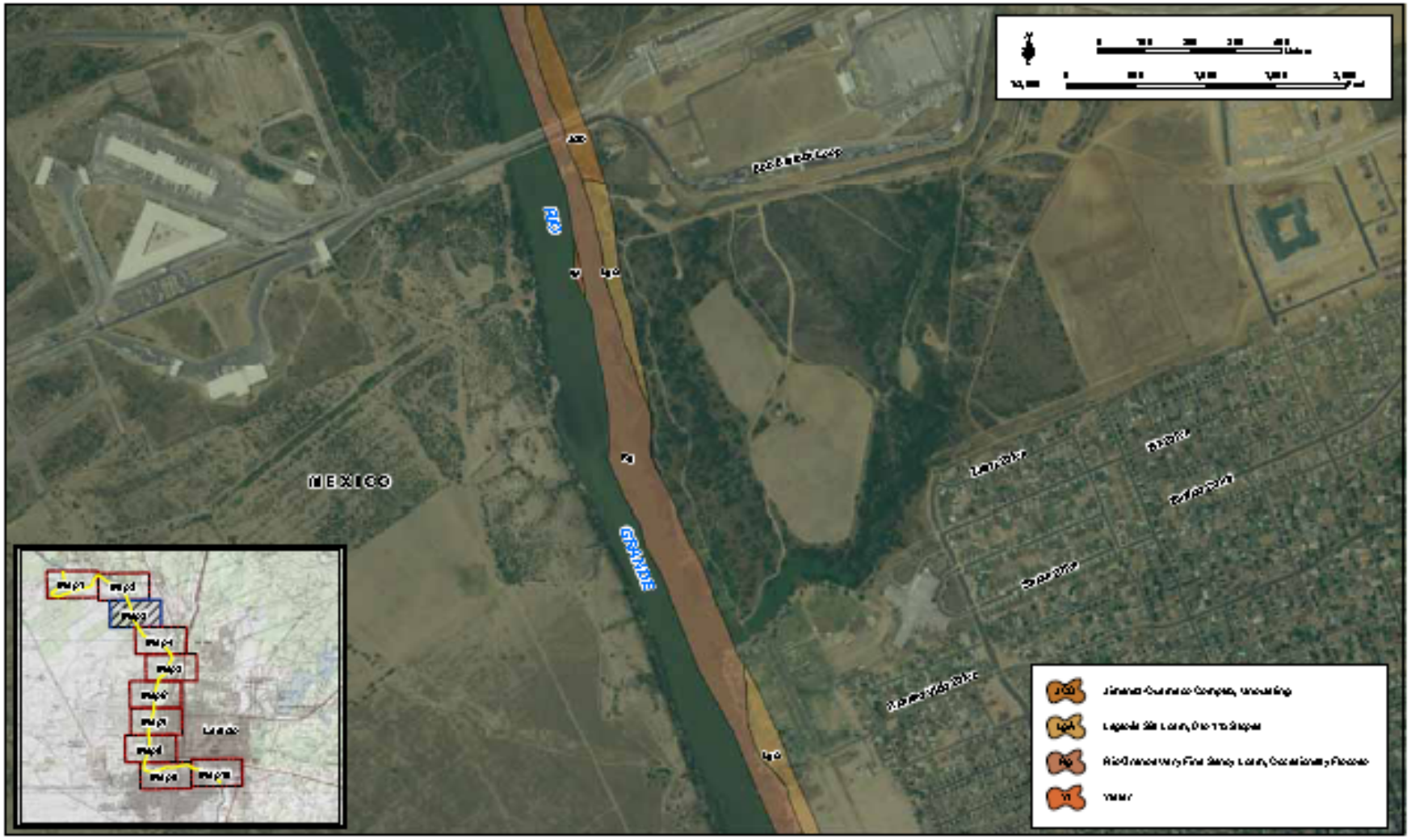
APPENDIX A
AGENCY COORDINATION AND PUBLIC COMMENT

NOTE: This appendix will be populated after all required formal coordination is completed.

APPENDIX B
AFFIDAVITS OF PUBLICATION

Note: This appendix will be populated after all required formal coordination is complete.

