ENVIRONMENTAL STEWARDSHIP SUMMARY REPORT

OF THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF TACTICAL INFRASTRUCTURE

PEDESTRIAN FENCE SEGMENTS L-1, L-1A, AND L-1B

U.S. Border Patrol Marfa Sector, Texas

U.S. Department of Homeland Security
U.S. Customs and Border Protection
U.S. Border Patrol

July 2012

FINAL

ENVIRONMENTAL STEWARDSHIP SUMMARY REPORT OF THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF TACTICAL INFRASTRUCTURE PEDESTRIAN FENCE SEGMENTS L-1, L-1A, AND L-1B U.S. BORDER PATROL MARFA SECTOR, TEXAS

July 2012

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EXECUTIVE SUMMARY

The U.S. Customs and Border Protection (CBP), Secure Border Initiative (SBI) built tactical infrastructure (TI) for the U.S. Border Patrol (USBP), Marfa Sector, in Texas. Tactical infrastructure refers to physical structures that facilitate enforcement and typically include roads, vehicle and pedestrian fences, lights, gates, and boat ramps. TI to be built under SBI's Pedestrian Fence 225 (PF225) program within the Marfa Sector consisted of pedestrian fence and adjacent roads in three separate segments. The first segment, designated as L-1, is along the Rio Grande and U.S./Mexico international border in Hudspeth County. The second and third segments, designated L-1A and L-1B, are adjacent to the Rio Grande in Presidio County. The purpose of this Environmental Stewardship Summary Report (ESSR) is to provide a comprehensive summary of the installation of this TI and assess its final design and footprint.

CBP initially published an Environmental Stewardship Plan (ESP) in August 2008 that analyzed the expected impact of building these fence segments: *Final Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Marfa Sector, Texas.* After the completion of the ESP, changes were made to TI alignment, design, or construction methods to facilitate construction, reduce costs or potential impacts, respond to stakeholder requests, or enhance its efficacy for enforcement purposes. These changes were documented in change request (CR) forms and reviewed and approved through CBP Headquarters.

This ESSR documents the actual impact areas, compared with the original ESPs and approved change requests, for the following reasons:

1. To compare anticipated to actual impacts, so that a final new baseline is established for future maintenance and repair and any potential future actions.
2. To document success of best management practices (BMPs) employed and any changes or improvements for the future.
3. To document any changes to the planned location or type of the TI.

A total of 11 miles of TI was originally planned for all three segments; however, only the L-1 segment (4.72 miles) has been built to date. Therefore, this ESSR compares the anticipated and actual impacts for just one segment, L-1. Segments L-1A and L-1B could be completed in the future and will be appropriately analyzed at that time.

CBP provided an environmental monitor during all construction activities, who documented adherence to BMPs. Monitors noted any deviations and required corrections in weekly reports and on a tracking spreadsheet. The most common BMP infractions in the Marfa Sector included concrete washout areas outside designated areas, the absence of dust control measures when they were needed, the lack of demarcation of work and parking areas, and driving outside designated areas. Most infractions did not require revegetation efforts because they removed little or no native vegetation. The infractions had no known impacts on federally listed species, and there were no predicted or actual impacts on threatened or endangered species or their habitat in the Marfa Sector.

This report also summarizes any significant modifications during construction that resulted in additional or reduced environmental impacts. CBP consultants surveyed the L-1 site to inspect the final project corridor and infrastructure footprints and documented any significant differences between the planned and completed work. When surveyors noted changes, they consulted CR forms to verify whether the changes had been recorded and approved. A total of 24 CRs were approved for segment L-1; only eight of these had the potential to result in environmental impacts.

The post-construction surveys indicated that the L-1 fence was reduced from its original length of 4.8 miles as planned in the ESP to an actual 4.72 miles. No CR was submitted for this change. The staging areas for L-1 were moved from their planned location, and no CRs were authorized for these relocations. Table ES-1 summarizes the impacts of these modifications. As it indicates, the permanently impacted area was reduced by 6.9 acres, primarily due to decreasing the fence and road footprint.

Table ES-1. Summary of Area Affected by L-1 Construction Modifications (Acres)

Segment/Area	ESP Predicted Impact (permanent/ temporary)	Surveyed Impact (permanent/ temporary)	Difference (permanent/ temporary)
L-1 fence and road	35/0.0	27/18	-8/+18
Other roads	0.0/0.0	0.0/0.0	0.0/0.0
Concrete trenches	0.0/0.0	1.1/0.0	+1.1/0.0
Staging areas	0.0/1.2	0.0/2.4	0.0/+1.2
Total impacts	**35/1.2**	**28.1/20.4**	**-6.9 /+19.2**

*Temporary impacts were not indicated in the ESP but were noted in CBP data files.

