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ANCHOR QEA

Memorandum

April 9, 2020

To: Gary Baumgarten and Anne Foster, U.S. Environmental Protection Agency

From: John Laplante, John Verduin, Wendell Mears, and David Keith

Cc: Phil Slowiak, International Paper Company
Judy Armour, McGinnes Industrial Maintenance Corporation

Re: Post-TCRA Quarterly Inspection Report – January/February 2020

Introduction

This memorandum describes the results of the January 2020 inspection and related maintenance of the armored cap, fencing, signage, buoys, and security cameras installed for the Time Critical Removal Action (TCRA) at the San Jacinto River Waste Pits Superfund Site (TCRA Site).

Background

The TCRA was implemented by International Paper Company and McGinnes Industrial Maintenance Corporation (Respondents) under an Administrative Settlement Agreement and Order on Consent with the U.S. Environmental Protection Agency (USEPA) – Docket No. 06-12-10, effective May 17, 2010 (USEPA 2010). A full description of the TCRA implementation is provided in the following associated project documentation:

- Removal Action Work Plan (Anchor QEA 2010, 2011)
- Revised Draft Final Removal Action Completion Report (RACR; Anchor QEA 2012)[1]

The inspection described in this memorandum was conducted in accordance with the Operations, Monitoring, and Maintenance (OMM) Plan (Appendix N of the RACR; Anchor QEA 2012) and subsequent USEPA-approved amendments to the OMM Plan.[2] The OMM Plan specifies the timing, pertinent items, tolerances, and procedures for inspection, maintenance, and repair of the armored

[1] David Keith, Ph.D., R.G., C.H.G., Respondents' Project Coordinator, received a RACR (in the form issued by USEPA) from Valmichael Leos via email on August 15, 2012; however, the appendices to the RACR, including the OMM Plan, were not provided to Dr. Keith as part of the document. The OMM Plan had been previously approved by USEPA (in an email from Mr. Leos dated January 18, 2012) and is assumed to remain unchanged. Respondents reserve all rights related to the changes made by USEPA to the Revised Draft Final RACR submitted by Respondents to USEPA on March 9, 2012.

[2] The OMM Plan was attached to the Draft Final RACR, submitted to USEPA on November 22, 2011, and authorization to implement the OMM Plan was contained in an email from USEPA dated January 18, 2012. The OMM Plan was also attached as an appendix to the Revised Draft Final RACR submitted to USEPA on March 9, 2012. An addendum to the OMM plan, dated December 3, 2015, was developed at the request of USEPA to outline procedures and actions that will take place should a barge, or other vessel, strike and/or become grounded on the armored cap. A second addendum to the OMM Plan, dated February 29, 2016, was developed to describe the addition of security cameras, their monitoring, and notifications, and was approved by USEPA on March 31, 2016. A third addendum, dated August 13, 2019, was developed to provide methods and procedures for conducting future monitoring of the armored cap taking into consideration the extensive changes the cap has undergone since initial construction of the TCRA was completed in July 2011. This third addendum is currently under review by USEPA.

cap, fencing, and signage installed for the TCRA Site (Figure 1). David Keith, PhD, RG, CHG (Respondents' Project Coordinator), received an email from Gary Miller of USEPA, dated February 16, 2016, directing the Respondents to increase the frequency of cap inspections to quarterly until further notice.

Visual Inspection

The visual inspection took place on January 24, 2020. The inspection included evaluation of the following TCRA elements:

- Inspection of the security fence and signage surrounding the TCRA Site
- Inspection of the armored cap visible above the water surface of the San Jacinto River
- Visual confirmation that waste materials are not actively eroding into the San Jacinto River
- Inspection of perimeter buoys and security camera system

The visual inspection was performed by Daleel Nangju and Josef Hoffmann of Anchor QEA. Photographs of conditions observed during visual inspections are provided in Appendix A. A summary of each facet of the visual inspection is provided in the following sections.

