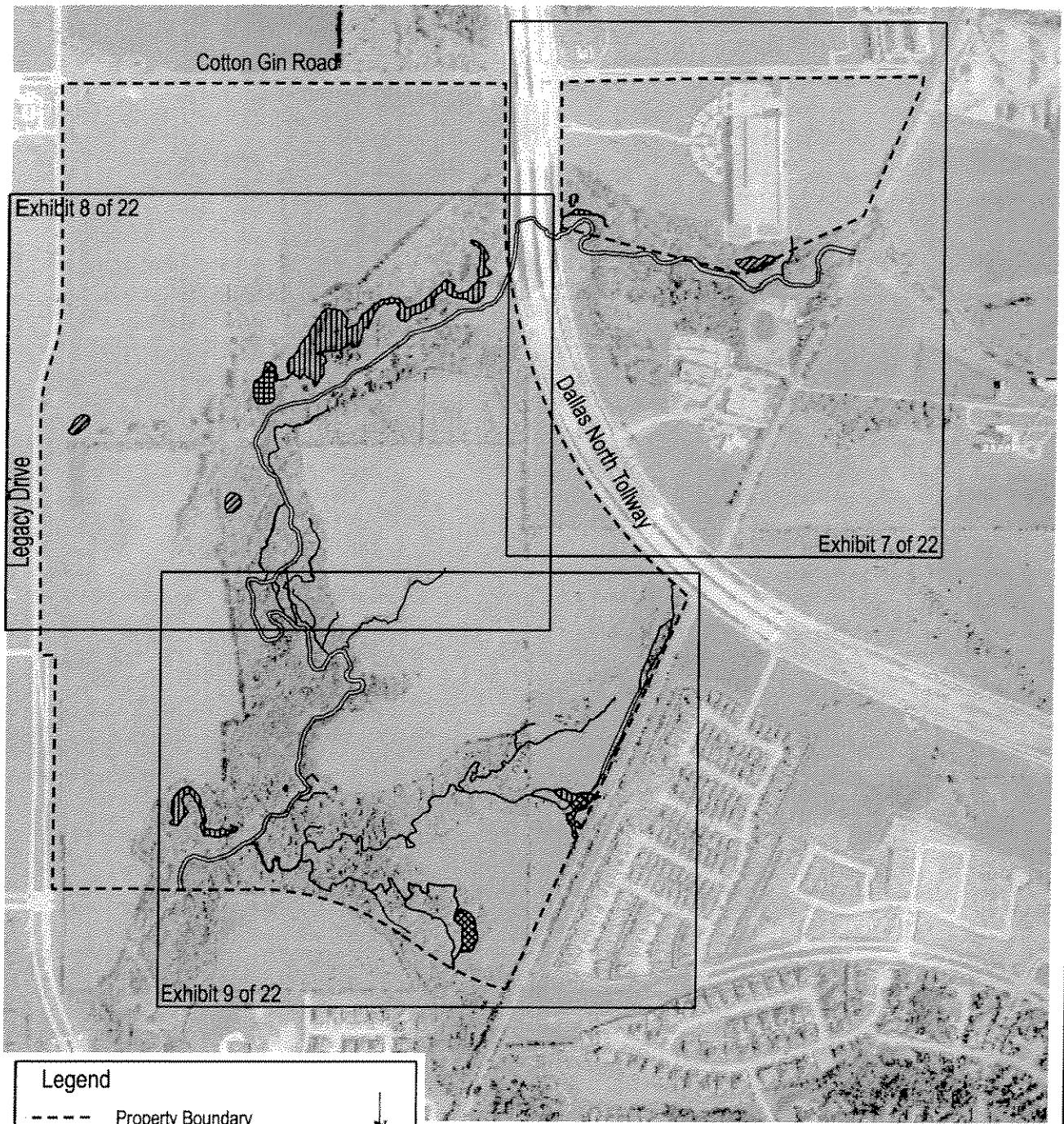
Source: Texas Natural Resources Information System
7.5 Minute Series -
Frisco (1978) and Hebron (1981) Quadrangles

**Exhibit**

**4 of 22**




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess | **Floodplain Insurance Rate Map**<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | Sources: Federal Emergency Management Agency (1991) and Texas State Data Center (2000) | **Exhibit**<br>**5 of 22** |





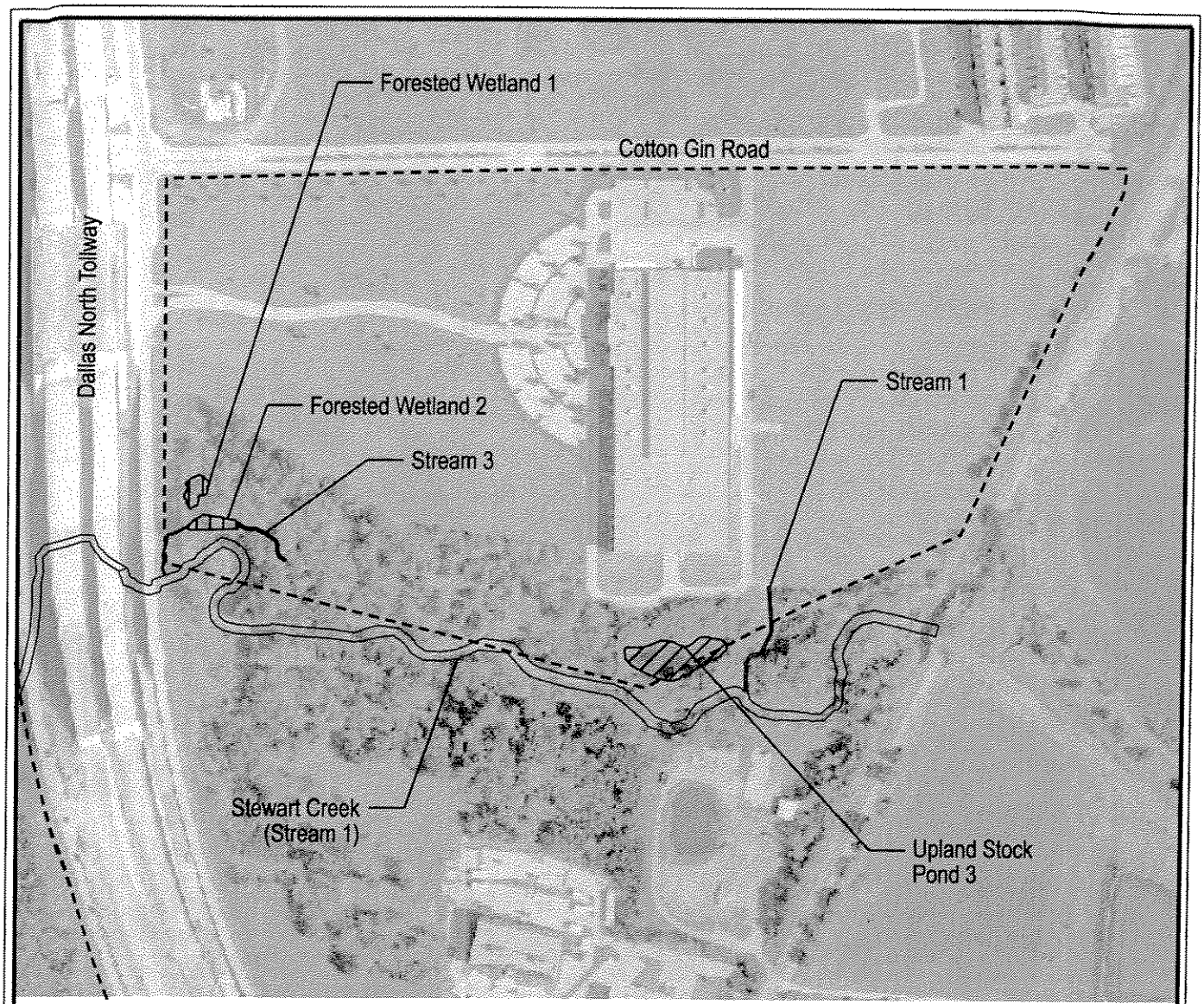

JACOBS
Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Waters of the U.S.
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
6 of
22

...\PN\3374 WOUS key sheet.sht 10/7/2008 8:17:26 AM






0 250 500 1,000

GRAPHIC SCALE IN FEET

Legend

- Property Boundary
- Open Water
- Stream
- Herbaceous Wetland
- Forested Wetland
- Upland Stock Pond