APPENDIX C
SOIL MAPS



Soil Map 3 - Showing World Trade Bridge

GSRC

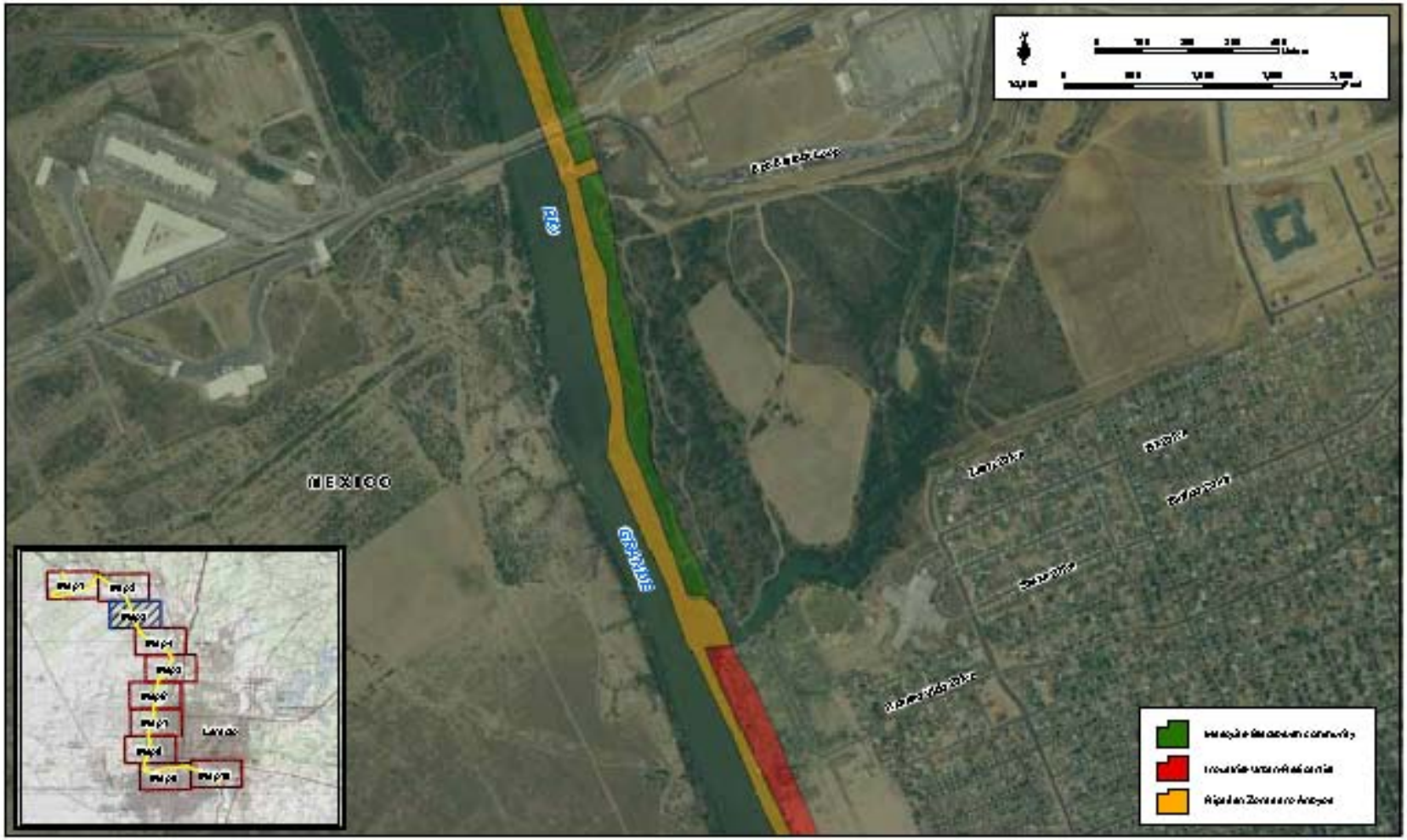
April 2003

Soil Map 3 - Showing Texas Mexican Railway International, Puente de las Americas International, and Juarez-Lincoln International bridges.

GSRC

April 2008

APPENDIX D
VEGETATION TYPE MAPS



Vegetation Map 3 - Showing World Trade Bridge

GSRC

May 2003

Vegetation Map 9 – Showing Texas-Mexican Railway International, Phoenix-Juárez International, and Juárez-Lincoln International bridges.

GSRC

May 2003

APPENDIX E
STATE SPECIES LIST

WEBB COUNTY

BIRDS

		Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*	DL	E

year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Arctic Peregrine Falcon	*Falco peregrinus tundrius*	DL	T

migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Audubon's Oriole *Icterus graduacauda audubonii*

scrub, mesquite; nests in dense trees, or thickets, usually along water courses

Baird's Sparrow *Ammodramus bairdii*

shortgrass prairie with scattered low bushes and matted vegetation; mostly migratory in western half of State, though winters in Mexico and just across Rio Grande into Texas from Brewster through Hudspetth counties

Common Black-Hawk	*Buteogallus anthracinus*		T

cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas

Interior Least Tern	*Sterna antillarum athalassos*	LE	E

subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Mexican Hooded Oriole *Icterus cucullatus cucullatus*

scrub, mesquite; nests in dense trees, or thickets, usually along water courses

Mountain Plover *Charadrius montanus*

breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

Peregrine Falcon	*Falco peregrinus*	DL	E T

both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, thus the species level shows this dual listing status; because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.

