Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

August 21, 2015

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED AGENCIES AND PUBLIC GROUPS:

As required by the permanent rules of the Texas Water Development Board (TWDB), 31 Texas Administrative Code (TAC) §375.61, an environmental review consistent with the National Environmental Policy Act (NEPA), 42 U.S. Code §4321 et seq., has been performed on the project below. This project is proposed to be funded through the Clean Water State Revolving Fund (CWSRF) Equivalency Program, which is administered by the TWDB.

City of Fort Worth, Tarrant County
Peak Flow Management Facilities at Village Creek Water Reclamation Facility Project
Number: 73669
Total CWSRF Loan Commitment: $39,000,000 (Loan No. L1000345)

The City of Fort Worth (City) provides wastewater services to a population of approximately 736,211 within its Certificate of Convenience and Necessity which includes parts of Tarrant, Denton, Johnson, Parker, and Wise Counties.

The City is proposing to use funds from a Clean Water State Revolving Fund (CWSRF) loan to finance construction costs of two major project components: (1) the Peak Flow Management Facilities at Village Creek Water Reclamation Facility (VCWRF, $30,000,000); and (2) the Big Fossil Creek Parallel Relief Sewer Main M-402 ($9,000,000), which is approximately 5 miles west and upstream of the Village Creek Water Reclamation Facility. The environmental review of these 2 major components is being handled separately.

This Finding of No Significant Impact (FNSI) includes only the Peak Flow Management Facilities at VCWRF. The environmental review of the Big Fossil Creek Parallel Relief Sewer Main M-402 will be handled separately and included in another environmental determination.

The City proposes to construct a Peak Flow Management Facility that would temporarily store excess flows during periods of peak flow. The proposed project would include:

- construction of a 340 million gallon Peak Flow Storage Basin (PFSB) that would be constructed within a portion of the City's existing Sludge Only Landfill (SOL);
- installation of approximately 6,650 linear feet of 96-inch diameter pipeline to convey peak flows from the VCWRF to the storage basin and back;

- rehabilitation of 72-inch, 60-inch and 24-inch pipelines to handle return flows;
- odor control measures;
- improvements to the HRC and Chemical Sludge Handling Facility;
- modifications to existing junction box;
- construction of two new siphon boxes;
- construction of pipeline to Aeration Basins 1-6;
- modifications to existing drain piping to Primary Effluent Pump Station No. 2 (PEPS2);
- rehabilitation of 72-inch, 60-inch and 24-inch pipelines to handle return flows;
- improvements to metering, electrical, instrumentation and controls.

An environmental review of the proposed project consistent with NEPA has been completed following the guidelines provided in 31 TAC Code §375, Subchapter E. This environmental review is documented by the enclosed Environmental Assessment (EA). The EA contains mitigative conditions that will be applied to the project and are structured so that no significant adverse environmental impacts will result from the proposed project. The Executive Administrator of the TWDB has made a preliminary decision not to require the preparation of an Environmental Impact Statement. In order to ensure that the proposed project will not have a significant impact on floodplains, cultural resources, threatened or endangered species, and protected migratory bird species, loan conditions have been developed which are described in detail in the attached EA. These conditions include the following:

- Compliance with the terms and conditions of the U.S. Army Corps of Engineers Nationwide Permit 12 for Utility Line Activities (USACE Project No. SWF-2013-00399), including the following special condition:
    - The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration;
- Standard emergency condition for the discovery of cultural resources; and,
- Standard emergency condition for the discovery of threatened and endangered species.

Documentation supporting this decision is on file in the office of the Regional Water Planning and Development Division, TWDB, and is available for public scrutiny upon request. Comments supporting or disagreeing with this preliminary environmental determination may be submitted to the Director, Regional Water Planning and Development, Texas Water

comments received, the Executive Administrator will make a final determination. However, no action regarding the provision of federal financial assistance for the project will be taken for at least thirty (30) calendar days after release of this Finding of No Significant Impact.

Sincerely,

Jessica Zuba, Director
Regional Water Planning and Development

Enclosure

City of Fort Worth, Tarrant County
Clean Water State Revolving Fund Project #73699
Peak Flow Management Facilities at the Village Creek Water Reclamation Facility
Environmental Assessment

BACKGROUND

The City of Fort Worth (City) proposes to construct Peak Flow Management Facilities at Village Creek Water Reclamation Facility (VCWRF). The City is proposing to finance the project using approximately $30,000,000 funds from a $39,000,000 loan from the Clean Water State Revolving Fund (CWSRF) program, which is administered by the Texas Water Development Board (TWDB). The City received a commitment for the CWSRF loan from the TWDB on November 20, 2014. The loan was closed on June 18, 2015.

The information provided in this Environmental Assessment is based primarily on the Environmental Information Document (EID)[1] submitted by the City.

The VCWRF is currently permitted to discharge an Annual Average Daily Flow (AADF) of 166 MGD and a 2 Hour Peak Flow (HPF) of 369 MGD under the Texas Commission on Environmental Quality (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) Permit No. 0047295. At the VCWRF, wastewater is treated through an activated sludge process, tertiary filters and disinfection. All sludge produced is anaerobically digested, dewatered by belt filter press, post-lime stabilized, and provided as Class A biosolids to customers for beneficial reuse.

Purpose and Need

In 2002, the City implemented 80 million gallons per day (MGD) High Rate Clarification (HRC) improvements to treat peak wet weather flows and discharge from the VCWRF when flows exceed 255 MGD. The 2012 updates to the City's Wastewater System Master Plan recommended near term peak flow management improvements to address projected 2030 peak flow rates.