N

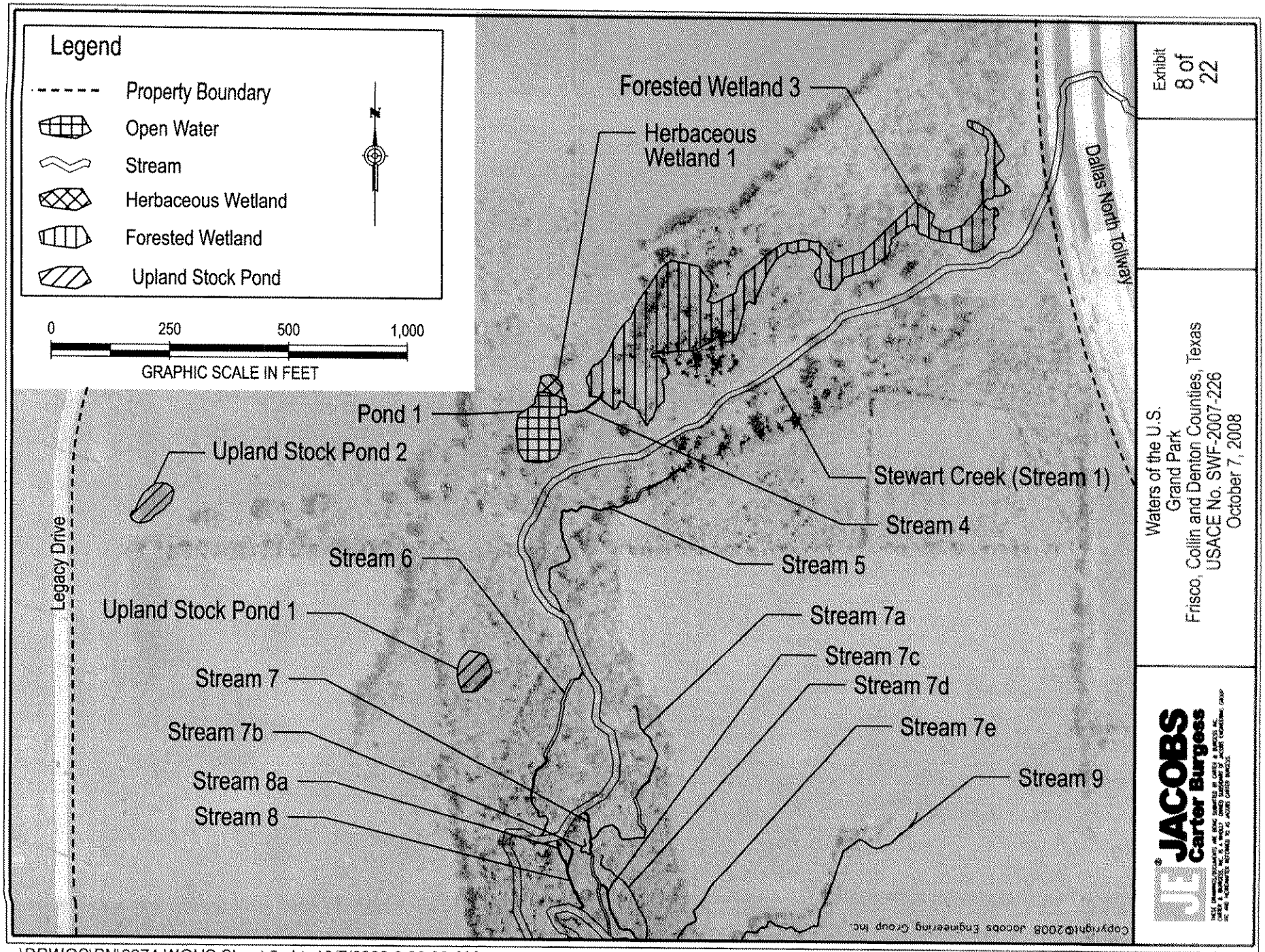
JACOBS Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

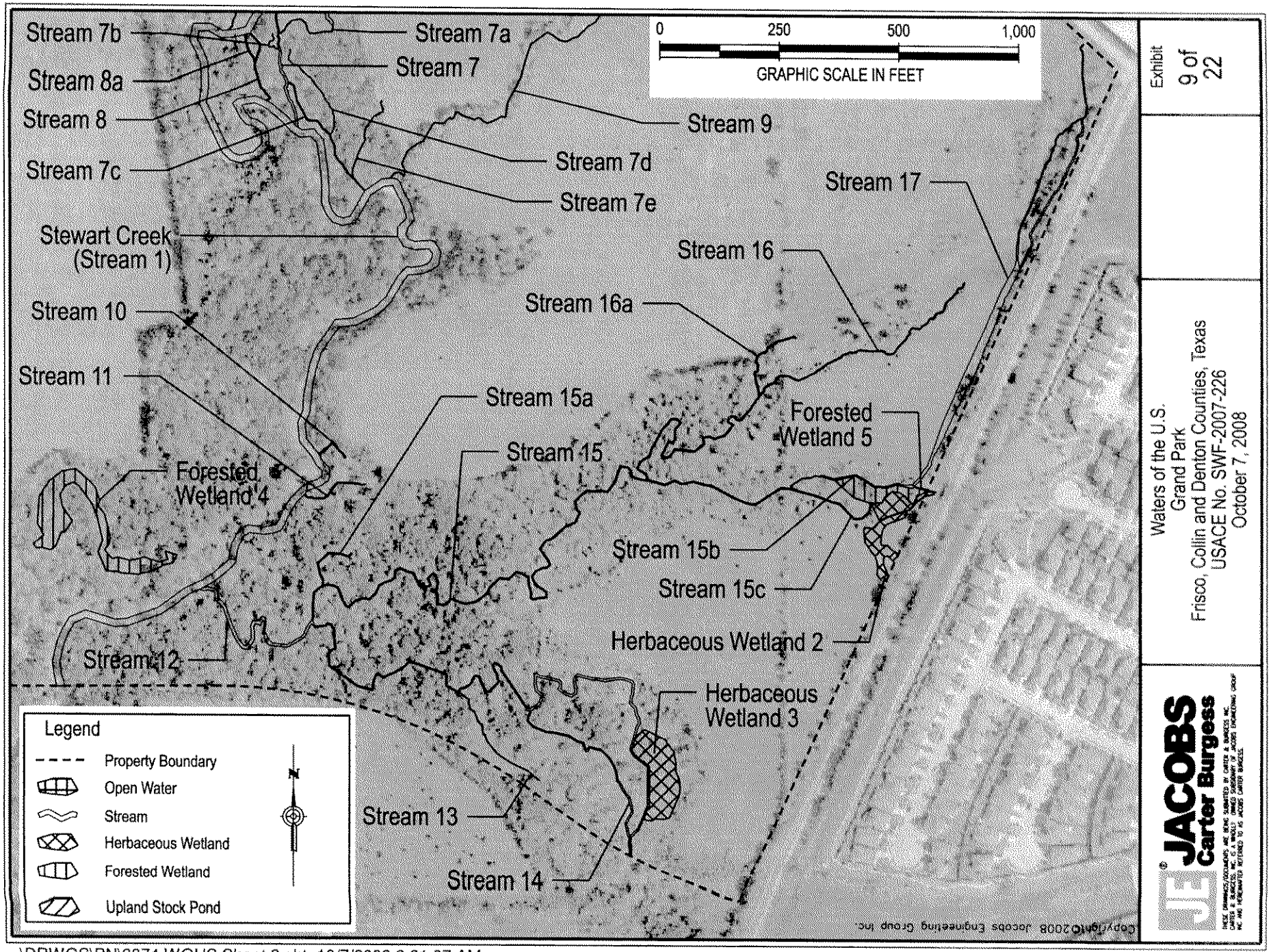
Waters of the U.S.
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
7 of
22