Sennett's Hooded Oriole *Icterus cucullatus sennetti*

WEBB COUNTY

BIRDS

		Federal Status	State Status

often builds nests in and of Spanish moss (Tillandsia usneoides); feeds on invertebrates, fruit, and nectar; breeding March to August

Western Burrowing Owl	*Athene cunicularia hypugaea*		

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

Wood Stork	*Mycteria americana*		T

forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

FISHES

		Federal Status	State Status
Blue sucker	*Cycleptus elongatus*		T

larger portions of major rivers in Texas; usually in channels and flowing pools with a moderate current; bottom type usually of exposed bedrock, perhaps in combination with hard clay, sand, and gravel; adults winter in deep pools and move upstream in spring to spawn on riffles

Headwater catfish	*Ictalurus lupus*		

originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers

Rio Grande darter	*Etheostoma grahami*		T

Rio Grande and lower Pecos River basins; gravel and rubble riffles of creeks and small rivers; spawns in the winter

Rio Grande shiner	*Notropis jemezanus*		

Rio Grande and upper Pecos River basins; large, open, weedless rivers or large creeks with bottom of rubble, gravel and sand, often overlain with silt

Rio Grande silvery minnow	*Hybognathus amarus*	LE	E

extirpated; historically Rio Grande and Pecos River systems and canals; pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; probably spawns on silt substrates of quiet coves

INSECTS

		Federal Status	State Status

Neojuvenile tiger beetle	*Cicindela obsoleta neojuvenilis*		

bare or sparsely vegetated, dry, hard-packed soil; typically in previously disturbed areas; peak adult activity in Jul

WEBB COUNTY

MAMMALS

		Federal Status	State Status
Black bear	*Ursus americanus*	T/SA;NL	T

bottomland hardwoods and large tracts of inaccessible forested areas; due to field characteristics similar to Louisiana Black Bear (LT, T), treat all east Texas black bears as federal and state listed Threatened

Cave myotis bat *Myotis velifer*

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

Davis pocket gopher *Geomys personatus davisi*

burrows in sandy soils in southern Texas

Ghost-faced bat *Mormoops megalophylla*

colonially roosts in caves, crevices, abandoned mines, and buildings; insectivorous; breeds late winter-early spring; single offspring born per year

Gray wolf	*Canis lupus*	LE	E

extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands

Jaguarundi	*Herpailurus yaguarondi*	LE	E

thick brushlands, near water favored; 60 to 75 day gestation, young born sometimes twice per year in March and August, elsewhere the beginning of the rainy season and end of the dry season

Ocelot	*Leopardus pardalis*	LE	E

dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June-November

Plains spotted skunk *Spilogale putorius interrupta*

catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

White-nosed coati	*Nasua narica*		T

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

Yuma myotis bat *Myotis yumanensis*

desert regions; most commonly found in lowland habitats near open water, where forages; roosts in caves, abandoned mine tunnels, and buildings; season of partus is May to early July; usually only one young born to each female

MOLLUSKS

		Federal Status	State Status
False spike mussel	*Quincuncina mitchelli*		

WEBB COUNTY

MOLLUSKS

		Federal Status	State Status

substrates of cobble and mud, with water lilies present; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins

Mexican fawnsfoot mussel *Truncilla cognata*

largely unknown; possibly intolerant of impoundment; possibly needs flowing streams and rivers with sand or gravel bottoms based on related species needs; Rio Grande basin

Salina mucket *Potamilus metnecktayi*

lotic waters; submerged soft sediment (clay and silt) along river bank; other habitat requirements are poorly understood; Rio Grande Basin

Texas hornshell *Popenaias popeii* C

both ends of narrow shallow runs over bedrock, in areas where small-grained materials collect in crevices, along river banks, and at the base of boulders; not known from impoundments; Rio Grande Basin and several rivers in Mexico

REPTILES

		Federal Status	State Status

Indigo snake *Drymarchon corais* T

Texas south of the Guadalupe River and Balcones Escarpment; thornbush-chaparral woodlands of south Texas, in particular dense riparian corridors; can do well in suburban and irrigated croplands if not molested or indirectly poisoned; requires moist microhabitats, such as rodent burrows, for shelter