Armored Cap

Photographs from the inspection of the armored cap are provided in Appendix A. During the inspection, water levels were very low, providing an opportunity for visual inspection of areas that are typically submerged. Anchor QEA identified 14 areas where visible geotextile was observed in and adjacent to the eastern cell (including one location on the central berm), identified as Locations 1 to 14 in Figure 3 (Maintenance Locations). Notice of these observations was provided to Gary Baumgarten of USEPA on January 29, 2020, and photographs of each of the Maintenance Locations were reviewed with USEPA via conference call on February 4, 2020. Most of the Maintenance Locations were generally less than 10 square feet in area, and most consisted of exposed fabric edge flaps. At all of the Maintenance Locations, there was rock surrounding the fabric as well as rock visible underneath. As such, these Maintenance Locations did not appear to be indicative of any issue with respect to cap performance and there was no evidence of exposed waste at any of the 14 Maintenance Locations. For examples of the condition of the armored cap at the time of the visual inspection, see Photographs 1, 2, 3, 4, and 7 in Appendix A. For an example of the visible geotextile observed, see Photograph 5 in Appendix A.

Armored Cap Maintenance

To address the Maintenance Locations, USEPA was notified of the plan for maintenance by an email sent to Gary Baumgarten on February 24, 2020. USEPA approved the plan for maintenance on February 25, 2020. Maintenance was completed on February 26 and 27, 2020.

During maintenance activities, Location 7 on the central berm (Figure 3) was determined to be a loose piece of fabric that had previously been laid directly on top of the armored cap (but otherwise not associated with the armored cap) during installation of the security camera footing on top of the central berm. This piece of fabric was removed and the underlying armored cap material visually assessed and probed to confirm that no maintenance was needed at that location.

On the last day of the maintenance, weather conditions caused water levels to be lower than they were during the January 24, 2020 visual inspection, allowing for the inspection of additional cap areas that were submerged on January 24, 2020. As a result of this inspection, 11 additional areas of visible geotextile were identified in the eastern cell, identified as Locations 15 to 25 in Figure 3 (Additional Maintenance Locations). These Additional Maintenance Locations were similar to those identified in the January 24 inspection, in that most were generally less than 10 square feet in area, and most consisted of exposed fabric edge flaps. At all of the Additional Maintenance Locations, there was rock surrounding the fabric as well as rock visible underneath, and there was no evidence of any exposed waste. The Additional Maintenance Locations were addressed as part of the maintenance activities.

Because water levels were rising, a field determination was made to immediately address the Additional Maintenance Locations. Maintenance was performed at the Maintenance Locations and Additional Maintenance Locations by placing at least 1 foot of Type D[3] armor rock over the visible geotextile at each area in accordance with the approved maintenance work plan (see Photograph 6 in Appendix A for an example). After completion of the maintenance, each Maintenance Location and Additional Maintenance Location was probed to confirm that at least 1 foot of additional rock was placed over the visible geotextile.

Perimeter Fencing

The perimeter fencing (Figure 2) on the west and east banks of the San Jacinto River was visually inspected for breaches or other indications of damage on January 24, 2020. No indications of fence damage were observed during the inspection. For examples of the site fencing, see Photographs 8 through 13 in Appendix A.

Repairs to the perimeter fencing on the west bank of the San Jacinto River south of Interstate 10 (I-10) were performed in November and December 2019 to address damage from Tropical Storm Imelda. Based on a discussion with Gary Baumgarten of the USEPA on September 23, 2019, the eastern limit of the repaired fence alignment was designed to terminate approximately 100 feet east of the access gate in thick underbrush. During the visual inspection on January 24, 2020, it was observed that extensive vegetation clearing had been performed within the Texas Department of Transportation (TXDOT) right-of-way in the vicinity of the repaired fence termination, leaving a gap

[3] Type D rock is crushed natural stone with D_{50} equaling 8 inches.

between the underbrush and the fence termination (see Photograph 11 in Appendix A). A ditch filled with standing water was located parallel with and to the south of the gap, impeding access to the area containing the gap. The fencing contractor for the TCRA Site, National Fence, was subsequently authorized to extend the fence south to the existing ditch, as shown in Figure 2 and Photograph 11 in Appendix A, and panels were manufactured during the week of March 16 to March 20. Installation of the fence extension was delayed in light of federal, state, and local requirements imposed in light of COVID-19 and was completed on April 8, 2020 (see Photograph 12 in Appendix A).

The portion of the fence installed along the south boundary of the San Jacinto River Fleet (SJRF) property was not included in the fencing inspection because the SJRF property is currently occupied by an active facility that conducts daily security checks as required by the U.S. Coast Guard and Transportation Security Administration for an active maritime fleeting area.