The proposed project would provide the VCWRF the ability to store and detain wastewater inflow during periods of peak flows. The proposed project would allow the VCWRF to sufficiently treat peak wastewater inflows to desired and permitted levels by storing wastewater inflow within the proposed storage facility. Once normal flow resumes at the VCWRF, peak flows detained in the proposed storage basin are returned to the VCWRF for treatment.

---

[1] City of Fort Worth (May 18, 2015). *Environmental Information Document: For the City of Fort Worth Village Creek Water Reclamation Facility, Peak Flow Management Facilities* (Prepared by Alan Plummer Associates, Inc.).

Environmental Assessment
City of Fort Worth, Tarrant County
Peak Flow Management Facilities at the Village Creek RWP
CWSRF Project Number 73669
August 21, 2015

PROJECT DESCRIPTION

The City proposes to construct a Peak Flow Management Facility that would temporarily store excess flows during periods of peak flow. The proposed project would include:

- construction of a 340 million gallon Peak Flow Storage Basin (PFSB) that would be constructed within a portion of the City's existing Sludge Only Landfill (SOL);
- installation of approximately 6,650 linear feet of 96-inch diameter pipeline to convey peak flows from the VCWRF to the storage basin and back;
- rehabilitation of 72-inch, 60-inch and 24-inch pipelines to handle return flows;
- odor control measures;
- improvements to the HRC and Chemical Sludge Handling Facility;
- modifications to existing junction box;
- construction of two new siphon boxes;
- construction of pipeline to Aeration Basins 1-6;
- modifications to existing drain piping to Primary Effluent Pump Station No. 2 (PEPS2);
- rehabilitation of 72-inch, 60-inch and 24-inch pipelines to handle return flows;
- improvements to metering, electrical, instrumentation and controls.

The current planning area is located in northeastern Tarrant County within the City of Fort Worth's northeastern corporate limits. The current loan is for construction costs only, and does not include planning, acquisition, or design costs.

The City provides wastewater services to a population of approximately 736,211 via 228,374 connections within its Certificate of Convenience and Necessity. That service area includes parts of Tarrant, Denton, Johnson, Parker, and Wise Counties. According to the most current project schedule, the City anticipates the completion of construction by the end of 2016. The total estimated cost of the Peak Flow Management Facilities at VCWRF is $30,000,000. The average monthly residential wastewater bill is $ $22.84. The City anticipates that an increase of $0.92 in user rates will be necessary to repay the loan.

The City does not anticipate that other projects in progress will be adversely affected by the proposed project.

EVALUATION OF ALTERNATIVES

During the preliminary design process, it was concluded that the proposed use of a PFSB would be the most efficient and cost effective method for peak flow management. Other alternative management techniques include increasing the treatment capacity of the

VCWRF to accommodate the treatment of projected peak flows without storage, or construction of additional water reclamation facilities to accommodate some of the peak flows. Both of these alternatives would not be cost effective, or practicable.

The proposed project would allow for enhanced primary treatment at the HRC facility and odor control measures applied to peak flows prior to temporary storage at the PFSB. Other alternative flow reduction measures would likely require the temporary storage of peak flows prior to reaching the VCWRF. Storage of peak flows prior to reaching the VCWRF treatment stream would not allow for the pretreatment and odor control measures of the proposed project.

In addition to the proposed PFSB pipeline alignment, an alternative alignment that was considered would be located west of the proposed alignment along Greenbelt Drive and west of the gas well pad north of the VCRWF. The alternative alignment would be shorter, but would not have the advantage of being located adjacent to the City owned reclaimed water pipeline.

The site of the former sludge drying beds, located west of the VCWRF, was considered as an alternative location for the proposed PFSB location. The use of the drying beds would require extensive earth work that would make this alternative cost prohibitive, and not practicable.

Several alternative odor control measures were analyzed in the preliminary design phase. The proposed odor control measure is to add hydrogen peroxide to the peak flows transported to the PFSB. Alternative measures would treat the flows with sodium permagenate or super oxygenation. These alternatives are cost prohibitive. In addition, the construction of galvanized steel or pre-cast concrete covers over the proposed PFSB, including treatment of odorous air with activated carbon, was considered cost prohibitive and not practicable.

The locations of proposed construction staging areas were selected to be in the most environmentally neutral and practicable locations available along the proposed pipeline alignments.

Overall, project planning included the evaluation of potential environmental impacts, land acquisition, long term system capacity, and the life of the system. The proposed project would be the most cost effective way of provide peak flow management to the VCRWF system. The 'No Action' alternative is not feasible because it would not meet the purpose and need of the project and would impede VCRWF operations. This would result in costly facility upgrades or require the construction of additional facilities.

ENVIRONMENTAL SETTINGS, IMPACTS AND MITIGATION

Existing Conditions

The current and recent land use and development on the existing site includes the existing VCRWF and SOL facilities, which are already developed. The existing linework which connects these facilities is within City property, most of which is a maintained (mowed) area except for the crossing of the West Fork of the Trinity River. The riparian area of the river at that point includes woody vegetation and a depressional wetland.

Geology and Soils

The proposed project is located in the Grand Prairie physiographic and land resource unit. The land in the Grand Prairie land resource unit is partly hilly and is drained by the Trinity River and its tributaries. The area consists of rolling to hilly, deeply dissected terrain with rapid surface drainage.

Tarrant County is located in the Coastal Plain Physiographic Province. All outcropping strata are generally classified as sedimentary. The geological formation underlying the proposed project consists of alluvium and terrace deposits of the Quaternary age. These formations consist of sediment deposits with consistencies ranging from gravel to sand and clay (Bureau of Economic Geology's Geological Atlas of Texas – Dallas Sheet). The thickness of the alluvium formations is about 30 feet.