Reticulate collared lizard *Crotaphytus reticulatus* T

requires open brush-grasslands; thorn-scrub vegetation, usually on well-drained rolling terrain of shallow gravel, caliche, or sandy soils; often on scattered flat rocks below escarpments or isolated rock outcrops among scattered clumps of prickly pear and mesquite

Spot-tailed earless lizard *Holbrookia lacerata*

central and southern Texas and adjacent Mexico; moderately open prairie-brushland; fairly flat areas free of vegetation or other obstructions, including disturbed areas; eats small invertebrates; eggs laid underground

Texas horned lizard *Phrynosoma cornutum* T

open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September

Texas tortoise *Gopherus berlandieri* T

open brush with a grass understory is preferred; open grass and bare ground are avoided; when inactive occupies shallow depressions at base of bush or cactus, sometimes in underground burrows or under objects; longevity greater than 50 years; active March-November; breeds April-November

PLANTS

		Federal Status	State Status
Ashy dogweed	*Thymophylla tephroleuca*	LE	E

WEBB COUNTY

PLANTS

		Federal Status	State Status

endemic; grassland or blackbrush or cenizo shrublands on fine sandy loam soils; flowering February-November

Johnston's frankenia *Frankenia johnstonii* LE-PDL E

known sites are mostly underlain by Eocene sandstones and clays of the Jackson Group or the Yegua and Laredo formations; a few are underlain by El Pico clay or the Catahoula and Frio formations shrublands; flowering throughout year depending on rainfall

Kleberg saltbush *Atriplex klebergorum*

endemic; sandy to clayey loams, usually saline; often with other halophytes; maturation usually occurs in fall but may vary with rainfall

Mccart's whitlow-wort *Paronychia maccartii*

known only from one type specimen collected in Webb County, March 1962; type location is located three miles south of Mirando City, where substrate is hardpacked red sand, probably of the Cuevitas-Randado association derived from the Goliad formation; flowering in spring

Nickel's cory cactus *Coryphantha nickelsiae*

alluvial gravels (?) or low hills along the Rio Grande; Webb County included in distribution based on 1906 specimen record with "Laredo" as location

APPENDIX F
AIR EMISSION CALCULATIONS

CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION WEBB COUNTY

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	2	300	10	120	720000
Helicopter	1	100	10	120	120000
Diesel Dump Truck	1	300	10	120	360000
Diesel Excavator	1	300	10	120	360000
Diesel Hole Cleaners/Trenchers	0	175	10	120	0
Diesel Bore/Drill Rigs	0	300	10	120	0
Diesel Cement & Mortar Mixers	0	300	10	120	0
Diesel Cranes	0	175	10	120	0
Diesel Graders	1	300	10	120	360000
Diesel Tractors/Loaders/Backhoes	1	100	10	120	120000
Diesel Bull Dozers	1	300	10	120	360000
Diesel Front End Loaders	1	300	10	120	360000
Diesel Fork Lifts	1	100	10	120	120000
Diesel Generator Set	0	40	10	120	0

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-PROPOSED ACTION WEBB COUNTY

Construction Worker Personal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	120	10	10	0.11	0.13	0.24
CO	12.4	15.7	60	120	10	10	0.98	1.25	2.23
NOx	0.95	1.22	60	120	10	10	0.08	0.10	0.17
PM-10	0.0052	0.0065	60	120	10	10	0.00	0.00	0.00
PM 2.5	0.0049	0.006	60	120	10	10	0.00	0.00	0.00

-

Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	120	2	2	0.00	0.01	0.01
CO	1.32	3.21	60	120	2	2	0.02	0.05	0.07
NOx	4.97	12.6	60	120	2	2	0.08	0.20	0.28
PM-10	0.12	0.33	60	120	2	2	0.00	0.01	0.01
PM 2.5	0.13	0.36	60	120	2	2	0.00	0.01	0.01

OBP Commute to New Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	0	0	0	-	0.00	-
CO	12.4	15.7	60	0	0	0	-	0.00	-
NOx	0.95	1.22	60	0	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	0	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	0	0	0	-	0.00	-

POV Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.
Fleet Characterization: 20 POVs commuting to work were 50% are pick up trucks and 50% passenger cars

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-PROPOSED ACTION WEBB COUNTY

Convers on factor:	grns to tons
	0.000001102

SMOKE EMISSIONS FROM PROPOSED ACTION-WEBB COUNTY

Air Emissions From Prescribed Burning							
Amount of Land in Fire		Geographic Area	Fuel Consumption (Mg/hectare)	Emission Factors (kg/Hectare)			
Acres	Hectares			PM	CO	VOC	NOx
	236.9	Southern Region 8	20	172	1410	242	40
		California Region 5	40	191	1570	269	45
		Southwest Region 3	22	343	2830	485	81
		Total Emissions (tons)		0.8	6.4	1.1	0.2