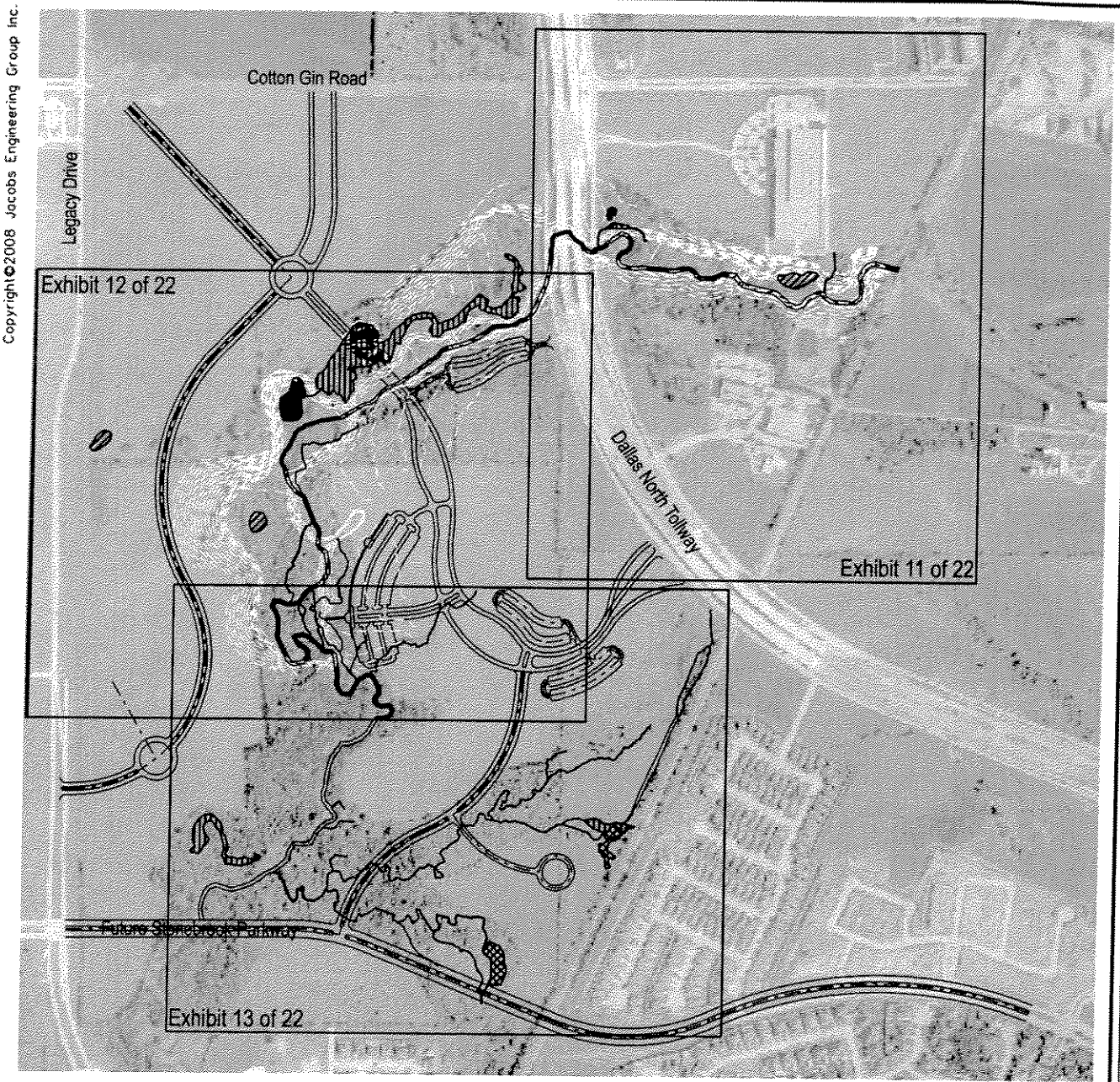
...\DRWGS\PN\3374 WOUS Sheet 1.sht 10/7/2008 8:18:56 AM




...\DRWGS\PN\3374 WOUS Sheet 2.sht 10/7/2008 8:20:02 AM




...\DRWGS\PN\3374 WOUS Sheet 3.sht 10/7/2008 8:21:07 AM




Legend

| | | | |
|---|---|---|---|
| Property Boundary | Open Water | Proposed Site Plan | |
| Impact to Open Water | Stream | Proposed Grading | |
| Impact to Stream | Herbaceous Wetland | | |
| Impact to Forested Wetland | Forested Wetland | 0 625 1,250 2,500 | |
| Impact to Herbaceous Wetland | Upland Stock Pond | GRAPHIC SCALE IN FEET | |

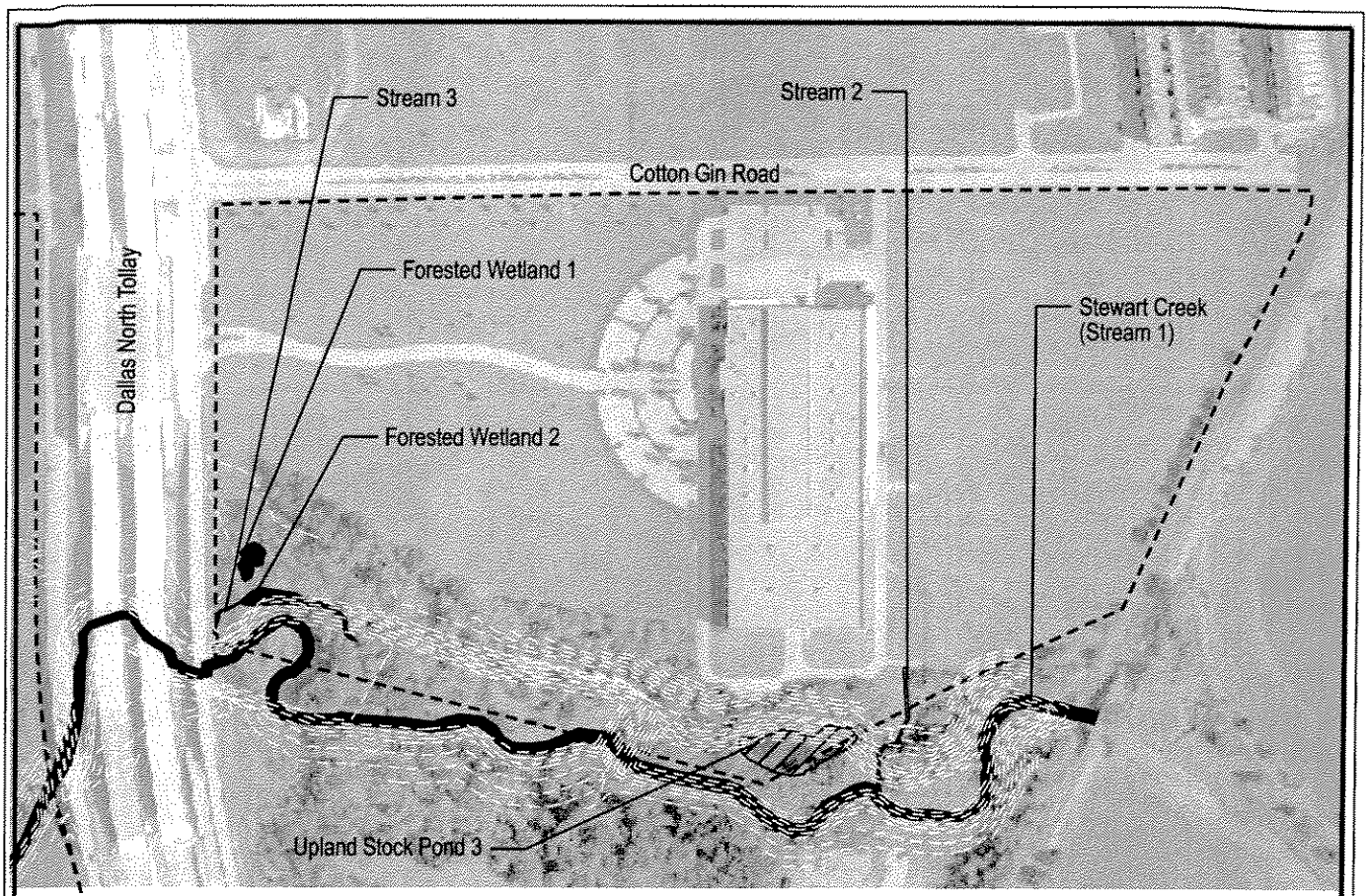
JACOBS Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS, INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC. AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Proposed Impacts to Waters of the U.S.
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit 10 of 22

...\3374 WOUS Impact key sheet.sht 10/7/2008 9:05:32 AM




0 250 500 1,000

GRAPHIC SCALE IN FEET

Legend

- Property Boundary
- Impact to Stream
- Impact to Forested Wetland
- Stream
- Forested Wetland
- Upland Stock Pond
- Proposed Site Plan
- Proposed Grading