The proposed project lies in the Frio-Trinity soil association as shown on the Soil Survey of Tarrant County, Texas (United States Department of Agriculture, Soil Conservation Service in cooperation with the Texas Agricultural Experiment Station). This association consists of nearly level, deep, clayey soils within floodplains. Additionally, a total of three different mapped soil units are found within the project area and are listed in the following table. Arents frequently flooded and Trinity Clay, frequently flooded, are both within the proposed project area and are nationally listed hydric soils. There are no soil types that would be encountered by the proposed project that are classified as prime farmland. There is a potential for shallow groundwater occurring in areas where Trinity clay, frequently flooded is the predominant soil type.

Map Unit Names of Soils

Map Unit	Soil Type and Description	Depth to High Water Table
7	Arents, frequently flooded	>6 feet
55	Ovan Urban Land Complex, Occasionally Flooded	Varies on Condition
80	Trinity clay, frequently flooded	0-3.0 feet

Floodplains, Wetlands, Streams and Waters of the United States

The proposed project is located in the West Fork Trinity River Valley. Elevations in the proposed project area shallowly slope towards the West Fork Trinity River. Elevations range from 476 feet mean sea level (msl) to 472 msl, excluding levee and river channel elevations (United States Geological Survey, Hurst, TX quadrangle map).

The VCWRF and the SOL are located within flood protection levees. The entire proposed pipeline alignment outside of existing flood protection levees would be located within the West Fork Trinity River's 100-year floodplain and floodway as mapped on the Federal Emergency Management Agency's Federal Insurance Rate Map (FIRM) Community Panel 48439C0220K and corresponding delineated floodplains. The City received a Floodplain Development Permit (Permit No. FP-15-033-FP) on June 18, 2015 from the City of Fort Worth, which participates in the National Flood Insurance Program.

Surface water resources in the proposed project and service areas are generally used for landscape irrigation, and amenities. To a limited extent, surface water resources are used for gas well operations and other industrial uses. The West Fork Trinity River is the predominant hydrological feature influencing the project area. The proposed project is located in the Lower West Fork Trinity River basin in Hydrologic Unit Code 12030102. In February 2013, Alan Plummer Associates, Inc. (APAI) conducted fieldwork necessary to identify surface water features in the proposed project area. The proposed pipeline would cross the West Fork. At this location, the West Fork is a perennial river as well as a USACE defined traditionally navigable river. The entire proposed pipeline alignment outside of existing flood protection levees would be located within the West Fork Trinity River's 100-year floodplain and floodway. In addition to the stream crossing, APAI identified an adjacent depressional wetland area that would be crossed by the pipeline. This wetland is commonly open water and is only vegetated around its margins. No waters of the U.S. would be lost as a result of project activities (i.e., pipeline installation), and less than 0.5 acre would be temporary impacted. The U.S. Army Corps of Engineers-Fort Worth District confirmed that the project was authorized under Nationwide Permit 12 for Utility Line Activities.

The West Fork Trinity River (Segment 0841) in the proposed project area is listed on the Texas 2012 303(d) list as impaired as a result of bacteria, dioxins in edible fish tissue, and PCB's in edible fish tissue. The VCWRF is authorized to discharge treated effluent under TCEQ TPDES Permit 0047295. Raw water supplies in the DFW area are primarily obtained from reservoirs on the Trinity River system. Availability of water from the City's raw water supply sources is largely contingent on annual rainfall. The proposed project would not utilize water obtained directly from an interbasin transfer. No new water rights authorizations will be obtained as a result of the proposed project.

The project area is located in the downdip of the Trinity aquifer, a major aquifer in Texas. A minor aquifer, the Woodbine, is also located in the project area. The project is located along the outcrop for the Woodbine aquifer. Since the 1970's, municipalities and water authorities have relied on surface water rather than groundwater; therefore, groundwater plays only a minor role in water supply for this area. The proposed project does not include any components that would use or imperil the water quality of aquifers.

Surface water resources in the project and planning area are generally used for, landscape irrigation, and amenities. To a limited but increasing extent, surface water resources in the area are used for gas well operations and other industrial uses. Larger impoundments in the project vicinity are typically used for raw water supply and flood control, such as Grapevine Lake.

Biological Elements

The proposed project area is located in the Eastern Cross Timbers Level 4 Ecoregion. Soils in the Eastern Cross Timbers Ecoregion are typically reddish sandy soils that have been leached of nutrients. Despite the lack of nutrients in the soil, post and blackjack oaks (*Quercus stellata* and *Q. marilandica,*respectively) have adapted to the soils and dominate the overstory, with mesquite (*Prosopis glandulosa*) and grasses, such as little bluestem (*Schizachyrium scoparium*) and threeawn (*Aristida* spp.) in the understory.

Although most of the project would be located within unvegetated areas of the VCRWP or SOL, the connecting linework would cross areas of mowed maintained easements and the narrow riparian area of the West Trinity River. Some trees along the river would be removed. The following table lists plant species, grouped by vegetative layer, that were observed during field surveys. There is an area of forested wetlands, primarily green ash flats (*Fraxinus pennsylvanica*), in the former sand and gravel mining areas located south of the SOL. The project will not impact this area.