Source:AP 42, Fifth Edition, Volume 1 Chapter 13: Misc Sources Table 13.1-2 Emissions and Emission

Conversions Factors						
Acres to Hectares	Sq feet to Hectares	Mg to Kg	Kg to Mg	Miles to feet	Feet to Miles	Sq feet to Acres
0.40468	9.2903E-06	0.001	1000	0.000189393	5280	2.29568E-05
Size of Area Burned						
Width ft	Length ft	Length Miles	Sq Feet	Acres	Hectares	
300	85008	16.1	25502400	585.4545455	236.9217455	

Kg to US tons
0.001102311

CALCULATION SHEET-FUGITIVE DUST-PROPOSED ACTION WEBB COUNTY

Fugitive Dust Emissions at Cane Eradication Site.					
Construction Site	Emission Factor tons/acre/month (1)	Construction Site Total Area/month	Months/yr	Total PM-10 Emissions tns/yr	Total PM-2.5 (2)
Fugitive Dust Emissions	0.11	65.75	4	28.93	5.79

1. Mid-Atlantic Regional Air Management Association (MARAMA). Fugitive Dust-Construction Calculation Sheet can be found on line at: http://www.marama.org/visibility/Calculation_Sheets/. MRI= Midwest Research Institute, Inventory of Agricultural Tilling, Unpaved Roads, Airstrips and construction Sites., prepared for the U.S. EPA, PB 238-929, Contract 68-02-1437 (November 1977)

2. 20% of the total PM-10 emissions are PM-2.5 (EPA 2006).

Coastruction Site Area	Foot Print Demension (ft)			
Proposed Prioject	Length	Width	Units	Total Acres per Month
Mechanical Cane Removal			1	65.75
Total				**65.75**

Conversion Factors	Feet to Miles	Acres to sq ft	Sq ft to acres	Sq ft in 0.5 acres
	5280	0.000022957	43560	21780

Assumptions	Months to Complete Job
	4
Total Acres Mechanical Removal	263

CALCULATION SHEET-SUMMARY OF EMISSIONS-PROPOSED ACTION WEBB COUNTY

Proposed Action Eradication Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO_2
Combustible Emissions	1.55	6.99	16.84	1.43	1.39	2.40
Construction Site-fugitive PM-10	NA	NA	NA	28.93	5.79	NA
Construction Workers Commuter & Trucking	0.25	2.30	0.45	0.01	0.01	NA
Smoke From Forest Fire	1.10	6.40	0.18	0.78	NA	NA
Total emissions	2.99	15.69	17.48	31.14	7.18	2.40
De minimis threshold	NA	NA	NA	NA	NA	NA

Appendix G

Best Management Practices

Best Management Practices

August 17, 2012

For Area 4 Maintenance and Repair Activities

(Rio Grande Valley Sector, Laredo Sector & Del Rio Sector, Texas)

The following best management practices (BMPs) will be implemented for all Maintenance and Repair Program activities. Note that BMPs are subject to change and may be updated. The U.S. Customs and Border Control (CBP) will use an established planning and work development process to identify the BMPs that must be implemented for each project. To identify species-specific BMPs that must be implemented, environmental subject matter experts (SMEs) will identify which species potentially occur in the geographic location of each maintenance and repair activity. The Environmental SME will then consider other available sources of information, such as prior survey data, aerial photographs, site visits, and previously developed environmental documentation, to evaluate whether suitable habitat for threatened and endangered species could occur at each project location. The environmental SME will also determine if a survey conducted by a qualified biologist is required prior to maintenance and repair activities to determine if habitat is present or required by a BMP. If necessary, the environmental SMEs will hold further consultation with the U.S. Fish and Wildlife Service (USFWS) to clarify any compliance requirements.

Land Use

1. CBP will notify all land managers at least 5 days in advance of any scheduled maintenance and repair activities on their lands.

Geology and Soil Resources

1. Implement routine road maintenance practices to avoid making windrows with the soils once grading activities are complete and use any excess soils on site to raise and shape the road surface.

Vegetation

1. Herbicide and pesticide applications must be made under the supervision of a licensed applicator. A log of the chemical used, amount used, and specific location must be maintained.