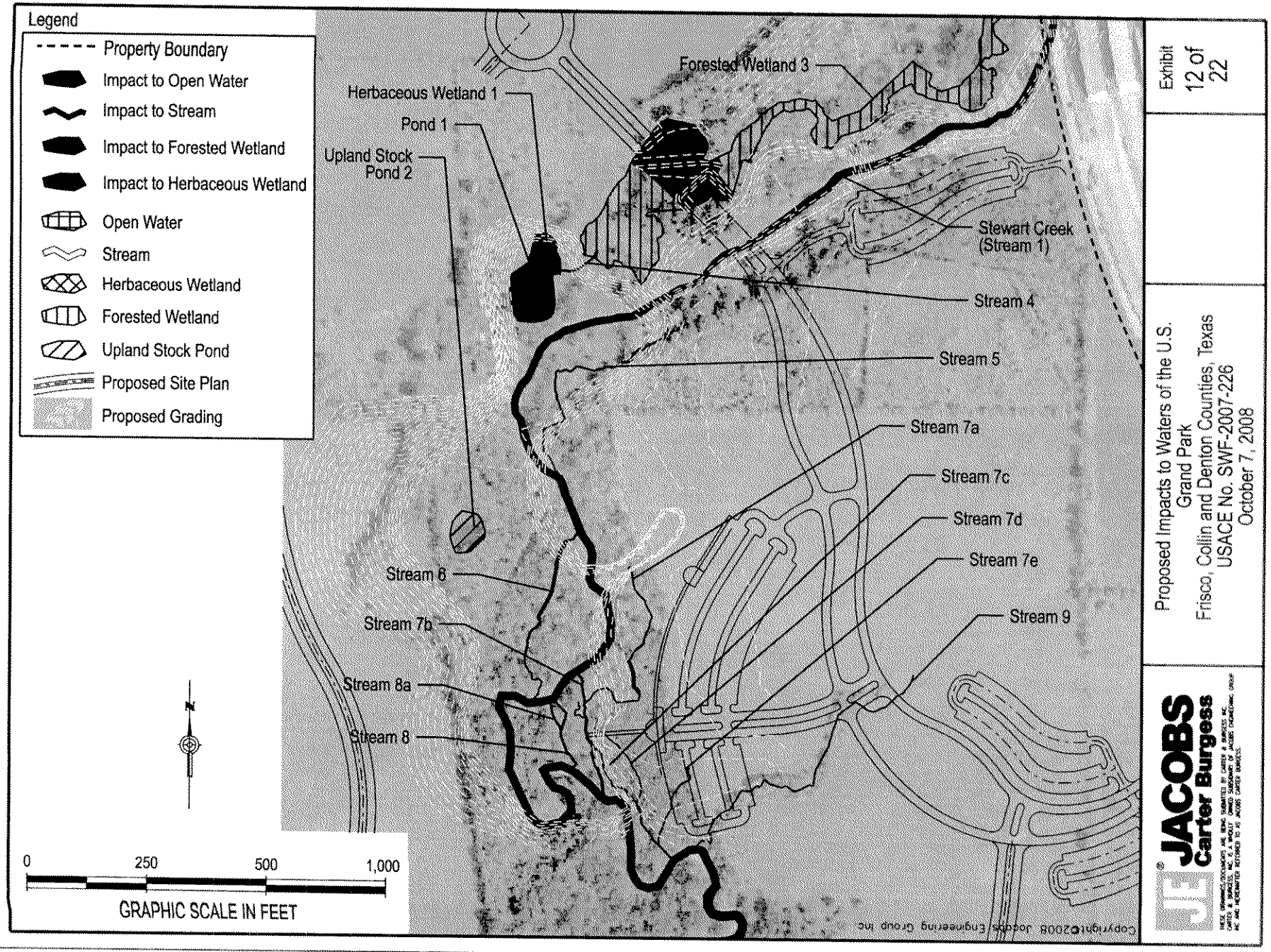


JACOBS
Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS, INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC. AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Proposed Impacts to Waters of the U.S.
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
11 of
22




...\3374 WOUS Impact sheet 2.sht 10/7/2008 9:18:12 AM

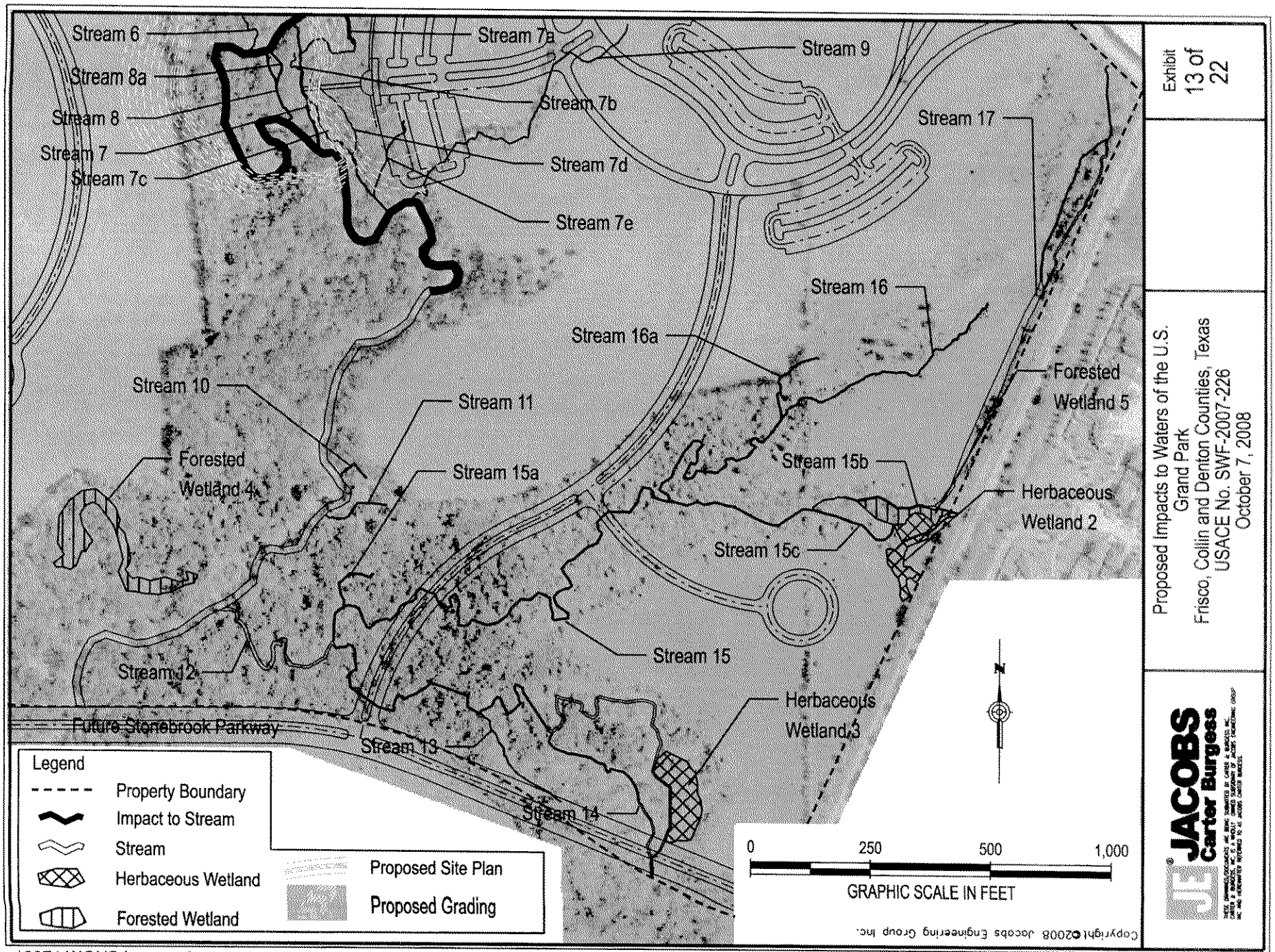
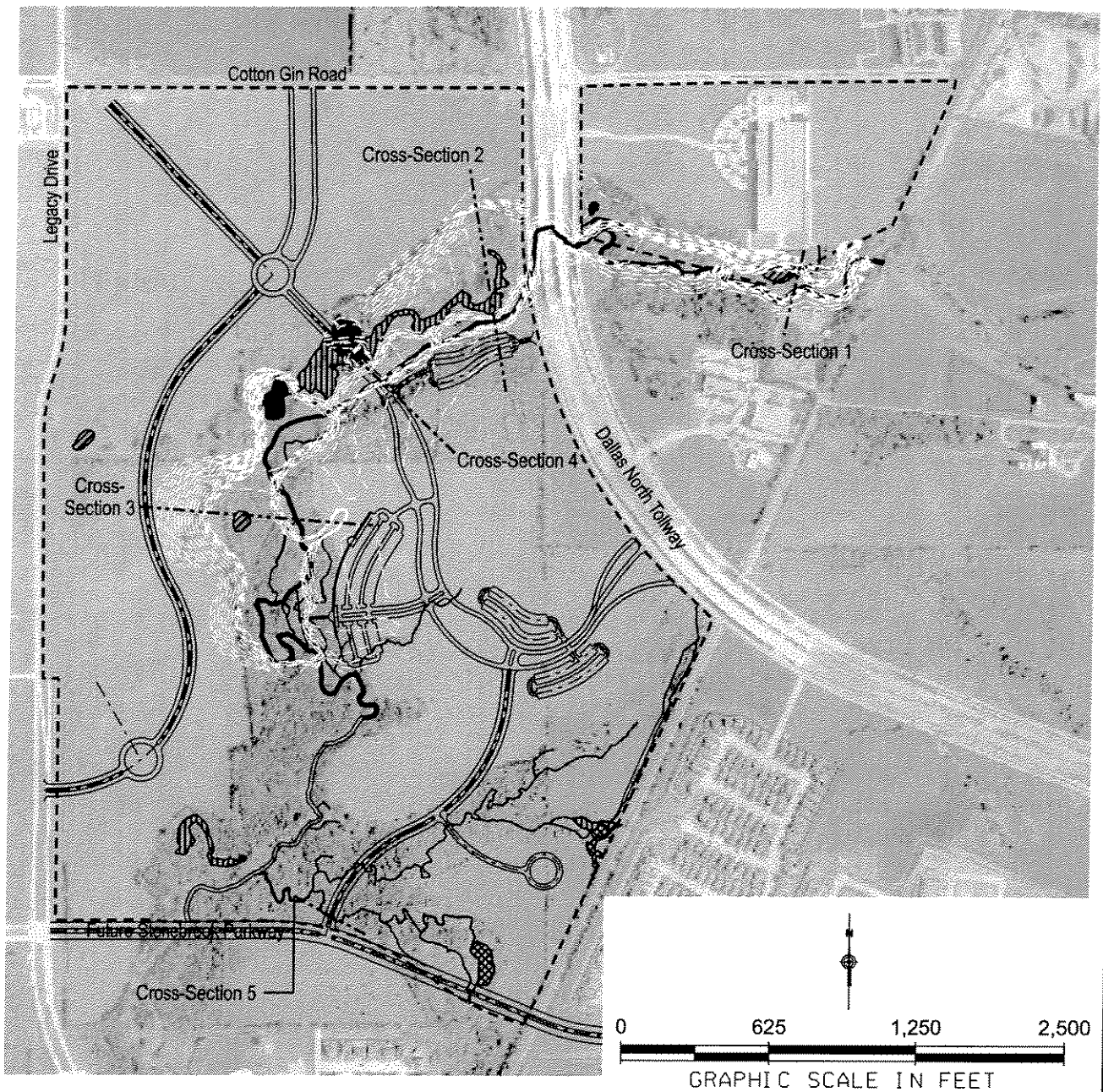