Signage

"Danger" and "No Trespassing" signs are posted at regular intervals on the perimeter fencing surrounding the TCRA Site. All "Danger" and "No Trespassing" signs were observed to be in place during the January 24, 2020, inspection. For examples of these signs, see Photographs 8 and 10 in Appendix A.

Three USEPA Public Notice signs have been installed around the TCRA Site in the following locations: 1) near the gate entry point for the perimeter fence north of I-10; 2) near a gate entry point south of I-10; and 3) at the end of the TXDOT right-of-way north of I-10 near the San Jacinto River. As part of the TXDOT repairs to the I-10 bridge after Tropical Storm Imelda, the USEPA Public Notice sign at the end of the TXDOT right-of-way had been removed and placed beneath the I-10 bridge, where it was observed during the inspection on January 24, 2020 (see Photograph 14 in Appendix A). This sign was in good condition and was reinstalled on February 27, 2020 (see Photograph 15 in Appendix A). The other two USEPA Public Notice Signs were observed to be in place and undamaged.

Fifteen signs were installed around the perimeter of the land portion of the TCRA Site. The signs are mounted on steel posts and set in concrete pads. These signs are intended to face the San Jacinto River to deter water-based entry to the TCRA Site. For examples of these signs, see Photographs 16 and 17 in Appendix A. The signs were in place and in good condition.

Signage on the two vehicle access gates reminds entrants to "daisy chain" the lock properly prior to leaving the TCRA Site. These signs were observed to be in place, although faded. New signs are being ordered to replace those signs. For examples of these signs, see Photographs 8 and 9 in Appendix A.

Table 1 summarizes the TCRA Site signage and tasks associated with their inspection as described in this section.

Table 1
TCRA Perimeter Fencing and Sign Inspection Punch List

Task	Status	
	Completed	Date
Perimeter Fence Visually inspect the perimeter fencing on the east and west sides of the San Jacinto River.	Yes	1/24/2020
"Danger" and "No Trespassing" Signs Visually inspect the 15 signs on the armored cap and signs on the perimeter fencing to verify they remain in place.	Yes	1/24/2020
USEPA Public Notice Signs Visually inspect the three signs to verify that they remain in place.	Yes	1/24/2020 and 2/27/2020
Daisy Chain Signs Visually inspect the two signs to verify that they remain in place.	Yes	1/24/2020

Perimeter Buoys

Warning buoys were installed around the perimeter of the armored cap, as outlined in the letter from the Respondents' Project Coordinator dated February 16, 2016 (Anchor QEA 2016a). During Tropical Storm Imelda in September 2019, portions of the perimeter buoy system were displaced. Subsequent repair, replacement, and reinstallation of buoy system components were performed by GHD Services, Inc., and a figure depicting the reinstalled buoy line was submitted to USEPA on January 9, 2020. The reinstalled perimeter buoy system was visually inspected and found to be intact on January 24, 2020. See Photographs 18, 19, and 20 in Appendix A for examples.

Security Cameras

Security cameras, installed as outlined in an addendum to the OMM Plan (Anchor QEA 2016b), were also inspected on January 24, 2020. The security camera system was operating normally during the inspection. For an example of the security camera apparatus at the TCRA Site, see Photographs 21 and 22 in Appendix A.

Survey

The survey began on January 30, 2020, and the survey of all areas that were safely accessible by the survey team during the month of January are complete at this time. The surveyor followed the track line spacing measurement intervals and accuracy requirements detailed in the OMM Plan (Anchor QEA 2012) for all survey work. Due to seasonal low tides, a portion of the armored cap was not safely accessible by boat or on foot and could not be surveyed. The inaccessible areas in the eastern and western cells of the cap are indicated by the hatched area in Figure 3. Photograph 18 in Appendix A is an example of cap material above the surface of the water blocking access to the eastern cell by boat during low water elevations. The area that has been inaccessible to date will be

surveyed once tidal conditions allow and subject to compliance with applicable federal, state, and local requirements imposed in light of COVID-19 and the availability of survey personnel to perform such work.[4] The additional survey results will be submitted to USEPA in an addendum to this report or with a future quarterly inspection report.

Survey Tolerance Requirements

The OMM Plan (Anchor QEA 2012) requires that each survey be compared with the prior completed survey using the following criteria:

1. Areas with elevations that are within 6 inches of the previous survey require no action.
2. Contiguous areas with elevation changes exceeding plus or minus 6 inches trigger a review of the survey benchmarks for accuracy or movement.
3. Areas where surveyed elevations are 6 inches higher or lower than the prior survey for a contiguous area larger than 30 feet by 30 feet require probing to measure the cap thickness.