Table: Vegetation Observed within the Proposed Project Area

Common Name	**Scientific Name**
Canopy Species	
Hackberry	*Celtis laevigata*
Green Ash	*Fraxinus pennsylvanica*
Cottonwood	*Populus deltoides*
Mesquite	*Prosopis glandulosa*
Shumard Oak	*Quercus shumardii*
Black Willow	*Salix nigra*
American Elm	*Ulmus americana*
Cedar Elm	*Ulmus crassifolia*

Common Name	Scientific Name
Sapling/Shrub Species	
Box Elder	*Acer negundo*
Gum Bumelia	*Bumelia lanuginosa*
Honey Locust	*Gleditsia triacanthos*
Eastern Red Cedar	*Juniperus virginiana*
Chinese Privet	*Ligustrum sinense*
Mesquite	*Prosopis glandulosa*
Herbaceous Species & Vine Species	
Annual Ragweed	*Ambrosia artemisiifolia*
Giant Ragweed	*Ambrosia trifida*
Giant Reed	*Arundo donax*
Willow Baccharis	*Baccharis halimifolia*
Japanese Brome	*Bromus japonicus*
Bermudagrass	*Cynodon dactylon*
Virginia Wildrye	*Elymus virginicus*
Catchweed Bedstraw	*Galium aparine*
Perennial Ryegrass	*Lolium perenne*
Switchgrass	*Panicum virgatum*
Dewberry	*Rubus trivialis*
Curlydoc	*Rumex crispus*
Fiddledoc	*Rumex pulcher*
Little Bluestem	*Schizachyrium scoparium*
Greenbriar	*Smilax* spp.
Texas Wintergrass	*Stipa leucotrica*
Dandelion	*Taraxacum officinale*
Hedgeparsley	*Torilis arvensis*
Poison Ivy	*Toxicodendron radicans*
Common Vetch	*Vicia sativa*
Grapevine	*Vitis* spp.
Cocklebur	*Xanthium strumarium*

A variety of mammals are known to be near the project area. These include opossum (*Didelphis virginiana*), cave bat (*Myotis velife*), beaver (*Castor canadensis*), nutria (*Myocastor coypus*), plains pocket gopher (*Geomys bursarius*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), California jackrabbit (*Lepus californicus*), eastern cottontail (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), nine-banded armadillo (*Dasypus novemcinctus*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), and bobcat (*Lynx rufus*). Many of these species have been able to tolerate urbanization, while species that formerly inhabited the region were extirpated from the area due to hunting, trapping, and/or behavioral intolerance to human activity.

The situation is similar for birds, reptiles, and amphibians. The species more intolerant to human activity have declined, while the more tolerant species have flourished. Common reptile species documented near the project area include lizards and various snakes, such as the copperhead (*Agkistodon contortrix*), cottonmouth (*Agkistodon piscivorus*), and bullsnake (*Pituophis melanoleucus sayi*), while amphibians seen occasionally include turtles and frogs. A large number of bird species utilize the stream bottomlands in Tarrant County, and species such as the house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), grackle (*Quiscalus mexicanus*), American crow (*Corvus brachyrhynchos*), and European starling (*Sturnus vulgaris*) dominate the more urbanized areas.

The common fish species known to be in the Trinity River as well as its significant tributaries include various species of bass (*Micropterus* spp.), bluegill (*Lepomis macrochirus*), drum (*Aplodinotus* spp.), gar (*Atractosteus spatula*), sunfish (Family *Centrarchidae*), and shad (*Dorsoma* spp.).

Species of Special Concern

The United States Fish and Wildlife Service (USFWS) lists two endangered or threatened species as occurring or potentially occurring within the proposed project area. These are the Interior Least Tern (endangered), and the Whooping Crane (endangered). The project area is not within any critical habitats delineated by the USFWS. The USFWS also lists 23 migratory Birds of Conservation Concern that may occur in the proposed project area. While habitat for some of the listed migratory birds of conservation concern may be in the proposed project area, impacts to these areas would be temporary.

The Texas Parks and Wildlife Department (TPWD) lists an additional ten endangered or threatened species as occurring or potentially occurring in Tarrant County. These species are the American Peregrine Falcon (Endangered), the Bald Eagle (Threatened), the Peregrine Falcon (threatened), the Shovelnose Sturgeon (threatened), the Gray Wolf (endangered), the Red Wolf (endangered), the Louisiana Pigtoe (threatened), the Texas Heelsplitter (threatened), the Texas Horned Lizard (threatened), and the Timber/Canebrake Rattlesnake (threatened).

The TPWD also lists nine rare species as occurring or potentially occurring in Tarrant County. These species are the Arctic Peregrine Falcon, Henslow's Sparrow, Sprague's Pipit, the Western Burrowing Owl, Plains Spotted Skunk, Fawnsfoot, Little Spectaclecase, the Texas Garter Snake, and the Glen Rose Yucca. The following table details the federal and state listed endangered, threatened, or rare species in Tarrant County.

Environmental Assessment
City of Fort Worth, Tarrant County
Peak Flow Management Facilities at the Village Creek RWP
CWSRF Project Number 73669
August 21, 2015