Exhibit 13 of 22

Proposed Impacts to Waters of the U.S.
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

JACOBS Carter Burgess

...\3374 WOUS Impact sheet 3.sht 10/7/2008 9:20:26 AM




## Legend

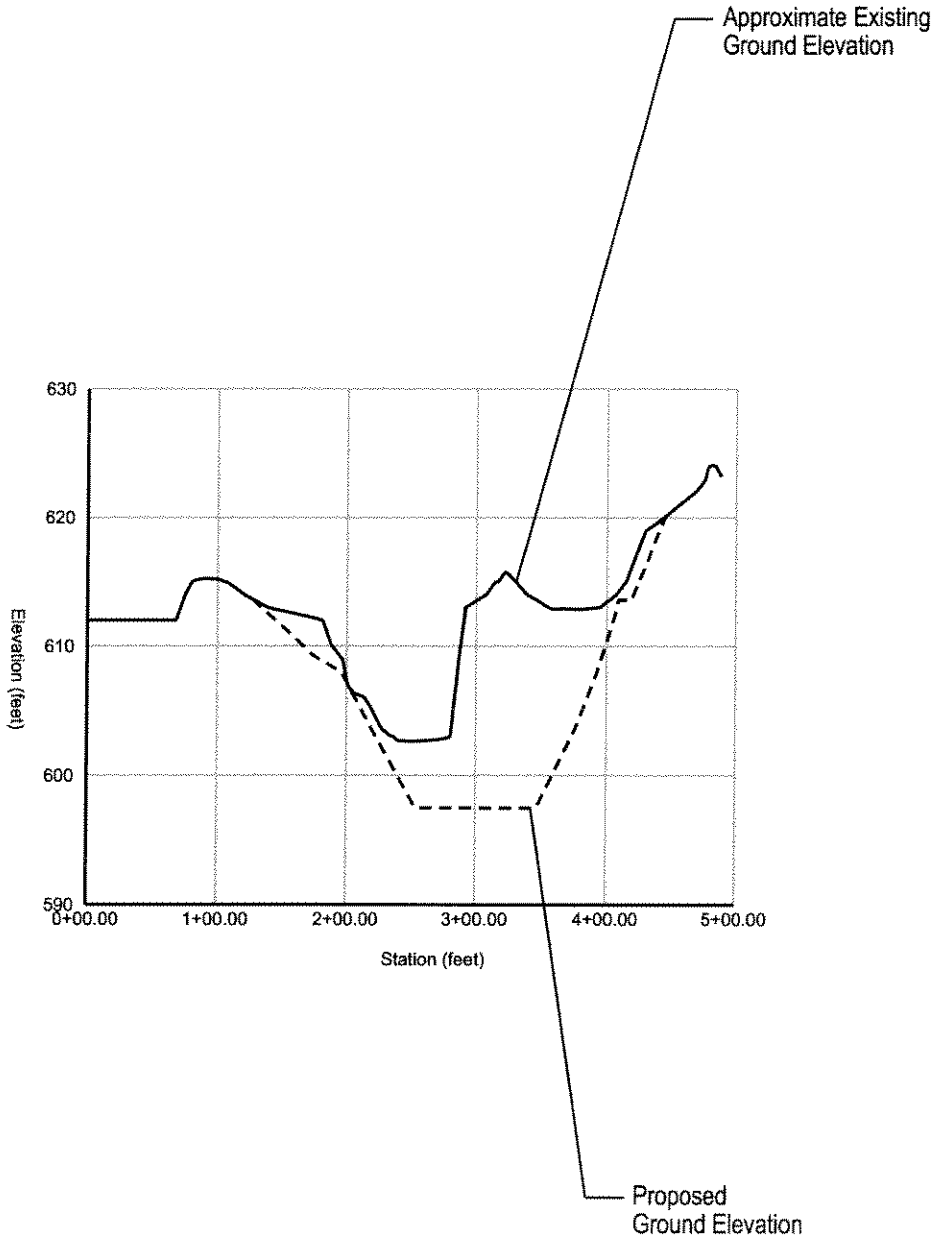
- Cross-Section Location
- Property Boundary
- Impact to Open Water
- Impact to Stream
- Impact to Forested Wetland
- Impact to Herbaceous Wetland
- Open Water
- Stream
- Herbaceous Wetland
- Forested Wetland
- Upland Stock Pond
- Proposed Site Plan
- Proposed Grading

JACOBS Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

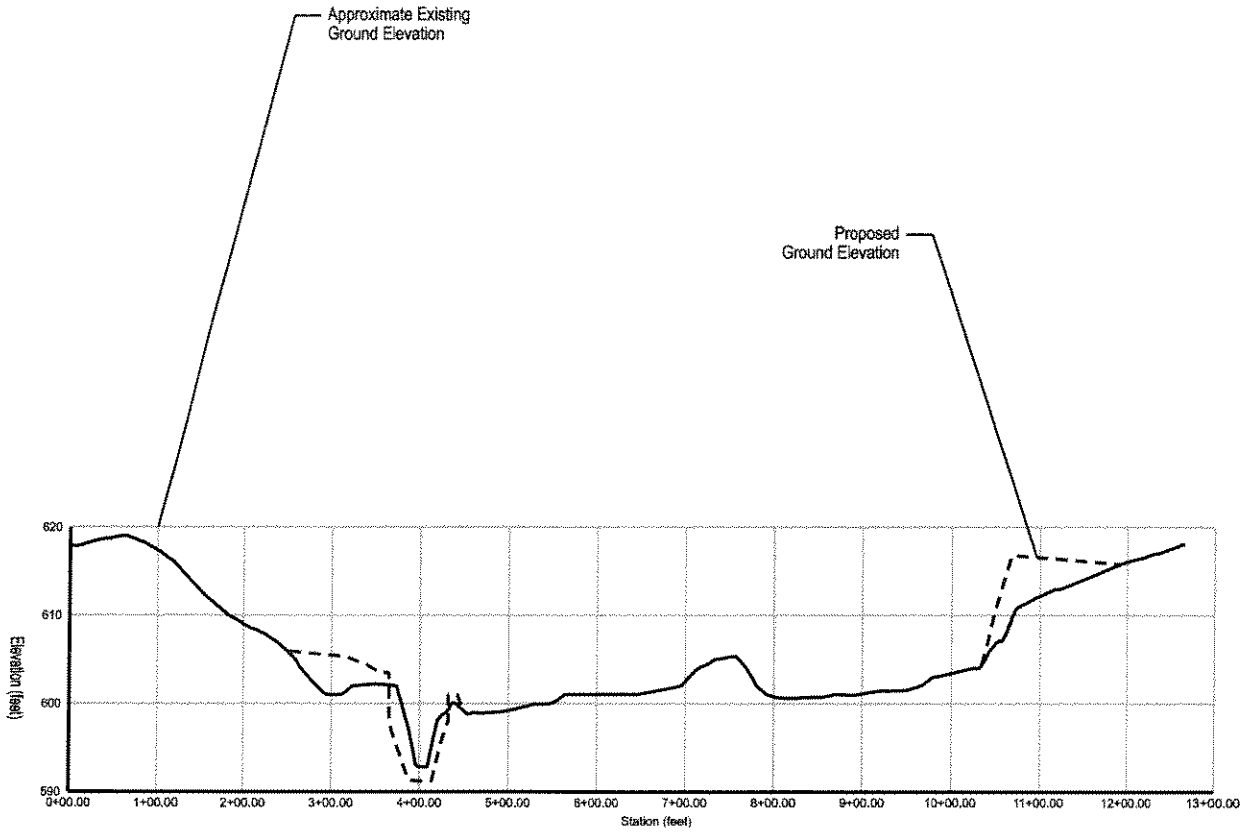
Location of Cross-Sections
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
14 of
22