Because the proposed L-1A and L-1B segments were not built, they generated no modifications and do not yet require post-construction surveys.

The greatest increase in impacts not evaluated in the ESP involved temporary impacts. The overall impact (temporary plus permanent) was 12.3 acres more than the ESP projected impact. This difference is the result of enlarging temporary staging areas by 1.2 acres; increasing temporary construction footprints for the road and fence by 18 acres; and reducing the permanent footprint by 6.9 acres.

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SECTION 1.0
INTRODUCTION, OUTREACH, AND METHODS

1.0 INTRODUCTION, OUTREACH, AND METHODS

The U.S. Customs and Border Protection (CBP), Secure Border Initiative (SBI) built tactical infrastructure (TI) for the U.S. Border Patrol (USBP), Marfa Sector, in Texas. TI refers to physical structures that facilitate enforcement and typically include roads, vehicle and pedestrian fences, lights, gates, and boat ramps. TI to be built under SBI's Pedestrian Fence 225 (PF225) program within the Marfa Sector consisted of pedestrian fence and adjacent roads in three separate segments. The first segment, designated as L-1, is along the Rio Grande and U.S./Mexico international border in Hudspeth County. The second and third segments, designated L-1A and L-1B, are adjacent to the Rio Grande in Presidio County.

The purpose of this Environmental Stewardship Summary Report (ESSR) is to provide a comprehensive summary of the installation of this TI and assess its final design and footprint. It compares the project proposed in the August 2008 *Final Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Marfa Sector, Texas* with the final results of the construction project. CBP prepared a Biological Resources Plan (BRP) to identify the presence of sensitive biological resources, particularly federally protected species, and potential impacts on these resources. The BRP was provided to affected resource agencies and land managers for review and was appended to the Environmental Stewardship Plan (ESP). The original ESP was made available to the public on the CBP Website www.borderfenceplanning.com, which has subsequently been changed to http://cbp.gov/xp/cgov/border_security/ti/ti_docs/sector/marfa/.

Information in this ESSR was compiled from environmental monitoring reports, approved modifications made during construction, and post-construction surveys of the project corridor. Although the original ESP analyzed anticipated impacts from the construction of segments L-1, L-1A (Figure 1), and L-1B, only L-1 has been built to date. Therefore, this ESSR compares anticipated to actual impacts for segment L-1 only.

Before installing TI, CBP performed an environmental review of the fencing projects and published the results in ESPs, including discussion of mitigation and best management practices (BMP) for minimizing adverse effects on the environment. ESPs were drafted for each TI segment governed by the Secretary of Homeland Security's April 2008 waiver of compliance with certain environmental laws and requirements. Some ESPs addressed specific TI segments, while others, such as the ESP for the Marfa Sector, addressed all of the fence segments planned for the sector in a single document. Professional biologists and archaeologists conducted field surveys of all project corridors during planning before construction. The results of the surveys were provided for review and comment to the affected resources agencies such as the U.S. Fish and Wildlife Service (USFWS) and State Historic Preservation Office (SHPO). Conservation measures and other BMPs identified in the ESP were made part of the request for proposals (RFP) issued to commercial construction contractors and were also incorporated into the contract upon award.

Figure 1-1: Proposed Construction Segments

GSRC

December 2009

This ESSR documents the actual impact areas, compared with the original ESPs and approved change requests, for the following reasons:

1. To compare anticipated to actual impacts, so that a final new baseline is established for future maintenance and repair and any potential future actions.
2. To document success of BMPs employed and any changes or improvements for the future.
3. To document any changes to the planned location or type of the TI.

1.1 PUBLIC AND AGENCY OUTREACH

Before developing the ESP, CBP prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) to address the potential effects of the project. A Notice of Availability (NOA) for the draft EA and FONSI was published on a public web site, and the availability of the documents for a 30-day public comment period was announced. In addition, a public meeting regarding the draft EA and FONSI was conducted in Marfa, Texas, on January 23, 2008.

After the Secretary of Homeland Security issued the waiver in April 2008, CBP reviewed, considered, and incorporated comments received on the draft EA and FONSI from the public, Federal, state, and local agencies, as appropriate, while preparing the ESP. CBP addressed and incorporated results of these coordination efforts into the ESP and posted it for the public.

In addition to its public involvement and outreach program, CBP continued to coordinate with various Federal and state agencies while developing the ESP and during construction. These agencies include the following:

U.S. Section, International Boundary and Water Commission (USIBWC) - CBP coordinated with USIBWC to ensure that any construction along the international border did not adversely affect international boundary monuments or substantially impede floodwater conveyance within international drainages.

U.S. Army Corps of Engineers (USACE), Albuquerque District - CBP coordinated all activities with USACE to identify potential jurisdictional waters of the United States, including wetlands, and to develop measures to avoid, minimize, or compensate for losses to these resources.