2. If the tactical infrastructure maintenance and repair activities will take place on a Federal agency's land, the appropriate agency's herbicide policy must be followed for vegetation control. Contractors applying herbicides must verify that the appropriate agency's policy is being followed, if it exists. This information should be requested from the contracting officer's technical representative (COTR).
3. New guidance from the U.S. Environmental Protection Agency on herbicide application in riparian areas is imminent. Check with COTR on the status of these regulations prior to applying herbicide in such areas.
4. Coordinate with the CBP environmental SME to determine if the maintenance activities occur in threatened or endangered species habitat or an area that poses an unacceptable risk of transmitting diseases and invasive species. If it is determined that maintenance activities occur in such an area, follow the CBP cleaning protocol.
5. A fire prevention and suppression plan will be developed and implemented for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire.
6. Identify fill material, sandbags, hay bales, and mulch brought in from outside the project area by its source location. Use sources that are sterile or weed-free.
7. Clearly demarcate the perimeter of all new areas to be disturbed using flagging or temporary construction fencing. Do not allow any disturbance outside that perimeter. Riparian vegetation should be protected during maintenance activities.
8. Avoid the removal of mature trees providing shade or bank stabilization within the riparian area of any waterway during maintenance or repair activities.
9. If vegetation must be removed, allow natural regeneration of native plants by cutting vegetation with hand tools, mowing, trimming, or using other removal methods that allow root systems to remain intact.
10. Vegetation targeted for retention will be flagged for avoidance to reduce the likelihood of being treated.
11. Periodic inspections of tactical infrastructure by the CBP environmental SME will be conducted to evaluate and document conditions, including erosion, and to ensure that prescriptions are followed and performed in the appropriate community types. As necessary, maintenance will be scheduled to minimize erosion and correct other adverse conditions.

Wildlife

1. Ensure temporary light poles and other pole-like structures used for maintenance activities have anti-perch devices to discourage roosting by birds.
2. Minimize animal collisions during maintenance and repair activities by not exceeding speed limits of 35 miles per hour (mph) on major unpaved roads (i.e., graded with ditches on both sides) and 25 mph on all other unpaved roads. During periods of decreased visibility (e.g., night, poor weather, curves), do not exceed speeds of 25 mph.

3. Do not permit pets owned or under the care of the contractor or sector personnel inside the project boundaries, adjacent native habitats, or other associated work areas.

Threatened and Endangered Species and Other Protected Species

General BMPs

1. Coordinate with COTR or environmental SME to determine which threatened and endangered species could occur in the vicinity of maintenance activities. In areas where there are no threatened and endangered or other species concerns, the personnel performing the maintenance activity are responsible for monitoring the implementation of general maintenance and repair BMPs to avoid impacts on the environment.
2. To protect individuals of listed species within the project area, suspend work in the immediate vicinity of the individual endangered or migratory bird species until it moves out of harm's way on its own, or enlist a qualified specialist (individuals or agency personnel with a permit to handle the species) to relocate the animal to a nearby safe location in accordance with accepted species-handling protocols.
3. Vegetation mowing will not occur in suitable habitat within the range or designated critical habitat of threatened and endangered species. If a threatened or endangered species, primary constituent element (PCE), or other indicators of suitable habitat occur within the project area, then further consultation with USFWS by the CBP environmental SME will be required.
4. Obtain all pertinent training materials for biological resources for the areas where maintenance activities will occur. Prior to arrival on the work site, ensure key personnel are aware of the biological resources potentially occurring in the project area and understand the proper BMPs to implement should threatened and endangered species be encountered in the project area.
5. Check visible space underneath all vehicles and heavy equipment for listed species and other wildlife prior to moving vehicles and equipment at the beginning of each workday and after vehicles have idled for more than 15 minutes.
6. Coordinate with the CBP environmental SME to determine if the maintenance activities occur in a highly sensitive area or an area that poses an unacceptable risk of transmitting diseases and invasive species. If it is determined that maintenance activities occur in such an area, follow the CBP cleaning protocol.

Migratory Bird BMPs

1. Initial vegetation mowing and subsequent control should be timed to avoid the migration, breeding, and nesting time frame of migratory birds (March 1 through August 31). When initial mowing must be implemented during March 1 through August 31, a survey for nesting migratory birds will be conducted immediately prior to the start of activities. If an active nest is found, a buffer zone will be established around the nest and no activities will occur within that zone until nestlings have fledged and abandoned the nest.

2. If maintenance is scheduled during the migratory bird-nesting season, take steps to prevent migratory birds from establishing nests in the potential impact area. These steps could include covering equipment and structures, and use of various excluders (e.g., noise). Birds can be harassed to prevent them from nesting on the site. Once a nest is established, they cannot be harassed until all young have fledged and left the nest site. If nesting birds are found during the supplemental survey, defer intrusive maintenance activities until the birds have left the nest. Confirmation that all young have fledged should be made by qualified personnel.