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess<br>THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC. AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS. | Cross-Section 1 of Upper Pool<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | | Exhibit<br>15 of 22 |

...\404\DRWGS\PN\3374 X-sect 1.sht 10/7/2008 9:22:58 AM



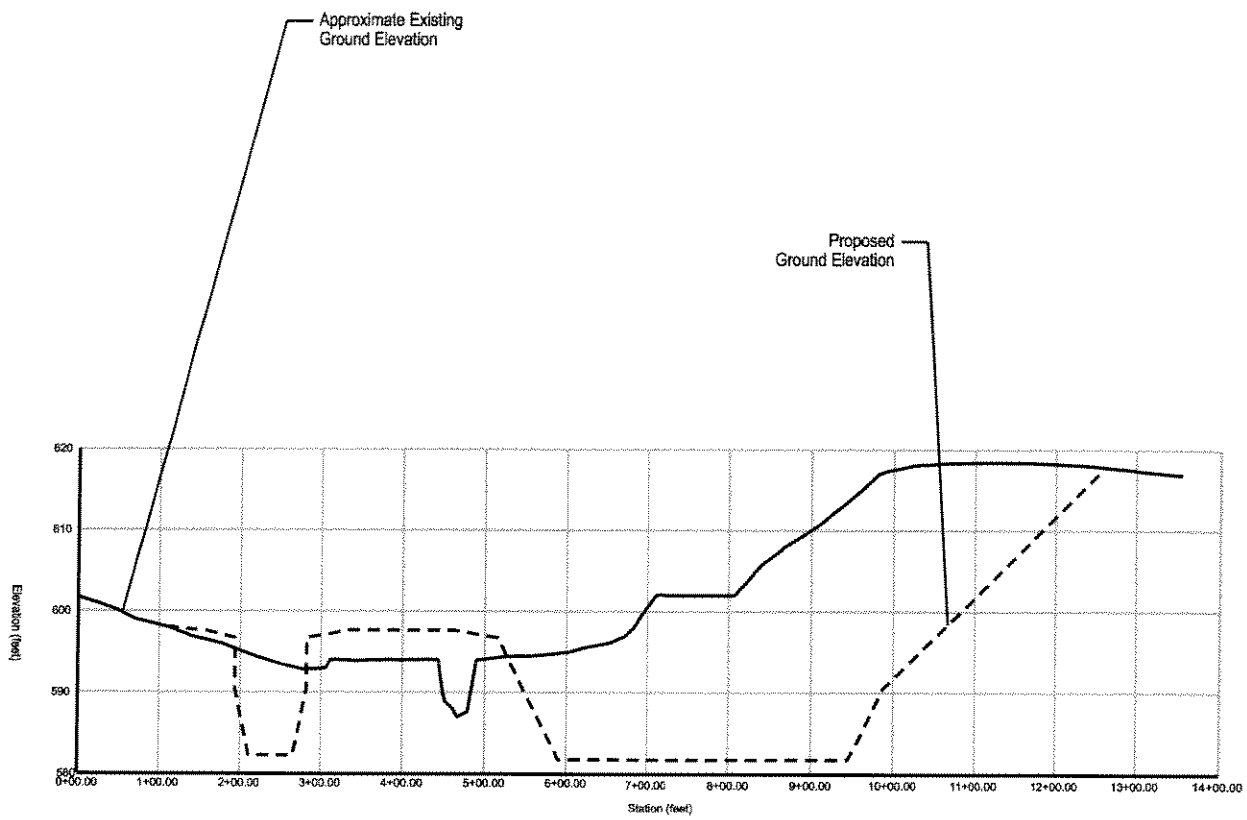

JACOBS
Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Cross-Section 2 of Lower Pool
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
16 of
22

...\404\DRWGS\PN\3374 X-sect 5.sht 10/7/2008 9:25:24 AM

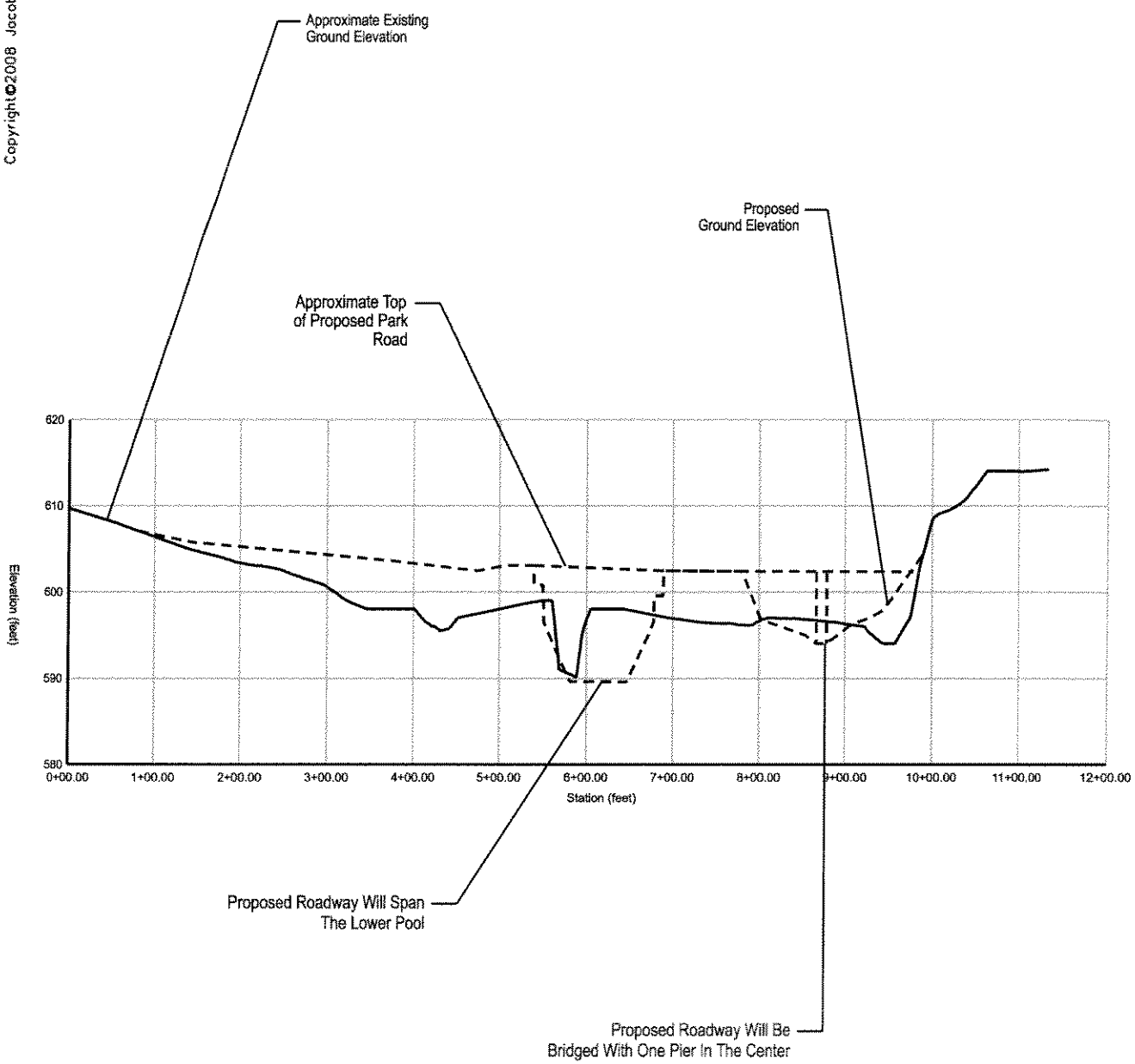



JACOBS
Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC. AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Cross-Section 3 of Activity Lake
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
17 of
22