U.S. Fish and Wildlife Service (USFWS) - CBP coordinated with USFWS to identify listed species that might inhabit the project area, identify potential effects on listed species, and develop BMPs.

1.2 METHODS

1.2.1 Environmental Monitoring Process

CBP provided an environmental monitor during construction activity. Duties of the environmental monitor included documenting impacts beyond those described in the ESP, advising on-site construction managers about the BMPs and other environmental issues as they

arose, and ensuring that contractors followed the appropriate BMPs. Environmental monitors recorded observations daily and compiled weekly reports, which they submitted to CBP and the USACE. Following completion of construction, a monitoring summary report was compiled.

The environmental monitor was to notify the construction manager of any activities that could harm or harass a federally listed species or any other environmental issue identified. Upon such notification, the construction manager was to temporarily suspend activities in the vicinity of the federally listed species and notify the contracting officer, the administrative contracting officer, and the contracting officer's representative of the suspension so that the key USACE personnel could be notified of the situation for resolution. In addition, CBP notified the USFWS Corpus Christi Field Office if construction directly affected any federally listed species. CBP maintained open coordination with USFWS during construction to discuss implementation and effectiveness of the BMPs. In fact, CBP shared the biological monitoring reports with USFWS during construction activities.

1.2.2 Change Request Process

During construction, CBP identified potential modifications that would improve the effectiveness of the TI; reduce construction cost, schedule, or environmental impacts; enhance long-term maintenance requirements; address stakeholder concerns; or reduce risk to USBP agents' health and safety. These changes were reviewed and approved through CBP Headquarters, and documented in change request (CR) forms. The form described the proposed change or modification, justification of the change, anticipated effects on construction costs and schedule, and any other extenuating circumstances that would help to clarify the change. Each proposed change was carefully vetted across CBP to evaluate potential impacts before final approval by CBP Headquarters.

1.2.3 Post-Construction Survey Methods

The objective of the post-construction surveys was to locate, identify, photograph, and record the installation of TI, including types of fence and actual area of the roads and project corridor. In addition, the surveys recorded biological communities, wetlands, and other environmental conditions in and adjacent to the project corridor. Surveyors also recorded any other unusual conditions they observed, such as fence failure, significant erosion, hazardous waste, or construction debris.

Before the field survey, CBP produced maps of the project corridor as described in the ESP. Survey teams reviewed the ESP for the description of locations and type of fence to be installed, location and width of access and maintenance areas, and location and size of staging areas. CBP also produced approved CR forms, which surveyors used in the field to document approved changes. The surveyors covered the entire L-1 project corridor and recorded the center line, length, and width of road alignments with a Trimble Global Positioning System (GPS). They also took periodic GPS coordinates of the temporary and permanent construction footprint, especially when the corridor appeared to be expanded or reduced. The survey teams also recorded the perimeter of staging areas using GPS, as well as the start and stop coordinates for various fence types.

SECTION 2.0
DESCRIPTION OF THE PLANNED ACTION

2.0 DESCRIPTION OF THE PLANNED ACTION

The ESP addressed the construction, maintenance, and operation of a total of 11 miles of TI in the USBP Marfa Sector along the U.S./Mexico international border in Hudspeth and Presidio counties, Texas. The TI consists of three segments designated as L-1, L-1A, and L-1B. Segment L-1 is situated southwest of Sierra Blanca. Two primary roads lead to the project corridor: Farm-to-Market (FM) 192 and FM111. Segment L-1 begins at Ranch Road 192 near Neely's Crossing in Hudspeth County and extends approximately 4.8 miles to the southeast (Figure 2-1).

Segments L-1A and L-1B were to be situated on either side of the Rio Grande East Port of Entry (POE) west of Presidio, Texas. The L-1A segment was proposed to extend southeast from the POE for 3.3 miles along the USIBWC levee. Segment L-1B was proposed to extend northwest from the POE for 2.9 miles along the USIBWC levee.

Maintenance will include removing any debris accumulated on the fence. Brush removal could include mowing, removal of small trees, and application of U.S. Environmental Protection Agency (USEPA) and U.S. Department of Agriculture (USDA) approved herbicide, if needed. Any destruction or breaches of the fence will be repaired, as needed. Additionally, access roads will be maintained or potentially upgraded to ensure year-round access for fence maintenance. Access road maintenance activities could include the periodic grading or repairing of eroded areas.

2.1 SEGMENT L-1

The ESP anticipated that the L-1 TI would include approximately 4.8 miles of fence and road within a 60-foot-wide corridor atop the USIBWC levee. The ESP discussed one type of fence for the L-1 segment, bollard "floating" fence (PV-3), a fence style designed specifically for areas on top of the levee. It consists of standard bollard fencing embedded in a concrete base that allows for a freestanding structure. This configuration would allow most of the infrastructure to be placed on property owned by the USIBWC without impacting levee integrity and avoiding major disturbance to current USIBWC operations or USBP roads.