Table: Tarrant County Threatened, Endangered and Rare Species

SPECIES	STATUS
BIRDS	
American Peregrine Falcon, *Falco peregrinus anatum*	**State Threatened**
Areas with high, massive cliffs with expansive views near water where prey are numerous and diverse. [Low likelihood of a prolonged occurrence although peregrine falcons have been observed northeast of the proposed project area near the City of Fort Worth's Drying Beds.]	
Arctic Peregrine Falcon, *Falco peregrinus tundrius*	**State Rare**
Migrant through state from far northern breeding range, winters along coast; occupies several habitats, concentrations along coast and barrier islands; low-altitude migrant, stopovers at lake shores, and coastlines. [Low likelihood of a prolonged occurrence although peregrine falcons have been observed northeast of the proposed project area near the City of Fort Worth's Drying Beds.]	
Bald Eagle, *Haliaeetus leucocephalus*	**State Threatened**
Large lakes, nesting in tall trees; feeds in areas of open water where food is available	
Henslow's Sparrow, *Ammodramus henslowi*	**State Rare**
Weedy fields or cut-over areas with some bare ground where bunch grasses and vines occur	
Interior Least Tern, *Sterna antillarum athalassos*	**Federal, State Endangered**
Subspecies is listed only when inland; nests along sand and gravel bars within braided streams; may nest on man-made structures; eats small fish and crustaceans, when breeding forages near colony [The areas potentially suitable for nesting, located within VCWRF and SOL, are continually exposed to human activities, which would be a deterrent to nesting. The only stream gravel bars within the West Fork of the Trinity River would only occur at extremely low flow late summer months, which minimizes potential use as nesting sites.]	
Peregrine Falcon, *Falco peregrinus*both	**State Threatened**
Subspecies migrate across the state from northern breeding areas in US and Canada to winter along coast and south [Low likelihood of a prolonged occurrence although peregrine falcons have been observed northeast of the proposed project area near the City of Fort Worth's Drying Beds.]	
Sprague's Pipit, *Anthus spragueii*	**State Rare**
Migratory and wintering species, mid-September to early April, diurnal migrant strongly tied to native upland prairie, can be locally common in coastal grasslands	
Western Burrowing Owl, *Athene cunicularia hypugaea*	**State Rare**
Open grasslands, especially prairie, plains, and savannas, nest and roosts in abandoned burrows [Preferred habitat and features like burrows were not observed during field investigation.]	
Whooping Crane, *Grus americana*	**Federal, State Endangered**
Marshes, river bottoms, potholes, prairies, and cropland (migratory) [Unlikely to be affected during their migration due to minimal, temporary impacts and the abundance of nearby similar habitat.]	
FISHES	
Shovelnose sturgeon *Scaphirhynchus platorynchus*	**State Threatened**
Open, flowing channels with bottoms of sand or gravel; spawns over gravel or rocks in an area with a fast current;	
MAMMALS	
Gray Wolf, *Canis lupus*	**State Endangered**
Extirpated – formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands	
Red Wolf, *Canis rufus*	**State Endangered**
Extirpated - formerly throughout eastern half of Texas in brushy and forested areas and coastal prairies	
Plains Spotted Skunk, *Spilogale putorius interrupta*	**State Rare**
Open fields, prairies, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie [Suitable habitat may exist in project vicinity; any impacts would be temporary.]	

MOLLUSKS	
Fawnsfoot, *Truncilla donaciformis*	**State Rare**
Small and large rivers on sand, mud, rocky mud, gravel, silt, and cobble bottoms in still to swiftly flowing waters [The river run at the proposed PFSB pipeline river crossing location is deeper than the upstream and downstream areas, which would not provide preferred habitat]	
Little Spectaclecase, *Vilosa lienosa*	**State Rare**
Creeks, rivers, and reservoirs, sandy substrates in slow to moderate current, usually on the banks in slower currents [The river run at the proposed PFSB pipeline river crossing location is deeper than the upstream and downstream areas, which would not provide preferred habitat]	
Louisiana Pigtoe, *Pleurobema riddellii*	**State Threatened**
Streams and moderate-size rivers, usually flowing water on mud, sand, and gravel; not generally in impoundments [The river run at the proposed PFSB pipeline river crossing location is deeper than the upstream and downstream areas, which would not provide preferred habitat]	
Texas Heelsplitter, *Potamilus amphichaenus*	**State Threatened**
Quiet waters in mud or sand and also in reservoirs; Sabine, Neches, and Trinity River basins [The river run at the proposed PFSB pipeline river crossing location is deeper than the upstream and downstream areas, which would not provide preferred habitat]	
REPTILES	
Texas Garter Snake, *Thamnophis sirtalis annectens*	**State Rare**
Wet or moist microhabitats. [Suitable habitat may exist in project vicinity; any impacts would be temporary.]	
Texas Horned Lizard, *Phrynosoma cornutum*	**State Threatened**
Open, arid and semi-arid regions with sparse vegetation [Suitable habitat may exist in project vicinity; any impacts would be temporary.]	
Timber/Canebrake Rattlesnake, *Crotalus horridus*	**State Threatened**
Swamps, floodplains, upland pine and deciduous forests, riparian zones, abandoned farmland, prefers dense brush[Suitable habitat may exist in project vicinity; any impacts would be temporary.]	
PLANTS	
Glen Rose Yucca, *Yucca necopina*	**State Rare**
Grasslands on sandy soils; flower April-June, also in limestone bedrock, and clayey soil and gravelly limestone [Suitable habitat was not observed in the project area.]	

An investigation for potential habitat for the species of concern as well as their preferred and designated critical habitat as listed by the USFWS and the TPWD for Tarrant County was conducted in February 2013 by Alan Plummer Associates, Inc. for the proposed project area. During the on-site investigation, the project area was visually assessed for the occurrence of listed species as well as suitable habitat for the same species. The above table includes some notes on that assessment. In general, habitat is not present or there is a low likelihood of occurrence within the project area for federal or state listed endangered or threatened species. No federal or state listed species were observed during the investigation. No state or national parks, forests, wildlife refuges, wild or scenic rivers, natural areas or similar preserves are located within the project area.

Cultural Resources

In August 2013, AR Consultants Inc. conducted a cultural resource investigation for the proposed pipeline connecting the VCWRF to the proposed peak flow storage basin. The study did not reveal any cultural or archaeological sites or resources in the proposed pipeline alignment. The Texas Historical Commission (THC) concurred with AR

Consultants' findings and recommendation that the City be allowed to construct the proposed pipeline without further cultural resource investigations. The proposed peak flow storage basin would be constructed in the existing SOL footprint that has been extensively excavated and disturbed.