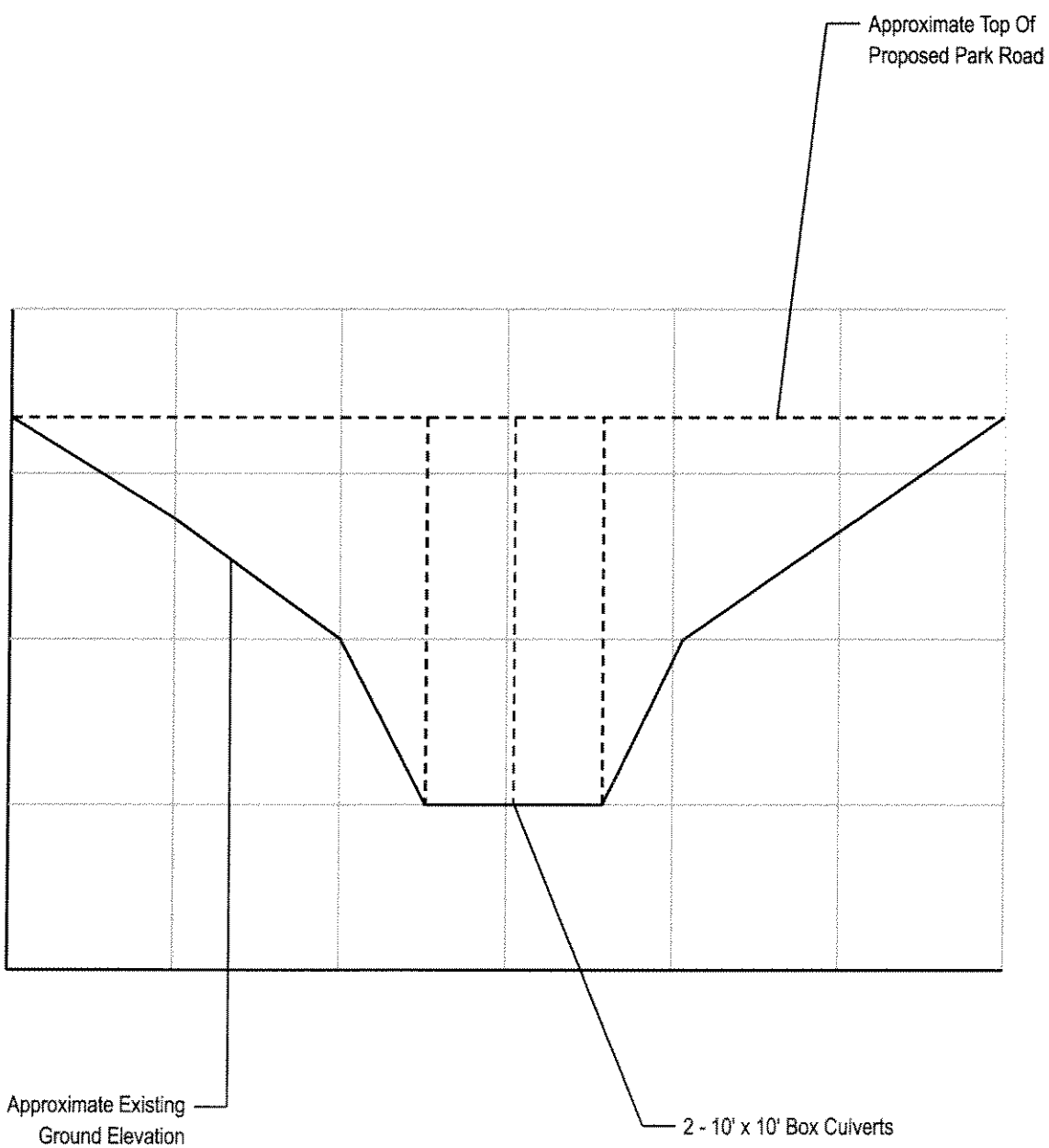

JACOBS Carter Burgess

THESE DRAWINGS/DOCUMENTS ARE BEING SUBMITTED BY CARTER & BURGESS INC. CARTER & BURGESS, INC. IS A WHOLLY OWNED SUBSIDIARY OF JACOBS ENGINEERING GROUP INC AND HEREINAFTER REFERRED TO AS JACOBS CARTER BURGESS.

Cross-Section 4 of Proposed Park Road
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
18 of 22