The TI for segment L-1 was to consist of a primary pedestrian fence, road, and two staging areas. One road was a preexisting paved road that connects to the northern end of segment L-1. The ESP expected no impacts as a result of using the planned road.

The ESP stated that TI would affect an approximately 60-foot-wide corridor for fences and roads, that vegetation within the corridor would be cleared, and that grading would occur where needed. The area planned to be permanently impacted by building the TI totaled approximately 35 acres. The ESP did not discuss the planned location or size of the staging areas; however, those estimates were included on CBP's Facilities and Infrastructure Tracking Tool (FITT) Geographic Information Systems (GIS) data files. The two staging areas, according to those data files, were to total 1.2 acres and be located near the northern and southern ends of the fence. The ESP did not include the temporary impacts related to the staging areas in the 35 acres of expected impacts.

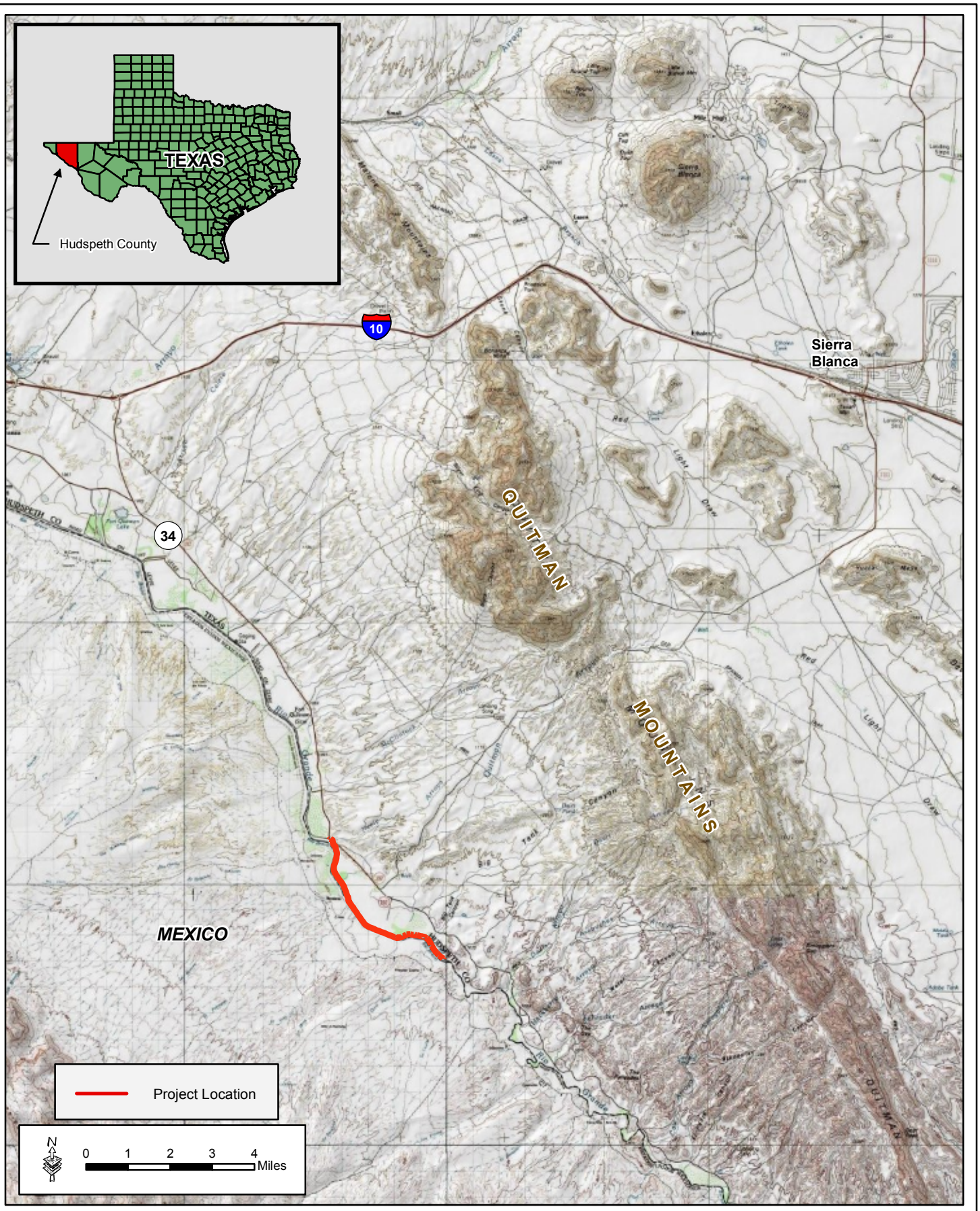

Figure 2-1: Vicinity Map of L-1

GSRC

December 2009

The TI segment follows the USIBWC levee system of the Rio Grande for most of its length. No permanent surface water features occur within the impact corridors. Surface water features adjacent to the impact corridors include the Rio Grande and open water components of resacas (bancos) north of L-1. The fence alignment crosses several ephemeral washes within the impact corridors, and numerous washes cross under the road north of L-1.