Hazardous Materials

During the Alan Plummer Associates, Inc. (APAI) on-site investigation in February 2013 for potential waters of the United States and potential occurrence of species of special concern, no mounds, vegetation distress or discoloration, or odors were observed onsite that would indicate the potential of chemical contaminations. No odors were detected from adjacent properties.

In addition, APAI conducted an environmental database search as an initial assessment of the potential for hazardous materials contamination in the project area. The database search did not reveal any contaminated sites in the project area.

The location of the proposed Peak Flow Basins is an area that is permitted for use as a solid waste landfill by Municipal Solid Waste Permit 1664 (MSWP 1664) that was issued to the City of Fort Worth. To date, no solid waste disposal has occurred at the site. The site is used to process Class A Biosolids for eventual land application on properties outside the SOL. The production and eventual land application of Class A Biosolids was authorized by the TCEQ under TPDES permit 10494-013.

Social Implications and Environmental Justice

In accordance with Executive Order 12898 pertaining to Environmental Justice (EJ), potential environmental impacts to low-income and minority communities have been assessed. The U.S. Environmental Protection Agency (EPA) defines environmental justice as conveyed by the Executive Order as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The goal of fair treatment is not to shift risks among populations, but to identify potential disproportionately high and adverse human health and environmental effects on minority populations and low-income populations and to identify alternatives to mitigate those impacts.

The proposed project was evaluated for impacts to environmental justice. EJView, formerly known as the Environmental Justice Geographic Assessment Tool, is a mapping tool, designed by the EPA, which allows users to create maps and generate reports on factors that may affect public and environmental health. Data include population, percentage of minority residents, per capita income, etc. for comparison with data for the county and state. Comparisons are described below.

The U.S. Census Bureau characterizes 'Hispanic Origin' as a minority group, but not a separate race. Racial groups include: White, African-American, Asian/Pacific Islander, American Indian, Other Race, and Multiracial. The calculation for 'Percent Minority' includes all minority groups and races except non-Hispanic, white persons. The terms 'Living below the Poverty Level' is equivalent to the term 'Economically Stressed' and includes, according to the 2015 U.S. Census, a four-person family with an annual income at or below $24,250.

The EJ Analysis was performed on August 6, 2015 for the project area. The results are indicated below with data from the U.S. Census for the State and Tarrant County included for comparison.

Area	Population (2010)	% Minority (2010)	% Below Poverty Level / Median Household Income (2009-2013)
State	25,145,561	56%	17.6% / $51,900
County	1,809,034	49.9%	15.2% / $56,853
Project Area (0.5 mile buffer)	36	20%	*see below

According to the EJView Analysis, the annual per capita income of the project area from 2006-2010 was $39,523. According to the U.S. Census data for 2009-2013, the per capita income for the county was $28,266. The State-wide average was $26,019. The project area does not have a proportion of the population, greater than the city, county or state average, who are members of a racial/ethnic minority category or who have less income than or equal to the state's official poverty level. These results show that there is a measurable effect on low-income populations within relatively close proximity to the proposed project. The proposed work does not pose a disproportionate risk for impacts to low-income or minority residents. Therefore, mitigation measures have not been proposed for the preferred action alternative.

Primary, Secondary, and Cumulative Impacts

During open trench construction of the pipeline(s), there will be a temporary alteration to land forms and natural drainage patterns. After backfill and grading, the land forms and natural drainage patterns should be almost identical to the current condition. The proposed project would not permanently impact streams or wetlands. A Storm Water Pollution Prevention Plan (SWPPP) will be developed for the project to further minimize siltation and sedimentation runoff into tributaries and drainages.

The pipeline segment crossing the West Fork Trinity River would be installed using open cut trenching. Temporary cofferdams would be installed in the river to prevent trenching activities from being flooded by the river. After the proposed pipeline is installed, the

contours of the river crossing and adjacent depressional wetland on the western bank of the river would be returned to the pre-construction elevations. The river banks would be armored with rock or concrete riprap for slope stabilization purposes.

Excavated material would be used in backfilling of trenches for the pipeline installation and construction of the internal levees for the PFSB. All excavated material would be used during construction of the basins. No excess material is anticipated from construction activities. Disturbed areas would be restored to their pre-existing grades. Vegetative spoil would be disposed of in accordance with appropriate local, state, and federal rules and regulations. Therefore, mitigation measures have not been proposed for the preferred action alternative.

Cross-Cutter Compliance and Agency Coordination

The proposed project has been reviewed for potential impacts to the quality of the human environment following the procedures provided in 31 Texas Administrative Code §375, Subchapter E, in order to ensure compliance with CWSRF Program requirements and federal and state regulations, including the federal cross-cutting environmental authorities from the EPA listed below.

(1) National Environmental Policy Act of 1969, PL 91-190;
(2) Archeological and Historic Preservation Act of 1974, PL 93-291;
(3) Clean Air Act, 42 USC 7506(c);
(4) Coastal Barrier Resources Act, 16 USC 3501 et seq;
(5) Coastal Zone Management Act of 1972, PL 92-583, as amended;
(6) Endangered Species Act, 16 USC 1531, et seq;
(7) Executive Order 11593, Protection and Enhancement of the Cultural Environment;
(8) Executive Order 11988, Floodplain Management;
(9) Executive Order 11990, Protection of Wetlands;
(10) Farmland Protection Policy Act, 7 USC 4201 et seq;
(11) Fish and Wildlife Coordination Act, PL 85-624, as amended;
(12) National Historic Preservation Act of 1966, PL 89-665, as amended;
(13) Safe Drinking Water Act, §1424(e), PL 92-523, as amended;
(14) Wild and Scenic Rivers Act, PL 90-542, as amended;
(15) The Wilderness Act, 16 USC 1131 et seq.;
(16) Environmental Justice, Executive Order 12898;
(17) Flood Insurance Reform Act of 2004, Public Law 108-264;
(18) National Flood Insurance Reform Act of 1994, Public Law 103-325;
(19) Flood Disaster Protection Act of 1973, as amended, Public Law 93-234; and;
(20) Clean Water Act, PL 92-500, as amended.