Survey Results

The survey data from the January 2020 and September/October 2019 inspection surveys were compared to evaluate the differences in the top of the armored cap elevation. These differences are shaded and shown in Figure 3. For the areas in which there are survey data from both January 2020 and September/October 2019, the survey results indicate continued deposition and periodic erosion of alluvial sediment on the surface of the armored cap. An updated comparison will be performed once the remaining areas can be surveyed.

The OMM Plan requires manual probing of armored cap thickness at areas identified by the topographic or bathymetric surveys as more than 6 inches lower in elevation than during the prior survey over contiguous areas of 30 feet by 30 feet. When the January 2020 survey was compared to the September/October 2019 survey, no areas were found that required manual inspection.

Inspection Summary

The visual inspections conducted in January 2020 showed the security camera system was in place and operating normally; fencing was intact (with exception of the area where brush was cleared south of I-10); and the perimeter buoy system remained intact, with no visual deficiencies. The extension of the perimeter fencing on the west bank of the San Jacinto River south of I-10 was completed on April 8, 2020. Visual inspection of the armored cap identified the Maintenance Locations at which there were areas of visible geotextile, generally less than 10 square feet in area, at which maintenance was completed on February 26 and 27, 2020. No exposure of waste material was associated with these maintenance activities. One of the USEPA Public Notice signs was taken down as part of TXDOT repairs to the I-10 bridge associated with Tropical Storm Imelda; the sign was in

[4] Respondents have made a force majeure notification with respect to potential impacts from COVID-19.

good condition and was re-installed on February 27, 2020. All other signage was observed to be intact with no visual deficiencies, although replacement is planned for two signs that have faded.

References

Anchor QEA (Anchor QEA, LLC), 2010. *Removal Action Work Plan, San Jacinto River Waste Pits Superfund Site*. Prepared for U.S. Environmental Protection Agency Region 6 on behalf of McGinnes Industrial Maintenance Corporation and International Paper Company. November 2010.

Anchor QEA, 2011. *Removal Action Work Plan, San Jacinto River Waste Pits Superfund Site*. Prepared for U.S. Environmental Protection Agency Region 6 on behalf of McGinnes Industrial Maintenance Corporation and International Paper Company. Revised February 2011.

Anchor QEA, 2012. *Revised Draft Final Removal Action Completion Report, San Jacinto River Waste Pits Superfund Site*. Prepared for McGinnes Industrial Maintenance Corporation, International Paper Company, and U.S. Environmental Protection Agency, Region 6. Revised March 2012.

Anchor QEA, 2016a. Letter to: Gary Miller, U.S. Environmental Protection Agency. Regarding: Site Buoy Enhancement for San Jacinto River Waste Pits Superfund Site. February 16, 2016.

Anchor QEA, 2016b. *Addendum 2, Operations, Monitoring, and Maintenance Plan, San Jacinto River Waste Pits Time Critical Removal Action (Proposed Camera Security System Memorandum)*. February 2016.

USEPA (U.S. Environmental Protection Agency), 2010. *Administrative Settlement Agreement and Order on Consent for Removal Action*. U.S. Environmental Protection Agency, Region 6 CERCLA Docket No. 06-03-10. In the matter of: *San Jacinto River Waste Pits Superfund Site Pasadena, Harris County, Texas*. *International Paper Company and McGinnes Industrial Maintenance Corporation and International Paper Company, Respondents*. May 2010.