CBP conducted field surveys in segment L-1 on January 28 and 29, 2008, to delineate jurisdictional wetlands and waters of the United States (WUS) within the project area. Delineations also covered roads and staging areas associated with the fence alignments. Formal delineations covered a 150-foot corridor associated with the fence alignments, 60 feet to either side of roads, and within staging areas.

According to the ESP, there could be unavoidable impacts on jurisdictional WUS, including wetlands, but these impacts would be mitigated. Based on field surveys for the ESP, seven wetlands or other WUS occur within the L-1 project corridor. Wetlands WL1, WL2, WL3, and WL9 extend within the 60-foot impact corridor. In addition, three ephemeral washes—WL6, WL7, and WL8—cross the TI alignment, posing potential short-term impacts on the wetlands and washes as a result of land disturbance, erosion, and sedimentation.

2.2 SEGMENT L-1A AND L-1B

TI within segments L-1A and L-1B, according to the ESP, would consist of a retaining wall on the river side of the existing levee, topped with a typical guard rail. The existing road on top of the levee was to function as a USBP road. Apart from the guard rail, the only new addition to the corridor would be lighting poles, placed at approximately 50-foot intervals along the top of the levee in each of these segments. The ESP anticipated no clearing in L-1A and L-1B. Although the project described in the ESP included segments L-1, L-1A and L-1B, only L-1 was built. Thus, segments L-1A and L-1B are not discussed further in this ESSR.

2.3 MONITORING

Throughout construction, unexpected field conditions required practical changes to the project during construction. In these situations, CBP conducted the appropriate field surveys to document the potential environmental impacts. CBP further coordinated with USFWS to develop BMPs specific to the construction activities and applied them accordingly.

The most common BMP infractions in the Marfa Sector included concrete wash-out areas outside designated areas, the absence of dust control measures when needed, lack of demarcation of work and parking areas, and driving outside designated areas. Most BMP infractions did not require revegetation efforts because they removed little or no native vegetation. Monitors documented no known impacts on federally listed species from the infractions, and no predicted or actual impacts occurred on threatened or endangered species or their habitat in the Marfa Sector.

2.4 CHANGE REQUEST FORMS

A total of 24 CR forms was approved during the construction of the L-1 segment. However, only eight modifications had the potential to affect the construction footprint and, thus, change the environmental impacts. Actions described in CR forms approved on June 3, June 24, and July 11, 2008, were ultimately not implemented because they were superseded by approved CR forms dated November 26 and December 8, 2008, and June 30, 2009. Table 2-1 summarizes the eight project modifications for segment L-1 determined to have the potential to change the environmental effects discussed in the project ESPs.

Table 2-1. Summary of Approved CRs with Potential to Affect the Construction Footprint

Approval Date	Summary Description	Potential Construction Impact
June 3,2008	Extension of the fence segment north approximately 0.2 mile to close the open end of the project and have a deterrent in place should attempts be made to drive around the fence. (Superseded by CR of June 24, 2008)	0.2 mile of new disturbance, but reduction of permanent disturbance caused by vehicles driving around the fence.
June 24, 2008	The northwest end of the project would be closed off using Normandy-style barrier on the flood plain measuring approximately 0.3 mile; closing the open end of the project corridor. (Superseded by CR of November 26, 2008)	0.3 mile of new disturbance, but reduction of permanent disturbance caused by vehicles driving around the fence.
July 11, 2008	The southeast end of the project would be closed off using Normandy-style barrier on the levee road onto a small bluff measuring approximately 127 feet. (Superseded by CR of December 8, 2008.)	125 feet of new disturbance; however, this type of fence would close the open end of the eastern end and not restrict water flow.
October 15, 2008	This revises the spacing from 4 inches to 6 inches between bollards for the remaining 20 percent low water crossings (LWC).	The 6-inch spacing will better accommodate the runoff flow quantities at LWCs.
November 26, 2008	Build a concrete trench 20 feet wide by 5 feet deep by 240 feet long between the west end of the PV-3 (modified) pedestrian fence and the Rio Grande. (This action replaced the action of the CR approved June 24, 2008.)	This would remove 889 cubic yards of soil and remove all existing biological habitat from 0.11 acre.
December 8, 2008	Extend the bollard/jersey wall pedestrian fence for segment L-1 approximately 600 linear feet on the east end. From that point, build a concrete trench 5 feet deep by 20 feet wide, eastward approximately 620 linear feet, and tie into a natural barrier. (This action replaced the action of the CR approved July 11, 2008.)	1,220 feet of new disturbance
February 13, 2009	Revise grading at low water crossings to meet requirements on the revised RFP drawings, increasing excavation at the LWCs and increasing rip rap requirements at LWC #3 through LWC #6.	Would better accommodate the runoff flow quantities at LWCs.
June 30, 2009	Increase the length of the trench built at the eastern end by 32 feet and the west end by 12 feet to reflect "as-built" conditions. (This action replaced the action of the CR approved December 8, 2008.)	1.06 acres of permanent disturbance.