Species Specific BMPs

Plants

Ashy Dogweed *(Thymophylla tephroleuca)*, Johnston's Frankenia *(Frankenia johnstonii)*, Shorthook fishhook Cactus/Tobusch fishook cactus *(Sclerocactus brevihamatus ssp. tobuschii)*, South Texas Ragweed/South Texas Ambrosia *(Ambrosia cheiranthifolia)*, Star Cactus *(Astrophytum asterias)*, Texas Ayenia *(Ayenia limitaris)*, Texas Snowbell *(Styrax platanifolius texanus)*, Walker's Manioc *(Manihot walkerae)*, Zapata Bladderpod *(Lesquerella thamnophila*)

1. If maintenance and repair activities will occur in undisturbed areas outside of the footprint of tactical infrastructure in areas of suitable habitat within the range or designated critical habitat of threatened or endangered plant species (see **Table G-1** and **Appendix E**), a qualified biologist will conduct a survey during the appropriate blooming season (see **Table G-1)** within the maintenance area.
2. An area of sufficient size will be flagged in order to create a buffer large enough to ensure that threatened and endangered plant species are not directly or indirectly affected.
3. Use of herbicides will not occur within areas of suitable habitat within the range or designated critical habitat of threatened or endangered plant species (see **Table G-1** and **Appendix E**) unless approval is obtained by the CBP environmental SME from the USFWS.

Table G-1. Threatened and Endangered Species That May Occur Within the Action Area

Common Name	Habit	Blooming Season
Ashy dogweed	Open areas on fine sandy-loam soils on level or rolling grasslands.	March–May
Johnston's frankenia	Open or sparsely vegetated rocky gypseous hillsides and saline flats.	Year-round

Fish and other Aquatic Life

No in-water work will occur within suitable habitat in watersheds (see **Table G-2**) with known occurrences or designated critical habitat without further consultation by the CBP environmental SME with the USFWS.

1. Cleaning or modification of culverts and other work within drainages that could cause sedimentation or otherwise affect water quality or quantity will not occur within, or within 0.25 miles upstream of, critical habitat or other suitable habitat (**Table G-2**) without further consultation by the CBP environmental SME with the USFWS.
2. Use of herbicides will not occur in watersheds with known occurrences within the range or designated critical habitat unless approval is obtained by the CBP environmental SME from the USFWS.

Table G-2. Threatened and Endangered Fish Species Habitat

Common Name	Suitable Habit
Texas Hornshell Mussell	Clean, flowing, perennial waters.

Birds

Interior Least Tern *(Sterna antillarum athalassos)*

1. Vegetation control in suitable habitat of threatened or endangered bird species (see **Table G-3** for a description of suitable habitat and nesting season for each species) will be limited to the minimum necessary to maintain drivable access roads and to maintain the functionality of other tactical infrastructure. This limited vegetation control will be conducted outside of the nesting season (see **Table G-3**). This restriction does not apply to areas where protocol surveys have been conducted and it has been determined that the area is not occupied and does not contain PCEs.
2. If vegetation clearing is to be conducted adjacent to suitable habitat of a threatened or endangered bird species (see **Table G-3**), qualified personnel with experience identifying suitable habitat of that species will delineate and clearly mark the suitable habitat to be avoided.
3. For all other maintenance activities to be conducted within suitable habitat of a threatened or endangered bird species during the nesting season (see **Table G-3**), the following avoidance measures will apply. A qualified biologist will conduct a survey for threatened and endangered birds prior to initiating maintenance activities. If a threatened or endangered bird is present, a qualified biologist will survey for nests approximately once per week within 500 feet of the maintenance area for the duration of the activity. If an active nest is found, no maintenance will be conducted within 500 feet of the nest until the young have fledged.

Table G-3. Threatened and Endangered Bird Species Suitable Habitat and Nesting Season

Common Name	Suitable Habitat	Nesting Season
Interior Least Tern	Least Terns nest in colonies, where nests can be as close as 10 feet but are often 30 feet or more apart. The nest is a shallow depression in an open, sandy area, gravelly patch, or exposed flat.	Early April to early June

Mammals

Gulf Coast Jaguarundi (Herpailurus yagouaroundi cacomitli) and *Ocelot (Leopardus pardalis)*

1. Avoid noise and lighting impacts during the night by conducting maintenance activities during daylight hours only. If night lighting is unavoidable, light would shine directly onto the work area to ensure worker safety and efficiency, and light would not exceed 1.5 foot-candles in jaguarundi and ocelot habitat (i.e., dense thornscrub).