Figures

Appendix

Figures

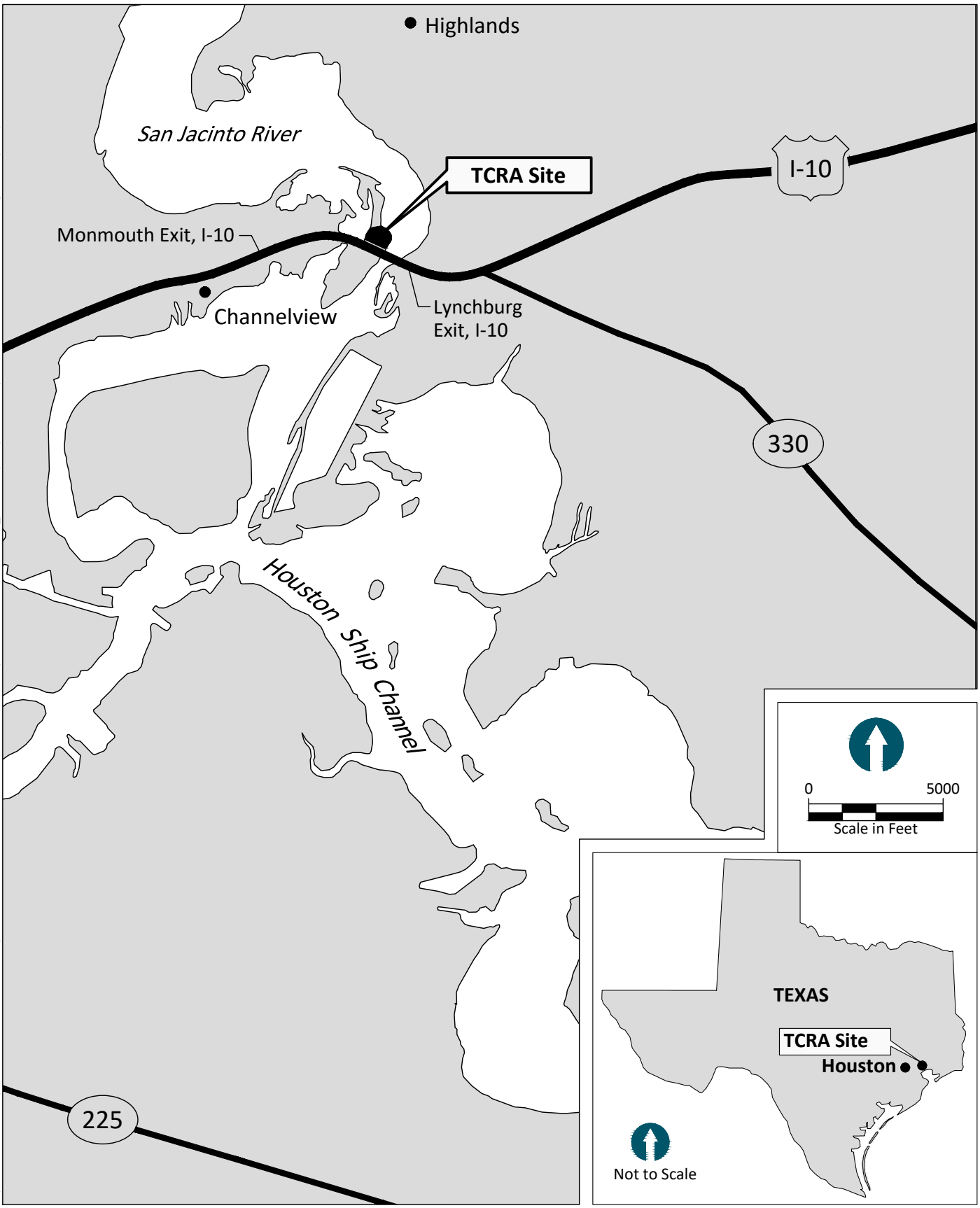

Figure 1
Vicinity Map
Post-TCRA Quarterly Inspection (January 2020)
San Jacinto River Waste Pits Superfund Site

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SOURCE: Martin Survey Associates, Inc., survey dated 2/23/2010 - 3/01/2010.
AERIAL SOURCE: Google Maps imagery.
NOTES:
1. Existing access gates have two 12-foot-wide leaves providing a 24-foot-wide opening.
2. Coordinates are in Texas State Plane, NAD 83 (South Central Zone). Coordinates shown are grid. Multiply by 1.0001007882 to convert to surface coordinates.
3. A guardrail barrier was constructed along the south side of the access road and conformed to TxDOT Specifications Manual Items 540, 542, and 544.
4. Power line poles providing service to billboards were moved near TxDOT ROW property line.
5. "Danger" and "No Trespassing" signs have been installed on TCRA fencing.