2.5 IMPACT QUANTITIES ANTICIPATED IN THE ENVIRONMENTAL STEWARDSHIP PLAN

Table 2-2 identifies the pertinent resources that the ESP expected TI to affect. This table is not all-inclusive, as post-construction quantities could not be measured for some impacts, such as air, noise, and socioeconomic factors.

Table 2-2. Resources Anticipated to be Impacted in L-1

Resource	Impacts*			
	Permanent	Temporary	Total	Comment
Soils	35	1.2	36.2	Short- and long-term minor adverse impacts due to grading, contouring, and trenching will impact 35 acres. Only two soil associations were mapped by Natural Resources Conservation Service within Segment L-1. However, neither of these soil associations is designated as prime farmland or farmland of importance in Hudspeth County.
Vegetation	35	1.2	36.2	Grading will occur atop the short levee resulting in approximately 35 acres of vegetation clearing and removal resulting in minor to moderate short- and long-term adverse impacts on mostly nonnative shrub, grass, and forb communities dominated by salt-cedar, rabbitbrush, seepweed, arrowweed, Bermuda grass, and Russian-thistle.
Cultural Resources	3 sites		3 sites (ineligible)	The L-1 project corridor passes near three previously recorded sites. None of these are eligible to be listed on the National Register of Historic Places nor would they be impacted. Thus, no historic properties were to be affected by the project.
Wetlands and WUS	1	0	1	Seven WUS in L-1.

* Unless stated otherwise, all quantities are in acres.

SECTION 3.0
POST-CONSTRUCTION FINDINGS

3.0 POST-CONSTRUCTION FINDINGS

This report section discusses the results of the post-construction surveys in both qualitative and quantitative terms, by construction activity. It also discussed approved CRs that necessitated any changes in the project described in the ESP. During large construction projects, it is common for minor differences between field conditions and design drawings to require small modifications. These modifications can result in increases in the length of fence sections or the footprint of roads and staging areas. Changes such as these are expected under typical construction projects. A summary of the impacts on the pertinent resources, based on these post-construction surveys, appears at the end of this section.

3.1 RESULTS OF ROAD MEASUREMENTS

3.1.1 Access Roads

The access road for L-1 is a preexisting paved road (Figure 3-1). The ESP briefly discussed this access road but determined that it would need no alteration. No new access road was built. Thus, L-1 access roads caused no impacts.

3.1.2 Maintenance and Other Roads

Post-construction surveys noted that the fence and adjacent maintenance or other road footprint sat on top of the USIBWC levee and did not encompass a 60-foot-wide footprint planned in the ESP. Instead, the road footprint had an average width of 28 feet. The ESP projected approximately 35 acres of permanent impacts and no temporary impacts; however, post-construction surveys revealed only 27 acres of permanent impact. An additional 19 acres parallel to the road footprint were temporarily impacted. No CR was approved for the increase in overall project impact acreage. The length of the maintenance or other road, as reported in the ESP, was supposed to be 4.8 miles; however, the post-construction surveys recorded it as 4.72 miles.

3.2 FENCE

The ESP anticipated that one type of fence (PV-3) would be installed in the L-1 project corridor. The post-construction site survey confirmed that PV-3 fence was installed. In some places the concrete base was removed to facilitate the flow of water. The construction of this latter type of fence, designated as P-2, was approved through a CR (Photographs 3-1 and 3-2).

The ESP stated the length of this fence as 4.8 miles. The post-construction survey recorded the fence to be 4.6 miles long; however, this reduction can be attributed to the approved CRs for substituting concrete trenches for fence in some areas (see Section 3.4).