...\DRWGS\PN\3374 X-sect 10.sht 10/7/2008 9:23:51 AM

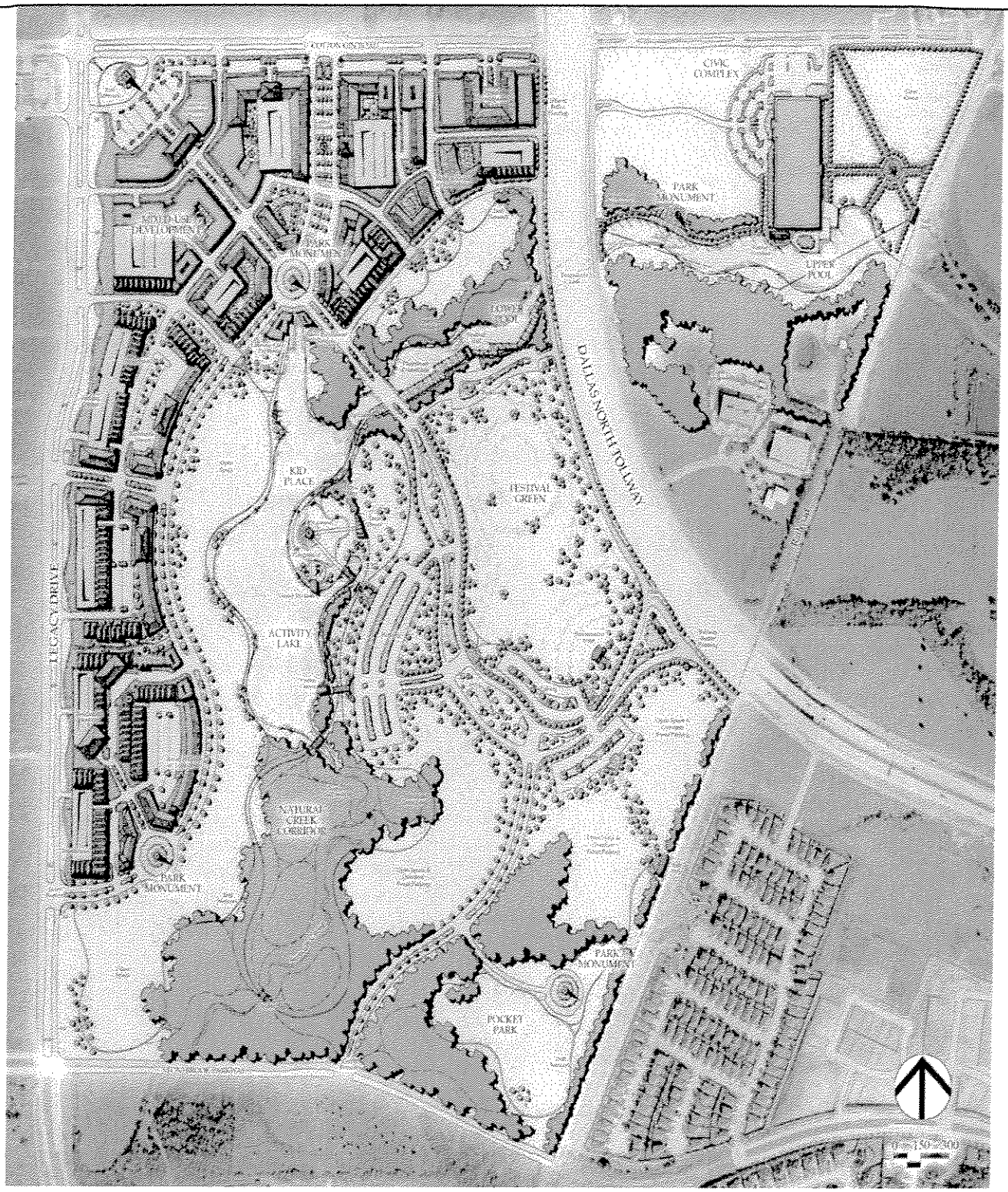



JACOBS
Carter Burgess

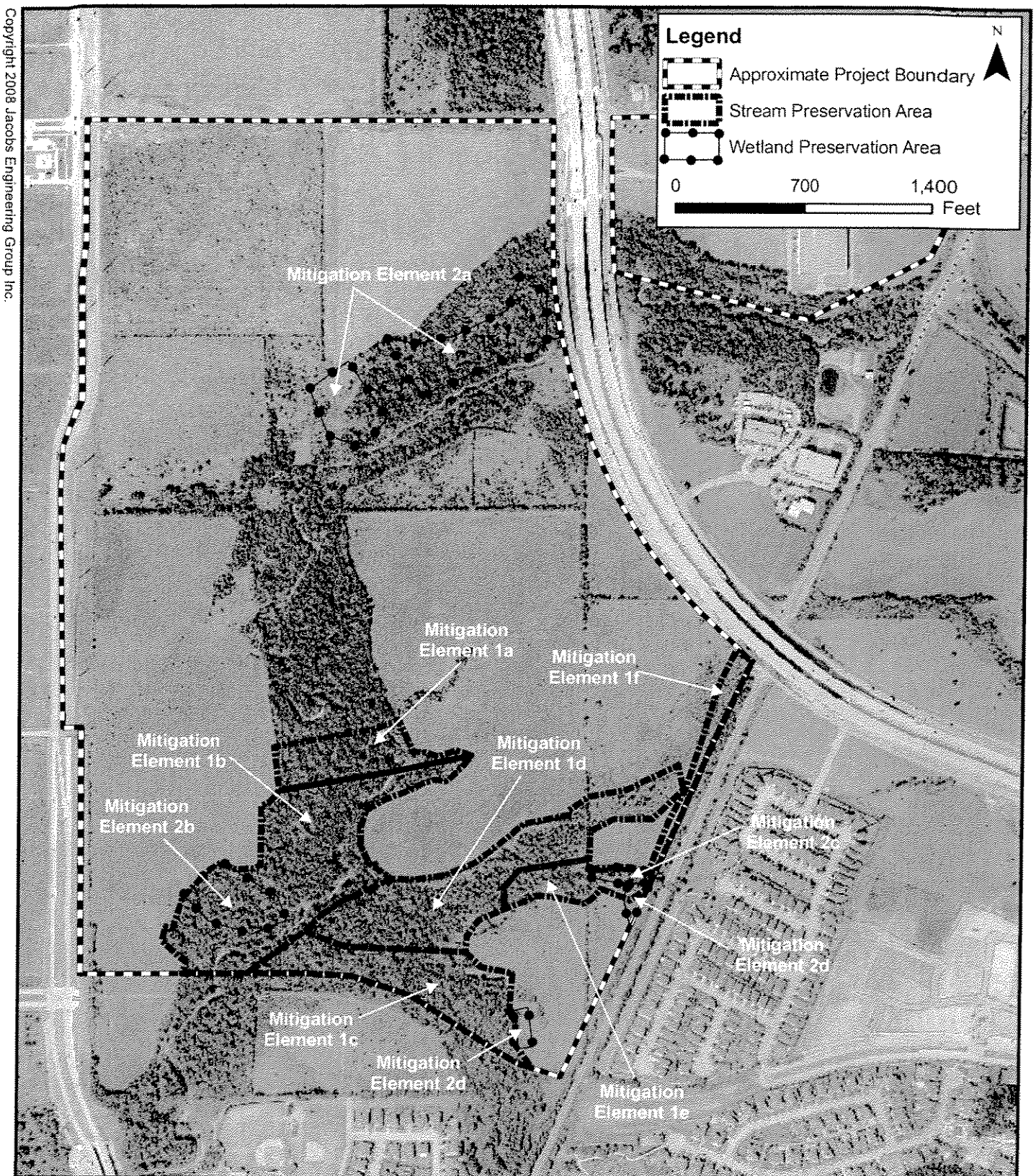
Cross-Section 5 of Proposed Park Road
Grand Park
Frisco, Collin and Denton Counties, Texas
USACE No. SWF-2007-226
October 7, 2008

Exhibit
19 of
22

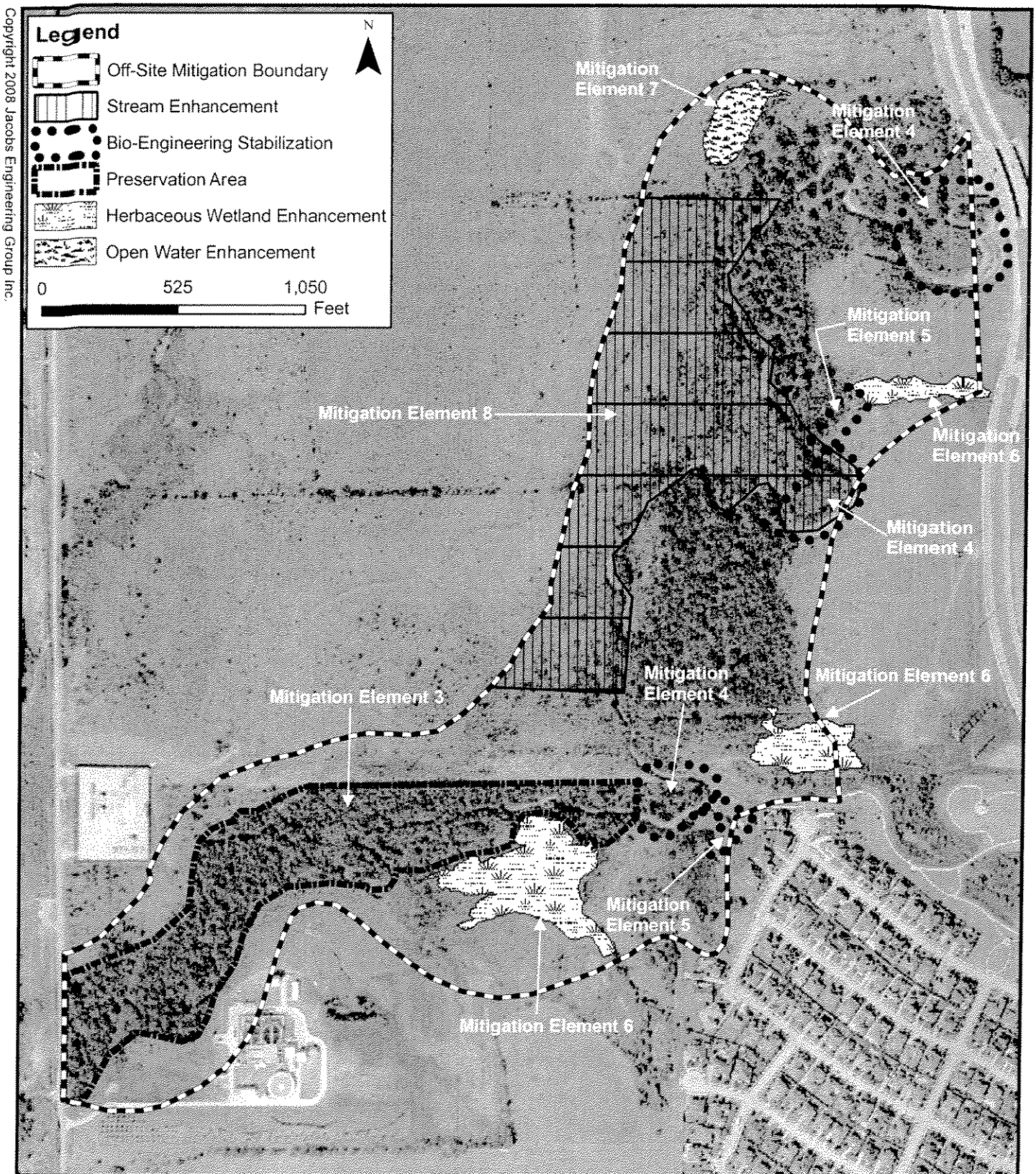
...\DRWGS\PN\3374 X-sect 11.sht 10/7/2008 9:24:43 AM




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess | **Proposed Alternative Conceptual Plan**<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | | **Exhibit**<br>20 of 22 |




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess | **Proposed On-Site Mitigation**<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | Source: AE Imagery (2007) | **Exhibit**<br>**21 of 22** |




| | | | |
|---|---|---|---|
| JACOBS Carter Burgess | **Proposed Off-Site Mitigation**<br>Grand Park<br>Frisco, Collin and Denton Counties, Texas<br>USACE No. SWF-2007-226<br>October 7, 2008 | Source: AE Imagery (2007) | **Exhibit**<br>22 of 22 |