Access Gate (See Note 1)

South ROW (Approximate)

Access Gate (See Note 1)

Fence Terminates at Ditch

I-10

℄ Westbound Lane I-10 to Houston

℄ Eastbound Lane I-10 to Baytown

A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17

S01 S02 S03 S04 S05 S06 S07 S08 S09 S10 S11 S12 S13 S14 S15

San Jacinto River

I-10

Fence Terminates at Concrete of I-10 Bridge

Fence Terminates at Shoreline

San Jacinto River

Crosby-Lynchburg Road

Fence Line Follows Southern Limits of the TxDot ROW

Access Gates

LEGEND:

- Texas Department of Transportation (TxDOT) Right-of-Way (ROW) (Approximate)
- Existing Perimeter Fence
- Buoy Line with Floats
- A17 Buoy Line Anchor Location and Designation
- S01 Approximate Location of "Danger" and "No Trespassing" Signs along the Western Cell Perimeter

0 300
Scale in Feet

K:\Projects\0557-McGinnes Industrial Maintenance Corp\San Jacinto Waste Pits_Quarterly Inspection Reports\2020-01\0557-QIR-002.dwg Fence and Warning Sign Layout
Apr 09, 2020 12:39pm dholmer

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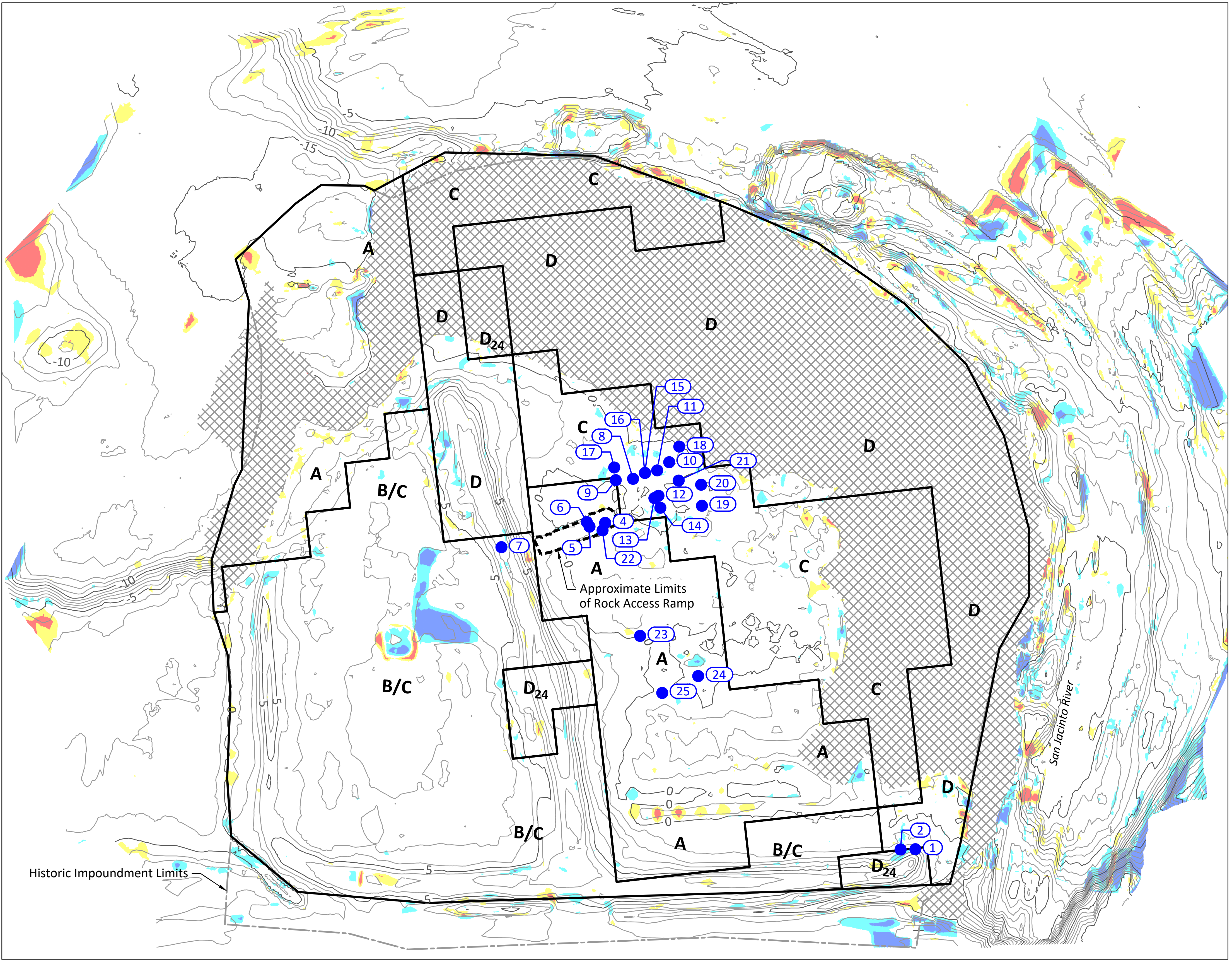
Figure 2
Buoy, Fence, and Warning Sign Layout
Post-TCRA Quarterly Inspection (January 2020)
San Jacinto River Waste Pits Superfund Site