Environmental Assessment
City of Fort Worth, Tarrant County
Peak Flow Management Facilities at the Village Creek RWP
CWSRF Project Number 73669
August 21, 2015

This environmental review included coordination with various state and federal regulatory agencies and other interested parties including a 30-day public review period of the planning documents. The following section provides a summary of that coordination and provides a discussion of any concerns, recommendations, or conditions pertaining to methods for avoidance, minimization or mitigation of potential impacts.

Texas Historical Commission

The Texas Historical Commission provided a review response dated May 5, 2015, indicating a concurrence with the assessment that the project, as proposed, will not likely affect any cultural resources. The proposed project is in compliance with Section 106 of the National Historic Preservation Act as well as the Antiquities Code of Texas.

The CWSRF loan is conditioned to read that if archeological sites are discovered during construction, work will cease immediately in that area and the City will notify the THC and the TWDB of the discovery. The THC and the TWDB will then proceed in accordance with the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) prior to taking any action which would affect the cultural resources.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) was given the opportunity to review the project in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Under Section 404 the USACE regulates the discharge of dredged and fill material in waters of the United States, including wetlands. USACE responsibility under Section 10 regards regulation of any work in, or affecting, navigable waters of the United States.

A review response from the USACE (Project Number SWF-2013-00399), dated November 4, 2013, indicated that based on the proposed work, the project will involve activities subject to the requirements of Section 404 and Section 10. The project was reviewed under the pre-construction notification procedures of Nationwide Permit General Condition 31, and it was determined that the project is authorized by Nationwide Permit 12 for Utility Line Activities. In order to use this permit, the City must ensure the work is in compliance with the special condition listed below:

- The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work caused thereby, without expense to the United States. No

claim shall be made against the United States on account of any such removal or alteration.

Texas Parks and Wildlife Department

The TPWD Wildlife Habitat Assessment Program reviewed the proposed project and provided a response dated April 15, 2015. The TPWD response (no TPWD Project Number provided) included the following recommendations regarding state-listed threatened and endangered species, aquatic resources, and aquatic invasive species:

State-listed threatened and endangered species

- Because state-listed threatened Timber rattlesnake and Texas garter snake may potentially occur within the project area, TPWD recommends the City utilize best management practices (BMPs), including employee education, erosion control blankets, and reporting, to minimize potential adverse impacts and to reduce the likelihood of incidental take.

Aquatic Resources

- TPWD recommends that impact avoidance measures for aquatic organisms, including all native fish and freshwater mussel species, regardless of state-listing status, be considered during project planning and construction activities.
- If construction occurs during times when water is present in streams and dewatering activities or other harmful construction activities are involved (such as placement of temporary or permanent fills), then TPWD recommends relocating potentially impacted native aquatic resources in conjunction with a Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters and an Aquatic Resource Relocation Plan (ARRP). An ARRP should be completed and approved by the department 30 days prior to dewatering and/or resource relocation and submitted with an application.

Aquatic Invasive Species (AIS)

- Because many aquatic invasive plant species can propagate from very small fragments, TPWD recommends that a brief AIS transfer prevention plan also be prepared to outline BMPs for preventing inadvertent transfer of these species to new areas on project equipment, including removal of mud/plant debris from all equipment and rinsing, preferably with high pressure and/or hot water and allowing equipment to dry before use in another water body.

The CWSRF loan is conditioned to read that if threatened or endangered species happen to be encountered during construction, work will cease immediately and the City will notify TWDB staff, TPWD, and the USFWS. Subsequent to notification, mitigation

measures will be taken in accordance with the Endangered Species Act of 1973, as amended.

U.S. Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) was given the opportunity to review the proposed project for compliance with the Endangered Species Act. A response from USFWS, dated September 9, 2013, indicated that the City's determination of "no effect" to federally listed species is sound and well supported. For this reason, USFWS had no comments or recommendation to offer.

U.S. Department of Agriculture

The U.S. Department of Agriculture was given the opportunity to review the project and provided a response date March 23, 2015, stating that care should be taken not to impact the function and value of critical habitats and hydric soils of interest within the project area.

U.S. Forest Service

The U.S. forest Service was given the opportunity to review the project. The U.S. Forest Service received the review request on March 23, 2015. No formal response was received.

National Park Service

The National Park Service was given the opportunity to review the project. The National Park Service received the review request on March 23, 2015. No formal response was received.

Council of Governments

The North Central Texas Council of Governments was given the opportunity to review the project. The Council received the review request on March 20, 2015. No formal response was received.

National Flood Insurance Program

The National Flood Insurance Program was given the opportunity to review the project. The Federal Emergency Management Agency received the review request on March 20, 2015. No formal response was received.

As per the City of Fort Worth floodplain administrator's review of the project and requirements, the City was issued a Floodplain Development Permit, which was approved on June 18, 2015.

DOCUMENTATION, COORDINATION, AND PUBLIC PARTICIPATION

The proposed project is consistent with local, regional, and statewide planning. Coordination with the appropriate governmental agencies has been made and no adverse comments have been received.

Public participation conducted during the planning included a public meeting held on Month Day, Year, which was advertised in the *Star-Telegram,* a newspaper of general circulation in the area. The notice was published on March 19, 2015, and contained information regarding availability of planning documents, including the EID, for public review at Fort Worth City Hall. State and federal agencies were sent written notice of the public meeting and the availability of the document for review.