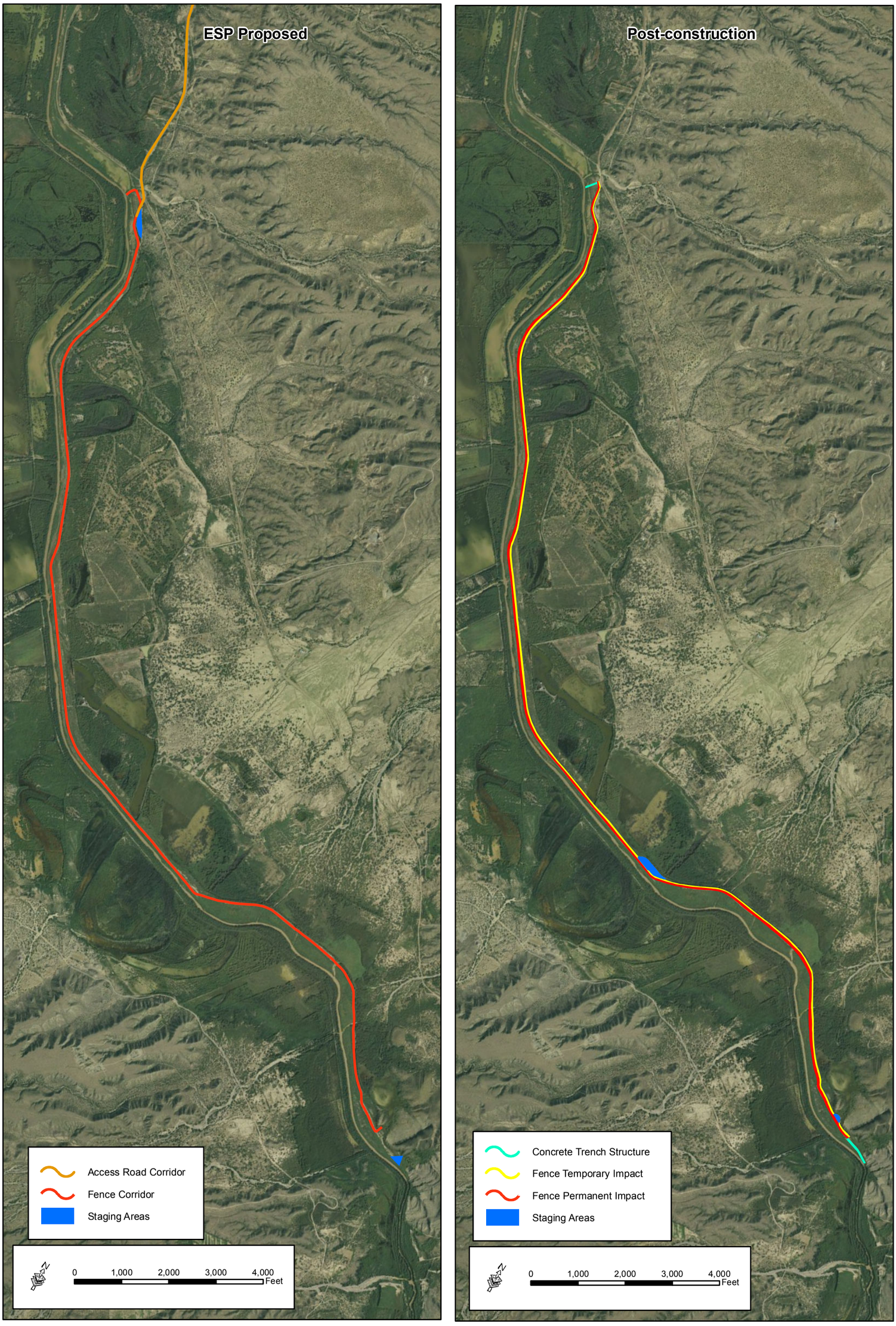

Figure 3-1: Marfa (L-1 Segment) Infrastructure Map

GSRC

January 2012

Photograph 3-1. Bollard Fence through Low Water Crossing

Photograph 3-2. Floating-type Bollard Fence

3.3 STAGING AREAS

Although the ESP did not indicate locations of the two planned staging areas, that information was obtained from the CBP FITT GIS data files. Based on the locations given there, the post-construction survey revealed that both staging areas were moved (see Figure 3-1).

The northwestern planned staging area was moved approximately 2.7 miles southeast along the project corridor (Photograph 3-3). The planned southeast staging area was moved northwest approximately 0.19 mile to accommodate the concrete trench (Photograph 3-4). The post-construction survey also revealed that the staging areas increased in total size from 1.2 acres, as identified in the ESP, to 2.4 acres. No CR was approved for moving the location of the staging areas or increasing their size.

Photograph 3-3. Northwestern Staging Area

Photograph 3-4. Southeast Staging Area

3.4 CONCRETE TRENCHES

Concrete trenches were built at each end of the L-1 project corridor (Photographs 3-5 and 3-6) to deter vehicles from attempting to circumvent the fence. These were authorized under two separate CRs. One CR authorized concrete trenches 20 feet wide by 5 feet deep by 240 feet long at each end of the PV-3 (modified) pedestrian fence. The other CR increased the length of the

trench built at the eastern end by 32 feet and at the western end by 12 feet. The total length of concrete trench approved for construction was 524 feet.