LEGEND:

═ January 2020 Bathymetric and Topographic Contours (1-Foot Interval)

B/C Armored Cap Type and Boundary

-·- Historic Impoundment Limits

🟦 > 1.0-Foot Increase

▭ 0.5-Foot Increase to 1.0-Foot Increase

☐ 0.5-Foot Increase to 0.5-Foot Decrease

🟨 0.5-Foot Decrease to 1.0-Foot Decrease

🟥 > 1.0-Foot Decrease

▨ Area Not Surveyed in January 2020 Because of Unsafe Access Issues During Persistent Low Tides

● ① Location and Designation

☐ 30' 30' Example 30-Foot x 30-Foot Area

NOTE: No maintenance was required at Location 7. See text for more detail.

SOURCE: Drawing prepared from surveys provided by Hydrographic Consultants dated September/October 2019 and January/February 2020.
HORIZONTAL DATUM: Texas State Plane South Central, North American Datum of 1983 (NAD83), U.S. Survey Feet
VERTICAL DATUM: North American Vertical Datum of 1988 (NAVD 88)

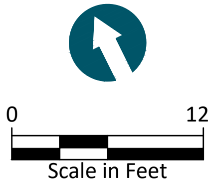


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Figure 3
January 2020 v September/October 2019 Quarterly Inspection
Post-TCRA Quarterly Inspection (January 2020)
San Jacinto River Waste Pits Superfund Site

Appendix A
Inspection Photographic Log

Photograph 1: View along the southern berm (view east)

Photograph 2: View of eastern cell (view northeast)

Photograph 3: View from the top of the central berm (view north)

Photograph 4: View of western cell (view northwest)

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Figure A-1
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site

Photograph 5: Example of visible geotextile edge in the eastern cell, prior to maintenance, on January 24, 2020

Photograph 6: Example of previously visible geotextile areas in the eastern cell, after the completion of maintenance, on February 26, 2020

Photograph 7: View of the western cell, articulated concrete block mat (ACBM) northwest slope enhancement, and perimeter buoy system (view southwest)

Photograph 8: View of perimeter fence at access gate north of I-10 (view east)

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Figure A-2
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site

Photograph 9: View of daisy chain sign to be replaced. Note this is an informational sign, not an EPA-required sign.

Photograph 10: Perimeter fencing and signage south of I-10 on west bank (view northeast)

Photograph 11: View of eastern fence termination and ditch south of I-10 on west bank, prior to installation of fence extension, on February 27, 2020 (view northeast)

Photograph 12: View of installed fence extension south of I-10 on west bank, on April 8, 2020 (view east)

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Figure A-3
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site

Photograph 13: Perimeter fencing south of I-10 on east bank (view east)

Photograph 14: USEPA Public Notice Sign located beneath the I-10 bridge on January 24, 2020

Photograph 15: USEPA Public Notice Sign re-installed at the end of the TXDOT right-of-way north of I-10 near the San Jacinto River on February 27, 2020

Photograph 16: Warning sign along southern berm (eastern cell) (view southwest)

Figure A-4
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site

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Photograph 17: Warning sign along western berm (view east)

Photograph 18: View of buoys along eastern cell boundary (view northeast)

Photograph 19: View of buoys from the northern tip of the central berm (view north)

Photograph 20: View of buoys along western cell boundary (view northeast)

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Figure A-5
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site

Photograph 21: View of security camera apparatus on southern berm (eastern cell) (view southwest)

Photograph 22: View of security camera apparatus on southern berm (western cell) (view northeast)

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Figure A-6
Inspection Photographic Log
Post-TCRA Quarterly Inspection Report (January 2020)
San Jacinto River Waste Pits Superfund Site