The public meeting was held at 6:00 pm on April 22, 2015 at East Regional Library in Fort Worth, Texas. No adverse comments were voiced at the public meeting or received during the 30-day public period.

RECOMMENDATION

Based upon a detailed review of the CWSRF planning information, the EID this EA, and other documentation, the wastewater system improvement project proposed by the City is considered to be environmentally sound with the following conditions:

- Compliance with the terms and conditions of the U.S. Army Corps of Engineers Nationwide Permit 12 for Utility Line Activities (USACE Project No. SWF-2013-00399), including the following special condition:
    - The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration;
- Standard emergency condition for threatened and endangered species; and
- Standard emergency condition for cultural resources.

Therefore, it is recommended that a Finding of No Significant Impact be issued.

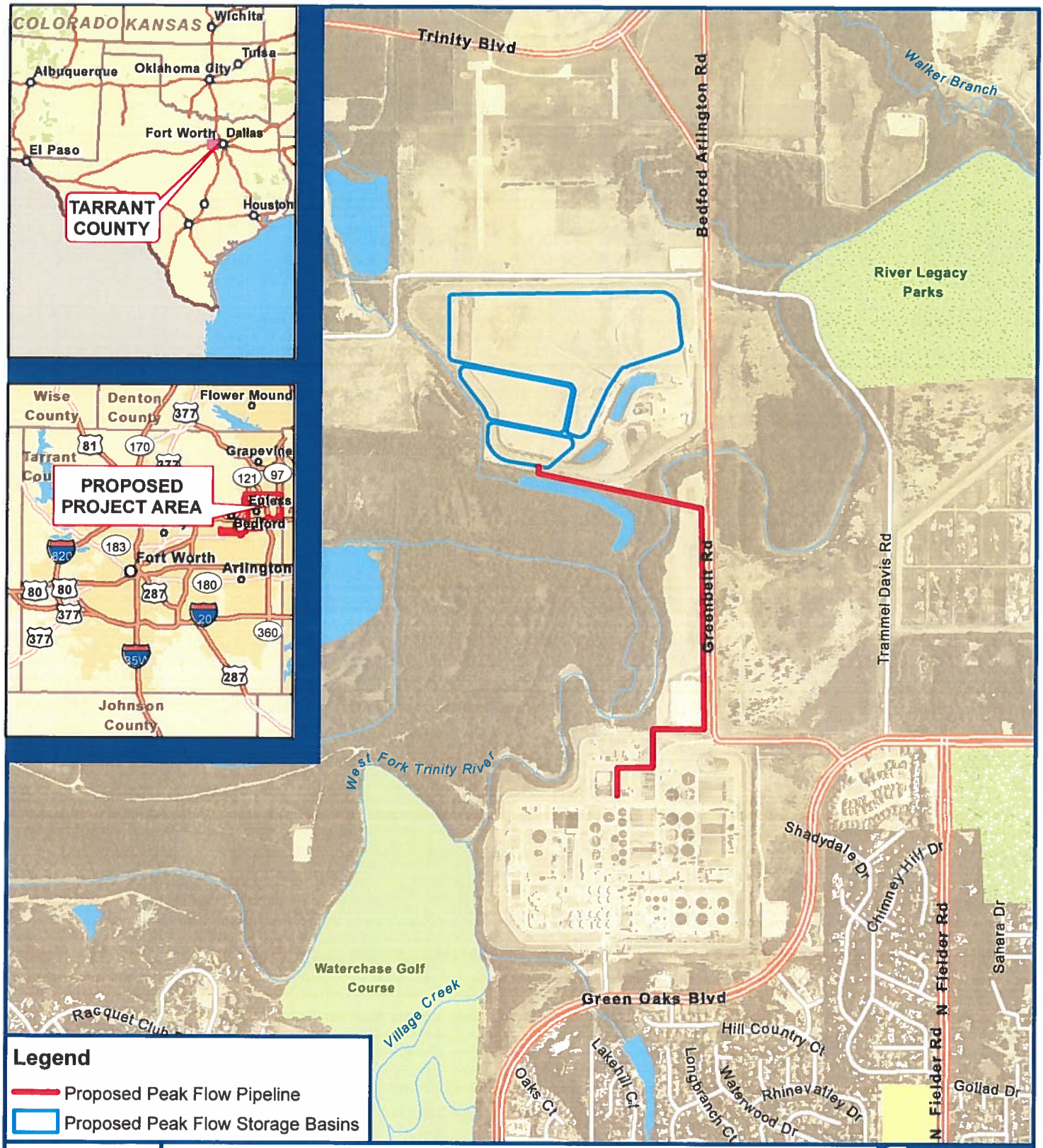

FIGURE A-1
GENERAL LOCATION MAP
CLEAN WATER STATE REVOLVING FUND
VILLAGE CREEK WATER RECLAMATION FACILITY
PEAK FLOW STORAGE PROJECT
CITY OF FORT WORTH, TARRANT COUNTY, TEXAS

DATE: 3/12/2015

SOURCE: ESRI Base Data. TNRIS NAIP 2012 Aerial Photograph.

ALAN PLUMMER ASSOCIATES, INC.
ENVIRONMENTAL ENGINEERS AND SCIENTISTS
1320 S. UNIVERSITY DRIVE
SUITE 300
FORT WORTH, TEXAS 76107
PHONE: (817) 806-1700
FAX: (817) 870-2536

FIGURE 1 OF 14

PATH: F:\projects\0448\014-01\GIS\EIDIA1_GEN_LOC.mxd