Photograph 3-5. Concrete Trench at Western End

Photograph 3-6. Concrete Trench at Eastern End Looking West

The post-construction surveys recorded that the western trench was 270 feet by 45 feet and the eastern trench was 640 feet by 45 feet. When combined (910 feet total) they totaled a permanent impact of approximately 1 acre. The approved CR did not account for the extension of the eastern trench out to 640 feet in length.

3.5 MEASURED IMPACT QUANTITIES

3.5.1 Soils

The ESP anticipated that the project would cause 35 acres of soils to have all biological habitat permanently removed. An additional projected 1.2 acres (staging areas) of soils would be temporarily impacted by being scraped and bladed using bulldozers or graders to level the area and accommodate material staging. Results of the post-construction field survey confirmed that the L-1 project corridor was extended slightly and concrete trenches were installed at each end. Most of these changes were authorized in various CRs described previously. However, the permanent impacts on soils decreased by 6.9 acres from what the ESP expected, from 35 acres to 28.1 acres. Although the permanent impact area decreased, the overall impact area (including temporary impacts) increased by 13.5 acres. Table 3-2 compares the impact areas estimated in the ESP with those that were measured during the post-construction surveys.

Table 3-1. Total Area of Soils Affected by Installation of L-1 Tactical Infrastructure (Acres)

Segment/Area	ESP Predicted Impact (permanent/ temporary)	Surveyed Impact (permanent/ temporary)	Difference (permanent/ temporary)
L-1 fence and road	35/0.0	27/18	-8/+18
Other roads	0.0/0.0	0.0/0.0	0.0/0.0
Concrete trenches	0.0/0.0	1.1/0.0	+1.1/0.0
Staging areas	0.0/1.2	0.0/2.4	0.0/+1.2
Total impacts	**35/1.2**	**28.1/20.4**	**-6.9 /+19.2**

3.5.2 Vegetation

The TI was expected to affect an approximate 60-foot-wide corridor for fences and other roads totaling 35 acres. Vegetation within the corridor was to be cleared and graded where needed. However, post-construction surveys found that the permanent impact area totaled approximately 28.1 acres. The temporary impacts increased from the estimated 1.2 acres to 19.2 acres. Some of the project area was being naturally revegetated during the time of post-construction surveys.

3.5.3 Cultural Resources

No new cultural resources were found in the areas added to the L-1 segment.

3.5.4 Wetlands and Waters of the U.S.

The post-construction surveys confirmed that the TI construction did not increase the footprint within the jurisdictional wetland areas beyond what was originally planned (1 acre of wetlands and WUS). No other additional wetlands or WUS were identified where the project corridor was modified, such as the staging areas. CBP followed erosion and sediment control and management practices during and after construction consistent with its stormwater pollution prevention plan.

SECTION 4.0
DISCUSSION

4.0 DISCUSSION

4.1 INCREASED PROJECT FOOTPRINT

The temporary impacts on soils and vegetation increased by 19.2 acres, from the original ESP estimate of approximately 1.2 acres to the 20.4 acres found by the post-construction surveys. The increase was due to the larger size of the staging areas, as well as the temporary footprint for building the fence. The CBP FITT GIS data files described the two proposed staging areas as approximately 1.1 acres and 0.07 acre in size. The post-construction surveys measured them as 2.2 acres and 0.2 acre in size. The ESP did not project that the fence would have temporary impacts; however, post-construction surveys recorded 19 acres of temporary impacts attributable to fence construction.

4.2 DECREASED PROJECT FOOTPRINT

The ESP stated that the fence would be approximately 4.8 miles long; however, post-construction surveys recorded a fence length of 4.6 miles. This decrease, however, is offset by the inclusion of a concrete trench at the southern end of the fence that measured 0.12 mile in length. Therefore, considering the measured fence segment and trench together, a total of 4.72 miles of TI was built. This slight difference is normal during construction activities. The post-construction surveys found that the permanent impact area of 35 acres projected in the ESP was reduced to 28.1 acres. This decrease can probably be attributed to efforts by the construction crew to minimize permanent impacts as much as possible, which was a CBP-driven best management practice.

4.3 ADDITIONAL ISSUES

One issue was identified during the post-construction surveys. Drainage within the ephemeral washes that cross the project corridor will be addressed, as the water can back up within the roadbed and create impassable water depths along the fence corridor. CBP is implementing a Comprehensive Tactical Infrastructure Maintenance and Repair (CTIMR) program to ensure the TI and related areas are maintained and repaired as needed.