Water Resources

1. The environmental SME must be consulted to validate the need for site-specific storm water pollution prevention plans (SWPPPs), spill protection plans, and regulatory approvals. Site-specific SWPPPs and spill protection plans will be prepared and regulatory approval sought, if necessary, in cases of highly sensitive work sites and large scopes of work that pose a significant risk. Where a site-specific SWPPP is not necessary, the personnel performing the maintenance will comply with a generic SWPPP and spill protection plan that covers most routine maintenance and repair activities. Prior to arrival on the work site, key personnel will understand correct implementation of these BMPs and their responsibility to address deficiencies.
2. The environmental SME will provide locations that have the potential for wetlands or other waters of the United States. If no current existing U.S. Army Corps of Engineers (USACE) jurisdictional determination is available, delineation will be conducted and jurisdictional determination will be obtained from the USACE. Prior to conducting any activities that have the potential to affect wetlands and other waters of the United States, all Federal and state Clean Water Act (CWA) Section 404 individual or applicable nationwide permits and 401 and other applicable permits will be obtained.
3. Coordinate with the environmental SME to determine which maintenance activities occur within the 100-year floodplain. Maintenance activities within the 100-year floodplain will be conducted in a manner consistent with Executive Order 11988 and other applicable regulations.
4. All maintenance contractors and personnel will review the CBP-approved spill protection plan and implement it during maintenance and repair activities.

5. Coordinate with the environmental SME to ensure that CWA permits are in place for any changes to existing boat ramps.
6. Toxic substance or liquid waste, including mop water, will not be dumped on the pavement, the ground, or towards a natural drainage or storm drain. All wastewater will be disposed properly.
7. Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging, lay down, and dispensing hazardous liquids (e.g., fuel and oil) to designated upland areas.
8. Avoid contamination of ground and surface waters by ensuring that water tankers that convey untreated surface water do not discard unused water where it has the potential to enter any aquatic or wetland habitat.
9. Cease work during heavy rains and do not resume work until conditions are suitable for the movement of equipment and materials.

Air Quality

1. Watering of access roads would be implemented to reduce significant amounts of airborne dust.

Noise

1. All Occupational Safety and Health Administration requirements will be followed with respect to maintenance and repair noise impacts. Ensure all motorized equipment possess properly working mufflers and are kept properly tuned to reduce backfires. Ensure all motorized generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards. For activities involving heavy equipment, seasonal restrictions might be required to avoid impacts on threatened or endangered species in areas where these species or their potential habitat occur. See species-specific BMPs.

Cultural Resources

1. If Native American human remains are discovered during maintenance and repair of tactical infrastructure, CBP will immediately notify appropriate law enforcement authorities. If other cultural resources are discovered CBP will consult with culturally affiliated tribes and the Texas State Historic Preservation Officer regarding their management and disposition in compliance with Native American Graves Protection and Repatriation Act.
2. Obtain all pertinent training materials for cultural resources for the areas where maintenance and repair activities will occur. Prior to arrival on the work site, ensure key personnel are aware of the cultural resources potentially occurring in the project area and

understand the proper BMPs to implement should cultural resources be encountered in the project area.

Roadways and Traffic

1. Access maintenance sites using designated, existing roads. Do not allow any off-road vehicular travel outside those areas. Ensure all parking is in designated disturbed areas. For longer-term projects, mark designated travel corridors with easily observed removable or biodegradable markers.
2. All contractors and maintenance personnel will operate within the designed/approved maintenance corridor.

Hazardous Materials and Waste Management

1. Where hazardous and regulated materials are handled, workers should collect and store all fuels, waste oils, and solvents in clearly labeled closed tanks and drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein.
2. If maintenance activities will continue at night, direct shielded light only onto the area required for worker safety and productivity. Lights will not exceed 1.5-foot candles within the lit area.
3. Implement proper and routine maintenance of all vehicles and other maintenance equipment such that emissions are within the design standards of all maintenance equipment.
4. Use water-based paints instead of oil-based paints. Look for the words “Latex” or “Cleanup with water” on the label. Do not rinse into natural drainages (e.g., creeks, irrigation canals, wetlands) or storm drains.
5. Do not use paints more than 15 years old. They could contain toxic levels of lead.
6. Use ground or drop cloths underneath painting, scraping, sandblasting, and graffiti removal work. Properly dispose of the waste and scraps collected on the drop cloth.
7. Minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain on site more than 12 hours should be properly stored in closed containers until disposal.

Socioeconomic Resources, Environmental Justice, and Protection of Children

No BMPs were identified for socioeconomic resources, environmental justice, or the protection of children.